











ANNUAL REPORT 2015

JPMorgan Chase & Co.



Financial Highlights

As of or for the year ended December 31, (in millions, except per share, ratio data and headcount)	2015	2014
Reported basis[1]		
Total net revenue	**$ 93,543**	$ 95,112
Total noninterest expense	**59,014**	61,274
Pre-provision profit	**34,529**	33,838
Provision for credit losses	**3,827**	3,139
Net income	**$ 24,442**	$ 21,745
Per common share data		
Net income per share:		
Basic	**$ 6.05**	$ 5.33
Diluted	**6.00**	5.29
Cash dividends declared	**1.72**	1.58
Book value	**60.46**	56.98
Tangible book value[2]	**48.13**	44.60
Selected ratios		
Return on common equity	**11%**	10%
Return on tangible common equity[2]	**13**	13
Common equity Tier 1 ("CET1") capital ratio[3]	**11.6**	10.2
Tier 1 capital ratio[3]	**13.3**	11.4
Total capital ratio[3]	**14.7**	12.7
Selected balance sheet data (period-end)		
Loans	**$ 837,299**	$ 757,336
Total assets	**2,351,698**	2,572,274
Deposits	**1,279,715**	1,363,427
Total stockholders' equity	**247,573**	231,727
Headcount	**234,598**	241,359

Note: 2014 has been revised to reflect the adoption of new accounting guidance related to debt issuance costs and investments in affordable housing projects. For additional information, see Accounting and Reporting Developments and Note 1 on pages 170 and 183, respectively.

1 Results are presented in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP), except where otherwise noted.

2 Non-GAAP financial measure. For further discussion, see "Explanation and Reconciliation of the Firm's Use Of Non-GAAP Financial Measures" on pages 80–82.

3 The ratios presented are calculated under the Basel III Advanced Fully Phased-In Approach, which are non-GAAP financial measures. For further discussion, see "Regulatory capital" on pages 151–155.

JPMorgan Chase & Co. (NYSE: JPM) is a leading global financial services firm with assets of $2.4 trillion and operations worldwide. The firm is a leader in investment banking, financial services for consumers and small businesses, commercial banking, financial transaction processing and asset management. A component of the Dow Jones Industrial Average, JPMorgan Chase & Co. serves millions of consumers in the United States and many of the world's most prominent corporate, institutional and government clients under its J.P. Morgan and Chase brands.

Information about J.P. Morgan's capabilities can be found at jpmorgan.com and about Chase's capabilities at chase.com. Information about JPMorgan Chase & Co. is available at jpmorganchase.com.



communities

clients

customers

employees

veterans

nonprofits

business owners

schools

hospitals

local governments

JPMorgan Chase & Co.

Dear Fellow Shareholders,



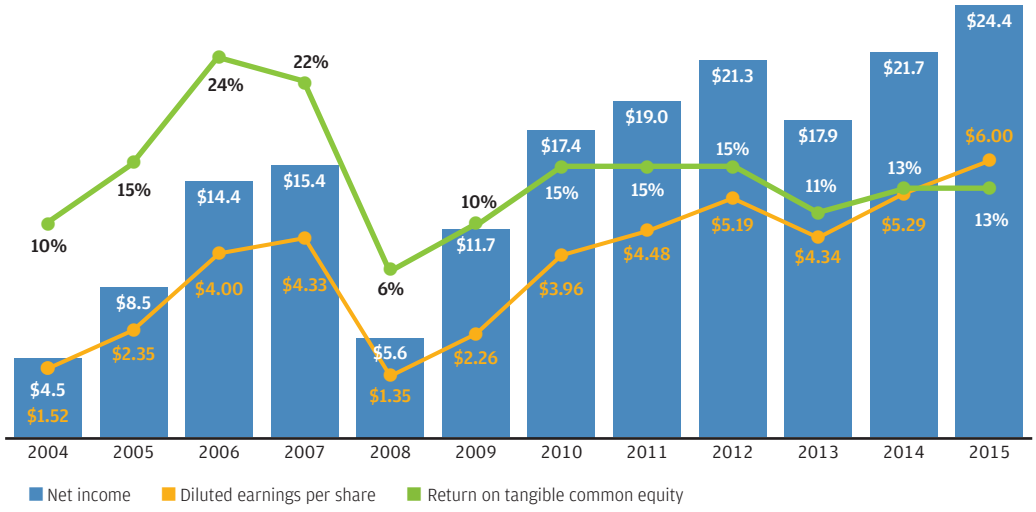
Jamie Dimon,
Chairman and
Chief Executive Officer

Last year – in fact, the last decade – was an extraordinary time for our company. We managed through the financial crisis and its turbulent aftermath while never losing sight of the reason we are here: to serve our clients, our communities and countries across the globe and, of course, to earn a fair profit for our shareholders. All the while, we have been successfully executing our control and regulatory agenda and continuing to invest in technology, infrastructure and talent – critical to the future of the company. And each year, our company has been getting safer and stronger. We continue to see exciting opportunities to invest for the future and to do more for our clients and our communities – as well as continue to support the growth of economies around the world.

I feel enormously blessed to work for this great company and with such talented employees. Our management team and employees have built an exceptional organization that is one of the most trusted and respected financial institutions in the world. It has been their dedication, fortitude and perseverance that made this possible. And it fills me with tremendous pride.

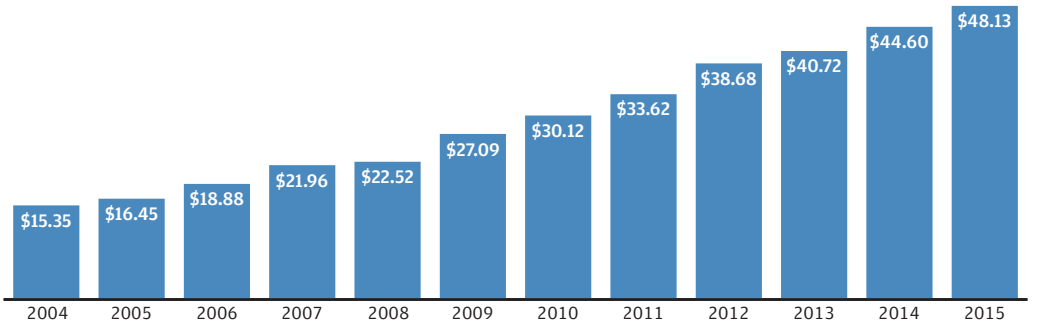
Our company earned a record $24.4 billion in net income on revenue of $96.6 billion in 2015. In fact, we have delivered record results in the last five out of six years, and we hope to continue to deliver in the future. Our financial results reflected strong underlying performance across our businesses, and, importantly, we exceeded all our major financial commitments – balance sheet optimization, capital deployment, global systemically important bank (GSIB) surcharge reduction and expense cuts.

Earnings, Diluted Earnings per Share and Return on Tangible Common Equity
2004–2015
($ in billions, except per share and ratio data)



While we did produce record profits last year, our returns on tangible common equity have been coming down, mostly due to higher capital requirements, higher control costs and low interest rates. Our return on tangible common equity was 13% last year, though we still believe that we will be able to achieve, over time, returns of approximately 15%. We still don't know the final capital rules, which could have additional negative effects, but we do believe that the capital requirements eventually will be offset by optimizing our use of capital and other precious resources, by realizing market share gains due to some competitors leaving certain businesses, and by implementing extensive cost efficiencies created by streamlining and digitizing our processes. I will discuss some of these efforts later on in this letter.

Tangible Book Value per Share
2004–2015



Bank One/JPMorgan Chase & Co. tangible book value per share performance vs. S&P 500

	Bank One (A)	S&P 500 (B)	Relative Results (A) – (B)
Performance since becoming CEO of Bank One (3/27/2000–12/31/2015)[1]			
Compounded annual gain	12.5%	5.0%	7.5%
Overall gain	481.4%	107.9%	373.5%

	JPMorgan Chase & Co. (A)	S&P 500 (B)	Relative Results (A) – (B)
Performance since the Bank One and JPMorgan Chase & Co. merger (7/1/2004–12/31/2015)			
Compounded annual gain	13.7%	7.4%	6.3%
Overall gain	336.9%	127.6%	209.3%

Tangible book value over time captures the company's use of capital, balance sheet and profitability. In this chart, we are looking at heritage Bank One shareholders and JPMorgan Chase & Co. shareholders. The chart shows the increase in tangible book value per share; it is an aftertax number assuming all dividends were retained vs. the Standard & Poor's 500 Index (S&P 500), which is a pre-tax number with dividends reinvested.

[1] On March 27, 2000, Jamie Dimon was hired as CEO of Bank One.

We continued to deliver for our shareholders in 2015. The table above shows the growth in tangible book value per share, which we believe is a conservative measure of value. You can see that our tangible book value per share has grown far more than that of the Standard & Poor's 500 Index (S&P 500) in both time periods. For Bank One shareholders since March 27, 2000, the stock has performed far better than most financial companies and the S&P 500. We are not proud of the fact that our stock performance has only equaled the S&P 500 since the JPMorgan Chase & Co. merger with Bank One on July 1, 2004 and essentially over the last five to 10 years. On a relative basis, though, JPMorgan Chase stock has far outperformed the S&P Financials Index and, in fact, has been one of the best performers of all banks during this difficult period. The details are shown on the table on the following page.

Stock total return analysis

	Bank One	S&P 500	S&P Financials Index
Performance since becoming CEO of Bank One (3/27/2000–12/31/2015)[1]			
Compounded annual gain	10.2%	3.8%	1.9%
Overall gain	364.1%	81.3%	35.3%

	JPMorgan Chase & Co.	S&P 500	S&P Financials Index
Performance since the Bank One and JPMorgan Chase & Co. merger (7/1/2004–12/31/2015)			
Compounded annual gain	7.6%	7.4%	0.7%
Overall gain	131.1%	127.6%	7.8%
Performance for the period ended December 31, 2015:			
Compounded annual gain/(loss)			
One year	8.4%	1.4%	(1.6)%
Five years	12.1%	12.6%	10.4%
Ten years	7.9%	7.3%	(0.7)%

These charts show actual returns of the stock, with dividends included, for heritage shareholders of Bank One and JPMorgan Chase & Co. vs. the Standard & Poor's 500 Index (S&P 500) and the Standard & Poor's Financials Index (S&P Financials Index).

[1] On March 27, 2000, Jamie Dimon was hired as CEO of Bank One.

Many of the legal and regulatory issues that our company and the industry have faced since the Great Recession have been resolved or are receding, which will allow the strength and quality of our underlying business to more fully shine through.

In this letter, I will discuss the issues highlighted below – which describe many of our successes and opportunities, as well as our challenges and responses. The main sections are listed below, and, unlike prior years, we have organized much of this letter around some of the key questions we have received from shareholders and other interested parties.

I. Our franchises are strong — and getting stronger

- How do you compare your franchises with your peers? What makes you believe your businesses are strong? Page 9

II. We must and will protect our company and those we serve

- You say you have a "fortress balance sheet." What does that mean? Can you handle the extreme stress that seems to happen around the world from time to time? Page 11
- Have you completed your major de-risking initiatives? Page 14
- Do you think you now have "fortress controls" in place? Page 14
- To protect the company and to meet standards of safety and soundness, don't you have to earn a fair profit? Many banks say that the cost of all the new rules makes this hard to do. Page 16
- What is all this talk of regulatory optimization, and don't some of these things hurt clients? When will you know the final rules? Page 16
- How do you manage geopolitical and country risks? Page 17
- How do you manage your interest rate exposure? Are you worried about negative interest rates and the growing differences across countries? Page 18
- Are you worried about liquidity in the marketplace? What does it mean for JPMorgan Chase, its clients and the broader economy? Page 19
- Why are you making such a big deal about protecting customers' data in your bank? Page 21

III. We actively develop and support our employees

- How are you ensuring you have the right conduct and culture? Page 22
- How are you doing in your diversity efforts? Page 24
- With all the new rules, committees and centralization, how can you fight bureaucracy and complacency and keep morale high? Page 26
- How are you doing retaining key people? Page 27

IV. We are here to serve our clients

- How do you view innovation, technology and FinTech? And have banks been good innovators? Do you have economies of scale, and how are they benefiting your clients? Page 28
- How do you intend to win in payments, particularly with so many strong competitors — many from Silicon Valley? Page 31
- You always seem to be segmenting your businesses — how and why are you doing this? Page 32
- How and why do you use big data? Page 33
- Why are you investing in sales and trading, as well as in your Investment Bank, when others seem to be cutting back? Page 34
- Why are you still in the mortgage business? Page 35

V. We have always supported our communities

- You seem to be doing more and more to support your communities — how and why? Page 37

VI. A safe, strong banking industry is absolutely critical to a country's success — banks' roles have changed, but they will never be a utility

- Does the United States really need large banks? Page 40
- Why do you say that banks need to be steadfast and always there for their clients — doesn't that always put you in the middle of the storm? Page 43
- Will banks ever regain a position of trust? How will this be done? Page 46
- Are you and your regulators thinking more comprehensively and in a forward-looking way to play a role in helping to accelerate global growth? Page 46

VII. Good public policy is critically important

- Are you worried about bad public policy? Page 48

I. OUR FRANCHISES ARE STRONG – AND GETTING STRONGER

When I travel around the world, and we do business in over 100 countries, our clients – who are big companies to small businesses, investors and individuals, as well as countries and their sovereign institutions – are almost uniformly pleased with us. In fact, most cities, states and countries want more of JPMorgan Chase. They want us to bring more of our resources – our financial capabilities and technology, as well as our human capital and expertise – to their communities. While we do not know what the next few years may bring, we are confident that the needs of our clients around the world will continue to grow and that our consistent strategy of building for the future and being there for our clients in good times and bad has put us in very good stead. Whatever the future brings, we will face it from a position of strength and stability.

Because our business leaders do such a good job describing their businesses (and I strongly urge you to read their letters on pages 52–72 in this Annual Report), it is unnecessary for me to cover each in detail here, other than to answer the following critical questions.

JPMorgan Chase is in Line with Best-in-Class Peers in Both Efficiency and Returns

	Efficiency			Returns		
	JPM 2015 overhead ratios	Best-in-class peer overhead ratios[2]	JPM target overhead ratios	JPM 2015 ROE	Best-in-class peer ROTCE[5]	JPM target ROE
Consumer & Community Banking	57%	54% WFC	~50%	18%	15% WFC	20%
Corporate & Investment Bank	59%[1]	57% Citi	55%-60%	12%[3]	12% Citi	13%
Commercial Banking	42%	40% PNC	35%	15%	14% FITB	16%
Asset Management	73%	68% UBS WM & BLK	≤70%	21%	24% BAC & TROW	25%+
JPMorgan Chase	58%[1]	56%[1]	55%+/-	13%[4]	12%	~15%[4]

[1] Excludes legal expense.
[2] Best-in-class overhead ratio represents implied expenses of comparable peer segments weighted by JPMorgan Chase (JPM) revenue: Wells Fargo Community Banking (WFC), Citi Institutional Clients Group (Citi), PNC Corporate and Institutional Banking (PNC), UBS Wealth Management and Wealth Management Americas (UBS WM) and BlackRock (BLK). JPM overhead ratio represents the sum of the implied expenses of all peers and JPM Corporate segment divided by JPM revenue.
[3] CIB ROE excluding legal expense was 14%.
[4] Represents firmwide ROTCE for JPM. Goodwill is primarily related to the Bank One merger and prior acquisitions and is predominantly retained by Corporate.
[5] Best-in-class ROTCE represents implied net income minus preferred stock dividends (NIAC) for each comparable LOB peer weighted by JPM average tangible common equity: WFC, Citi Institutional Clients Group (Citi), Fifth Third Bank (FITB), Bank of America Global Wealth and Investment Management (BAC), T. Rowe Price (TROW). JPM ROTCE represents the sum of the implied combined NIAC of all peers and JPM Corporate segment divided by JPM average tangible equity.

How do you compare your franchises with your peers? What makes you believe your businesses are strong?

Virtually all of our businesses are close to best in class, in overhead ratios and, more important, in return on equity (ROE), as shown on the chart on page 8. Of even more relevance, we have these strong ratios while making sizable investments for the future (which we have reported on extensively in the past and you can read more about in the CEO letters). It is easy to meet short-term targets by skimping on investments for the future, but that is not our approach for building the business for the long term.

We are deeply aware that our clients choose who they want to do business with each and every day, and we are gratified that we continue to earn our clients' business and their trust. If you are gaining customers and market share, you have to be doing something right. The chart below shows that we have been meeting this goal fairly consistently for 10 years.

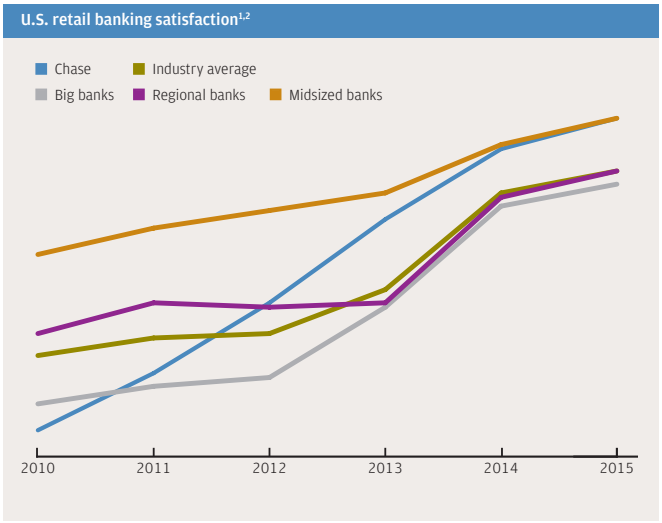
Irreplicable Client Franchises Built Over the Long Term

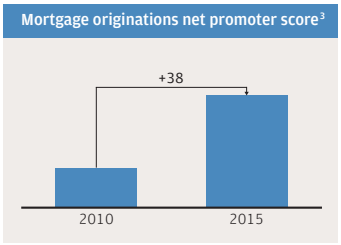
		2006	2014	2015	
Consumer & Community Banking	Deposits market share[1]	3.6%	7.6%	7.9%	■ Relationships with ~50% of U.S. households
	# of top 50 Chase markets where we are #1 (top 3) deposits	11 (25)	13 (40)	12 (40)	■ #1 primary banking relationship share in Chase footprint[11]
	Average deposits growth rate	7.7%	7.4%	9.0%	■ #1 retail bank in the U.S. for acquiring, developing and retaining customers[12]
	Active mobile customers growth rate	NM	22.1%	19.5%	■ #1 U.S. credit card issuer based on loans outstanding[13]
	Card sales market share[2]	16%	21%	21%	■ #1 U.S. co-brand credit card issuer[14]
	Merchant processing volume[3,4]	#3	#1	#1	■ #1 wholly-owned merchant acquirer[15]
Corporate & Investment Bank	Global Investment Banking fees[5]	#2	#1	#1	■ >80% of Fortune 500 companies do business with us
	Market share[5]	8.6%	8.0%	7.9%	■ Top 3 in 16 product areas out of 17[16]
	Total Markets revenue[6]	#8	#1	#1	■ #1 in both N.A. and EMEA Investment Banking fees[17]
	Market share[6]	7.9%	15.5%	15.9%	■ #1 in Global Debt, Equity and Equity-related[17]
	FICC[6]	#7	#1	#1	■ #1 in Global Long-Term Debt and Loan Syndications[17]
	Market share[6]	9.1%	17.5%	18.3%	■ #1 in FICC productivity[18]
	Equities[6]	#8	#3	#3	■ Top 3 Custodian globally with AUC of $19.9 trillion
	Market share[6]	6.0%	11.6%	12.0%	■ #1 USD clearing house with 18.9% share in 2015[19]
Commercial Banking	# of states with Middle Market banking presence	22	30	32	■ #1 in customer satisfaction[20]
	Multifamily lending[7]	#28	#1	#1	■ Leveraging the firm's platform – average ~9 products/client[21]
	Gross Investment Banking revenue ($ in billions)	$0.7	$2.0	$2.2	■ Top 3 in overall Middle Market, large Middle Market and ABL bookrunner
	% of North America Investment Banking fees	16%	35%	36%	■ Industry-leading credit performance – 4th straight year of net recoveries or single digit NCO rate
Asset Management	Mutual funds with a 4/5 star rating[8]	119	226	231	■ 84% of 10-year long-term mutual fund AUM in top 2 quartiles[22]
	Global active long-term open-end mutual fund AUM flows[9]	#2	#1	#2	■ Positive client asset flows every year since 2004
	AUM market share[9]	1.8%	2.5%	2.6%	■ #3 Global Private Bank and #1 LatAm Private Bank[23]
	North America Private Bank *(Euromoney)*	#1	#1	#1	■ Revenue and long-term AUM growth ~80% since 2006
	Client assets market share[10]	~3%	~4%	~4%	■ Doubled GWM client assets (2x industry rate) since 2006[10]

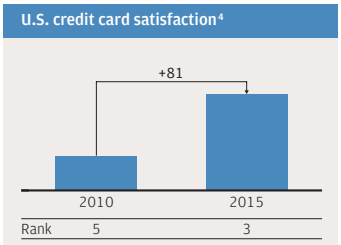
For footnoted information, refer to slide 42 in the 2016 Firm Overview Investor Day presentation, which is available on JPMorgan Chase & Co.'s website at (http://investor.shareholder.com/jpmorganchase/presentations.cfm), under the heading Investor Relations, Investor Presentations, JPMorgan Chase 2016 Investor Day, Firm Overview, and on Form 8-K as furnished to the SEC on February 24, 2016, which is available on the SEC's website (www.sec.gov).

NM = Not meaningful

Improved Consumer Satisfaction: 2010–2015







[1] Source: J.D. Power U.S. Retail Banking Satisfaction Study.
[2] Big banks defined as top six U.S. banks.
[3] Net promoter score = % promoters minus % detractors.
[4] Source: J.D. Power U.S. Credit Card Satisfaction Study (8/19/2010 and 8/20/2015).

Good businesses also deeply care about improving customer satisfaction. As shown above, you can see that our Chase customer satisfaction score continues to rise. In addition, our Commercial Banking satisfaction score is among the highest in the industry in terms of customer loyalty. In Asset Management, where customers vote with their wallet, JPMorgan Funds finished second in long-term net flows among all fund complexes.

Later on in this letter, I will describe our fortress balance sheet and controls, as well as the discipline we have around risk management. I will also talk more about our employees, some exciting new opportunities – mostly driven by innovative technologies – and our ongoing support for our communities and our country. It is critical that we do ***all*** of these things right to maintain the strength of our company.

II. WE MUST AND WILL PROTECT OUR COMPANY AND THOSE WE SERVE

In support of our main mission – to serve our clients and our communities – there is nothing more important than to ***protect*** our company so that we are strong and can continue to be here for all of those who count on us. We have taken many actions that should give our shareholders, clients and regulators comfort and demonstrate that our company is rock solid.

The actions we have taken to strengthen our company.

In this section, we describe the many actions that we have taken to make our company stronger and safer: our fortress balance sheet with enhanced capital and liquidity, our ability to survive extreme stress of multiple types, our extensive de-risking and simplification of the business, and the building of fortress controls in meeting far more stringent regulatory standards. Taken together, these actions have enabled us to make extraordinary progress toward reducing and ultimately eliminating the risk of JPMorgan Chase failing and the cost of any failure being borne by the American taxpayer or the U.S. economy.

You say you have a "fortress balance sheet." What does that mean? Can you handle the extreme stress that seems to happen around the world from time to time?

Nearly every year since the Great Recession, we have improved virtually every measure of financial strength, including many new ones. It's important to note as a starting point that in the worst years of 2008 and 2009, JPMorgan Chase did absolutely fine – we never lost money, we continued to serve our clients, and we had the wherewithal and capability to buy and integrate Bear Stearns and Washington Mutual. That said, we nonetheless recognize that many Americans did not do fine, and the financial crisis exposed weaknesses in the mortgage market and other areas. Later in this letter, I will also describe what we are doing to strengthen JPMorgan Chase and to help support the entire economy.

The chart on page 12 shows many of the measures of our financial strength – both from the year preceding the crisis and our improvement in the last year alone.

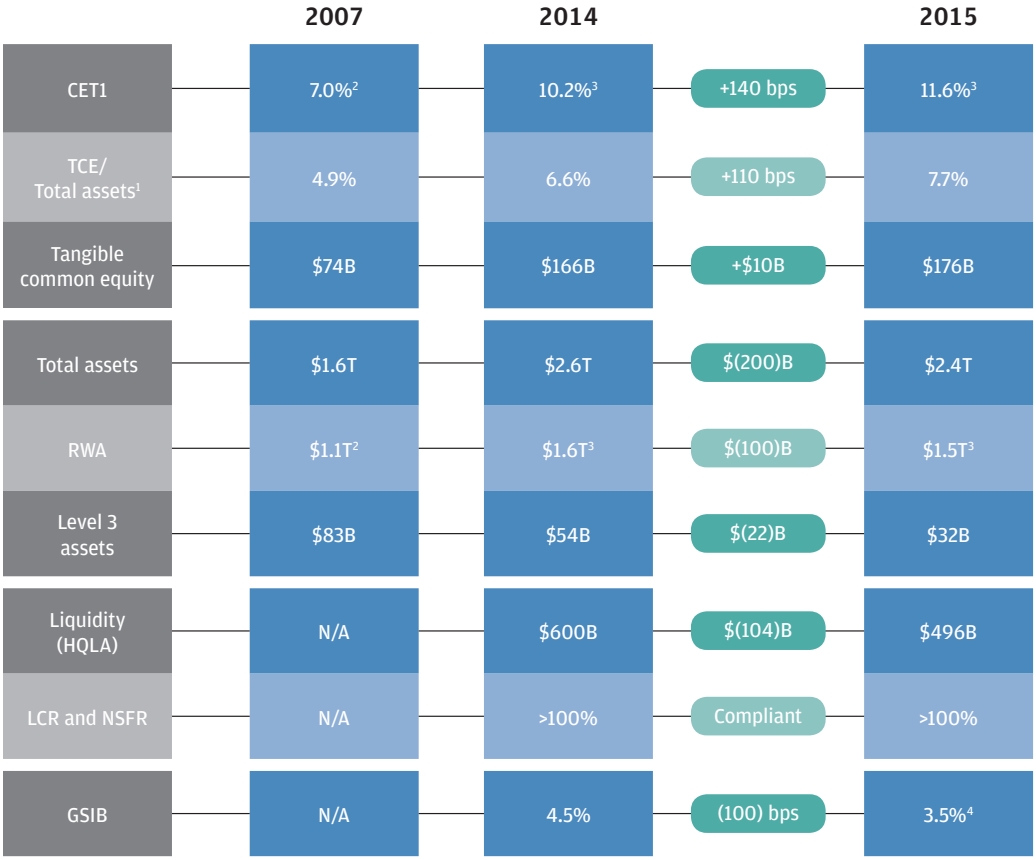
In addition, every year, the Federal Reserve puts all large banks through a very severe and very detailed stress test.

Among other things, last year's stress test assumed that unemployment would go to 10.1%, housing prices would fall 25%, equity markets would decline by nearly 60%, real gross domestic product (GDP) would decline 4.6%, credit spreads would widen dramatically and oil prices would rise to $110 per barrel. The stress test also assumed an instantaneous global market shock, effectively far worse than the one that happened in 2009, causing large trading losses. It also assumed the failure of the largest counterparty (this is meant to capture the failure of the global bank that you have the most extensive derivative relationship with; e.g., a Lehman-type event), which would cause additional losses. The stress test assumed that banks would not stop buying back stock – therefore depleting their capital – and would continue to grow dramatically. (Of course, growing dramatically and buying back stock if your bank were under stress would be irresponsible – and is something we would never do.) Under this assumed stress, the Federal Reserve estimates that JPMorgan Chase would lose

* Footnote: Our Chief Operating Officer Matt Zames talks in his letter on pages 52–55 about many important initiatives to protect our company, including our physical security and cybersecurity, so I will not duplicate any of that information.

Our Fortress Balance Sheet

at December 31,



[1] Excludes goodwill and intangible assets.
[2] Reflects Basel I measure; CET1 reflects Tier 1 common.
[3] Reflects Basel III Advanced Fully Phased-In measure.
[4] Estimated

B = billions
T = trillions
bps = basis points

CET1 = Common equity Tier 1 ratio. CET1 ratios reflect the capital rule the firm was subject to at each reporting period
TCE = Tangible common equity
RWA = Risk-weighted assets
Level 3 assets = Assets whose value is estimated using model inputs that are unobservable and significant to the fair value
HQLA = High quality liquid assets predominantly include cash on deposit at central banks, and unencumbered U.S. agency mortgage-backed securities, U.S. Treasuries and sovereign bonds
LCR and NSFR = Liquidity coverage ratio and net stable funding ratio
GSIB = Global systemically important bank. The GSIB surcharge increases the regulatory minimum capital of large banks based on their size, cross-jurisdiction activity, interconnectedness, complexity and short-term wholesale funding
N/A = Not applicable

$55 billion pre-tax over a nine-quarter period, an amount that we would easily manage because of the strength of our capital base. Remember, the Federal Reserve stress test is not a forecast – it appropriately assumes multiple levels of conservatism and that very little mitigating action can be taken. However, we believe that if the stress scenario actually happened, we would incur minimal losses over a cumulative nine-quarter period because of the extensive mitigating actions that we would take. It bears repeating that in the actual Great Recession, which was not unlike last year's stress test, JPMorgan Chase never lost money in any quarter and was quite profitable over the nine-quarter period.

The stress test is extremely severe on credit.

The 2015 Comprehensive Capital Analysis and Review (CCAR), or stress test, projected credit losses over a nine-quarter period that totaled approximately $50 billion for JPMorgan Chase, or 6.4% of all our loans. This is higher than what the actual cumula-

tive credit losses were for all banks during the Great Recession (they were 5.6%), and our credit book today is materially better than what we had at that time. The 2015 CCAR losses were even with the actual losses for banks during the worst two years of the Great Depression in the 1930s (6.4%).

The stress test is extremely severe on trading and counterparty risk.

Our 2015 CCAR trading and counterparty losses were $24 billion. We have two comparisons that should give comfort that our losses would never be this large.

First, recall what actually happened to us in 2008. In the worst quarter of 2008, we lost $1.7 billion; for the entire year, we made $6.3 billion in trading revenue in the Investment Bank, which included some modest losses on the Lehman default (one of our largest counterparties). The trading books are much more conservative today than they were in 2008, and at that time, we were still paying a considerable cost for assimilating and de-risking Bear Stearns.

Second, we run hundreds of stress tests of our own each week, across our global trading operations, to ensure our ability to withstand and survive many bad and extreme scenarios. These scenarios include events such as what happened in 2008, other historically damaging events and also new situations that might occur. We manage our company so that even under the worst market stress test conditions, we would almost never bear a loss of more than $5 billion (remember, we earn approximately $10 billion pre-tax, pre-provision each quarter). We recognize that on rare occasions, we could experience a negative significant event that could lead to our having a poor quarter. But we will be vigilant and will never take such a high degree of risk that it jeopardizes the health of our company and our ability to continue to serve our clients. This is a bedrock principle. Later in this letter, I will also describe how we think about idiosyncratic geopolitical risk.

And the capital we have to bear losses is enormous.

We have an extraordinary amount of capital to sustain us in the event of losses. It is instructive to compare assumed extreme losses against how much capital we have for this purpose.

You can see in the table below that JPMorgan Chase alone has enough loss absorbing resources to bear ***all the losses, assumed by CCAR, of the 31 largest banks in the United States.*** Because of regulations and higher capital, large banks in the United States are far stronger. And even if any one bank might fail, in my opinion, there is virtually no chance of a domino effect. Our shareholders should understand that while large banks do significant business with each other, they do not directly extend much credit to one other. And when they trade derivatives, they mark-to-market and post collateral to each other every day.

Resilience of JPMorgan Chase through multiple layers of protection

($ in billions)

Total loss absorbing resources December 31, 2015:	
Eligible long-term debt	$125
Preferred equity	26
CET1	173
Total reserves[1]	25
Total resources	**~$350**

JPMorgan Chase quarterly estimated pre-tax, pre-provision earnings	**~$ 10**
CCAR industry losses[2]	
JPMorgan Chase losses	$ 55
Losses of 30 other participating banks	167
Total CCAR losses	**$222**

[1] Includes credit, legal, tax and valuation reserves.

[2] As estimated for the nine quarters ending December 31, 2016, by the Federal Reserve in the 2015 CCAR severely adverse scenario.

Note: Numbers may not sum due to rounding.

Have you completed your major de-risking initiatives?

Yes, we have completed our major de-risking initiatives, and some were pretty draconian. In the chart below, I show just a few of the actions that we were willing to take to reduce various forms of risk:

Executed Significant Business Simplification Agenda

Business simplification initiatives	Other meaningful business actions
✓ Exited Private Equity business ✓ Exited Physical Commodities business ✓ Exited Special Mezzanine Financing business ✓ Exited majority of Broker-Dealer Services business ✓ Exited International Commercial Card ✓ Sold Retirement Plan Services unit[1] ✓ Exited government prepaid card	✓ Simplified Mortgage Banking products from 37 to 15 products ✓ Ceased originating student loans ✓ De-risking by discontinuing certain businesses with high-risk clients in high-risk geographies: — Business Banking closed ~9,000 clients — Commercial Banking closed ~4,600 clients — Private Banking closed ~1,700 clients — Consumer Banking closed ~140,000 clients — CIB closed ~2,900 clients (Includes restricted/exited transaction services for ~500 Foreign Correspondent Banking clients)

[1] 401(k) administration business

However, we are going to be extremely vigilant to do more de-risking if we believe that something creates additional legal, regulatory or political risks. We regularly review all our business activities and try to exceed – not just meet – regulatory demands. We also now ask our Legal Department to be on the search for "emerging legal risks." We try to think differently; for example, we try to look at legal risks not based on how the law is today but based on how the law might be interpreted differently 10 years from now. It is perfectly reasonable for the legal and regulatory agencies to want to improve the quality of the businesses they oversee, particularly around important issues such as customer protection. We also expect this refinement frequently will be achieved through enforcement actions as opposed to the adoption of new rules that raise standards. For many years, regulations generally were viewed as being static. As we do everywhere else, we should be striving for constant improvement to stay ahead of the curve.

Do you think you now have "fortress controls" in place?

We are good and are getting better. The intense efforts over the last few years across our operating businesses – Risk, Finance, Compliance, Legal and Audit – are now yielding real results that will protect the company in the future. We have reinforced a culture of accountability for assuming risk and have come a long way in self-identifying and fixing shortcomings. Many new permanent organizational structures have been put in place to ensure constant review and continuous improvement. For example, we now have a permanent Oversight & Control Group. The group is charged with enhancing the firm's control environment by looking within and across the lines of business and corporate functions to identify and remediate control issues. This function enables us to detect control problems more quickly, escalate issues promptly and engage other stakeholders to understand

common themes across the firm. We have strengthened the Audit Department and risk assessment throughout the firm, enhanced data quality and controls, and also strengthened permanent standing committees that review new clients, new products and all reputational issues.

The effort is enormous.

Since 2011, our total headcount directly associated with Controls has gone from 24,000 people to 43,000 people, and our total annual Controls spend has gone from $6 billion to approximately $9 billion annually over that same time period. We have more work to do, but a strong and permanent foundation is in place. Far more is spent on Controls if you include the time and effort expended by front-office personnel, committees and reviews, as well as certain technology and operations functions.

We have also made a very substantial amount of progress in Anti-Money Laundering/Bank Secrecy Act.

We deployed a new anti-money laundering (AML) system, Mantas, which is a monitoring platform for all global payment transactions. It now is functioning across our company and utilizes sophisticated algorithms that are regularly enhanced based on transactional experience. We review electronically $105 trillion of gross payments each month, and then, on average, 55,000 transactions are reviewed by humans after algorithms identify any single transaction as a potential issue. Following this effort, we stopped doing business with 18,000 customers in 2015. We also are required to file suspicious activity reports (SAR) with the government on any suspicious activity. Last year, we filed 180,000 SARs, and we estimate that the industry as a whole files millions each year. We understand how important this activity is, not just to protect our company but to help protect our country from criminals and terrorists.

We exited or restricted approximately 500 foreign correspondent banking relationships and tens of thousands of client relationships to simplify our business and to reduce our AML risk. The cost of doing proper AML/KYC (Know Your Customer) diligence on a client increased dramatically, making many of these relationships immediately unprofitable. But we did not exit simply due to profitability – we could have maintained unprofitable client relationships to be supportive of countries around the world that are allies to the United States. The real reason we exited was often because of the extraordinary legal risk if we were to make a mistake. In many of these places, it simply is impossible to meet the new requirements, and if you make just one mistake, the regulatory and legal consequences can be severe and disproportionate.

We also remediated 130,000 accounts for KYC – across the Private Bank, Commercial Bank and the Corporate & Investment Bank. This exercise vastly improved our data, gave us far more information on our clients and also led to our exiting a small number of client relationships. We will be vigilant on onboarding and maintaining files on all new clients in order to stay as far away as we can from any client with unreasonable risk.

In all cases, we carefully tried to get the balance right while treating customers fairly.

You can see that we are doing everything in our power to meet and even exceed the spirit and the letter of the law to avoid making mistakes and the high cost – both monetarily and to our reputation – that comes with that. But we also tried to make sure that in our quest to eliminate risk, we did not ask a lot of good clients to exit. We hope that in the future, the regulatory response to any mistakes – if and when they happen, and they will happen – will take into account the extraordinary effort to get it right.

To protect the company and to meet standards of safety and soundness, don't you have to earn a fair profit? Many banks say that the cost of all the new rules makes this hard to do.

Having enough capital and liquidity, and even the most solid fortress controls, doesn't make you completely safe and sound. Delivering proper profit margins and maintaining profitability through a normal credit cycle also are important. A business does this by having the appropriate business mix, making good loans and managing expenses over time.

Clearly, some of the new rules create expenses and burdens on our company. Some of these expenses will eventually be passed on to clients, but we have many ways to manage our expenses. Simplifying our business, streamlining our procedures, and automating and digitizing processes, some of which previously were being done effectively by hand, all will bring relief. For example, many of the processes we implemented for CCAR and AML/KYC had to be done quickly, and many were effectively handled outside our normal processes. Eventually, CCAR will be embedded into our normal forecasting and budgeting systems. And we are trying to build the data collection part of KYC into a utility that the entire industry can use – not just for us and our peer group but, equally important, for the client's benefit (the client would essentially only have to fill out one form, which then could be used by all banks). In addition, throughout the company, continually creating straight-through processing, online client service and other initiatives will both improve the client experience and decrease our costs.

What is all this talk of regulatory optimization, and don't some of these things hurt clients? When will you know the final rules?

In the new world, our company has approximately 20 new or significantly enhanced balance sheet and liquidity-related regulatory requirements – the most critical ones are the GSIB capital surcharge, CCAR, the Liquidity Coverage Ratio, the Supplementary Leverage Ratio and Basel III capital. Banks must necessarily optimize across these constraints to be able to meet all their regulatory requirements and, importantly, earn a profit. Every bank has a different binding constraint, and, over time, that constraint may change. Currently, our overriding constraint is the GSIB capital surcharge. Our shareholders should bear in mind that the U.S. government requires a GSIB capital surcharge that is double that of our international competitors. And this additional charge may ultimately put some U.S. banks at a disadvantage vs. international competitors. This is one reason why we worked so hard to reduce the GSIB capital surcharge – we do not want to be an outlier in the long run because of it.

In the last year, we took some dramatic actions to reduce our GSIB capital surcharge, which we now have successfully reduced from 4.5% to an estimate of 3.5%. These steps included reducing non-operating deposits by approximately $200 billion, level 3 assets by $22 billion and notional derivatives amounts by $15 trillion. We did this faster than we, or anyone, thought we could. We still will be working to further reduce the GSIB surcharge, but any reduction from this point will take a few years.

Like us, most banks are modifying their business models and client relationships to accomplish their regulatory objectives. We are doing this by managing our constraints at the most granular level possible – by product, client or business. Clearly, some of these constraints, including GSIB and CCAR, cannot be fully pushed down to the client. Importantly, we are focused on client-friendly execution – and we recognize that these constraints are of no direct concern to clients.

Unfortunately, some of the final rules around capital are still not fully known at this time.

There are still several new rules coming that also could impact our company – probably the most important to us is how the GSIB capital surcharge is incorporated into the CCAR stress test. To date, we have managed to what we do know. We believe that when the final rules are made and known, we can adjust to them in an appropriate way.

As banks change their business models to adapt to the new world, some are exiting certain products or regions. Market shares will change, and both products and product pricing will change over time. Therefore, we think there will be a lot of adjustments to make and tools to deploy so that we can still serve our clients and earn a fair profit.

How do you manage geopolitical and country risks?

We operate in more than 100 countries across the globe – and we are constantly analyzing the geopolitical and country risks that we face. The reason we operate in all these countries is not simply because they represent new markets where we can sell our products. When we operate in a country, we serve not only local institutions (governments and sovereign institutions, banks and corporations in that country) but also some of those institutions and corporations outside their country, along with multinationals when they enter that country. This creates a huge network effect. In all the countries where we operate, approximately 40% of the business is indigenous, 30% is outbound and 30% is inbound. All these institutions need financing and advice (M&A, equity, debt and loans), risk management (foreign exchange and interest rates) and asset management services (financial planning and investment management), as well as operating services (custody and cash management) in their own countries and globally. It takes decades to build these capabilities and relationships – we cannot go in and out of a country on a whim, based on a short-term feeling about risk in that country. Therefore, we need plans for the long term while carefully managing current risk.

We carefully monitor risks – country by country.

For each country, we take a long-term view of its growth potential across all our lines of business. Each country is different, but, for the most part, emerging and developing markets will grow faster than developed countries. And as they grow, the need for our services grows dramatically. While we have a future growth plan for each country, we obviously can't know with any certainty everything that will happen or the timing of recessions. No matter what the future brings, we make sure that we can easily bear the losses if we are wrong in our assessments. For each material country, we look at what our losses would be under severe stress (not that different from the Fed's CCAR stress test). We manage so that should the extreme situation occur, we might lose money, but we could easily handle the result. Below are a few examples of how we manage risk while continuing to serve clients in specific countries.

China. We believe it likely that, in 20–25 years, China will be a developed nation, probably housing 25% or more of the top 3,000 companies globally. Going forward, we do not expect China to enjoy the smooth, steady growth it has had over the past 20 years. Reforming inefficient state-owned enterprises, developing healthy markets (like we have in the United States) with full transparency and creating a convertible currency where capital can move freely will not be easy. There will be many bumps in the road. We publicly disclose in our Form 10-K that we have approximately $19 billion of country exposure to China. We run China through a severe stress test (essentially, a major recession with massive defaults and trading losses), and we estimate that our losses in this scenario could be approximately $4 billion. We do not expect this situation to

happen, but if it did, we could easily handle it. We manage our growth in China to try to capture the long-term value (and, remember, this will help a lot of our businesses outside of China, too) and in a way that would enable us to handle bad, unexpected outcomes. We don't mind having a bad quarter or two, but we will not risk our company on ***any*** country. This is how we manage in all countries in which we have material activity.

Brazil. Brazil has had a deteriorating economy, shrinking by 3%–4% over the last year. In addition, as I write this letter, Brazil faces political upheaval as its president is being threatened with impeachment and its former president is being indicted. Yet the country has a strong judicial system, many well-run companies, impressive universities, peaceful neighbors and an enormous quantity of natural resources. In Brazil, we have banking relationships with more than 2,000 clients, approximately 450 multinational corporations going into Brazil to do business and approximately 50 Brazilian companies going outbound. Our publicly disclosed exposure to Brazil is approximately $11 billion, but we think that in extreme stress, we might lose $2 billion. In each of the last three years, we actually have made money in Brazil. We are not retreating – because the long-term prospects are probably fine – and for decades to come, Brazilians will appreciate our steadfastness when they most needed it.

Argentina. Argentina is now a country with incredible opportunity. In the 1920s, its GDP per person was larger than that of France, whereas today, it is barely one-third compared with France. Argentina is an example of terrible public policy, often adopted under the auspices of being good for the people, that has resulted in extraordinary damage to the economy. However, the country has a highly educated population, a new president who is making bold and intelligent moves, peaceful neighbors and, like Brazil, an abundance of natural resources. You might be surprised to know that for the past 10 years, in spite of the country's difficulties, JPMorgan Chase has made a modest profit there by consistently serving our clients and the country. This year, we took a little additional risk in Argentina with a special financing to help bring the country some stability and help get it back into the global markets. We are hoping that Argentina can be an example to the world of what can happen when a country has a good leader who adopts good policy.

To give you more comfort, I want to remind you that throughout all the international crises over the last decade, we maintained our businesses in many places that were under stress – such as Spain, Italy, Greece, Egypt, Portugal and Ireland. In almost every case, we did not have any material problems, and we are able to navigate every issue and continue to serve all our clients. Again, we hope this will put us in good stead in these countries for decades. Later in this letter, I will talk about another potentially serious issue – Britain possibly leaving the European Union.

How do you manage your interest rate exposure? Are you worried about negative interest rates and the growing differences across countries?

No, we are not worried about negative interest rates in the United States. For years, this country has had fairly consistent job growth and increasingly strong consumers (home prices are up, and the consumer balance sheet is in the best shape it's ever been in). Housing is in short supply, and household formation is going up, car sales are at record levels, and we see that consumers are spending the gas dividend. Companies are financially sound – while some segments' profits are down, companies have plenty of cash. Nor are we worried about the diverging interest rate policies around the world. While they are a reasonable cause for concern, it

is also natural that countries with different growth rates and varying monetary and fiscal policies will have different interest rates and currency movements.

I am a little more concerned about the opposite: seeing interest rates rise faster than people expect. We hope rates will rise for a good reason; i.e., strong growth in the United States. Deflationary forces are receding – the deflationary effects of a stronger U.S. dollar plus low commodity and oil prices will disappear. Wages appear to be going up, and China seems to be stabilizing. Finally, on a technical basis, the largest buyers of U.S. Treasuries since the Great Recession have been the U.S. Federal Reserve, countries adding to their foreign exchange reserve (such as China) and U.S. commercial banks (in order to meet liquidity requirements). These three buyers of U.S. Treasuries will not be there in the future. If we ever get a little more consumer and business confidence, that would increase the demand for credit, as well as reduce the incentive and desire of certain investors to buy U.S. Treasuries because Treasuries are the "safe haven." If this scenario were to happen with interest rates on 10-year Treasuries on the rise, the result is unlikely to be as smooth as we all might hope for.

Are you worried about liquidity in the marketplace? What does it mean for JPMorgan Chase, its clients and the broader economy?

It is good to have healthy markets – it sounds obvious, but it's worth repeating. There are markets in virtually everything – from corn, soybeans and wheat to eggs, chicken and pork to cotton, commodities and even the weather. For some reason, the debate about having healthy financial markets has become less civil and rational. Healthy financial markets allow investors to buy cheaper and issuers to issue cheaper. It is important to have liquidity in difficult times in the financial markets because investors and corporations often have a greater and unexpected need for cash.

Liquidity has gotten worse and we have seen extreme volatility and distortions in several markets.

In the last year or two, we have seen extreme volatility in the U.S. Treasury market, the G10 foreign exchange markets and the U.S. equity markets. We have also seen more than normal volatility in global credit markets. These violent market swings are usually an indication of poor liquidity. Another peculiar event in the market is technical but important: U.S. Treasuries have been selling at a discount to their maturity-related interest rate swaps.

One of the surprises is that these markets are some of the most actively traded, liquid and standardized in the world. The good news is that the system is resilient enough to handle the volatility. The bad news is that we don't completely understand why this is happening.

There are multiple reasons why this volatility may be happening:

- There are fewer market-makers in many markets.
- Market-makers hold less inventory – probably due to the higher capital and liquidity required to be held against trading assets.
- Smaller sizes of trades being offered. It is true that the bid-ask spreads are still narrow but only if you are buying or selling a small amount of securities.
- Lower availability and higher cost of securities financing (securities financing is very short-term borrowing, fully and safely collateralized by Treasuries and agency securities), which often is used for normal money market operations – movement of collateral, short-term money market investing and legitimate hedging activities. This is clearly due to the higher cost of capital and liquidity under the new capital rules.

- Incomplete and sometimes confusing rules around securitizations and mortgages. We still have not finished all the rules around securitizations and in conjunction with far higher capital costs against certain types of securitizations. We have not had a healthy return to the securitization market.
- The requirement to report all trades. This makes it much more difficult to buy securities in quantity, particularly illiquid securities, because the whole world knows your positions. This has led to a greater discount for almost all off-the-run securities (these are the securities of an issuer that are less regularly traded).
- Possible structural issues; e.g., high-frequency trading. High-frequency trading usually takes place in small increments with most high-frequency traders beginning and ending the day with very little inventory. It appears that traders add liquidity during the day in liquid markets, but they mostly disappear in illiquid markets. (I should point out that many dealers also disappear in illiquid markets.)

All trading positions have capital, liquidity, disclosure and Volcker Rule requirements – and they cause high GSIB capital surcharges and CCAR losses. It is virtually impossible to figure out the cumulative effect of all the requirements or what contributes to what.

In our opinion, lower liquidity and higher volatility are here to stay.

One could reasonably argue that lower liquidity and higher volatility are not necessarily a bad thing. We may have had artificially higher liquidity in the past, and we are experiencing a return closer to normal. You certainly could argue that if this is a cost of a stronger financial system, it is a reasonable tradeoff. Remember, the real cost is that purchasers and issuers of securities will, over time, simply pay more to buy or sell. In any event, lower liquidity and higher volatility are probably here to stay, and everyone will just have to learn to live with them.

We really need to be prepared for the effects of illiquidity when we have bad markets.

In bad markets, liquidity normally dries up a bit – the risk is that it will disappear more quickly. Many of the new rules are even more procyclical than they were in the 2008 financial crisis. In addition, psychologically, the Great Recession is still front and center in people's minds, and the instinct to run for the exit may continue to be strong. The real risk is that high volatility, rapidly dropping prices, and the inability of certain investors and issuers to raise money may not be isolated to the financial markets. These may feed back into the real economy as they did in 2008. The trading markets are adjusting to the new world. There are many non-bank participants that are starting to fill in some of the gaps. Even corporations are holding more cash and liquidity to be more prepared for tough times. So this is something to keep an eye on – but not something to panic about.

In a capitalistic and competitive system, we are completely supportive of competitors trying to fill marketplace needs. One warning, however: Non-bank lenders that borrow from individuals and hedge funds or that rely on asset-backed securities will be unable to get all the funding they need in a crisis. This is not a systemic issue because they are still small in size, but it will affect funding to individuals, small businesses and some middle market companies.

JPMorgan Chase is well-positioned regardless.

It is important for you to know that we are not overly worried about these issues for JPMorgan Chase. We always try to be prepared to handle violent markets. Our actual trading businesses are very strong (and it should give you some comfort to know that in all the trading days over the last three years, we only had losses on fewer than 20 days, which is extraordinary). Sometimes wider spreads actually help market-makers, and some repricing of balance sheet positions, like repo, already have helped the consistency of our results. As usual, we try to be there for our clients – in good times and, more important, in tough times.

Why are you making such a big deal about protecting customers' data in your bank?

We need to protect our customers, their data and our company.

We necessarily have a huge amount of data about our customers because of underwriting, credit card transactions and other activities, and we use some of this data to help serve our customers better (I'll speak more about big data later in this letter). And we do extensive work to protect our customers and their data – think cybersecurity, fraud protection, etc. We always start from the position that we want to be customer friendly. One item that I think warrants special attention is when our customers want to allow outside parties to have access to their bank accounts and their bank account information. Our customers have done this with payment companies, aggregators, financial planners and others. We want to be helpful, but we have a responsibility to each of our customers, and we are extremely concerned. Let me explain why:

- When we all readily click "I agree" online or on our mobile devices, allowing third-party access to our bank accounts and financial information, it is fairly clear that most of us have no idea what we are agreeing to or how that information might be used by a third party. We have analyzed many of the contracts of these third parties and have come to the following conclusions:
  - Far more information is taken than the third party needs in order to do its job.
  - Many third parties sell or trade information in a way customers may not understand, and the third parties, quite often, are doing it for their own economic benefit – not for the customer's benefit.
  - Often this is being done on a daily basis for years after the customer signed up for the services, which they may no longer be using.

We simply are asking third parties to limit themselves to what they need in order to serve the customer and to let the customer know exactly what information is being used and why and how. In the future, instead of giving a third party unlimited access to information in any bank account, we hope to build systems that allow ***us*** to "push" information – and only that information agreed to by the customer – to that third party.

- Pushing specific information has another benefit: Customers do not need to provide their bank passcode. When customers give out their bank passcode, they may not realize that if a rogue employee at an aggregator uses this passcode to steal money from the customer's account, the customer, not the bank, is responsible for any loss. You can rest assured that when the bank is responsible for the loss, the customer will be fully reimbursed. That is not quite clear with many third parties. This lack of clarity and transparency isn't fair or right.

Privacy is of the utmost importance. We need to protect our customers and their data. We are now actively working with all third parties who are willing to work with us to set up data sharing the right way.

III. WE ACTIVELY DEVELOP AND SUPPORT OUR EMPLOYEES

If you were able to travel the world with me, to virtually all major cities and countries, you would see firsthand your company in action and the high quality and character of our people. JPMorgan Chase and all its predecessor companies have prided themselves on doing "only first-class business and in a first-class way." Much of the capability of this company resides in the knowledge, expertise and relationships of our people. And while we always try to bring in fresh talent and new perspectives, we are proud that our senior bankers have an average tenure of 15 years. This is testament to their experience, and it means they know who to call anywhere around the world to bring the full resources of JPMorgan Chase to bear for our clients.

Traveling with me, you would see our senior leadership team's exceptional character, culture and capability. You also would probably notice that 20% of this leadership group, over 250 teammates who manage our businesses worldwide, is ethnically diverse, and more than 30% are women.

Even though we believe that we have excellent people and a strong, positive corporate culture, we are always examining new ways to improve.

How are you ensuring you have the right conduct and culture?

We reinforce our culture every chance we get.

Our Business Principles are at the forefront of everything we do, and we need to make these principles part of every major conversation at the company – from the hiring, onboarding and training of new recruits to town halls and management meetings to how we reward and incentivize our people. To get better at this, last year we met with more than 16,000 employees in 1,400 focus groups around the world to get their feedback on some of our challenges and what we can do to strengthen and improve our culture.

That said, we acknowledge that we, at times, have fallen short of the standards we have set for ourselves. This year, the company pleaded guilty to a single antitrust violation as part of a settlement with the U.S. Department of Justice related to foreign exchange activities. The conduct underlying the antitrust charge is principally attributable to a single trader (who has since been dismissed) and his coordination with traders at other firms. As we said at the time, one lesson is that the conduct of a small group of employees, or of even a single employee, can reflect badly on all of us and can have significant ramifications for the entire firm. That's why we must be ever vigilant in our commitment to fortify our controls and enhance our historically strong culture, continuing to underscore that doing the right thing is the responsibility of every employee at the company. We all have an obligation to treat our customers and clients fairly, to raise our hand when we see something wrong or to speak up about something that we should improve – rather than just complain about it or ignore it.

We have intensified training and development.

We are committed to properly training and developing our people to enable them to grow and succeed throughout their careers. Our intent is to create effective leaders who embody our Business Principles.

WE ARE HELPING OUR EMPLOYEES STAY HEALTHY

For us, having healthy employees is about more than improving the firm's bottom line; it's about improving our employees' lives — and sometimes even saving lives. In 2015, we estimate that our Health & Wellness Centers intervened in more than 100 potentially life-threatening situations (e.g., urgent cardiac or respiratory issues), and many more lives have been positively impacted by our numerous wellness initiatives. We believe that healthy employees are happy employees and that happy employees have more rewarding lives both inside and outside the office.

Our commitment starts with offering comprehensive benefits programs and policies that support our employees and their families. To do this, JPMorgan Chase spent $1.1 billion in 2015 on medical benefits for employees based in the United States, where our medical plan covers more than 190,000 employees, spouses and partners. We tier our insurance subsidies so our higher earners pay more, and our lower earners pay less — making coverage appropriately affordable for all. We also contributed nearly $100 million in 2015 for employees' Medical Reimbursement Accounts. And we have structured the plan in a way that preventative care and screenings are paid for by the company.

Our benefits offering is supported by an extensive Wellness Program, which is designed to empower employees to take charge of their health. This includes health and wellness centers, health assessments and screenings, health advocates, employee assistance and emotional well-being programs, and physical activity events. In the first year, only 36% of employees participated in health assessments and wellness screenings, but in 2015, 74% of our employees enrolled in the medical plan completed an assessment and screening. Last year, our on-site wellness screenings helped almost 14,000 employees detect a health risk or potentially serious condition and directed them to see a physician for follow-up. On another subject, we all know the value of eating lots of vegetables, so we've made it a priority to offer an abundance of healthy meal and snack options in our on-site cafeterias and vending machines.

One of the flagships of our Wellness Program is our Health & Wellness Center network. Twenty-seven of our 29 centers in the United States are staffed with at least one doctor. Nearly half of our employees have access to a local center, and 56% of those with access walked in for a visit last year. These facilities are vitally important to our people. In 2015, these centers handled nearly 800 emergencies — including the 100 potentially life-saving interventions, which I mentioned above.

Maintaining a healthy lifestyle shouldn't be a chore — it should be fun. Last year, we held our second StepUp challenge, a global competition that not only kept our employees active, it supported five charities that feed the hungry. More than 11,000 teams — a total of over 83,000 employees — added up their daily steps to take a virtual walk around the world. They began their journey in New York City and made virtual stops at seven of our office locations before finishing in Sydney. Together, they logged a total of 28.2 billion steps, which resulted in the firm donating more than $2 million to the five designated charities — enough to fund millions of meals around the world.

JPMorgan Chase has 3,000 training programs, but we realized that we lacked a very important one: new manager development. Prior to 2015, when our employees became managers at the firm for the first time, we basically left them on their own to figure out their new responsibilities. In 2015, we launched JPMorgan Chase's Leadership Edge, a firmwide program to train leaders and develop management skills. These training programs inculcate our leadership with our values, teaching from case studies about business issues we have confronted and mistakes we have made. In its inaugural year, more than 4,500 managers attended programs with 156 sessions held at 20+ global locations. During 2016, over 13,000 managers are expected to attend. I personally take part in many of these sessions, which are now being held next to our New York City headquarters at The Pierpont Leadership Center, a state-of-the-art flagship training center that opened in January 2016.

How are you doing in your diversity efforts?

We are proud of our diversity … but we have more to do.

Our women leaders represent more than 30% of our company's senior leadership, and they run major businesses – several units on their own would be among Fortune 1000 companies. In addition to having three women on our Operating Committee – who run Asset Management, Finance and Legal – some of our other businesses and functions headed by women include Auto Finance, Business Banking, U.S. Private Bank, U.S. Mergers & Acquisitions, Global Equity Capital Markets, Global Research, Regulatory Affairs, Global Philanthropy, our U.S. branch network and firmwide Marketing. I believe that we have some of the best women leaders in the corporate world globally.

To encourage diversity and inclusion in the workplace, we have a number of Business Resource Groups (BRG) across the company to bring together members around common interests, as well as foster networking and camaraderie. Groups are defined by shared affinities, including race and cultural heritage, generation, gender, sexual orientation, military status and professional role. For example, some of our largest BRGs are Adelante for Hispanic and Latino employees, Access Ability for employees affected by a disability, AsPIRE for Asian and Pacific Islander employees, NextGen for early career professionals and WIN, which focuses on women and their career development. WIN has more than 20,000 members globally, and we have seen a direct correlation between BRG membership and increased promotion, mobility and retention for those participants. On the facing page, you can read more about some of the interesting new programs we have rolled out for employees in specific situations.

But there is one area where we simply have not met the standards that JPMorgan Chase sets for itself – and that is in increasing African-American talent at the firm. While we think our effort to attract and retain African-American talent is as good as at most other companies, it simply is not good enough. Therefore, we set up a devoted effort – as we did for hiring veterans (we've hired 10,000+ veterans) – to dramatically step up our effort. We have launched Advancing Black Leaders – a separately staffed and managed initiative to better attract and hire more African-American talent while retaining, developing and advancing the African-American talent we already have. We are taking definitive steps to ensure a successful outcome, including an incremental $5 million investment, identifying a full-time senior executive to drive the initiative, tripling the number of scholarships we offer to students in this community, and launching bias-awareness training for all executive directors and managing directors. We hope that, over the years, this concerted action will make a huge difference.

WE HAVE IMPLEMENTED A NUMBER OF POLICIES AND PROGRAMS TO MAKE JPMORGAN CHASE AN EVEN BETTER PLACE TO WORK

We want JPMorgan Chase to be considered the best place to work — period. Below are some meaningful new programs that will help us both attract talent and keep our best people.

Our ReEntry program. Our ReEntry program, now in its third year, has been incredibly successful in helping individuals who have taken a five- to 10-year or longer voluntary break get back into the workforce. These are highly accomplished professionals who have prior financial services experience at or above the vice president level but who may need help re-entering the corporate work environment. We offer participants an 18-week fellowship to refresh their skills and rebuild their network. It is a great way to bring outstanding, experienced workers — who often are women — to JPMorgan Chase to begin the second phase of their career. In three years, 63 fellows have been brought into the program, and 50 of those fellows have been placed in full-time roles.

Maternity mentors. A common reason for taking a prolonged break from work is the birth of a child. Becoming a parent is both joyful and stressful so we want to do everything we can to support our employees through this life-changing event. Last year, we extended primary caregiver parental leave to 16 weeks, up from 12, and, this year, we are introducing a firmwide maternity mentorship program. The program will pair senior employees who have gone through the parental leave process with those who are doing so for the first time. It was piloted last year to overwhelmingly positive feedback, with participants expressing deep appreciation for having a colleague they could turn to for advice on everything from how to balance work with their new home dynamic to nursing room protocol. Importantly, these senior mentors also provide peace of mind around job security and how to manage the entire transition, from preparing to leave, managing motherhood during the leave and returning to work. In addition, this program not only supports the employee going out on maternity leave, but it also helps educate the employee's manager — on how to stay connected with the employee and ensure that the leave is being handled with flexibility and sensitivity in order to give the employee comfort that her role will be there upon her return.

Work-life balance. We speak consistently about the need for our employees to take care of their minds, their bodies and their souls. This is the responsibility of each and every employee, but there are also ways the firm can help. People frequently think work-life balance refers to working parents; however, having an effective balance is important for everyone's well-being, including our junior investment bankers. In the Investment Bank, we have reduced weekend work to only essential execution work for all employees. And the protected weekend program for analysts and associates will remain in place and now is mandatory for all at this level globally.

With all the new rules, committees and centralization, how can you fight bureaucracy and complacency and keep morale high?

In the reality of our new world, centralization of many critical functions is an absolute requirement so that we can maintain common standards across the company. Of course, extreme centralization can lead to stifling bureaucracy, less innovation and, counterintuitively, sometimes a lack of accountability on the part of those who should have it. Our preference is to decentralize when we can, but when we have to centralize, we need to ensure we set up a process that's efficient, works for the customer and respects the internal colleagues who may have lost some local control.

Processes need to be re-engineered to be efficient. So far, our managers have done a great job adjusting to their new roles and, in effect, getting the best of centralization without its shortcomings. When, on occasion, new procedures have slowed down our response rate to the client, we quickly set about re-engineering the process to make it better. While we are going to meet and exceed all rules and requirements, we need to ensure that the process is not duplicative or that rules are not misapplied. For example, adhering to the new KYC rules took us up to 10 days to onboard a client to our Private Bank. But today, after re-engineering the process, we are back down to three days, incorporating enhanced controls. We all need to recognize that good processes generally are faster, cheaper and ***safer*** for all involved, including the client.

People should not just accept bureaucracy — they have the right to question processes and the interpretation of rules. We have given all our people the license to question whether what we are doing is the right thing, including the interpretation of rules and regulations. Very often, in our desire to exceed regulatory requirements and to avoid making a mistake, we have inaccurately interpreted a rule or regulation and created our own excessive bureaucracy. This is no one's fault but our own. Everyone should look to simplify and seek out best practices, including asking our regulators for guidance.

Committees need to be properly run — the chairperson needs to take charge. We have asked all our committees to become more efficient. For example, we should ensure that pre-reading materials are accurate and succinct. The right people need to be in the room and very rarely should the group exceed 12 people. An issue should not be presented to multiple committees when it could be dealt with in just one committee (remember, we have new business initiative approval committees, credit committees, reputational risk committees, capital governance committees, global technology architecture committees and hundreds of others).

We have asked that each chair of every committee take charge – start meetings on time, make sure people arrive prepared and actually have read the pre-read documents, eliminate frivolous conversation, force the right questions to get to a decision, read the riot act to someone behaving badly, maintain a detailed follow-up list specifying who is responsible for what and when, and ensure the committee meets its obligations and time commitments. And last, we encourage each chair to ask the internal customers if he or she is doing a good job for them.

We have maintained high morale. Our people have embraced the new regulations and are working hard to become the gold standard in how we operate. We don't spend any time finger-pointing or scapegoating our own people, looking for someone to blame purely for the sake of doing so when we make a mistake. And importantly, we have maintained a culture that allows for mistakes. Obviously, if someone violates our core principles, that person should not be here. But as you know, there are all types of mistakes.

We don't want to be known as a company that doesn't give people a second chance regardless of the circumstances. I remind all our managers that some of these mistakes will be made by our children, our spouses or our parents. Having a brutal, uncompromising and unforgiving company will create a terrible culture over time – and it will lead to worse conduct not better.

How are you doing retaining key people?

Quite well, thank you. The Board of Directors and I feel we have one of the best management teams we have ever had. Many of our investors who have spent a considerable amount of time with our leaders – not just with my direct reports but with the layer of management below them – will tell you how impressed they are with the depth and breadth of our management team. Of course, we have lost some people, but we wish them well – we are proud of our alumni. One of the negatives of being a good company is that you do become a breeding ground for talent and a recruiting target for competitors. It is the job of our management team to keep our key talent educated, engaged, motivated and happy. Our people are so good that we should say thank you every day.

Our company has stood the test of time because we are building a strong culture and are embedding our principles in everything we do. Nothing is more important. That is the pillar upon which all things rest – and it is the foundation for a successful future.

IV. WE ARE HERE TO SERVE OUR CLIENTS

Many of the new and exciting things we are doing center on technology, including big data and FinTech. We are continually innovating to serve our clients better, faster and cheaper – year after year.

How do you view innovation, technology and FinTech? And have banks been good innovators? Do you have economies of scale, and how are they benefiting your clients?

We have to be innovating all the time to succeed. Investing in the future is critical to our business and crucial for our growth. Every year we ask, "Are we doing enough? And should we be spending more?" We do not cut back on "good spending" to meet budget or earnings targets. We view this type of cost cutting like an airline scaling back on maintenance – it's a bad idea. We spent more than $9 billion last year on technology. Importantly, 30% of this total amount was spent on new investments for the future. Today, we have more than 40,000 technologists, from programmers and analysts to systems engineers and application designers. In addition, our resources include 31 data centers, 67,000 physical servers globally, 27,920 databases and a global network that operates smoothly for all our clients. There are many new technologies that I will not discuss here (think cloud, containerization and virtualization) but which will make every single part of this ecosystem increasingly more efficient over time.

We need to innovate in both big and small ways.

Technology often comes in big waves – such as computerization, the Internet and mobile devices. However, plenty of important innovation involves lots of little things that are additive over time and make a product or a service better or faster; for example, simplifying online applications, improving ATMs to do more (e.g., depositing checks) and speeding up credit underwriting. Many of these improvements were not just the result of technology but the result of teams of people across Legal, Finance, Technology and Client Coverage & Support working together to understand, simplify and automate processes.

One of our growing teams is our digital group, including more than 400 professionals focused on product and platform design and innovation. In addition, the digital technology organization has over 1,200 technologists that deliver digital solutions, including frameworks, development and architecture. This is an exceptional group, but you can judge for yourself when you read about some of the great projects being rolled out.

We have thousands of such projects, but I just want to give you a sample of some of our current initiatives (I will talk extensively later about investments in payments, in big data and in our Investment Bank):

- **Consumer digital.** We are intently focused on delivering differentiated digital experiences across our consumer businesses. For example, we added new functionality to our mobile app with account preview and check viewing, and we redesigned chase.com with simpler navigation and more personalized experiences, making it easier for our customers to bank and interact with us when and how they want – via smartphones, laptops and other mobile devices. We now have nearly 23 million active Chase Mobile customers, a 20% increase over the prior year.

- **Digital and Global Wealth Management.** We will be investing approximately $300 million over the next three years in digital initiatives for Asset Management. In Global Wealth Management, we have modernized the online experience for clients, enabled mobile access, and launched a digital portal for access to our research and analysis across all channels. In addition, we are rolling out a user-friendly and powerful planning tool that our advisors can use with clients in real time. We are also working on some great new initiatives around digital wealth management, which we will disclose later this year.

- **Digital Commercial Banking.** In Commercial Banking, J.P. Morgan ACCESS delivers a platform for clients to manage and pull together all their Treasury activities in a single, secure portal, which was ranked as the #1 cash management portal in North America by Greenwich Associates in 2014. We continue to invest in digital enhancements, releasing in 2015 our proprietary and integrated mobile solution for remote check deposits to help clients further streamline their back-office reconciliations. We are also investing in improving the overall user experience around key items such as entitlements (designating who can make payments) and workflow, bringing to our commercial digital platforms some of the same enhancements we've brought to our Consumer Banking sites.

  While we make a huge effort to protect our own company in terms of cybersecurity, we try to help protect our clients from cyber threats as well. We have extensive fraud and malware detection capabilities that significantly reduce wire fraud on our customers. We've increased our client cybersecurity education and awareness programs, having communicated with more than 11,000 corporate customers on this topic and hosting nearly 50 cybersecurity client events in 2015.

- **Small business digital.** Small businesses are important to Chase and to the communities we serve. Small businesses have a variety of banking needs, with approximately 60% of our customers using our checking accounts or business credit cards. And like our consumer client base, they depend heavily on the technology that already is offered in our Consumer business. But we are very excited about two new initiatives this year:

  – Our new brand "Chase for Business" is not just a brand. Over time, we will simplify forms, speed applications and dramatically improve the customer experience. This year or next, we will roll out an online digital application that allows a Business Banking customer to sign up for the "triple play" with one signature and in one day. "Triple play" stands for a deposit account, a business credit card and Chase merchant processing – all at once. Now that's customer service!

  – Chase Business Quick Capital. Working with a FinTech company called OnDeck, we will be piloting a new working capital product. The process will be entirely digital, with approval and funding generally received within one day vs. the current process that can take up to one month or more. The loans will be Chase branded, retained on our balance sheet, and subject to our pricing and risk parameters.

- **Commercial Term Lending.** In our Commercial Term Lending business, our competitive advantage is our process – we strive to close commercial real estate loans faster and more efficiently than the industry average. That has allowed us to drive $25 billion of loan growth since 2010, representing a five-year compound average growth rate (CAGR) of 11% and outpacing the industry CAGR of 4% while maintaining credit discipline. Technological innovation will continue to improve our process – later in the year, we will be rolling out a proprietary loan

origination system that will set a new industry standard for closure speed and customer service.

Yes, we are always improving our economies of scale (to the ultimate benefit of our clients). And yes, over time, banks have been enormous innovators.

We commonly hear the comment that a bank of our size cannot generate economies of scale that benefit the client. And we often hear people say that banks don't innovate. Neither of these comments is accurate. Below I give a few examples of the large and small innovations that we are working on:

- **Consumer and small business banking accounts.** Many decades ago, bank accounts meant checks and a monthly statement, with few additional benefits provided to customers (other than maybe a toaster). Today, most checking accounts come with many benefits: debit cards, online bill pay, 24-hour access to online account information, fraud alerts, mobile banking, relevant rewards and ATM access.
- **ATMs.** Today, ATMs are ubiquitous (we have almost 18,000 ATMs, and our customers love them). These ATMs have gone from simple cash dispensers to state-of-the-art service centers, allowing customers to receive different denominations of bills, accept deposited checks, pay certain bills and access all their accounts.
- **The cost and ability to raise capital and buy and sell securities.** Thirty years ago, it cost, on average, 15 cents to trade a share of stock, 100 basis points to buy or sell a corporate single-A bond and $200,000 to do a $100 million interest rate swap. Today, it costs, on average, 1.5 cents to trade a share of stock, 10 basis points to buy a corporate single-A bond and $10,000 to do a $100 million interest rate swap. And much can be done electronically, increasingly on a mobile device and with mostly straight-through processing, which reduces error rates and operational costs – for both us and our clients. These capabilities have dramatically reduced costs to investors and issuers for capital raising and securities transactions.
- **Cash management capabilities for corporations.** It is impossible to describe in a few sentences what companies had to do to move money around the world 40 years ago. Today, people can move money globally on mobile devices and immediately convert it into almost any currency they want. They have instant access to information, and the cost is a fraction of what it used to be.

FinTech and innovation have been going on my entire career – it's just faster today.

If you look at the banking business over decades, it has always been a huge user of new technologies. This has been going on my entire career, though it does appear to be accelerating and coming at us from many different angles. While many FinTech firms are good at utilizing new technologies, we should recognize that they are very good at analyzing and fixing business problems and improving the customer experience (i.e., reducing pain points). Sometimes they find a way to provide these services more efficiently and in a less costly manner; for example, cloud services. And sometimes these services are not less expensive but provide a faster and simplified experience that customers value and are willing to pay for. You see this in some FinTech lending and payment services.

It is unquestionable that FinTech will force financial institutions to move more quickly, and banks, regulators and government policy will need to keep pace. Services will be rolled out faster, and more of them will be executed on a mobile device. FinTech has been great at making it easier and often less expensive for customers and will likely lead to many more people, including more lower-income people, joining the banking system in the United States and abroad.

You can rest assured that we continually and vigorously analyze the marketplace, including FinTech companies. We want to stay up to date and be extremely informed, and we are always looking for ways to improve what we do. We are perfectly willing to compete by building capabilities (we have large capabilities in-house) or to collaborate by partnering.

Whether we compete or collaborate, we try to do what is in the best interest of the customer. We also partner with more than 100 FinTech companies – just as we have partnered over the past decade with hundreds of other technology providers. We need to be very technologically competent because we know that some of our competitors will be very good. All businesses have clear weak spots, and those weaknesses will be – and should be – exploited by competitors. This is how competitive markets work. One of the areas we spend a lot of time thinking and worrying about is payments. Part of the payments system is based on archaic, legacy architecture that is often unfriendly to the customer.

How do you intend to win in payments, particularly with so many strong competitors – many from Silicon Valley?

Right now, we are one of the biggest payments companies in the world (across credit and debit cards, merchant payments, global wire transfers, etc.). But that has not lulled us into a false sense of security – and we know we need to continue to innovate aggressively to grow and win in this area. The trifecta of Chase Paymentech, ChaseNet and Chase Pay, supported by significant investment in innovation, has us very excited and gives us a great opportunity to continue to be one of the leading companies in the payments business. Let me explain why.

Chase Paymentech. We already are one of the largest merchant processors in the United States (merchant processors provide those little machines that you swipe your card through at the point of sale in a store or that process online payments). We are quickly signing up large and medium-sized merchants – this year alone, we signed up some names that you all recognize, including Starbucks, Chevron, Marriott, Rite Aid and Cinemark. And I've already described how the partnership with Business Banking makes it easier for small businesses to connect with Chase Paymentech. In all these instances, we have simplified, and, in some cases, offered better pricing, as well as made signup easier – exactly what the merchants want. And very often it comes with ... ChaseNet.

ChaseNet. ChaseNet, through Visa, allows us to offer a merchant different and cheaper pricing, a streamlined contract and rules, and enhanced data sharing, which can facilitate sales and authorization rates. Again, these are all things merchants want. (You can see that we are trying hard to improve the relationship between banks and merchants.) We expect volume in ChaseNet to reach approximately $50 billion in 2016 (up 100% from 2015), as we have signed up and are starting to onboard clients such as Starbucks, Chevron, Marriott and Rite Aid. In conjunction with Chase Paymentech and ChaseNet, both of which allow us to offer merchants great deals, we also can offer ... Chase Pay.

Chase Pay. Chase Pay, our Chase-branded digital wallet, is the digital equivalent to using your debit or credit card. It will allow you to pay online with a "Chase Pay" button or in-store with your mobile phone. We also hope to get the Chase Pay button inside merchant apps. Chase Pay will offer lower cost of payment, loyalty programs and fraud liability protection to merchants, as well as simple checkout, loyalty rewards and account protection to consumers. As one great example, Chase has signed a payments agreement with Starbucks, which, we hope, will drive Chase Pay adoption. Customers will be able to use the Chase Pay mobile app at more

than 7,500 company-operated Starbucks locations in the United States and to reload a Starbucks Card within the Starbucks mobile app and on starbucks.com. Finally, to make Chase Pay even more attractive, we are building … real-time person-to-person (P2P) payments.

Real-time P2P payments. In conjunction with six partner banks, Chase is launching a P2P solution with real-time funds availability. The new P2P solution will securely make real-time funds available through a single consumer-facing brand. Chase and the partner banks represent 60% of all U.S. consumers with mobile banking apps. We intend to keep P2P free for consumers, and the network consortium is open for all banks to join.

We are absolutely convinced that the trifecta – Chase Paymentech, ChaseNet and Chase Pay – will be dramatically better, cheaper and safer for our customers and our merchants. We also are convinced that the investments we are making in Chase Paymentech and ChaseNet will pay off handsomely. The investment in Chase Pay is not as certain. But we think that the investment will be worth it and that it will help drive more merchants wanting to do business with us and more customers wanting to open checking accounts with us and use our credit cards.

I also want to mention one more payment capability, this one for our corporate clients:

Corporate QuickPay. Leveraging tremendous investment in our retail payment capabilities, our wholesale businesses launched Corporate QuickPay in 2015. This mobile and web-based solution provides our clients with a low-cost alternative to expensive paper checks, reducing their expenses by almost two-thirds. In addition, the platform dramatically improves security, increases payment-processing speed, eases reporting and significantly enhances the customer experience.

I hope you can see why we are so excited.

You always seem to be segmenting your businesses – how and why are you doing this?

We will always be segmenting our businesses to become more knowledgeable about and closer to the client. This segmentation allows us to tailor our products and services to better serve their needs. Below are some examples of how and why we do this.

In Consumer Banking, we have the benefit of really knowing our customers. We know about their financial stability, interests, where they live and their families. That data can be a tremendous force in serving them. By understanding customers well beyond a demographic profile, we can better anticipate what they need. Historically, we used demographics and behavior to segment our customers, but we increasingly take attitudes, values and aspirations into consideration to offer each customer more relevant and personalized products, services and rewards. As one important example, we hope to roll out an "Always On Offers" section for our customers on chase.com, where they can access all the products they qualify for at any given time.

In Commercial Banking, we continue to develop and enhance our Specialized Industries coverage, which now serves a total of 15 distinct industries and approximately 9,000 clients across the United States, with eight industries launched in the last five years. Below are a few service examples taken from these new industries:

- **Agricultural industry group.** Not only do we have specialized underwriting for clients within this group, but we also can help our clients navigate commodity price cycles and seasonality, as well as provide industry-specific credit and risk management tools, such as interest rate and commodity hedging.

- **Healthcare industry group.** In addition to delivering access to capital and other financial services, we can help our healthcare clients manage the constantly changing regulatory environment and adjust their businesses to comply with the Patient Protection and Affordable Care Act and other new regulations. In addition, our web-based tools are making it easier for healthcare providers to migrate payments from expensive paper checks to efficient electronic transactions.
- **Technology industry group.** To serve our technology clients, we have expanded our coverage to include 30 bankers in 11 key markets, all highly aligned with our Investment Banking team. With this model, we can provide investment banking services, comprehensive payment capabilities and international products to address the needs of technology clients through every stage of growth.

In Asset Management, we have dedicated groups that cover highly specialized segments. Some of these segments are: Defined Benefit Pension Plans, Defined Contribution Pension Plans, Endowments & Foundations, Family Offices and Insurance Companies.

How and why do you use big data?

We have enormous quantities of data, and we have always been data fanatics, using big data responsibly in loan underwriting, market-making, client selection, credit underwriting and risk management, among other areas. But comparing today's big data with yesterday's old-style data is like the difference between a mobile phone and a rotary phone. Big data truly is powerful and can be used extensively to improve our company.

To best utilize our data assets and spur innovation, we have built our own extraordinary in-house big data capabilities – we think as good as any in Silicon Valley – populated with more than 200 analysts and data scientists, which we call Intelligent Solutions. And we are starting to use these capabilities across all our businesses. I want to give you a sample of what we are doing – and it is just the beginning:

- **Commercial Banking.** We are using big data in many ways in Commercial Banking. One area is responsible prospecting. It always was hard to get a proper list of client prospects (i.e., get the prospect's working telephone number or email address, get an accurate description of the business and maybe get an introduction to the decision maker at the company). Using big data, we have uncovered and qualified twice as many high-quality prospects, and we are significantly more effective in assuring that the best banker is calling on the highest-potential prospects. This has given us confidence in knowing that if we hire more bankers, they can be profitably deployed.
- **Consumer Banking.** Within the Consumer Bank, we use big data to improve underwriting, deliver more targeted marketing and analyze the root causes of customer attrition. This will lead to more accounts, higher marketing efficiencies, reduced costs and happy customers.

- **Operational efficiencies.** In the Corporate & Investment Bank, big data is being used to analyze errors, thereby improving operational efficiencies. In one example, in our Custody business, big data is helping identify and explain the breaks and variances in the calculation of net asset values of funds, thereby reducing the operational burden and improving client service.
- **Operational intelligence.** Our technology infrastructure creates an enormous amount of machine data from which we gain valuable operational intelligence. This information helps support the stability and resiliency of our systems – enabling us to identify little problems before they become big problems.
- **Fraud security and surveillance.** Needless to say, these big data capabilities are being used to decrease fraud, reduce risk in the cyber world, and even monitor internal systems to detect employee fraud and bad behavior.

Why are you investing in sales and trading, as well as in your Investment Bank, when others seem to be cutting back?

Trading is an absolutely critical function in modern society – for investors large and small and for corporations and governments. As the world grows, the absolute need for trading will increase globally as assets under management, trade, corporate clients and economies grow. We disclosed on Investor Day that we continue to make a fair profit in almost all our trading businesses despite the higher costs and what is probably a permanent reduction in volumes. While the business will always be cyclical, we are convinced that our clients will continue to need broad services in all asset classes and that we have the scale to be profitable through the cycle.

Sales and trading educates the world about companies, securities and economies. Clients will always need advice and the ability to transact. This education also makes it easier for corporations to sell their securities so they can invest and grow. Much of the investment we are making in sales and trading is in technology, both to adjust to new regulations and to make access to trading faster, cheaper and safer than it has been in the past. Across electronic trading, we have seen a doubling of users and significant volume increases of 175% across products in just the last year. Below are a few examples:

Foreign exchange (FX). We continue to make significant investments in FX e-trading and our single-dealer platform. More than 95% of our FX spot transactions are now done electronically as the market has increasingly shifted to electronic execution over the years. We were also first to deliver FX trading on mobile devices through our award-winning eXecute application on the J.P. Morgan Markets platform. Our continued investment in the FX business, in which we process an average of nearly 500,000 trades each day, has propelled us to be a leader in the market.

Equities. In the last five years, on the back of our investments in both technology and people, our U.S. electronic cash equity market share has nearly quadrupled. We have also witnessed an increased straight-through processing rate – going from 70% two years ago to 97% today.

Prime Brokerage. Our Prime Brokerage platform, which was once a predominantly U.S. operation, is now a top-tier global business that continues to grow clients and balances. Our international and DMA (direct market access) electronic footprint has expanded rapidly since 2012. Financing balances are at all-time highs, with international balances up more than 60% and synthetic balances up more than 350%, simultaneously reducing balance sheet consumption and enhancing returns.

Rates trading. With the adoption of new regulations, we anticipate that this market will also continue to see increased volumes of e-trading. As a result, we have developed automated pricing systems that can price swaps in a fraction of a second on electronic platforms. Our SEF (swap execution facility) aggregator allows clients to see the best price available to them across the global market of interest rate swaps and "click to trade" via our platform on an agency basis. This helps our clients execute transactions via any channel they desire, on a principal or agent basis. Today, over 50% of our U.S. dollar swaps volume is traded and processed electronically.

Commodities. Leveraging our FX capabilities, we have developed a complete electronic offering in precious and base metals. We are also extending the same capabilities to energy products, where we have executed our first electronic trade in oil. We plan to further extend our e-trading capabilities across the commodities markets, including agricultural products.

Derivatives processing. The implementation of our strategic over-the-counter derivatives processing platform has promoted a 30% increase in portfolio volume and a more than 50% decrease in cost per trade in four years. The platform now settles $2.2 trillion of derivative notionals each day and has been instrumental in improving operational delivery, control and client service, as demonstrated by a more than 60% reduction in cash settlement breaks and a 50% increase in straight-through processing of equity derivatives confirmations.

In all these cases, greater operational efficiencies and higher straight-through processing drive lower costs and lead to happy clients.

We also continue to make investments in research and the coverage of clients. A couple of examples will suffice:

Research platform. We continue our research investments both in the quality of our people and in the number of companies and sectors we cover. In 2015, we expanded our global equity research coverage to more than 3,700 companies, the broadest equity company coverage platform among our competitors. With material increases in the United States – we expanded sector coverage in energy, banks, insurance and industrials – and in China, we doubled our A-share coverage.

Increased Investment Banking coverage. We are actively recruiting and hiring senior bankers in areas where we were either underpenetrated or where there has been incremental secular growth, such as energy, technology, healthcare and Greater China.

Why are you still in the mortgage business?

That is a valid question. The mortgage business can be volatile and has experienced increasingly lower returns as new regulations add both sizable costs and higher capital requirements. In addition, it is not just the cost of the new rules in origination and servicing, it is the enormous complexity of those new requirements that can lead to problems and errors. It is now virtually impossible not to make some mistakes – and as you know, the price for making an error is very high. So why do we want to stay in this business? Here's why:

- **Mortgages are important to our customers.** For most of our customers, their home is the single largest purchase they will make in their lifetime. More than that, it is an emotional purchase – it is where they are getting their start, raising a family or maybe spending their retirement years. As a bank that wants to build lifelong relationships with its customers, we want to be there for them at life's most critical junctures. Mortgages are important to our customers, and we still believe that we have the brand and scale to build a higher-quality and less volatile mortgage business.

- **Originations.** We reduced our product set from 37 to 15, we will complete the rollout of a new originations system, and we will continue to leverage digital channels to make the application process easier for our customers and more efficient for us. In addition, we have dramatically reduced Federal Housing Administration (FHA) originations. Currently, it simply is too costly and too risky to originate these kinds of mortgages. Part of the risk comes from the penalties that the government charges if you make a mistake – and part of the risk is because these types of mortgages default frequently. And in the new world, the cost of default servicing is extraordinarily high.
- **Servicing.** If we had our druthers, we would never service a defaulted mortgage again. We do not want to be in the business of foreclosure because it is exceedingly painful for our customers, and it is difficult, costly and painful to us and our reputation. In part, by making fewer FHA loans, we have helped reduce our foreclosure inventory by more than 80%, and we are negotiating arrangements with Fannie Mae and Freddie Mac to have any delinquent mortgages insured by them be serviced by them.
- **Community Reinvestment Act and Fair Lending.** Finally, while making fewer FHA loans can make it more difficult to meet our Community Reinvestment Act and Fair Lending obligations, we believe we have solutions in place to responsibly meet these obligations – both the more subjective requirements and the quantitative components – without unduly jeopardizing our company.

V. WE HAVE ALWAYS SUPPORTED OUR COMMUNITIES

Most large companies are outstanding corporate citizens – and they have been for a long time. They compensate their people fairly, they provide critical medical and retirement plans, and they're in the forefront of social policy; for example, in staffing a diverse workforce, hiring veterans and effectively training people for jobs. They, like all institutions, are not perfect, but they try their best to obey the spirit and the letter of the laws of the land in which they operate.

You seem to be doing more and more to support your communities – how and why?

Since our founding in New York more than 200 years ago, JPMorgan Chase and its predecessor banks have been leaders in their communities. This is nothing new. For example, in April 1906, J.P. Morgan & Co. made Wall Street's largest contribution – $25,000 – to, as *The New York Times* described it at the time, "extend practical sympathy to the stricken people of San Francisco." This was two days after the earthquake that destroyed 80% of the city and killed 3,000 people. In February 2016, we played much the same role when the firm and our employees contributed hundreds of thousands of dollars to pay for medical services for children exposed to lead in the Flint, Michigan, water crisis. And over the last several years, we have given more than $20 million to help in the aftermath of natural disasters, from tsunamis in Asia to Superstorm Sandy in the northeast United States (and it was gratifying to see how employees rallied with their time and with the full resources of the firm to help).

In addition to our annual philanthropic giving – which now totals over $200 million a year – we are putting our resources, the expertise of our business leaders, our data, relationships and knowledge of global markets into significant efforts aimed at boosting economic growth and expanding opportunity for those being left behind in today's economy. We have made ***long-term global commitments*** to workforce readiness, getting small businesses the capital and support they need to grow, improving consumer financial health and supporting strong urban economies. You can read more detail about these programs on pages 71-72. And in the sidebars in this section, you can hear directly from some of our partners about our efforts. We think these initiatives will make a significant contribution to creating more economic opportunity for more people around the world.

In particular, I want to tell you about an exciting new community service program we have developed that is capitalizing on our most important resource – the talent of our people. The Service Corps program recruits top-performing employees from around the world to put their skills and expertise to work on behalf of nonprofit partners that are helping to build stronger communities. This program, combining leadership development with philanthropic purpose, started small in Brazil, grew into the Detroit Service Corps as part of our investment there, and has now spread across the globe, with projects in Africa, Asia, and North and South

America. Service Corps employees work on-site with nonprofits on projects that last three weeks. In total, 64 people have been involved in 22 projects. And this program will continue to grow in the coming years to other domestic and international locations. While supporting our nonprofit partners to deliver on their mission, our employees also gain enormous satisfaction and sense of purpose from the opportunity to help. In addition, as they travel across the globe and interact with their peers, they develop a great, permanent camaraderie that helps unite our employees from around the world in a commitment to make a difference in our communities.

PARTNERSHIP IN DETROIT
by Mayor Mike Duggan

Detroit is coming back. After years of challenges, we are seeing signs of real progress in our neighborhoods and business districts.

Two years into our administration, we've brought back fiscal discipline and have balanced the city's budget for the first time in more than a decade. We've installed 61,000 new LED streetlights in our neighborhoods. Buses are running on schedule for the first time in 20 years and are serving 100,000 more riders each week. We've taken down nearly 8,000 blighted homes and, as a result, are seeing double-digit property value increases across the majority of the city. Perhaps most important, 8,000 more Detroiters are working today than two years ago, thanks to efforts to attract new investment and develop our workforce.

None of these positive steps would have been possible without the partnerships we've established in Washington, D.C., in our state capital of Lansing, with the Detroit City Council, and especially with our residents and partners in the business and philanthropic communities.

When our friends at JPMorgan Chase started thinking about making a $100 million investment in Detroit, they started off by asking about our priorities for the city's recovery — not just mine but those of our community and philanthropic leaders as well. Today, we can see the impact of JPMorgan Chase's commitment to Detroit in many places — in the opening of a new grocery store in the Westside's Harmony Village neighborhood, in the minority-led small businesses that are getting much-needed capital from the new Entrepreneurs of Color Fund and in the map of Detroit's workforce system that is helping us prepare Detroiters for the new jobs coming to the city. JPMorgan Chase is bringing its data, expertise and talent to this town in so many ways — assets that are just as important as money in boosting our recovery.

The partnerships JPMorgan Chase saw at work in Detroit helped give the firm confidence to invest so significantly in our city. And because we have this fine company at the table, we now have other companies coming to our city looking to contribute and invest in Detroit and its residents.

We still have a long way to go. But with great partners like JPMorgan Chase, we are creating a turnaround that is benefiting all Detroiters and can be a model for other large cities facing similar challenges.

COMMITMENT TO OUR VETS
by Stan McChrystal, Retired General, U.S. Army

In early 2011, two employees of JPMorgan Chase came to wintry New Haven, Connecticut, to talk about veterans. Specifically, they told me that Jamie Dimon felt the bank could, and should, do more to help the many veterans returning from service — many who were in Iraq and Afghanistan — take their rightful place in civilian society. Since 9/11, the military had enjoyed tremendous support from the American people, but seemingly intractable problems of reintegration, particularly challenges with meaningful employment, haunted an embarrassingly large number of former warriors and their families.

I listened with interest and no small amount of cautious skepticism. I was aware of countless programs initiated with the best of intentions that soon became more talk than action and was worried this might be the same. The JPMorgan Chase people asked if I thought the bank should create a program to help veterans find employment and if the bank did start such a program, would I join the advisory council for it.

I thought for a moment and then responded: "If Jamie is seriously willing to commit the bank to the effort," I replied, "it's the right thing to do, and I'm in. If not, there are other, far less ambitious ways to offer the bank's help for veterans." As we talked further, they convinced me that Jamie, and the full energy that JPMorgan Chase could bring, would be behind the effort.

That was almost five years ago, and JPMorgan Chase has surpassed my every hope and expectation. By committing full-time talent and including the personal involvement of senior leadership, **the firm has been the strongest force in veterans' employment in America**. The Veteran Jobs Mission program has not only implemented truly cutting-edge programs inside the bank to recruit, train, mentor and develop veterans — resulting in an increase of more than 10,000 veterans within the bank since 2011 — but the program also has demonstrated the power of commitment. An impressive number of American businesses have set and met employment goals (to date, over 300,000 veterans have been hired collectively, with a goal of hiring 1 million) that would have been considered unattainable at the start.

CREATING CAREER-FOCUSED EDUCATION
by Freeman A. Hrabowski III, President of the University of Maryland, Baltimore County

Too many people are left out of work or are stuck in low-wage, low-skill jobs without a path to meaningful employment and the chance to get ahead. Among young people, this truly is a national tragedy: More than 5 million young Americans, including one in five African-American and one in six Latino youths, are neither attending school nor working. JPMorgan Chase's New Skills for Youth initiative is an important example of educators and business leaders partnering to equip young people with the skills and experience to be career ready.

The social and economic hurdles faced by young people of color and those who come from low-income families have been exacerbated by the growing crisis of high inner city unemployment and low high school graduation rates. With too many young people marginalized, economic growth slows, and social challenges increase. The public and private sectors must work together to change this.

Educators need to emphasize both college and career readiness. They need to recognize that there is growing demand for technically trained, middle-skill workers — from robotics technicians to licensed practical nurses — and better align what they teach with the talent needs of employers. At the same time, business leaders need to support the education system as it strives to teach today's skills and help students develop into critical thinkers.

A bachelor's degree is as important as ever, and universities must do more to support students of all backgrounds who arrive on our campuses. However, we need to recognize that not all college and career pathways include pursuing a four-year degree immediately, and we need to eliminate the stigma attached to alternate paths. High-quality, rigorous career and technical education programs can connect people to high-skill, well-paying jobs — and they don't preclude earning a four-year degree down the road. Classes dedicated to robotics, medical science, mechanics and coding build skills that employers desperately need. They also prepare students to land great jobs.

Recent education reforms are making progress, but we still need greater focus on preparing young people, from all income levels, with the skills and experiences to be college and career ready. The public and private sectors need to forge deeper relationships and make greater investments in developing and expanding effective models of career-focused education that are aligned with the needs of emerging industries. This is an investment not only in growing our economy but also in providing more of our young people with a tangible path out of poverty and a real chance at economic success.

VI. A SAFE, STRONG BANKING INDUSTRY IS ABSOLUTELY CRITICAL TO A COUNTRY'S SUCCESS – BANKS' ROLES HAVE CHANGED, BUT THEY WILL NEVER BE A UTILITY

For the people of a country to thrive, you need a successful economy and markets. For an economy to be successful, it is an absolute necessity to have a healthy and successful banking system. The United States has a large, vibrant financial system, from asset managers and private equity sponsors to hedge funds, non-banks, venture capitalists, public and private market participants, small to large investors and banks. Banks are at the core of the system. They educate the world about companies and markets, they syndicate credit and market risk, they hold and move money and assets, and they necessarily create discipline among borrowers and transparency in the market. To do this well, America needs all different kinds of financial institutions and all different kinds of banks – large and small.

Does the United States really need large banks?

There is a great need for the services of all banks, from large global banks to smaller regional and community banks. That said, our large, global Corporate & Investment Bank does things that regional and community banks simply cannot do. We offer unique capabilities to large corporations, large investors and governments, including federal institutions, states and cities.

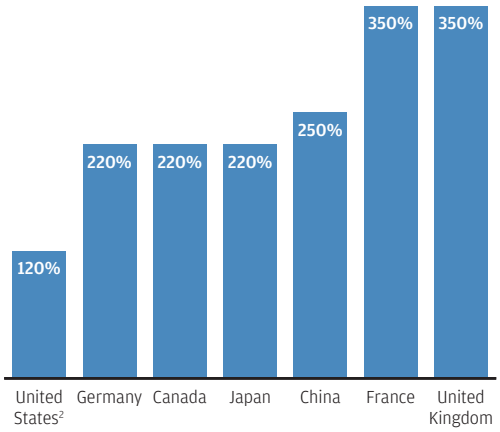
Only large banks can bank large institutions.

Of the 26 million businesses in the United States, only 4,000 are public companies. While accounting for less than 0.02% of all firms, these companies represent one-third of private sector employment and almost half of the total $2.3 trillion of business capital expenditures. And most are multinationals doing business in many countries around the world. In addition to corporations, governments and government institutions – such as central banks and sovereign wealth funds – need financial services. The financial needs of all these institutions are extraordinary. We provide many of the services they require. For example, we essentially maintain checking accounts for these institutions in many countries and currencies. We provide extensive credit lines or raise capital for these clients, often in multiple jurisdictions and in multiple currencies. On an average day, JPMorgan Chase moves approximately $5 trillion for these types of institutions, raises or lends $6 billion of capital for these institutions, and buys or sells approximately $1.5 trillion of securities to serve investors and issuers. We do all this efficiently and safely for our clients. In addition, as a firm, we spend approximately $700 million a year on research so that we can educate investors, institutions and governments about economies, markets and companies. For countries, we raised $60 billion of capital in 2015. We help these nations develop their capital markets, get ratings from ratings agencies and, in general, expand their knowledge. The fact is that almost everything we do is because clients want and need our various services.

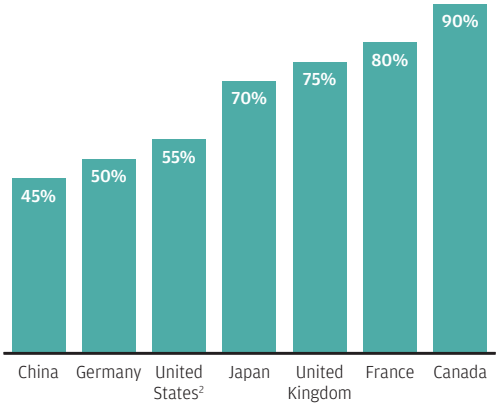
Put "large" in context.

While we are a large bank, it might surprise you to know two facts: (1) The assets of all banks in the United States are a much smaller part of the country's economy, relatively, than in most other large, developed countries; and (2) America's top five banks by assets are smaller, relatively, to total banking assets in America than in most other large, developed countries. As shown in the following charts, this framework means banks in the United States are less consolidated.

Total Bank Assets as a % of GDP by Country[1]



Top 5 Bank Assets as a % of Total Bank Assets by Country[1]



[1] Approximate percentages based on 2014 data.

[2] Excludes the estimated impact of certain derivatives netting.

Our size and our diversification make us stronger.

Our large and diversified earnings streams and good margins create a strong base of earnings that can withstand many different crises. Stock analysts have pointed out that ***JPMorgan Chase has among the lowest earnings volatility and revenue volatility among all banks.*** This strength is what allows us to invest in countries to support our clients and to have the staying power to survive tough times. We are a port of safety in almost any storm.

Finally, our size gives us the ability to make large and innovative investments that are often needed to create new products and services or to improve our efficiency. The ultimate beneficiary of all this is our clients.

Community banks are critical to the country — large banks provide essential services to them. (I prepared this section initially as an op-ed article, but I'd like you to see it in total.)

Not long ago, I read some commentary excoriating big banks written by the CEO of a regional bank. The grievances weren't new or surprising – in the current climate, one doesn't have to look far to find someone attacking large financial institutions. But I recognized this particular bank as a client of ours. So I did some digging. It turns out that our firms have a relationship that goes back many years and spans a broad range of services. And it struck me how powerful the incentive is, in today's heated public dialogue, to frame issues as a winner-take-all fight between opposing interests: big vs. small. Main Street vs. Wall Street. It is a simple narrative, and while banks of all sizes make mistakes, certainly a key lesson of the crisis is that mistakes at the largest institutions can impact the broader financial system.

But, as is often the case, reality tells a deeper story, and the U.S. financial services industry does not conform to simple narratives. It is a complex ecosystem that depends on diverse business models co-existing because there is no other way to effectively serve America's vast array of customers and clients. A healthy banking system depends on institutions of all sizes to drive innovation, build and support our financial infrastructure, and provide the essential services that support the U.S. economy and allow it to thrive.

In our system, smaller regional and community banks play an indispensable role. These institutions sit close to the communities they serve. Their highest-ranking corporate officers live in the same neighborhoods as their clients. They are able to forge deep and long-standing relationships and bring a keen knowledge of the local economy and culture. They frequently are able to provide high-touch and specialized banking services, given their unique connection to their communities.

Large banks such as JPMorgan Chase also have a strong local presence. We are proud to have branches and offices all across the country and to have the privilege of being woven into communities large and small. But we respect the fact that for some customers, there is no substitute for a locally based bank and that in some markets, a locally based lender is the best fit for the needs of the community.

Having said that, these very same regional and community banks depend on large banks such as ours to make their service offerings possible. First, large banks offer vital correspondent banking services for smaller institutions. These services include distributing and collecting physical cash, processing checks and clearing international payments. JPMorgan Chase alone extends such services to 339 small banks and 10 corporate credit unions across the country. Last year, we provided these institutions with $4.7 billion in intraday credit to facilitate cash management activities and processed $7.6 trillion in payments/receivables.

Large banks also enable community banks to provide traditional mortgages by purchasing the mortgages that smaller banks originate, selling the loans to the agencies (e.g., Fannie Mae) or capital markets and continuing to service the borrower. In 2015, JPMorgan Chase purchased $10.4 billion in such residential loans from 165 banks nationwide.

In addition to these correspondent banking services, large banks deliver mission-critical investment banking services. This includes helping smaller banks access debt and equity capital, supporting them through strategic combinations, enabling them to manage their securities portfolios, providing valuable risk management tools (such as interest rate swaps and foreign exchange), creating syndicated credit facilities that smaller banks' clients can participate in and offering direct financing. JPMorgan Chase has raised $16.2 billion in growth equity capital for smaller banks since 2014; advised on strategic combinations among regional and community banks valued at $52 billion; and, last year, provided $5.3 billion in secured repo financing, extended $1.4 billion in trading line financing and provided $7 billion in other unsecured financing to hundreds of banks nationwide.

This is a story of symbiosis among our banks rather than a binary choice between big and small. Yes, all banks are competitors in the marketplace. But marketplace competition is not zero-sum. In banking, your competitor can also be your customer. Large banks ultimately would be diminished if regional and community banks were weakened, and, just as surely, those smaller institutions would lose out if America's large banks were hobbled. We require a system that serves the needs of all Americans, from customers getting their first mortgage to farmers and small business owners to our largest multinational companies.

America faces enough real challenges without inventing conflict where none need exist. Rather, banks of all sizes do themselves and their stakeholders better service by acknowledging the specific value different types of institutions offer. Then we all can get on with the business of serving our distinctive roles in strengthening the economy, our communities and our country.

Banks cannot be utilities.

Utilities are monopolies; i.e., generally only one company is operating in a market. And because of that, prices and returns are regulated. Banks do not have the same relationship with their clients as most other companies do. When a customer walks into a store and wants to buy an item, the store sells it. By contrast, very often a bank needs to turn a customer down; for example, in connection with a credit card or a loan. Responsible lending is good, but irresponsible lending is bad for the economy and for the client (we clearly experienced this in the Great Recession). Banks are more like partners with their clients – and they are often active participants in their clients' financial affairs. They frequently are in the position where they have to insist that clients operate with discipline – by asking for collateral, putting

covenants in place or forcing the sale of assets. This does not always create friends, but it is critical for appropriate lending and the proper functioning of markets. Banks have to continuously make judgments on risk, and appropriately price for it, and they have to do this while competing for a client's business. There is nothing about banking that remotely resembles a utility.

America's financial system is the finest the world has ever seen – let's ensure it stays that way.

The position of America's leading banks is like many other U.S. industries – they are among the global leaders. If we are not allowed to compete, we will become less diversified and less efficient. I do not want any American to look back in 20 years and try to figure out how and why America's banks lost the leadership position in financial services. If not us, it will be someone else and likely a Chinese bank. Today, many Chinese banks already are larger than we are, and they continue to grow rapidly. They are ambitious, they are supported by their government and they have a competitive reason to go global – the Chinese banks are following and supporting their Chinese companies with the financial services that are required to expand abroad.

Not only are America's largest banks global leaders, but they help set global standards for financial markets, companies, and even countries and controls (such as anti-money laundering). Finally, banks bring huge resources – financial and knowledge – to America's major flagship companies and investors, thereby helping them maintain their global leadership positions.

Why do you say that banks need to be steadfast and always there for their clients – doesn't that always put you in the middle of the storm?

Yes, to an extent. When an economy weakens, banks will see it in lower business volumes and higher credit losses. Of course, we want to manage this carefully, but it is part of the cost of doing business. Building a banking business takes decades of training bankers, nurturing relationships, opening branches and developing the proper technology. It is not like buying or selling a stock. Clients, from consumers to countries, expect you to be there in both good times and the toughest of times. Banks and their services are often the essential lifeblood to their clients. Therefore, it is part of the cost of doing business to ***manage*** through the cycles.

JPMorgan Chase consistently supports consumers, businesses and communities in both good times and the toughest of times. In 2015, the firm provided $22 billion of credit to U.S. small businesses, which allowed them to develop new products, expand operations and hire more workers; $168 billion of credit to Commercial and Middle Market clients; $233 billion of credit to consumers; more than $68 billion of credit or capital raised for nonprofit and government entities, including states, municipalities, hospitals and universities; and $1.4 trillion of credit or capital raised for corporations. In total, we extended credit and raised capital of more than $2 trillion for our clients.

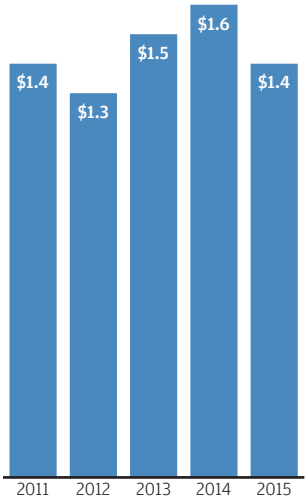
Banks were there for their clients, particularly when the capital markets were not – we need this to continue.

The public markets, even though they are populated with a lot of very bright and talented people, are surprisingly fickle. The psychology and wisdom of crowds are not always rational, and they are very impersonal. People who buy and sell securities do not have a moral obligation to provide credit to clients. This is when banks' long-term relationships and fairly consistent

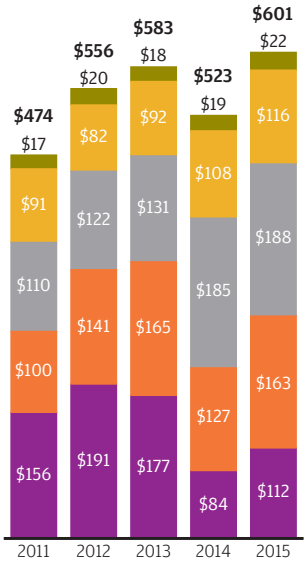
New and Renewed Credit and Capital for Our Clients

at December 31,

Corporate clients
($ in trillions)



Consumer and Commercial Banking
($ in billions)

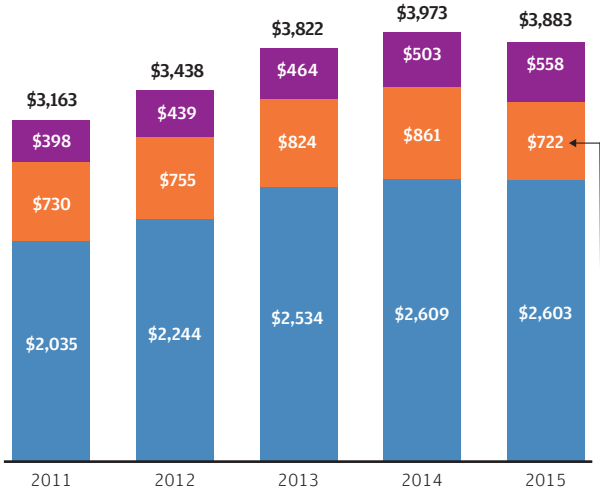


	Year-over-year change			
	'11 to '12	'12 to '13	'13 to '14	'14 to '15
Corporate clients	(9)%	20%	7%	(11)%
Small business	18%	(8)%	5%	11%
Card & Auto	(10)%	12%	18%	7%
Commercial/ Middle market	11%	8%	41%	1%
Asset management	41%	17%	(23)%	29%
Mortgage/ Home equity	22%	(7)%	(53)%	34%
Total Consumer and Commercial Banking	17%	5%	(10)%	15%

Assets Entrusted to Us by Our Clients

at December 31,

Deposits and client assets
($ in billions)



	Year-over-year change			
	'11 to '12	'12 to '13	'13 to '14	'14 to '15
Deposits				
Consumer	10%	6%	8%	11%
Wholesale	3%	9%	4%	(16)%
Client assets[1]	10%	13%	3%	– %

Including non-operating deposits reduction of ~ $200 billion

Assets under custody[2]
($ in billions)

$16,870	$18,835	$20,485	$20,549	$19,943

[1] Represents assets under management, as well as custody, brokerage, administration and deposit accounts.

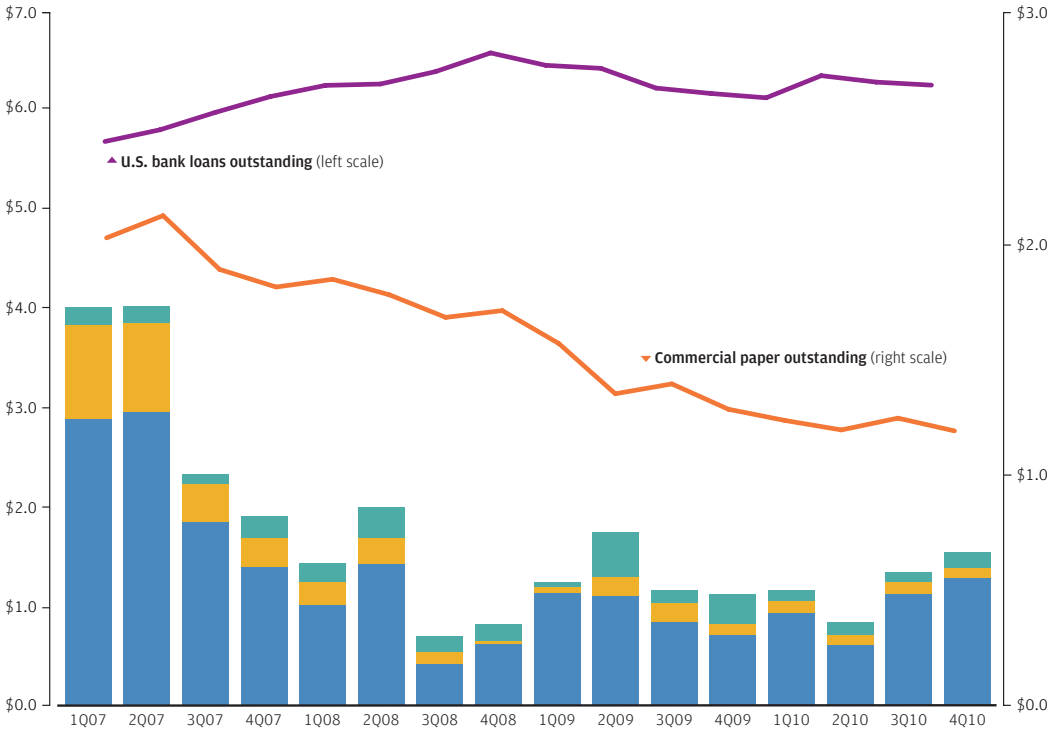
[2] Represents activities associated with the safekeeping and servicing of assets.

pricing and credit offerings are needed the most. The chart below shows how banks continued to be there for their clients as the markets were not.

Corporations get the vital credit they need by issuing securities, including commercial paper, or by borrowing from banks. You can see in the chart below the dramatic drop in the issuance of securities and commercial paper once the financial crisis hit. Commercial paper outstanding alone dropped by $1 trillion, starving companies in desperate need of cash. You can see that bank loans outstanding, for the most part, were steady and consistent. This means that banks continued to renew or roll over credit to their clients – small, medium and large – when it was needed the most.

This will be a little bit harder to do in the future because capital, liquidity and accounting rules are essentially more procyclical than they were in the past. We estimate that if we were to enter a very difficult market, such as 2008, our capital needs could increase by 10%. Despite the market need for credit, banks would be in a position where, all things being equal, they would ***need to reduce*** the credit extended to maintain their own strong capital positions.

Quarterly Capital Markets Issuances and U.S. Bank Loans Outstanding 2007–2010
($ in trillions)



	1Q07	2Q07	3Q07	4Q07	1Q08	2Q08	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10	4Q10
Commercial paper outstanding	$2.0	$2.1	$1.9	$1.8	$1.8	$1.7	$1.6	$1.7	$1.5	$1.2	$1.3	$1.1	$1.1	$1.0	$1.1	$1.0
Total capital markets issuances	$4.0	$4.0	$2.3	$1.9	$1.4	$2.0	$0.7	$0.8	$1.2	$1.8	$1.2	$1.1	$1.2	$0.8	$1.3	$1.5

$(3.3)

Capital markets issuances (left scale)
Corporate bonds[1] ABS[2] Equity[3]

[1] Includes high-yield and investment-grade bonds.
[2] Includes collateralized loan obligations and excludes mortgage-backed issuances.
[3] Includes initial public offerings (IPOs) and secondary market offerings.

Will banks ever regain a position of trust? How will this be done?

Most banks actually are trusted by their clients, but generically, they are not. This dichotomy also is true with politicians, lawyers and the media – people trust the individuals they know, but when it comes to whether people trust them as a group, they do not. We believe that the only way to be restored to a position of trust is to earn it every day in every community and with every client.

The reality is that banks, because of the disciplined role they sometimes have to play and the need to say no in some instances, will not always be the best of friends with some of their clients. But banks still need to discharge that responsibility while continuing to regain a position of trust in society. There is no easy, simple answer other than:

- Maintain steadfast, consistent and transparent behavior wherever they operate.
- Communicate honestly, clearly and consistently.
- Deliver great products and services.
- Admitting to mistakes is good, fixing them is better and learning from them is essential.
- Make it easy for customers to deal with you – particularly when they have problems.
- Work with customers who are struggling – both individuals and companies.
- Focus on the customer and treat all clients the way you would want to be treated.
- Be great citizens in the community. Establish strong relationships with governments and civic society.
- Treat regulators like full partners – and accept that you will not always agree. When they make a change in regulations, even ones you don't like, accept them and move on.
- As an industry, make fewer mistakes and behave better – the bad behavior of one individual reverberates and affects the entire industry.

Finally, strong regulators and stronger standards for banks must ultimately mean that banks are meeting more rigorous standards. Every bank is doing everything in its power to meet regulatory standards. It has been eight years since the financial crisis and six years since Dodd-Frank. Regulators should take more credit for the extraordinary amount that has been accomplished and should state this clearly to the American public. This should help improve consumer confidence in the banking system – and in the economy in general. Consumer and business confidence is the secret sauce for a healthy economy. It is free, and it would be good to sprinkle a bit more of it around.

Are you and your regulators thinking more comprehensively and in a forward-looking way to play a role in helping to accelerate global growth?

By any reasonable measure, the financial system is unquestionably stronger, and regulators deserve a lot of credit for this. But it also is true that thousands of rules, regulations and requirements were made – and needed to be made – quickly. The political and regulatory side wanted it done swiftly to ensure that events that happened in the Great Recession would never happen again.

But now is the time when we can and should look at everything more deliberately and assess whether recent reforms have generated unintended consequences that merit attention.

Some people speak of regulation like it is a simple, binary tradeoff – a stronger system or slower growth or vice versa. We believe that many times you can come up with regulations that do both – create a stronger system and enhance growth.

There will be a time to comprehensively review, coordinate and modify regulations to ensure maximum safety, create more efficiency and accelerate economic growth.

Every major piece of legislation in the United States that was large and complex has been revisited at some point with the intention of making it better. The political time for this is not now, but we should do so for banking regulations someday. We are not looking to rewrite or to start over at all – just some modifications that make sense. Here are a few specific examples:

- **Liquidity.** Regulators could give themselves more tools for adjusting liquidity to accommodate market needs. This could be done with modest changes that could actually ameliorate the procyclical nature of the current rules and, in my opinion, enhance safety and soundness and improve the economy.
- **Mortgages.** Finishing and simplifying mortgage rules around origination, servicing, capital requirements and securitizations would help create a more active mortgage market at a lower cost to customers and, again, at no risk to safety and soundness if done right. This, too, would be a plus to consumers and the economy.
- **Capital rules.** Without reducing total capital levels, capital rules could be modified to be less procyclical, which could serve to both dampen a bubble and soften a bust. This alone could boost the economy and reduce overall economic risk. There are also some rules – for example, requiring that capital be held against a deposit at the Federal Reserve – that distort the normal functioning of the market. These could be eliminated with no risk to safety and soundness unless you think the Fed is a risky investment. Finally, finishing the capital rules for banks will remove one additional drag on the banks and allow for more consistent capital planning. This would also help to improve confidence in the banks and, by extension, investor confidence.
- **Increased coordination among regulators.** Having five, six or seven regulators involved in every issue does make things more complicated, expensive and inefficient, not just for banks but for regulators, too. This slows policymaking and rulemaking and is one reason why many of the rules still have not been completed. One of the lessons we have all learned is that policymakers need to move quickly in a crisis. While everyone has worked hard to be more coordinated, far more can be done.
- **Be more forward looking.** This is already happening. As banks are catching up on regulatory demands, the pace of change, while still rapid, is slowing. This sets the stage for both banks and regulators to be able to devote more resources to increasingly critical issues, including cybersecurity, digital services, data protection, FinTech and emerging risks.

As the financial system reaches the level of strength that regulations require, we hope banks can begin to expand slightly more rapidly (and, of course, responsibly) – both geographically and in terms of products and services – with the support and confidence of their regulators. This will also foster healthy economic growth, which we all so desperately want.

VII. GOOD PUBLIC POLICY IS CRITICALLY IMPORTANT

Are you worried about bad public policy?

Yes, bad public policy, and I'm not looking at this in a partisan way, creates risk for the economies of the world and the living standards of the people on this planet – and, therefore, for the future of JPMorgan Chase – more so than credit or market risks. We have many real-life examples that demonstrate how essential good public policy is to the health and welfare of a country.

East Germany vs. West Germany. After World War II, East Germany and West Germany were in equal positions, both having been devastated by the war. After the war, West Germany flourished, creating a vibrant and healthy country for its citizens. East Germany (and, in fact, most of Eastern Europe), operating under different governance and policies, was a complete disaster. This did not have to be the case. East Germany could have been just as successful as West Germany. This is a perfect example of how important policy is and also of how economics is not a zero-sum game.

Argentina, Venezuela, Cuba, North Korea vs. Singapore, South Korea, Mexico. These countries also provide us with some pretty strong contrasts. The first four countries mentioned above have performed poorly economically. The last three mentioned above have done rather well in the last several decades. You cannot credit this failure or success to the existence of great natural resources because, on both sides, some had these resources, and some did not. It would take too long to articulate it fully here, but strong public policy – fiscal, monetary, social, etc. – made all the difference. The countries that did not perform well had many reasons to be successful, but, they were not. In almost all these cases, their government took ineffective actions in the name of the people.

Detroit. Detroit is an example of failure at the city level. In the last 20 years, most American cities had a renaissance – Detroit did not. Detroit was a train wreck in slow motion for 20 years. The city had unsustainable finances, corrupt government and a declining population that went from 2 million residents to just over 750,000. It is tragic that this catastrophe had to happen before government started to rectify the situation.

We have reported that we are making a huge investment in Detroit, and we are doing this because the leadership – the Democratic mayor and the Republican governor, working with business and nonprofit organizations – is taking rational and practical action in Detroit to fix the city's problems. These leaders talk about strengthening the police, improving schools, bringing jobs back, creating affordable housing, fixing streetlights and rehabilitating neighborhoods – real things that actually matter and will help the people of Detroit. They do not couch their agenda in sanctimonious ideology.

Fannie Mae and Freddie Mac. These are examples of poor policy at the industry and company level. Under government auspices and with federal government urging, Fannie and Freddie became the largest, most leveraged and most speculative vehicles that the world had ever seen. And when they finally collapsed, they cost the U.S. government $189 billion. Their actions were a critical part of the failure of the mortgage market, which was at the heart of the Great Recession. Many people spent time trying to figure out who was to blame more – the banks and mortgage brokers involved or Fannie and Freddie. Here is a better course – each should have acknowledged its mistakes and determined what could have been done better.

So yes, public policy is critical to a healthy and functioning economy. Now I'd like to turn my attention to a more forward-looking view of some of the potential risks out there today that are driven by public policy:

Our current inability to work together in addressing important, long-term issues. We have spoken many times about the extraordinarily positive and resilient American economy. Today, it is growing stronger, and it is far better than you hear in the current political discourse. But we have serious issues that we need to address – even the United States does not have a divine right to success. I won't go into a lot of detail but will list only some key concerns: the long-term fiscal and tax issues (driven mostly by healthcare and Social Security costs, as well as complex and poorly designed corporate and individual taxes), immigration, education (especially in inner city schools) and the need for good, long-term infrastructure plans. I am not pointing fingers at the government in particular for our inability to act because it is all of us, as U.S. citizens, who need to face these problems.

I do not believe that these issues will cause a crisis in the next five to 10 years, and, unfortunately, this may lull us into a false sense of security. But after 10 years, it will become clear that action will need to be taken. The problem is not that the U.S. economy won't be able to take care of its citizens – it is that taking away benefits, creating intergenerational warfare and scapegoating will make for very difficult and bad politics. This is a tragedy that we can see coming. Early action would be relatively painless.

The potential exit of Britain from the European Union (Brexit). One can reasonably argue that Britain is better untethered to the bureaucratic and sometimes dysfunctional European Union. This may be true in the long run, but let's analyze the risks. We mostly know what it looks like if Britain stays in the European Union – effectively, a continuation of a more predictable environment. But the range of outcomes of a Brexit is large and potentially unknown. The best case is that Britain can quickly renegotiate hundreds of trade and other contracts with countries around the world including the European Union. Even this scenario will result in years of uncertainty, and this uncertainty will hurt the economies of both Britain and the European Union. In a bad scenario, and this is not the worst-case scenario, trade retaliation against Britain by countries in the European Union is possible, even though this would not be in their own self-interest. Retaliation would make things even worse for the British and European economies. And it is hard to determine if the long-run impact would strengthen the European Union or cause it to break apart. The European Union began with a collective resolve to establish a political union and peace after centuries of devastating wars and to create a common market that would result in a better economy and greater prosperity for its citizens. These two goals still exist, and they are still worth striving for.

We need a proper public policy response to technology, trade and globalization. Technology and globalization are the best things that ever happened to mankind, but we need to help those left behind. Technology is what has driven progress for all mankind. Without it, we all would be living in tents, hunting buffalo and hoping to live to age 40. From printing, which resulted in the dissemination of information, to agriculture and to today's computers and healthcare – it's an astounding phenomenon – and the next 100 years will be just as astounding.

The world and most people benefit enormously from innovative ideas; however, some people, some communities and some sectors in our economy do not. As we embrace progress, we need to recognize that technology and globalization can impact labor markets negatively, create job displacement, and contribute to the pay disparity between the skilled and unskilled. Political and business leaders have fallen short in not only acknowledging these challenges but in dealing with them head on. We need to support solutions that address the displacement of workers and communities through better job training, relocation support and income assistance. Some have suggested that dramatically expanding the earned income tax credit (effectively, paying people to work) may create a healthy and more egalitarian society. Also, we must address an education system that fails millions of young people who live in poor communities throughout the United States.

The answer to these challenges is not to hold back progress and the magic of technology; the answer is to deal with the facts and ensure that public policy and public and private enterprise contribute to a healthy, functioning and inclusive economy.

At JPMorgan Chase, we are trying to contribute to the debate on public policy. One new way we are doing this is through the development of our JPMorgan Chase Institute, which aims to support sounder economic and public policy through better facts, timely data and thoughtful analysis. Our work at the Institute, whether analyzing income and consumption volatility, small businesses, local spending by consumers or the impact of low gas prices, aims to inform policymakers, businesses and nonprofit leaders and help them make smarter decisions to advance global prosperity.

What works and what doesn't work.

In my job, I am fortunate to be able to travel around the world and to meet presidents, prime ministers, chief executive officers, nonprofit directors and other influential civic leaders. All of them want a better future for their country and their people. What I have learned from them is that while politics is hard (in my view, much harder than business), breeding mistrust and misunderstanding makes the political environment far worse. Nearly always, collaboration, rational thinking and analysis make the situation better. Solutions are not always easy to find, but they almost always are there.

What doesn't work:

- Treating every decision like it is binary – my way or your way. Most decisions are not binary, and there are usually better answers waiting to be found if you do the analysis and involve the right people.
- Drawing straw men or creating scapegoats. These generally are subtle attempts to oversimplify someone's position in order to attack it, resulting in anger, misunderstanding and mistrust.
- Denigrating a whole class of people or society. This is always wrong and just another form of prejudice. One of the greatest men in America's history, President Abraham Lincoln, never drew straw men, never scapegoated and never denigrated any class of society – even though he probably had more reason to do so than many. In the same breath, some of our politicians can extol his virtues while violating them.
- Equating perception with reality. This is a tough one because you have to deal with both perceptions and reality. However, perceptions that are real are completely different from perceptions that are false. And how you deal with each of them probably should differ.
- Treating someone's comments as if they were complaints. When someone's response to an issue raised is "here they go complaining again," that reaction diminishes the point of view and also diminishes the person. When a person complains, you need to ask the question: "Are they right or are they wrong?" (If you don't like the person's attitude, that is a different matter.)

What does work:

- Collaborating and compromising. They are a ***necessity*** in a democracy. Also, you can compromise without violating your principles, but it is nearly impossible to compromise when you turn principles into ideology.
- Listening carefully to each other. Make an effort to understand when someone is right and acknowledge it. Each of us should read and listen to great thinkers who have an alternative point of view.
- Constantly, openly and thoroughly reviewing institutions, programs and policies. Analyze what is working and what is not working, and then figure out – together – how we can make it better.

IN CLOSING

I am honored to work at this company and with its outstanding people. What they have accomplished during these often difficult circumstances has been extraordinary. I know that if you could see our people up close in action, you would join me in expressing deep gratitude to them. I am proud to be their partner.



Jamie Dimon
Chairman and Chief Executive Officer

April 6, 2016

Investing in Our Future



Matt Zames

As one of the largest, most systemically important financial institutions in the world, we are not only a benchmark for safety and soundness, we have a responsibility to play a leadership role in advancing the industry and its business practices. To meet the evolving needs of our customers and clients, as well as the global financial system more broadly, we are committed to continually developing new solutions while maintaining a robust and secure infrastructure.

As the firm's Chief Operating Officer, I am responsible for many critical functions across the firm, including Treasury, the Chief Investment Office, Global Technology, Operations, Corporate Strategy, Global Real Estate, Oversight & Control, Compliance, Global Security & Military Affairs and Regulatory Affairs, among others. The Chief Operating Office (COO) drives progress on initiatives that are vital to the firm's long-term success.

Creating new tools to manage our balance sheet, liquidity and interest rate risk

Treasury and the Chief Investment Office are central to managing the firm's balance sheet. Together with our lines of business, we achieved a tremendous amount in 2015; most notably, we overdelivered on our strategic efforts to decrease non-operating deposits and meaningfully reduce the firm's GSIB capital surcharge from 4.5% to an estimated 3.5% – with no material impact to our firm or our clients and, importantly, securing a new grounding point for the firm.

We devoted significant attention to studying our current business mix to respond strategically to evolving regulatory requirements and to maximize shareholder value. We introduced a comprehensive firmwide balance sheet framework designed to objectively analyze and consider our business activities relative to some 20 constraints, ranging from liquidity and regulatory capital to GSIB and CCAR. This framework now is being leveraged in strategic review and planning sessions across the firm.

2015 featured the first rate hike by the Federal Reserve in nearly a decade, an event for which we have been preparing; and, while the future is never certain, we are increasingly smarter and better prepared to manage against whatever scenario plays out. We expanded our capacity to run interest rate scenarios and further industrialized our processes and risk engines, securing the foundation of our risk management practices. In a continuing effort to evolve our deposit pricing framework, we completed a series of granular reviews of our deposit models and recalibrated to better capture interest rate sensitivities and potential migration outcomes as rates normalize.

In 2015, we implemented our firmwide intraday liquidity framework, a program that was launched last year. We have substantially improved our ability to manage real-time liquidity risk and reduced the amount of intraday liquidity facilities by nearly $1 trillion. We can now, quite literally with the click of a button, view, monitor and manage in real time cash payments coming in or leaving the firm. More broadly, we remain compliant with all regulatory required and internally measured liquidity risk scenarios, with appropriately conservative liquidity buffers.

We are a technology company

Technology is the lifeblood of our organization, and it drives the delivery of the secure products, platforms and services our customers and clients value and trust. We serve nearly 40 million digital customers and process $1 trillion in merchant transactions annually. Each day, we process $5 trillion of payments, as well as trade and settle $1.5 trillion of securities. We see technology as an essential core competency and a key differentiator to drive future growth in all of our businesses.

Last year, I outlined our major technology investment areas in support of the firm's strategy; since then, these strategic priorities have become even more embedded into our technology DNA and are the focus of our investment spend. In 2015, approximately 30% of the firm's more than $9 billion technology budget went toward new investment. As we continue to drive efficiency and prioritize innovation, we intend to shift even more dollars from "run the bank" operational activities to "change the bank" investments.

Protecting the firm

In the first eight months of 2015, the Federal Bureau of Investigation reported a 270% increase in fraudulent wire transfers as a result of targeted business email compromise scams. At JPMorgan Chase, we typically identify over 200 million malicious emails each month. To defend against these and other types of attacks, we continue to make significant investments in building a world-class cybersecurity operation. Globally, thousands of employees are focused on cybersecurity – working across the firm and with many partners to maintain our defenses and enhance our resilience to threats. We continue to uplift standards and controls for our third-party providers, as well as for systems access across the firm. Three global Security Operations Centers monitor our systems 24 hours a day, seven days a week, in a true "follow the sun" model. We are embracing a proactive, intelligence-driven approach to detecting and preventing malicious activity as early as possible, ideally before the firm is even targeted. We also are taking a prominent role in the industry by leading a set of simulated cybersecurity exercises with our peer banks and other payment platforms – to ensure that we, and the broader industry, are increasingly prepared for new cyberattack scenarios.

Innovation successes

We strive to be at the forefront of our industry and invest tremendous resources in new technologies. Here are a few examples of the impact of innovation in our major technology investment areas:

DIGITAL LEADERSHIP

Digital payments

We are leading the future of payments. Chase QuickPay® offers convenient and nimble person-to-person payment solutions for consumers. In addition, this year, we will launch Chase Pay℠ to create a new digital wallet and mobile payment experience in partnership with many of the largest retail merchants in the country. For corporate clients, J.P. Morgan ACCESS® now provides the ability to execute international payments in more than 120 currencies any time of the day through multiple channels.

Digital platforms

We are in the process of rolling out a brand new chase.com platform that will enable us to increase the pace of innovation and deliver simple, personalized customer experiences. We continue to improve our industry-leading Chase Mobile® app with new features and functionality to allow our customers to bank with us anytime and from anywhere. We have continued to enhance our award-winning J.P. Morgan Markets® platform to differentiate our Corporate & Investment Bank – for example, trading volume on the eXecute foreign exchange (FX) trading app increased by more than 80% last year, helping the firm grow its share of the electronic FX market.

Digitally enabled branches

Our new Chase ATMs will be able to perform roughly 90% of teller transactions and are being rolled out across our branch network. They will include innovations such as cardless authentication at an ATM using the Chase Mobile app – that means more transaction flexibility and simpler customer experiences that work seamlessly with our other digital channels.

DATA AND ANALYTICS

Our customers, clients and communities – as well as the firm – significantly benefit from big data technologies and improved data management practices across our businesses.

Enabling customers and clients

Last year, in our Custody and Fund Services business, we introduced NAV-Explain, an industry-first solution that puts key insights about underlying fund activity and asset holdings at the fingertips of fund accountants. This solution reduces errors and expense, improves productivity and provides a far superior client experience.

Identifying new business opportunities

Innovative analytics capabilities are helping us uncover new business opportunities. For example, we are analyzing broad sets of publicly available and proprietary data to better predict the financing needs of our clients. In Commercial Banking, our sales teams have begun using a new data-driven tool to more effectively engage prospective clients – we expect this tool to identify more than 10,000 new prospects in the United States.

Expert insights for the public good

Our unique proprietary data, expertise and market access position the firm to help solve issues in the broader economy. The JPMorgan Chase Institute offers decision makers across the public and private sectors access to the firm's real-time data and analytics to tackle economic problems, from the effect of income and consumer spending volatility on individual Americans to the impact of local consumer trends on neighborhoods.

CLOUD INFRASTRUCTURE

Over the last few years, we have built an efficient private cloud environment within our data centers to run the firm's diverse portfolio of applications. Today, approximately 90% of new infrastructure demand is hosted within our cloud environment – streamlining support, improving utilization and accelerating delivery. To further drive value for our businesses, we conducted an initial public cloud pilot and identified several target use cases to complement our private cloud. One use case addresses business-driven fluctuations in computing demand with a virtually limitless supply of infrastructure made available when we need it, reducing long-term capital investments. To lower storage costs, we are evaluating the potential to store infrequently accessed data securely in the cloud. Our strategic vision is to embrace a hybrid cloud model in which internal and external resources are made available on demand. We are partnering with leading providers to create a world-class environment without compromising our standards for security.

UNIFIED COMMUNICATIONS

We are bringing the look, feel and experience of consumer technology into the enterprise environment to transform the way our 235,000 employees work. More than 100,000 employees now use their personal mobile devices to securely access business applications, offering them the freedom and flexibility to be productive on the go. In addition, investments in real-time collaboration tools allow teams to communicate seamlessly across the globe. For example, this year, we engaged in more than 90 million minutes of video conferencing across 125,000 video-enabled endpoints – making JPMorgan Chase one of the largest users of enterprise video collaboration in the world.

DEVELOPER PRODUCTIVITY

Providing the optimal environment for our developers to concentrate on creating new products and solutions is a priority. We are defining best-in-class development practices for the thousands of men and women writing code at the firm – to accelerate delivery, improve quality and drive efficiency. We also have equipped our high-performance development environments with industry-leading capabilities, including continuous integration, automated deployment and security scanning. The vitality of our developer community has never been so important to ensuring our future.

How we innovate

We are firmly committed to developing our 40,000 technologists around the world. In 2015, our technology workforce consumed more than 1 million hours of training to further advance their technical, management, leadership and business skills. We recognize that sustained technology leadership comes from a robust, diverse talent pipeline. To build this pipeline, we engage extensively with high school and college students through on-campus visits, as well as by hosting coding and design challenges at our sites. In 2015, we selected 650 technology analysts to join our two-year program from an applicant pool of more than 7,000. The program starts with a six-week boot camp, with nearly 250 hours of training, and is augmented with 65 additional hours over the next two years.

We also partner with some of the brightest minds in the industry on developing solutions. In 2015, we engaged with more than 300 technology startups and piloted over 100 technologies, 50% of which now are in production. Many potential solutions will fail, but we recognize the value of experimentation and know that even if only a handful are successful, we can dramatically change the way we do business for the better. These relationships often develop into strategic partnerships, and, where we think it makes sense, we are making capital investments in these companies to drive our mutual success. An example of this is our recent investment in a new blockchain startup, where we are partnering to explore opportunities for distributed ledger technology. We are developing solutions for multiple blockchain use cases, including single-name credit default swap settlement and internal network payments. We are founding members of the open source Hyperledger Project, collaborating across the industry to enhance distributed ledger capabilities globally.

We continue to do business in smarter ways

In 2015, we realized savings by effectively leveraging, streamlining and optimizing our platforms, resources and real estate assets. Doing business in smarter ways often means simplifying the environment so that we can focus our attention and spending on new investments.

Some of our key initiatives to increase efficiencies and reduce costs include:

- Location strategy: We are driving the co-location of our technology professionals into 13 strategic hubs to optimize our real estate footprint and reduce costs. The hubs are adopting cutting-edge, open workspaces that resemble Silicon Valley, equipped with state-of-the-art technology to promote collaboration and creativity, resulting in our firm being rated among the top employers of choice for technology talent in financial services.
- Vendor rationalization: We are progressing our preferred vendor program across technology – last year, we reduced the number of vendors we use for core technology project services by 40%.

- Legacy applications: We simplified our technology environment and decreased operational risk through our Kill the Tail initiative to reduce applications across the firm. In 2015, we decommissioned 13% of our legacy applications and expect to decrease this population by a total of 25% by the end of 2018.
- Stability: In 2015, we continued to achieve more resilient and stable applications, resulting in a 65% reduction of technology production incidents over the last two years.

Our control environment remains paramount

Our businesses function independently but with greater connectivity, transparency and consistency than ever before. The significant improvements to our control environment over the past three years have become part of our everyday operating model. By the end of April, we will have completed work on all 19 enterprise-wide programs established to tackle our top control issues and integrated them into standard business operations. We are working hard to deliver on milestones to get more of our outstanding consent orders lifted by our regulators.

The Risk & Control Self-Assessment (RCSA) program, a key component of the firm's Operational Risk Management Framework, is completing its third cycle and has become fundamental to how our businesses identify and manage operational risks and assess the adequacy of their controls. This year, we integrated conduct risk measures into the RCSA, taking a disciplined approach to how we build and evaluate controls around employee conduct. During 2016, we will begin to replace the current platform used to support operational risk management with a new system called FORCE. FORCE will increase operational efficiency by driving a simpler and more effective user experience, as well as introducing a more agile technology infrastructure.

In Compliance, we enhanced our surveillance to detect potential employee, client or counterparty market misconduct by implementing e-communications surveillance in seven languages across 39 communications channels. We also extended our transaction surveillance across all asset classes in our Markets businesses. We broadened our strategic Anti-Money Laundering transaction monitoring platform to transactions in cash, checks, wires, ACH and prepaid cards across 35 booking locations globally, enabling us to decommission 12 legacy monitoring tools and systems.

We will continue to invest in our people and our culture

The COO drove the global initiative to establish a Culture and Conduct program to reinforce the firm's Business Principles across all businesses and functions. We put it front and center on the agenda and met with more than 16,000 employees to hear firsthand what drives their behavior and to better understand how to motivate people to do the right thing. We implemented a comprehensive governance structure and reporting that will allow us to monitor progress against action plans. Our efforts are reviewed at all levels of the organization, up to our Board of Directors' Compensation & Management Development Committee, and will incorporate the development of additional metrics, which will reflect, over time and in aggregate, trends in the state of our firm's culture.

We are deeply focused on recruiting top talent and training our next generation of leaders across the firm. In addition to our efforts to source tomorrow's technologists, our veterans' recruitment program continues to bring servicemen and women with unique leadership skills and experience – for example, in cybersecurity – to the private sector. The more than 10,000 veterans hired by the firm have made a demonstrable impact on our culture. Our Business Principles laid the foundation for the firm's new Leadership Edge training program to develop outstanding leaders and managers. This year, senior leaders across the COO organization were major participants and will be going forward. We will continue to reinforce a strong sense of personal accountability and ownership for everything we do among all employees in all locations and at all levels.

Looking ahead

We are at the forefront of change in the industry, and we continue to grow our core and strategic capabilities to sustain our competitiveness. Our sophisticated interest rate and liquidity risk management frameworks prepare us for a range of market scenarios and ongoing regulatory changes. Our focus on technology, be it developing innovative solutions, capitalizing on big data or investing in cyber defenses, underscores the firm's commitment to leadership and excellence and to being the most effective provider of financial services across all categories. We continue to invest in our most important asset, our people. We look forward to serving the needs of the next as well as the current generation of customers, clients and employees. We will continue to advance and protect the firm's position as a world-class financial institution – in a culture rooted in both ingenuity and integrity.



Matt Zames
Chief Operating Officer

Consumer & Community Banking



Gordon Smith

2015 financial results

Consumer & Community Banking (CCB) had another strong year in 2015. For the full year, we achieved a return on equity of 18% on net income of $9.8 billion and revenue of $43.8 billion.

All of our CCB businesses performed well. We continued our strategy of delivering an outstanding customer experience and developing stronger relationships with customers. In 2015, we added approximately 600,000 households to Chase; and today, we have consumer relationships with nearly 50% of U.S. households and over 90 million credit, debit and prepaid accounts.

In 2015, we also stepped up our focus on growing engaged customers – people who choose Chase as their primary bank and have a Chase debit or credit card at the top of their wallet. In doing so, we grew our CCB average deposits 9% to more than $530 billion and are #1 in primary bank relationships within our Chase footprint. And we remain the #1 credit card issuer in the United States based on loans outstanding.

When I look back over the last three years, the people in CCB have made remarkable progress. It felt like only a short time ago when we were faced with considerable headwinds – several regulatory actions, inconsistent customer experiences across Chase and an expense base growing faster than revenue. And all this was happening during a period of formidable economic headwinds – an extremely challenged Mortgage Banking market and flat interest rates compressed our net interest income in Consumer Banking.

We worked through that rough economic period by relentlessly focusing on three priorities: 1) strengthening our controls, 2) delivering a great customer experience and 3) reducing expenses. These three priorities have become a core part of our DNA and how we run the business.

We had to make some very tough decisions around simplifying our business, reducing the number of people and prioritizing investments to focus on our strategy. We had to stop doing things we liked and discontinue some products that just weren't core to how we serve customers. And we are very glad we did. We will not lose our intense focus on those priorities, but with several key milestones behind us, we now can accelerate the pace of innovation at Chase. We are excited about what's coming in 2016 – new product launches, digital features, technology and innovative marketing investments.

Scale matters

In my nine years at Chase, I've never been more optimistic about where we are and where we are headed. In short, I wouldn't trade our hand for anyone else's. We have a set of businesses with leadership positions that would be very difficult to replicate. In 2015, Chase was #1 in total U.S. credit and debit payments volume, the #1 wholly owned merchant acquirer, the #2 mortgage originator and servicer, and the #3 bank auto lender. We also grew our deposit volumes at nearly twice the industry growth rate. And we continue to deepen relationships across Chase.

We also continue to lead the industry in digital adoption. Chase.com is the #1 most visited banking portal in the United States, with nearly 40 million active online customers. Our Chase Mobile® app has nearly 23 million active mobile customers, up 20% since 2014, the highest mobile growth rate among large banks.

In short, scale matters. Scale matters to our shareholders because it allows us to use our strong operating leverage to invest and grow in good times and bad. And scale matters to our customers because we can provide them with leading products that meet all of their financial needs at every stage of their lives. But we know customers don't care about scale unless it's relevant to them.

2015 Performance Highlights

Key business drivers			
$ in billions, except ratios and where otherwise noted; all balances are average		2015	YoY
Consumer & Community Banking	Households (in millions)	57.8	1%
	Active mobile users (in millions)	22.8	**20%**
Credit Card	New accounts opened[1] (in millions)	8.7	(1%)
	Sales volume[1]	$496	**7%**
	Loans	$126	1%
	Net charge-off rate[2]	2.51%	(24 bps)
Commerce Solutions	Merchant processing volume	$949	**12%**
Auto Finance	Loan and lease originations	$32	**18%**
	Loan and lease portfolio	$64	9%
Mortgage Banking	Total mortgage originations	$106	**36%**
	Third-party mortgage loans serviced	$715	(9%)
	Loans	$204	**11%**
	Mortgage Banking net charge-offs[3]	$0.3	**(41%)**
Business Banking	Deposits	$101	**11%**
	Loans	$20	6%
	Loan originations	$7	3%
Consumer Banking	Deposits	$414	**9%**
	Client investment assets (end of period)	$219	2%

[1] Excludes Commercial Card
[2] Excludes held-for-sale loans
[3] Excludes write-offs of purchased credit-impaired loans
bps = basis points

Scale does not mean acting like a "big bank." Today's customers expect a great customer experience everywhere they do business, and banking is no exception. We have been intensely focused on delivering an outstanding customer experience – customer by customer across every interaction – branches, call centers, chase.com and mobile banking.

We measure customers' satisfaction in many ways. One key source is J.D. Power, where Chase has made significant progress since 2010. Our Credit Card business now is #3, up from #5 in 2010, and our score jumped 81 points over the same time frame. In addition, Chase has been recognized nationally as having the strongest performance in attracting new customers, satisfying and retaining customers, and winning a larger share of its customers' total retail banking business by TNS for the third year in a row.

Similarly, our Net Promotor Score (NPS), which tracks how many customers would refer a friend to Chase minus those who would not, has increased across most businesses – most notably in Mortgage Banking originations, where NPS has gone up by 38 points since 2010. Finally, our Chase Mobile app is the #1 rated mobile banking app. However, we will never declare "victory" in providing a great customer experience. There always will be work to do and areas where we aren't getting it totally right. But we feel extremely proud of the significant progress we've made and our upward momentum.

Digital

Digital is a core part of our customer experience. We know digitally centric customers are happier with Chase and stay with us longer. Since 2012, nearly 100 million transactions that used to be done in branches are increasingly migrating to faster and easier digital channels. Of the 3.7 million new checking accounts we acquired in 2015, almost 60% of these were for millennial customers, who often choose Chase because of our digital capabilities. While millennials clearly are a digital-first generation, research shows that approximately 60% of all consumers rate mobile banking as an important or extremely important factor when switching banks. In fact, for new customers of Consumer Banking, 65% actively use mobile banking after six months, up from 53% in 2014.

Today's ATMs have come a long way since they were first installed in 1969 – they now are another important digital option for customers. Nearly 90% of transactions that historically were performed in branches by a teller soon will be possible at our new ATMs. That's a huge convenience for our customers who want to self-serve – we have nearly 18,000 ATMs around the country. Digital also is a significantly less expensive way to serve customers – it costs us about half as much to serve a digitally centric customer than all other primary relationships. As an example, the cost to deposit a check with a teller is about 65 cents, whereas a check deposited with mobile QuickDeposit℠ costs pennies. And in 2016, our customers will be able to withdraw cash using a PIN from their phone rather than a debit card.

We've also made it easier than ever for customers who prefer electronic statements to receive them. Customers now can easily access their statements online on their desktops, on their phones or other mobile devices at their convenience. Today, more than 60% of new checking accounts

are paperless within 30 days of opening an account, up dramatically from roughly 25% two years ago. Many customers prefer the convenience, and it's a more efficient option for the bank. Sending a customer an electronic statement costs about a penny vs. approximately 50 cents for a paper one. Even more important, we save a lot of trees in the process.

Credit — the best of times

We are experiencing one of the most benign credit environments we have ever seen. While low interest rates have been a headwind for Consumer Banking, low credit losses have been a significant tailwind. Net charge-off rates are very low across CCB at 0.99%. We know it won't last forever. We have seen these cycles turn quickly, and we won't forget the hard-fought lessons of 2008. We are very focused on maintaining our highly disciplined approach to credit and running a high-quality lending business that should have relative stability throughout the economic cycle.

Nowhere has this been more true than in our Mortgage Banking business. We've evolved into a higher-quality, less volatile business with fewer products. We continue to improve the quality of our servicing portfolio both by managing down our defaulted units and increasing the quality of our new originations. We've also continued to simplify by eliminating complex products that few of our customers were using. And we are seeing results. Our net charge-off rates in Mortgage Banking are down from a high of 4.31% in 2009. And approximately 90% of our Mortgage Banking losses from 2008 to 2015 were from products we no longer offer today.

In Auto, we've seen certain competitors get more aggressive in lending to customers with riskier credit, but we've maintained our discipline by focusing on customers with high credit scores and responsible loan-to-value ratios.

Our disciplined strategy may result in lower revenue growth in the short term compared with some of our competitors, but we believe our approach builds a more stable business for the long term. We want to establish sustainable credit for our customers in good times and bad and ensure that our company and our shareholders are protected from a bubble mentality that may come back to haunt us later.

Expense discipline

Along with credit discipline, we have been very disciplined with expenses. Since 2012, we've made significant progress in reducing our noninterest expense by nearly $4 billion. We did this by making tough decisions across the firm to cut structural expenses.

However, it's important to distinguish what expenses need to be cut and which investments can generate value for our customers and future revenue for our shareholders. There are two key areas where we have been steadfast in funding: technology and marketing. We've invested to upgrade our systems, making them more automated and easier to use for customers and employees. And we know continued investment in marketing provides proven returns.

For example, a $100 million investment in Credit Card marketing typically generates on average ~400,000 new accounts, ~$3 billion in annual customer spend and ~$600 million in outstanding balances. And the same investment in Consumer Banking marketing will generate on average ~300,000 new households and ~$2.6 billion in deposits. These investments not only drive revenue and deposits but represent new households that we can deepen relationships with over time. That said, if the market turns or we see a change in how these investments perform, we can pull them back quickly.

Payments

Payments is another significant area of opportunity. We're unique in the market because we are a complete payments system with an unmatched combination of scale and reach. Chase customers make approximately 36 million credit and debit card payments every day on more than 90 million credit, debit and prepaid card accounts. Our Commerce Solutions business processed almost $1 trillion of payments volume in 2015 alone. And our ChaseNet℠ proprietary closed-loop network allows us to complete the entire payments transaction between cardholder and merchant. With that combination, we've built a world-class payments franchise, and it's become a significant differentiator for us.

Last fall, we announced Chase Pay℠, our proprietary digital payment solution that will connect merchants and consumers through a simple, secure payment experience. It will address both the merchant experience and consumer-to-business payments.

We also are participating in other consumer-to-business payments options, including Apple Pay™ and Samsung Pay™, to give our customers choices in their payments – and to encourage them to make their Chase card their first choice. In addition, we issued more than 80 million chip-enabled credit and debit cards to keep payments safe and secure.

Partnerships

Over the past year, we announced or renewed several significant partnerships. In our Credit Card business, we renewed three key co-brand partners – Amazon, United Airlines and Southwest Airlines. All have been longtime partners, and our customers continue to highly value these cards.

The economics on most partner relationships in the industry are compressing, but they still are significant revenue generators for us and are a strong component of our growth. Co-brand new account volumes increased almost 40% from 2012 to 2015. In Auto Finance, we renewed a core partnership with Mazda North American Operations, the U.S. sales arm for Mazda vehicles, where we have been its finance partner since 2008. We also began a multi-year relationship with Enterprise Car Sales to finance consumers purchasing rental-fleet vehicles, as well as other vehicles, from more than 130 U.S.-based locations around the country.

Build, partner or buy

Competition is changing. We not only have to compete with the large and formidable competitors we always have but also with new market entrants both big and small. Large technology companies, like Apple and Google, are getting into the payments space, and every day, new companies are emerging to compete with subsegments of our businesses. Many of these disruptors are tapping into an exceptional experience or user interface that customers like. Across industries, whether retail, transportation or banking, companies have excelled at removing customer pain points with simple experiences. The experience itself has created loyalty.

Our strategy is to take that customer insight to heart and strive to create simple, largely digital experiences. Last year alone, we introduced several innovations. We were one of the first U.S. banks to introduce touch ID log-in for customers using the Chase Mobile app on their iPhone. We posted credit score information online for our Slate® customers and created a mobile app for our popular Chase Freedom® rewards card. We began to move customers to a new chase.com site, which is easier and faster for customers to use, and we started using a digital token instead of a customer's account number to more securely authorize transactions.

In addition, we explored partnerships and have found that many of these new companies are excited to work with us. Often there is a great fit for both sides – we can quickly apply their technology to benefit our customers, and these companies strengthen and grow from working with Chase. As an example, we announced a collaboration with an online business lender to help us create a new small business solution for quick access to working capital. This new, entirely digital offering, Chase Business Quick Capital℠, will provide real-time approvals for small dollar loans. Once approved, our business customers will get next-day – or, in many cases, same-day – funding to run and grow their businesses. We'll still apply our same strong credit standards but will give our customers a disruptively easy experience and working capital product they have been asking for.

We always are evaluating other potential partners, and where it makes sense to collaborate, white label or directly acquire, we will do so if we think it gives our customers a better experience and makes Chase stronger for the future. We can't get complacent for a minute, but with our loyal customer base of nearly 58 million households and the ability to invest, partner and innovate, we will be very hard to truly disrupt.

Conclusion

Across CCB, we feel very well-positioned for the future. The CCB leadership team and I are so proud to serve our customers and shareholders and to lead this exceptional business. Thank you for your investment in our company.



Gordon Smith
CEO, Consumer & Community Banking

2015 HIGHLIGHTS AND ACCOMPLISHMENTS

- Consumer relationships with almost half of U.S. households
- #1 in primary bank relationships in our Chase footprint
- Deposit volume growing at nearly twice the industry rate
- #1 most visited banking portal in the U.S. – chase.com
- #1 rated mobile banking app
- #1 credit card issuer in the U.S. based on loans outstanding
- #1 U.S. co-brand credit card issuer
- #1 in total U.S. credit and debit payments volume
- #1 wholly owned merchant acquirer
- #2 mortgage originator and servicer
- #3 bank auto lender

Corporate & Investment Bank



Daniel Pinto

With a solid foundation built on scale, completeness and the reach of a global network, the Corporate & Investment Bank (CIB) is well-situated to sustain its leadership in 2016.

Among the steps we've taken to secure our position, we have committed to being at the forefront of the technology evolution. We are embracing the innovations that will raise the level of our client service and are identifying ways to increase productivity in our own operations.

Our clients – major corporations with operations around the world – turn to J.P. Morgan for the integrated services and financial capabilities of an investment bank that can help them implement strategic solutions. Whether it's to raise capital, advise on a merger or acquisition, provide hedging or liquidity solutions, or help with payments across borders and currencies, the CIB has the complete range of services to fulfill client needs.

The CIB's business model continues to deliver for its clients, demonstrating its worth and resilience. We strengthened our market-leading positions across products and geographies, but we know that our top rankings cannot be taken for granted and must be continually earned through our work and our dedication to doing right by our clients. Our firm's leadership is due to several factors, but, above all, our success is a testament to our employees based in 60 countries and their focus on client service.

2015 accomplishments

We delivered solid results in 2015 and made progress on multiple priorities. The CIB reported net income of $8.1 billion on net revenue of $33.5 billion with a reported return on equity (ROE) of 12%. Excluding legal expense and business simplification, the CIB earned $9.2 billion with an ROE of 14%. This reflects an increase of 110 basis points, compared with 2014, on capital of $62 billion.

Our strong performance was achieved despite external concerns over:

- Slower emerging markets growth, particularly in natural resource-driven economies.
- Persistently low global interest rates, weakening credit markets and liquidity challenges.
- A slowdown in China's gross domestic product growth rate and currency volatility.
- Geopolitical challenges.
- The Fed's long-awaited move to tighten interest rates.

Our ability to maintain expense discipline, while absorbing increased regulatory and control costs, was demonstrated by our success this year in achieving a reduction of $1.6 billion in expenses toward our previously stated $2.8 billion target by 2017.

Throughout the year, we identified ways to redeploy resources in order to maximize shareholder returns. For example, we reduced non-operating deposits, level 3 assets and over-the-counter derivative notionals, all while minimizing the impact to clients. These actions helped to lower the firm's estimated global systemically important bank (GSIB) capital surcharge from 4.5% to an estimated 3.5%. This was a significant undertaking and demonstrated our ability to adapt nimbly to the changing regulatory landscape.

While making these business adjustments, we never lost our client focus. Once again, J.P. Morgan ranked #1 in Global Investment Banking fees, according to Dealogic, with a 7.9% market share. In addition, the CIB ranked in top-tier positions in 16 out of 17 product areas, according to Coalition, another industry analytics firm. For example, Equity Capital Markets ranked #1, up from #2 in 2014. In Fixed Income Markets, Securitization and Foreign Exchange also moved up, garnering top-tier positions last year. In Equity Markets, we are making progress in Cash Equities, having gained 90 basis points in market share compared with 2014. Our consistently high rankings and progress are a result of the trust our clients place in us year after year.

During 2015, we helped clients raise $1.4 trillion of capital. Of that amount, $55 billion was for nonprofits and government entities, such as state and local agencies and institutions.

Technology and innovation are embedded in all of our businesses

The CIB accounts for a significant portion of the firm's more than $9 billion technology budget.

Our clients count on us to deliver immediate access to strategic advice, markets and solutions using the most efficient means possible. To meet their expectations, we are embracing structural market changes and developing state-of-the-art electronic trading capabilities across a broad range of products.

Our technology commitment is unwavering and is aimed at decreasing costs, which makes our operations more efficient and improves our clients' experience. Technology is enabling us to shorten client onboarding times, speed transaction execution and reduce trading errors. Clients are using J.P. Morgan Markets to access research, analytics and reports on their mobile devices.

In addition, we are embedding technologists within our product groups and strengthening our partnerships with in-house teams to explore ways to broaden our use of newer technologies, such as distributed ledgers, machine learning, big data and cloud infrastructure. We are also building Financial Technology Innovation Centers, as well as launching a residency program and inviting startup firms to work with us on breakthrough, scalable technologies.

Technology already is benefiting our businesses: In Rates, electronic client revenue was up 47% year-over-year; in Equities, the gain was 27%. And the cost per trade has shrunk between 30% and 50% since 2011, depending upon the asset class.

We launched a technology platform for chief financial officers and corporate treasurers, J.P. Morgan Corporate Finance Dashboard, to provide mobile access to customizable market information and live desk commentary through J.P. Morgan Markets. In addition, we have introduced a version of J.P. Morgan QuickPay to speed electronic payment capabilities for corporate clients.

Treasury Services: An integral contributor to the CIB's growth

Global multinational companies require an international bank, particularly as the growth in cross-border trade requires a sophisticated roster of services. J.P. Morgan's Treasury Services business ranks #2 globally and supports about 80% of the global Fortune 500, including the world's top 25 banks.

In all, Treasury Services has about 14,000 wholesale clients, including Commercial Banking's roster, and handles $5 trillion in payments per day. Treasury Services also ranks #1 in global U.S. dollar wire transfers.

The business landscape, fragmented by multiple players, creates an opportunity for the consolidation of market share as clients look for global solutions.

According to consulting firms and our internal analysis, the Treasury Services revenue pool is expected to grow from $144 billion as of 2014 to around $280 billion by about 2024. The cross-border business has grown 13% in the past three years and, while we have a strong existing franchise, significant opportunities still remain. As global commerce becomes increasingly interconnected, multinational clients will extend their operations across more borders. Our ability to scale our services to their needs for efficient payment systems, additional hedging solutions and foreign exchange products will help drive solid growth in our Treasury Services business.

A noteworthy success last year was our rigorous effort to reduce non-operating deposits by $75 billion out of the CIB's overall $130 billion reduction.

Treasury Services has a platform that is difficult to replicate and offers holistic client coverage. Our unique capabilities in advisory and account structuring position J.P. Morgan well to serve the growing number of global multinationals that have complex needs across regions, countries and currencies.

Investing in Custody and Fund Services to build on strong market position

The Custody and Fund Services business provides custody, fund accounting and post-trade services. The long-term prospects for the business are strong, driven by growth in institutional assets under management, globalization of asset flows, desire for higher efficiencies and innovation across the value chain.

With nearly $20 trillion in assets under custody, Custody and Fund Services is strategically important to the CIB. According to consulting firms and our internal analysis, the Custody and Fund Services revenue pool is expected to grow from $38 billion as of 2014 to $54 billion by about 2020. The business generates significant, sustainable revenue; produces a through-the-cycle operating margin of more than 25%; and provides about $100 billion in operating deposits, which supports the firm's liquidity and balance sheet positions.

As clients expand their product ranges, asset classes and distribution channels, we will be able to drive future growth through investments in high-growth areas, such as exchange-traded funds, alternatives and derivatives. We will continue to build on our world-class capabilities in Emerging Markets, which already encompasses more than 75 emerging and frontier markets worldwide. Additionally, we are focused on driving process automation and standardization across the operating model while investing in analytical tools and capabilities to meet increasing demands for data transparency and integration across products.

2016 strategies

We are in a competitive business. We must be willing to adapt to changing environments and not be content to rest on the laurels earned in previous years. We intend to target sectors and countries where we see expansion opportunities.

We will continue to invest strategically in talent to cover key growth sectors, such as technology, media and telecommunications, and healthcare. In addition, we are investing in countries, such as Germany, the United Kingdom and China, building a talent base where we see the greatest long-term opportunities. Another focus will be to effectively deploy capital by undertaking a comprehensive view of our clients, taking into account capital and liquidity utilization, pricing terms and overall profitability.

Sustaining our strength in Global Investment Banking has enabled us to deliver the entire firm. J.P. Morgan has distinguished itself with its clients by integrating our product and coverage teams to deliver seamless solutions. In just one example, the CIB and Commercial Banking have continued to collaborate so that midsized firms can benefit from the differentiated services offered within the Investment Bank. As a result of that collaboration with Commercial Banking, between 2008 and 2014, we grew Investment Banking revenue from $1 billion to $2 billion, and last year, we gained another 10%, generating $2.2 billion.

Merger and acquisition activity, a highlight in 2015, is expected to remain strong. Despite the challenging year for Fixed Income, we were able to increase our market share by 170 basis points, according to Coalition.

We intend to strengthen our #1 position in Fixed Income by closing the few regional and product gaps that exist. We're sometimes asked: "Why not reduce the Fixed Income business?" The answer: The business delivers a solid 15% return to shareholders. Additionally, our ability to serve the needs of our Fixed Income clients helps ensure a broad-based relationship that earns business across products.

The Equities business was strong in 2015 despite increased competition. According to Coalition, our revenue growth of 13.5% last year and 28.4% since 2011 exceeded the overall market's growth in both periods. Over the past five years, our Equities business has outperformed the #1 competitor in revenue growth, according to Coalition. To accelerate this progress, we strengthened the relationship between the Prime Brokerage and Equities businesses, integrating the leadership and its offerings. Equities also is making a great deal of progress on the optimization front by investing in a client profitability engine and other analytical tools that improve our ability to monitor and utilize the CIB's balance sheet.

The CIB's scale, completeness and global network have enabled J.P. Morgan to be our clients' safe haven, whether in times of volatility or stability. While this is an important and essential role, our culture also demands we serve our clients with integrity and provide the best advice, talent and appropriate portfolio of products. To that end, we discuss our culture openly in various forums and regularly ask employees for feedback to understand what we do well and ways we can do better. Thousands of employees have participated in focus groups, and we conduct training to ensure we consistently instill best practices and stay true to our principles in all of our dealings.

A forward-looking approach

Looking ahead, we have been investing in the technology and infrastructure that will ensure we retain, expand and improve on our client relationships by being attuned to the various ways they want to work with us.

Building on our capital strength, the CIB is focused on optimizing capital across multiple regulatory constraints in order to deploy our resources profitably. We have a proven track record of being able to execute on capital optimization but in ways that carefully consider the impact on clients. Long term, the approach is to identify ways to maximize returns while adhering to the risk, liquidity and leverage standards governing the CIB.

The CIB has maintained its strength while adjusting to the inevitable market shifts and by remaining true to its overriding model. We were able to withstand the headwinds of 2015 on the strength of a business model that takes advantage of scale, completeness and the reach of a global network. Last year's challenges – consisting of market volatility, geopolitical events, uncertain moves in commodity prices and a slowdown in emerging markets, among others – have carried over into 2016.

We are confident that our business model will continue to be successful in the coming year and beyond. We are committed to remaining a global investment bank with a complete range of products. And by embracing technology, we intend to mine the efficiencies of digital capabilities while improving the services we can provide to clients.

Above all, we know that our leadership is only one way to measure how well we serve our clients. As was the case last year, our top priority is to help our clients achieve their objectives backed by the best products and services we can provide. In the end, our clients' success is the true measure of ours.



Daniel Pinto
CEO, Corporate & Investment Bank

2015 HIGHLIGHTS AND ACCOMPLISHMENTS

- Ranked #1 in Global Investment Banking fees with a 7.9% market share, according to Dealogic, and ranked in top-tier positions in 16 out of 17 product areas across the CIB, according to Coalition.
- The CIB has embarked on a major effort to embrace technology in order to offer clients a broader array of trading platforms in which to transact with J.P. Morgan.
- Raised $1.4 trillion of capital for clients. Of that amount, $55 billion was on behalf of nonprofits and government entities, such as state and local agencies and institutions.
- The CIB's leadership and role as a trusted partner to our clients helped drive the firm's total merger and acquisition volume to $1.5 trillion.
- Reduced non-operating deposits, level 3 assets and over-the-counter derivative notionals, which helped reduce our estimated GSIB capital surcharge from 4.5% to 3.5%.
- The Treasury Services business supports approximately 80% of the global Fortune 500, including the world's top 25 banks.
- Treasury Services handles $5 trillion in payments per day.
- Custody and Fund Services has nearly $20 trillion in assets under custody.

Commercial Banking



Douglas Petno

Danny Meyer's vision to update the classic burger and milk shake stand began in 2001 with a humble hot dog cart built to raise funds for a public park in New York City. In 2009, amidst a turbulent market and an uncertain economy, Meyer needed a partner to help grow Shake Shack, his fine-casual dining concept. Recognizing their team's passion, track record and management talent, our bankers supported CEO Randy Garutti and the growing company with a loan at a critical time. Marking another important milestone, Shake Shack selected our firm to lead its successful initial public offering on the New York Stock Exchange in January 2015. Today Meyer, Garutti and the entire Shake Shack team are bringing this community-gathering experience to devoted fans across the globe. We are incredibly proud of our client's success and deeply appreciate the trust and confidence they placed in us.

Building the best commercial bank has one principle at its core: standing by all of our clients, like Shake Shack, and providing unwavering support even in difficult times. While we have addressed significant changes in our industry, we remained focused on our clients and worked hard to bring value to our relationships. This continues to guide our strategy and how we do business, and I'm excited to share our 2015 results and our plans for 2016.

2015 performance

For the year, Commercial Banking (CB) produced strong results, with $6.9 billion of revenue, $2.2 billion of net income and a return on equity of 15%. Loan growth across the business was robust, ending 2015 with record loan balances of $168 billion, up $19 billion from the prior year. Our Middle Market business grew loans for the sixth consecutive year, and our Commercial Real Estate businesses continued to deliver record results.

With our disciplined underwriting and proven credit model, CB's credit performance remained exceptional in 2015, marking the fourth straight year of net charge-offs less than 10 basis points. While certain areas of the economy are facing challenges, such as the energy and commodities sectors, CB's overall loan portfolio remains in excellent shape, and we feel very well-positioned as we closely monitor market conditions.

To set the standard in the industry, we continued to enhance our regulatory and control capabilities. While we have more to do, we are quite proud of the tremendous progress we have made in further safeguarding our clients and our business. Our fortress risk and compliance principles serve to guide us every day.

Franchise strength

Being a part of JPMorgan Chase gives us unmatched capabilities to serve our clients. No other commercial bank has both our strong client franchise and the ability to offer the number one investment bank, a leading asset management franchise, comprehensive payments solutions and an extensive branch network. Bringing these robust services to all of our clients, as we did with Shake Shack, provides us with unique competitive advantages and the opportunity to build deep, enduring relationships.

Our partnership with the Corporate & Investment Bank (CIB) is a fantastic example of where our broad-based capabilities differentiate us with our clients. With dedicated investment banking (IB) coverage, we've deepened our client relationships by providing important strategic advice and capital market access. This successful partnership has consistently delivered record IB revenue for CB clients, growing to $2.2 billion in 2015. Notably, we achieved this even while overall industry IB revenue contracted last year.

Executing our disciplined growth strategy

Across CB, we continue to make great progress in executing our long-term growth strategy. We are building with patience and discipline, hiring great bankers, picking the best clients and selectively expanding our loan portfolios.

Commercial & Industrial

To bring clients deeper sector expertise and to better manage our risk, we've expanded our specialized industry model. Today, we have 15 key dedicated industry teams working with more than 9,000 clients and covering 12,000 prospects. Our clients clearly benefit from our sector-specific knowledge and focused coverage. As a result, we've seen meaningful gains in market share across these important segments.

2015 marked the sixth year of our Middle Market expansion strategy. Through this effort, we've added nearly 2,000 clients, and in 2015, we generated record revenue of $351 million across our expansion markets. In these new regions, we are building organically – banker by banker, client by client – essentially creating a nice-sized bank from scratch, ending 2015 with nearly $11 billion of loans and over $8 billion in deposits. Last year, we opened new offices in Fresno, California; Greenville, South Carolina; Hartford, Connecticut; and Wilmington, Delaware. We expect to further expand our footprint in 2016.

Commercial Real Estate

With continued focus and discipline, we believe we're building a commercial real estate business that is differentiated from our competitors. Our franchise consists of three well-coordinated businesses: Commercial Term Lending, Real Estate Banking and Community Development Banking. Together, our real estate teams originated $32 billion in loans in 2015, up 28% from the prior year.

As the industry moves through the real estate cycle, we believe we can continue to grow our portfolio safely by adding high-quality clients in large, established markets. In the next three years, there will be over $1 trillion of commercial real estate maturities that will drive future originations. We see real opportunities to capture additional market share in targeted geographic areas while maintaining our credit and pricing discipline.

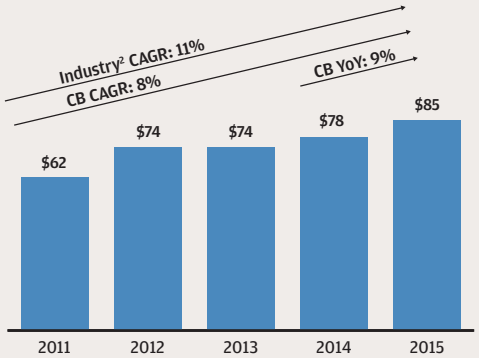
A real source of pride across our company is our Community Development Banking (CDB) business. In 2015, the CDB team financed nearly 100 projects that created more than 10,000 units of affordable housing. One in particular, the Alice Griffith Community, located on Candlestick Point in San Francisco, started its fourth phase of construction that will bring much-needed affordable housing and amenities to the area. The effort not only replaces a troubled public housing complex but also creates new affordable units that will be linked with services, schools and access to jobs.

Investing in our future

While our business model is proven, we are in no way standing still. We are driving our business forward through investments in technology and innovation. We see real opportunity to enhance our business processes, improve our customer experience, and increase the speed and security of our clients' transactions.

Commercial & Industrial Loan Portfolio – Disciplined C&I Growth[1]

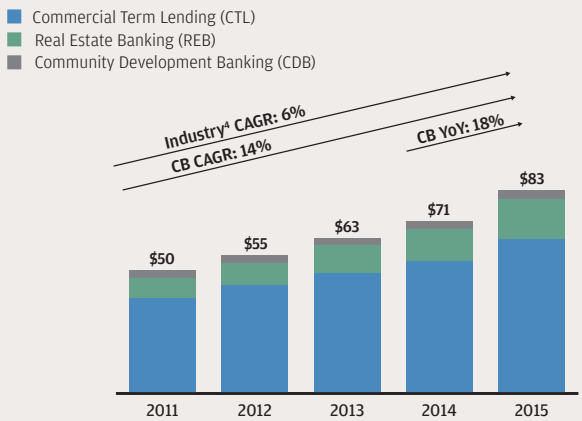
C&I loans outstanding ($ in billions, EOP)



	2011	2012	2013	2014	2015
Utilization (%)	31%	32%	30%	32%	32%

Commercial Real Estate Loan Portfolio – Executing Prudent Growth Strategy[3]

CRE loans outstanding ($ in billions, EOP)



	2011	2012	2013	2014	2015
Originations ($B)[5]	$15	$22	$24	$25	$32

[1] CB's C&I grouping is internally defined to include certain client segments (Middle Market, which includes nonprofit clients, and Corporate Client Banking) and will not align with regulatory definitions.
[2] Industry data from FRB H.8 Assets and Liabilities of Commercial Banks in the United States – Commercial and industrial loans; includes all commercial banks, not seasonally adjusted.
[3] CB's Commercial Real Estate (CRE) grouping is internally defined to include certain client segments (REB, CTL, CDB) and will not align with regulatory definitions.
[4] Industry data from FRB H.8 Assets and Liabilities of Commercial Banks in the United States – Real estate loans: Commercial real estate loans; includes all commercial banks, not seasonally adjusted.
[5] Prior years' originations have been revised to conform to current presentation.
CAGR = Compound annual growth rate YoY = Year-over-year EOP = End of period

One exciting example is the work we're doing alongside Consumer & Community Banking to upgrade our digital and online platforms. Our enhanced capabilities will expand functionality and allow clients to execute transactions more quickly and easily. In addition, we recently partnered with the CIB to launch a new corporate QuickPay capability, which will help our clients migrate business-to-business payments from expensive paper checks to simple email transactions.

Lastly, with expanded data and analytical capabilities, we are focusing on transforming information into intelligence and insights to help us manage risk and shape product development. We've also been developing analytical tools to help our bankers better identify and target new clients in markets across the United States.

Looking forward

Our business takes great pride in the outstanding clients we serve, and we are grateful every day for the confidence they place in us. I want to thank our extremely talented team for making that confidence possible and building true partnerships with our clients. Our success depends on our people, and your Commercial Banking team shows unwavering dedication to the clients and communities they serve.

Looking forward, I'm incredibly optimistic about the future of Commercial Banking. We are maintaining our long-term focus and making the right strategic investments to build upon our enduring business. I'm confident our team will seize the opportunities in front of us and continue to deliver for our clients and shareholders.



Douglas Petno
CEO, Commercial Banking

2015 HIGHLIGHTS AND ACCOMPLISHMENTS

Performance highlights

- Delivered revenue of $6.9 billion
- Grew end-of-period loans 13%; 22 consecutive quarters of loan growth
- Generated return on equity of 15% on $14 billion of allocated capital
- Continued superior credit quality – net charge-off ratio of 0.01%

Leadership positions

- #1 U.S. multifamily lender[1]
- #1 Customer Satisfaction, *CFO* Magazine Commercial Banking Survey, 2015
- Top 3 in overall Middle Market, large Middle Market and Asset Based Lending bookrunner[2]
- Recognized in 2015 by Greenwich Associates as a Best Brand for Middle Market Banking overall and in loans or lines of credit, cash management, trade finance and investment banking

Business segment highlights

- Middle Market Banking – Added more than 600 new clients
- Corporate Client Banking – Record gross investment banking revenue[3]
- Commercial Term Lending – Record originations of over $19 billion
- Real Estate Banking – Completed its best year ever with record originations over $11 billion
- Community Development Banking – Originated over $1 billion in new construction loans, building more than 10,000 units of affordable housing in over 70 cities

Firmwide contribution

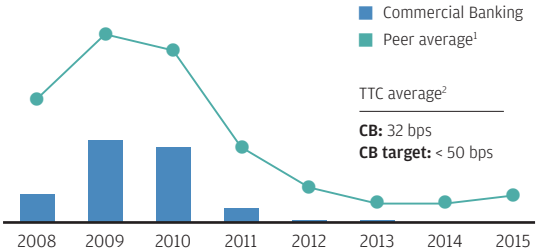
- Commercial Banking clients accounted for 36% of total North American investment banking fees[4]
- Over $120 billion in assets under management from Commercial Banking clients, generating more than $445 million in Investment Management revenue
- $469 million in Card Services revenue[3]
- $2.6 billion in Treasury Services revenue

Progress in key growth areas

- Middle Market expansion – Record revenue of $351 million; 46% CAGR[5] since 2010
- Investment banking – Record gross revenue of $2.2 billion; 10% CAGR[5] since 2010
- International banking – Revenue[6] of $288 million; 16% CAGR[5] since 2010

[1] SNL Financial based on Federal Deposit Insurance Corporation data as of 3Q 2015
[2] Thomson Reuters as of year-end 2015
[3] Investment banking and Card Services revenue represents gross revenue generated by CB clients
[4] Calculated based on gross domestic investment banking revenue for syndicated and leveraged finance, M&A, equity underwriting and bond underwriting
[5] Compound annual growth rate
[6] Overseas revenue from U.S. multinational clients

Net charge-offs



	2008	2009	2010	2011	2012	2013	2014	2015
Peers	1.35%	2.23%	2.00%	0.75%	0.33%	0.11%	0.08%	0.15%
CB	0.35%	1.02%	0.94%	0.18%	0.03%	0.03%	0.00%	0.01%

[1] Peer averages include CB-equivalent segments or wholesale portfolios at BAC, CMA, FITB, KEY, PNC, USB, WFC.
[2] Through-the-cycle (TTC), 2008–2015 average.
bps = basis points

Asset Management



Mary Callahan Erdoes

Success as an asset manager begins with two characteristics: longevity and consistency. Clients want to know that you are committed to the business for the long term, and they expect a proven track record for outperformance.

At J.P. Morgan Asset Management, we have been building a client-first, fiduciary culture for more than 180 years, working with an increasingly diverse group of institutions and individuals in more than 130 countries to help them manage their money.

Our longevity has helped us earn a level of client trust and a depth of investment experience and expertise that are difficult to replicate. Our advisors have stood side by side with clients during their most promising and most trying times. That's why the relationships we have built endure. In fact, in 2016, we have 260 families celebrating their 75th or greater anniversary of working with us.

In addition to long-standing clients, we have many long-tenured employees: More than 3,300 of our Asset Management colleagues have been with the firm for at least 15 years, including nearly 1,000 who have been with the firm for 25 years or more. We also have had tremendous consistency among our top senior portfolio management talent, with a retention rate greater than 95%.

These portfolio managers have managed through market peaks and valleys – and all the volatility that comes in between. They understand what it means to invest for the long term and are able to look past market noise to make smart investment decisions that are grounded in deep research and local insights and that generate alpha for our clients.

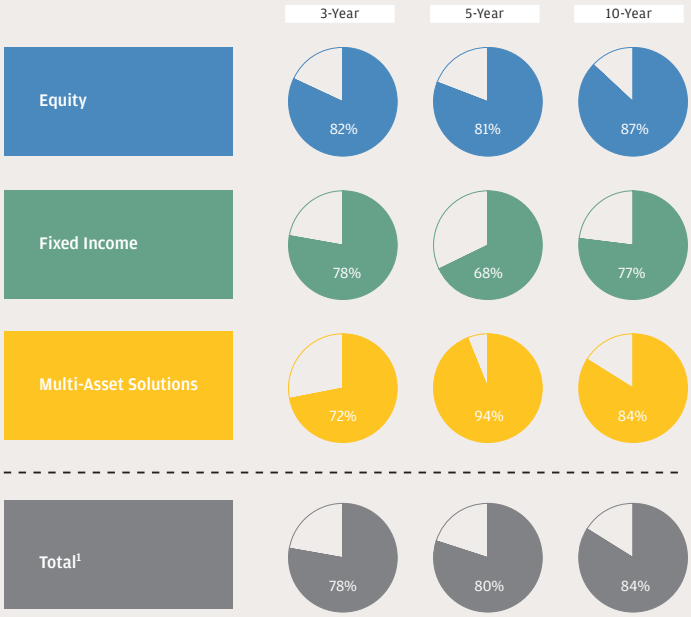
Superior investment performance driving strong financial results

A global team with a proven track record and commitment to innovation

Our more than 600 portfolio managers work closely with our 250 research analysts and 30 market strategists in Global Investment Management (GIM) to form the foundation of our investments platform. Each of them wakes up every day thinking

% of 2015 AUM Over Peer Median[1]

(net of fees)



[1] For footnoted information, refer to slide 25 in the 2016 Asset Management Investor Day presentation, which is available on JPMorgan Chase & Co.'s website at https://www.jpmorganchase.com/corporate/investor-relations/event-calendar.htm, under the heading JPMorgan Chase 2016 Investor Day, Asset Management, and on Form 8-K as furnished to the SEC on February 24, 2016, which is available on the SEC's website at www.sec.gov.

about how to capitalize on market opportunities for our clients – a group that includes 60% of the world's largest pension funds, sovereign wealth funds and central banks.

At the end of 2015, 84% of our 10-year, long-term mutual fund assets under management (AUM) ranked in the top two quartiles. That collective performance is complemented by equally strong asset class performance in Equity (87%), Fixed Income (77%) and Multi-Asset Solutions (84%), resulting in a record 231 of our mutual funds earning a four- or five-star rating and positive client asset flows every year since 2004.

In addition to our existing suite of mutual funds, we remain focused on product innovation. In 2015, we introduced 40 new funds. At the same time, we closed down or merged 37 to help ensure that we are offering an optimized portfolio of products to our clients and that they are benefiting from our best performance.

Strong financial performance

Our consistently strong investment performance is one of the primary reasons we have been able to continue to produce strong financial results for shareholders. In 2015, Asset Management generated record revenue of $12.1 billion in a challenging environment.

It also is the reason we have been able to grow our AUM and client assets consistently. Since 2010, our assets under management have increased by an annual rate of 6% to $1.7 trillion, and our client assets have grown 5% annually to $2.4 trillion.

The credit side of our business continues to be an important driver of our growth, with both loan balances (excluding mortgages) and mortgage balances reaching record levels of $84 billion and $27 billion, respectively, in 2015.

Investing in talent and technology

Talent and technology continue to be at the center of our success, both today and in the future. We need to have the best people on the ground and ready to work with clients wherever they need our solutions and expertise. And those people need to be armed with technology tools that enable them to serve clients efficiently and effectively.

Training top advisors

As a business, we are constantly educating our advisors to ensure that they are at the forefront of industry trends and important compliance and controls issues. Last year, over 850,000 hours of training were completed across more than 750 Asset Management programs. This comprehensive curriculum covers topics ranging from markets and economy to product innovation to understanding cybersecurity to regulatory changes and additional advisory skills.

Improving the client experience

Technology is playing a critical role in improving the client experience. For example, Global Wealth Management (GWM) is developing a digital strategy that will enable clients to engage with us how and when they want, using the channels they want. Our goal is to complement the advice and solutions our people offer with tools for clients that want to interact or consume our thought leadership in new ways.

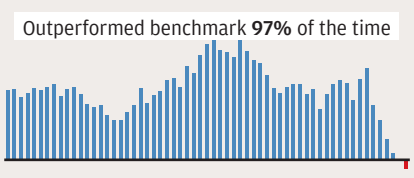
Increasing efficiency

Technology also enables us to be more efficient across our business,

Investment Process Has Led to Strong Results vs. Benchmark and Peers

Disciplined Equity Fund

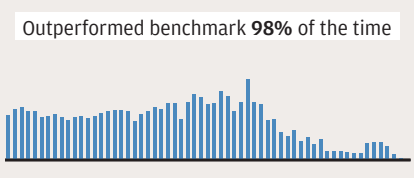
10-year average alpha 40 bps (11th percentile)



2010–2015 rolling 5-year periods ▸

Core Bond Fund

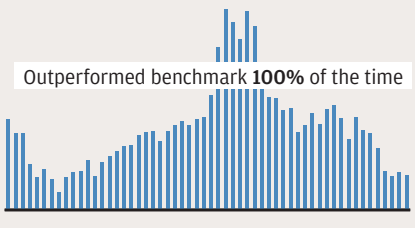
10-year average alpha 27 bps (28th percentile)



2010–2015 rolling 5-year periods ▸

SmartRetirement 2030 Fund

Average alpha 83 bps since inception (1st percentile)



2011–2015 rolling 5-year periods ▸

Data as of 12/31/15. Percentage outperformance vs. benchmark based on rolling 5-year monthly periods going back 10 years (or since fund inception in 2006 for SmartRetirement 2030). All excess returns calculated vs. primary prospectus benchmarks. Category percentile ranks are calculated vs. respective Morningstar categories. Institutional share classes used for Disciplined Equity and SmartRetirement 2030. Select share class used for Core Bond. All performance is net of fees.

For additional important information, please refer to the Investor Day presentation's notes appendix beginning on slide 23.

from sales support to controls. In GIM, we continue to enhance our application toolset for our sales teams, which helps our advisors access information and materials on our entire product range, investment capabilities and market insights and more quickly respond to client requests. On the controls side, we continue to introduce new technology tools that automate previously manual processes, such as our client onboarding processes, which creates a more seamless client experience and improves the integrity of our data and how we capture the information.

Maximizing analytics

Big data is one of the tools that is dramatically improving our analytics. Using big data and our innovative visualization tools, our portfolio managers can take historical data and combine it with predictive analytics to inform how to model their next moves. Big data also helps us identify areas where we can collaborate across the firm to serve clients that would benefit from Asset Management's offerings and vice versa.

Value of being part of JPMorgan Chase

The ability to partner across the broader 235,000-person JPMorgan Chase global franchise is one of our business's truly unique characteristics. It gives us the opportunity to help clients with more of their financial needs and enables us to benefit from a world-class global platform and infrastructure.

Working together across businesses

Asset Management is uniquely positioned as a hub that connects the different businesses of JPMorgan Chase. Consumer & Community Banking intersects with GWM on credit cards, banking and mortgages. GWM provides the solutions for Chase Wealth Management's investments offering. And the Corporate & Investment Bank works with both GIM and GWM on custody services, as well as when clients have transition events and need cash management or individual wealth management.

Benefiting from shared infrastructure

The JPMorgan Chase platform offers a significant competitive advantage for us. We are able to leverage many core infrastructure capabilities – from cybersecurity to digital capabilities to shared real estate – rather than having to build our own from scratch. Consider this: Forty percent of our GWM clients also use Chase retail branches on a monthly basis. We both benefit from and contribute to the strength of the JPMorgan Chase brand.

Well-positioned for the future

We are proud of the performance we have delivered to our clients and shareholders and are excited about the opportunities that are in front of us. And we know that if we remain focused on doing first-class business in a first-class way and continue to deliver strong investment performance and product innovation, supported by robust controls, our success will follow.



Mary Callahan Erdoes
CEO, Asset Management

2015 HIGHLIGHTS AND ACCOMPLISHMENTS

Business highlights

- Fiduciary mindset ingrained since mid-1800s
- Positive client asset flows every year since 2004
- $2.4 trillion in client assets
- Record revenue of $12.1 billion
- Record loan balances of $84 billion
- Record mortgage balances of $27 billion
- #1 cumulative long-term active mutual fund flows (2010–2015)
- #3 cumulative long-term active + passive mutual fund/ETF flows (2010–2015)
- Retention rate of over 95% for top senior portfolio management talent
- 250 research analysts, 30+ market strategists, 5,000+ annual company visits
- #2 global money market fund

Leadership positions

- #1 Institutional Money Market Fund Manager Worldwide (*iMoneyNet*, September 2015)
- #1 Private Bank in the World (*Global Finance*, October 2015)
- #1 Private Bank Overall in North America (*Euromoney*, February 2016)
- #1 Private Bank Overall in Latin America (*Euromoney*, February 2016)
- #1 U.S. Private Equity Money Manager (*Pensions & Investments*, May 2015)
- Top Pan-European Fund Management Firm (Thomson Reuters Extel, June 2015)
- Best Asset Management Company for Asia (*The Asset*, May 2015)
- #2 Hedge Fund Manager (*Absolute Return*, September 2015)

Corporate Responsibility



Peter Scher

In today's economy, too many people – particularly too many young people – are being left behind. More than 5 million young Americans are out of school and out of work, including more than one in five young black adults. Reliable pathways to the middle class have dissolved. Lower-income families, already struggling to make ends meet, are falling even further behind.

This is not sustainable. Creating more opportunity for more people to participate in and share the rewards of economic growth is a moral and an economic imperative.

But government cannot solve this challenge – certainly not on its own. The private sector needs to step up and be part of the solution.

JPMorgan Chase & Co. is leveraging the assets of our firm – our people, expertise and technology – to help address these trends. Each year, we deploy more than $200 million in philanthropic capital toward programs aimed at expanding access to opportunity and advancing economic mobility around the world.

We are applying the same rigor and analysis to these efforts as we do to other aspects of our business. Unlike traditional models of corporate philanthropy, our strategic investments are driven by robust data and research. We are supporting innovative research from our proprietary data on the finances of nearly 50 million U.S. households to real-time labor market dynamics in countries throughout Europe and Asia.

Putting our firm's capabilities to work

Our efforts are focused on areas where we can best put our firm's capabilities to work and where we can most effectively drive change. Millions of jobs in the United States and Europe are being created that require a high school degree but not a four-year college degree. Through our New Skills at Work initiative, we are connecting job seekers to tangible opportunities by helping them gain the right skills for today's high-quality jobs. We are expanding on this work with an ambitious new program, New Skills for Youth, to arm young people – particularly those most at risk of winding up out of school, unemployed or stuck in low-wage jobs – with the skills and training needed to get on the road to a well-paying, long-term career.

Through Small Business Forward, we are opening the doors that have too often been shut to minority and community-based small business owners by creating programs and investments that provide the capital and support these entrepreneurs need in order to succeed. Through the JPMorgan Chase Institute and the Financial Solutions Lab, we are applying our unrivaled data and insights into consumers' finances and deep technological expertise to help low- and moderate-income households become more financially secure. The Global Cities Initiative continues to help cities around the world generate the economic growth that will fuel greater opportunity. And through Invested in Detroit, we are bringing all these pieces together to support and accelerate the turnaround of one of America's iconic cities.

All of these efforts are driven by the conviction that creating more widely shared prosperity – and giving more people the opportunity to move up the economic ladder – is not only good for our communities, it's good for our company. We are very proud of what we have accomplished in 2015 and look forward to continuing and expanding this important work in the year ahead.



Peter Scher
Head of Corporate Responsibility

Investing $100 million in Detroit's future

JPMorgan Chase's roots in Detroit date back to an early and successful public-private partnership: the creation of the National Bank of Detroit in the 1930s as part of the government's plan to restart the nation's banking system. Building on our record of commitment to the city – and once again collaborating with the public, nonprofit and private sectors – we are in the second year of our $100 million, five-year program to accelerate Detroit's recovery:

- Financed more than $35 million in aggregate loans to finance housing and mixed-use real estate projects and to help small businesses in the city expand and create new jobs through the $50 million in two new funds we seeded with our community development lending partners.
- Provided critical financial support to the Detroit Land Bank as it expanded its capacity to address blight in the city's neighborhoods.



- Developed first-of-its-kind research that provides a comprehensive picture of Detroit's workforce system – the demographics and skills of residents, labor market data on job opportunities in the city and the existing infrastructure of training providers – equipping the city's workforce leaders with critical insights to inform their new vision and strategy for Detroit's businesses and workers.
- Grew Focus: HOPE's nationally recognized training program to prepare more than 250 Detroit residents for jobs in manufacturing and information technology over four years.
- Expanded access to capital for Detroit's minority-owned small businesses by creating the $6.5 million Entrepreneurs of Color Fund along with the W.K. Kellogg Foundation. Managed by the Detroit Development Fund, the fund will provide loans and technical assistance, with a unique focus on the small contractors that are critical to meeting the demand for home renovation in the city.
- Boosted the growth of 10 Detroit-area start-ups to stimulate economic development and job growth through the $2.7 million Innovation Fund launched by JPMorgan Chase and Macomb Community College in 2014.
- Sent 36 JPMorgan Chase employees from around the world to work intensively with 11 Detroit nonprofits to help them solve specific operational challenges and plan for future sustainability since 2014.

New Skills at Work

While unemployment rates are falling in many communities around the world, they remain stubbornly high among young people, people of color and those with multiple barriers to employment. The reasons for this are complex and so are the solutions. Our $250 million New Skills at Work initiative supports data-driven approaches to creating pathways to middle-skill jobs, helping employers who are struggling to fill openings and job seekers looking for the education and training opportunities needed in the 21st century economy. The data-driven approach to this challenge is compelling because it is achievable. In 2015, we released reports analyzing labor market data and trends in the United Kingdom, France, Spain, Germany and in seven U.S. cities. These reports provide the intelligence that employers, training programs, policymakers and job seekers need in order to assess supply and demand accurately and to create workforce programs that develop a pipeline of skilled talent. In addition, we approved our first program-related investment, a $5 million, 10-year low-interest loan to Vital Healthcare Capital to finance healthcare services and quality front-line healthcare jobs in low-income communities in the United States.



In early 2016, we announced New Skills for Youth, a $75 million global commitment to improve career readiness for young people by investing in career readiness programs that align with the needs of local industries.

By fostering effective partnerships, utilizing data to drive better outcomes and providing workers with the skills needed to land middle-skill jobs connected to career pathways, we are supporting some of the most powerful strategies available to expand opportunity.

JPMorgan Chase Institute

In 2015, we launched the JPMorgan Chase Institute, a global think tank dedicated to delivering data-rich analyses for the public good. The Institute utilizes our proprietary data, augmented by firmwide expertise and market access, to provide insights on the global economy and offer innovative analyses to advance economic prosperity.

The Institute released three reports in 2015 that shed new light on the behavior of U.S. consumers:

- The inaugural report analyzed anonymized transaction-level consumer data, focusing on fluctuations in income and consumption. The Institute's study revealed that while U.S. households across the income spectrum experience financial volatility, most lack an appropriate financial buffer to weather these shocks.
- The Institute then analyzed consumer behavior in response to the dramatic decline in gas prices. Although prior research suggested American consumers saved more than half of their additional discretionary income resulting from the gas price decrease, the Institute research revealed that, in reality, consumers spent roughly 80% of this extra income, primarily on goods and services.
- In December, the Institute offered unprecedented insight into consumer commercial spending within local communities, enabling researchers to identify spending patterns by consumer age, income and residence or by the size and type of merchant.

Harnessing the unique assets of the firm and the power of big data, the Institute is explaining the global economy in a way that provides decision makers with the necessary information to frame and address critical issues.

2015 HIGHLIGHTS AND ACCOMPLISHMENTS

Developing local economies and communities

- Provided $3.1 billion to low- and moderate-income communities through community development lending and equity investments.
- Awarded $48 million since 2014 to networks of community development financial institutions (CDFI), providing capital to small businesses and community projects unable to qualify for traditional loans. The initial $33 million investment with 42 CDFIs leveraged an additional $226 million of capital to preserve affordable housing and support small business growth in low-income communities.



- Provided $3 million to support the launch of a $30 million National African American Small Business Loan Fund managed by the Valley Economic Development Centers to provide entrepreneurs in Chicago, Los Angeles and New York with flexible capital to grow their businesses.
- Committed nearly $6 million since 2014 to support skills-based summer employment opportunities for young people, including more than 3,200 jobs and work-related opportunities in 2015.
- Provided $2.2 million to support implementation of global engagement strategies in cities across the United States and released profiles on the economic competitiveness of Stockholm and Johannesburg through the Global Cities Initiative, a joint project of the Brookings Institution and JPMorgan Chase that promotes sustainable economic growth.

Increasing financial capability

- Committed $45 million since 2014 to nonprofits, helping more than 1 million low-income individuals in 11 countries acquire the knowledge and tools needed to promote their financial health.
- Launched the Catalyst Fund with the Bill & Melinda Gates Foundation to provide $2 million in funding and mentorship to social entre-preneurs in emerging markets focused on breakthrough technology innovations for consumers globally.
- Announced nine winners of the Financial Solutions Lab competition to identify financial technology products that help U.S. households manage cash flow challenges. Winners received $3 million in capital, technical assistance and mentorship to accelerate their development. The Lab is a $30 million program launched with the Center for Financial Services Innovation to identify and scale promising innovations to improve consumer financial health.
- Committed $7.5 million to the Accion Frontier Inclusion Fund to promote innovations in financial services in emerging markets. JPMorgan Chase has deployed $68 million to impact investments that have helped improve the livelihoods of more than 58 million people.
- Supported the new BankOn 2.0 national account standards to provide "safe" accounts for consumers just entering the banking mainstream. Chase Liquid® has been identified as a model account that meets these important new standards.

Supporting service members, veterans and their families

- Announced the evolution of the 100,000 Jobs Mission — an employer coalition founded by JPMorgan Chase and 10 other companies in 2011 to hire veterans. The newly named Veteran Jobs Mission reflects the coalition's growth to 220 employers committed to hiring 1 million veterans. Since 2011, members have hired more than 314,000 veterans — over 10,000 of those hires were made by JPMorgan Chase.
- Donated more than $7.5 million in the second year of a $20 million commitment to the Philanthropy-Joining Forces Impact Pledge in support of veterans and their families.
- Renewed support to Syracuse University's Institute for Veterans and Military Families through a $14 million contribution through 2020. In addition to other projects, this contribution will continue to wholly fund the Veterans Career Transition Program through which more than 3,400 post-9/11 veterans and military spouses have earned 4,600 certificates since 2011.
- Supported military families in need by donating more than 800 mortgage-free homes, valued at nearly $150 million, through the firm's nonprofit partners.

Engaging local communities

- Engaged more than 47,000 employees in volunteer service and sent 32 top managers to Detroit and Mumbai to apply their expertise full time to help our nonprofit partners expand their capacity to serve local communities.
- Provided more than 31,000 hours of skilled volunteerism through Technology for Social Good, a program that harnesses the technical experience of our employees to develop innovative technology solutions for nonprofits. Technology for Social Good delivered $3.3 million in social value to over 100 nonprofits globally.
- Completed the first year of the expansion of The Fellowship Initiative, a JPMorgan Chase program that prepares 120 young men of color to succeed in high school, college and beyond. Fellows participated in more than 30 days of extracurricular academic and leadership programs, including an All Star Code technology development workshop.



Promoting innovation in sustainable investment

- Continued support for NatureVest, which structured the first-ever climate adaptation debt swap to protect 30% of the marine territories of the Seychelles. In 2014, JPMorgan Chase was the founding sponsor of NatureVest, The Nature Conservancy's conservation finance unit.
- Underwrote more than $4 billion in green and sustainability-themed bonds and committed and arranged approximately $2 billion of capital for renewable energy projects in the United States.
- Launched the Dementia Discovery Fund in partnership with the U.K. government, which has attracted more than $100 million from leading pharmaceutical companies for investments into new treatments for dementia.

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Note:

The following pages from JPMorgan Chase & Co.'s 2015 Form 10-K are not included herein: 1-64, 316-332

FIVE-YEAR SUMMARY OF CONSOLIDATED FINANCIAL HIGHLIGHTS

(unaudited)
As of or for the year ended December 31,

(in millions, except per share, ratio, headcount data and where otherwise noted)	2015	2014	2013	2012	2011
Selected income statement data					
Total net revenue	**$ 93,543**	$ 95,112	$ 97,367	$ 97,680	$ 97,843
Total noninterest expense	**59,014**	61,274	70,467	64,729	62,911
Pre-provision profit	**34,529**	33,838	26,900	32,951	34,932
Provision for credit losses	**3,827**	3,139	225	3,385	7,574
Income before income tax expense	**30,702**	30,699	26,675	29,566	27,358
Income tax expense	**6,260**	8,954	8,789	8,307	8,402
Net income	**$ 24,442**	$ 21,745	$ 17,886	$ 21,259	$ 18,956
Earnings per share data					
Net income: Basic	**$ 6.05**	$ 5.33	$ 4.38	$ 5.21	$ 4.50
Diluted	**6.00**	5.29	4.34	5.19	4.48
Average shares: Basic	**3,700.4**	3,763.5	3,782.4	3,809.4	3,900.4
Diluted	**3,732.8**	3,797.5	3,814.9	3,822.2	3,920.3
Market and per common share data					
Market capitalization	**$ 241,899**	$ 232,472	$ 219,657	$ 167,260	$ 125,442
Common shares at period-end	**3,663.5**	3,714.8	3,756.1	3,804.0	3,772.7
Share price[a]					
High	**$ 70.61**	$ 63.49	$ 58.55	$ 46.49	$ 48.36
Low	**50.07**	52.97	44.20	30.83	27.85
Close	**66.03**	62.58	58.48	43.97	33.25
Book value per share	**60.46**	56.98	53.17	51.19	46.52
Tangible book value per share ("TBVPS")[b]	**48.13**	44.60	40.72	38.68	33.62
Cash dividends declared per share	**1.72**	1.58	1.44	1.20	1.00
Selected ratios and metrics					
Return on common equity ("ROE")	**11%**	10%	9%	11%	11%
Return on tangible common equity ("ROTCE")[b]	**13**	13	11	15	15
Return on assets ("ROA")	**0.99**	0.89	0.75	0.94	0.86
Overhead ratio	**63**	64	72	66	64
Loans-to-deposits ratio	**65**	56	57	61	64
High quality liquid assets ("HQLA") (in billions)[c]	**$ 496**	$ 600	$ 522	341	NA
Common equity tier 1 ("CET1") capital ratio[d]	**11.8%**	10.2%	10.7%	11.0%	10.0%
Tier 1 capital ratio[d]	**13.5**	11.6	11.9	12.6	12.3
Total capital ratio[d]	**15.1**	13.1	14.3	15.2	15.3
Tier 1 leverage ratio[d]	**8.5**	7.6	7.1	7.1	6.8
Selected balance sheet data (period-end)					
Trading assets	**$ 343,839**	$ 398,988	$ 374,664	$ 450,028	$ 443,963
Securities	**290,827**	348,004	354,003	371,152	364,793
Loans	**837,299**	757,336	738,418	733,796	723,720
Core Loans	**732,093**	628,785	583,751	555,351	518,095
Total assets	**2,351,698**	2,572,274	2,414,879	2,358,323	2,264,976
Deposits	**1,279,715**	1,363,427	1,287,765	1,193,593	1,127,806
Long-term debt[e]	**288,651**	276,379	267,446	248,521	255,962
Common stockholders' equity	**221,505**	211,664	199,699	194,727	175,514
Total stockholders' equity	**247,573**	231,727	210,857	203,785	183,314
Headcount	**234,598**	241,359	251,196	258,753	259,940
Credit quality metrics					
Allowance for credit losses	**$ 14,341**	$ 14,807	$ 16,969	$ 22,604	$ 28,282
Allowance for loan losses to total retained loans	**1.63%**	1.90%	2.25%	3.02%	3.84%
Allowance for loan losses to retained loans excluding purchased credit-impaired loans[f]	**1.37**	1.55	1.80	2.43	3.35
Nonperforming assets	**$ 7,034**	$ 7,967	$ 9,706	$ 11,906	$ 11,315
Net charge-offs	**4,086**	4,759	5,802	9,063	12,237
Net charge-off rate	**0.52%**	0.65%	0.81%	1.26%	1.78%

Note: Effective October 1, 2015, and January 1, 2015, JPMorgan Chase & Co. adopted new accounting guidance, retrospectively, related to (1) the presentation of debt issuance costs, and (2) investments in affordable housing projects that qualify for the low-income housing tax credit, respectively. For additional information, see Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 80–82, Accounting and Reporting Developments on page 170, and Note 1.

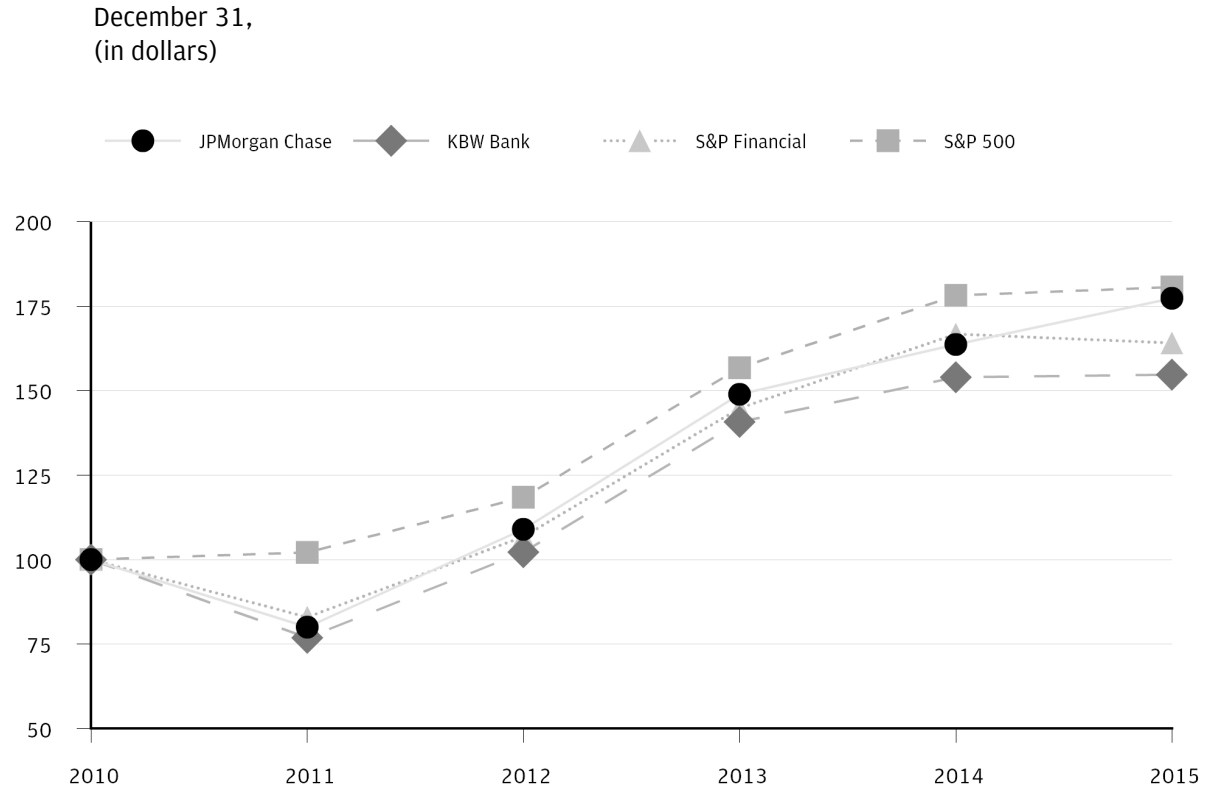
(a) Share prices shown for JPMorgan Chase's common stock are from the New York Stock Exchange.
(b) TBVPS and ROTCE are non-GAAP financial measures. For further discussion of these measures, see Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 80–82.
(c) HQLA represents the amount of assets that qualify for inclusion in the liquidity coverage ratio under the final U.S. rule ("U.S. LCR") for December 31, 2015 and the Firm's estimated amount for December 31, 2014 prior to the effective date of the final rule, and under the Basel III liquidity coverage ratio ("Basel III LCR") for prior periods. The Firm did not begin estimating HQLA until December 31, 2012. For additional information, see HQLA on page 160.
(d) Basel III Transitional rules became effective on January 1, 2014; prior period data is based on Basel I rules. As of December 31, 2014 the ratios presented are calculated under the Basel III Advanced Transitional Approach. CET1 capital under Basel III replaced Tier 1 common capital under Basel I. Prior to Basel III becoming effective on January 1, 2014, Tier 1 common capital under Basel I was a non-GAAP financial measure. See Capital Management on pages 149–158 for additional information on Basel III and non-GAAP financial measures of regulatory capital.
(e) Included unsecured long-term debt of $211.8 billion, $207.0 billion, $198.9 billion, $200.1 billion and $230.5 billion respectively, as of December 31, of each year presented.
(f) Excluded the impact of residential real estate purchased credit-impaired ("PCI") loans, a non-GAAP financial measure. For further discussion of these measures, see Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 80–82. For further discussion, see Allowance for credit losses on pages 130–132.

FIVE-YEAR STOCK PERFORMANCE

The following table and graph compare the five-year cumulative total return for JPMorgan Chase & Co. ("JPMorgan Chase" or the "Firm") common stock with the cumulative return of the S&P 500 Index, the KBW Bank Index and the S&P Financial Index. The S&P 500 Index is a commonly referenced United States of America ("U.S.") equity benchmark consisting of leading companies from different economic sectors. The KBW Bank Index seeks to reflect the performance of banks and thrifts that are publicly traded in the U.S. and is composed of 24 leading national money center and regional banks and thrifts. The S&P Financial Index is an index of 87 financial companies, all of which are components of the S&P 500. The Firm is a component of all three industry indices.

The following table and graph assume simultaneous investments of $100 on December 31, 2010, in JPMorgan Chase common stock and in each of the above indices. The comparison assumes that all dividends are reinvested.

December 31, (in dollars)	2010	2011	2012	2013	2014	**2015**
JPMorgan Chase	$ 100.00	$ 80.03	$ 108.98	$ 148.98	$ 163.71	**$ 177.40**
KBW Bank Index	100.00	76.82	102.19	140.77	153.96	**154.71**
S&P Financial Index	100.00	82.94	106.78	144.79	166.76	**164.15**
S&P 500 Index	100.00	102.11	118.44	156.78	178.22	**180.67**



This section of JPMorgan Chase's Annual Report for the year ended December 31, 2015 ("Annual Report"), provides Management's discussion and analysis of the financial condition and results of operations ("MD&A") of JPMorgan Chase. See the Glossary of Terms on pages 311–315 for definitions of terms used throughout this Annual Report. The MD&A included in this Annual Report contains statements that are forward-looking within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements are based on the current beliefs and expectations of JPMorgan Chase's management and are subject to significant risks and uncertainties. These risks and uncertainties could cause the Firm's actual results to differ materially from those set forth in such forward-looking statements. Certain of such risks and uncertainties are described herein (see Forward-looking Statements on page 173) and in JPMorgan Chase's Annual Report on Form 10-K for the year ended December 31, 2015 ("2015 Form 10-K"), in Part I, Item 1A: Risk factors; reference is hereby made to both.

INTRODUCTION

JPMorgan Chase & Co., a financial holding company incorporated under Delaware law in 1968, is a leading global financial services firm and one of the largest banking institutions in the U.S., with operations worldwide; the Firm had $2.4 trillion in assets and $247.6 billion in stockholders' equity as of December 31, 2015. The Firm is a leader in investment banking, financial services for consumers and small businesses, commercial banking, financial transaction processing and asset management. Under the J.P. Morgan and Chase brands, the Firm serves millions of customers in the U.S. and many of the world's most prominent corporate, institutional and government clients.

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

For management reporting purposes, the Firm's activities are organized into four major reportable business segments, as well as a Corporate segment. The Firm's consumer business is the Consumer & Community Banking ("CCB") segment. The Firm's wholesale business segments are Corporate & Investment Bank ("CIB"), Commercial Banking ("CB"), and Asset Management ("AM"). For a description of the Firm's business segments, and the products and services they provide to their respective client bases, refer to Business Segment Results on pages 83–106, and Note 33.

This executive overview of the MD&A highlights selected information and may not contain all of the information that is important to readers of this Annual Report. For a complete description of the trends and uncertainties, as well as the risks and critical accounting estimates affecting the Firm and its various lines of business, this Annual Report should be read in its entirety.

Financial performance of JPMorgan Chase

Year ended December 31, (in millions, except per share data and ratios)	2015	2014	Change
Selected income statement data			
Total net revenue	**$ 93,543**	$ 95,112	(2)%
Total noninterest expense	**59,014**	61,274	(4)
Pre-provision profit	**34,529**	33,838	2
Provision for credit losses	**3,827**	3,139	22
Net income	**24,442**	21,745	12
Diluted earnings per share	**6.00**	5.29	13
Return on common equity	**11%**	10%	
Capital ratios[(a)]			
CET1	**11.8**	10.2	
Tier 1 capital	**13.5**	11.6	

(a) Ratios presented are calculated under the transitional Basel III rules and represent the Collins Floor. See Capital Management on pages 149–158 for additional information on Basel III.

Summary of 2015 Results

JPMorgan Chase reported record full-year 2015 net income of $24.4 billion, and record earnings per share of $6.00, on net revenue of $93.5 billion. Net income increased by $2.7 billion compared with net income of $21.7 billion in 2014. ROE for the year was 11%, up from 10% in the prior year.

The increase in net income in 2015 was driven by lower taxes and lower noninterest expense, partially offset by lower net revenue and a higher provision for credit losses. The decline in net revenue was predominantly driven by lower Corporate private equity gains, lower CIB revenue reflecting the impact of business simplification, and lower CCB Mortgage Banking revenue. These decreases were partially offset by a benefit from a legal settlement in Corporate and higher operating lease income, predominantly in CCB.

The decrease in noninterest expense was driven by lower CIB expense, reflecting the impact of business simplification, and lower CCB expense as a result of efficiencies, predominantly reflecting declines in headcount-related expense and lower professional fees, partially offset by investments in the business. As a result of these changes, the Firm's overhead ratio in 2015 was lower compared with the prior year.

The provision for credit losses increased from the prior year as a result of an increase in the wholesale provision, reflecting the impact of downgrades, including in the Oil & Gas portfolio. The consumer provision declined, reflecting lower net charge-offs due to continued discipline in credit underwriting, as well as improvement in the economy driven by increasing home prices and lower unemployment levels. This was partially offset by a lower reduction in the allowance for loan losses.

Total firmwide allowance for credit losses in 2015 was $14.3 billion, resulting in a loan loss coverage ratio of 1.37%, excluding the PCI portfolio, compared with 1.55% in the prior year. The Firm's allowance for loan losses to retained nonaccrual loans, excluding the PCI portfolio and credit card, was 117% compared with 106% in 2014. Firmwide, net charge-offs were $4.1 billion for the year, down $673 million from 2014. Nonperforming assets at year-end were $7.0 billion, down $933 million.

The Firm's results reflected solid underlying performance across its four major reportable business segments, with continued strong lending and consumer deposit growth. Firmwide average core loans increased by 12% compared with the prior year. Within CCB, Consumer & Business Banking average deposits increased 9% over the prior year. The Firm had nearly 23 million active mobile customers at year end, an increase of 20% over the prior year. Credit card sales volume (excluding Commercial Card) was up 7% for the year and merchant processing volume was up 12%. The CIB maintained its #1 ranking in Global Investment Banking Fees according to Dealogic. CB had record average loans, with an 11% increase compared with the prior year. CB also had record gross investment banking revenue of $2.2 billion, up 10% from the prior year. AM had positive net long-term

client inflows and continued to deliver strong investment performance with 80% of mutual fund assets under management ("AUM") ranked in the 1st or 2nd quartiles over the past five years. AM also increased average loan balances by 8% in 2015.

In 2015, the Firm continued to adapt its strategy and financial architecture toward meeting regulatory and capital requirements and the changing banking landscape, while serving its clients and customers, investing in its businesses, and delivering strong returns to its shareholders. Importantly, the Firm exceeded all of its 2015 financial targets including those related to balance sheet optimization and managing its capital, its GSIB surcharge and expense. On capital, the Firm exceeded its capital target of reaching Basel III Fully Phased-In Advanced and Standardized CET1 ratios of approximately 11%, ending the year with estimated Basel III Advanced Fully Phased-in CET1 capital and ratio of $173.2 billion and 11.6%, respectively. The Firm also exceeded its target of reducing its GSIB capital surcharge, ending the year at an estimated 3.5% GSIB surcharge, achieved through a combination of reducing wholesale non-operating deposits, level 3 assets and derivative notionals.

The Firm's fully phased-in supplementary leverage ratio ("SLR") was 6.5% and JPMorgan Chase Bank, N.A.'s fully phased-in SLR was 6.6%. The Firm was also compliant with the fully phased-in U.S. liquidity coverage ratio ("LCR") and had $496 billion of HQLA as of year-end 2015.

The Firm's tangible book value per share was $48.13, an increase of 8% from the prior year. Total stockholders' equity was $247.6 billion at December 31, 2015.

Tangible book value per share and each of these Basel III Advanced Fully Phased-In measures are non-GAAP financial measures; they are used by management, bank regulators, investors and analysts to assess and monitor the Firm's capital position and liquidity. For further discussion of Basel III Advanced Fully Phased-in measures and the SLR under the U.S. final SLR rule, see Capital Management on pages 149–158, and for further discussion of LCR and HQLA, see Liquidity Risk Management on pages 159–164.

The Firm provided credit to and raised capital of $2.0 trillion for its clients during 2015. This included $705 billion of credit to corporations, $233 billion of credit to consumers, and $22 billion to U.S. small businesses. During 2015, the Firm also raised $1.0 trillion of capital for clients. Additionally, $68 billion of credit was provided to, and capital was raised for, nonprofit and government entities, including states, municipalities, hospitals and universities.

The Firm has substantially completed its business simplification agenda, exiting businesses, products or clients that were non-core, not at scale or not returning the appropriate level of return in order to focus on core activities for its core clients and reduce risk to the Firm. While the business simplification initiative impacted revenue growth in 2015, it did not have a meaningful impact on the Firm's profitability. The Firm continues to focus on streamlining, simplifying and centralizing operational functions and processes in order to attain more consistencies and efficiencies across the Firm. To that end, the Firm continues to make progress on simplifying its legal entity structure, streamlining its Global Technology function, rationalizing its use of vendors, and optimizing its real estate location strategy.

Business outlook

These current expectations are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements are based on the current beliefs and expectations of JPMorgan Chase's management and are subject to significant risks and uncertainties. These risks and uncertainties could cause the Firm's actual results to differ materially from those set forth in such forward-looking statements. See Forward-Looking Statements on page 173 and the Risk Factors section on pages 8–18.

Business Outlook

JPMorgan Chase's outlook for the full-year 2016 should be viewed against the backdrop of the global and U.S. economies, financial markets activity, the geopolitical environment, the competitive environment, client activity levels, and regulatory and legislative developments in the U.S. and other countries where the Firm does business. Each of these inter-related factors will affect the performance of the Firm and its lines of business. The Firm expects it will continue to make appropriate adjustments to its businesses and operations in response to ongoing developments in the legal and regulatory, as well as business and economic, environment in which it operates.

In the first quarter of 2016, management expects net interest income and net interest margin to be relatively flat when compared with the fourth quarter of 2015. During 2016, if there are no changes in interest rates, management expects net interest income could be approximately $2 billion higher than in 2015, reflecting the Federal Reserve's rate increase in December 2015 and loan growth.

Management expects core loan growth of approximately 10%-15% in 2016 as well as continued growth in retail deposits which are anticipated to lead to the Firm's balance sheet growing to approximately $2.45 trillion in 2016.

Management also expects managed noninterest revenue of approximately $50 billion in 2016, a decrease from 2015, primarily driven by lower Card revenue reflecting renegotiated co-brand partnership agreements and lower revenue in Mortgage Banking.

The Firm continues to experience charge-offs at levels lower than its through-the-cycle expectations reflecting favorable credit trends across the consumer and wholesale portfolios, excluding Oil & Gas. Management expects total net charge-offs of up to approximately $4.75 billion in 2016. Based on the changes in market expectations for oil prices since year-end 2015, management believes reserves during the first quarter of 2016 could increase by approximately $500 million for Oil & Gas, and by approximately $100 million for Metals & Mining.

The Firm continues to take a disciplined approach to managing its expenses, while investing in growth and innovation. The Firm intends to leverage its scale and improve its operating efficiencies, in order to reinvest its expense savings in additional technology and marketing investments and fund other growth initiatives. As a result, Firmwide adjusted expense in 2016 is expected to be approximately $56 billion (excluding Firmwide legal expense).

Additionally, the Firm will continue to adapt its capital assessment framework to review businesses and client relationships against multiple binding constraints, including GSIB and other applicable capital requirements, imposing internal limits on business activities to align or optimize the Firm's balance sheet and risk-weighted assets ("RWA") with regulatory requirements in order to ensure that business activities generate appropriate levels of shareholder value.

During 2016, the Firm expects the CET1 capital ratio calculated under the Basel III Standardized Approach to become its binding constraint. As a result of the anticipated growth in the balance sheet, management anticipates that the Firm will have, over time, $1.55 trillion in Standardized risk weighted assets, and is expecting that, over the next several years, its Basel III CET1 capital ratio will be between 11% and 12.5%. In the longer term, management expects to maintain a minimum Basel III CET1 ratio of 11%. It is the Firm's current intention that the Firm's capital ratios continue to exceed regulatory minimums as they are fully implemented in 2019 and thereafter. Likewise, the Firm will be evolving its funding framework to ensure it meets the current and proposed more stringent regulatory liquidity rules, including those relating to the availability of adequate Total Loss Absorbing Capacity ("TLAC").

In Mortgage Banking within CCB, management expects noninterest revenue to decline by approximately $700 million in 2016 as servicing balances continue to decline from year-end 2015 levels. The Card net charge-off rate is expected to be approximately 2.5% in 2016.

In CIB, management expects Investment Banking revenue in the first quarter of 2016 to be approximately 25% lower than the prior year first quarter, driven by current market conditions in the underwriting businesses. In addition, Markets revenue to date in the first quarter of 2016 is down approximately 20%, when compared to a particularly strong period in the prior year and reflecting the current challenging market conditions. Prior year Markets revenue was positively impacted by macroeconomic events, including the Swiss franc decoupling from the Euro. Actual Markets revenue results for the first quarter will continue to be affected by market conditions, which can be volatile. In Securities Services, management expects revenue of approximately $875 million in the first quarter of 2016.

CONSOLIDATED RESULTS OF OPERATIONS

The following section of the MD&A provides a comparative discussion of JPMorgan Chase's Consolidated Results of Operations on a reported basis for the three-year period ended December 31, 2015. Factors that relate primarily to a single business segment are discussed in more detail within that business segment. For a discussion of the Critical Accounting Estimates Used by the Firm that affect the Consolidated Results of Operations, see pages 165–169.

Revenue

Year ended December 31, (in millions)	2015	2014	2013
Investment banking fees	$ 6,751	$ 6,542	$ 6,354
Principal transactions	10,408	10,531	10,141
Lending- and deposit-related fees	5,694	5,801	5,945
Asset management, administration and commissions	15,509	15,931	15,106
Securities gains	202	77	667
Mortgage fees and related income	2,513	3,563	5,205
Card income	5,924	6,020	6,022
Other income[a]	3,032	3,013	4,608
Noninterest revenue	50,033	51,478	54,048
Net interest income	43,510	43,634	43,319
Total net revenue	$ 93,543	$ 95,112	$ 97,367

(a) Included operating lease income of $2.1 billion, $1.7 billion and $1.5 billion for the years ended December 31, 2015, 2014 and 2013, respectively.

2015 compared with 2014

Total net revenue for 2015 was down by 2% compared with the prior year, predominantly driven by lower Corporate private equity gains, lower CIB revenue reflecting the impact of business simplification initiatives, and lower CCB Mortgage Banking revenue. These decreases were partially offset by a benefit from a legal settlement in Corporate, and higher operating lease income, predominantly in CCB.

Investment banking fees increased from the prior year, reflecting higher advisory fees, partially offset by lower equity and debt underwriting fees. The increase in advisory fees was driven by a greater share of fees for completed transactions as well as growth in industry-wide fee levels. The decrease in equity underwriting fees resulted from lower industry-wide issuance, and the decrease in debt underwriting fees resulted primarily from lower loan syndication and bond underwriting fees on lower industry-wide fee levels. For additional information on investment banking fees, see CIB segment results on pages 94–98 and Note 7.

Principal transactions revenue decreased from the prior year, reflecting lower private equity gains in Corporate driven by lower valuation gains and lower net gains on sales as the Firm exits this non-core business. The decrease was partially offset by higher client-driven market-making revenue, particularly in foreign exchange, interest rate and equity-related products in CIB, as well as a gain of approximately $160 million on CCB's investment in Square, Inc. upon its initial public offering. For additional information, see CIB and Corporate segment results on pages 94–98 and pages 105–106, respectively, and Note 7.

Asset management, administration and commissions revenue decreased compared with the prior year, largely as a result of lower fees in CIB and lower performance fees in AM. The decrease was partially offset by higher asset management fees as a result of net client inflows into assets under management and the impact of higher average market levels in AM and CCB. For additional information, see the segment discussions of CIB and AM on pages 94–98 and pages 102–104, respectively, and Note 7.

Mortgage fees and related income decreased compared with the prior year, reflecting lower servicing revenue largely as a result of lower average third-party loans serviced, and lower net production revenue reflecting a lower repurchase benefit. For further information on mortgage fees and related income, see the segment discussion of CCB on pages 85–93 and Notes 7 and 17.

For information on lending- and deposit-related fees, see the segment results for CCB on pages 85–93, CIB on pages 94–98, and CB on pages 99–101 and Note 7; securities gains, see the Corporate segment discussion on pages 105–106; and card income, see CCB segment results on pages 85–93.

Other income was relatively flat compared with the prior year, reflecting a $514 million benefit from a legal settlement in Corporate, higher operating lease income as a result of growth in auto operating lease assets in CCB, and the absence of losses related to the exit of non-core portfolios in Card. These increases were offset by the impact of business simplification in CIB; the absence of a benefit recognized in 2014 from a franchise tax settlement; and losses related to the accelerated amortization of cash flow hedges associated with the exit of certain non-operating deposits.

Net interest income was relatively flat compared with the prior year, as lower loan yields, lower investment securities net interest income, and lower trading asset balance and yields were offset by higher average loan balances and lower interest expense on deposits. The Firm's average interest-earning assets were $2.1 trillion in 2015, and the net interest yield on these assets, on a fully taxable-equivalent ("FTE") basis, was 2.14%, a decrease of 4 basis points from the prior year.

2014 compared with 2013

Total net revenue for 2014 was down by 2% compared with the prior year, predominantly due to lower mortgage fees and related income and lower other income. The decrease was partially offset by higher asset management, administration and commissions revenue.

Investment banking fees increased compared with the prior year, due to higher advisory and equity underwriting fees, largely offset by lower debt underwriting fees. The increase

in advisory fees was driven by the combined impact of a greater share of fees for completed transactions, and growth in industry-wide fees. The increase in equity underwriting fees was driven by higher industry-wide issuance. The decrease in debt underwriting fees was primarily related to lower bond underwriting fees compared with the prior year, and lower loan syndication fees on lower industry-wide fees.

Principal transactions revenue increased as the prior year included a $1.5 billion loss related to the implementation of the funding valuation adjustment ("FVA") framework for over-the-counter ("OTC") derivatives and structured notes. Private equity gains increased as a result of higher net gains on sales. These increases were partially offset by lower fixed income markets revenue in CIB, primarily driven by credit-related and rates products, as well as the impact of business simplification initiatives.

Lending- and deposit-related fees decreased compared with the prior year, reflecting the impact of business simplification initiatives and lower trade finance revenue in CIB.

Asset management, administration and commissions revenue increased compared with the prior year, reflecting higher asset management fees driven by net client inflows and higher market levels in AM and CCB. The increase was offset partially by lower commissions and other fee revenue in CCB as a result of the exit of a non-core product in 2013.

Securities gains decreased compared with the prior year, reflecting lower repositioning activity related to the Firm's investment securities portfolio.

Mortgage fees and related income decreased compared with the prior year, predominantly due to lower net production revenue driven by lower volumes due to higher mortgage interest rates, and tighter margins. The decline in net production revenue was partially offset by a lower loss on the risk management of mortgage servicing rights ("MSRs").

Card income was relatively flat compared with the prior year, but included higher net interchange income due to growth in credit and debit card sales volume, offset by higher amortization of new account origination costs.

Other income decreased from the prior year, predominantly from the absence of two significant items recorded in Corporate in 2013: gains of $1.3 billion and $493 million from sales of Visa shares and One Chase Manhattan Plaza, respectively. Lower valuations of seed capital investments in AM and losses related to the exit of non-core portfolios in Card also contributed to the decrease. These items were partially offset by higher auto lease income as a result of growth in auto lease volume, and a benefit from a tax settlement.

Net interest income increased slightly from the prior year, predominantly reflecting higher yields on investment securities, the impact of lower interest expense from lower rates, and higher average loan balances. The increase was partially offset by lower yields on loans due to the run-off of higher-yielding loans and new originations of lower-yielding loans, and lower average interest-earning trading asset balances. The Firm's average interest-earning assets were $2.0 trillion, and the net interest yield on these assets, on a FTE basis, was 2.18%, a decrease of 5 basis points from the prior year.

Provision for credit losses

Year ended December 31, (in millions)	2015	2014	2013
Consumer, excluding credit card	**$ (81)**	$ 419	$ (1,871)
Credit card	**3,122**	3,079	2,179
Total consumer	**3,041**	3,498	308
Wholesale	**786**	(359)	(83)
Total provision for credit losses	**$ 3,827**	$ 3,139	$ 225

2015 compared with 2014

The provision for credit losses increased from the prior year as a result of an increase in the wholesale provision, largely reflecting the impact of downgrades in the Oil & Gas portfolio. The increase was partially offset by a decrease in the consumer provision, reflecting lower net charge-offs due to continued discipline in credit underwriting, as well as improvement in the economy driven by increasing home prices and lower unemployment levels. The increase was partially offset by a lower reduction in the allowance for loan losses. For a more detailed discussion of the credit portfolio and the allowance for credit losses, see the segment discussions of CCB on pages 85–93, CB on pages 99–101, and the Allowance For Credit Losses on pages 130–132.

2014 compared with 2013

The provision for credit losses increased by $2.9 billion from the prior year as result of a lower benefit from reductions in the consumer allowance for loan losses, partially offset by lower net charge-offs. The consumer allowance reduction in 2014 was primarily related to the consumer, excluding credit card, portfolio and reflected the continued improvement in home prices and delinquencies in the residential real estate portfolio. The wholesale provision reflected a continued favorable credit environment.

Noninterest expense

Year ended December 31, (in millions)	2015	2014	2013
Compensation expense	**$29,750**	$30,160	$30,810
Noncompensation expense:			
Occupancy	**3,768**	3,909	3,693
Technology, communications and equipment	**6,193**	5,804	5,425
Professional and outside services	**7,002**	7,705	7,641
Marketing	**2,708**	2,550	2,500
Other[(a)(b)]	**9,593**	11,146	20,398
Total noncompensation expense	**29,264**	31,114	39,657
Total noninterest expense	**$59,014**	$61,274	$70,467

(a) Included legal expense of $3.0 billion, $2.9 billion and $11.1 billion for the years ended December 31, 2015, 2014 and 2013, respectively.

(b) Included Federal Deposit Insurance Corporation ("FDIC")-related expense of $1.2 billion, $1.0 billion and $1.5 billion for the years ended December 31, 2015, 2014 and 2013, respectively.

2015 compared with 2014

Total noninterest expense decreased by 4% from the prior year, as a result of lower CIB expense, predominantly reflecting the impact of business simplification; and lower CCB expense resulting from efficiencies related to declines in headcount-related expense and lower professional fees. These decreases were partially offset by investment in the businesses, including for infrastructure and controls.

Compensation expense decreased compared with the prior year, predominantly driven by lower performance-based incentives and reduced headcount, partially offset by higher postretirement benefit costs and investment in the businesses, including for infrastructure and controls.

Noncompensation expense decreased from the prior year, reflecting benefits from business simplification in CIB; lower professional and outside services expense, reflecting lower legal services expense and a reduced number of contractors in the businesses; lower amortization of intangibles; and the absence of a goodwill impairment in Corporate. These factors were partially offset by higher depreciation expense, largely associated with higher auto operating lease assets in CCB; higher marketing expense in CCB; and higher FDIC-related assessments. Legal expense was relatively flat compared with the prior year. For a further discussion of legal expense, see Note 31.

2014 compared with 2013

Total noninterest expense decreased by $9.2 billion, or 13%, from the prior year, as a result of lower other expense (in particular, legal expense) and lower compensation expense.

Compensation expense decreased compared with the prior year, predominantly driven by lower headcount in CCB Mortgage Banking, lower performance-based compensation expense in CIB, and lower postretirement benefit costs. The decrease was partially offset by investments in the businesses, including headcount for controls.

Noncompensation expense decreased compared with the prior year, due to lower other expense, predominantly reflecting lower legal expense. Lower expense for foreclosure-related matters and production and servicing-related expense in CCB Mortgage Banking, lower FDIC-related assessments, and lower amortization due to certain fully amortized intangibles, also contributed to the decline. The decrease was offset partially by investments in the businesses, including for controls, and costs related to business simplification initiatives across the Firm.

Income tax expense

Year ended December 31, (in millions, except rate)	2015	2014	2013
Income before income tax expense	**$30,702**	$30,699	$26,675
Income tax expense	**6,260**	8,954	8,789
Effective tax rate	**20.4%**	29.2%	32.9%

2015 compared with 2014

The effective tax rate decreased compared with the prior year, predominantly due to the recognition in 2015 of tax benefits of $2.9 billion and other changes in the mix of income and expense subject to U.S. federal, state and local income taxes, partially offset by prior-year tax adjustments. The recognition of tax benefits in 2015 was due to the resolution of various tax audits, as well as the release of U.S. deferred taxes associated with the restructuring of certain non-U.S. entities. For further information see Note 26.

2014 compared with 2013

The decrease in the effective tax rate from the prior year was largely attributable to the effect of the lower level of nondeductible legal-related penalties, partially offset by higher 2014 pretax income in combination with changes in the mix of income and expense subject to U.S. federal, state and local income taxes, and lower tax benefits associated with tax adjustments and the settlement of tax audits.

Selected Consolidated balance sheets data

December 31, (in millions)	2015	2014	Change
Assets			
Cash and due from banks	**$ 20,490**	$ 27,831	(26)%
Deposits with banks	**340,015**	484,477	(30)
Federal funds sold and securities purchased under resale agreements	**212,575**	215,803	(1)
Securities borrowed	**98,721**	110,435	(11)
Trading assets:			
Debt and equity instruments	**284,162**	320,013	(11)
Derivative receivables	**59,677**	78,975	(24)
Securities	**290,827**	348,004	(16)
Loans	**837,299**	757,336	11
Allowance for loan losses	**(13,555)**	(14,185)	(4)
Loans, net of allowance for loan losses	**823,744**	743,151	11
Accrued interest and accounts receivable	**46,605**	70,079	(33)
Premises and equipment	**14,362**	15,133	(5)
Goodwill	**47,325**	47,647	(1)
Mortgage servicing rights	**6,608**	7,436	(11)
Other intangible assets	**1,015**	1,192	(15)
Other assets	**105,572**	102,098	3
Total assets	**$ 2,351,698**	$ 2,572,274	(9)%
Liabilities			
Deposits	**$ 1,279,715**	$ 1,363,427	(6)
Federal funds purchased and securities loaned or sold under repurchase agreements	**152,678**	192,101	(21)
Commercial paper	**15,562**	66,344	(77)
Other borrowed funds	**21,105**	30,222	(30)
Trading liabilities:			
Debt and equity instruments	**74,107**	81,699	(9)
Derivative payables	**52,790**	71,116	(26)
Accounts payable and other liabilities	**177,638**	206,939	(14)
Beneficial interests issued by consolidated variable interest entities ("VIEs")	**41,879**	52,320	(20)
Long-term debt	**288,651**	276,379	4
Total liabilities	**2,104,125**	2,340,547	(10)
Stockholders' equity	**247,573**	231,727	7
Total liabilities and stockholders' equity	**$ 2,351,698**	$ 2,572,274	(9)%

The following is a discussion of the significant changes between December 31, 2015 and 2014.

Cash and due from banks and deposits with banks
The Firm's excess cash is placed with various central banks, predominantly Federal Reserve Banks. The net decrease in cash and due from banks and deposits with banks was primarily due to the Firm's actions to reduce wholesale non-operating deposits.

Securities borrowed
The decrease was largely driven by a lower demand for securities to cover short positions in CIB. For additional information, refer to Notes 3 and 13.

Trading assets–debt and equity instruments
The decrease was predominantly related to client-driven market-making activities in CIB, which resulted in lower levels of both debt and equity instruments. For additional information, refer to Note 3.

Trading assets and liabilities–derivative receivables and payables
The decrease in both receivables and payables was predominantly driven by declines in interest rate derivatives, commodity derivatives, foreign exchange derivatives and equity derivatives due to market movements, maturities and settlements related to client-driven market-making activities in CIB. For additional information, refer to Derivative contracts on pages 127–129, and Notes 3 and 6.

Securities
The decrease was largely due to paydowns and sales of non-U.S. residential mortgage-backed securities, non-U.S. government debt securities, and non-U.S. corporate debt securities reflecting a shift to loans. For additional information related to securities, refer to the discussion in the Corporate segment on pages 105–106, and Notes 3 and 12.

Loans and allowance for loan losses
The increase in loans was attributable to an increase in consumer loans due to higher originations and retention of prime mortgages in Mortgage Banking ("MB") and AM, and higher originations of auto loans in CCB, as well as an increase in wholesale loans driven by increased client activity, notably in commercial real estate.

The decrease in the allowance for loan losses was attributable to a lower consumer, excluding credit card, allowance for loan losses, driven by a reduction in the residential real estate portfolio allowance as a result of continued improvement in home prices and delinquencies and increased granularity in the impairment estimates. The wholesale allowance increased, largely reflecting the impact of downgrades in the Oil & Gas portfolio. For a more detailed discussion of loans and the allowance for loan losses, refer to Credit Risk Management on pages 112–132, and Notes 3, 4, 14 and 15.

Accrued interest and accounts receivable
The decrease was due to lower customer receivables related to client activity in CIB, and a reduction in unsettled securities transactions.

Mortgage servicing rights
For information on MSRs, see Note 17.

Other assets
Other assets increased modestly as a result of an increase in income tax receivables, largely associated with the resolution of certain tax audits, and higher auto operating lease assets from growth in business volume. These factors were mostly offset by lower private equity investments driven by the sale of a portion of the Private Equity business and other portfolio sales.

Deposits
The decrease was attributable to lower wholesale deposits, partially offset by higher consumer deposits. The decrease in wholesale deposits reflected the impact of the Firm's actions to reduce non-operating deposits. The increase in consumer deposits reflected continuing positive growth from strong customer retention. For more information, refer to the Liquidity Risk Management discussion on pages 159–164; and Notes 3 and 19.

Federal funds purchased and securities loaned or sold under repurchase agreements
The decrease was due to a decline in secured financing of trading assets-debt and equity instruments in CIB and of investment securities in the Chief Investment Office ("CIO"). For additional information on the Firm's Liquidity Risk Management, see pages 159–164.

Commercial paper
The decrease was associated with the discontinuation of a cash management product that offered customers the option of sweeping their deposits into commercial paper ("customer sweeps"), and lower issuances in the wholesale markets, consistent with Treasury's short-term funding plans. For additional information, see Liquidity Risk Management on pages 159–164.

Accounts payable and other liabilities
The decrease was due to lower brokerage customer payables related to client activity in CIB.

Beneficial interests issued by consolidated VIEs
The decrease was predominantly due to a reduction in commercial paper issued by conduits to third parties and to maturities of certain municipal bond vehicles in CIB, as well as net maturities of credit card securitizations. For further information on Firm-sponsored VIEs and loan securitization trusts, see Off-Balance Sheet Arrangements on pages 77–78 and Note 16.

Long-term debt
The increase was due to net issuances, consistent with Treasury's long-term funding plans. For additional information on the Firm's long-term debt activities, see Liquidity Risk Management on pages 159–164 and Note 21.

Stockholders' equity
The increase was due to net income and preferred stock issuances, partially offset by the declaration of cash dividends on common and preferred stock, and repurchases of common stock. For additional information on accumulated other comprehensive income/(loss) ("AOCI"), see Note 25; for the Firm's capital actions, see Capital Management on page 157 and Notes 22, 23 and 25.

In the normal course of business, the Firm enters into various contractual obligations that may require future cash payments. Certain obligations are recognized on-balance sheet, while others are off-balance sheet under accounting principles generally accepted in the U.S ("U.S. GAAP"). The Firm is involved with several types of off-balance sheet arrangements, including through nonconsolidated special-purpose entities ("SPEs"), which are a type of VIE, and through lending-related financial instruments (e.g., commitments and guarantees).

Special-purpose entities

The most common type of VIE is an SPE. SPEs are commonly used in securitization transactions in order to isolate certain assets and distribute the cash flows from those assets to investors. SPEs are an important part of the financial markets, including the mortgage- and asset-backed securities and commercial paper markets, as they provide market liquidity by facilitating investors' access to specific portfolios of assets and risks. SPEs may be organized as trusts, partnerships or corporations and are typically established for a single, discrete purpose. SPEs are not typically operating entities and usually have a limited life and no employees. 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.

JPMorgan Chase uses SPEs as a source of liquidity for itself and its clients by securitizing financial assets, and by creating investment products for clients. The Firm is involved with SPEs through multi-seller conduits, investor intermediation activities, and loan securitizations. See Note 16 for further information on these types of SPEs.

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

The Firm has no commitments to issue its own stock to support any SPE transaction, and its policies require that transactions with SPEs be conducted at arm's length and reflect market pricing. Consistent with this policy, no JPMorgan Chase employee is permitted to invest in SPEs with which the Firm is involved where such investment would violate the Firm's Code of Conduct. These rules prohibit employees from self-dealing and acting on behalf of the Firm in transactions with which they or their family have any significant financial interest.

Implications of a credit rating downgrade to JPMorgan Chase Bank, N.A.

For certain liquidity commitments to SPEs, JPMorgan Chase Bank, N.A. could be required to provide funding if its short-term credit rating were downgraded below specific levels, primarily "P-1", "A-1" and "F1" for Moody's Investors Service ("Moody's"), Standard & Poor's and Fitch, respectively. These liquidity commitments support the issuance of asset-backed commercial paper by Firm-administered consolidated SPEs. In the event of a short-term credit rating downgrade, JPMorgan Chase Bank, N.A., absent other solutions, would be required to provide funding to the SPE if the commercial paper could not be reissued as it matured. The aggregate amounts of commercial paper outstanding held by third parties as of December 31, 2015 and 2014, was $8.7 billion and $12.1 billion, respectively. The aggregate amounts of commercial paper issued by these SPEs could increase in future periods should clients of the Firm-administered consolidated SPEs draw down on certain unfunded lending-related commitments. These unfunded lending-related commitments were $5.6 billion and $9.9 billion at December 31, 2015 and 2014, respectively. The Firm could facilitate the refinancing of some of the clients' assets in order to reduce the funding obligation. For further information, see the discussion of Firm-administered multi-seller conduits in Note 16.

The Firm also acts as liquidity provider for certain municipal bond vehicles. The Firm's obligation to perform as liquidity provider is conditional and is limited by certain termination events, which include bankruptcy or failure to pay by the municipal bond issuer and any credit enhancement provider, an event of taxability on the municipal bonds or the immediate downgrade of the municipal bond to below investment grade. See Note 16 for additional information.

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

JPMorgan Chase 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 the Firm should the counterparty draw upon the commitment or the Firm 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 expire without being drawn or a default occurring. As a result, the total contractual amount of these instruments is not, in the Firm's view, representative of its actual future credit exposure or funding requirements. For further discussion of lending-related financial instruments, guarantees and other commitments, and the Firm's accounting for them, see Lending-related commitments on page 127 and Note 29. For a discussion of liabilities associated with loan sales and securitization-related indemnifications, see Note 29.

Contractual cash obligations

The accompanying table summarizes, by remaining maturity, JPMorgan Chase's significant contractual cash obligations at December 31, 2015. The contractual cash obligations included in the table below reflect the minimum contractual obligation under legally enforceable contracts with terms that are both fixed and determinable. Excluded from the below table are certain liabilities with variable cash flows and/or no obligation to return a stated amount of principal at maturity.

The carrying amount of on-balance sheet obligations on the Consolidated balance sheets may differ from the minimum contractual amount of the obligations reported below. For a discussion of mortgage repurchase liabilities and other obligations, see Note 29.

Contractual cash obligations

By remaining maturity at December 31, (in millions)	2015					2014
	2016	2017-2018	2019-2020	After 2020	**Total**	Total
On-balance sheet obligations						
Deposits[a]	**$ 1,262,865**	**$ 5,166**	**$ 3,553**	**$ 4,555**	**$ 1,276,139**	$ 1,361,597
Federal funds purchased and securities loaned or sold under repurchase agreements	**151,433**	**811**	**3**	**491**	**152,738**	192,128
Commercial paper	**15,562**	**–**	**–**	**–**	**15,562**	66,344
Other borrowed funds[a]	**11,331**	**–**	**–**	**–**	**11,331**	15,734
Beneficial interests issued by consolidated VIEs	**16,389**	**18,480**	**3,093**	**3,130**	**41,092**	50,200
Long-term debt[a]	**45,972**	**82,293**	**59,669**	**92,272**	**280,206**	262,888
Other[b]	**3,659**	**1,201**	**1,024**	**2,488**	**8,372**	8,355
Total on-balance sheet obligations	**1,507,211**	**107,951**	**67,342**	**102,936**	**1,785,440**	1,957,246
Off-balance sheet obligations						
Unsettled reverse repurchase and securities borrowing agreements[c]	**42,482**	**–**	**–**	**–**	**42,482**	40,993
Contractual interest payments[d]	**8,787**	**9,461**	**6,693**	**21,208**	**46,149**	48,038
Operating leases[e]	**1,668**	**3,094**	**2,388**	**4,679**	**11,829**	12,441
Equity investment commitments[f]	**387**	**–**	**75**	**459**	**921**	1,108
Contractual purchases and capital expenditures	**1,266**	**886**	**276**	**170**	**2,598**	2,832
Obligations under affinity and co-brand programs	**98**	**275**	**80**	**43**	**496**	2,303
Total off-balance sheet obligations	**54,688**	**13,716**	**9,512**	**26,559**	**104,475**	107,715
Total contractual cash obligations	**$ 1,561,899**	**$ 121,667**	**$ 76,854**	**$ 129,495**	**$ 1,889,915**	$ 2,064,961

(a) Excludes structured notes on which the Firm is not obligated to return a stated amount of principal at the maturity of the notes, but is obligated to return an amount based on the performance of the structured notes.
(b) Primarily includes dividends declared on preferred and common stock, deferred annuity contracts, pension and postretirement obligations and insurance liabilities.
(c) For further information, refer to unsettled reverse repurchase and securities borrowing agreements in Note 29.
(d) Includes accrued interest and future contractual interest obligations. Excludes interest related to structured notes for which the Firm's payment obligation is based on the performance of certain benchmarks.
(e) Includes noncancelable operating leases for premises and equipment used primarily for banking purposes and for energy-related tolling service agreements. Excludes the benefit of noncancelable sublease rentals of $1.9 billion and $2.2 billion at December 31, 2015 and 2014, respectively.
(f) At December 31, 2015 and 2014, included unfunded commitments of $50 million and $147 million, respectively, to third-party private equity funds, and $871 million and $961 million of unfunded commitments, respectively, to other equity investments.

(in millions)	Year ended December 31, 2015	2014	2013
Net cash provided by/(used in)			
Operating activities	**$ 73,466**	$ 36,593	$ 107,953
Investing activities	**106,980**	(165,636)	(150,501)
Financing activities	**(187,511)**	118,228	28,324
Effect of exchange rate changes on cash	**(276)**	(1,125)	272
Net decrease in cash and due from banks	**$ (7,341)**	$ (11,940)	$ (13,952)

Operating activities

JPMorgan Chase's operating assets and liabilities support the Firm's lending and capital markets activities, including the origination or purchase of loans initially designated as held-for-sale. Operating assets and liabilities can vary significantly in the normal course of business due to the amount and timing of cash flows, which are affected by client-driven and risk management activities and market conditions. The Firm believes cash flows from operations, available cash balances and its capacity to generate cash through secured and unsecured sources are sufficient to meet the Firm's operating liquidity needs.

Cash provided by operating activities in 2015 resulted from a decrease in trading assets, predominantly due to client-driven market-making activities in CIB, resulting in lower levels of debt and equity securities. Additionally, cash was provided by a decrease in accounts receivable due to lower client receivables and higher net proceeds from loan sales activities. This was partially offset by cash used due to a decrease in accounts payable and other liabilities, resulting from lower brokerage customer payables related to client activity in CIB. In 2014 cash provided reflected higher net proceeds from loan securitizations and sales activities when compared with 2013. In 2013 cash provided reflected a decrease in trading assets from client-driven market-making activities in CIB, resulting in lower levels of debt securities, partially offset by net cash used in connection with loans originated or purchased for sale. Cash provided by operating activities for all periods also reflected net income after noncash operating adjustments.

Investing activities

The Firm's investing activities predominantly include loans originated to be held for investment, the investment securities portfolio and other short-term interest-earning assets. Cash provided by investing activities during 2015 predominantly resulted from lower deposits with banks due to the Firm's actions to reduce wholesale non-operating deposits; and net proceeds from paydowns, maturities, sales and purchases of investment securities. Partially offsetting these net inflows was cash used for net originations of consumer and wholesale loans, a portion of which reflected a shift from investment securities. Cash used in investing activities during 2014 and 2013 resulted from increases in deposits with banks, attributable to higher levels of excess funds; cash was also used for growth in wholesale and consumer loans in 2014, while in 2013 cash used reflected growth only in wholesale loans. Partially offsetting these cash outflows in 2014 and 2013 was a net decline in securities purchased under resale agreements due to a shift in the deployment of the Firm's excess cash by Treasury, and a net decline in consumer loans in 2013 resulting from paydowns and portfolio runoff or liquidation of delinquent loans. Investing activities in 2014 and 2013 also reflected net proceeds from paydowns, maturities, sales and purchases of investment securities.

Financing activities

The Firm's financing activities includes cash related to customer deposits, long-term debt, and preferred and common stock. Cash used in financing activities in 2015 resulted from lower wholesale deposits partially offset by higher consumer deposits. Additionally, in 2015 cash outflows were attributable to lower levels of commercial paper due to the discontinuation of a cash management product that offered customers the option of sweeping their deposits into commercial paper; lower commercial paper issuances in the wholesale markets; and a decrease in securities loaned or sold under repurchase agreements due to a decline in secured financings. Cash provided by financing activities in 2014 and 2013 predominantly resulted from higher consumer and wholesale deposits; partially offset in 2013 by a decrease in securities loaned or sold under repurchase agreements, predominantly due to changes in the mix of the Firm's funding sources. For all periods, cash was provided by net proceeds from long-term borrowings and issuances of preferred stock; and cash was used for repurchases of common stock and cash dividends on common and preferred stock.

* * *

For a further discussion of the activities affecting the Firm's cash flows, see Consolidated Balance Sheets Analysis on pages 75–76, Capital Management on pages 149–158, and Liquidity Risk Management on pages 159–164.

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

The Firm prepares its Consolidated Financial Statements using U.S. GAAP; these financial statements appear on pages 176–180. That presentation, which is referred to as "reported" basis, provides the reader with an understanding of the Firm's results that can be tracked consistently from year to year and enables a comparison of the Firm's performance with other companies' U.S. GAAP financial statements.

In addition to analyzing the Firm's results on a reported basis, management reviews the Firm's results, including the overhead ratio, and the results of the lines of business, on a "managed" basis, which are non-GAAP financial measures. The Firm's definition of managed basis starts with the reported U.S. GAAP results and includes certain reclassifications to present total net revenue for the Firm (and each of the reportable business segments) on an FTE basis. Accordingly, revenue from investments that receive tax credits and tax-exempt securities is presented in the managed results on a basis comparable to taxable investments and securities. This non-GAAP financial measure allows management to assess the comparability of revenue arising from both taxable and tax-exempt sources. The corresponding income tax impact related to tax-exempt items is recorded within income tax expense. These adjustments have no impact on net income as reported by the Firm as a whole or by the lines of business.

Effective January 1, 2015, the Firm adopted new accounting guidance for investments in affordable housing projects that qualify for the low-income housing tax credit, which impacted the CIB. As a result of the adoption of this new guidance, the Firm made an accounting policy election to amortize the initial cost of qualifying investments in proportion to the tax credits and other benefits received, and to present the amortization as a component of income tax expense; previously such amounts were predominantly presented in other income. The guidance was required to be applied retrospectively and, accordingly, certain prior period amounts have been revised to conform with the current period presentation. The adoption of the guidance did not materially change the Firm's results of operations on a managed basis as the Firm had previously presented and will continue to present the revenue from such investments on an FTE basis in other income for the purposes of managed basis reporting.

Management also uses certain non-GAAP financial measures at the business-segment level, because it believes these other non-GAAP financial measures provide information to investors about the underlying operational performance and trends of the particular business segment and, therefore, facilitate a comparison of the business segment with the performance of its competitors. Non-GAAP financial measures used by the Firm may not be comparable to similarly named non-GAAP financial measures used by other companies.

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

	2015			2014			2013		
Year ended December 31, (in millions, except ratios)	Reported Results	Fully taxable-equivalent adjustments[a]	Managed basis	Reported Results	Fully taxable-equivalent adjustments[a]	Managed basis	Reported Results	Fully taxable-equivalent adjustments[a]	Managed basis
Other income	**$ 3,032**	**$ 1,980**	**$ 5,012**	$ 3,013	$ 1,788	$ 4,801	$4,608	$1,660	$6,268
Total noninterest revenue	**50,033**	**1,980**	**52,013**	51,478	1,788	53,266	54,048	1,660	55,708
Net interest income	**43,510**	**1,110**	**44,620**	43,634	985	44,619	43,319	697	44,016
Total net revenue	**93,543**	**3,090**	**96,633**	95,112	2,773	97,885	97,367	2,357	99,724
Pre-provision profit	**34,529**	**3,090**	**37,619**	33,838	2,773	36,611	26,900	2,357	29,257
Income before income tax expense	**30,702**	**3,090**	**33,792**	30,699	2,773	33,472	26,675	2,357	29,032
Income tax expense	**6,260**	**3,090**	**9,350**	8,954	2,773	11,727	8,789	2,357	11,146
Overhead ratio	**63%**	**NM**	**61%**	64%	NM	63%	72%	NM	71%

(a) Predominantly recognized in CIB and CB business segments and Corporate

Calculation of certain U.S. GAAP and non-GAAP financial measures

Certain U.S. GAAP and non-GAAP financial measures are calculated as follows:

Book value per share ("BVPS")
Common stockholders' equity at period-end / Common shares at period-end

Overhead ratio
Total noninterest expense / Total net revenue

Return on assets ("ROA")
Reported net income / Total average assets

Return on common equity ("ROE")
Net income* / Average common stockholders' equity

Return on tangible common equity ("ROTCE")
Net income* / Average tangible common equity

Tangible book value per share ("TBVPS")
Tangible common equity at period-end / Common shares at period-end

* Represents net income applicable to common equity

Tangible common equity ("TCE"), ROTCE and TBVPS are each non-GAAP financial measures. TCE represents the Firm's common stockholders' equity (i.e., total stockholders' equity less preferred stock) less goodwill and identifiable intangible assets (other than MSRs), net of related deferred tax liabilities. ROTCE measures the Firm's earnings as a percentage of average TCE. TBVPS represents the Firm's TCE at period-end divided by common shares at period-end. TCE, ROTCE, and TBVPS are meaningful to the Firm, as well as investors and analysts, in assessing the Firm's use of equity.

Additionally, certain credit and capital metrics and ratios disclosed by the Firm are non-GAAP measures. For additional information on these non-GAAP measures, see Credit Risk Management on pages 112–132, and Capital Management on pages 149–158.

Tangible common equity

	Period-end		Average		
			Year ended December 31,		
(in millions, except per share and ratio data)	**Dec 31, 2015**	Dec 31, 2014	**2015**	2014	2013
Common stockholders' equity	**$ 221,505**	$ 211,664	**$ 215,690**	$ 207,400	$ 196,409
Less: Goodwill	**47,325**	47,647	**47,445**	48,029	48,102
Less: Certain identifiable intangible assets	**1,015**	1,192	**1,092**	1,378	1,950
Add: Deferred tax liabilities[(a)]	**3,148**	2,853	**2,964**	2,950	2,885
Tangible common equity	**$ 176,313**	$ 165,678	**$ 170,117**	$ 160,943	$ 149,242
Return on tangible common equity	**NA**	NA	**13%**	13%	11%
Tangible book value per share	**$ 48.13**	$ 44.60	**NA**	NA	N/A

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

Net interest income excluding markets-based activities (formerly core net interest income)

In addition to reviewing net interest income on a managed basis, management also reviews net interest income excluding CIB's markets-based activities to assess the performance of the Firm's lending, investing (including asset-liability management) and deposit-raising activities. The data presented below are non-GAAP financial measures due to the exclusion of CIB's markets-based net interest income and related assets. Management believes this exclusion provides investors and analysts with another measure by which to analyze the non-markets-related business trends of the Firm and provides a comparable measure to other financial institutions that are primarily focused on lending, investing and deposit-raising activities.

Net interest income excluding CIB markets-based activities data

Year ended December 31, (in millions, except rates)	2015	2014	2013
Net interest income – managed basis[a][b]	**$ 44,620**	$ 44,619	$ 44,016
Less: Markets-based net interest income	**4,813**	5,552	5,492
Net interest income excluding markets[a]	**$ 39,807**	$ 39,067	$ 38,524
Average interest-earning assets	**$2,088,242**	$2,049,093	$1,970,231
Less: Average markets-based interest-earning assets	**493,225**	510,261	504,218
Average interest-earning assets excluding markets	**$1,595,017**	$1,538,832	$1,466,013
Net interest yield on average interest-earning assets – managed basis	**2.14%**	2.18%	2.23%
Net interest yield on average markets-based interest-earning assets	**0.97**	1.09	1.09
Net interest yield on average interest-earning assets excluding markets	**2.50%**	2.54%	2.63%

(a) Interest includes the effect of related hedging derivatives. Taxable-equivalent amounts are used where applicable.

(b) For a reconciliation of net interest income on a reported and managed basis, see reconciliation from the Firm's reported U.S. GAAP results to managed basis on page 80.

2015 compared with 2014

Net interest income excluding CIB's markets-based activities increased by $740 million in 2015 to $39.8 billion, and average interest-earning assets increased by $56.2 billion to $1.6 trillion. The increase in net interest income in 2015 predominantly reflected higher average loan balances and lower interest expense on deposits. The increase was partially offset by lower loan yields and lower investment securities net interest income. The increase in average interest-earning assets largely reflected the impact of higher average deposits with banks. These changes in net interest income and interest-earning assets resulted in the net interest yield decreasing by 4 basis points to 2.50% for 2015.

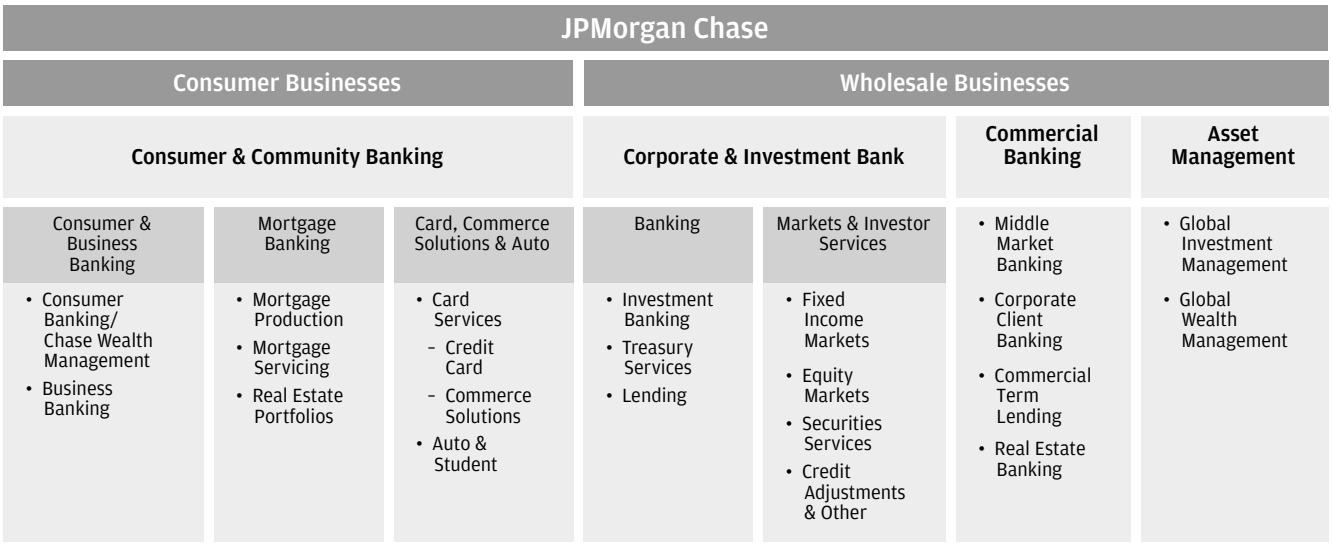
2014 compared with 2013

Net interest income excluding CIB's markets-based activities increased by $543 million in 2014 to $39.1 billion, and average interest-earning assets increased by $72.8 billion to $1.5 trillion. The increase in net interest income in 2014 predominantly reflected higher yields on investment securities, the impact of lower interest expense, and higher average loan balances. The increase was partially offset by lower yields on loans due to the run-off of higher-yielding loans and new originations of lower-yielding loans. The increase in average interest-earning assets largely reflected the impact of higher average balance of deposits with banks. These changes in net interest income and interest-earning assets resulted in the net interest yield decreasing by 9 basis points to 2.54% for 2014.

BUSINESS SEGMENT RESULTS

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

The business segments are determined based on the products and services provided, or the type of customer served, and they reflect the manner in which financial information is currently evaluated by management. Results of these lines of business are presented on a managed basis. For a definition of managed basis, see Explanation and Reconciliation of the Firm's use of Non-GAAP Financial Measures, on pages 80–82.



Description of business segment reporting methodology
Results of the business segments are intended to reflect each segment as if it were essentially a stand-alone business. The management reporting process that derives business segment results allocates income and expense using market-based methodologies. The Firm periodically assesses the assumptions, methodologies and reporting classifications used for segment reporting, and further refinements may be implemented in future periods.

Revenue sharing
When business segments join efforts to sell products and services to the Firm's clients, the participating business segments agree to share revenue from those transactions. The segment results reflect these revenue-sharing agreements.

Funds transfer pricing
Funds transfer pricing is used to allocate interest income and expense to each business and transfer the primary interest rate risk exposures to the Treasury group within Corporate. The allocation process is unique to each business segment and considers the interest rate risk, liquidity risk and regulatory requirements of that segment as if it were operating independently, and as compared with its stand-alone peers. This process is overseen by senior management and reviewed by the Firm's Asset-Liability Committee ("ALCO").

Preferred stock dividend allocation
As part of its funds transfer pricing process, the Firm allocates substantially all of the cost of its outstanding preferred stock to its reportable business segments, while retaining the balance of the cost in Corporate. This cost is included as a reduction to net income applicable to common equity in order to be consistent with the presentation of firmwide results.

Business segment capital allocation changes
On at least an annual basis, the Firm assesses the level of capital required for each line of business as well as the assumptions and methodologies used to allocate capital to its lines of business and updates the equity allocations to its lines of business as refinements are implemented. Each business segment is allocated capital by taking into consideration stand-alone peer comparisons, regulatory capital requirements (as estimated under Basel III Advanced Fully Phased-In rules) and economic risk. The amount of capital assigned to each business is referred to as equity. For further information about line of business capital, see Line of business equity on page 156.

Expense allocation
Where business segments use services provided by corporate support units, or another business segment, the costs of those services are allocated to the respective business segments. The expense is generally allocated based on actual cost and use of services provided. In contrast, certain other costs related to corporate support

units, or to certain technology and operations, are not allocated to the business segments and are retained in Corporate. Expense retained in Corporate generally includes parent company costs that would not be incurred if the segments were stand-alone businesses; adjustments to align corporate support units; and other items not aligned with a particular business segment.

Segment Results – Managed Basis

The following tables summarize the business segment results for the periods indicated.

Year ended December 31,	Total net revenue			Total noninterest expense			Pre-provision profit/(loss)		
(in millions)	**2015**	2014	2013	**2015**	2014	2013	**2015**	2014	2013
Consumer & Community Banking	**$ 43,820**	$ 44,368	$ 46,537	**$ 24,909**	$ 25,609	$ 27,842	**$ 18,911**	$ 18,759	$ 18,695
Corporate & Investment Bank	**33,542**	34,595	34,712	**21,361**	23,273	21,744	**12,181**	11,322	12,968
Commercial Banking	**6,885**	6,882	7,092	**2,881**	2,695	2,610	**4,004**	4,187	4,482
Asset Management	**12,119**	12,028	11,405	**8,886**	8,538	8,016	**3,233**	3,490	3,389
Corporate	**267**	12	(22)	**977**	1,159	10,255	**(710)**	(1,147)	(10,277)
Total	**$ 96,633**	$ 97,885	$ 99,724	**$ 59,014**	$ 61,274	$ 70,467	**$ 37,619**	$ 36,611	$ 29,257

Year ended December 31,	Provision for credit losses			Net income/(loss)			Return on equity		
(in millions, except ratios)	**2015**	2014	2013	**2015**	2014	2013	**2015**	2014	2013
Consumer & Community Banking	**$ 3,059**	$ 3,520	$ 335	**$ 9,789**	$ 9,185	$ 11,061	**18%**	18%	23%
Corporate & Investment Bank	**332**	(161)	(232)	**8,090**	6,908	8,850	**12**	10	15
Commercial Banking	**442**	(189)	85	**2,191**	2,635	2,648	**15**	18	19
Asset Management	**4**	4	65	**1,935**	2,153	2,083	**21**	23	23
Corporate	**(10)**	(35)	(28)	**2,437**	864	(6,756)	**NM**	NM	NM
Total	**$ 3,827**	$ 3,139	$ 225	**$ 24,442**	$ 21,745	$ 17,886	**11%**	10%	9%

Consumer & Community Banking serves consumers and businesses through personal service at bank branches and through ATMs, online, mobile and telephone banking. CCB is organized into Consumer & Business Banking (including Consumer Banking/Chase Wealth Management and Business Banking), Mortgage Banking (including Mortgage Production, Mortgage Servicing and Real Estate Portfolios) and Card, Commerce Solutions & Auto ("Card"). Consumer & Business Banking offers deposit and investment products and services to consumers, and lending, deposit, and cash management and payment solutions to small businesses. Mortgage Banking includes mortgage origination and servicing activities, as well as portfolios consisting of residential mortgages and home equity loans. Card issues credit cards to consumers and small businesses, offers payment processing services to merchants, and provides auto loans and leases and student loan services.

Selected income statement data

Year ended December 31, (in millions, except ratios)	2015	2014	2013
Revenue			
Lending- and deposit-related fees	**$ 3,137**	$ 3,039	$ 2,983
Asset management, administration and commissions	**2,172**	2,096	2,116
Mortgage fees and related income	**2,511**	3,560	5,195
Card income	**5,491**	5,779	5,785
All other income	**2,281**	1,463	1,473
Noninterest revenue	**15,592**	15,937	17,552
Net interest income	**28,228**	28,431	28,985
Total net revenue	**43,820**	44,368	46,537
Provision for credit losses	**3,059**	3,520	335
Noninterest expense			
Compensation expense	**9,770**	10,538	11,686
Noncompensation expense	**15,139**	15,071	16,156
Total noninterest expense	**24,909**	25,609	27,842
Income before income tax expense	**15,852**	15,239	18,360
Income tax expense	**6,063**	6,054	7,299
Net income	**$ 9,789**	$ 9,185	$ 11,061
Financial ratios			
Return on common equity	**18%**	18%	23%
Overhead ratio	**57**	58	60

Note: In the discussion and the tables which follow, CCB presents certain financial measures which exclude the impact of PCI loans; these are non-GAAP financial measures. For additional information, see Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures.

2015 compared with 2014

Consumer & Community Banking net income was $9.8 billion, an increase of 7% compared with the prior year, driven by lower noninterest expense and lower provision for credit losses, largely offset by lower net revenue.

Net revenue was $43.8 billion, a decrease of 1% compared with the prior year. Net interest income was $28.2 billion, down 1%, driven by spread compression, predominantly offset by higher deposit and loan balances, and improved credit quality including lower reversals of interest and fees due to lower net charge-offs in Credit Card. Noninterest revenue was $15.6 billion, down 2%, driven by lower mortgage fees and related income, predominantly offset by higher auto lease and card sales volume, and the impact of non-core portfolio exits in Card in the prior year.

The provision for credit losses was $3.1 billion, a decrease of 13% from the prior year, reflecting lower net charge-offs, partially offset by a lower reduction in the allowance for loan losses. The current-year provision reflected a $1.0 billion reduction in the allowance for loan losses, compared with a $1.3 billion reduction in the prior year.

Noninterest expense was $24.9 billion, a decrease of 3% from the prior year, driven by lower Mortgage Banking expense.

2014 compared with 2013

Consumer & Community Banking net income was $9.2 billion, a decrease of 17% compared with the prior year, due to higher provision for credit losses and lower net revenue, partially offset by lower noninterest expense.

Net revenue was $44.4 billion, a decrease of 5% compared with the prior year. Net interest income was $28.4 billion, down 2%, driven by spread compression and lower mortgage warehouse balances, largely offset by higher deposit balances in Consumer & Business Banking and higher loan balances in Credit Card. Noninterest revenue was $16.0 billion, a decrease of 9%, driven by lower mortgage fees and related income.

The provision for credit losses was $3.5 billion, compared with $335 million in the prior year. The current-year provision reflected a $1.3 billion reduction in the allowance for loan losses and total net charge-offs of $4.8 billion. The prior-year provision reflected a $5.5 billion reduction in the allowance for loan losses and total net charge-offs of $5.8 billion.

Noninterest expense was $25.6 billion, a decrease of 8% from the prior year, driven by lower Mortgage Banking expense.

Selected metrics

As of or for the year ended December 31,

(in millions, except headcount)	2015	2014	2013
Selected balance sheet data (period-end)			
Total assets	**$ 502,652**	$ 455,634	$ 452,929
Trading assets - loans[a]	**5,953**	8,423	6,832
Loans:			
Loans retained	**445,316**	396,288	393,351
Loans held-for-sale[b]	**542**	3,416	940
Total loans	**445,858**	399,704	394,291
Core loans	**341,881**	273,494	246,751
Deposits	**557,645**	502,520	464,412
Equity[c]	**51,000**	51,000	46,000
Selected balance sheet data (average)			
Total assets	**$ 472,972**	$ 447,750	$ 456,468
Trading assets - loans[a]	**7,484**	8,040	15,603
Loans:			
Loans retained	**414,518**	389,967	392,797
Loans held-for-sale [d]	**2,062**	917	209
Total loans	**$ 416,580**	$ 390,884	$ 393,006
Core loans	**301,700**	253,803	234,135
Deposits	**530,938**	486,919	453,304
Equity[c]	**51,000**	51,000	46,000
Headcount	**127,094**	137,186	151,333

(a) Predominantly consists of prime mortgages originated with the intent to sell that are accounted for at fair value.
(b) Included period-end credit card loans held-for-sale of $76 million, $3.0 billion and $326 million at December 31, 2015, 2014 and 2013, respectively. These amounts were excluded when calculating delinquency rates and the allowance for loan losses to period-end loans.
(c) Equity is allocated to the sub-business segments with $5.0 billion and $3.0 billion of capital in 2015 and 2014, respectively, held at the CCB level related to legacy mortgage servicing matters.
(d) Included average credit card loans held-for-sale of $1.6 billion, $509 million and $95 million for the years ended December 31, 2015, 2014 and 2013, respectively. These amounts are excluded when calculating the net charge-off rate.

Selected metrics

As of or for the year ended December 31,

(in millions, except ratios and where otherwise noted)	2015	2014	2013
Credit data and quality statistics			
Net charge-offs[a]	**$ 4,084**	$ 4,773	$ 5,826
Nonaccrual loans[b][c]	**5,313**	6,401	7,455
Nonperforming assets[b][c]	**5,635**	6,872	8,109
Allowance for loan losses[a]	**9,165**	10,404	12,201
Net charge-off rate[a]	**0.99%**	1.22%	1.48%
Net charge-off rate, excluding PCI loans	**1.10**	1.40	1.73
Allowance for loan losses to period-end loans retained	**2.06**	2.63	3.10
Allowance for loan losses to period-end loans retained, excluding PCI loans[d]	**1.59**	2.02	2.36
Allowance for loan losses to nonaccrual loans retained, excluding credit card[b][d]	**57**	58	57
Nonaccrual loans to total period-end loans, excluding credit card	**1.69**	2.38	2.80
Nonaccrual loans to total period-end loans, excluding credit card and PCI loans[b]	**1.94**	2.88	3.49
Business metrics			
Number of:			
Branches	**5,413**	5,602	5,630
ATMs	**17,777**	18,056	20,290
Active online customers (in thousands)[e]	**39,242**	36,396	33,742
Active mobile customers (in thousands)	**22,810**	19,084	15,629
CCB households (in millions)	**57.8**	57.2	56.7

(a) Net charge-offs and the net charge-off rates excluded $208 million, $533 million, and $53 million of write-offs in the PCI portfolio for the years ended December 31, 2015, 2014 and 2013, respectively. These write-offs decreased the allowance for loan losses for PCI loans. For further information on PCI write-offs, see Allowance for Credit Losses on pages 130–132.
(b) Excludes PCI loans. The Firm is recognizing interest income on each pool of PCI loans as all of the pools are performing.
(c) At December 31, 2015, 2014 and 2013, nonperforming assets excluded: (1) mortgage loans insured by U.S. government agencies of $6.3 billion, $7.8 billion and $8.4 billion, respectively, that are 90 or more days past due; (2) student loans insured by U.S. government agencies under the Federal Family Education Loan Program ("FFELP") of $290 million, $367 million and $428 million respectively, that are 90 or more days past due; (3) real estate owned ("REO") insured by U.S. government agencies of $343 million, $462 million and $2.0 billion, respectively. These amounts have been excluded based upon the government guarantee.
(d) The allowance for loan losses for PCI loans of $2.7 billion, $3.3 billion and $4.2 billion at December 31, 2015, 2014, and 2013, respectively; these amounts were also excluded from the applicable ratios.
(e) Users of all internet browsers and mobile platforms (mobile smartphone, tablet and SMS) who have logged in within the past 90 days.

Consumer & Business Banking

Selected income statement data

As of or for the year ended December 31, (in millions, except ratios)	2015	2014	2013
Revenue			
Lending- and deposit-related fees	**$ 3,112**	$ 3,010	$ 2,942
Asset management, administration and commissions	**2,097**	2,025	1,815
Card income	**1,721**	1,605	1,495
All other income	**611**	534	492
Noninterest revenue	**7,541**	7,174	6,744
Net interest income	**10,442**	11,052	10,668
Total net revenue	**17,983**	18,226	17,412
Provision for credit losses	**254**	305	347
Noninterest expense	**11,916**	12,149	12,162
Income before income tax expense	**5,813**	5,772	4,903
Net income	**$ 3,581**	$ 3,443	$ 2,943
Return on common equity	**30%**	31%	26%
Overhead ratio	**66**	67	70
Equity (period-end and average)	**$ 11,500**	$ 11,000	$ 11,000

Selected metrics

As of or for the year ended December 31, (in millions, except ratios)	2015	2014	2013
Business metrics			
Business banking origination volume	**$ 6,775**	$ 6,599	$ 5,148
Period-end loans	**22,730**	21,200	19,416
Period-end deposits:			
Checking	**246,448**	213,049	187,182
Savings	**279,897**	255,148	238,223
Time and other	**18,063**	21,349	26,022
Total period-end deposits	**544,408**	489,546	451,427
Average loans	**21,894**	20,152	18,844
Average deposits:			
Checking	**226,713**	198,996	176,005
Savings	**269,057**	249,281	229,341
Time and other	**19,452**	24,057	29,227
Total average deposits	**515,222**	472,334	434,573
Deposit margin	**1.90%**	2.21%	2.32%
Average assets	**$ 41,457**	$ 38,298	$ 37,174
Credit data and quality statistics			
Net charge-offs	**$ 253**	$ 305	$ 337
Net charge-off rate	**1.16%**	1.51%	1.79%
Allowance for loan losses	**$ 703**	$ 703	$ 707
Nonperforming assets	**270**	286	391
Retail branch business metrics			
Net new investment assets	**$ 11,852**	$ 16,088	$ 16,006
Client investment assets	**218,551**	213,459	188,840
% managed accounts	**41%**	39%	36%
Number of:			
Chase Private Client locations	**2,764**	2,514	2,149
Personal bankers	**18,041**	21,039	23,588
Sales specialists	**3,539**	3,994	5,740
Client advisors	**2,931**	3,090	3,044
Chase Private Clients	**441,369**	325,653	215,888
Accounts (in thousands)[(a)]	**31,342**	30,481	29,437

(a) Includes checking accounts and Chase Liquid® cards.

2015 compared with 2014

Consumer & Business Banking net income was $3.6 billion, an increase of 4% compared with the prior year.

Net revenue was $18.0 billion, down 1% compared with the prior year. Net interest income was $10.4 billion, down 6% due to deposit spread compression, largely offset by higher deposit balances. Noninterest revenue was $7.5 billion, up 5%, driven by higher debit card revenue, reflecting an increase in transaction volume, higher deposit-related fees as a result of an increase in customer accounts and a gain on the sale of a branch.

Noninterest expense was $11.9 billion, a decrease of 2% from the prior year, driven by lower headcount-related expense due to branch efficiencies, partially offset by higher legal expense.

2014 compared with 2013

Consumer & Business Banking net income was $3.4 billion, an increase of 17%, compared with the prior year, due to higher net revenue.

Net revenue was $18.2 billion, up 5% compared with the prior year. Net interest income was $11.1 billion, up 4% compared with the prior year, driven by higher deposit balances, largely offset by deposit spread compression. Noninterest revenue was $7.2 billion, up 6%, driven by higher investment revenue, reflecting an increase in client investment assets, higher debit card revenue, reflecting an increase in transaction volume, and higher deposit-related fees as a result of an increase in customer accounts.

Mortgage Banking

Selected Financial statement data

As of or for the year ended December 31, (in millions, except ratios)	2015	2014	2013
Revenue			
Mortgage fees and related income[a]	**$ 2,511**	$ 3,560	$ 5,195
All other income	**(65)**	37	283
Noninterest revenue	**2,446**	3,597	5,478
Net interest income	**4,371**	4,229	4,758
Total net revenue	**6,817**	7,826	10,236
Provision for credit losses	**(690)**	(217)	(2,681)
Noninterest expense	**4,607**	5,284	7,602
Income before income tax expense	**2,900**	2,759	5,315
Net income	**$ 1,778**	$ 1,668	$ 3,211
Return on common equity	**10%**	9%	16%
Overhead ratio	**68**	68	74
Equity (period-end and average)	**$ 16,000**	$ 18,000	$ 19,500

(a) For further information on mortgage fees and related income, see Note 17.

2015 compared with 2014

Mortgage Banking net income was $1.8 billion, an increase of 7% from the prior year, driven by lower noninterest expense and a higher benefit from the provision for credit losses, predominantly offset by lower net revenue.

Net revenue was $6.8 billion, a decrease of 13% compared with the prior year. Net interest income was $4.4 billion, an increase of 3% from the prior year, due to higher loan balances resulting from originations of high-quality loans that have been retained, partially offset by spread compression. Noninterest revenue was $2.4 billion, a decrease of 32% from the prior year. This decrease was driven by lower servicing revenue, largely as a result of lower average third-party loans serviced and lower net production revenue, reflecting a lower repurchase benefit.

The provision for credit losses was a benefit of $690 million, compared to a benefit of $217 million in the prior year, reflecting a larger reduction in the allowance for loan losses and lower net charge-offs. The current-year provision reflected a $600 million reduction in the non credit-impaired allowance for loan losses and a $375 million reduction in the purchased credit-impaired allowance for loan losses; the prior-year provision included a $400 million reduction in the non credit-impaired allowance for loan losses and a $300 million reduction in the purchased credit-impaired allowance for loan losses. These reductions were due to continued improvement in home prices and delinquencies in both periods, as well as increased granularity in the impairment estimates in the current year.

Noninterest expense was $4.6 billion, a decrease of 13% from the prior year, reflecting lower headcount-related expense and lower professional fees.

2014 compared with 2013

Mortgage Banking net income was $1.7 billion, a decrease of 48%, from the prior year, driven by a lower benefit from the provision for credit losses and lower net revenue, partially offset by lower noninterest expense.

Net revenue was $7.8 billion, a decrease of 24%, compared with the prior year. Net interest income was $4.2 billion, a decrease of 11%, driven by spread compression and lower loan balances due to portfolio runoff and lower warehouse balances. Noninterest revenue was $3.6 billion, a decrease of 34%, driven by lower net production revenue, largely reflecting lower volumes, lower servicing revenue, largely as a result of lower average third-party loans serviced, and lower revenue from an exited non-core product, largely offset by higher MSR risk management income and lower MSR asset amortization expense as a result of lower MSR asset value. See Note 17 for further information regarding changes in value of the MSR asset and related hedges, and mortgage fees and related income.

The provision for credit losses was a benefit of $217 million, compared to a benefit of $2.7 billion in the prior year, reflecting a smaller reduction in the allowance for loan losses, partially offset by lower net charge-offs. The current-year provision reflected a $400 million reduction in the non credit-impaired allowance for loan losses and $300 million reduction in the purchased credit-impaired allowance for loan losses; the prior-year provision included a $2.3 billion reduction in the non credit-impaired allowance for loan losses and a $1.5 billion reduction in the purchased credit-impaired allowance for loan losses. These reductions were due to continued improvement in home prices and delinquencies.

Noninterest expense was $5.3 billion, a decrease of 30%, from the prior year, reflecting lower headcount-related expense, the absence of non-mortgage-backed securities ("MBS") related legal expense, lower expense on foreclosure-related matters, and lower FDIC-related expense.

Supplemental information

For the year ended December 31, (in millions)	2015	2014	2013
Net interest income:			
Mortgage Production and Mortgage Servicing	**$ 575**	$ 736	$ 887
Real Estate Portfolios	**3,796**	3,493	3,871
Total net interest income	**$ 4,371**	$ 4,229	$ 4,758
Noninterest expense:			
Mortgage Production	**$ 1,491**	$ 1,644	3,083
Mortgage Servicing	**2,041**	2,267	2,966
Real Estate Portfolios	**1,075**	1,373	1,553
Total noninterest expense	**$ 4,607**	$ 5,284	$ 7,602

Selected balance sheet data

As of or for the year ended December 31, (in millions)	2015	2014	2013
Trading assets – loans (period-end)[a]	**$ 5,953**	$ 8,423	$ 6,832
Trading assets – loans (average)[a]	**7,484**	8,040	15,603
Loans, excluding PCI loans			
Period-end loans owned			
Home equity	**43,745**	50,899	57,863
Prime mortgage, including option adjustable rate mortgages ("ARMs")	**134,361**	80,414	65,213
Subprime mortgage	**3,732**	5,083	7,104
Other	**398**	477	551
Total period-end loans owned	**182,236**	136,873	130,731
Average loans owned			
Home equity	**47,216**	54,410	62,369
Prime mortgage, including option ARMs	**107,723**	71,491	61,597
Subprime mortgage	**4,434**	6,257	7,687
Other	**436**	511	588
Total average loans owned	**159,809**	132,669	132,241
PCI loans			
Period-end loans owned			
Home equity	**14,989**	17,095	18,927
Prime mortgage	**8,893**	10,220	12,038
Subprime mortgage	**3,263**	3,673	4,175
Option ARMs	**13,853**	15,708	17,915
Total period-end loans owned	**40,998**	46,696	53,055
Average loans owned			
Home equity	**16,045**	18,030	19,950
Prime mortgage	**9,548**	11,257	12,909
Subprime mortgage	**3,442**	3,921	4,416
Option ARMs	**14,711**	16,794	19,236
Total average loans owned	**43,746**	50,002	56,511
Total Mortgage Banking			
Period-end loans owned			
Home equity	**58,734**	67,994	76,790
Prime mortgage, including option ARMs	**157,107**	106,342	95,166
Subprime mortgage	**6,995**	8,756	11,279
Other	**398**	477	551
Total period-end loans owned	**223,234**	183,569	183,786
Average loans owned			
Home equity	**63,261**	72,440	82,319
Prime mortgage, including option ARMs	**131,982**	99,542	93,742
Subprime mortgage	**7,876**	10,178	12,103
Other	**436**	511	588
Total average loans owned	**203,555**	182,671	188,752

(a) Predominantly consists of prime mortgages originated with the intent to sell that are accounted for at fair value.

Credit data and quality statistics

As of or for the year ended December 31, (in millions, except ratios)	2015	2014	2013
Net charge-offs/(recoveries), excluding PCI loans[a]			
Home equity	**$ 283**	$ 473	$ 966
Prime mortgage, including option ARMs	**48**	28	53
Subprime mortgage	**(53)**	(27)	90
Other	**7**	9	10
Total net charge-offs/ (recoveries), excluding PCI loans	**285**	483	1,119
Net charge-off/(recovery) rate, excluding PCI loans			
Home equity	**0.60%**	0.87%	1.55%
Prime mortgage, including option ARMs	**0.04**	0.04	0.09
Subprime mortgage	**(1.22)**	(0.43)	1.17
Other	**1.61**	1.76	1.70
Total net charge-off/ (recovery) rate, excluding PCI loans	**0.18**	0.37	0.85
Net charge-off/(recovery) rate – reported[a]			
Home equity	**0.45**	0.65	1.17
Prime mortgage, including option ARMs	**0.04**	0.03	0.06
Subprime mortgage	**(0.68)**	(0.27)	0.74
Other	**1.61**	1.76	1.70
Total net charge-off/ (recovery) rate – reported	**0.14**	0.27	0.59
30+ day delinquency rate, excluding PCI loans[b][c]	**1.57**	2.61	3.55
Allowance for loan losses, excluding PCI loans	**$ 1,588**	$ 2,188	$ 2,588
Allowance for PCI loans[a]	**2,742**	3,325	4,158
Allowance for loan losses	**4,330**	5,513	6,746
Nonperforming assets[d][e]	**4,971**	6,175	7,438
Allowance for loan losses to period-end loans retained	**1.94%**	3.01%	3.68%
Allowance for loan losses to period-end loans retained, excluding PCI loans	**0.87**	1.60	1.99

(a) Net charge-offs and the net charge-off rates excluded $208 million, $533 million and $53 million of write-offs in the PCI portfolio for the years ended December 31, 2015, 2014 and 2013, respectively. These write-offs decreased the allowance for loan losses for PCI loans. For further information on PCI write-offs, see Allowance for Credit Losses on pages 130–132.

(b) At December 31, 2015, 2014 and 2013, excluded mortgage loans insured by U.S. government agencies of $8.4 billion $9.7 billion and $9.6 billion, respectively, that are 30 or more days past due. These amounts have been excluded based upon the government guarantee. For further discussion, see Note 14 which summarizes loan delinquency information.

(c) The 30+ day delinquency rate for PCI loans was 11.21%, 13.33% and 15.31% at December 31, 2015, 2014 and 2013, respectively.

(d) At December 31, 2015, 2014 and 2013, nonperforming assets excluded: (1) mortgage loans insured by U.S. government agencies of $6.3 billion, $7.8 billion and $8.4 billion, respectively, that are 90 or more days past due and (2) REO insured by U.S. government agencies of $343 million, $462 million and $2.0 billion, respectively. These amounts have been excluded based upon the government guarantee.

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

Business metrics

As of or for the year ended December 31, (in billions, except ratios)	2015	2014	2013
Mortgage origination volume by channel			
Retail	**$ 36.1**	$ 29.5	$ 77.0
Correspondent	**70.3**	48.5	88.5
Total mortgage origination volume[a]	**106.4**	78.0	165.5
Total loans serviced (period-end)	**910.1**	948.8	1,017.2
Third-party mortgage loans serviced (period-end)	**674.0**	751.5	815.5
Third-party mortgage loans serviced (average)	**715.4**	784.6	837.3
MSR carrying value (period-end)	**6.6**	7.4	9.6
Ratio of MSR carrying value (period-end) to third-party mortgage loans serviced (period-end)	**0.98%**	0.98%	1.18%
Ratio of annualized loan servicing-related revenue to third-party mortgage loans serviced (average)	**0.35**	0.36	0.40
MSR revenue multiple[b]	**2.80x**	2.72x	2.95x

(a) Firmwide mortgage origination volume was $115.2 billion, $83.3 billion and $176.4. billion for the years ended December 31, 2015, 2014 and 2013, respectively.

(b) Represents the ratio of MSR carrying value (period-end) to third-party mortgage loans serviced (period-end) divided by the ratio of loan servicing-related revenue to third-party mortgage loans serviced (average).

Mortgage servicing-related matters

The financial crisis resulted in unprecedented levels of delinquencies and defaults of 1–4 family residential real estate loans. Such loans required varying degrees of loss mitigation activities. Foreclosure is usually a last resort, and accordingly, the Firm has made, and continues to make, significant efforts to help borrowers remain in their homes.

The Firm entered into various Consent Orders and settlements with federal and state governmental agencies and private parties related to mortgage servicing, origination, and residential mortgage-backed securities activities. The requirements of these Consent Orders and settlements vary, but in the aggregate, include cash compensatory payments (in addition to fines) and/or "borrower relief," which may include principal reduction, refinancing, short sale assistance, and other specified types of borrower relief. Other obligations required under certain Consent Orders and settlements, as well as under new regulatory requirements, include enhanced mortgage servicing and foreclosure standards and processes.

On June 11, 2015, the Firm signed the Second Amended Mortgage Banking Consent Order (the "Amended OCC Consent Order") with the Office of the Comptroller of the Currency ("OCC"), which focused on ten remaining open items from the original mortgage-servicing Consent Order entered into with the OCC in April 2011 and imposed certain business restrictions on the Firm's mortgage banking activities. The Firm completed its work on those items, and on January 4, 2016, the OCC terminated the Amended OCC Consent Order and lifted the mortgage business restrictions. The Firm remains under the mortgage-servicing Consent Order entered into with the Board of Governors of the Federal Reserve System ("Federal Reserve") on April 13, 2011, as amended on February 28, 2013 (the "Federal Reserve Consent Order"). The Audit Committee of the Board of Directors will provide governance and oversight of the Federal Reserve Consent Order in 2016.

The Federal Reserve Consent Order and certain other mortgage-related settlements are the subject of ongoing reporting to various regulators and independent overseers. The Firm's compliance with certain of these settlements is detailed in periodic reports published by the independent overseers. The Firm is committed to fulfilling all of these commitments with appropriate due diligence and oversight.

Card, Commerce Solutions & Auto

Selected income statement data

As of or for the year ended December 31, (in millions, except ratios)	2015	2014	2013
Revenue			
Card income	**$ 3,769**	$ 4,173	$ 4,289
All other income	**1,836**	993	1,041
Noninterest revenue	**5,605**	5,166	5,330
Net interest income	**13,415**	13,150	13,559
Total net revenue	**19,020**	18,316	18,889
Provision for credit losses	**3,495**	3,432	2,669
Noninterest expense[(a)]	**8,386**	8,176	8,078
Income before income tax expense	**7,139**	6,708	8,142
Net income	**$ 4,430**	$ 4,074	$ 4,907
Return on common equity	**23%**	21%	31%
Overhead ratio	**44**	45	43
Equity (period-end and average)	**$ 18,500**	$ 19,000	$ 15,500

Note: Chase Commerce Solutions, formerly known as Merchant Services, includes Chase Paymentech, ChaseNet and Chase Offers businesses.

(a) Included operating lease depreciation expense of $1.4 billion, $1.2 billion and $972 million for the years ended December 31, 2015, 2014 and 2013, respectively.

2015 compared with 2014

Card net income was $4.4 billion, an increase of 9% compared with the prior year, driven by higher net revenue, partially offset by higher noninterest expense.

Net revenue was $19.0 billion, an increase of 4% compared with the prior year. Net interest income was $13.4 billion, up 2% from the prior year, driven by higher loan balances and improved credit quality including lower reversals of interest and fees due to lower net charge-offs in Credit Card and a reduction in the reserve for uncollectible interest and fees, partially offset by spread compression. Noninterest revenue was $5.6 billion, up 8% compared with the prior year, driven by higher auto lease and card sales volumes, the impact of non-core portfolio exits in the prior year and a gain on the investment in Square, Inc. upon its initial public offering, largely offset by the impact of renegotiated co-brand partnership agreements and higher amortization of new account origination costs.

The provision for credit losses was $3.5 billion, an increase of 2% compared with the prior year, reflecting a lower reduction in the allowance for loan losses, predominantly offset by lower net charge-offs. The current-year provision reflected a $51 million reduction in the allowance for loan losses, primarily due to runoff in the student loan portfolio. The prior-year provision included a $554 million reduction in the allowance for loan losses, primarily related to a decrease in the asset-specific allowance resulting from increased granularity of the impairment estimates and lower balances related to credit card loans modified in troubled debt restructurings ("TDRs"), runoff in the student loan portfolio and lower estimated losses in auto loans.

Noninterest expense was $8.4 billion, up 3% from the prior year, driven by higher auto lease depreciation and higher marketing expense, partially offset by lower legal expense.

2014 compared with 2013

Card net income was $4.1 billion, a decrease of 17%, compared with the prior year, predominantly driven by higher provision for credit losses and lower net revenue.

Net revenue was $18.3 billion, down 3% compared with the prior year. Net interest income was $13.2 billion, a decrease of 3% from the prior year, primarily driven by spread compression in Credit Card and Auto, partially offset by higher average loan balances. Noninterest revenue was $5.2 billion, down 3% from the prior year. The decrease was primarily driven by higher amortization of new account origination costs and the impact of non-core portfolio exits, largely offset by higher auto lease income and net interchange income from higher sales volume.

The provision for credit losses was $3.4 billion, compared with $2.7 billion in the prior year. The current-year provision reflected lower net charge-offs and a $554 million reduction in the allowance for loan losses. The reduction in the allowance for loan losses was primarily related to a decrease in the asset-specific allowance resulting from increased granularity of the impairment estimates and lower balances related to credit card loans modified in TDRs, runoff in the student loan portfolio, and lower estimated losses in auto loans. The prior-year provision included a $1.7 billion reduction in the allowance for loan losses.

Noninterest expense was $8.2 billion, up 1% from the prior year, primarily driven by higher auto lease depreciation expense and higher investment in controls, predominantly offset by lower intangible amortization and lower remediation costs.

Selected metrics

As of or for the year ended December 31, (in millions, except ratios and where otherwise noted)	2015	2014	2013
Selected balance sheet data (period-end)			
Loans:			
Credit Card	**$ 131,463**	$ 131,048	$ 127,791
Auto	**60,255**	54,536	52,757
Student	**8,176**	9,351	10,541
Total loans	**$ 199,894**	$ 194,935	$ 191,089
Auto operating lease assets	**9,182**	6,690	5,512
Selected balance sheet data (average)			
Total assets	**$ 206,765**	$ 202,609	$ 198,265
Loans:			
Credit Card	**125,881**	125,113	123,613
Auto	**56,487**	52,961	50,748
Student	**8,763**	9,987	11,049
Total loans	**$ 191,131**	$ 188,061	$ 185,410
Auto operating lease assets	**7,807**	6,106	5,102
Business metrics			
Credit Card, excluding Commercial Card			
Sales volume (in billions)	**$ 495.9**	$ 465.6	$ 419.5
New accounts opened	**8.7**	8.8	7.3
Open accounts	**59.3**	64.6	65.3
Accounts with sales activity	**33.8**	34.0	32.3
% of accounts acquired online	**67%**	56%	55%
Commerce Solutions			
Merchant processing volume (in billions)	**$ 949.3**	$ 847.9	$ 750.1
Total transactions (in billions)	**42.0**	38.1	35.6
Auto			
Loan and lease origination volume (in billions)	**32.4**	27.5	26.1

The following are brief descriptions of selected business metrics within Card, Commerce Solutions & Auto.

Card Services includes the Credit Card and Commerce Solutions businesses.

Commerce Solutions is a business that primarily processes transactions for merchants.

Total transactions – Number of transactions and authorizations processed for merchants.

Sales volume – Dollar amount of cardmember purchases, net of returns.

Open accounts – Cardmember accounts with charging privileges.

Accounts with sales activity – represents the number of cardmember accounts with a sales transaction within the past month.

Auto origination volume – Dollar amount of auto loans and leases originated.

Selected metrics

As of or for the year ended December 31, (in millions, except ratios)	2015	2014	2013
Credit data and quality statistics			
Net charge-offs:			
Credit Card	**$ 3,122**	$ 3,429	$ 3,879
Auto	**214**	181	158
Student	**210**	375	333
Total net charge-offs	**$ 3,546**	$ 3,985	$ 4,370
Net charge-off rate:			
Credit Card[a]	**2.51%**	2.75%	3.14%
Auto	**0.38**	0.34	0.31
Student	**2.40**	3.75	3.01
Total net charge-off rate	**1.87**	2.12	2.36
Delinquency rates			
30+ day delinquency rate:			
Credit Card[b]	**1.43**	1.44	1.67
Auto	**1.35**	1.23	1.15
Student[c]	**1.81**	2.35	2.56
Total 30+ day delinquency rate	**1.42**	1.42	1.58
90+ day delinquency rate - Credit Card[b]	**0.72**	0.70	0.80
Nonperforming assets[d]	**$ 394**	$ 411	$ 280
Allowance for loan losses:			
Credit Card	**$ 3,434**	$ 3,439	$ 3,795
Auto & Student	**698**	749	953
Total allowance for loan losses	**$ 4,132**	$ 4,188	$ 4,748
Allowance for loan losses to period-end loans:			
Credit Card[b]	**2.61%**	2.69%	2.98%
Auto & Student	**1.02**	1.17	1.51
Total allowance for loan losses to period-end loans	**2.07**	2.18	2.49

(a) Average credit card loans included loans held-for-sale of $1.6 billion, $509 million and $95 million for the years ended December 31, 2015, 2014 and 2013, respectively. These amounts are excluded when calculating the net charge-off rate.

(b) Period-end credit card loans included loans held-for-sale of $76 million, $3.0 billion and $326 million at December 31, 2015, 2014 and 2013, respectively. These amounts were excluded when calculating delinquency rates and the allowance for loan losses to period-end loans.

(c) Excluded student loans insured by U.S. government agencies under the FFELP of $526 million, $654 million and $737 million at December 31, 2015, 2014 and 2013, respectively, that are 30 or more days past due. These amounts have been excluded based upon the government guarantee.

(d) Nonperforming assets excluded student loans insured by U.S. government agencies under the FFELP of $290 million, $367 million and $428 million at December 31, 2015, 2014 and 2013, respectively, that are 90 or more days past due. These amounts have been excluded from nonaccrual loans based upon the government guarantee.

Card Services supplemental information

Year ended December 31, (in millions, except ratios)	2015	2014	2013
Revenue			
Noninterest revenue	**$ 3,673**	$ 3,593	$ 3,977
Net interest income	**11,845**	11,462	11,638
Total net revenue	**15,518**	15,055	15,615
Provision for credit losses	**3,122**	3,079	2,179
Noninterest expense	**6,065**	6,152	6,245
Income before income tax expense	**6,331**	5,824	7,191
Net income	**$ 3,930**	$ 3,547	$ 4,340
Percentage of average loans:			
Noninterest revenue	**2.92%**	2.87%	3.22%
Net interest income	**9.41**	9.16	9.41
Total net revenue	**12.33**	12.03	12.63

CORPORATE & INVESTMENT BANK

The Corporate & Investment Bank, which consists of Banking and Markets & Investor Services, offers a broad suite of investment banking, market-making, prime brokerage, and treasury and securities products and services to a global client base of corporations, investors, financial institutions, government and municipal entities. Banking offers a full range of investment banking products and services in all major capital markets, including advising on corporate strategy and structure, capital-raising in equity and debt markets, as well as loan origination and syndication. Banking also includes Treasury Services, which provides transaction services, consisting of cash management and liquidity solutions. Markets & Investor Services is a global market-maker in cash securities and derivative instruments, and also offers sophisticated risk management solutions, prime brokerage, and research. Markets & Investor Services also includes Securities Services, a leading global custodian which provides custody, fund accounting and administration, and securities lending products principally for asset managers, insurance companies and public and private investment funds.

Selected income statement data

Year ended December 31, (in millions)	2015	2014	2013
Revenue			
Investment banking fees	**$ 6,736**	$ 6,570	$ 6,331
Principal transactions[a]	**9,905**	8,947	9,289
Lending- and deposit-related fees	**1,573**	1,742	1,884
Asset management, administration and commissions	**4,467**	4,687	4,713
All other income	**1,012**	1,474	1,519
Noninterest revenue	**23,693**	23,420	23,736
Net interest income	**9,849**	11,175	10,976
Total net revenue[b]	**33,542**	34,595	34,712
Provision for credit losses	**332**	(161)	(232)
Noninterest expense			
Compensation expense	**9,973**	10,449	10,835
Noncompensation expense	**11,388**	12,824	10,909
Total noninterest expense	**21,361**	23,273	21,744
Income before income tax expense	**11,849**	11,483	13,200
Income tax expense	**3,759**	4,575	4,350
Net income	**$ 8,090**	$ 6,908	$ 8,850

(a) Included FVA and debt valuation adjustment ("DVA") on OTC derivatives and structured notes, measured at fair value. FVA and DVA gains/(losses) were $687 million and $468 million and $(1.9) billion for the years ended December 31, 2015, 2014 and 2013, respectively.

(b) Included tax-equivalent adjustments, predominantly due to income tax credits related to alternative energy investments; income tax credits and amortization of the cost of investments in affordable housing projects; as well as tax-exempt income from municipal bond investments of $1.7 billion, $1.6 billion and $1.5 billion for the years ended December 31, 2015, 2014 and 2013, respectively.

Selected income statement data

Year ended December 31, (in millions, except ratios)	2015	2014	2013
Financial ratios			
Return on common equity	**12%**	10%	15%
Overhead ratio	**64**	67	63
Compensation expense as percentage of total net revenue	**30**	30	31
Revenue by business			
Investment banking[a]	**$ 6,376**	$ 6,122	$ 5,922
Treasury Services[b]	**3,631**	3,728	3,693
Lending[b]	**1,461**	1,547	2,147
Total Banking[a]	**11,468**	11,397	11,762
Fixed Income Markets[a]	**12,592**	14,075	15,976
Equity Markets[a]	**5,694**	5,044	4,994
Securities Services	**3,777**	4,351	4,100
Credit Adjustments & Other[c]	**11**	(272)	(2,120)
Total Markets & Investor Service[a]	**22,074**	23,198	22,950
Total net revenue	**$ 33,542**	$ 34,595	$ 34,712

(a) Effective in 2015, Investment banking revenue (formerly Investment banking fees) incorporates all revenue associated with investment banking activities, and is reported net of investment banking revenue shared with other lines of business; previously such shared revenue had been reported in Fixed Income Markets and Equity Markets. Prior period amounts have been revised to conform with the current period presentation.

(b) Effective in 2015, Trade Finance revenue was transferred from Treasury Services to Lending. Prior period amounts have been revised to conform with the current period presentation.

(c) Consists primarily of credit valuation adjustments ("CVA") managed by the credit portfolio group, and FVA and DVA on OTC derivatives and structured notes. Results are presented net of associated hedging activities and net of CVA and FVA amounts allocated to Fixed Income Markets and Equity Markets.

2015 compared with 2014

Net income was $8.1 billion, up 17% compared with $6.9 billion in the prior year. The increase primarily reflected lower income tax expenses largely reflecting the release in 2015 of U.S. deferred taxes associated with the restructuring of certain non-U.S. entities and lower noninterest expense partially offset by lower net revenue, both driven by business simplification, as well as higher provisions for credit losses.

Banking revenue was $11.5 billion, up 1% versus the prior year. Investment banking revenue was $6.4 billion, up 4% from the prior year, driven by higher advisory fees, partially offset by lower debt and equity underwriting fees. Advisory fees were $2.1 billion, up 31% on a greater share of fees for completed transactions as well as growth in the industry-wide fee levels. The Firm maintained its #2 ranking for M&A, according to Dealogic. Debt underwriting fees were $3.2 billion, down 6%, primarily related to lower bond underwriting and loan syndication fees on lower industry-wide fee levels. The Firm ranked #1 globally in fee share across high grade, high yield and loan products. Equity underwriting fees were $1.4 billion, down 9%, driven by lower industry-wide fee levels. The Firm was #1 in equity underwriting fees in 2015, up from #3 in 2014. Treasury Services revenue was $3.6 billion, down 3% compared with the prior year, primarily driven by lower net interest income. Lending revenue was $1.5 billion, down 6% from the prior year, driven by lower trade finance revenue on lower loan balances.

Markets & Investor Services revenue was $22.1 billion, down 5% from the prior year. Fixed Income Markets revenue was $12.6 billion, down 11% from the prior year, primarily driven by the impact of business simplification as well as lower revenue in credit-related products on an industry-wide slowdown, partially offset by increased revenue in Rates and Currencies & Emerging Markets on higher client activity. The lower Fixed Income revenue also reflected higher interest costs on higher long-term debt. Equity Markets revenue was $5.7 billion, up 13%, primarily driven by higher equity derivatives revenue across all regions. Securities Services revenue was $3.8 billion, down 13% from the prior year, driven by lower fees as well as lower net interest income.

The provision for credit losses was $332 million, compared to a benefit of $161 million in the prior year, reflecting a higher allowance for credit losses, including the impact of select downgrades within the Oil & Gas portfolio.

Noninterest expense was $21.4 billion, down 8% compared with the prior year, driven by the impact of business simplification as well as lower legal and compensation expenses.

2014 compared with 2013

Net income was $6.9 billion, down 22% compared with $8.9 billion in the prior year. These results primarily reflected higher noninterest expense. Net revenue was $34.6 billion, flat compared with the prior year.

Banking revenue was $11.4 billion, down 3% from the prior year. Investment banking revenue was $6.1 billion, up 3% from the prior year. The increase was driven by higher advisory and equity underwriting fees, partially offset by lower debt underwriting fees. Advisory fees were $1.6 billion, up 24% on stronger share of fees for completed transactions as well as growth in the industry-wide fee levels, according to Dealogic. Equity underwriting fees were $1.6 billion, up 5%, driven by higher industry-wide issuance. Debt underwriting fees were $3.4 billion, down 4%, primarily related to lower loan syndication fees on lower industry-wide fee levels and lower bond underwriting fees. The Firm also ranked #1 globally in fees and volumes share across high grade, high yield and loan products. The Firm maintained its #2 ranking for M&A, and improved share of fees both globally and in the U.S. compared with the prior year. Treasury Services revenue was $3.7 billion, up 1% compared with the prior year, primarily driven by higher net interest income from increased deposits, largely offset by business simplification initiatives. Lending revenue was $1.5 billion, down from $2.1 billion in the prior year, driven by losses, compared with gains in the prior periods, on securities received from restructured loans, as well as lower net interest income and lower trade finance revenue.

Markets & Investor Services revenue was $23.2 billion, up 1% from the prior year. Fixed Income Markets revenue was $14.1 billion, down 12% from the prior year, driven by lower revenues in Fixed Income primarily from credit-related and rates products as well as the impact of business simplification. Equity Markets revenue was $5.0 billion, up 1% as higher prime services revenue was partially offset by lower equity derivatives revenue. Securities Services revenue was $4.4 billion, up 6% from the prior year, primarily driven by higher net interest income on increased deposits and higher fees and commissions. Credit Adjustments & Other revenue was a loss of $272 million, driven by net CVA losses partially offset by gains, net of hedges, related to FVA/DVA. The prior year was a loss of $2.1 billion (including the FVA implementation loss of $1.5 billion and DVA losses of $452 million).

Noninterest expense was $23.3 billion, up 7% compared with the prior year as a result of higher legal expense and investment in controls. This was partially offset by lower performance-based compensation expense as well as the impact of business simplification.

Selected metrics

As of or for the year ended December 31, (in millions, except headcount)	2015	2014	2013
Selected balance sheet data (period-end)			
Assets	**$ 748,691**	$ 861,466	$ 843,248
Loans:			
Loans retained[a]	**106,908**	96,409	95,627
Loans held-for-sale and loans at fair value	**3,698**	5,567	11,913
Total loans	**110,606**	101,976	107,540
Core Loans	**110,084**	100,772	101,376
Equity	**62,000**	61,000	56,500
Selected balance sheet data (average)			
Assets	**$ 824,208**	$ 854,712	$ 859,071
Trading assets-debt and equity instruments	**302,514**	317,535	321,585
Trading assets-derivative receivables	**67,263**	64,833	70,353
Loans:			
Loans retained[a]	**98,331**	95,764	104,864
Loans held-for-sale and loans at fair value	**4,572**	7,599	5,158
Total loans	**$ 102,903**	$ 103,363	$ 110,022
Core Loans	**99,231**	102,604	108,199
Equity	**62,000**	61,000	56,500
Headcount[b]	**49,067**	50,965	52,082

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

(b) Effective in 2015, certain technology staff were transferred from CIB to CB; previously-reported headcount has been revised to conform with the current period presentation. As the related expense for these staff is not material, prior period expenses have not been revised. Prior to 2015, compensation expense related to this headcount was recorded in the CIB, with an allocation to CB (reported in noncompensation expense); commencing with 2015, such expense is recorded as compensation expense in CB and accordingly total noninterest expense related to this headcount in both CB and CIB remains unchanged.

Selected metrics

As of or for the year ended December 31, (in millions, except ratios)	2015	2014	2013
Credit data and quality statistics			
Net charge-offs/ (recoveries)	**$ (19)**	$ (12)	$ (78)
Nonperforming assets:			
Nonaccrual loans:			
Nonaccrual loans retained[a]	**428**	110	163
Nonaccrual loans held-for-sale and loans at fair value	**10**	11	180
Total nonaccrual loans	**438**	121	343
Derivative receivables	**204**	275	415
Assets acquired in loan satisfactions	**62**	67	80
Total nonperforming assets	**704**	463	838
Allowance for credit losses:			
Allowance for loan losses	**1,258**	1,034	1,096
Allowance for lending-related commitments	**569**	439	525
Total allowance for credit losses	**1,827**	1,473	1,621
Net charge-off/(recovery) rate	**(0.02)%**	(0.01)%	0.07%
Allowance for loan losses to period-end loans retained	**1.18**	1.07	1.15
Allowance for loan losses to period-end loans retained, excluding trade finance and conduits[b]	**1.88**	1.82	2.02
Allowance for loan losses to nonaccrual loans retained[a]	**294**	940	672
Nonaccrual loans to total period-end loans	**0.40**	0.12	0.32

(a) Allowance for loan losses of $177 million, $18 million and $51 million were held against these nonaccrual loans at December 31, 2015, 2014 and 2013, respectively.

(b) Management uses allowance for loan losses to period-end loans retained, excluding trade finance and conduits, a non-GAAP financial measure, to provide a more meaningful assessment of CIB's allowance coverage ratio.

Business metrics

	Year ended December 31,		
(in millions)	2015	2014	2013
Advisory	**$ 2,133**	$ 1,627	$ 1,315
Equity underwriting	**1,434**	1,571	1,499
Debt underwriting	**3,169**	3,372	3,517
Total investment banking fees	**$ 6,736**	$ 6,570	$ 6,331

League table results – wallet share

Year ended December 31,	2015 Fee Share	2015 Rankings	2014 Fee Share	2014 Rankings	2013 Fee Share	2013 Rankings
Based on fees[a]						
Debt, equity and equity-related						
Global	**7.7%**	**#1**	7.6%	#1	8.3%	#1
U.S.	**11.6**	**1**	10.7	1	11.4	1
Long-term debt[b]						
Global	**8.3**	**1**	8.0	1	8.2	1
U.S.	**11.9**	**1**	11.7	1	11.5	2
Equity and equity-related						
Global[c]	**7.0**	**1**	7.1	3	8.4	2
U.S.	**11.1**	**1**	9.6	3	11.2	2
M&A[d]						
Global	**8.5**	**2**	8.0	2	7.5	2
U.S.	**10.0**	**2**	9.7	2	8.7	2
Loan syndications						
Global	**7.6**	**1**	9.3	1	9.9	1
U.S.	**10.7**	**2**	13.1	1	13.8	1
Global Investment Banking fees [a][e]	**7.9%**	**#1**	8.0%	#1	8.5%	#1

League table results – volumes

Year ended December 31,	2015 Market Share	2015 Rankings	2014 Market Share	2014 Rankings	2013 Market Share	2013 Rankings
Based on volume[f]						
Debt, equity and equity-related						
Global	**6.8%**	**#1**	6.8%	#1	7.3%	#1
U.S.	**11.3**	**1**	11.8	1	11.9	1
Long-term debt[b]						
Global	**6.8**	**1**	6.7	1	7.2	1
U.S.	**10.8**	**1**	11.3	1	11.8	1
Equity and equity-related						
Global[c]	**7.2**	**3**	7.5	3	8.2	2
U.S.	**12.4**	**1**	11.0	2	12.1	2
M&A announced[d]						
Global	**30.1**	**3**	20.5	2	24.1	2
U.S.	**36.7**	**2**	25.2	3	36.9	1
Loan syndications						
Global	**10.5**	**1**	12.3	1	11.6	1
U.S.	**16.8**	**#1**	19.0	#1	17.8	#1

(a) Source: Dealogic. Reflects the ranking of revenue wallet and market share.
(b) Long-term debt rankings include investment-grade, high-yield, supranationals, sovereigns, agencies, covered bonds, asset-backed securities ("ABS") and MBS; and exclude money market, short-term debt, and U.S. municipal securities.
(c) Global equity and equity-related rankings include rights offerings and Chinese A-Shares.
(d) M&A and Announced M&A rankings reflect the removal of any withdrawn transactions. U.S. M&A revenue wallet represents wallet from client parents based in the U.S. U.S. announced M&A volumes represents any U.S. involvement ranking.
(e) Global investment banking fees per Dealogic exclude money market, short-term debt and shelf deals.
(f) Source: Dealogic. Reflects transaction volume and market share. Global announced M&A is based on transaction value at announcement; because of joint M&A assignments, M&A market share of all participants will add up to more than 100%. All other transaction volume-based rankings are based on proceeds, with full credit to each book manager/equal if joint.

Business metrics

As of or for the year ended December 31, (in millions, except where otherwise noted)	2015	2014	2013
Market risk-related revenue – trading loss days[a]	**9**	9	0
Assets under custody ("AUC") by asset class (period-end) in billions:			
Fixed Income	**$ 12,042**	$ 12,328	$ 11,903
Equity	**6,194**	6,524	6,913
Other[b]	**1,707**	1,697	1,669
Total AUC	**$ 19,943**	$ 20,549	$ 20,485
Client deposits and other third party liabilities (average)[c]	**$ 395,297**	$ 417,369	$ 383,667
Trade finance loans (period-end)	**19,255**	25,713	30,752

(a) Market risk-related revenue is defined as the change in value of: principal transactions revenue; trading-related net interest income; brokerage commissions, underwriting fees or other revenue; and revenue from syndicated lending facilities that the Firm intends to distribute; gains and losses from DVA and FVA are excluded. Market risk-related revenue–trading loss days represent the number of days for which the CIB posted losses under this measure. The loss days determined under this measure differ from the loss days that are determined based on the disclosure of market risk-related gains and losses for the Firm in the value-at-risk ("VaR") back-testing discussion on pages 135–137.
(b) Consists of mutual funds, unit investment trusts, currencies, annuities, insurance contracts, options and other contracts.
(c) Client deposits and other third party liabilities pertain to the Treasury Services and Securities Services businesses.

International metrics

Year ended December 31, (in millions)	2015	2014	2013
Total net revenue[a]			
Europe/Middle East/Africa	**$ 10,894**	$ 11,598	$ 10,689
Asia/Pacific	**4,901**	4,698	4,736
Latin America/Caribbean	**1,096**	1,179	1,340
Total international net revenue	**16,891**	17,475	16,765
North America	**16,651**	17,120	17,947
Total net revenue	**$ 33,542**	$ 34,595	$ 34,712
Loans (period-end)[a]			
Europe/Middle East/Africa	**$ 24,622**	$ 27,155	$ 29,392
Asia/Pacific	**17,108**	19,992	22,151
Latin America/Caribbean	**8,609**	8,950	8,362
Total international loans	**50,339**	56,097	59,905
North America	**56,569**	40,312	35,722
Total loans	**$ 106,908**	$ 96,409	$ 95,627
Client deposits and other third-party liabilities (average)[a]			
Europe/Middle East/Africa	**$ 141,062**	$ 152,712	$ 143,807
Asia/Pacific	**67,111**	66,933	54,428
Latin America/Caribbean	**23,070**	22,360	15,301
Total international	**$ 231,243**	$ 242,005	$ 213,536
North America	**164,054**	175,364	170,131
Total client deposits and other third-party liabilities	**$ 395,297**	$ 417,369	$ 383,667
AUC (period-end) (in billions)[a]			
North America	**$ 12,034**	$ 11,987	$ 11,299
All other regions	**7,909**	8,562	9,186
Total AUC	**$ 19,943**	$ 20,549	$ 20,485

(a) Total net revenue is based predominantly on the domicile of the client or location of the trading desk, as applicable. Loans outstanding (excluding loans held-for-sale and loans at fair value), client deposits and other third-party liabilities, and AUC are based predominantly on the domicile of the client.

Commercial Banking delivers extensive industry knowledge, local expertise and dedicated service to U.S. and U.S. multinational clients, including corporations, municipalities, financial institutions and nonprofit entities with annual revenue generally ranging from $20 million to $2 billion. In addition, CB provides financing to real estate investors and owners. Partnering with the Firm's other businesses, CB provides comprehensive financial solutions, including lending, treasury services, investment banking and asset management to meet its clients' domestic and international financial needs.

Selected income statement data

Year ended December 31, (in millions)	2015	2014	2013
Revenue			
Lending- and deposit-related fees	**$ 944**	$ 978	$ 1,033
Asset management, administration and commissions	**88**	92	116
All other income[a]	**1,333**	1,279	1,149
Noninterest revenue	**2,365**	2,349	2,298
Net interest income	**4,520**	4,533	4,794
Total net revenue[b]	**6,885**	6,882	7,092
Provision for credit losses	**442**	(189)	85
Noninterest expense			
Compensation expense	**1,238**	1,203	1,115
Noncompensation expense	**1,643**	1,492	1,495
Total noninterest expense	**2,881**	2,695	2,610
Income before income tax expense	**3,562**	4,376	4,397
Income tax expense	**1,371**	1,741	1,749
Net income	**$ 2,191**	$ 2,635	$ 2,648

(a) Includes revenue from investment banking products and commercial card transactions.

(b) Total net revenue included tax-equivalent adjustments from income tax credits related to equity investments in designated community development entities that provide loans to qualified businesses in low-income communities, as well as tax-exempt income from municipal bond activities of $493 million, $462 million and $407 million for the years ended December 31, 2015, 2014 and 2013, respectively.

2015 compared with 2014

Net income was $2.2 billion, a decrease of 17% compared with the prior year, driven by a higher provision for credit losses and higher noninterest expense.

Net revenue was $6.9 billion, flat compared with the prior year. Net interest income was $4.5 billion, flat compared with the prior year, with interest income from higher loan balances offset by spread compression. Noninterest revenue was $2.4 billion, flat compared with the prior year, with higher investment banking revenue offset by lower lending-related fees.

Noninterest expense was $2.9 billion, an increase of 7% compared with the prior year, reflecting investment in controls.

The provision for credit losses was $442 million, reflecting an increase in the allowance for credit losses for Oil & Gas exposure and other select downgrades. The prior year was a benefit of $189 million.

2014 compared with 2013

Net income was $2.6 billion, flat compared with the prior year, reflecting lower net revenue and higher noninterest expense, predominantly offset by a lower provision for credit losses.

Net revenue was $6.9 billion, a decrease of 3% compared with the prior year. Net interest income was $4.5 billion, a decrease of 5%, reflecting spread compression, the absence of proceeds received in the prior year from a lending-related workout, and lower purchase discounts recognized on loan repayments, partially offset by higher loan balances. Noninterest revenue was $2.3 billion, up 2%, reflecting higher investment banking revenue, largely offset by business simplification and lower lending fees.

Noninterest expense was $2.7 billion, an increase of 3% from the prior year, largely reflecting investments in controls.

CB product revenue consists of the following:

Lending includes a variety of financing alternatives, which are primarily provided on a secured basis; collateral includes receivables, inventory, equipment, real estate or other assets. Products include term loans, revolving lines of credit, bridge financing, asset-based structures, leases, and standby letters of credit.

Treasury services includes revenue from a broad range of products and services that enable CB clients to manage payments and receipts, as well as invest and manage funds.

Investment banking includes revenue from a range of products providing CB clients with sophisticated capital-raising alternatives, as well as balance sheet and risk management tools through advisory, equity underwriting, and loan syndications. Revenue from Fixed Income and Equity Markets products used by CB clients is also included. Investment banking revenue, gross, represents total revenue related to investment banking products sold to CB clients.

Other product revenue primarily includes tax-equivalent adjustments generated from Community Development Banking activities and certain income derived from principal transactions.

CB is divided into four primary client segments: Middle Market Banking, Corporate Client Banking, Commercial Term Lending, and Real Estate Banking.

Middle Market Banking covers corporate, municipal and nonprofit clients, with annual revenue generally ranging between $20 million and $500 million.

Corporate Client Banking covers clients with annual revenue generally ranging between $500 million and $2 billion and focuses on clients that have broader investment banking needs.

Commercial Term Lending primarily provides term financing to real estate investors/owners for multifamily properties as well as office, retail and industrial properties.

Real Estate Banking provides full-service banking to investors and developers of institutional-grade real estate investment properties.

Other primarily includes lending and investment-related activities within the Community Development Banking business.

Selected metrics

Year ended December 31, (in millions, except ratios)	2015	2014	2013
Revenue by product			
Lending[a]	**$ 3,429**	$ 3,358	$ 3,730
Treasury services[a]	**2,581**	2,681	2,649
Investment banking	**730**	684	575
Other[a]	**145**	159	138
Total Commercial Banking net revenue	**$ 6,885**	$ 6,882	$ 7,092
Investment banking revenue, gross	**$ 2,179**	$ 1,986	$ 1,676
Revenue by client segment			
Middle Market Banking[b]	**$ 2,742**	$ 2,791	$ 3,015
Corporate Client Banking[b]	**2,012**	1,982	1,911
Commercial Term Lending	**1,275**	1,252	1,239
Real Estate Banking	**494**	495	561
Other	**362**	362	366
Total Commercial Banking net revenue	**$ 6,885**	$ 6,882	$ 7,092
Financial ratios			
Return on common equity	**15%**	18%	19%
Overhead ratio	**42**	39	37

(a) Effective in 2015, Commercial Card and Chase Commerce Solutions product revenue was transferred from Lending and Other, respectively, to Treasury Services. Prior period amounts were revised to conform with the current period presentation.

(b) Effective in 2015, mortgage warehouse lending clients were transferred from Middle Market Banking to Corporate Client Banking. Prior period revenue, period-end loans, and average loans by client segment were revised to conform with the current period presentation.

Selected metrics (continued)

As of or for the year ended December 31, (in millions, except headcount)	2015	2014	2013
Selected balance sheet data (period-end)			
Total assets	**$ 200,700**	$ 195,267	$ 190,782
Loans:			
Loans retained	**167,374**	147,661	135,750
Loans held-for-sale and loans at fair value	**267**	845	1,388
Total loans	**$ 167,641**	$ 148,506	$ 137,138
Core loans	**166,939**	147,392	135,583
Equity	**14,000**	14,000	13,500
Period-end loans by client segment			
Middle Market Banking[a]	**$ 51,362**	$ 51,009	$ 50,702
Corporate Client Banking[a]	**31,871**	25,321	22,512
Commercial Term Lending	**62,860**	54,038	48,925
Real Estate Banking	**16,211**	13,298	11,024
Other	**5,337**	4,840	3,975
Total Commercial Banking loans	**$ 167,641**	$ 148,506	$ 137,138
Selected balance sheet data (average)			
Total assets	**$ 198,076**	$ 191,857	$ 185,776
Loans:			
Loans retained	**157,389**	140,982	131,100
Loans held-for-sale and loans at fair value	**492**	782	930
Total loans	**$ 157,881**	$ 141,764	$ 132,030
Core loans	**156,975**	140,390	130,141
Client deposits and other third-party liabilities	**191,529**	204,017	198,356
Equity	**14,000**	14,000	13,500
Average loans by client segment			
Middle Market Banking[a]	**$ 51,303**	$ 50,939	$ 50,236
Corporate Client Banking[a]	**29,125**	23,113	22,512
Commercial Term Lending	**58,138**	51,120	45,989
Real Estate Banking	**14,320**	12,080	9,582
Other	**4,995**	4,512	3,711
Total Commercial Banking loans	**$ 157,881**	$ 141,764	$ 132,030
Headcount[b]	**7,845**	7,426	7,016

(a) Effective in 2015, mortgage warehouse lending clients were transferred from Middle Market Banking to Corporate Client Banking. Prior period revenue, period-end loans, and average loans by client segment were revised to conform with the current period presentation.

(b) Effective in 2015, certain technology staff were transferred from CIB to CB; previously-reported headcount has been revised to conform with the current period presentation. As the related expense for these staff is not material, prior period expenses have not been revised. Prior to 2015, compensation expense related to this headcount was recorded in the CIB, with an allocation to CB (reported in noncompensation expense); commencing with 2015, such expense is recorded as compensation expense in CB and accordingly total noninterest expense related to this headcount in both CB and CIB remains unchanged.

Selected metrics (continued)

As of or for the year ended December 31, (in millions, except ratios)	2015	2014	2013
Credit data and quality statistics			
Net charge-offs/(recoveries)	**$ 21**	$ (7)	$ 43
Nonperforming assets			
Nonaccrual loans:			
Nonaccrual loans retained[a]	**375**	317	471
Nonaccrual loans held-for-sale and loans at fair value	**18**	14	43
Total nonaccrual loans	**393**	331	514
Assets acquired in loan satisfactions	**8**	10	15
Total nonperforming assets	**401**	341	529
Allowance for credit losses:			
Allowance for loan losses	**2,855**	2,466	2,669
Allowance for lending-related commitments	**198**	165	142
Total allowance for credit losses	**3,053**	2,631	2,811
Net charge-off/(recovery) rate[b]	**0.01%**	–%	0.03%
Allowance for loan losses to period-end loans retained	**1.71**	1.67	1.97
Allowance for loan losses to nonaccrual loans retained[a]	**761**	778	567
Nonaccrual loans to period-end total loans	**0.23**	0.22	0.37

(a) An allowance for loan losses of $64 million, $45 million and $81 million was held against nonaccrual loans retained at December 31, 2015, 2014 and 2013, respectively.

(b) Loans held-for-sale and loans at fair value were excluded when calculating the net charge-off/(recovery) rate.

ASSET MANAGEMENT

Asset Management, with client assets of $2.4 trillion, is a global leader in investment and wealth management. AM clients include institutions, high-net-worth individuals and retail investors in many major markets throughout the world. AM offers investment management across most major asset classes including equities, fixed income, alternatives and money market funds. AM also offers multi-asset investment management, providing solutions for a broad range of clients' investment needs. For Global Wealth Management clients, AM also provides retirement products and services, brokerage and banking services including trusts and estates, loans, mortgages and deposits. The majority of AM's client assets are in actively managed portfolios.

Selected income statement data

Year ended December 31, (in millions, except ratios and headcount)	2015	2014	2013
Revenue			
Asset management, administration and commissions	**$ 9,175**	$ 9,024	$ 8,232
All other income	**388**	564	797
Noninterest revenue	**9,563**	9,588	9,029
Net interest income	**2,556**	2,440	2,376
Total net revenue	**12,119**	12,028	11,405
Provision for credit losses	**4**	4	65
Noninterest expense			
Compensation expense	**5,113**	5,082	4,875
Noncompensation expense	**3,773**	3,456	3,141
Total noninterest expense	**8,886**	8,538	8,016
Income before income tax expense	**3,229**	3,486	3,324
Income tax expense	**1,294**	1,333	1,241
Net income	**$ 1,935**	$ 2,153	$ 2,083
Revenue by line of business			
Global Investment Management	**$ 6,301**	$ 6,327	$ 5,951
Global Wealth Management	**5,818**	5,701	5,454
Total net revenue	**$12,119**	$12,028	$11,405
Financial ratios			
Return on common equity	**21%**	23%	23%
Overhead ratio	**73**	71	70
Pretax margin ratio:			
Global Investment Management	**31**	31	32
Global Wealth Management	**22**	27	26
Asset Management	**27**	29	29
Headcount	**20,975**	19,735	20,048
Number of client advisors	**2,778**	2,836	2,962

2015 compared with 2014

Net income was $1.9 billion, a decrease of 10% compared with the prior year, reflecting higher noninterest expense, partially offset by higher net revenue.

Net revenue was $12.1 billion, an increase of 1%. Net interest income was $2.6 billion, up 5%, driven by higher loan balances and spreads. Noninterest revenue was $9.6 billion, flat from last year, as net client inflows into assets under management and the impact of higher average market levels were predominantly offset by lower performance fees and the sale of Retirement Plan Services ("RPS") in 2014.

Revenue from Global Investment Management was $6.3 billion, flat from the prior year as the sale of RPS in 2014 and lower performance fees were largely offset by net client inflows. Revenue from Global Wealth Management was $5.8 billion, up 2% from the prior year due to higher net interest income from higher loan balances and spreads and net client inflows, partially offset by lower brokerage revenue.

Noninterest expense was $8.9 billion, an increase of 4%, predominantly due to higher legal expense and investment in both infrastructure and controls.

2014 compared with 2013

Net income was $2.2 billion, an increase of 3% from the prior year, reflecting higher net revenue and lower provision for credit losses, predominantly offset by higher noninterest expense.

Net revenue was $12.0 billion, an increase of 5% from the prior year. Noninterest revenue was $9.6 billion, up 6% from the prior year due to net client inflows and the effect of higher market levels, partially offset by lower valuations of seed capital investments. Net interest income was $2.4 billion, up 3% from the prior year due to higher loan and deposit balances, largely offset by spread compression.

Revenue from Global Investment Management was $6.3 billion, up 6% due to net client inflows and the effect of higher market levels, partially offset by lower valuations of seed capital investments. Revenue from Global Wealth Management was $5.7 billion, up 5% from the prior year due to higher net interest income from loan and deposit balances and net client inflows, partially offset by spread compression and lower brokerage revenue.

Noninterest expense was $8.5 billion, an increase of 7% from the prior year as the business continues to invest in both infrastructure and controls.

AM's lines of business consist of the following:

Global Investment Management provides comprehensive global investment services, including asset management, pension analytics, asset-liability management and active risk-budgeting strategies.

Global Wealth Management offers investment advice and wealth management, including investment management, capital markets and risk management, tax and estate planning, banking, lending and specialty-wealth advisory services.

AM's client segments consist of the following:

Private Banking clients include high- and ultra-high-net-worth individuals, families, money managers, business owners and small corporations worldwide.

Institutional clients include both corporate and public institutions, endowments, foundations, nonprofit organizations and governments worldwide.

Retail clients include financial intermediaries and individual investors.

J.P. Morgan Asset Management has two high-level measures of its overall fund performance.

- **Percentage of mutual fund assets under management in funds rated 4- or 5-star:** Mutual fund rating services rank funds based on their risk-adjusted performance over various periods. A 5-star rating is the best rating and represents the top 10% of industry-wide ranked funds. A 4-star rating represents the next 22.5% of industry-wide ranked funds. A 3-star rating represents the next 35% of industry-wide ranked funds. A 2-star rating represents the next 22.5% of industry-wide ranked funds. A 1-star rating is the worst rating and represents the bottom 10% of industry-wide ranked funds. The "overall Morningstar rating" is derived from a weighted average of the performance associated with a fund's three-, five- and ten-year (if applicable) Morningstar Rating metrics. For U.S. domiciled funds, separate star ratings are given at the individual share class level. The Nomura "star rating" is based on three-year risk-adjusted performance only. Funds with fewer than three years of history are not rated and hence excluded from this analysis. All ratings, the assigned peer categories and the asset values used to derive this analysis are sourced from these fund rating providers mentioned in footnote (a). The data providers re-denominate the asset values into U.S. dollars. This % of AUM is based on star ratings at the share class level for U.S. domiciled funds, and at a "primary share class" level to represent the star rating of all other funds except for Japan where Nomura provides ratings at the fund level. The "primary share class", as defined by Morningstar, denotes the share class recommended as being the best proxy for the portfolio and in most cases will be the most retail version (based upon annual management charge, minimum investment, currency and other factors). The performance data could have been different if all funds/accounts would have been included. Past performance is not indicative of future results.
- **Percentage of mutual fund assets under management in funds ranked in the 1st or 2nd quartile (one, three and five years):** All quartile rankings, the assigned peer categories and the asset values used to derive this analysis are sourced from the fund ranking providers mentioned in footnote (b). Quartile rankings are done on the net-of-fee absolute return of each fund. The data providers re-denominate the asset values into U.S. dollars. This % of AUM is based on fund performance and associated peer rankings at the share class level for U.S. domiciled funds, at a "primary share class" level to represent the quartile ranking of the U.K., Luxembourg and Hong Kong funds and at the fund level for all other funds. The "primary share class", as defined by Morningstar, denotes the share class recommended as being the best proxy for the portfolio and in most cases will be the most retail version (based upon annual management charge, minimum investment, currency and other factors). Where peer group rankings given for a fund are in more than one "primary share class" territory both rankings are included to reflect local market competitiveness (applies to "Offshore Territories" and "HK SFC Authorized" funds only). The performance data could have been different if all funds/accounts would have been included. Past performance is not indicative of future results.

Selected metrics

As of or for the year ended December 31, (in millions, except ranking data and ratios)	2015	2014	2013
% of JPM mutual fund assets rated as 4- or 5-star[a]	**53%**	52%	49%
% of JPM mutual fund assets ranked in 1st or 2nd quartile:[b]			
1 year	**62**	72	68
3 years	**78**	72	68
5 years	**80**	76	69
Selected balance sheet data (period-end)			
Total assets	**$ 131,451**	$ 128,701	$ 122,414
Loans[c]	**111,007**	104,279	95,445
Core loans	**111,007**	104,279	95,445
Deposits	**146,766**	155,247	146,183
Equity	**9,000**	9,000	9,000
Selected balance sheet data (average)			
Total assets	**$ 129,743**	$ 126,440	$ 113,198
Loans	**107,418**	99,805	86,066
Core loans	**107,418**	99,805	86,066
Deposits	**149,525**	150,121	139,707
Equity	**9,000**	9,000	9,000
Credit data and quality statistics			
Net charge-offs	**$ 12**	$ 6	$ 40
Nonaccrual loans	**218**	218	167
Allowance for credit losses:			
Allowance for loan losses	**266**	271	278
Allowance for lending-related commitments	**5**	5	5
Total allowance for credit losses	**271**	276	283
Net charge-off rate	**0.01%**	0.01%	0.05%
Allowance for loan losses to period-end loans	**0.24**	0.26	0.29
Allowance for loan losses to nonaccrual loans	**122**	124	166
Nonaccrual loans to period-end loans	**0.20**	0.21	0.17

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

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

(c) Included $26.6 billion, $22.1 billion and $18.9 billion of prime mortgage loans reported in the Consumer, excluding credit card, loan portfolio at December 31, 2015, 2014 and 2013, respectively.

Client assets

2015 compared with 2014

Client assets were $2.4 trillion, a decrease of 2% compared with the prior year. Assets under management were $1.7 trillion, a decrease of 1% from the prior year due to the effect of lower market levels partially offset by net inflows to long-term products.

2014 compared with 2013

Client assets were $2.4 trillion, an increase of 2% compared with the prior year. Excluding the sale of Retirement Plan Services, client assets were up 8% compared with the prior year. Assets under management were $1.7 trillion, an increase of 9% from the prior year due to net inflows to long-term products and the effect of higher market levels.

Client assets

December 31, (in billions)	2015	2014	2013
Assets by asset class			
Liquidity	**$ 464**	$ 461	$ 451
Fixed income	**342**	359	330
Equity	**353**	375	370
Multi-asset and alternatives	**564**	549	447
Total assets under management	**1,723**	1,744	1,598
Custody/brokerage/ administration/deposits	**627**	643	745
Total client assets	**$ 2,350**	$ 2,387	$ 2,343
Memo:			
Alternatives client assets[a]	**172**	166	158
Assets by client segment			
Private Banking	**$ 437**	$ 428	$ 361
Institutional	**816**	827	777
Retail	**470**	489	460
Total assets under management	**$ 1,723**	$ 1,744	$ 1,598
Private Banking	**$ 1,050**	$ 1,057	$ 977
Institutional	**824**	835	777
Retail	**476**	495	589
Total client assets	**$ 2,350**	$ 2,387	$ 2,343

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

Client assets (continued)

Year ended December 31, (in billions)	2015	2014	2013
Assets under management rollforward			
Beginning balance	**$ 1,744**	$ 1,598	$ 1,426
Net asset flows:			
Liquidity	**(1)**	18	(4)
Fixed income	**(7)**	33	8
Equity	**1**	5	34
Multi-asset and alternatives	**22**	42	48
Market/performance/other impacts	**(36)**	48	86
Ending balance, December 31	**$ 1,723**	$ 1,744	$ 1,598
Client assets rollforward			
Beginning balance	**$ 2,387**	$ 2,343	$ 2,095
Net asset flows	**27**	118	80
Market/performance/other impacts	**(64)**	(74)	168
Ending balance, December 31	**$ 2,350**	$ 2,387	$ 2,343

International metrics

Year ended December 31, (in billions, except where otherwise noted)	2015	2014	2013
Total net revenue (in millions)[a]			
Europe/Middle East/Africa	**$ 1,946**	$ 2,080	$ 1,881
Asia/Pacific	**1,130**	1,199	1,133
Latin America/Caribbean	**795**	841	879
Total international net revenue	**3,871**	4,120	3,893
North America	**8,248**	7,908	7,512
Total net revenue	**$ 12,119**	$ 12,028	$ 11,405
Assets under management			
Europe/Middle East/Africa	**$ 302**	$ 329	$ 305
Asia/Pacific	**123**	126	132
Latin America/Caribbean	**45**	46	47
Total international assets under management	**470**	501	484
North America	**1,253**	1,243	1,114
Total assets under management	**$ 1,723**	$ 1,744	$ 1,598
Client assets			
Europe/Middle East/Africa	**$ 351**	$ 391	$ 367
Asia/Pacific	**173**	174	180
Latin America/Caribbean	**110**	115	117
Total international client assets	**634**	680	664
North America	**1,716**	1,707	1,679
Total client assets	**$ 2,350**	$ 2,387	$ 2,343

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

The Corporate segment consists of Treasury and Chief Investment Office ("CIO") and Other Corporate, which includes corporate staff units and expense that is centrally managed. Treasury and CIO are predominantly responsible for measuring, monitoring, reporting and managing the Firm's liquidity, funding and structural interest rate and foreign exchange risks, as well as executing the Firm's capital plan. The major Other Corporate units include Real Estate, Enterprise Technology, Legal, Compliance, Finance, Human Resources, Internal Audit, Risk Management, Oversight & Control, Corporate Responsibility and various Other Corporate groups. Other centrally managed expense includes the Firm's occupancy and pension-related expenses that are subject to allocation to the businesses.

Selected income statement data

Year ended December 31, (in millions, except headcount)	2015	2014	2013
Revenue			
Principal transactions	**$ 41**	$ 1,197	$ 563
Securities gains	**190**	71	666
All other income	**569**	704	1,864
Noninterest revenue	**800**	1,972	3,093
Net interest income[a]	**(533)**	(1,960)	(3,115)
Total net revenue	**267**	12	(22)
Provision for credit losses	**(10)**	(35)	(28)
Noninterest expense[b]	**977**	1,159	10,255
Loss before income tax benefit	**(700)**	(1,112)	(10,249)
Income tax benefit	**(3,137)**	(1,976)	(3,493)
Net income/(loss)	**$ 2,437**	$ 864	$ (6,756)
Total net revenue			
Treasury and CIO	**(493)**	(1,317)	(2,068)
Other Corporate [c]	**760**	1,329	2,046
Total net revenue	**$ 267**	$ 12	$ (22)
Net income/(loss)			
Treasury and CIO	**(235)**	(1,165)	(1,454)
Other Corporate [c]	**2,672**	2,029	(5,302)
Total net income/(loss)	**$ 2,437**	$ 864	$ (6,756)
Selected balance sheet data (period-end)			
Total assets (period-end)	**$768,204**	$ 931,206	$ 805,506
Loans	**2,187**	2,871	4,004
Core loans[d]	**2,182**	2,848	3,958
Headcount	**29,617**	26,047	20,717

(a) Included tax-equivalent adjustments, predominantly due to tax-exempt income from municipal bond investments of $839 million, $730 million and $480 million for the years ended December 31, 2015, 2014 and 2013, respectively.

(b) Included legal expense of $832 million, $821 million and $10.2 billion for the years ended December 31, 2015, 2014 and 2013, respectively.

(c) Effective in 2015, the Firm began including the results of Private Equity in the Other Corporate line within the Corporate segment. Prior period amounts have been revised to conform with the current period presentation. The Corporate segment's balance sheets and results of operations were not impacted by this reporting change.

(d) Average core loans were $2.5 billion, $3.3 billion and $5.2 billion for the years ended December 31, 2015, 2014 and 2013, respectively.

2015 compared with 2014

Net income was $2.4 billion, compared with net income of $864 million in the prior year.

Net revenue was $267 million, compared with $12 million in the prior year. The current year included a $514 million benefit from a legal settlement. Treasury and CIO included a benefit of approximately $178 million associated with recognizing the unamortized discount on certain debt securities which were called at par and a $173 million pretax loss primarily related to accelerated amortization of cash flow hedges associated with the exit of certain non-operating deposits. Private Equity gains were $1.2 billion lower compared with the prior year, reflecting lower valuation gains and lower net gains on sales as the Firm exits this non-core business.

Noninterest expense was $977 million, a decrease of $182 million from the prior year which had included a $276 million goodwill impairment related to the sale of a portion of the Private Equity business.

The current year reflected tax benefits of $2.6 billion predominantly from the resolution of various tax audits compared with tax benefits of $1.1 billion in the prior year.

2014 compared with 2013

Net income was $864 million, compared to a net loss of $6.8 billion in the prior year.

Net revenue was $12 million compared to a net loss of $22 million in the prior year. Current year net interest income was a loss of $2 billion compared to a loss of $3.1 billion in the prior year, primarily reflecting higher yields on investment securities. Securities gains were $71 million, compared with $659 million in the prior year, reflecting lower repositioning activity of the investment securities portfolio in the current period.

Private Equity gains were $540 million higher compared with the prior year reflecting higher net gains on sales. Prior year net revenue also included gains of $1.3 billion and $493 million on the sales of Visa shares and One Chase Manhattan Plaza, respectively.

Noninterest expense was $1.2 billion, a decrease of $9.1 billion due to a decrease in reserves for litigation and regulatory proceedings in the prior year partially offset by the impact of a $276 million goodwill impairment related to the sale of a portion of the Private Equity business.

Treasury and CIO overview

Treasury and CIO are predominantly responsible for measuring, monitoring, reporting and managing the Firm's liquidity, funding and structural interest rate and foreign exchange risks, as well as executing the Firm's capital plan. The risks managed by Treasury and CIO arise from the activities undertaken by the Firm's four major reportable business segments to serve their respective client bases, which generate both on- and off-balance sheet assets and liabilities.

Treasury and CIO achieve the Firm's asset-liability management objectives generally by investing in high-quality securities that are managed for the longer-term as part of the Firm's investment securities portfolio. Treasury and CIO also use derivatives to meet the Firm's asset-liability management objectives. For further information on derivatives, see Note 6. The investment securities portfolio primarily consists of U.S. and non-U.S. government securities, agency and nonagency mortgage-backed securities, other asset-backed securities, corporate debt securities and obligations of U.S. states and municipalities. At December 31, 2015, the investment securities portfolio was $287.8 billion, and the average credit rating of the securities comprising the portfolio was AA+ (based upon external ratings where available and where not available, based primarily upon internal ratings that correspond to ratings as defined by S&P and Moody's). See Note 12 for further information on the details of the Firm's investment securities portfolio.

For further information on liquidity and funding risk, see Liquidity Risk Management on pages 159–164. For information on interest rate, foreign exchange and other risks, Treasury and CIO VaR and the Firm's earnings-at-risk, see Market Risk Management on pages 133–139.

Selected income statement and balance sheet data

As of or for the year ended December 31, (in millions)	2015	2014	2013
Securities gains	**$ 190**	$ 71	$ 659
Investment securities portfolio (average) [a]	**314,802**	349,285	353,712
Investment securities portfolio (period-end)[b]	**287,777**	343,146	347,562
Mortgage loans (average)	**2,501**	3,308	5,145
Mortgage loans (period-end)	**2,136**	2,834	3,779

(a) Average investment securities included held-to-maturity balances of $50.0 billion and $47.2 billion for the years ended December 31, 2015 and 2014 respectively. The held-to-maturity balance for full year 2013 was not material.

(b) Period-end investment securities included held-to-maturity securities of $49.1 billion, $49.3 billion, $24.0 billion at December 31, 2015, 2014 and 2013, respectively.

Private equity portfolio information[a]

December 31, (in millions)	2015	2014	2013
Carrying value	**$ 2,103**	$ 5,866	$ 7,868
Cost	**3,798**	6,281	8,491

(a) For more information on the Firm's methodologies regarding the valuation of the Private Equity portfolio, see Note 3. For information on the sale of a portion of the Private Equity business completed on January 9, 2015, see Note 2.

2015 compared with 2014

The carrying value of the private equity portfolio at December 31, 2015 was $2.1 billion, down from $5.9 billion at December 31, 2014, driven by the sale of a portion of the Private Equity business.

2014 compared with 2013

The carrying value of the private equity portfolio at December 31, 2014 was $5.9 billion, down from $7.9 billion at December 31, 2013. The decrease in the portfolio was predominantly driven by sales of investments, partially offset by unrealized gains.

ENTERPRISE-WIDE RISK MANAGEMENT

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

Firmwide Risk Management is overseen and managed on an enterprise-wide basis. The Firm's approach to risk management covers a broad spectrum of risk areas, such as credit, market, liquidity, model, structural interest rate, principal, country, operational, compliance, legal, capital and reputation risk, with controls and governance established for each area, as appropriate.

The Firm believes that effective risk management requires:

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

The Firm's Operating Committee, which consists of the Firm's Chief Executive Officer ("CEO"), Chief Risk Officer ("CRO") and other senior executives, is responsible for developing and executing the Firm's risk management framework. The framework is intended to provide controls and ongoing management of key risks inherent in the Firm's business activities and create a culture of transparency, awareness and personal responsibility through reporting, collaboration, discussion, escalation and sharing of information. The Operating Committee is responsible and accountable to the Firm's Board of Directors.

The Firm strives for continual improvement through ongoing employee training and development, as well as talent retention. The Firm follows a disciplined and balanced compensation framework with strong internal governance and independent Board oversight. The impact of risk and control issues are carefully considered in the Firm's performance evaluation and incentive compensation processes. The Firm is also engaged in a number of activities focused on conduct risk and in regularly evaluating its culture with respect to its business principles.

The following sections outline the key risks that are inherent in the Firm's business activities.

Risk	Definition	Select risk management metrics	Page references
Capital risk	The risk the Firm has an insufficient level and composition of capital to support the Firm's business activities and associated risks during normal economic environments and stressed conditions.	Risk-based capital ratios; supplementary leverage ratio; stress	149–158
Compliance risk	The risk of failure to comply with applicable laws, rules, and regulations.	Various metrics related to market conduct, Bank Secrecy Act/Anti-Money Laundering ("BSA/AML"), employee compliance, fiduciary, privacy and information risk	147
Country risk	The risk that a sovereign event or action alters the value or terms of contractual obligations of obligors, counterparties and issuers or adversely affects markets related to a particular country.	Default exposure at 0% recovery; stress; risk ratings; ratings based capital limits	140–141
Credit risk	The risk of loss arising from the default of a customer, client or counterparty.	Total exposure; industry, geographic and customer concentrations; risk ratings; delinquencies; loss experience; stress	112–132
Legal risk	The risk of loss or imposition of damages, fines, penalties or other liability arising from failure to comply with a contractual obligation or to comply with laws or regulations to which the Firm is subject.	Not applicable	146
Liquidity risk	The risk that the Firm will be unable to meet its contractual and contingent obligations or that it does not have the appropriate amount, composition and tenor of funding and liquidity to support its assets.	LCR; stress	159–164
Market risk	The risk of loss arising from potential adverse changes in the value of the Firm's assets and liabilities resulting from changes in market variables such as interest rates, foreign exchange rates, equity prices, commodity prices, implied volatilities or credit spreads.	VaR, stress, sensitivities	133–139
Model risk	The risk of the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports.	Model status, model tier	142
Non-U.S. dollar foreign exchange ("FX") risk	The risk that changes in foreign exchange rates affect the value of the Firm's assets or liabilities or future results.	FX net open position ("NOP")	139
Operational risk	The risk of loss resulting from inadequate or failed processes or systems, human factors, or due to external events that are neither market nor credit-related.	Firm-specific loss experience; industry loss experience; business environment and internal control factors ("BEICF"); key risk indicators; key control indicators; operating metrics	144–146
Principal risk	The risk of an adverse change in the value of privately-held financial assets and instruments, typically representing an ownership or junior capital position that have unique risks due to their illiquidity or for which there is less observable market or valuation data.	Carrying value, stress	143
Reputation risk	The risk that an action, transaction, investment or event will reduce trust in the Firm's integrity or competence by our various constituents, including clients, counterparties, investors, regulators, employees and the broader public.	Not applicable	148
Structural interest rate risk	The risk resulting from the Firm's traditional banking activities (both on- and off-balance sheet positions) arising from the extension of loans and credit facilities, taking deposits and issuing debt (collectively referred to as "non-trading activities"), and also the impact from the CIO investment securities portfolio and other related CIO and Treasury activities.	Earnings-at-risk	138-139

Risk appetite and governance

The Firm's overall tolerance for risk is governed by a "Risk Appetite" framework for measuring and monitoring risk. The framework measures the Firm's capacity to take risk against stated quantitative tolerances and qualitative factors at each of the line of business ("LOB") levels, as well as at the Firmwide level. The framework and tolerances are set and approved by the Firm's CEO, Chief Financial Officer ("CFO"), CRO and Chief Operating Officer ("COO"). LOB-level Risk Appetite parameters and tolerances are set by the respective LOB CEO, CFO and CRO and are approved by the Firm's CEO, CFO, CRO and COO. Quantitative risk tolerances are expressed in terms of tolerance levels for stressed net income, market risk, credit risk, liquidity risk, structural interest rate risk, operational risk and capital. Risk Appetite results are reported quarterly to the Risk Policy Committee of the Board of Directors ("DRPC").

The Firm's CRO is responsible for the overall direction of the Firm's Risk Management functions and is head of the Risk Management Organization, reporting to the Firm's CEO and DRPC. The Risk Management Organization operates independently from the revenue-generating businesses, which enables it to provide credible challenge to the businesses. The leadership team of the Risk Management Organization is aligned to the various LOBs and corporate functions as well as across the Firm for firmwide risk categories (e.g. firmwide market risk, firmwide model risk, firmwide reputation risk, etc.) producing a matrix structure with specific subject matter expertise to manage risks both within the businesses and across the Firm.

The Firm places key reliance on each of the LOBs as the first line of defense in risk governance. The LOBs are accountable for identifying and addressing the risks in their

respective businesses and for operating within a sound control environment.

In addition to the Risk Management Organization, the Firm's control environment also includes firmwide functions like Oversight and Control, Compliance and Internal Audit.

The Firmwide Oversight and Control Group consists of dedicated control officers within each of the lines of business and corporate functions, as well as a central oversight function. The group is charged with enhancing the Firm's control environment by looking within and across the lines of business and corporate functions to identify and remediate control issues. The group enables the Firm to detect control problems more quickly, escalate issues promptly and engage other stakeholders to understand common themes and interdependencies among the various parts of the Firm.

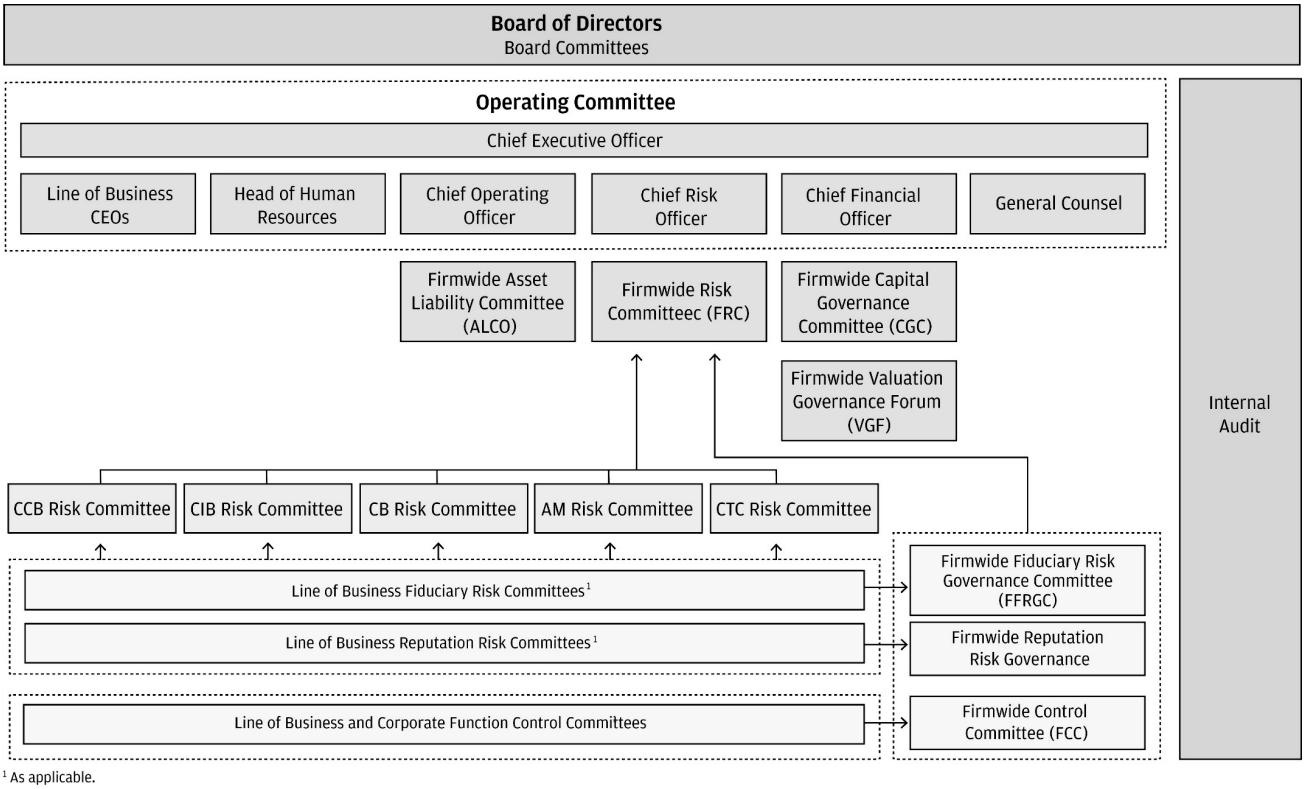
Each line of business is accountable for managing its compliance risk. The Firm's Compliance Organization ("Compliance"), which is independent of the lines of business, works closely with the Operating Committee and management to provide independent review, monitoring and oversight of business operations with a focus on compliance with the legal and regulatory obligations applicable to the offering of the Firm's products and services to clients and customers.

Internal Audit, a function independent of the businesses, Compliance and the Risk Management Organization, tests and evaluates the Firm's risk governance and management, as well as its internal control processes. This function brings a systematic and disciplined approach to evaluating and improving the effectiveness of the Firm's governance, risk management and internal control processes.

Risk governance structure

The independent status of the Risk Management Organization is supported by a governance structure that provides for escalation of risk issues up to senior management and the Board of Directors.

The chart below illustrates the key senior management level committees in the Firm's risk governance structure. Other committees and forums are in place that are responsible for management and oversight of risk, although they are not shown in the chart below.



[1] As applicable.

The Board of Directors provides oversight of risk principally through the DRPC, Audit Committee and, with respect to compensation and other management-related matters, Compensation & Management Development Committee. Each committee of the Board oversees reputation risk issues within its scope of responsibility.

The Risk Policy Committee of the Board oversees the Firm's global risk management framework and approves the primary risk-management policies of the Firm. The Committee's responsibilities include oversight of management's exercise of its responsibility to assess and manage risks of the Firm, as well as its capital and liquidity planning and analysis. Breaches in risk appetite tolerances, liquidity issues that may have a material adverse impact on the Firm and other significant risk-related matters are escalated to the Committee.

The Audit Committee of the Board assists the Board in its oversight of management's responsibilities to assure that there is an effective system of controls reasonably designed to safeguard the assets and income of the Firm, assure the integrity of the Firm's financial statements and maintain compliance with the Firm's ethical standards, policies, plans and procedures, and with laws and regulations. In addition, the Audit Committee assists the Board in its oversight of the Firm's independent registered public accounting firm's qualifications and independence. The Independent Internal Audit Function at the Firm is headed by the General Auditor, who reports to the Audit Committee.

The Compensation & Management Development Committee assists the Board in its oversight of the Firm's compensation programs and reviews and approves the Firm's overall compensation philosophy, incentive compensation pools, and compensation practices consistent with key business objectives and safety and soundness. The Committee reviews Operating Committee members' performance against their goals, and approves their compensation awards. The Committee also periodically reviews the Firm's diversity programs and management development and succession planning, and provides oversight of the Firm's culture and conduct programs.

Among the Firm's senior management-level committees that are primarily responsible for key risk-related functions are:

The Firmwide Risk Committee ("FRC") is the Firm's highest management-level risk committee. It provides oversight of the risks inherent in the Firm's businesses. The Committee is co-chaired by the Firm's CEO and CRO. Members of the Committee include the Firm's COO, CFO, Treasurer & Chief Investment Officer, and General Counsel, as well as LOB CEOs and CROs, and other senior managers from risk and control functions. This Committee serves as an escalation point for risk topics and issues raised by its members, the Line of Business Risk Committees, Firmwide Control Committee, Firmwide Fiduciary Risk Governance Committee, Firmwide Reputation Risk Governance and regional Risk Committees. The Committee escalates significant issues to the Board of Directors, as appropriate.

The Firmwide Control Committee ("FCC") is a forum for senior management to discuss firmwide operational risks including existing and emerging issues, to monitor operational risk metrics, and to review the execution of the Operational Risk Management Framework ("ORMF"). The FCC is co-chaired by the Chief Control Officer and the Firmwide Risk Executive for Operational Risk Governance. It serves as an escalation point for the line of business, corporate functions and regional Control Committees and escalates significant issues to the FRC, as appropriate.

The Firmwide Fiduciary Risk Governance Committee ("FFRGC") is a forum for risk matters related to the Firm's fiduciary activities. The Committee oversees the firmwide fiduciary risk governance framework, which supports the consistent identification and escalation of fiduciary risk matters by the relevant lines of business or corporate functions responsible for managing fiduciary activities. The Committee escalates significant issues to the FRC and any other committee, as appropriate.

The Firmwide Reputation Risk Governance Group seeks to promote consistent management of reputation risk across the Firm. Its objectives are to increase visibility of reputation risk governance; promote and maintain a globally consistent governance model for reputation risk across lines of business; promote early self-identification of potential reputation risks to the Firm; and provide thought leadership on cross-line-of-business reputation risk issues. Each line of business has a separate reputation risk governance structure which includes, in most cases, one or more dedicated reputation risk committees.

Line of Business and Regional Risk Committees review the ways in which the particular line of business or the business operating in a particular region could be exposed to adverse outcomes with a focus on identifying, accepting, escalating and/or requiring remediation of matters brought to these committees. These committees may escalate to the FRC, as appropriate.

Line of Business, Corporate Function and Regional Control Committees oversee the control environment in the particular line of business or corporate function or the business operating in a particular region. They are responsible for reviewing the data indicating the quality and stability of the processes in a business or function, focusing on those processes with shortcomings and overseeing process remediation. These committees escalate to the FCC, as appropriate.

The Asset Liability Committee ("ALCO"), chaired by the Firm's Treasurer under the direction of the COO, monitors the Firm's balance sheet, liquidity risk and structural interest rate risk. ALCO reviews the Firm's overall structural interest rate risk position, funding requirements and strategy, and securitization programs (and any required liquidity support by the Firm of such programs). ALCO is responsible for reviewing and approving the Firm's Funds Transfer Pricing Policy (through which lines of business "transfer" interest rate risk to Treasury) and the Firm's Intercompany Funding and Liquidity Policy. ALCO is also responsible for reviewing the Firm's Contingency Funding Plan.

The Capital Governance Committee, chaired by the Head of the Regulatory Capital Management Office (under the direction of the Firm's CFO) is responsible for reviewing the Firm's Capital Management Policy and the principles underlying capital issuance and distribution. The Committee is also responsible for governing the capital adequacy assessment process, including overall design, assumptions and risk streams, and for ensuring that capital stress test programs are designed to adequately capture the idiosyncratic risks across the Firm's businesses.

The Firmwide 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 the Firm. The VGF is chaired by the firmwide head of the Valuation Control function (under the direction of the Firm's CFO), and includes sub-forums covering the Corporate & Investment Bank, Consumer & Community Banking, Commercial Banking, Asset Management and certain corporate functions, including Treasury and Chief Investment Office.

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

Risk measurement

The Firm has a broad spectrum of risk management metrics, as appropriate for each risk category (refer to the table on key risks included on page 108). Additionally, the Firm is exposed to certain potential low-probability, but plausible and material, idiosyncratic risks that are not well-captured by its other existing risk analysis and reporting for credit, market, and other risks. These idiosyncratic risks may arise in a number of ways, such as changes in legislation, an unusual combination of market events, or specific counterparty events. The Firm has a process intended to identify these risks in order to allow the Firm to monitor vulnerabilities that are not adequately covered by its other standard risk measurements.

CREDIT RISK MANAGEMENT

Credit risk is the risk of loss arising from the default of a customer, client or counterparty. The Firm provides credit to a variety of customers, ranging from large corporate and institutional clients to individual consumers and small businesses. In its consumer businesses, the Firm is exposed to credit risk primarily through its residential real estate, credit card, auto, business banking and student lending businesses. Originated mortgage loans are retained in the mortgage portfolio, securitized or sold to U.S. government agencies and U.S. government-sponsored enterprises; other types of consumer loans are typically retained on the balance sheet. In its wholesale businesses, the Firm is exposed to credit risk through its underwriting, lending, market-making, and hedging activities with and for clients and counterparties, as well as through its operating services activities (such as cash management and clearing activities), securities financing activities, investment securities portfolio, and cash placed with banks. A portion of the loans originated or acquired by the Firm's wholesale businesses are generally retained on the balance sheet; the Firm's syndicated loan business distributes a significant percentage of originations into the market and is an important component of portfolio management.

Credit risk management

Credit risk management is an independent risk management function that identifies and monitors credit risk throughout the Firm and defines credit risk policies and procedures. The credit risk function reports to the Firm's CRO. The Firm's credit risk management governance includes the following activities:

- Establishing a comprehensive credit risk policy framework
- Monitoring and managing credit risk across all portfolio segments, including transaction and exposure approval
- Setting industry concentration limits and establishing underwriting guidelines
- Assigning and managing credit authorities in connection with the approval of all credit exposure
- Managing criticized exposures and delinquent loans
- Determining the allowance for credit losses and ensuring appropriate credit risk-based capital management

Risk identification and measurement

The Credit Risk Management function identifies, measures, limits, manages and monitors credit risk across the Firm's businesses. To measure credit risk, the Firm employs several methodologies for estimating the likelihood of obligor or counterparty default. Methodologies for measuring credit risk vary depending on several factors, including type of asset (e.g., consumer versus wholesale), risk measurement parameters (e.g., delinquency status and borrower's credit score versus wholesale risk-rating) and risk management and collection processes (e.g., retail collection center versus centrally managed workout groups). Credit risk measurement is based on the probability of default of an obligor or counterparty, the loss severity given a default event and the exposure at default.

Based on these factors and related market-based inputs, the Firm estimates credit losses for its exposures. Probable credit losses inherent in the consumer and wholesale loan portfolios are reflected in the allowance for loan losses, and probable credit losses inherent in lending-related commitments are reflected in the allowance for lending-related commitments. These losses are estimated using statistical analyses and other factors as described in Note 15. In addition, potential and unexpected credit losses are reflected in the allocation of credit risk capital and represent the potential volatility of actual losses relative to the established allowances for loan losses and lending-related commitments. The analyses for these losses include stress testing considering alternative economic scenarios as described in the Stress testing section below. For further information, see Critical Accounting Estimates used by the Firm on pages 165–169.

The methodologies used to estimate credit losses depend on the characteristics of the credit exposure, as described below.

Scored exposure

The scored portfolio is generally held in CCB and predominantly includes residential real estate loans, credit card loans, certain auto and business banking loans, and student loans. For the scored portfolio, credit loss estimates are based on statistical analysis of credit losses over discrete periods of time. The statistical analysis uses portfolio modeling, credit scoring, and decision-support tools, which consider loan-level factors such as delinquency status, credit scores, collateral values, and other risk factors. Credit loss analyses also consider, as appropriate, uncertainties and other factors, including those related to current macroeconomic and political conditions, the quality of underwriting standards, and other internal and external factors. The factors and analysis are updated on a quarterly basis or more frequently as market conditions dictate.

Risk-rated exposure

Risk-rated portfolios are generally held in CIB, CB and AM, but also include certain business banking and auto dealer loans held in CCB that are risk-rated because they have characteristics similar to commercial loans. For the risk-rated portfolio, credit loss estimates are based on estimates of the probability of default ("PD") and loss severity given a default. The estimation process begins with risk ratings that are assigned to each loan facility to differentiate risk within the portfolio. These risk ratings are reviewed regularly by Credit Risk Management and revised as needed to reflect the borrower's current financial position, risk profile and related collateral. The probability of default is the likelihood that a loan will default and not be fully repaid by the borrower. The loss given default ("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. The probability of default is estimated for each borrower, and a loss given default is estimated for each credit facility. The calculations and assumptions are based on historic experience and management judgment and are reviewed regularly.

Stress testing

Stress testing is important in measuring and managing credit risk in the Firm's credit portfolio. The process assesses the potential impact of alternative economic and business scenarios on estimated credit losses for the Firm. Economic scenarios, and the parameters underlying those scenarios, are defined centrally, are articulated in terms of macroeconomic factors, and applied across the businesses. The stress test results may indicate credit migration, changes in delinquency trends and potential losses in the credit portfolio. In addition to the periodic stress testing processes, management also considers additional stresses outside these scenarios, including industry and country-specific stress scenarios, as necessary. The Firm uses stress testing to inform decisions on setting risk appetite both at a Firm and LOB level, as well as to assess the impact of stress on individual counterparties.

Risk monitoring and management

The Firm has developed policies and practices that are designed to preserve the independence and integrity of the approval and decision-making process of extending credit to ensure credit risks are assessed accurately, approved properly, monitored regularly and managed actively at both the transaction and portfolio levels. The policy framework establishes credit approval authorities, concentration limits, risk-rating methodologies, portfolio review parameters and guidelines for management of distressed exposures. In addition, certain models, assumptions and inputs used in evaluating and monitoring credit risk are independently validated by groups that are separate from the line of businesses.

For consumer credit risk, delinquency and other trends, including any concentrations at the portfolio level, are monitored, as certain of these trends can be modified through changes in underwriting policies and portfolio guidelines. Consumer Risk Management evaluates delinquency and other trends against business expectations, current and forecasted economic conditions, and industry benchmarks. Historical and forecasted trends are incorporated into the modeling of estimated consumer credit losses and are part of the monitoring of the credit risk profile of the portfolio. For further discussion of consumer loans, see Note 14.

Wholesale credit risk is monitored regularly at an aggregate portfolio, industry, and individual client and counterparty level with established concentration limits that are reviewed and revised as deemed appropriate by management, typically on an annual basis. Industry and counterparty limits, as measured in terms of exposure and economic risk appetite, are subject to stress-based loss constraints. In addition, wrong-way risk — the risk that exposure to a counterparty is positively correlated with the impact of a default by the same counterparty, which could cause exposure to increase at the same time as the counterparty's capacity to meet its obligations is decreasing — is actively monitored as this risk could result in greater exposure at default compared with a transaction with another counterparty that does not have this risk.

Management of the Firm's wholesale credit risk exposure is accomplished through a number of means, including:

- Loan underwriting and credit approval process
- Loan syndications and participations
- Loan sales and securitizations
- Credit derivatives
- Master netting agreements
- Collateral and other risk-reduction techniques

In addition to Credit Risk Management, Internal Audit performs periodic exams, as well as continuous reviews, where appropriate, of the Firm's consumer and wholesale portfolios. For risk-rated portfolios, a Credit Review group within Internal Audit is responsible for:

- Independently assessing and validating the changing risk grades assigned to exposures; and
- Evaluating the effectiveness of business units' risk ratings, including the accuracy and consistency of risk grades, the timeliness of risk grade changes and the justification of risk grades in credit memoranda.

Risk reporting

To enable monitoring of credit risk and effective decision-making, aggregate credit exposure, credit quality forecasts, concentration levels and risk profile changes are reported regularly to senior members of Credit Risk Management. Detailed portfolio reporting of industry, customer, product and geographic concentrations occurs monthly, and the appropriateness of the allowance for credit losses is reviewed by senior management at least on a quarterly basis. Through the risk reporting and governance structure, credit risk trends and limit exceptions are provided regularly to, and discussed with, risk committees, senior management and the Board of Directors as appropriate.

CREDIT PORTFOLIO

In the following tables, reported loans include loans retained (i.e., held-for-investment); loans held-for-sale (which are carried at the lower of cost or fair value, with valuation changes recorded in noninterest revenue); and certain loans accounted for at fair value. In addition, the Firm records certain loans accounted for at fair value in trading assets. For further information regarding these loans, see Note 3 and Note 4. For additional information on the Firm's loans and derivative receivables, including the Firm's accounting policies, see Note 14 and Note 6, respectively. For further information regarding the credit risk inherent in the Firm's cash placed with banks, investment securities portfolio, and securities financing portfolio, see Note 5, Note 12, and Note 13, respectively.

Effective January 1, 2015, the Firm no longer includes within its disclosure of wholesale lending-related commitments the unused amount of advised uncommitted lines of credit as it is within the Firm's discretion whether or not to make a loan under these lines, and the Firm's approval is generally required prior to funding. Prior period amounts have been revised to conform with the current period presentation.

For discussion of the consumer credit environment and consumer loans, see Consumer Credit Portfolio on pages 115–121 and Note 14. For discussion of wholesale credit environment and wholesale loans, see Wholesale Credit Portfolio on pages 122–129 and Note 14.

Total credit portfolio

December 31, (in millions)	Credit exposure		Nonperforming[b][c]	
	2015	2014	**2015**	2014
Loans retained	**$ 832,792**	$ 747,508	**$ 6,303**	$ 7,017
Loans held-for-sale	**1,646**	7,217	**101**	95
Loans at fair value	**2,861**	2,611	**25**	21
Total loans – reported	**837,299**	757,336	**6,429**	7,133
Derivative receivables	**59,677**	78,975	**204**	275
Receivables from customers and other	**13,497**	29,080	**–**	–
Total credit-related assets	**910,473**	865,391	**6,633**	7,408
Assets acquired in loan satisfactions				
Real estate owned	**NA**	NA	**347**	515
Other	**NA**	NA	**54**	44
Total assets acquired in loan satisfactions	**NA**	NA	**401**	559
Total assets	**910,473**	865,391	**7,034**	7,967
Lending-related commitments	**940,395**	950,997	**193**	103
Total credit portfolio	**$1,850,868**	$1,816,388	**$ 7,227**	$ 8,070
Credit derivatives used in credit portfolio management activities[a]	**$ (20,681)**	$ (26,703)	**$ (9)**	$ –
Liquid securities and other cash collateral held against derivatives	**(16,580)**	(19,604)	**NA**	NA

Year ended December 31, (in millions, except ratios)	**2015**	2014
Net charge-offs	**$ 4,086**	$ 4,759
Average retained loans		
Loans – reported	**780,293**	729,876
Loans – reported, excluding residential real estate PCI loans	**736,543**	679,869
Net charge-off rates		
Loans – reported	**0.52%**	0.65%
Loans – reported, excluding PCI	**0.55**	0.70

(a) Represents the net notional amount of protection purchased and sold through credit derivatives used to manage both performing and nonperforming wholesale credit exposures; these derivatives do not qualify for hedge accounting under U.S. GAAP. For additional information, see Credit derivatives on page 129 and Note 6.

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

(c) At December 31, 2015 and 2014, nonperforming assets excluded: (1) mortgage loans insured by U.S. government agencies of $6.3 billion and $7.8 billion, respectively, that are 90 or more days past due; (2) student loans insured by U.S. government agencies under the FFELP of $290 million and $367 million, respectively, that are 90 or more days past due; and (3) REO insured by U.S. government agencies of $343 million and $462 million, respectively. These amounts have been excluded based upon the government guarantee. In addition, the Firm's policy is generally to exempt credit card loans from being placed on nonaccrual status as permitted by regulatory guidance issued by the Federal Financial Institutions Examination Council ("FFIEC").

CONSUMER CREDIT PORTFOLIO

The Firm's consumer portfolio consists primarily of residential real estate loans, credit card loans, auto loans, business banking loans, and student loans. The Firm's focus is on serving the prime segment of the consumer credit market. The credit performance of the consumer portfolio continues to benefit from discipline in credit underwriting as well as improvement in the economy driven by increasing home prices and lower unemployment. Both early-stage delinquencies (30–89 days delinquent) and late-stage delinquencies (150+ days delinquent) for residential real estate, excluding government guaranteed loans, declined from December 31, 2014 levels. The Credit Card 30+ day delinquency rate and the net charge-off rate remain near historic lows. For further information on consumer loans, see Note 14.

The following table presents consumer credit-related information with respect to the credit portfolio held by CCB, prime mortgage and home equity loans held by AM, and prime mortgage loans held by Corporate. For further information about the Firm's nonaccrual and charge-off accounting policies, see Note 14.

Consumer credit portfolio

As of or for the year ended December 31, (in millions, except ratios)	Credit exposure		Nonaccrual loans[g][h]		Net charge-offs/ (recoveries)[i]		Average annual net charge-off/(recovery) rate[i][j]	
	2015	2014	**2015**	2014	**2015**	2014	**2015**	2014
Consumer, excluding credit card								
Loans, excluding PCI loans and loans held-for-sale								
Home equity – senior lien	**$ 14,848**	$ 16,367	**$ 867**	$ 938	**$ 69**	$ 82	**0.43%**	0.50%
Home equity – junior lien	**30,711**	36,375	**1,324**	1,590	**222**	391	**0.67**	1.03
Prime mortgage, including option ARMs	**162,549**	104,921	**1,752**	2,190	**49**	39	**0.04**	0.04
Subprime mortgage	**3,690**	5,056	**751**	1,036	**(53)**	(27)	**(1.22)**	(0.43)
Auto[a]	**60,255**	54,536	**116**	115	**214**	181	**0.38**	0.34
Business banking	**21,208**	20,058	**263**	279	**253**	305	**1.23**	1.58
Student and other	**10,096**	10,970	**242**	270	**200**	347	**1.89**	3.07
Total loans, excluding PCI loans and loans held-for-sale	**303,357**	248,283	**5,315**	6,418	**954**	1,318	**0.35**	0.55
Loans – PCI								
Home equity	**14,989**	17,095	**–**	NA	**–**	NA	**–**	NA
Prime mortgage	**8,893**	10,220	**–**	NA	**–**	NA	**–**	NA
Subprime mortgage	**3,263**	3,673	**–**	NA	**–**	NA	**–**	NA
Option ARMs[b]	**13,853**	15,708	**–**	NA	**–**	NA	**–**	NA
Total loans – PCI	**40,998**	46,696	**–**	NA	**–**	NA	**–**	NA
Total loans – retained	**344,355**	294,979	**5,315**	6,418	**954**	1,318	**0.30**	0.46
Loans held-for-sale	**466** [f]	395 [f]	**98**	91	**–**	–	**–**	–
Total consumer, excluding credit card loans	**344,821**	295,374	**5,413**	6,509	**954**	1,318	**0.30**	0.46
Lending-related commitments[c]	**58,478**	58,153						
Receivables from customers[d]	**125**	108						
Total consumer exposure, excluding credit card	**403,424**	353,635						
Credit Card								
Loans retained[e]	**131,387**	128,027	**–**	–	**3,122**	3,429	**2.51**	2.75
Loans held-for-sale	**76**	3,021	**–**	–	**–**	–	**–**	–
Total credit card loans	**131,463**	131,048	**–**	–	**3,122**	3,429	**2.51**	2.75
Lending-related commitments[c]	**515,518**	525,963						
Total credit card exposure	**646,981**	657,011						
Total consumer credit portfolio	**$ 1,050,405**	$ 1,010,646	**$ 5,413**	$ 6,509	**$ 4,076**	$ 4,747	**0.92%**	1.15%
Memo: Total consumer credit portfolio, excluding PCI	**$ 1,009,407**	$ 963,950	**$ 5,413**	$ 6,509	**$ 4,076**	$ 4,747	**1.02%**	1.30%

(a) At December 31, 2015 and 2014, excluded operating lease assets of $9.2 billion and $6.7 billion, respectively.
(b) At December 31, 2015 and 2014, approximately 64% and 57% of the PCI option ARMs portfolio has been modified into fixed-rate, fully amortizing loans, respectively.
(c) Credit card and home equity lending-related commitments represent the total available lines of credit for these products. The Firm has not experienced, and does not anticipate, that all available lines of credit would be used at the same time. For credit card and home equity commitments (if certain conditions are met), the Firm can reduce or cancel these lines of credit by providing the borrower notice or, in some cases as permitted by law, without notice.
(d) Receivables from customers represent margin loans to retail brokerage customers, and are included in Accrued interest and accounts receivable on the Consolidated balance sheets.
(e) Includes accrued interest and fees net of an allowance for the uncollectible portion of accrued interest and fee income.
(f) Predominantly represents prime mortgage loans held-for-sale.

(g) At December 31, 2015 and 2014, nonaccrual loans excluded: (1) mortgage loans insured by U.S. government agencies of $6.3 billion and $7.8 billion, respectively, that are 90 or more days past due; and (2) student loans insured by U.S. government agencies under the FFELP of $290 million and $367 million, respectively, that are 90 or more days past due. These amounts have been excluded from nonaccrual loans based upon the government guarantee. In addition, credit card loans are generally exempt from being placed on nonaccrual status, as permitted by regulatory guidance.
(h) Excludes PCI loans. The Firm is recognizing interest income on each pool of PCI loans as each of the pools is performing.
(i) Net charge-offs and net charge-off rates excluded $208 million and $533 million of write-offs of prime mortgages in the PCI portfolio for the years ended December 31, 2015 and 2014. These write-offs decreased the allowance for loan losses for PCI loans. See Allowance for Credit Losses on pages 130–132 for further details.
(j) Average consumer loans held-for-sale were $2.1 billion and $917 million, respectively, for the years ended December 31, 2015 and 2014. These amounts were excluded when calculating net charge-off rates.

Consumer, excluding credit card

Portfolio analysis

Consumer loan balances increased during the year ended December 31, 2015, predominantly due to originations of high-quality prime mortgage loans that have been retained, partially offset by paydowns and the charge-off or liquidation of delinquent loans. Credit performance has continued to improve across most portfolios as the economy strengthened and home prices increased.

PCI loans are excluded from the following discussions of individual loan products and are addressed separately below. For further information about the Firm's consumer portfolio, including information about delinquencies, loan modifications and other credit quality indicators, see Note 14.

Home equity: The home equity portfolio declined from December 31, 2014 primarily reflecting loan paydowns and charge-offs. Both early-stage and late-stage delinquencies declined from December 31, 2014. Net charge-offs for both senior and junior lien home equity loans at December 31, 2015, declined when compared with the prior year as a result of improvement in home prices and delinquencies, but charge-offs remain elevated compared with pre-recessionary levels.

At December 31, 2015, approximately 15% of the Firm's home equity portfolio consists of home equity loans ("HELOANs") and the remainder consists of home equity lines of credit ("HELOCs"). HELOANs are generally fixed-rate, closed-end, amortizing loans, with terms ranging from 3–30 years. Approximately 60% of the HELOANs are senior lien loans and the remainder are junior lien loans. In general, HELOCs originated by the Firm are revolving loans for a 10-year period, after which time the HELOC recasts into a loan with a 20-year amortization period. At the time of origination, the borrower typically selects one of two minimum payment options that will generally remain in effect during the revolving period: a monthly payment of 1% of the outstanding balance, or interest-only payments based on a variable index (typically Prime). HELOCs originated by Washington Mutual were generally 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.

The unpaid principal balance of HELOCs outstanding was $41 billion at December 31, 2015. Since January 1, 2014, approximately $8 billion of HELOCs have recast from interest-only to fully amortizing payments; based upon contractual terms, approximately $19 billion is scheduled to recast in the future, consisting of $7 billion in 2016, $6 billion in 2017 and $6 billion in 2018 and beyond. However, of the total $19 billion scheduled to recast in the future, $13 billion is expected to actually recast; and the remaining $6 billion represents loans to borrowers who are expected to pre-pay or loans that are likely to charge-off prior to recast. The Firm has considered this payment recast risk in its allowance for loan losses based upon the estimated amount of payment shock (i.e., the excess of the fully-amortizing payment over the interest-only payment in effect prior to recast) expected to occur at the payment recast date, along with the corresponding estimated probability of default and loss severity assumptions. Certain factors, such as future developments in both unemployment rates and home prices, could have a significant impact on the performance of these loans.

The Firm manages the risk of HELOCs during their revolving period by closing or reducing the undrawn line to the extent permitted by law when borrowers are exhibiting a material deterioration in their credit risk profile. The Firm will continue to evaluate both the near-term and longer-term repricing and recast risks inherent in its HELOC portfolio to ensure that changes in the Firm's estimate of incurred losses are appropriately considered in the allowance for loan losses and that the Firm's account management practices are appropriate given the portfolio's risk profile.

High-risk seconds are junior lien loans where the borrower has a senior lien loan that is either delinquent or has been modified. Such loans are considered to pose a higher risk of default than junior lien loans for which the senior lien loan is neither delinquent nor modified. The Firm estimates the balance of its total exposure to high-risk seconds on a quarterly basis using internal data and loan level credit bureau data (which typically provides the delinquency status of the senior lien loan). The estimated balance of these high-risk seconds may vary from quarter to quarter for reasons such as the movement of related senior lien loans into and out of the 30+ day delinquency bucket.

Current high-risk seconds

December 31, (in billions)	2015	2014
Junior liens subordinate to:		
Modified current senior lien	**$ 0.6**	$ 0.7
Senior lien 30 – 89 days delinquent	**0.4**	0.5
Senior lien 90 days or more delinquent[(a)]	**0.4**	0.6
Total current high-risk seconds	**$ 1.4**	$ 1.8

(a) Junior liens subordinate to senior liens that are 90 days or more past due are classified as nonaccrual loans. At December 31, 2015 and 2014, excluded approximately $25 million and $50 million, respectively, of junior liens that are performing but not current, which were placed on nonaccrual in accordance with the regulatory guidance.

Of the estimated $1.4 billion of current high-risk junior liens at December 31, 2015, the Firm owns approximately 10% and services approximately 25% of the related senior lien loans to the same borrowers. The increased probability of default associated with these higher-risk junior lien loans was considered in estimating the allowance for loan losses.

Mortgage: Prime mortgages, including option ARMs and loans held-for-sale, increased from December 31, 2014 due to originations of high-quality prime mortgage loans that have been retained partially offset by paydowns, the run-off of option ARM loans and the charge-off or liquidation of delinquent loans. High-quality loan originations for the year ending December 31, 2015 included both jumbo and conforming loans, primarily consisting of fixed interest rate loans. Excluding loans insured by U.S. government agencies, both early-stage and late-stage delinquencies declined from December 31, 2014. Nonaccrual loans decreased from the prior year but remain elevated primarily as a result of loss mitigation activities. Net charge-offs remain low, reflecting continued improvement in home prices and delinquencies.

At December 31, 2015 and 2014, the Firm's prime mortgage portfolio included $11.1 billion and $12.4 billion, respectively, of mortgage loans insured and/or guaranteed by U.S. government agencies, of which $8.4 billion and $9.7 billion, respectively, were 30 days or more past due (of these past due loans, $6.3 billion and $7.8 billion, respectively, were 90 days or more past due). In 2014, the Firm entered into a settlement regarding loans insured under federal mortgage insurance programs overseen by the Federal Housing Administration ("FHA"), the U.S. Department of Housing and Urban Development ("HUD"), and the U.S. Department of Veterans Affairs ("VA"); the Firm will continue to monitor exposure on future claim payments for government insured loans, but any financial impact related to exposure on future claims is not expected to be significant and was considered in estimating the allowance for loan losses.

At December 31, 2015 and 2014, the Firm's prime mortgage portfolio included $17.7 billion and $16.3 billion, respectively, of interest-only loans, which represented 11% and 15%, respectively, of the prime mortgage portfolio. These loans have an interest-only payment period generally followed by an adjustable-rate or fixed-rate fully amortizing payment period to maturity and are typically originated as higher-balance loans to higher-income borrowers. To date, losses on this portfolio generally have been consistent with the broader prime mortgage portfolio and the Firm's expectations. The Firm continues to monitor the risks associated with these loans.

Subprime mortgages continued to decrease due to portfolio runoff. Early-stage and late-stage delinquencies have improved from December 31, 2014. Net charge-offs continued to improve as a result of improvement in home prices and delinquencies.

Auto: Auto loans increased from December 31, 2014, as new originations outpaced paydowns and payoffs. Nonaccrual loans were stable compared with December 31, 2014. Net charge-offs for the year ended December 31, 2015 increased compared with the prior year, as a result of higher loan balances and a moderate increase in loss severity. The auto loan portfolio predominantly consists of prime-quality credits.

Business banking: Business banking loans increased from December 31, 2014 due to an increase in loan originations. Nonaccrual loans declined from December 31, 2014 and net charge-offs for the year ended December 31, 2015 decreased from the prior year due to continued discipline in credit underwriting.

Student and other: Student and other loans decreased from December 31, 2014 due primarily to the run-off of the student loan portfolio as the Firm ceased originations of student loans during the fourth quarter of 2013. Nonaccrual loans and net charge-offs also declined as a result of the run-off of the student loan portfolio.

Purchased credit-impaired loans: PCI loans acquired in the Washington Mutual transaction decreased as the portfolio continues to run off.

As of December 31, 2015, approximately 14% of the option ARM PCI loans were delinquent and approximately 64% of the portfolio has been modified into fixed-rate, fully amortizing loans. Substantially all of the remaining loans are making amortizing payments, although such payments are not necessarily fully amortizing. This latter group of loans is subject to the risk of payment shock due to future payment recast. Default rates generally increase on option ARM loans when payment recast results in a payment increase. The expected increase in default rates is considered in the Firm's quarterly impairment assessment.

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

Summary of lifetime principal loss estimates

December 31, (in billions)	Lifetime loss estimates[a]		LTD liquidation losses[b]	
	2015	2014	**2015**	2014
Home equity	**$ 14.5**	$ 14.6	**$ 12.7**	$ 12.4
Prime mortgage	**4.0**	3.8	**3.7**	3.5
Subprime mortgage	**3.3**	3.3	**3.0**	2.8
Option ARMs	**10.0**	9.9	**9.5**	9.3
Total	**$ 31.8**	$ 31.6	**$ 28.9**	$ 28.0

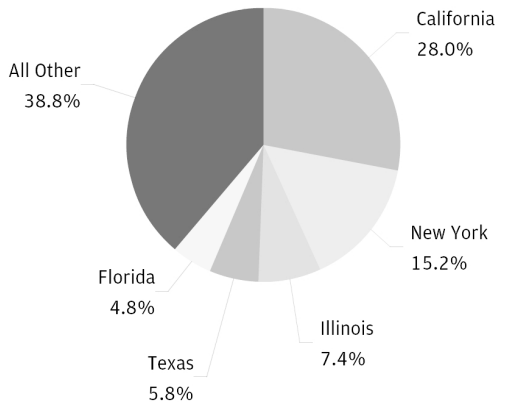
(a) Includes the original nonaccretable difference established in purchase accounting of $30.5 billion for principal losses plus additional principal losses recognized subsequent to acquisition through the provision and allowance for loan losses. The remaining nonaccretable difference for principal losses was $1.5 billion and $2.3 billion at December 31, 2015 and 2014, respectively.
(b) Life-to-date ("LTD") liquidation losses represent both realization of loss upon loan resolution and any principal forgiven upon modification.

For further information on the Firm's PCI loans, including write-offs, see Note 14.

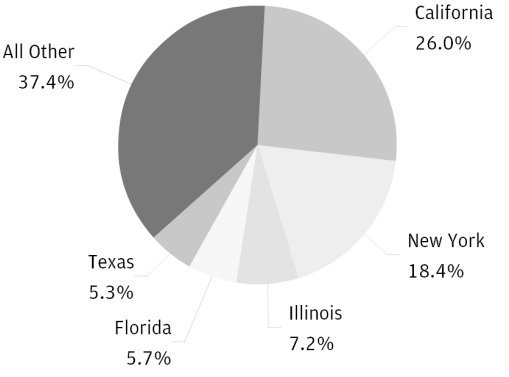
Geographic composition of residential real estate loans

At December 31, 2015, $123.0 billion, or 61% of total retained residential real estate loan portfolio, excluding mortgage loans insured by U.S. government agencies and PCI loans, were concentrated in California, New York, Illinois, Texas and Florida, compared with $94.3 billion, or 63%, at December 31, 2014. California had the greatest concentration of retained residential loans with 28% at December 31, 2015, compared with 26% at December 31, 2014. The unpaid principal balance of PCI loans concentrated in these five states represented 74% of total PCI loans at both December 31, 2015, and December 31, 2014. For further information on the geographic composition of the Firm's residential real estate loans, see Note 14.

Top 5 States - Residential Real Estate (at December 31, 2015)



Top 5 States - Residential Real Estate (at December 31, 2014)



Current estimated loan-to-values ("LTVs") of residential real estate loans

The current estimated average LTV ratio for residential real estate loans retained, excluding mortgage loans insured by U.S. government agencies and PCI loans, was 59% at both December 31, 2015 and 2014.

Although home prices continue to recover, the decline in home prices since 2007 has had a significant impact on the collateral values underlying the Firm's residential real estate loan portfolio. In general, the delinquency rate for loans with high LTV ratios is greater than the delinquency rate for loans in which the borrower has greater equity in the collateral. While a large portion of the loans with current estimated LTV ratios greater than 100% continue to pay and are current, the continued willingness and ability of these borrowers to pay remains a risk.

The following table presents the current estimated LTV ratios for PCI loans, as well as the ratios of the carrying value of the underlying loans to the current estimated collateral value. Because such loans were initially measured at fair value, the ratios of the carrying value to the current estimated collateral value will be lower than the current estimated LTV ratios, which are based on the unpaid principal balances. The estimated collateral values used to calculate these ratios do not represent actual appraised loan-level collateral values; as such, the resulting ratios are necessarily imprecise and should therefore be viewed as estimates.

LTV ratios and ratios of carrying values to current estimated collateral values – PCI loans

	2015				2014			
December 31, (in millions, except ratios)	Unpaid principal balance	Current estimated LTV ratio[a][b]	Net carrying value[d]	Ratio of net carrying value to current estimated collateral value[b][d]	Unpaid principal balance	Current estimated LTV ratio[a][b]	Net carrying value[d]	Ratio of net carrying value to current estimated collateral value[b][d]
Home equity	**$ 15,342**	**73%** [c]	**$ 13,281**	**68%** [e]	$ 17,740	78% [c]	$ 15,337	73% [e]
Prime mortgage	**8,919**	**66**	**7,908**	**58**	10,249	71	9,027	63
Subprime mortgage	**4,051**	**73**	**3,263**	**59**	4,652	79	3,493	59
Option ARMs	**14,353**	**64**	**13,804**	**62**	16,496	69	15,514	65

(a) Represents the aggregate unpaid principal balance of loans divided by the estimated current property value. Current property values are estimated at least quarterly based on home valuation models that utilize nationally recognized home price index valuation estimates; such models incorporate actual data to the extent available and forecasted data where actual data is not available.

(b) Effective December 31, 2015, the current estimated LTV ratios and the ratios of net carrying value to current estimated collateral value reflect updates to the nationally recognized home price index valuation estimates incorporated into the Firm's home valuation models. The prior period ratios have been revised to conform with these updates in the home price index.

(c) Represents current estimated combined LTV for junior home equity liens, which considers all available lien positions, as well as unused lines, related to the property. All other products are presented without consideration of subordinate liens on the property.

(d) Net carrying value includes the effect of fair value adjustments that were applied to the consumer PCI portfolio at the date of acquisition and is also net of the allowance for loan losses at December 31, 2015 and 2014 of $985 million and $1.2 billion for prime mortgage, $49 million and $194 million for option ARMs, $1.7 billion and $1.8 billion for home equity, respectively, and $180 million for subprime mortgage at December 31, 2014. There was no allowance for loan losses for subprime mortgage at December 31, 2015.

(e) The current period ratio has been updated to include the effect of any outstanding senior lien related to a property for which the Firm holds the junior home equity lien. The prior period ratio has been revised to conform with the current presentation.

The current estimated average LTV ratios were 65% and 78% for California and Florida PCI loans, respectively, at December 31, 2015, compared with 71% and 85%, respectively, at December 31, 2014. Average LTV ratios have declined consistent with recent improvements in home prices as well as a result of loan pay downs. Although home prices have improved, home prices in most areas of California and Florida are still lower than at the peak of the housing market; this continues to negatively affect current estimated average LTV ratios and the ratio of net carrying value to current estimated collateral value for loans in the PCI portfolio. Of the total PCI portfolio, 6% of the loans had a current estimated LTV ratio greater than 100%, and 1% had a current LTV ratio of greater than 125% at December 31, 2015, compared with 10% and 2%, respectively, at December 31, 2014.

While the current estimated collateral value is greater than the net carrying value of PCI loans, the ultimate performance of this portfolio is highly dependent on borrowers' behavior and ongoing ability and willingness to continue to make payments on homes with negative equity, as well as on the cost of alternative housing.

For further information on current estimated LTVs of residential real estate loans, see Note 14.

Loan modification activities – residential real estate loans

The performance of modified loans generally differs by product type due to differences in both the credit quality and the types of modifications provided. Performance metrics for modifications to the residential real estate portfolio, excluding PCI loans, that have been seasoned more than six months show weighted-average redefault rates of 20% for senior lien home equity, 22% for junior lien home equity, 17% for prime mortgages including option ARMs, and 29% for subprime mortgages. The cumulative performance metrics for modifications to the PCI residential real estate portfolio that have been seasoned more than six months show weighted average redefault rates of 20% for home equity, 19% for prime mortgages, 16% for option ARMs and 33% for subprime mortgages. The favorable performance of the PCI option ARM modifications is the result of a targeted proactive program which fixed the borrower's payment to the amount at the point of modification. The cumulative redefault rates reflect the performance of modifications completed under both the U.S. Government's Home Affordable Modification Program ("HAMP") and the Firm's proprietary modification programs (primarily the Firm's modification program that was modeled after HAMP) from October 1, 2009, through December 31, 2015.

Certain loans that were modified under HAMP and the Firm's proprietary modification programs have interest rate reset provisions ("step-rate modifications"). Interest rates on these loans generally began to increase in 2014 by 1% per year and will continue to do so, until the rate reaches a specified cap, typically at a prevailing market interest rate for a fixed-rate loan as of the modification date. The

carrying value of non-PCI loans modified in step-rate modifications was $4 billion at December 31, 2015, with $447 million that experienced the initial interest rate increase in 2015 and $1 billion that is scheduled to experience the initial interest rate increase in each of 2016 and 2017. The unpaid principal balance of PCI loans modified in step-rate modifications was $10 billion at December 31, 2015, with $1 billion that experienced the initial interest rate increase in 2015, and $3 billion and $2 billion scheduled to experience the initial interest rate increase in 2016 and 2017, respectively. The Firm continues to monitor this risk exposure to ensure that it is appropriately considered in the allowance for loan losses.

The following table presents information as of December 31, 2015 and 2014, relating to modified retained residential real estate loans for which concessions have been granted to borrowers experiencing financial difficulty. Modifications of PCI loans continue to be accounted for and reported as PCI loans, and the impact of the modification is incorporated into the Firm's quarterly assessment of estimated future cash flows. Modifications of consumer loans other than PCI loans are generally accounted for and reported as TDRs. For further information on modifications for the years ended December 31, 2015 and 2014, see Note 14.

Modified residential real estate loans

	2015		2014	
December 31, (in millions)	Retained loans	Nonaccrual retained loans[d]	Retained loans	Nonaccrual retained loans[d]
Modified residential real estate loans, excluding PCI loans[a][b]				
Home equity – senior lien	**$ 1,048**	**$ 581**	$ 1,101	$ 628
Home equity – junior lien	**1,310**	**639**	1,304	632
Prime mortgage, including option ARMs	**4,826**	**1,287**	6,145	1,559
Subprime mortgage	**1,864**	**670**	2,878	931
Total modified residential real estate loans, excluding PCI loans	**$ 9,048**	**$ 3,177**	$ 11,428	$ 3,750
Modified PCI loans[c]				
Home equity	**$ 2,526**	**NA**	$ 2,580	NA
Prime mortgage	**5,686**	**NA**	6,309	NA
Subprime mortgage	**3,242**	**NA**	3,647	NA
Option ARMs	**10,427**	**NA**	11,711	NA
Total modified PCI loans	**$ 21,881**	**NA**	$ 24,247	NA

(a) Amounts represent the carrying value of modified residential real estate loans.
(b) At December 31, 2015 and 2014, $3.8 billion and $4.9 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. For additional information about sales of loans in securitization transactions with Ginnie Mae, see Note 16.
(c) Amounts represent the unpaid principal balance of modified PCI loans.
(d) As of December 31, 2015 and 2014, nonaccrual loans included $2.5 billion and $2.9 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, see Note 14.

Nonperforming assets

The following table presents information as of December 31, 2015 and 2014, about consumer, excluding credit card, nonperforming assets.

Nonperforming assets[a]

December 31, (in millions)	2015	2014
Nonaccrual loans[b]		
Residential real estate	**$ 4,792**	$ 5,845
Other consumer	**621**	664
Total nonaccrual loans	**5,413**	6,509
Assets acquired in loan satisfactions		
Real estate owned	**277**	437
Other	**48**	36
Total assets acquired in loan satisfactions	**325**	473
Total nonperforming assets	**$ 5,738**	$ 6,982

(a) At December 31, 2015 and 2014, nonperforming assets excluded: (1) mortgage loans insured by U.S. government agencies of $6.3 billion and $7.8 billion, respectively, that are 90 or more days past due; (2) student loans insured by U.S. government agencies under the FFELP of $290 million and $367 million, respectively, that are 90 or more days past due; and (3) real estate owned insured by U.S. government agencies of $343 million and $462 million, respectively. These amounts have been excluded based upon the government guarantee.
(b) Excludes PCI loans that were acquired as part of the Washington Mutual transaction, which are accounted for on a pool basis. Since each pool is accounted for as a single asset with a single composite interest rate and an aggregate expectation of cash flows, the past-due status of the pools, or that of individual loans within the pools, is not meaningful. Because the Firm is recognizing interest income on each pool of loans, each pool is considered to be performing.

Nonaccrual loans in the residential real estate portfolio totaled $4.8 billion and $5.8 billion at December 31, 2015, and 2014, respectively, of which 31% and 32%, respectively, were greater than 150 days past due. In the aggregate, the unpaid principal balance of residential real estate loans greater than 150 days past due was charged down by approximately 44% and 50% to the estimated net realizable value of the collateral at December 31, 2015 and 2014, respectively.

Active and suspended foreclosure: For information on loans that were in the process of active or suspended foreclosure, see Note 14.

Nonaccrual loans: The following table presents changes in the consumer, excluding credit card, nonaccrual loans for the years ended December 31, 2015 and 2014.

Nonaccrual loans

Year ended December 31, (in millions)	2015	2014
Beginning balance	**$ 6,509**	$ 7,496
Additions	**3,662**	4,905
Reductions:		
Principal payments and other[a]	**1,668**	1,859
Charge-offs	**800**	1,306
Returned to performing status	**1,725**	2,083
Foreclosures and other liquidations	**565**	644
Total reductions	**4,758**	5,892
Net additions/(reductions)	**(1,096)**	(987)
Ending balance	**$ 5,413**	$ 6,509

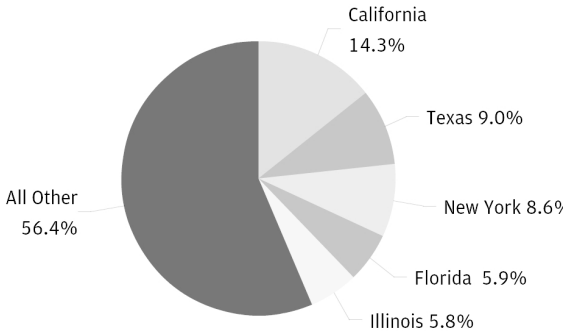
(a) Other reductions includes loan sales.

Credit Card

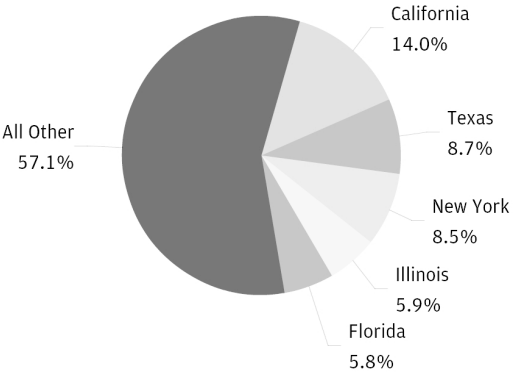
Total credit card loans increased from December 31, 2014 due to higher new account originations and increased credit card sales volume partially offset by sales of non-core loans and the transfer of commercial card loans to the CIB. The 30+ day delinquency rate decreased to 1.43% at December 31, 2015, from 1.44% at December 31, 2014. For the years ended December 31, 2015 and 2014, the net charge-off rates were 2.51% and 2.75%, respectively. The Credit Card 30+ day delinquency rate and net charge-off rate remain near historic lows. Charge-offs have improved compared to a year ago due to continued discipline in credit underwriting as well as improvement in the economy driven by lower unemployment. The credit card portfolio continues to reflect a well-seasoned, largely rewards-based portfolio that has good U.S. geographic diversification.

Loans outstanding in the top five states of California, Texas, New York, Florida and Illinois consisted of $57.5 billion in receivables, or 44% of the retained loan portfolio, at December 31, 2015, compared with $54.9 billion, or 43%, at December 31, 2014. The greatest geographic concentration of credit card retained loans is in California, which represented 14% of total retained loans at both December 31, 2015 and 2014, respectively. For further information on the geographic composition of the Firm's credit card loans, see Note 14.

Top 5 States Credit Card - Retained (at December 31, 2015)



Top 5 States Credit Card - Retained (at December 31, 2014)



Modifications of credit card loans

At December 31, 2015 and 2014, the Firm had $1.5 billion and $2.0 billion, respectively, of credit card loans outstanding that have been modified in TDRs. These balances included both credit card loans with modified payment terms and credit card loans that reverted back to their pre-modification payment terms because the cardholder did not comply with the modified payment terms. The decrease in modified credit card loans outstanding from December 31, 2014, was attributable to a reduction in new modifications as well as ongoing payments and charge-offs on previously modified credit card loans.

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

For additional information about loan modification programs to borrowers, see Note 14.

WHOLESALE CREDIT PORTFOLIO

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

The wholesale credit portfolio, excluding Oil & Gas, continued to be generally stable throughout 2015, characterized by low levels of criticized exposure, nonaccrual loans and charge-offs. Growth in loans retained was driven by increased client activity, notably in commercial real estate. Discipline in underwriting across all areas of lending continues to remain a key point of focus. The wholesale portfolio is actively managed, in part by conducting ongoing, in-depth reviews of client credit quality and transaction structure, inclusive of collateral where applicable; and of industry, product and client concentrations.

Wholesale credit portfolio

December 31,	Credit exposure		Nonperforming[c]	
(in millions)	**2015**	2014	**2015**	2014
Loans retained	**$357,050**	$324,502	**$ 988**	$ 599
Loans held-for-sale	**1,104**	3,801	**3**	4
Loans at fair value	**2,861**	2,611	**25**	21
Loans – reported	**361,015**	330,914	**1,016**	624
Derivative receivables	**59,677**	78,975	**204**	275
Receivables from customers and other[a]	**13,372**	28,972	**–**	–
Total wholesale credit-related assets	**434,064**	438,861	**1,220**	899
Lending-related commitments	**366,399**	366,881	**193**	103
Total wholesale credit exposure	**$800,463**	$805,742	**$ 1,413**	$ 1,002
Credit derivatives used in credit portfolio management activities[b]	**$ (20,681)**	$ (26,703)	**$ (9)**	$ –
Liquid securities and other cash collateral held against derivatives	**(16,580)**	(19,604)	**NA**	NA

(a) Receivables from customers and other include $13.3 billion and $28.8 billion of margin loans at December 31, 2015 and 2014, respectively, to prime and retail brokerage customers; these are classified in accrued interest and accounts receivable on the Consolidated balance sheets.

(b) Represents the net notional amount of protection purchased and sold through credit derivatives used to manage both performing and nonperforming wholesale credit exposures; these derivatives do not qualify for hedge accounting under U.S. GAAP. For additional information, see Credit derivatives on page 129, and Note 6.

(c) Excludes assets acquired in loan satisfactions.

The following tables present the maturity and ratings profiles of the wholesale credit portfolio as of December 31, 2015 and 2014. The ratings scale is based on the Firm's internal risk ratings, which generally correspond to the ratings as defined by S&P and Moody's. For additional information on wholesale loan portfolio risk ratings, see Note 14.

Wholesale credit exposure – maturity and ratings profile

	Maturity profile[e]				Ratings profile			
					Investment-grade	Noninvestment-grade		
December 31, 2015 (in millions, except ratios)	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years	**Total**	AAA/Aaa to BBB-/Baa3	BB+/Ba1 & below	**Total**	Total % of IG
Loans retained	**$ 110,348**	**$ 155,902**	**$ 90,800**	**$ 357,050**	**$ 267,736**	**$ 89,314**	**$ 357,050**	**75%**
Derivative receivables				**59,677**			**59,677**	
Less: Liquid securities and other cash collateral held against derivatives				**(16,580)**			**(16,580)**	
Total derivative receivables, net of all collateral	**11,399**	**12,836**	**18,862**	**43,097**	**34,773**	**8,324**	**43,097**	**81**
Lending-related commitments	**105,514**	**251,042**	**9,843**	**366,399**	**267,922**	**98,477**	**366,399**	**73**
Subtotal	**227,261**	**419,780**	**119,505**	**766,546**	**570,431**	**196,115**	**766,546**	**74**
Loans held-for-sale and loans at fair value[a]				**3,965**			**3,965**	
Receivables from customers and other				**13,372**			**13,372**	
Total exposure – net of liquid securities and other cash collateral held against derivatives				**$ 783,883**			**$ 783,883**	
Credit derivatives used in credit portfolio management activities by reference entity ratings profile[b][c][d]	**$ (808)**	**$ (14,427)**	**$ (5,446)**	**$ (20,681)**	**$ (17,754)**	**$ (2,927)**	**$ (20,681)**	**86%**

	Maturity profile[e]				Ratings profile			
					Investment-grade	Noninvestment-grade		
December 31, 2014 (in millions, except ratios)	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years	Total	AAA/Aaa to BBB-/Baa3	BB+/Ba1 & below	Total	Total % of IG
Loans retained	$ 112,411	$ 134,277	$ 77,814	$ 324,502	$ 241,666	$ 82,836	$ 324,502	74%
Derivative receivables				78,975			78,975	
Less: Liquid securities and other cash collateral held against derivatives				(19,604)			(19,604)	
Total derivative receivables, net of all collateral	20,032	16,130	23,209	59,371	50,815 [f]	8,556 [f]	59,371	86
Lending-related commitments	94,635	262,572	9,674	366,881	284,288	82,593	366,881	77
Subtotal	227,078	412,979	110,697	750,754	576,769	173,985	750,754	77
Loans held-for-sale and loans at fair value[a]				6,412			6,412	
Receivables from customers and other				28,972			28,972	
Total exposure – net of liquid securities and other cash collateral held against derivatives				$ 786,138			$ 786,138	
Credit derivatives used in credit portfolio management activities by reference entity ratings profile[b][c][d]	$ (2,050)	$ (18,653)	$ (6,000)	$ (26,703)	$ (23,571)	$ (3,132)	$ (26,703)	88%

(a) Represents loans held-for-sale, primarily related to syndicated loans and loans transferred from the retained portfolio, and loans at fair value.
(b) These derivatives do not quality for hedge accounting under U.S. GAAP.
(c) The notional amounts are presented on a net basis by underlying reference entity and the ratings profile shown is based on the ratings of the reference entity on which protection has been purchased.
(d) Predominantly all of the credit derivatives entered into by the Firm where it has purchased protection, including Credit derivatives used in credit portfolio management activities, are executed with investment grade counterparties.
(e) The maturity profile of retained loans, lending-related commitments and derivative receivables is based on remaining contractual maturity. Derivative contracts that are in a receivable position at December 31, 2015, may become a payable prior to maturity based on their cash flow profile or changes in market conditions.
(f) Prior period amounts have been revised to conform with current period presentation.

Wholesale credit exposure – industry exposures

The Firm focuses on the management and diversification of its industry exposures, paying particular attention to industries with actual or potential credit concerns. Exposures deemed criticized align with the U.S. banking regulators' definition of criticized exposures, which consist of the special mention, substandard and doubtful categories. The total criticized component of the portfolio, excluding loans held-for-sale and loans at fair value, was $14.6 billion at December 31, 2015, compared with $10.1 billion at December 31, 2014, driven by downgrades within the Oil & Gas portfolio.

Effective in the fourth quarter 2015, the Firm realigned its wholesale industry divisions in order to better monitor and manage industry concentrations. Included in this realignment is the combination of certain previous stand-alone industries (e.g. Consumer & Retail) as well as the creation of a new industry division, Financial Market Infrastructure, consisting of clearing houses, exchanges and related depositories. In the tables below, the prior period information has been revised to conform with the current period presentation.

Below are summaries of the Firm's exposures as of December 31, 2015 and 2014. For additional information on industry concentrations, see Note 5.

Wholesale credit exposure – industries[a]

						Selected metrics			
			Noninvestment-grade						
As of or for the year ended **December 31, 2015** (in millions)	Credit exposure[d]	Investment-grade	Noncriticized	Criticized performing	Criticized nonperforming	30 days or more past due and accruing loans	Net charge-offs/ (recoveries)	Credit derivative hedges[e]	Liquid securities and other cash collateral held against derivative receivables
Real Estate	$ 116,857	$ 88,076	$ 27,087	$ 1,463	$ 231	$ 208	$ (14)	$ (54)	$ (47)
Consumer & Retail	85,460	53,647	29,659	1,947	207	18	13	(288)	(94)
Technology, Media & Telecommunications	57,382	29,205	26,925	1,208	44	5	(1)	(806)	(21)
Industrials	54,386	36,519	16,663	1,164	40	59	8	(386)	(39)
Healthcare	46,053	37,858	7,755	394	46	129	(7)	(24)	(245)
Banks & Finance Cos	43,398	35,071	7,654	610	63	17	(5)	(974)	(5,509)
Oil & Gas	42,077	24,379	13,158	4,263	277	22	13	(530)	(37)
Utilities	30,853	24,983	5,655	168	47	3	–	(190)	(289)
State & Municipal Govt[b]	29,114	28,307	745	7	55	55	(8)	(146)	(81)
Asset Managers	23,815	20,214	3,570	31	–	18	–	(6)	(4,453)
Transportation	19,227	13,258	5,801	167	1	15	3	(51)	(243)
Central Govt	17,968	17,871	97	–	–	7	–	(9,359)	(2,393)
Chemicals & Plastics	15,232	10,910	4,017	274	31	9	–	(17)	–
Metals & Mining	14,049	6,522	6,434	1,008	85	1	–	(449)	(4)
Automotive	13,864	9,182	4,580	101	1	4	(2)	(487)	(1)
Insurance	11,889	9,812	1,958	26	93	23	–	(157)	(1,410)
Financial Markets Infrastructure	7,973	7,304	669	–	–	–	–	–	(167)
Securities Firms	4,412	1,505	2,907	–	–	3	–	(102)	(256)
All other[c]	149,117	130,488	18,095	370	164	1,015	10	(6,655)	(1,291)
Subtotal	$ 783,126	$ 585,111	$ 183,429	$ 13,201	$ 1,385	$ 1,611	$ 10	$ (20,681)	$ (16,580)
Loans held-for-sale and loans at fair value	3,965								
Receivables from customers and interests in purchased receivables	13,372								
Total	$ 800,463								

As of or for the year ended December 31, 2014 (in millions)	Credit exposure[e]	Investment-grade	Noninvestment-grade			Selected metrics			
			Noncriticized	Criticized performing	Criticized nonperforming	30 days or more past due and accruing loans	Net charge-offs/ (recoveries)	Credit derivative hedges[f]	Liquid securities and other cash collateral held against derivative receivables
Real Estate	$ 105,975	$ 78,996	$ 25,370	$ 1,356	$ 253	$ 309	$ (9)	$ (36)	$ (27)
Consumer & Retail	83,663	52,872	28,289	2,315	187	92	9	(81)	(26)
Technology, Media & Telecommunications	46,655	29,792	15,358	1,446	59	25	(5)	(1,107)	(13)
Industrials	47,859	29,246	17,483	1,117	13	58	(1)	(338)	(24)
Healthcare	56,516	48,402	7,584	488	42	193	16	(94)	(244)
Banks & Finance Cos	55,098	45,962	8,611	508	17	46	(4)	(1,232)	(9,369)
Oil & Gas	43,148	29,260	13,831	56	1	15	2	(144)	(161)
Utilities	27,441	23,533	3,653	255	–	198	(3)	(155)	(193)
State & Municipal Govt[b]	31,068	30,147	819	102	–	69	24	(148)	(130)
Asset Managers	27,488	24,054	3,376	57	1	38	(12)	(9)	(4,545)
Transportation	20,619	13,751	6,703	165	–	5	(12)	(42)	(279)
Central Govt	19,881	19,647	176	58	–	–	–	(11,342)	(1,161)
Chemicals & Plastics	12,612	9,256	3,327	29	–	1	(2)	(14)	–
Metals & Mining	14,969	8,304	6,161	504	–	–	18	(377)	(19)
Automotive	12,754	8,071	4,522	161	–	1	(1)	(140)	–
Insurance	13,350	10,550	2,558	80	162	–	–	(52)	(2,372)
Financial Markets Infrastructure	11,986	11,487	499	–	–	–	–	–	(4)
Securities Firms	4,801	2,491	2,245	10	55	20	4	(102)	(212)
All other[c]	134,475	118,639	15,214	435	187	1,231	(12)	(11,290)	(825)
Subtotal	$ 770,358	$ 594,460	$ 165,779	$ 9,142	$ 977	$ 2,301	$ 12	$ (26,703)	$ (19,604)
Loans held-for-sale and loans at fair value	6,412								
Receivables from customers and interests in purchased receivables	28,972								
Total[d]	$ 805,742								

(a) The industry rankings presented in the table as of December 31, 2014, are based on the industry rankings of the corresponding exposures at December 31, 2015, not actual rankings of such exposures at December 31, 2014.

(b) In addition to the credit risk exposure to states and municipal governments (both U.S. and non-U.S.) at December 31, 2015 and 2014, noted above, the Firm held: $7.6 billion and $10.6 billion, respectively, of trading securities; $33.6 billion and $30.1 billion, respectively, of available-for-sale ("AFS") securities; and $12.8 billion and $10.2 billion, respectively, of held-to-maturity ("HTM") securities, issued by U.S. state and municipal governments. For further information, see Note 3 and Note 12.

(c) All other includes: individuals; SPEs; holding companies; and private education and civic organizations, representing approximately 54%, 37%, 5% and 4%, respectively, at December 31, 2015, and 55%, 33%, 6% and 6%, respectively, at December 31, 2014.

(d) Excludes cash placed with banks of $351.0 billion and $501.5 billion, at December 31, 2015 and 2014, respectively, placed with various central banks, predominantly Federal Reserve Banks.

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

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

Presented below is a discussion of certain industries to which the Firm has significant exposure and/or present actual or potential credit concerns. For additional information, refer to the tables on the previous pages.

- **Real Estate:** Exposure to this industry increased by $10.9 billion, or 10%, in 2015 to $116.9 billion. The increase was largely driven by growth in multifamily exposure in Commercial Banking. The credit quality of this industry remained stable as the investment-grade portion of the exposures was 75% for 2015 and 2014. The ratio of nonaccrual retained loans to total retained loans decreased to 0.25% at December 31, 2015 from 0.32% at December 31, 2014. For further information on commercial real estate loans, see Note 14.
- **Oil & Gas:** Exposure to the Oil & Gas industry was approximately 5.3% and 5.4% of the Firm's total wholesale exposure as of December 31, 2015 and 2014, respectively. Exposure to this industry decreased by $1.1 billion in 2015 to $42.1 billion; of the $42.1 billion, $13.3 billion was drawn at year-end. As of December 31, 2015, approximately $24 billion of the exposure was investment-grade, of which $4 billion was drawn, and approximately $18 billion of the exposure was high yield, of which $9 billion was drawn. As of December 31, 2015, $23.5 billion of the portfolio was concentrated in the Exploration & Production and Oilfield Services sub-sectors, 36% of which exposure was drawn. Exposure to other sub-sectors, including Integrated oil and gas firms, Midstream/Oil Pipeline companies, and Refineries, is predominantly investment-grade. As of December 31, 2015, secured lending, which largely consists of reserve-based lending to the Oil & Gas industry, was $12.3 billion, 44% of which exposure was drawn.

  In addition to $42.1 billion in exposure classified as Oil & Gas, the Firm had $4.3 billion in exposure to Natural Gas Pipelines and related Distribution businesses, of which $893 million was drawn at year end and 63% was investment-grade, and $4.1 billion in exposure to commercial real estate in geographies sensitive to the Oil & Gas industry.

  The Firm continues to actively monitor and manage its exposure to the Oil & Gas industry in light of market conditions, and is also actively monitoring potential contagion effects on other related or dependent industries.
- **Metals & Mining:** Exposure to the Metals & Mining industry was approximately 1.8% and 1.9% of the Firm's total wholesale exposure as of December 31, 2015 and 2014, respectively. Exposure to the Metals & Mining industry decreased by $920 million in 2015 to $14.0 billion, of which $4.6 billion was drawn. The portfolio largely consists of exposure in North America, and 59% is concentrated in the Steel and Diversified Mining sub-sectors. Approximately 46% of the exposure in the Metals & Mining portfolio was investment-grade as of December 31, 2015, a decrease from 55% as of December 31, 2014, due to downgrades.

Loans

In the normal course of its wholesale business, the Firm provides loans to a variety of customers, ranging from large corporate and institutional clients to high-net-worth individuals. The Firm actively manages its wholesale credit exposure. One way of managing credit risk is through secondary market sales of loans and lending-related commitments. For further discussion on loans, including information on credit quality indicators and sales of loans, see Note 14.

The following table presents the change in the nonaccrual loan portfolio for the years ended December 31, 2015 and 2014.

Wholesale nonaccrual loan activity

Year ended December 31, (in millions)	2015	2014
Beginning balance	**$ 624**	$ 1,044
Additions	**1,307**	882
Reductions:		
Paydowns and other	**534**	756
Gross charge-offs	**87**	148
Returned to performing status	**286**	303
Sales	**8**	95
Total reductions	**915**	1,302
Net changes	**392**	(420)
Ending balance	**$ 1,016**	$ 624

The following table presents net charge-offs, which are defined as gross charge-offs less recoveries, for the years ended December 31, 2015 and 2014. The amounts in the table below do not include gains or losses from sales of nonaccrual loans.

Wholesale net charge-offs

Year ended December 31, (in millions, except ratios)	2015	2014
Loans – reported		
Average loans retained	**$ 337,407**	$ 316,060
Gross charge-offs	**95**	151
Gross recoveries	**(85)**	(139)
Net charge-offs	**10**	12
Net charge-off rate	**–%**	–%

Receivables from customers

Receivables from customers primarily represent margin loans to prime and retail brokerage clients that are collateralized through a pledge of assets maintained in clients' brokerage accounts which are subject to daily minimum collateral requirements. In the event that the collateral value decreases, a maintenance margin call is made to the client to provide additional collateral into the account. If additional collateral is not provided by the client, the client's position may be liquidated by the Firm to meet the minimum collateral requirements.

Lending-related commitments

The Firm uses lending-related financial instruments, such as commitments (including revolving credit facilities) and guarantees, to meet the financing needs of its customers. The contractual amounts of these financial instruments represent the maximum possible credit risk should the counterparties draw down on these commitments or the Firm fulfills its obligations under these guarantees, and the counterparties subsequently fail to perform according to the terms of these contracts.

In the Firm's view, the total contractual amount of these wholesale lending-related commitments is not representative of the Firm's likely actual future credit exposure or funding requirements. In determining the amount of credit risk exposure the Firm has to wholesale lending-related commitments, which is used as the basis for allocating credit risk capital to these commitments, the Firm has established a "loan-equivalent" amount for each commitment; this amount represents the portion of the unused commitment or other contingent exposure that is expected, based on average portfolio historical experience, to become drawn upon in an event of a default by an obligor. The loan-equivalent amount of the Firm's lending-related commitments was $212.4 billion and $216.5 billion as of December 31, 2015 and 2014, respectively.

Clearing services

The Firm provides clearing services for clients entering into securities and derivative transactions. Through the provision of these services the Firm is exposed to the risk of non-performance by its clients and may be required to share in losses incurred by central counterparties ("CCPs"). Where possible, the Firm seeks to mitigate its credit risk to its clients through the collection of adequate margin at inception and throughout the life of the transactions and can also cease provision of clearing services if clients do not adhere to their obligations under the clearing agreement. For further discussion of Clearing services, see Note 29.

Derivative contracts

In the normal course of business, the Firm uses derivative instruments predominantly for market-making activities. Derivatives enable customers to manage exposures to fluctuations in interest rates, currencies and other markets. The Firm also uses derivative instruments to manage its own credit and other market risk exposure. The nature of the counterparty and the settlement mechanism of the derivative affect the credit risk to which the Firm is exposed. For OTC derivatives the Firm is exposed to the credit risk of the derivative counterparty. For exchange-traded derivatives ("ETD"), such as futures and options and "cleared" over-the-counter ("OTC-cleared") derivatives, the Firm is generally exposed to the credit risk of the relevant CCP. Where possible, the Firm seeks to mitigate its credit risk exposures arising from derivative transactions through the use of legally enforceable master netting arrangements and collateral agreements. For further discussion of derivative contracts, counterparties and settlement types, see Note 6.

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

Derivative receivables

December 31, (in millions)	2015	2014
Interest rate	**$ 26,363**	$ 33,725
Credit derivatives	**1,423**	1,838
Foreign exchange	**17,177**	21,253
Equity	**5,529**	8,177
Commodity	**9,185**	13,982
Total, net of cash collateral	**59,677**	78,975
Liquid securities and other cash collateral held against derivative receivables	**(16,580)**	(19,604)
Total, net of all collateral	**$ 43,097**	$ 59,371

Derivative receivables reported on the Consolidated balance sheets were $59.7 billion and $79.0 billion at December 31, 2015 and 2014, respectively. These amounts represent the fair value of the derivative contracts, after giving effect to legally enforceable master netting agreements and cash collateral held by the Firm. However, in management's view, the appropriate measure of current credit risk should also take into consideration additional liquid securities (primarily U.S. government and agency securities and other group of seven nations ("G7") government bonds) and other cash collateral held by the Firm aggregating $16.6 billion and $19.6 billion at December 31, 2015 and 2014, respectively, that may be used as security when the fair value of the client's exposure is in the Firm's favor. The decrease in derivative receivables was predominantly driven by declines in interest rate derivatives, commodity derivatives, foreign exchange derivatives and equity derivatives due to market movements, maturities and settlements related to client-driven market-making activities in CIB.

In addition to the collateral described in the preceding paragraph, the Firm also holds additional collateral (primarily cash; G7 government securities; other liquid government-agency and guaranteed securities; and corporate debt and equity securities) delivered by clients at the initiation of transactions, as well as collateral related to contracts that have a non-daily call frequency and collateral that the Firm has agreed to return but has not yet settled as of the reporting date. Although this collateral does not reduce the balances and is not included in the table above, it is available as security against potential exposure that could arise should the fair value of the client's derivative transactions move in the Firm's favor. As of December 31, 2015 and 2014, the Firm held $43.7 billion and $48.6 billion, respectively, of this additional collateral. The derivative receivables fair value, net of all collateral, also does not include other credit enhancements, such as letters of credit. For additional information on the Firm's use of collateral agreements, see Note 6.

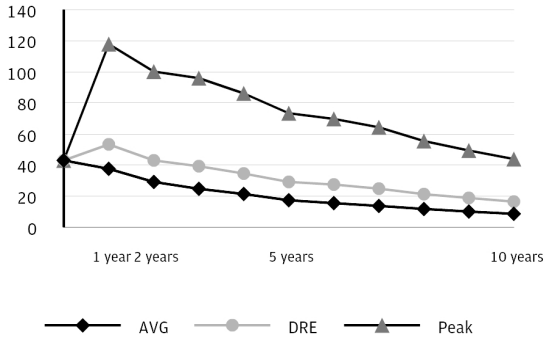
While useful as a current view of credit exposure, the net fair value of the derivative receivables does not capture the potential future variability of that credit exposure. To capture the potential future variability of credit exposure, the Firm calculates, on a client-by-client basis, three measures of potential derivatives-related credit loss: Peak, Derivative Risk Equivalent ("DRE"), and Average exposure ("AVG"). These measures all incorporate netting and collateral benefits, where applicable.

Peak represents a conservative measure of potential exposure to a counterparty calculated in a manner that is broadly equivalent to a 97.5% confidence level. Peak is the primary measure used by the Firm for setting of credit limits for derivative transactions, senior management reporting and derivatives exposure management. DRE exposure is a measure that expresses the risk of derivative exposure on a basis intended to be equivalent to the risk of loan exposures. DRE is a less extreme measure of potential credit loss than Peak and is used for aggregating derivative credit risk exposures with loans and other credit risk. Finally, AVG is a measure of the expected fair value of the Firm's derivative receivables at future time periods, including the benefit of collateral. AVG exposure over the total life of the derivative contract is used as the primary metric for pricing purposes and is used to calculate credit capital and the CVA, as further described below. The three year AVG exposure was $32.4 billion and $37.5 billion at December 31, 2015 and 2014, respectively, compared with derivative receivables, net of all collateral, of $43.1 billion and $59.4 billion at December 31, 2015 and 2014, respectively.

The fair value of the Firm's derivative receivables incorporates an adjustment, the CVA, to reflect the credit quality of counterparties. The CVA is based on the Firm's AVG to a counterparty and the counterparty's credit spread in the credit derivatives market. The primary components of changes in CVA are credit spreads, new deal activity or unwinds, and changes in the underlying market environment. The Firm believes that active risk management is essential to controlling the dynamic credit risk in the derivatives portfolio. In addition, the Firm's risk management process takes into consideration the potential impact of wrong-way risk, which is broadly defined as the potential for increased correlation between the Firm's exposure to a counterparty (AVG) and the counterparty's credit quality. Many factors may influence the nature and magnitude of these correlations over time. To the extent that these correlations are identified, the Firm may adjust the CVA associated with that counterparty's AVG. The Firm risk manages exposure to changes in CVA by entering into credit derivative transactions, as well as interest rate, foreign exchange, equity and commodity derivative transactions.

The accompanying graph shows exposure profiles to the Firm's current derivatives portfolio over the next 10 years as calculated by the Peak, DRE and AVG metrics. The three measures generally show that exposure will decline after the first year, if no new trades are added to the portfolio.

Exposure profile of derivatives measures
December 31, 2015
(in billions)



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

Ratings profile of derivative receivables

Rating equivalent	2015		2014[a]	
December 31, (in millions, except ratios)	Exposure net of all collateral	% of exposure net of all collateral	Exposure net of all collateral	% of exposure net of all collateral
AAA/Aaa to AA-/Aa3	**$ 10,371**	**24%**	$ 18,713	32%
A+/A1 to A-/A3	**10,595**	**25**	13,508	23
BBB+/Baa1 to BBB-/Baa3	**13,807**	**32**	18,594	31
BB+/Ba1 to B-/B3	**7,500**	**17**	7,735	13
CCC+/Caa1 and below	**824**	**2**	821	1
Total	**$ 43,097**	**100%**	$ 59,371	100%

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

As previously noted, the Firm uses collateral agreements to mitigate counterparty credit risk. The percentage of the Firm's derivatives transactions subject to collateral agreements – excluding foreign exchange spot trades, which are not typically covered by collateral agreements due to their short maturity – was 87% as of December 31, 2015, largely unchanged compared with 88% as of December 31, 2014.

Credit derivatives

The Firm uses credit derivatives for two primary purposes: first, in its capacity as a market-maker, and second, as an end-user to manage the Firm's own credit risk associated with various exposures. For a detailed description of credit derivatives, see Credit derivatives in Note 6.

Credit portfolio management activities

Included in the Firm's end-user activities are credit derivatives used to mitigate the credit risk associated with traditional lending activities (loans and unfunded commitments) and derivatives counterparty exposure in the Firm's wholesale businesses (collectively, "credit portfolio management" activities). Information on credit portfolio management activities is provided in the table below. For further information on derivatives used in credit portfolio management activities, see Credit derivatives in Note 6.

The Firm also uses credit derivatives as an end-user to manage other exposures, including credit risk arising from certain securities held in the Firm's market-making businesses. These credit derivatives are not included in credit portfolio management activities; for further information on these credit derivatives as well as credit derivatives used in the Firm's capacity as a market-maker in credit derivatives, see Credit derivatives in Note 6.

Credit derivatives used in credit portfolio management activities

	Notional amount of protection purchased [a]	
December 31, (in millions)	**2015**	2014
Credit derivatives used to manage:		
Loans and lending-related commitments	**$ 2,289**	$ 2,047
Derivative receivables	**18,392**	24,656
Credit derivatives used in credit portfolio management activities	**$ 20,681**	$ 26,703

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

The credit derivatives used in credit portfolio management activities do not qualify for hedge accounting under U.S. GAAP; these derivatives are reported at fair value, with gains and losses recognized in principal transactions revenue. In contrast, the loans and lending-related commitments being risk-managed are accounted for on an accrual basis. This asymmetry in accounting treatment, between loans and lending-related commitments and the credit derivatives used in credit portfolio management activities, causes earnings volatility that is not representative, in the Firm's view, of the true changes in value of the Firm's overall credit exposure.

The effectiveness of the Firm's credit default swap ("CDS") protection as a hedge of the Firm's exposures may vary depending on a number of factors, including the named reference entity (i.e., the Firm may experience losses on specific exposures that are different than the named reference entities in the purchased CDS); the contractual terms of the CDS (which may have a defined credit event that does not align with an actual loss realized by the Firm); and the maturity of the Firm's CDS protection (which in some cases may be shorter than the Firm's exposures). However, the Firm generally seeks to purchase credit protection with a maturity date that is the same or similar to the maturity date of the exposure for which the protection was purchased, and remaining differences in maturity are actively monitored and managed by the Firm.

ALLOWANCE FOR CREDIT LOSSES

JPMorgan Chase's allowance for loan losses covers both the consumer (primarily scored) portfolio and wholesale (risk-rated) portfolio. The allowance represents management's estimate of probable credit losses inherent in the Firm's loan portfolio. Management also determines an allowance for wholesale and certain consumer lending-related commitments.

For a further discussion of the components of the allowance for credit losses and related management judgments, see Critical Accounting Estimates Used by the Firm on pages 165–169 and Note 15.

At least quarterly, the allowance for credit losses is reviewed by the Chief Risk Officer, the Chief Financial Officer and the Controller of the Firm, and discussed with the DRPC and Audit Committee of the Firm's Board of Directors. As of December 31, 2015, JPMorgan Chase deemed the allowance for credit losses to be appropriate and sufficient to absorb probable credit losses inherent in the portfolio.

The consumer, excluding credit card, allowance for loan losses decreased from December 31, 2014, due to a reduction in the residential real estate portfolio allowance, reflecting continued improvement in home prices and delinquencies and increased granularity in the impairment estimates. For additional information about delinquencies and nonaccrual loans in the consumer, excluding credit card, loan portfolio, see Consumer Credit Portfolio on pages 115–121 and Note 14.

The credit card allowance for loan losses was relatively unchanged from December 31, 2014, reflecting stable credit quality trends. For additional information about delinquencies in the credit card loan portfolio, see Consumer Credit Portfolio on pages 115–121 and Note 14.

The wholesale allowance for credit losses increased from December 31, 2014, reflecting the impact of downgrades in the Oil & Gas portfolio. Excluding Oil and Gas, the wholesale portfolio continued to experience generally stable credit quality trends and low charge-off rates.

Summary of changes in the allowance for credit losses

Year ended December 31, (in millions, except ratios)	2015 Consumer, excluding credit card	2015 Credit card	2015 Wholesale	2015 Total	2014 Consumer, excluding credit card	2014 Credit card	2014 Wholesale	2014 Total
Allowance for loan losses								
Beginning balance at January 1,	**$ 7,050**	**$ 3,439**	**$ 3,696**	**$ 14,185**	$ 8,456	$ 3,795	$ 4,013	$ 16,264
Gross charge-offs	**1,658**	**3,488**	**95**	**5,241**	2,132	3,831	151	6,114
Gross recoveries	**(704)**	**(366)**	**(85)**	**(1,155)**	(814)	(402)	(139)	(1,355)
Net charge-offs	**954**	**3,122**	**10**	**4,086**	1,318	3,429	12	4,759
Write-offs of PCI loans[a]	**208**	**–**	**–**	**208**	533	–	–	533
Provision for loan losses	**(82)**	**3,122**	**623**	**3,663**	414	3,079	(269)	3,224
Other	**–**	**(5)**	**6**	**1**	31	(6)	(36)	(11)
Ending balance at December 31,	**$ 5,806**	**$ 3,434**	**$ 4,315**	**$ 13,555**	$ 7,050	$ 3,439	$ 3,696	$ 14,185
Impairment methodology								
Asset-specific[b]	**$ 364**	**$ 460**	**$ 274**	**$ 1,098**	$ 539	$ 500	$ 87	$ 1,126
Formula-based	**2,700**	**2,974**	**4,041**	**9,715**	3,186	2,939	3,609	9,734
PCI	**2,742**	**–**	**–**	**2,742**	3,325	–	–	3,325
Total allowance for loan losses	**$ 5,806**	**$ 3,434**	**$ 4,315**	**$ 13,555**	$ 7,050	$ 3,439	$ 3,696	$ 14,185
Allowance for lending-related commitments								
Beginning balance at January 1,	**$ 13**	**$ –**	**$ 609**	**$ 622**	$ 8	$ –	$ 697	$ 705
Provision for lending-related commitments	**1**	**–**	**163**	**164**	5	–	(90)	(85)
Other	**–**	**–**	**–**	**–**	–	–	2	2
Ending balance at December 31,	**$ 14**	**$ –**	**$ 772**	**$ 786**	$ 13	$ –	$ 609	$ 622
Impairment methodology								
Asset-specific	**$ –**	**$ –**	**$ 73**	**$ 73**	$ –	$ –	$ 60	$ 60
Formula-based	**14**	**–**	**699**	**713**	13	–	549	562
Total allowance for lending-related commitments[c]	**$ 14**	**$ –**	**$ 772**	**$ 786**	$ 13	$ –	$ 609	$ 622
Total allowance for credit losses	**$ 5,820**	**$ 3,434**	**$ 5,087**	**$ 14,341**	$ 7,063	$ 3,439	$ 4,305	$ 14,807
Memo:								
Retained loans, end of period	**$ 344,355**	**$ 131,387**	**$ 357,050**	**$ 832,792**	$ 294,979	$ 128,027	$ 324,502	$ 747,508
Retained loans, average	**318,612**	**124,274**	**337,407**	**780,293**	289,212	124,604	316,060	729,876
PCI loans, end of period	**40,998**	**–**	**4**	**41,002**	46,696	–	4	46,700
Credit ratios								
Allowance for loan losses to retained loans	**1.69%**	**2.61%**	**1.21%**	**1.63%**	2.39%	2.69%	1.14%	1.90%
Allowance for loan losses to retained nonaccrual loans[d]	**109**	**NM**	**437**	**215**	110	NM	617	202
Allowance for loan losses to retained nonaccrual loans excluding credit card	**109**	**NM**	**437**	**161**	110	NM	617	153
Net charge-off rates	**0.30**	**2.51**	**–**	**0.52**	0.46	2.75	–	0.65
Credit ratios, excluding residential real estate PCI loans								
Allowance for loan losses to retained loans	**1.01**	**2.61**	**1.21**	**1.37**	1.50	2.69	1.14	1.55
Allowance for loan losses to retained nonaccrual loans[d]	**58**	**NM**	**437**	**172**	58	NM	617	155
Allowance for loan losses to retained nonaccrual loans excluding credit card	**58**	**NM**	**437**	**117**	58	NM	617	106
Net charge-off rates	**0.35%**	**2.51%**	**–%**	**0.55%**	0.55%	2.75%	–%	0.70%

Note: In the table above, the financial measures which exclude the impact of PCI loans are non-GAAP financial measures. For additional information, see Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 80–82.

(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 the fourth quarter of 2014, the Firm recorded a $291 million adjustment to reduce the PCI allowance and the recorded investment in the Firm's PCI loan portfolio, primarily reflecting the cumulative effect of interest forgiveness modifications. This adjustment had no impact to the Firm'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. The asset-specific credit card allowance for loan losses modified in a TDR is calculated based on the loans' original contractual interest rates and does not consider any incremental penalty rates.

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

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

Provision for credit losses

For the year ended December 31, 2015, the provision for credit losses was $3.8 billion, compared with $3.1 billion for the year ended December 31, 2014.

The total consumer provision for credit losses for the year ended December 31, 2015 reflected lower net charge-offs due to continued discipline in credit underwriting as well as improvement in the economy driven by increasing home prices and lower unemployment, partially offset by a lower reduction in the allowance for loan loss compared with December 31, 2014.

The wholesale provision for credit losses for the year ended December 31, 2015 reflected the impact of downgrades in the Oil & Gas portfolio.

Year ended December 31,	Provision for loan losses			Provision for lending-related commitments			Total provision for credit losses		
(in millions)	**2015**	2014	2013	**2015**	2014	2013	**2015**	2014	2013
Consumer, excluding credit card	**$ (82)**	$ 414	$ (1,872)	**$ 1**	$ 5	$ 1	**$ (81)**	$ 419	$ (1,871)
Credit card	**3,122**	3,079	2,179	**–**	–	–	**3,122**	3,079	2,179
Total consumer	**3,040**	3,493	307	**1**	5	1	**3,041**	3,498	308
Wholesale	**623**	(269)	(119)	**163**	(90)	36	**786**	(359)	(83)
Total	**$ 3,663**	$ 3,224	$ 188	**$ 164**	$ (85)	$ 37	**$ 3,827**	$ 3,139	$ 225

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

Market risk management
Market Risk management, part of the independent risk management function, is responsible for identifying and monitoring market risks throughout the Firm and defines market risk policies and procedures. The Market Risk function reports to the Firm's CRO.

Market Risk seeks to control risk, facilitate efficient risk/return decisions, reduce volatility in operating performance and provide transparency into the Firm's market risk profile for senior management, the Board of Directors and regulators. Market Risk is responsible for the following functions:

- Establishment of a market risk policy framework
- Independent measurement, monitoring and control of line of business and firmwide market risk
- Definition, approval and monitoring of limits
- Performance of stress testing and qualitative risk assessments

Risk identification and classification
Each line of business is responsible for the management of the market risks within its units. The independent risk management group responsible for overseeing each line of business is charged with ensuring that all material market risks are appropriately identified, measured, monitored and managed in accordance with the risk policy framework set out by Market Risk.

Risk measurement

Tools used to measure risk
Because no single measure can reflect all aspects of market risk, the Firm uses various metrics, both statistical and nonstatistical, including:

- VaR
- Economic-value stress testing
- Nonstatistical risk measures
- Loss advisories
- Profit and loss drawdowns
- Earnings-at-risk

Risk monitoring and control
Market risk is controlled primarily through a series of limits set in the context of the market environment and business strategy. In setting limits, the Firm takes into consideration factors such as market volatility, product liquidity and accommodation of client business and management experience. The Firm maintains different levels of limits. Corporate level limits include VaR and stress limits. Similarly, line of business limits include VaR and stress limits and may be supplemented by loss advisories, nonstatistical measurements and profit and loss drawdowns. Limits may also be set within the lines of business, as well at the portfolio or legal entity level.

Limits are set by Market Risk and are regularly reviewed and updated as appropriate, with any changes approved by line of business management and Market Risk. Senior management, including the Firm's CEO and CRO, are responsible for reviewing and approving certain of these risk limits on an ongoing basis. All limits that have not been reviewed within specified time periods by Market Risk are escalated to senior management. The lines of business are responsible for adhering to established limits against which exposures are monitored and reported.

Limit breaches are required to be reported in a timely manner to limit approvers, Market Risk and senior management. In the event of a breach, Market Risk consults with Firm senior management and the line of business senior management to determine the appropriate course of action required to return to compliance, which may include a reduction in risk in order to remedy the breach. Certain Firm or line of business-level limits that have been breached for three business days or longer, or by more than 30%, are escalated to senior management and the Firmwide Risk Committee.

The following table summarizes by LOB the predominant business activities that give rise to market risk, and the market risk management tools utilized to manage those risks; CB is not presented in the table below as it does not give rise to significant market risk.

Risk identification and classification for business activities

LOB	Predominant business activities and related market risks	Positions included in Risk Management VaR	Positions included in other risk measures *(Not included in Risk Management VaR)*
CIB	• Makes markets and services clients across fixed income, foreign exchange, equities and commodities • Market risk arising from changes in market prices (e.g. rates and credit spreads) resulting in a potential decline in net income	• Market risk[(a)] related to: • Trading assets/liabilities – debt and equity instruments, and derivatives, including hedges of the retained loan portfolio • Certain securities purchased under resale agreements and securities borrowed • Certain securities loaned or sold under repurchase agreements • Structured notes • Derivative CVA and associated hedges	• Principal investing activities • Retained loan portfolio • Deposits • DVA and FVA on derivatives and structured notes
CCB	• Originates and services mortgage loans • Complex, non-linear interest rate and basis risk • Non-linear risk arises primarily from prepayment options embedded in mortgages and changes in the probability of newly originated mortgage commitments actually closing • Basis risk results from differences in the relative movements of the rate indices underlying mortgage exposure and other interest rates	*Mortgage Banking* • Mortgage pipeline loans, classified as derivatives • Warehouse loans, classified as trading assets – debt instruments • MSRs • Hedges of pipeline loans, warehouse loans and MSRs, classified as derivatives. • Interest-only securities, classified as trading assets, and related hedges, classified as derivatives	• Retained loan portfolio • Deposits • Principal investing activities
Corporate	• Manages the Firm's liquidity, funding, structural interest rate and foreign exchange risks arising from activities undertaken by the Firm's four major reportable business segments	*Treasury and CIO* • Primarily derivative positions measured at fair value through earnings, classified as derivatives	• Principal investing activities • Investment securities portfolio and related hedges • Deposits • Long-term debt and related hedges
AM	• Market risk arising from the Firm's initial capital investments in products, such as mutual funds, managed by AM	• Initial seed capital investments and related hedges, classified as derivatives	• Capital invested alongside third-party investors, typically in privately distributed collective vehicles managed by AM (i.e., co-investments) • Retained loan portfolio • Deposits

(a) Market risk measurement for derivatives generally incorporates the impact of DVA and FVA; market risk measurement for structured notes generally excludes the impact of FVA and DVA.

Value-at-risk

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

The framework is employed across the Firm using historical simulation based on data for the previous 12 months. The framework's approach assumes that historical changes in market values are representative of the distribution of potential outcomes in the immediate future. The Firm believes the use of Risk Management VaR provides a stable measure of VaR that closely aligns to the day-to-day risk management decisions made by the lines of business, and provides the necessary and appropriate information needed to respond to risk events on a daily basis.

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

Under the Firm's Risk Management VaR methodology, assuming current changes in market values are consistent with the historical changes used in the simulation, the Firm would expect to incur VaR "band breaks," defined as losses greater than that predicted by VaR estimates, not more than five times every 100 trading days. The number of VaR band breaks observed can differ from the statistically expected number of band breaks if the current level of market volatility is materially different from the level of market volatility during the 12 months of historical data used in the VaR calculation.

Underlying the overall VaR model framework are individual VaR models that simulate historical market returns for individual products and/or risk factors. To capture material market risks as part of the Firm's risk management framework, comprehensive VaR model calculations are performed daily for businesses whose activities give rise to market risk. These VaR models are granular and incorporate numerous risk factors and inputs to simulate daily changes in market values over the historical period; inputs are selected based on the risk profile of each portfolio as sensitivities and historical time series used to generate daily market values may be different across product types or risk management systems. The VaR model results across all portfolios are aggregated at the Firm level.

For certain products, specific risk parameters are not captured in VaR due to the lack of inherent liquidity and availability of appropriate historical data for these products. The Firm uses proxies to estimate the VaR for these and other products when daily time series are not available. It is likely that using an actual price-based time series for these products, if available, would affect the VaR results presented.

In addition, data sources used in VaR models may not be the same as those used for financial statement valuations. In cases where market prices are not observable, or where proxies are used in VaR historical time series, the sources may differ. The daily market data used in VaR models may be different than the independent third-party data collected for VCG price testing in VCG's monthly valuation process (see Valuation process in Note 3 for further information on the Firm's valuation process). VaR model calculations require daily data and a consistent source for valuation and therefore it is not practical to use the data collected in the VCG monthly valuation process.

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

The Firm's VaR model calculations are periodically evaluated and enhanced in response to changes in the composition of the Firm's portfolios, changes in market conditions, improvements in the Firm's modeling techniques and other factors. Such changes may also affect historical comparisons of VaR results. Model changes undergo a review and approval process by the Model Review Group prior to implementation into the operating environment. For further information, see Model risk on page 142.

The Firm calculates separately a daily aggregated VaR in accordance with regulatory rules ("Regulatory VaR"), which is used to derive the Firm's regulatory VaR-based capital requirements under Basel III. This Regulatory VaR model framework currently assumes a ten business-day holding period and an expected tail loss methodology which approximates a 99% confidence level. Regulatory VaR is applied to "covered" positions as defined by Basel III, which may be different than the positions included in the Firm's Risk Management VaR. For example, credit derivative hedges of accrual loans are included in the Firm's Risk Management VaR, while Regulatory VaR excludes these credit derivative hedges. In addition, in contrast to the Firm's Risk Management VaR, Regulatory VaR currently excludes the diversification benefit for certain VaR models.

For additional information on Regulatory VaR and the other components of market risk regulatory capital (e.g. VaR-based measure, stressed VaR-based measure and the respective backtesting) for the Firm, see JPMorgan Chase's Basel III Pillar 3 Regulatory Capital Disclosures reports, which are available on the Firm's website (http://investor.shareholder.com/jpmorganchase/basel.cfm).

The table below shows the results of the Firm's Risk Management VaR measure using a 95% confidence level.

Total VaR

As of or for the year ended December 31,	2015			2014			At December 31,	
(in millions)	Avg.	Min	Max	Avg.	Min	Max	2015	2014
CIB trading VaR by risk type								
Fixed income	**$ 42**	**$ 31**	**$ 60**	$ 34	$ 23	$ 45	**$ 37**	$ 34
Foreign exchange	**9**	**6**	**16**	8	4	25	**6**	8
Equities	**18**	**11**	**26**	15	10	23	**21**	22
Commodities and other	**10**	**6**	**14**	8	5	14	**10**	6
Diversification benefit to CIB trading VaR	**(35)** [a]	**NM** [b]	**NM** [b]	(30) [a]	NM [b]	NM [b]	**(28)** [a]	(32) [a]
CIB trading VaR	**44**	**27**	**68**	35	24	49	**46**	38
Credit portfolio VaR	**14**	**10**	**20**	13	8	18	**10**	16
Diversification benefit to CIB VaR	**(9)** [a]	**NM** [b]	**NM** [b]	(8) [a]	NM [b]	NM [b]	**(10)** [a]	(9) [a]
CIB VaR	**49**	**34**	**71**	40	29	56	**46**	45
Mortgage Banking VaR	**4**	**2**	**8**	7	2	28	**4**	3
Treasury and CIO VaR	**4**	**3**	**7**	4	3	6	**5**	4
Asset Management VaR	**3**	**2**	**4**	3	2	4	**3**	2
Diversification benefit to other VaR	**(3)** [a]	**NM** [b]	**NM** [b]	(4) [a]	NM [b]	NM [b]	**(4)** [a]	(3) [a]
Other VaR	**8**	**5**	**12**	10	5	27	**8**	6
Diversification benefit to CIB and other VaR	**(10)** [a]	**NM** [b]	**NM** [b]	(7) [a]	NM [b]	NM [b]	**(9)** [a]	(5) [a]
Total VaR	**$ 47**	**$ 34**	**$ 67**	$ 43	$ 30	$ 70	**$ 45**	$ 46

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

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

As presented in the table above, average Total VaR and average CIB VaR increased during 2015 when compared with 2014. The increase in Total VaR was primarily due to higher volatility in the CIB in the historical one-year look-back period during 2015 versus 2014.

Average CIB trading VaR increased during 2015 primarily due to higher VaR in the Fixed Income and Equities risk factors reflecting a combination of higher market volatility and increased exposure.

Average Mortgage Banking VaR decreased from the prior year. Average Mortgage Banking VaR was elevated late in the second quarter of 2014 due to a change in the MSR hedge position made in advance of an anticipated update to certain MSR model assumptions; when such updates were implemented, the MSR VaR decreased to levels more consistent with prior periods.

The Firm continues to enhance the VaR model calculations and time series inputs related to certain asset-backed products.

The Firm's average Total VaR diversification benefit was $10 million or 21% of the sum for 2015, compared with $7 million or 16% of the sum for 2014. In general, over the course of the year, VaR exposure can vary significantly as positions change, market volatility fluctuates and diversification benefits change.

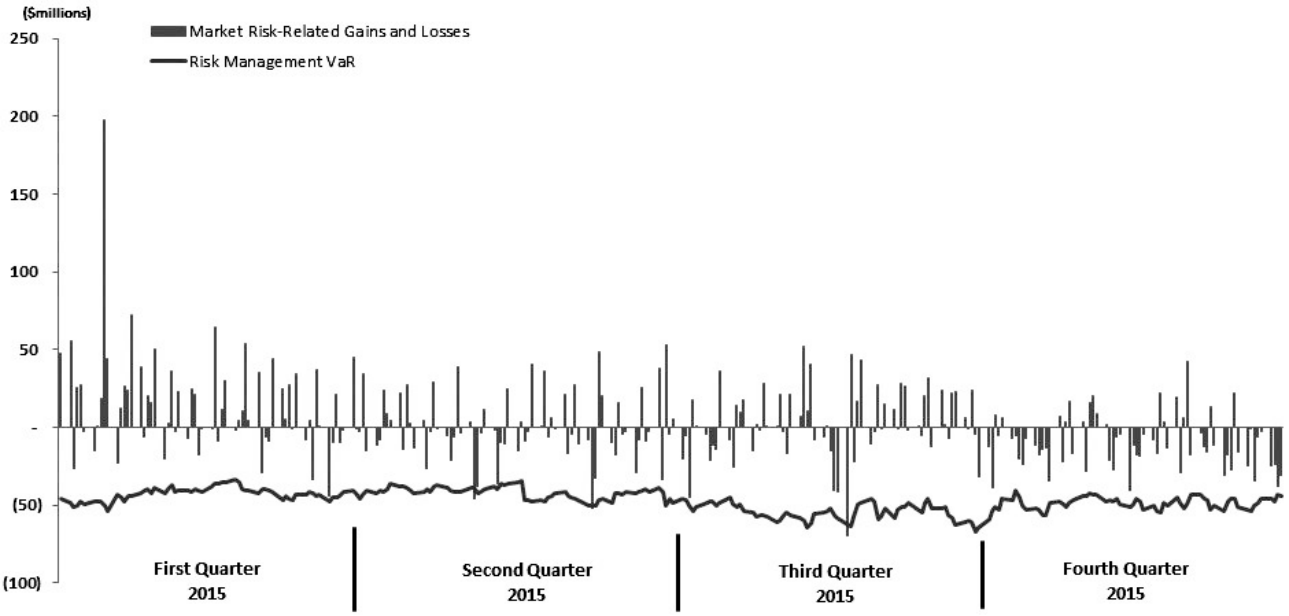
VaR back-testing

The Firm evaluates the effectiveness of its VaR methodology by back-testing, which compares the daily Risk Management VaR results with the daily gains and losses recognized on market-risk related revenue.

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

The following chart compares the daily market risk-related gains and losses with the Firm's Risk Management VaR for the year ended December 31, 2015. As the chart presents market risk-related gains and losses related to those positions included in the Firm's Risk Management VaR, the results in the table below differ from the results of back-testing disclosed in the Market Risk section of the Firm's Basel III Pillar 3 Regulatory Capital Disclosures reports, which are based on Regulatory VaR applied to covered positions. The chart shows that for the year ended December 31, 2015, the Firm observed three VaR band breaks and posted Market risk-related gains on 117 of the 260 days in this period.

Daily Market Risk-Related Gains and Losses vs. Risk Management VaR (1-day, 95% Confidence level)
Twelve months ended December 31, 2015



Other risk measures

Economic-value stress testing

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

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

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

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

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

The Firm's stress testing framework is utilized in calculating results under scenarios mandated by the Federal Reserve's Comprehensive Capital Analysis and Review ("CCAR") and

Internal Capital Adequacy Assessment Process ("ICAAP") processes. In addition, the results are incorporated into the quarterly assessment of the Firm's Risk Appetite Framework and are also presented to the DRPC.

Nonstatistical risk measures

Nonstatistical risk measures include sensitivities to variables used to value positions, such as credit spread sensitivities, interest rate basis point values and market values. These measures provide granular information on the Firm's market risk exposure. They are aggregated by line of business and by risk type, and are also used for monitoring internal market risk limits.

Loss advisories and profit and loss drawdowns

Loss advisories and profit and loss drawdowns are tools used to highlight trading losses above certain levels of risk tolerance. Profit and loss drawdowns are defined as the decline in net profit and loss since the year-to-date peak revenue level.

Earnings-at-risk

The VaR and stress-test measures described above illustrate the economic sensitivity of the Firm's Consolidated balance sheets to changes in market variables. The effect of interest rate exposure on the Firm's reported net income is also important as interest rate risk represents one of the Firm's significant market risks. Interest rate risk arises not only from trading activities but also from the Firm's traditional banking activities, which include extension of loans and credit facilities, taking deposits and issuing debt. The Firm evaluates its structural interest rate risk exposure through earnings-at-risk, which measures the extent to which changes in interest rates will affect the Firm's net interest income and interest rate-sensitive fees. Earnings-at-risk excludes the impact of CIB's markets-based activities and MSRs, as these sensitivities are captured under VaR.

The CIO, Treasury and Corporate ("CTC") Risk Committee establishes the Firm's structural interest rate risk policies and market risk limits, which are subject to approval by the DRPC. The CIO, working in partnership with the lines of business, calculates the Firm's structural interest rate risk profile and reviews it with senior management including the CTC Risk Committee and the Firm's ALCO. In addition, oversight of structural interest rate risk is managed through a dedicated risk function reporting to the CTC CRO. This risk function is responsible for providing independent oversight and governance around assumptions and establishing and monitoring limits for structural interest rate risk. The Firm manages structural interest rate risk generally through its investment securities portfolio and interest rate derivatives.

Structural interest rate risk can occur due to a variety of factors, including:

- Differences in the timing among the maturity or repricing of assets, liabilities and off-balance sheet instruments
- Differences in the amounts of assets, liabilities and off-balance sheet instruments that are repricing at the same time
- Differences in the amounts by which short-term and long-term market interest rates change (for example, changes in the slope of the yield curve)
- The impact of changes in the maturity of various assets, liabilities or off-balance sheet instruments as interest rates change

The Firm manages interest rate exposure related to its assets and liabilities on a consolidated, firmwide basis. Business units transfer their interest rate risk to Treasury and CIO through a transfer-pricing system, which takes into account the elements of interest rate exposure that can be risk-managed in financial markets. These elements include asset and liability balances and contractual rates of interest, contractual principal payment schedules, expected prepayment experience, interest rate reset dates and maturities, rate indices used for repricing, and any interest rate ceilings or floors for adjustable rate products. All transfer-pricing assumptions are dynamically reviewed.

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

Effective January 1, 2015, the Firm conducts earnings-at-risk simulations for assets and liabilities denominated in U.S. dollars separately from assets and liabilities denominated in non-U.S. dollar currencies in order to enhance the Firm's ability to monitor structural interest rate risk from non-U.S. dollar exposures.

The Firm's U.S. dollar sensitivity is presented in the table below. The result of the non-U.S. dollar sensitivity scenarios were not material to the Firm's earnings-at-risk at December 31, 2015.

JPMorgan Chase's 12-month pretax net interest income sensitivity profiles

(Excludes the impact of CIB's markets-based activities and MSRs)

(in billions)	Instantaneous change in rates			
December 31, 2015	+200 bps	+100 bps	-100 bps	-200 bps
U.S. dollar	**$ 5.2**	**$ 3.1**	**NM** [(a)]	**NM** [(a)]

(a) Downward 100- and 200-basis-points parallel shocks result in a federal funds target rate of zero and negative three- and six-month U.S. Treasury rates. The earnings-at-risk results of such a low probability scenario are not meaningful.

The Firm's benefit to rising rates on U.S. dollar assets and liabilities is largely a result of reinvesting at higher yields and assets repricing at a faster pace than deposits. The Firm's net U.S. dollar sensitivity profile at December 31, 2015 was not materially different than December 31, 2014.

Separately, another U.S. dollar interest rate scenario used by the Firm — involving a steeper yield curve with long-term rates rising by 100 basis points and short-term rates staying at current levels — results in a 12-month pretax benefit to net interest income, excluding CIB's markets-based activities and MSRs, of approximately $700 million. The increase in net interest income under this scenario reflects the Firm reinvesting at the higher long-term rates, with funding costs remaining unchanged. The result of the comparable non-U.S. dollar scenario was not material to the Firm.

Non-U.S. dollar FX Risk

Non-U.S. dollar FX risk is the risk that changes in foreign exchange rates affect the value of the Firm's assets or liabilities or future results. The Firm has structural non-U.S. dollar FX exposures arising from capital investments, forecasted expense and revenue, the investment securities portfolio and issuing debt in denominations other than the U.S. dollar. Treasury and CIO, working in partnership with the lines of business, primarily manage these risks on behalf of the Firm. Treasury and CIO may hedge certain of these risks using derivatives within risk limits governed by the CTC Risk Committee.

COUNTRY RISK MANAGEMENT

Country risk is the risk that a sovereign event or action alters the value or terms of contractual obligations of obligors, counterparties and issuers or adversely affects markets related to a particular country. The Firm has a comprehensive country risk management framework for assessing country risks, determining risk tolerance, and measuring and monitoring direct country exposures in the Firm. The Country Risk Management group is responsible for developing guidelines and policies for managing country risk in both emerging and developed countries. The Country Risk Management group actively monitors the various portfolios giving rise to country risk to ensure the Firm's country risk exposures are diversified and that exposure levels are appropriate given the Firm's strategy and risk tolerance relative to a country.

Country risk organization
The Country Risk Management group, part of the independent risk management function, works in close partnership with other risk functions to identify and monitor country risk within the Firm. The Firmwide Risk Executive for Country Risk reports to the Firm's CRO.

Country Risk Management is responsible for the following functions:

- Developing guidelines and policies consistent with a comprehensive country risk framework
- Assigning sovereign ratings and assessing country risks
- Measuring and monitoring country risk exposure and stress across the Firm
- Managing country limits and reporting trends and limit breaches to senior management
- Developing surveillance tools for early identification of potential country risk concerns
- Providing country risk scenario analysis

Country risk identification and measurement
The Firm is exposed to country risk through its lending, investing, and market-making activities, whether cross-border or locally funded. Country exposure includes activity with both government and private-sector entities in a country. Under the Firm's internal country risk management approach, country exposure is reported based on the country where the majority of the assets of the obligor, counterparty, issuer or guarantor are located or where the majority of its revenue is derived, which may be different than the domicile (legal residence) or country of incorporation of the obligor, counterparty, issuer or guarantor. Country exposures are generally measured by considering the Firm's risk to an immediate default of the counterparty or obligor, with zero recovery. Assumptions are sometimes required in determining the measurement and allocation of country exposure, particularly in the case of certain tranched credit derivatives. Different measurement approaches or assumptions would affect the amount of reported country exposure.

Under the Firm's internal country risk measurement framework:

- Lending exposures are measured at the total committed amount (funded and unfunded), net of the allowance for credit losses and cash and marketable securities collateral received
- Securities financing exposures are measured at their receivable balance, net of collateral received
- Debt and equity securities are measured at the fair value of all positions, including both long and short positions
- Counterparty exposure on derivative receivables is measured at the derivative's fair value, net of the fair value of the related collateral. Counterparty exposure on derivatives can change significantly because of market movements
- Credit derivatives protection purchased and sold is reported based on the underlying reference entity and is measured at the notional amount of protection purchased or sold, net of the fair value of the recognized derivative receivable or payable. Credit derivatives protection purchased and sold in the Firm's market-making activities is measured on a net basis, as such activities often result in selling and purchasing protection related to the same underlying reference entity; this reflects the manner in which the Firm manages these exposures

The Firm also has indirect exposures to country risk (for example, related to the collateral received on securities financing receivables or related to client clearing activities). These indirect exposures are managed in the normal course of business through the Firm's credit, market, and operational risk governance, rather than through Country Risk Management.

The Firm's internal country risk reporting differs from the reporting provided under the FFIEC bank regulatory requirements. For further information on the FFIEC's reporting methodology, see Cross-border outstandings on page 327.

Country risk stress testing

The country risk stress framework aims to identify potential losses arising from a country crisis by capturing the impact of large asset price movements in a country based on market shocks combined with counterparty specific assumptions. Country Risk Management periodically defines and runs ad hoc stress scenarios for individual countries in response to specific market events and sector performance concerns.

Country risk monitoring and control

The Country Risk Management group establishes guidelines for sovereign ratings reviews and limit management. Country stress and nominal exposures are measured under a comprehensive country limit framework. Country ratings and limits are actively monitored and reported on a regular basis. Country limit requirements are reviewed and approved by senior management as often as necessary, but at least annually. In addition, the Country Risk Management group uses surveillance tools, such as signaling models and ratings indicators, for early identification of potential country risk concerns.

Country risk reporting

The following table presents the Firm's top 20 exposures by country (excluding the U.S.) as of December 31, 2015. The selection of countries is based solely on the Firm's largest total exposures by country, based on the Firm's internal country risk management approach, and does not represent the Firm's view of any actual or potentially adverse credit conditions. Country exposures may fluctuate from period to period due to normal client activity and market flows.

Top 20 country exposures

	December 31, 2015			
(in billions)	Lending[a]	Trading and investing[b][c]	Other[d]	Total exposure
United Kingdom	$ 23.8	$ 21.8	$ 1.1	$ 46.7
Germany	13.8	16.7	0.2	30.7
France	14.2	11.9	0.1	26.2
Japan	12.9	7.8	0.4	21.1
China	10.3	7.2	1.0	18.5
Canada	13.9	2.9	0.3	17.1
Australia	7.7	5.9	–	13.6
Netherlands	5.0	6.0	1.4	12.4
India	6.1	5.6	0.4	12.1
Brazil	6.2	4.9	–	11.1
Switzerland	6.7	0.9	1.9	9.5
Korea	4.3	3.3	0.1	7.7
Hong Kong	2.8	2.6	1.4	6.8
Italy	2.8	3.8	0.2	6.8
Luxembourg	6.4	0.1	–	6.5
Spain	3.2	2.1	0.1	5.4
Singapore	2.4	1.3	0.7	4.4
Sweden	1.7	2.5	–	4.2
Mexico	2.9	1.3	–	4.2
Belgium	1.7	2.3	–	4.0

(a) Lending includes loans and accrued interest receivable (net of collateral and the allowance for loan losses), deposits with banks, acceptances, other monetary assets, issued letters of credit net of participations, and unused commitments to extend credit. Excludes intra-day and operating exposures, such as from settlement and clearing activities.

(b) Includes market-making inventory, AFS securities, counterparty exposure on derivative and securities financings net of collateral and hedging.

(c) Includes single reference entity ("single-name"), index and tranched credit derivatives for which one or more of the underlying reference entities is in a country listed in the above table.

(d) Includes capital invested in local entities and physical commodity inventory.

Model risk

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

The Firm uses models for many purposes including the valuation of positions and the measurement of risk. Valuation models are employed by the Firm to value certain financial instruments for which quoted prices may not be readily available. Valuation models may be employed as inputs into risk measurement models including VaR, regulatory capital, estimation of stress loss and the allowance for credit losses.

Models are owned by various functions within the Firm based on the specific purposes of such models. For example, VaR models and certain regulatory capital models are owned by the line of business-aligned risk management functions. Owners of models are responsible for the development, implementation and testing of their models, as well as referral of models to the Model Risk function for review and approval. Once models have been approved, model owners are responsible for the maintenance of a robust operating environment and must monitor and evaluate the performance of the models on an ongoing basis. Model owners may seek to enhance models in response to changes in the portfolios and in product and market developments, as well as to capture improvements in available modeling techniques and systems capabilities.

The Model Risk review and governance functions review and approve a wide range of models, including risk management, valuation, and regulatory capital models used by the Firm. Independent of the model owners, the Model Risk review and governance functions are part of the Firm's Model Risk unit, and the Firmwide Model Risk Executive reports to the Firm's CRO.

Models are tiered based on an internal standard according to their complexity, the exposure associated with the model and the Firm's reliance on the model. This tiering is subject to the approval of the Model Risk function. A model review conducted by the Model Risk function considers the model's suitability for the specific uses to which it will be put. The factors considered in reviewing a model include whether the model accurately reflects the characteristics of the product and its significant risks, the selection and reliability of model inputs, consistency with models for similar products, the appropriateness of any model-related adjustments, and sensitivity to input parameters and assumptions that cannot be observed from the market. 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. Model reviews are approved by the appropriate level of management within the Model Risk function based on the relevant tier of the model.

Under the Firm's Model Risk Policy, 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 the Firm's model risk policy to allow a model to be used prior to review or approval. The Model Risk function may also require the owner to take appropriate actions to mitigate the model risk if it is to be used in the interim. These actions will depend on the model and may include, for example, limitation of trading activity.

For a summary of valuations based on models, see Critical Accounting Estimates Used by the Firm and Note 3.

Principal investments are predominantly privately-held financial assets and instruments, typically representing an ownership or junior capital position, that have unique risks due to their illiquidity or for which there is less observable market or valuation data. Such investing activities are typically intended to be held over extended investment periods and, accordingly, the Firm has no expectation for short-term gain with respect to these investments. Principal investments cover multiple asset classes and are made either in stand-alone investing businesses or as part of a broader business platform. Asset classes include tax-oriented investments (e.g., affordable housing and alternative energy investments), private equity and various debt investments.

The Firm's principal investments are managed under various lines of business and are captured within the respective LOB's financial results. The Firm's approach to managing principal risk is consistent with the Firm's general risk governance structure. A Firmwide risk policy framework exists for all principal investing activities. All investments are approved by investment committees that include executives who are independent from the investing businesses. The Firm's independent control functions are responsible for reviewing the appropriateness of the carrying value of principal investments in accordance with relevant policies. Approved levels for such investments are established for each relevant business in order to manage the overall size of the portfolios. Industry, geographic, and position level concentration limits are in place and are intended to ensure diversification of the portfolios. The Firm also conducts stress testing on these portfolios using specific scenarios that estimate losses based on significant market moves and/or other risk events.

OPERATIONAL RISK MANAGEMENT

Operational risk is the risk of loss resulting from inadequate or failed processes or systems, human factors or due to external events that are neither market- nor credit-related. Operational risk is inherent in the Firm's activities and can manifest itself in various ways, including fraudulent acts, business interruptions, inappropriate behavior of employees, failure to comply with applicable laws and regulations or failure of vendors to perform in accordance with their arrangements. These events could result in financial losses, litigation and regulatory fines, as well as other damage to the Firm. The goal is to keep operational risk at appropriate levels, in light of the Firm's financial strength, the characteristics of its businesses, the markets in which it operates, and the competitive and regulatory environment to which it is subject.

Overview

To monitor and control operational risk, the Firm maintains an Operational Risk Management Framework ("ORMF") designed to enable the Firm to maintain a sound and well-controlled operational environment. The four main components of the ORMF include: governance, risk identification and assessment, monitoring and reporting, and measurement.

Risk Management is responsible for prescribing the ORMF to the lines of business and corporate functions and for providing independent oversight of its implementation. The lines of business and corporate functions are responsible for implementing the ORMF. The Firmwide Oversight and Control Group ("O&C"), which consists of dedicated control officers within each of the lines of business and corporate functional areas, as well as a central oversight team, is responsible for day to day execution of the ORMF.

Operational risk management framework

The components of the Operational Risk Management Framework are:

Governance

The Firm's operational risk governance function reports to the Firm's CRO and is responsible for defining the ORMF and establishing the firmwide operational risk management governance structure, policies and standards. The Firmwide Risk Executive for Operational Risk Governance, a direct report of the CRO, works with the line of business CROs to provide independent oversight of the implementation of the ORMF across the Firm. Operational Risk Officers ("OROs"), who report to the LOB Chief Risk Officers or to the Firmwide Risk Executive for Operational Risk Governance, are independent of the lines of business and corporate functions, and O&C. The OROs provide oversight of the implementation of the ORMF within in each line of business and corporate function.

Line of business, corporate function and regional control committees oversee the operational risk and control environments of their respective businesses, functions or regions. These committees escalate operational risk issues to the FCC, as appropriate. For additional information on the Firmwide Control Committee, see Enterprise Risk Management on pages 107–111.

Risk Identification and Self-Assessment

In order to evaluate and monitor operational risk, the lines of business and corporate functions utilize several processes to identify, assess, mitigate and manage operational risk. Firmwide standards are in place for each of these processes and set the minimum requirements for how they must be applied.

The Firm's risk and control self-assessment ("RCSA") process and supporting architecture requires management to identify material inherent operational risks, assess the design and operating effectiveness of relevant controls in place to mitigate such risks, and evaluate residual risk. Action plans are developed for control issues that are identified, and businesses are held accountable for tracking and resolving issues on a timely basis. Risk Management performs an independent challenge of the RCSA program including residual risk results.

The Firm also tracks and monitors operational risk events which are analyzed by the responsible businesses and corporate functions. This enables identification of the root causes of the operational risk events and evaluation of the associated controls.

Furthermore, lines of business and corporate functions establish key risk indicators to manage and monitor operational risk and the control environment. These assist in the early detection and timely escalation of issues or events.

Risk monitoring and reporting

Operational risk management and control reports provide information, including actual operational loss levels, self-assessment results and the status of issue resolution to the lines of business and senior management. In addition, key control indicators and operating metrics are monitored against targets and thresholds. The purpose of these reports is to enable management to maintain operational risk at appropriate levels within each line of business, to escalate issues and to provide consistent data aggregation across the Firm's businesses and functions.

Measurement
Two standard forms of operational risk measurement include operational risk capital and operational risk losses under baseline and stressed conditions.

The Firm's operational risk capital methodology incorporates the four required elements of the Advanced Measurement Approach under the Basel III framework:

- Internal losses,
- External losses,
- Scenario analysis, and
- Business environment and internal control factors.

The primary component of the operational risk capital estimate is the result of a statistical model, the Loss Distribution Approach ("LDA"), which simulates the frequency and severity of future operational risk losses based on historical data. The LDA model is used to estimate an aggregate operational risk loss over a one-year time horizon, at a 99.9% confidence level. The LDA model incorporates actual internal operational risk losses in the quarter following the period in which those losses were realized, and the calculation generally continues to reflect such losses even after the issues or business activities giving rise to the losses have been remediated or reduced.

The calculation is supplemented by external loss data as needed, as well as both management's view of plausible tail risk, which is captured as part of the Scenario Analysis process, and evaluation of key LOB internal control metrics (BEICF). The Firm may further supplement such analysis to incorporate feedback from its bank regulators.

The Firm considers the impact of stressed economic conditions on operational risk losses and a forward looking view of material operational risk events that may occur in a stressed environment. The Firm's operational risk stress testing framework is utilized in calculating results for the Firm's CCAR, ICAAP and Risk Appetite processes.

For information related to operational risk RWA, CCAR or ICAAP, see Capital Management section, pages 149–158.

Insurance
One of the ways operational loss may be mitigated is through insurance maintained by the Firm. The Firm purchases insurance to be in compliance with local laws and regulations (e.g., workers compensation), as well as to serve other needs (e.g., property loss and public liability). Insurance may also be required by third parties with whom the Firm does business. The insurance purchased is reviewed and approved by senior management.

Cybersecurity
The Firm devotes significant resources maintaining and regularly updating its systems and processes that are designed to protect the security of the Firm's computer systems, software, networks and other technology assets against attempts by unauthorized parties to obtain access to confidential information, destroy data, disrupt or degrade service, sabotage systems or cause other damage. Third parties with which the Firm does business or that facilitate the Firm's business activities (e.g., vendors, exchanges, clearing houses, central depositories, and financial intermediaries) could also be sources of cybersecurity risk to the Firm, including with respect to breakdowns or failures of their systems, misconduct by the employees of such parties, or cyberattacks which could affect their ability to deliver a product or service to the Firm or result in lost or compromised information of the Firm or its clients. In addition, customers with which or whom the Firm does business can also be sources of cybersecurity risk to the Firm, particularly when their activities and systems are beyond the Firm's own security and control systems. Customers will generally be responsible for losses incurred due to their own failure to maintain the security of their own systems and processes.

The Firm and several other U.S. financial institutions have experienced significant distributed denial-of-service attacks from technically sophisticated and well-resourced unauthorized parties which are intended to disrupt online banking services. The Firm and its clients are also regularly targeted by unauthorized parties using malicious code and viruses. On September 10, 2014, the Firm disclosed that a cyberattack against the Firm had occurred. The cyberattacks experienced to date have not resulted in any material disruption to the Firm's operations nor have they had a material adverse effect on the Firm's results of operations. The Firm's Board of Directors and the Audit Committee are regularly apprised regarding the cybersecurity policies and practices of the Firm as well as the Firm's efforts regarding significant cybersecurity events.

Cybersecurity attacks, like the one experienced by the Firm, highlight the need for continued and increased cooperation among businesses and the government, and the Firm continues to work to strengthen its partnerships with the appropriate government and law enforcement agencies and other businesses, including the Firm's third-party service providers, in order to understand the full spectrum of cybersecurity risks in the environment, enhance defenses and improve resiliency against cybersecurity threats.

The Firm has established, and continues to establish, defenses to mitigate other possible future attacks. To enhance its defense capabilities, the Firm increased cybersecurity spending from approximately $250 million in 2014, to approximately $500 million in 2015, and expects the spending to increase to more than $600 million in 2016. Enhancements include more robust testing, advanced analytics, improved technology coverage, strengthened access management and controls and a program to increase employee awareness about cybersecurity risks and best practices.

Business and technology resiliency
JPMorgan Chase's global resiliency and crisis management program is intended to ensure that the Firm has the ability to recover its critical business functions and supporting assets (i.e., staff, technology and facilities) in the event of a

business interruption, and to remain in compliance with global laws and regulations as they relate to resiliency risk. The program includes corporate governance, awareness and training, as well as strategic and tactical initiatives aimed to ensure that risks are properly identified, assessed, and managed.

The Firm has established comprehensive tracking and reporting of resiliency plans in order to proactively anticipate and manage various potential disruptive circumstances such as severe weather and flooding, technology and communications outages, cyber incidents, mass transit shutdowns and terrorist threats, among others. The resiliency measures utilized by the Firm include backup infrastructure for data centers, a geographically distributed workforce, dedicated recovery facilities, providing technological capabilities to support remote work capacity for displaced staff and accommodation of employees at alternate locations. JPMorgan Chase continues to coordinate its global resiliency program across the Firm and mitigate business continuity risks by reviewing and testing recovery procedures. The strength and proficiency of the Firm's global resiliency program has played an integral role in maintaining the Firm's business operations during and quickly after various events in 2015 that have resulted in business interruptions, such as severe winter weather and flooding in the U.S. and various global protest-related activities.

LEGAL RISK MANAGEMENT

Legal risk is the risk of loss or imposition of damages, fines, penalties or other liability arising from failure to comply with a contractual obligation or to comply with laws or regulations to which the Firm is subject.

Overview

In addition to providing legal services and advice to the Firm, and communicating and helping the lines of business adjust to the legal and regulatory changes they face, including the heightened scrutiny and expectations of the Firm's regulators, the global Legal function is responsible for working with the businesses and corporate functions to fully understand and assess their adherence to laws and regulations. In particular, Legal assists Oversight & Control, Risk, Finance, Compliance and Internal Audit in their efforts to ensure compliance with all applicable laws and regulations and the Firm's corporate standards for doing business. The Firm's lawyers also advise the Firm on potential legal exposures on key litigation and transactional matters, and perform a significant defense and advocacy role by defending the Firm against claims and potential claims and, when needed, pursuing claims against others.

Governance and oversight

The Firm's General Counsel reports to the CEO and is a member of the Operating Committee, the Firmwide Risk Committee and the Firmwide Control Committee. The General Counsel's leadership team includes a General Counsel for each line of business, the heads of the Litigation and Corporate & Regulatory practices, as well as the Firm's Corporate Secretary. Each region (e.g., Latin America, Asia Pacific) has a General Counsel who is responsible for managing legal risk across all lines of business and functions in the region.

Legal works with various committees (including new business initiative and reputation risk committees) and the Firm's businesses to protect the Firm's reputation beyond any particular legal requirements. In addition, it advises the Firm's Conflicts Office which reviews the Firm's wholesale transactions that may have the potential to create conflicts of interest for the Firm.

COMPLIANCE RISK MANAGEMENT

Compliance risk is the risk of failure to comply with applicable laws, rules, and regulations.

Overview

Each line of business is accountable for managing its compliance risk. The Firm's Compliance Organization ("Compliance"), which is independent of the lines of business, works closely with the Operating Committee and management to provide independent review, monitoring and oversight of business operations with a focus on compliance with the legal and regulatory obligations applicable to the offering of the Firm's products and services to clients and customers.

These compliance risks relate to a wide variety of legal and regulatory obligations, depending on the line of business and the jurisdiction, and include those related to products and services, relationships and interactions with clients and customers, and employee activities.

For example, one compliance risk, fiduciary risk, is the failure to exercise the applicable high standard of care, to act in the best interests of clients or to treat clients fairly, as required under applicable law or regulation. Other specific compliance risks include those associated with anti-money laundering compliance, trading activities, market conduct, and complying with the rules and regulations related to the offering of products and services across jurisdictional borders, among others.

Compliance implements various practices designed to identify and mitigate compliance risk by implementing policies, testing and monitoring, training and providing guidance.

In recent years, the Firm has experienced heightened scrutiny by its regulators of its compliance with regulations, and with respect to its controls and operational processes. In certain instances, the Firm has entered into Consent Orders with its regulators requiring the Firm to take certain specified actions to remediate compliance with regulations and improve its controls. The Firm expects that such regulatory scrutiny will continue.

Governance and oversight

Compliance is led by the Firms' Chief Compliance Officer ("CCO") who reports directly to the Firm's COO. The Firm maintains oversight and coordination in its Compliance Risk Management practices globally through the Firm's CCO, lines of business CCOs and regional CCOs to implement the Compliance program across the lines of business and regions. The Firm's CCO is a member of the Firmwide Control Committee and the Firmwide Risk Committee. The Firm's CCO also provides regular updates to the Audit Committee and DRPC. In addition, from time to time, special committees of the Board have been established to oversee the Firm's compliance with regulatory Consent Orders.

The Firm has in place a Code of Conduct (the "Code"), and each employee is given annual training in respect of the Code and is required annually to affirm his or her compliance with the Code. The Code sets forth the Firm's core principles and fundamental values, including that no employee should ever sacrifice integrity - or give the impression that he or she has. The Code requires prompt reporting of any known or suspected violation of the Code, any internal Firm policy, or any law or regulation applicable to the Firm's business. It also requires the reporting of any illegal conduct, or conduct that violates the underlying principles of the Code, by any of the Firm's employees, customers, suppliers, contract workers, business partners, or agents. Specified employees are specially trained and designated as "code specialists" who act as a resource to employees on Code of Conduct matters. In addition, concerns may be reported anonymously and the Firm prohibits retaliation against employees for the good faith reporting of any actual or suspected violations of the Code. The Code and the associated employee compliance program are focused on the regular assessment of certain key aspects of the Firm's culture and conduct initiatives.

REPUTATION RISK MANAGEMENT

Reputation risk is the risk that an action, transaction, investment or event will reduce trust in the Firm's integrity or competence by our various constituents, including clients, counterparties, investors, regulators, employees and the broader public. Maintaining the Firm's reputation is the responsibility of each individual employee of the Firm. The Firm's Reputation Risk Governance policy explicitly vests each employee with the responsibility to consider the reputation of the Firm when engaging in any activity. Since the types of events that could harm the Firm's reputation are so varied across the Firm's lines of business, each line of business has a separate reputation risk governance infrastructure in place, which consists of three key elements: clear, documented escalation criteria appropriate to the business; a designated primary discussion forum — in most cases, one or more dedicated reputation risk committees; and a list of designated contacts, to whom questions relating to reputation risk should be referred. Line of business reputation risk governance is overseen by a Firmwide Reputation Risk Governance function, which provides oversight of the governance infrastructure and process to support the consistent identification, escalation, management and reporting of reputation risk issues firmwide.

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

A strong capital position is essential to the Firm's business strategy and competitive position. The Firm's capital strategy focuses on long-term stability, which enables the Firm to build and invest in market-leading businesses, even in a highly stressed environment. Prior to making any decisions on future business activities, senior management considers the implications on the Firm's capital. In addition to considering the Firm's earnings outlook, senior management evaluates all sources and uses of capital with a view to preserving the Firm's capital strength. Maintaining a strong balance sheet to manage through economic volatility is considered a strategic imperative by the Firm's Board of Directors, CEO and Operating Committee. The Firm's balance sheet philosophy focuses on risk-adjusted returns, strong capital and reserves, and robust liquidity.

The Firm's capital management objectives are to hold capital sufficient to:

- Cover all material risks underlying the Firm's business activities;
- Maintain "well-capitalized" status and meet regulatory capital requirements;
- Retain flexibility to take advantage of future investment opportunities;
- Maintain sufficient capital in order to continue to build and invest in its businesses through the cycle and in stressed environments; and
- Distribute excess capital to shareholders while balancing the other objectives stated above.

These objectives are achieved through ongoing monitoring and management of the Firm's capital position, regular stress testing, and a capital governance framework. Capital management is intended to be flexible in order to react to a range of potential events. JPMorgan Chase has firmwide and LOB processes for ongoing monitoring and active management of its capital position.

The following tables present the Firm's Transitional and Fully Phased-In risk-based and leverage-based capital metrics under both Basel III Standardized and Advanced approaches. The Firm's Basel III CET1 ratio exceeds the regulatory minimum as of December 31, 2015. For further discussion of these capital metrics and the Standardized and Advanced approaches refer to Monitoring and management of capital on pages 151–155.

	Transitional			Fully Phased-In		
December 31, 2015 (in millions, except ratios)	Standardized	Advanced	Minimum capital ratios [c]	Standardized	Advanced	Minimum capital ratios [d]
Risk-based capital metrics:						
CET1 capital	**$ 175,398**	**$ 175,398**		**$ 173,189**	**$ 173,189**	
Tier 1 capital	**200,482**	**200,482**		**199,047**	**199,047**	
Total capital	**234,413**	**224,616**		**229,976**	**220,179**	
Risk-weighted assets	**1,465,262** [b]	**1,485,336**		**1,474,870**	**1,495,520**	
CET1 capital ratio	**12.0%**	**11.8%**	4.5%	**11.7%**	**11.6%**	10.5%
Tier 1 capital ratio	**13.7**	**13.5**	6.0	**13.5**	**13.3**	12.0
Total capital ratio	**16.0**	**15.1**	8.0	**15.6**	**14.7**	14.0
Leverage-based capital metrics:						
Adjusted average assets	**2,361,177**	**2,361,177**		**2,360,499**	**2,360,499**	
Tier 1 leverage ratio[a]	**8.5%**	**8.5%**	4.0	**8.4%**	**8.4%**	4.0
SLR leverage exposure	**NA**	**$ 3,079,797**		**NA**	**$ 3,079,119**	
SLR	**NA**	**6.5%**	NA	**NA**	**6.5%**	5.0 [e]

	Transitional			Fully Phased-In		
December 31, 2014 (in millions, except ratios)	Standardized	Advanced	Minimum capital ratios [c]	Standardized	Advanced	Minimum capital ratios [d]
Risk-based capital metrics:						
CET1 capital	$ 164,426	$ 164,426		$ 164,514	$ 164,514	
Tier 1 capital	186,263	186,263		184,572	184,572	
Total capital	221,117	210,576		216,719	206,179	
Risk-weighted assets	1,472,602 [b]	1,608,240		1,561,145	1,619,287	
CET1 capital ratio	11.2%	10.2%	4.5%	10.5%	10.2%	9.5%
Tier 1 capital ratio	12.6	11.6	6.0	11.8	11.4	11.0
Total capital ratio	15.0	13.1	8.0	13.9	12.7	13.0
Leverage-based capital metrics:						
Adjusted average assets	2,464,915	2,464,915		2,463,902	2,463,902	
Tier 1 leverage ratio[a]	7.6%	7.6%	4.0	7.5%	7.5%	4.0
SLR leverage exposure	NA	NA		NA	$ 3,320,404	
SLR	NA	NA	NA	NA	5.6%	5.0 [e]

Note: As of December 31, 2015 and 2014, the lower of the Standardized or Advanced capital ratios under each of the transitional and fully phased in approaches in the table above represents the Firm's Collins Floor, as discussed in Monitoring and management of Capital on page 151.

(a) 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.
(b) Effective January 1, 2015, the Basel III Standardized RWA is calculated under the Basel III definition of the Standardized approach. Prior periods were based on Basel I (inclusive of Basel 2.5).
(c) Represents the transitional minimum capital ratios applicable to the Firm under Basel III as of December 31, 2015 and 2014.
(d) Represents the minimum capital ratios applicable to the Firm on a fully phased-in Basel III basis. At December 31, 2015, the ratios include the Firm's estimate of its Fully Phased-In U.S. GSIB surcharge of 3.5%, based on the final U.S. GSIB rule published by the Federal Reserve on July 20, 2015. At December 31, 2014, the ratios included the Firm's GSIB surcharge of 2.5% which was published in November 2014 by the Financial Stability Board and calculated under the Basel Committee on Banking Supervisions Final GSIB rule. The minimum capital ratios will be fully phased-in effective January 1, 2019. For additional information on the GSIB surcharge, see page 152.
(e) In the case of the SLR, the fully phased-in minimum ratio is effective beginning January 1, 2018.

Strategy and governance
The Firm's CEO, in conjunction with the Board of Directors, establishes principles and guidelines for capital planning, issuance, usage and distributions, and establishes capital targets for the level and composition of capital in both business-as-usual and highly stressed environments.

The Firm's senior management recognizes the importance of a capital management function that supports strategic decision-making. The Capital Governance Committee and the Regulatory Capital Management Office ("RCMO") are key components in support of this objective. The Capital Governance Committee is responsible for reviewing the Firm's Capital Management Policy and the principles underlying capital issuance and distribution alternatives. The Committee is also responsible for governing the capital adequacy assessment process, including overall design, assumptions and risk streams, and ensuring that capital stress test programs are designed to adequately capture the idiosyncratic risks across the Firm's businesses. RCMO, which reports to the Firm's CFO, is responsible for reviewing, approving and monitoring the implementation of the Firm's capital policies and strategies, as well as its capital adequacy assessment process. The review assesses the effectiveness of the capital adequacy process, the appropriateness of the risk tolerance levels, and the strength of the control infrastructure. The DRPC oversees the Firm's capital adequacy process and its components. The Basel Independent Review function ("BIR"), which reports to the RCMO and the Capital Governance Committee, conducts independent assessments of the Firm's regulatory capital framework to ensure compliance with the applicable U.S. Basel rules in support of the DRPC's and senior management's oversight of the Firm's capital processes. For additional discussion on the DRPC, see Enterprise-wide Risk Management on pages 107–111.

Monitoring and management of capital
In its monitoring and management of capital, the Firm takes into consideration an assessment of economic risk and all regulatory capital requirements to determine the level of capital needed to meet and maintain the objectives discussed above, as well as to support the framework for allocating capital to its business segments. While economic risk is considered prior to making decisions on future business activities, in most cases, the Firm considers risk-based regulatory capital to be a proxy for economic risk capital.

Regulatory capital
The Federal Reserve establishes capital requirements, including well capitalized standards, for the consolidated financial holding company. The OCC establishes similar minimum capital requirements for the Firm's national banks, including JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A.

The U.S. capital requirements generally follow the Capital Accord of the Basel Committee, as amended from time to time. Prior to January 1, 2014, the Firm and its banking subsidiaries were subject to the capital requirements of Basel I and Basel 2.5. Effective January 1, 2014, the Firm became subject to Basel III (which incorporates Basel 2.5).

Basel III overview
Basel III capital rules, for large and internationally active U.S. bank holding companies and banks, including the Firm and its insured depository institution ("IDI") subsidiaries, revised, among other things, the definition of capital and introduced a new CET1 capital requirement. Basel III presents two comprehensive methodologies for calculating RWA, a general (Standardized) approach, which replaced Basel I RWA effective January 1, 2015 ("Basel III Standardized") and an advanced approach, which replaced Basel II RWA ("Basel III Advanced"); and sets out minimum capital ratios and overall capital adequacy standards. 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").

The capital adequacy of the Firm and its national bank subsidiaries is evaluated against the Basel III approach (Standardized or Advanced) which results in the lower ratio (the "Collins Floor"), as required by the Collins Amendment of the Dodd-Frank Act.

Basel III establishes capital requirements for calculating credit risk and market risk RWA, and in the case of Basel III Advanced, operational risk RWA. 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. In addition to the RWA calculated under these methodologies, the Firm may supplement such amounts to incorporate management judgment and feedback from its bank regulators.

Basel III also includes a requirement for Advanced Approach banking organizations, including the Firm, to calculate a Supplementary Leverage Ratio ("SLR"). For additional information on SLR, see page 155.

Basel III Fully Phased-In
Basel III capital rules will become fully phased-in on January 1, 2019, at which point the Firm will continue to calculate its capital ratios under both the Basel III Standardized and Advanced Approaches. While the Firm has imposed Basel III Standardized Fully Phased-In RWA limits on its lines of business, the Firm continues to manage each of the businesses (including line of business equity allocations), as well as the corporate functions, primarily on a Basel III Advanced Fully Phased-In basis.

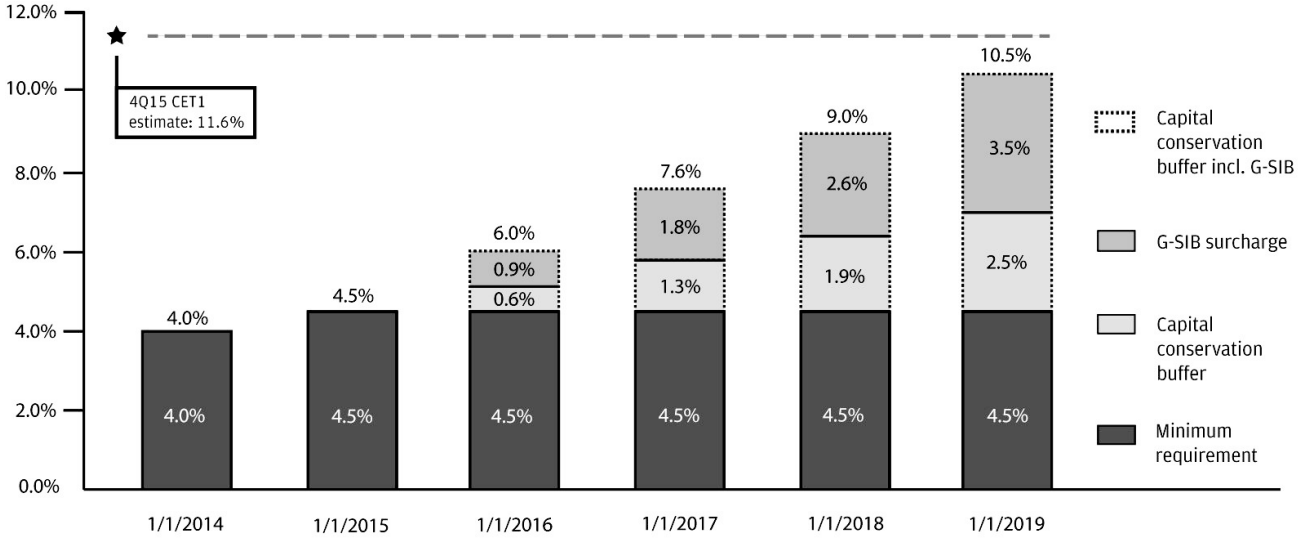
The Firm's capital, RWA and capital ratios that are presented under Basel III Standardized and Advanced Fully Phased-In rules and the Firm's and JPMorgan Chase Bank, N.A.'s and Chase Bank USA, N.A.'s SLRs calculated under the Basel III Advanced Fully Phased-In rules are non-GAAP financial measures. However, such measures are used by banking regulators, investors and analysts to assess the

Firm's capital position and to compare the Firm's capital to that of other financial services companies.

The Firm's estimates of its Basel III Standardized and Advanced Fully Phased-In capital, RWA and capital ratios and of the Firm's, JPMorgan Chase Bank, N.A.'s, and Chase Bank USA, N.A.'s SLRs reflect management's current understanding of the U.S. Basel III rules based on the current published rules and on the application of such rules to the Firm's businesses as currently conducted. The actual impact on the Firm's capital ratios and SLR as of the effective date of the rules may differ from the Firm's current estimates depending on changes the Firm may make to its businesses in the future, further implementation guidance from the regulators, and regulatory approval of certain of the Firm's internal risk models (or, alternatively, regulatory disapproval of the Firm's internal risk models that have previously been conditionally approved).

Risk-based capital regulatory minimums

The following chart presents the Basel III minimum CET1 capital ratio during the transitional periods and on a fully phased-in basis under the Basel III rules currently in effect.



At December 31, 2015 and 2014, JPMorgan Chase maintained Basel III Standardized Transitional and Basel III Advanced Transitional capital ratios in excess of the well-capitalized standards established by the Federal Reserve. Additional information regarding the Firm's capital ratios, as well as the U.S. federal regulatory capital standards to which the Firm is subject, is presented in Note 28. For further information on the Firm's Basel III measures, see the Firm's Pillar 3 Regulatory Capital Disclosures reports, which are available on the Firm's website (http://investor.shareholder.com/jpmorganchase/basel.cfm).

All banking institutions are currently required to have a minimum capital ratio of 4.5% of CET1 capital. Certain banking organizations, including the Firm, will be 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, the Firm could be limited in the amount of capital that may be distributed, including dividends and common equity repurchases. The capital conservation buffer is to be phased-in over time, beginning January 1, 2016 through January 1, 2019.

When fully phased-in, the capital conservation buffer requires an additional 2.5% of CET1 capital, as well as additional levels of capital in the form of a GSIB surcharge and the recently implemented countercyclical capital buffer. On July 20, 2015, the Federal Reserve issued a final rule requiring GSIBs to calculate their GSIB surcharge, on an annual basis, under two separately prescribed methods, and to be subject to the higher of the two. The first method ("Method 1") reflects the GSIB surcharge as prescribed by Basel rules, and is calculated across five criteria: size, cross-jurisdictional activity, interconnectedness, complexity and substitutability. The second method ("Method 2") modifies the requirements to include a measure of short-term wholesale funding in place of substitutability, and introduces a GSIB score "multiplication factor." Based upon data as of December 31, 2015, the Firm estimates its fully phased-in GSIB surcharge would be 2% of CET1 capital under Method 1 and 3.5% under Method 2. On July 20, 2015, the date of the last published estimate, the Federal Reserve had estimated the Firm's GSIB surcharge to be 2.5% under Method 1 and 4.5% under Method 2 as of December 31, 2014.

The countercyclical capital buffer is a potential expansion of the capital conservation buffer that takes into account the macro financial environment in which large, internationally active banks function. As of December 31, 2015 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. On December 21, 2015, the Federal Reserve, in conjunction with the FDIC and OCC, requested public comment, due March 21, 2016, on a proposed policy statement detailing the framework that would be followed in setting the U.S. Basel III countercyclical capital buffer.

Based on the Firm's most recent estimate of its GSIB surcharge and the current countercyclical buffer being set at 0%, the Firm estimates its fully phased-in capital conservation buffer would be 6%.

As well as meeting the capital ratio requirements of Basel III, the Firm must, in order to be "well-capitalized", maintain a minimum 6% Tier 1 and a 10% Total capital requirement. Each of the Firm's IDI subsidiaries must maintain a minimum 5% Tier 1 leverage, 6.5% CET1, 8% Tier 1 and 10% Total capital standard to meet the definition of "well-capitalized" under the Prompt Corrective Action ("PCA") requirements of the FDIC Improvement Act ("FDICIA") for IDI subsidiaries. The PCA standards for IDI subsidiaries were effective January 1, 2015.

A reconciliation of total stockholders' equity to Basel III Standardized and Advanced Fully Phased-In CET1 capital, Tier 1 capital and Total capital is presented in the table below. Beginning July 21, 2015, the Volcker Rule provisions regarding the prohibitions against proprietary trading and holding ownership interests in or sponsoring "covered funds" became effective. The deduction from Basel III Tier 1 capital associated with the permissible holdings of covered funds acquired after December 31, 2013 was not material as of December 31, 2015. For additional information on the components of regulatory capital, see Note 28.

Capital components

(in millions)	December 31, 2015
Total stockholders' equity	**$ 247,573**
Less: Preferred stock	26,068
Common stockholders' equity	**221,505**
Less:	
Goodwill	47,325
Other intangible assets	1,015
Add:	
Deferred tax liabilities[(a)]	3,148
Less: Other CET1 capital adjustments	3,124
Standardized/Advanced CET1 capital	**173,189**
Preferred stock	26,068
Less:	
Other Tier 1 adjustments	210
Standardized/Advanced Tier 1 capital	**$ 199,047**
Long-term debt and other instruments qualifying as Tier 2 capital	$ 16,679
Qualifying allowance for credit losses	14,341
Other	(91)
Standardized Fully Phased-In Tier 2 capital	**$ 30,929**
Standardized Fully Phased-in Total capital	**$ 229,976**
Adjustment in qualifying allowance for credit losses for Advanced Tier 2 capital	(9,797)
Advanced Fully Phased-In Tier 2 capital	**$ 21,132**
Advanced Fully Phased-In Total capital	**$ 220,179**

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

The following table presents a reconciliation of the Firm's Basel III Transitional CET1 capital to the Firm's estimated Basel III Fully Phased-In CET1 capital as of December 31, 2015.

(in millions)	December 31, 2015
Transitional CET1 capital	**$ 175,398**
AOCI phase-in[(a)]	427
CET1 capital deduction phase-in[(b)]	(2,005)
Intangible assets deduction phase-in[(c)]	(546)
Other adjustments to CET1 capital[(d)]	(85)
Fully Phased-In CET1 capital	**$ 173,189**

(a) Includes the remaining balance of AOCI related to AFS debt securities and defined benefit pension and other postretirement employee benefit ("OPEB") plans that will qualify as Basel III CET1 capital upon full phase-in.
(b) Predominantly includes regulatory adjustments related to changes in FVA/DVA, as well as CET1 deductions for defined benefit pension plan assets and deferred tax assets related to net operating loss and tax credit carryforwards.
(c) Relates to intangible assets, other than goodwill and MSRs, that are required to be deducted from CET1 capital upon full phase-in.
(d) Includes minority interest and the Firm's investments in its own CET1 capital instruments.

Capital rollforward

The following table presents the changes in Basel III Fully Phased-In CET1 capital, Tier 1 capital and Tier 2 capital for the year ended December 31, 2015.

Year Ended December 31, (in millions)	2015
Standardized/Advanced CET1 capital at December 31, 2014	$ 164,514
Net income applicable to common equity	22,927
Dividends declared on common stock	(6,484)
Net purchase of treasury stock	(3,835)
Changes in additional paid-in capital	(770)
Changes related to AOCI	(2,116)
Adjustment related to FVA/DVA	(454)
Other	(593)
Increase in Standardized/Advanced CET1 capital	8,675
Standardized/Advanced CET1 capital at December 31, 2015	**$ 173,189**
Standardized/Advanced Tier 1 capital at December 31, 2014	$ 184,572
Change in CET1 capital	8,675
Net issuance of noncumulative perpetual preferred stock	6,005
Other	(205)
Increase in Standardized/Advanced Tier 1 capital	14,475
Standardized/Advanced Tier 1 capital at December 31, 2015	**$ 199,047**
Standardized Tier 2 capital at December 31, 2014	$ 32,147
Change in long-term debt and other instruments qualifying as Tier 2	(748)
Change in qualifying allowance for credit losses	(466)
Other	(4)
Increase in Standardized Tier 2 capital	(1,218)
Standardized Tier 2 capital at December 31, 2015	**$ 30,929**
Standardized Total capital at December 31, 2015	**$ 229,976**
Advanced Tier 2 capital at December 31, 2014	$ 21,607
Change in long-term debt and other instruments qualifying as Tier 2	(748)
Change in qualifying allowance for credit losses	277
Other	(4)
Increase in Advanced Tier 2 capital	(475)
Advanced Tier 2 capital at December 31, 2015	**$ 21,132**
Advanced Total capital at December 31, 2015	**$ 220,179**

RWA rollforward

The following table presents changes in the components of RWA under Basel III Standardized and Advanced Fully Phased-In for the year ended December 31, 2015. The amounts in the rollforward categories are estimates, based on the predominant driver of the change.

	Standardized			Advanced			
Year ended December 31, 2015 (in billions)	Credit risk RWA	Market risk RWA	Total RWA	Credit risk RWA	Market risk RWA	Operational risk RWA	Total RWA
December 31, 2014	$ 1,381	$ 180	**$ 1,561**	$ 1,040	$ 179	$ 400	**$ 1,619**
Model & data changes[a]	(17)	(15)	**(32)**	(38)	(15)	–	**(53)**
Portfolio runoff[b]	(13)	(8)	**(21)**	(21)	(8)	–	**(29)**
Movement in portfolio levels[c]	(18)	(15)	**(33)**	(27)	(14)	–	**(41)**
Changes in RWA	(48)	(38)	**(86)**	(86)	(37)	–	**(123)**
December 31, 2015	**$ 1,333**	**$ 142**	**$ 1,475**	**$ 954**	**$ 142**	**$ 400**	**$ 1,496**

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

(b) Portfolio runoff for credit risk RWA reflects reduced risk from position rolloffs in legacy portfolios in Mortgage Banking, (primarily under the Advanced framework) and Broker Dealer Services (primarily under the Standardized framework); and for market risk RWA reflects reduced risk from position rolloffs in legacy portfolios in the wholesale businesses.

(c) Movement in portfolio levels for credit risk RWA refers to changes in book size, composition, credit quality, and market movements; and for market risk RWA refers to changes in position and market movements.

Supplementary leverage ratio

The SLR is defined as Tier 1 capital under Basel III divided by the Firm's total leverage exposure. Total leverage exposure is calculated by taking the Firm'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.

On September 3, 2014, the U.S. banking regulators adopted a final rule for the calculation of the SLR. The U.S. final rule requires public disclosure of the SLR beginning with the first quarter of 2015, and also requires U.S. bank holding companies, including the Firm, to have a minimum SLR of 5% and IDI subsidiaries, including JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A., to have a minimum SLR of 6%, both beginning January 1, 2018. As of December 31, 2015, the Firm estimates that JPMorgan Chase Bank, N.A.'s and Chase Bank USA, N.A.'s Fully Phased-In SLRs are approximately 6.6% and 8.3%, respectively.

The following table presents the components of the Firm's Fully Phased-In SLR, a non-GAAP financial measure, as of December 31, 2015.

(in millions, except ratio)	December 31, 2015
Fully Phased-in Tier 1 Capital	**$ 199,047**
Total average assets	2,408,253
Less: amounts deducted from Tier 1 capital	47,754
Total adjusted average assets[a]	2,360,499
Off-balance sheet exposures[b]	718,620
SLR leverage exposure	**$ 3,079,119**
SLR	**6.5%**

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

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

Planning and stress testing

Comprehensive Capital Analysis and Review

The Federal Reserve requires large bank holding companies, including the Firm, to submit a capital plan on an annual basis. The Federal Reserve uses the CCAR and Dodd-Frank Act stress test processes to ensure that large bank holding companies have sufficient capital during periods of economic and financial stress, and have robust, forward-looking capital assessment and planning processes in place that address each bank holding company's ("BHC") unique risks to enable them to have the ability to absorb losses under certain stress scenarios. Through the CCAR, the Federal Reserve evaluates each BHC's capital adequacy and internal capital adequacy assessment processes, as well as its plans to make capital distributions, such as dividend payments or stock repurchases.

On March 11, 2015, the Federal Reserve informed the Firm that it did not object, on either a quantitative or qualitative basis, to the Firm's 2015 capital plan. For information on actions taken by the Firm's Board of Directors following the 2015 CCAR results, see Capital actions on page 157.

For 2016, the Federal Reserve revised the capital plan cycle for the CCAR process. Under the revised time line, the Firm is required to submit its 2016 capital plan to the Federal Reserve by April 5, 2016. The Federal Reserve has indicated that it expects to respond to the capital plan submissions of bank holding companies by June 30, 2016.

The Firm's CCAR process is integrated into and employs the same methodologies utilized in the Firm's ICAAP process, as discussed below.

Internal Capital Adequacy Assessment Process
Semiannually, the Firm completes the ICAAP, which provides management with a view of the impact of severe and unexpected events on earnings, balance sheet positions, reserves and capital. The Firm's ICAAP integrates stress testing protocols with capital planning.

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

Line of business equity

The Firm's framework for allocating capital to its business segments (line of business equity) is based on the following objectives:

- Integrate firmwide and line of business capital management activities;
- Measure performance consistently across all lines of business; and
- Provide comparability with peer firms for each of the lines of business.

Each business segment is allocated capital by taking into consideration stand-alone peer comparisons, regulatory capital requirements (as estimated under Basel III Advanced Fully Phased-In) and economic risk. Capital is also allocated to each line of business for, among other things, goodwill and other intangibles associated with acquisitions effected by the line of business. ROE is measured and internal targets for expected returns are established as key measures of a business segment's performance.

Line of business equity Year ended December 31, (in billions)	Yearly average		
	2015	2014	2013
Consumer & Community Banking	**$ 51.0**	$ 51.0	$ 46.0
Corporate & Investment Bank	**62.0**	61.0	56.5
Commercial Banking	**14.0**	14.0	13.5
Asset Management	**9.0**	9.0	9.0
Corporate	**79.7**	72.4	71.4
Total common stockholders' equity	**$ 215.7**	$ 207.4	$ 196.4

On at least an annual basis, the Firm assesses the level of capital required for each line of business as well as the assumptions and methodologies used to allocate capital. The line of business equity allocations are updated as refinements are implemented. The table below reflects the Firm's assessed level of capital required for each line of business as of the dates indicated.

Line of business equity (in billions)	January 1, 2016	December 31, 2015	December 31, 2014
Consumer & Community Banking	**$ 51.0**	$ 51.0	$ 51.0
Corporate & Investment Bank	**64.0**	62.0	61.0
Commercial Banking	**16.0**	14.0	14.0
Asset Management	**9.0**	9.0	9.0
Corporate	**81.5**	85.5	76.7
Total common stockholders' equity	**$ 221.5**	$ 221.5	$ 211.7

Other capital requirements

Minimum Total Loss Absorbing Capacity
In November 2015, the Financial Stability Board ("FSB") finalized the TLAC standard for GSIBs, which establishes the criteria for TLAC eligible debt and capital instruments and defines the minimum requirements for amounts of loss absorbing and recapitalization capacity. This amount and type of debt and capital instruments is intended to effectively absorb losses, as necessary, upon the failure of a GSIB, without imposing such losses on taxpayers of the relevant jurisdiction or causing severe systemic disruptions, and thereby ensuring the continuity of the GSIB's critical functions. The final standard will require GSIBs to meet a common minimum TLAC requirement of 16% of the financial institution's RWA, effective January 1, 2019, and at least 18% effective January 1, 2022. The minimum TLAC must also be at least 6% of a financial institution's Basel III leverage ratio denominator, effective January 1, 2019, and at least 6.75% effective January 1, 2022.

On October 30, 2015, the Federal Reserve issued proposed rules that would require the top-tier holding companies of eight U.S. global systemically important bank holding companies, including the Firm, among other things, to maintain minimum levels of eligible TLAC and long-term debt satisfying certain eligibility criteria ("eligible LTD") commencing January 1, 2019. Under the proposal, these eight U.S GSIBs would be required to maintain minimum TLAC of no less than 18% of the financial institution's RWA or 9.5% of its leverage exposure (as defined by the rules), plus in the case of the RWA-based measure, a TLAC buffer that is equal to 2.5% of the financial institution's CET1, any applicable countercyclical buffer and the financial institution's GSIB surcharge as calculated under method 1. The minimum level of eligible LTD that would be required to be maintained by these eight U.S. GSIBs would be equal to the greater of (A) 6% of the financial institution's RWA, plus the higher of the method 1 or method 2 GSIB surcharge applicable to the institution and (B) 4.5% of its leverage exposure (as defined by the rules). These proposed TLAC Rules would disqualify from eligible LTD, among other instruments, senior debt securities that permit acceleration for reasons other than insolvency or payment default, as well as structured notes and debt securities not governed by U.S. law. The Firm is currently evaluating the impact of the proposal.

Capital actions

Dividends

The Firm's common stock dividend policy reflects JPMorgan Chase's earnings outlook, desired dividend payout ratio, capital objectives, and alternative investment opportunities. Following receipt on March 11, 2015, of the Federal Reserve's non-objection to the Firm's 2015 capital plan submitted under its CCAR, the Firm announced that its Board of Directors increased the quarterly common stock dividend to $0.44 per share, effective with the dividend paid on July 31, 2015. The Firm's dividends are subject to the Board of Directors' approval at the customary times those dividends are declared.

For information regarding dividend restrictions, see Note 22 and Note 27.

The following table shows the common dividend payout ratio based on reported net income.

Year ended December 31,	**2015**	2014	2013
Common dividend payout ratio	28%	29%	33%

Common equity

During the year ended December 31, 2015, warrant holders exercised their right to purchase 12.4 million shares of the Firm's common stock. The Firm issued 4.7 million shares of its common stock as a result of these exercises. As of December 31, 2015, 47.4 million warrants remained outstanding, compared with 59.8 million outstanding as of December 31, 2014.

On March 11, 2015, in conjunction with the Federal Reserve's release of its 2015 CCAR results, the Firm's Board of Directors authorized a $6.4 billion common equity (i.e., common stock and warrants) repurchase program. As of December 31, 2015, $2.7 billion (on a settlement-date basis) of authorized repurchase capacity remained under the program. This authorization includes shares repurchased to offset issuances under the Firm's equity-based compensation plans.

The following table sets forth the Firm's repurchases of common equity for the years ended December 31, 2015, 2014 and 2013, on a settlement-date basis. There were no warrants repurchased during the years ended December 31, 2015, 2014, and 2013.

Year ended December 31, (in millions)	**2015**	2014	2013
Total number of shares of common stock repurchased	**89.8**	82.3	96.1
Aggregate purchase price of common stock repurchases	**$ 5,616**	$ 4,760	$ 4,789

The Firm may, from time to time, enter into written trading plans under Rule 10b5-1 of the Securities Exchange Act of 1934 to facilitate repurchases in accordance with the common equity repurchase program. A Rule 10b5-1 repurchase plan allows the Firm to repurchase its equity during periods when it would not otherwise be repurchasing common equity – for example, during internal trading "blackout periods." All purchases under a Rule 10b5-1 plan must be made according to a predefined plan established when the Firm is not aware of material nonpublic information.

The authorization to repurchase common equity will be utilized at management's discretion, and the timing of purchases and the exact amount of common equity that may be repurchased is subject to various factors, including market conditions; legal and regulatory considerations affecting the amount and timing of repurchase activity; the Firm's capital position (taking into account goodwill and intangibles); internal capital generation; and alternative investment opportunities. The repurchase program does not include specific price targets or timetables; may be executed through open market purchases or privately negotiated transactions, or utilize Rule 10b5-1 programs; and may be suspended at any time.

For additional information regarding repurchases of the Firm's equity securities, see Part II, Item 5: Market for registrant's common equity, related stockholder matters and issuer purchases of equity securities on page 20.

Preferred stock

During the year ended December 31, 2015, the Firm issued $6.0 billion of noncumulative preferred stock. Preferred stock dividends declared were $1.5 billion for the year ended December 31, 2015. Assuming all preferred stock issuances were outstanding for the entire year and quarterly dividends were declared on such issuances, preferred stock dividends would have been $1.6 billion for the year ended December 31, 2015. For additional information on the Firm's preferred stock, see Note 22.

Redemption of outstanding trust preferred securities

On April 2, 2015, the Firm redeemed $1.5 billion, or 100% of the liquidation amount, of JPMorgan Chase Capital XXIX trust preferred securities. On May 8, 2013, the Firm redeemed approximately $5.0 billion, or 100% of the liquidation amount, of the following eight series of trust preferred securities: JPMorgan Chase Capital X, XI, XII, XIV, XVI, XIX, XXIV, and BANK ONE Capital VI. For a further discussion of trust preferred securities, see Note 21.

Broker-dealer regulatory capital

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

JPMorgan Securities and JPMorgan Clearing have elected to compute their minimum net capital requirements in accordance with the "Alternative Net Capital Requirements" of the Net Capital Rule. At December 31, 2015, JPMorgan Securities' net capital, as defined by the Net Capital Rule, was $14.2 billion, exceeding the minimum requirement by $11.9 billion, and JPMorgan Clearing's net capital was $7.7 billion, exceeding the minimum requirement by $6.2 billion.

In addition to its minimum net capital requirement, JPMorgan Securities is required to hold tentative net capital in excess of $1.0 billion and is also required to notify the Securities and Exchange Commission ("SEC") in the event that tentative net capital is less than $5.0 billion, in accordance with the market and credit risk standards of Appendix E of the Net Capital Rule. As of December 31, 2015, JPMorgan Securities had tentative net capital in excess of the minimum and notification requirements.

J.P. Morgan Securities plc is a wholly owned subsidiary of JPMorgan Chase Bank, N.A. and is the Firm's principal operating subsidiary in the U.K. It has authority to engage in banking, investment banking and broker-dealer activities. J.P. Morgan Securities plc is jointly regulated by the U.K. Prudential Regulation Authority ("PRA") and Financial Conduct Authority ("FCA"). Commencing January 1, 2014, J.P. Morgan Securities plc became subject to the U.K. Basel III capital rules.

At December 31, 2015, J.P. Morgan Securities plc had estimated total capital of $33.9 billion; its estimated CET1 capital ratio was 15.4% and its estimated Total capital ratio was 19.6%. Both capital ratios exceeded the minimum standards of 4.5% and 8.0%, respectively, under the transitional requirements of the European Union's ("EU") Basel III Capital Requirements Directive and Regulation, as well as the additional capital requirements specified by the PRA.

Liquidity risk is the risk that the Firm will be unable to meet its contractual and contingent obligations or that it does not have the appropriate amount, composition and tenor of funding and liquidity to support its assets.

Liquidity risk oversight

The Firm has a liquidity risk oversight function whose primary objective is to provide assessment, measurement, monitoring, and control of liquidity risk across the Firm. Liquidity risk oversight is managed through a dedicated firmwide Liquidity Risk Oversight group. The CTC CRO, as part of the independent risk management function, has responsibility for firmwide Liquidity Risk Oversight. Liquidity Risk Oversight's responsibilities include but are not limited to:

- Establishing and monitoring limits, indicators, and thresholds, including liquidity appetite tolerances;
- Defining, monitoring, and reporting internal firmwide and legal entity stress tests, and monitoring and reporting regulatory defined stress testing;
- Monitoring and reporting liquidity positions, balance sheet variances and funding activities;
- Conducting ad hoc analysis to identify potential emerging liquidity risks.

Risk governance and measurement

Specific committees responsible for liquidity governance include firmwide ALCO as well as line of business and regional ALCOs, and the CTC Risk Committee. For further discussion of the risk and risk-related committees, see Enterprise-wide Risk Management on pages 107–111.

Internal Stress testing

Liquidity stress tests are intended to ensure sufficient liquidity for the Firm under a variety of adverse scenarios. Results of stress tests are therefore considered in the formulation of the Firm's funding plan and assessment of its liquidity position. Liquidity outflow assumptions are modeled across a range of time horizons and contemplate both market and idiosyncratic stress. Standard stress tests are performed on a regular basis and ad hoc stress tests are performed in response to specific market events or concerns. Stress scenarios are produced for JPMorgan Chase & Co. ("Parent Company") and the Firm's major subsidiaries.

Liquidity stress tests assume all of the Firm's contractual obligations are met and then take into consideration varying levels of access to unsecured and secured funding markets. Additionally, assumptions with respect to potential non-contractual and contingent outflows are contemplated.

Liquidity management

Treasury is responsible for liquidity management. The primary objectives of effective liquidity management are to ensure that the Firm's core businesses are able to operate in support of client needs, meet contractual and contingent obligations through normal economic cycles as well as during stress events, and to manage optimal funding mix, and availability of liquidity sources. The Firm manages liquidity and funding using a centralized, global approach in order to optimize liquidity sources and uses.

In the context of the Firm's liquidity management, Treasury is responsible for:

- Analyzing and understanding the liquidity characteristics of the Firm, lines of business and legal entities' assets and liabilities, taking into account legal, regulatory, and operational restrictions;
- Defining and monitoring firmwide and legal entity liquidity strategies, policies, guidelines, and contingency funding plans;
- Managing liquidity within approved liquidity risk appetite tolerances and limits;
- Setting transfer pricing in accordance with underlying liquidity characteristics of balance sheet assets and liabilities as well as certain off-balance sheet items.

Contingency funding plan

The Firm's contingency funding plan ("CFP"), which is reviewed by ALCO and approved by the DRPC, is a compilation of procedures and action plans for managing liquidity through stress events. The CFP incorporates the limits and indicators set by the Liquidity Risk Oversight group. These limits and indicators are reviewed regularly to identify the emergence of risks or vulnerabilities in the Firm's liquidity position. The CFP identifies the alternative contingent liquidity resources available to the Firm in a stress event.

Parent Company and subsidiary funding

The Parent Company acts as a source of funding to its subsidiaries. The Firm's liquidity management is intended to maintain liquidity at the Parent Company, in addition to funding and liquidity raised at the subsidiary operating level, at levels sufficient to fund the operations of the Parent Company and its subsidiaries for an extended period of time in a stress environment where access to normal funding sources is disrupted. The Parent Company currently holds sufficient liquidity to withstand peak outflows over a one year liquidity stress horizon, assuming no access to wholesale funding markets.

LCR and NSFR

The Firm must comply with the U.S. LCR rule, which is intended to measure the amount of HQLA held by the Firm in relation to estimated net cash outflows within a 30-day period during an acute stress event. The LCR is required to be 80% at January 1, 2015, increasing by 10% each year until reaching the 100% minimum by January 1, 2017. At December 31, 2015, the Firm was compliant with the fully phased-in U.S. LCR.

On October 31, 2014, the Basel Committee issued the final standard for the net stable funding ratio ("NSFR") – which is intended to measure the "available" amount of stable funding relative to the "required" amount of stable funding over a one-year horizon. NSFR will become a minimum standard by January 1, 2018 and requires that this ratio be equal to at least 100% on an ongoing basis. At December 31, 2015, the Firm was compliant with the NSFR based on its current understanding of the final Basel rule. The U.S. banking regulators are expected to issue an NPR that would outline requirements specific to U.S. banks.

HQLA

HQLA is the amount of assets that qualify for inclusion in the U.S. LCR. HQLA primarily consists of cash and certain unencumbered high quality liquid assets as defined in the final rule.

As of December 31, 2015, the Firm's HQLA was $496 billion, compared with $600 billion as of December 31, 2014. The decrease in HQLA was due to lower cash balances largely driven by lower non-operating deposit balances; however, the Firm remains LCR-compliant given the corresponding reduction in estimated net cash outflows associated with those deposits. HQLA may fluctuate from period to period primarily due to normal flows from client activity.

The following table presents the estimated HQLA included in the LCR broken out by HQLA-eligible cash and securities as of December 31, 2015.

(in billions)	December 31, 2015
HQLA	
Eligible cash[a]	$ 304
Eligible securities[b]	192
Total HQLA	$ 496

(a) Cash on deposit at central banks.

(b) Predominantly includes U.S. agency mortgage-backed securities, U.S. Treasuries, and sovereign bonds net of applicable haircuts under U.S. LCR rules.

In addition to HQLA, as of December 31, 2015, the Firm has approximately $249 billion of unencumbered marketable securities, such as equity securities and fixed income debt securities, available to raise liquidity, if required. Furthermore, the Firm maintains borrowing capacity at various Federal Home Loan Banks ("FHLBs"), the Federal Reserve Bank discount window and various other central banks as a result of collateral pledged by the Firm to such banks. Although available, the Firm does not view the borrowing capacity at the Federal Reserve Bank discount window and the various other central banks as a primary source of liquidity. As of December 31, 2015, the Firm's remaining borrowing capacity at various FHLBs and the Federal Reserve Bank discount window was approximately $183 billion. This remaining borrowing capacity excludes the benefit of securities included above in HQLA or other unencumbered securities currently held at the Federal Reserve Bank discount window for which the Firm has not drawn liquidity.

Funding

Sources of funds

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

The Firm funds its global balance sheet through diverse sources of funding including a stable deposit franchise as well as secured and unsecured funding in the capital markets. The Firm's loan portfolio ($837.3 billion at December 31, 2015), is funded with a portion of the Firm's deposits ($1,279.7 billion at December 31, 2015) and through securitizations and, with respect to a portion of the Firm's real estate-related loans, with secured borrowings from the FHLBs. Deposits in excess of the amount utilized to fund loans are primarily invested in the Firm's investment securities portfolio or deployed in cash or other short-term liquid investments based on their interest rate and liquidity risk characteristics. Securities borrowed or purchased under resale agreements and trading assets-debt and equity instruments are primarily funded by the Firm's securities loaned or sold under agreements to repurchase, trading liabilities-debt and equity instruments, and a portion of the Firm's long-term debt and stockholders' equity. In addition to funding securities borrowed or purchased under resale agreements and trading assets-debt and equity instruments, proceeds from the Firm's debt and equity issuances are used to fund certain loans and other financial and non-financial assets, or may be invested in the Firm's investment securities portfolio. See the discussion below for additional information relating to Deposits, Short-term funding, and Long-term funding and issuance.

Deposits

A key strength of the Firm is its diversified deposit franchise, through each of its lines of business, which provides a stable source of funding and limits reliance on the wholesale funding markets. As of December 31, 2015, the Firm's loans-to-deposits ratio was 65%, compared with 56% at December 31, 2014.

As of December 31, 2015, total deposits for the Firm were $1,279.7 billion, compared with $1,363.4 billion at December 31, 2014 (61% and 58% of total liabilities at December 31, 2015 and 2014, respectively). The decrease was attributable to lower wholesale non-operating deposits, partially offset by higher consumer deposits. For further information, see Consolidated Balance Sheet Analysis on pages 75–76.

The Firm has typically experienced higher customer deposit inflows at quarter-ends. Therefore, the Firm believes average deposit balances are generally more representative of deposit trends. The table below summarizes, by line of business, the period-end and average deposit balances as of and for the years ended December 31, 2015 and 2014.

Deposits			Year ended December 31,	
As of or for the period ended December 31,			Average	
(in millions)	**2015**	2014	**2015**	2014
Consumer & Community Banking	**$ 557,645**	$ 502,520	**$ 530,938**	$ 486,919
Corporate & Investment Bank	**395,228**	468,423	**414,064**	417,517
Commercial Banking	**172,470**	213,682	**184,132**	190,425
Asset Management	**146,766**	155,247	**149,525**	150,121
Corporate	**7,606**	23,555	**17,129**	19,319
Total Firm	**$ 1,279,715**	$ 1,363,427	**$ 1,295,788**	$ 1,264,301

A significant portion of the Firm's deposits are consumer deposits, which are considered a stable source of liquidity. Additionally, the majority of the Firm's wholesale operating deposits are also considered to be stable sources of liquidity because they are generated from customers that maintain operating service relationships with the Firm. Wholesale non-operating deposits, including a portion of balances previously reported as commercial paper sweep liabilities, decreased by approximately $200 billion from December 31, 2014 to December 31, 2015, predominantly driven by the Firm's actions to reduce such deposits. The reduction has not had a significant impact on the Firm's liquidity position as discussed under LCR and HQLA above. For further discussions of deposit and liability balance trends, see the discussion of the Firm's business segments results and the Consolidated Balance Sheet Analysis on pages 83–106 and pages 75–76, respectively.

The following table summarizes short-term and long-term funding, excluding deposits, as of December 31, 2015 and 2014, and average balances for the years ended December 31, 2015 and 2014. For additional information, see the Consolidated Balance Sheet Analysis on pages 75–76 and Note 21.

Sources of funds (excluding deposits)

As of or for the year ended December 31, (in millions)	2015	2014	Average 2015	Average 2014
Commercial paper:				
Wholesale funding	**$ 15,562**	$ 24,052	**$ 19,340**	$ 19,442
Client cash management	**–**	42,292	**18,800**	40,474
Total commercial paper	**$ 15,562**	$ 66,344	**$ 38,140**	$ 59,916
Obligations of Firm-administered multi-seller conduits[a]	**$ 8,724**	$ 12,047	**$ 11,961**	$ 10,427
Other borrowed funds	**$ 21,105**	$ 30,222	**$ 28,816**	$ 31,721
Securities loaned or sold under agreements to repurchase:				
Securities sold under agreements to repurchase	**$ 129,598**	$ 167,077	**$ 168,163**	$ 181,186
Securities loaned	**18,174**	21,798	**19,493**	22,586
Total securities loaned or sold under agreements to repurchase[b][c][d]	**$ 147,772**	$ 188,875	**$ 187,656**	$ 203,772
Senior notes	**$ 149,964**	$ 142,169	**$ 147,498**	$ 139,388
Trust preferred securities	**3,969**	5,435	**4,341**	5,408
Subordinated debt	**25,027**	29,387	**27,310**	29,009
Structured notes	**32,813**	30,021	**31,309**	30,311
Total long-term unsecured funding	**$ 211,773**	$ 207,012	**$ 210,458**	$ 204,116
Credit card securitization[a]	**27,906**	31,197	**30,382**	28,892
Other securitizations[e]	**1,760**	2,008	**1,909**	2,734
FHLB advances	**71,581**	64,994	**70,150**	60,667
Other long-term secured funding[f]	**5,297**	4,373	**4,332**	5,031
Total long-term secured funding	**$ 106,544**	$ 102,572	**$ 106,773**	$ 97,324
Preferred stock[g]	**$ 26,068**	$ 20,063	**24,040**	$ 17,018
Common stockholders' equity[g]	**$ 221,505**	$ 211,664	**215,690**	$ 207,400

(a) Included in beneficial interests issued by consolidated variable interest entities on the Firm's Consolidated balance sheets.
(b) Excludes federal funds purchased.
(c) Excluded long-term structured repurchase agreements of $4.2 billion and $2.7 billion as of December 31, 2015 and 2014, respectively, and average balances of $3.9 billion and $4.2 billion for the years ended December 31, 2015 and 2014, respectively.
(d) Excluded average long-term securities loaned of $24 million as of December 31, 2014. There was no balance for the other periods presented.
(e) Other securitizations includes securitizations of residential mortgages and student loans. The Firm's wholesale businesses also securitize loans for client-driven transactions, which are not considered to be a source of funding for the Firm and are not included in the table.
(f) Includes long-term structured notes which are secured.
(g) For additional information on preferred stock and common stockholders' equity see Capital Management on pages 149–158, Consolidated statements of changes in stockholders' equity, Note 22 and Note 23.

Short-term funding

During the third quarter of 2015 the Firm completed the discontinuation of its commercial paper customer sweep cash management program. This change has not had a significant impact on the Firm's liquidity as the majority of these customer funds remain as deposits at the Firm.

The Firm's sources of short-term secured funding primarily consist of securities loaned or sold under agreements to repurchase. Securities loaned or sold under agreements to repurchase are secured predominantly by high-quality securities collateral, including government-issued debt and agency MBS, and constitute a significant portion of the federal funds purchased and securities loaned or sold under repurchase agreements on the Consolidated balance sheets. The decrease in securities loaned or sold under agreements to repurchase at December 31, 2015, compared with the balance at December 31, 2014 (as well as the average balances for the full year 2015, compared with the prior year) was due to a decline in secured financing of trading assets-debt and equity instruments in CIB. The balances associated with securities loaned or sold under agreements to repurchase fluctuate over time due to customers' investment and financing activities; the Firm's demand for financing; the ongoing management of the mix of the Firm's liabilities, including its secured and unsecured financing (for both the investment securities and market-making portfolios); and other market and portfolio factors.

Long-term funding and issuance

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

The significant majority of the Firm's long-term unsecured funding is issued by the Parent Company to provide maximum flexibility in support of both bank and nonbank subsidiary funding. The following table summarizes long-term unsecured issuance and maturities or redemptions for the years ended December 31, 2015 and 2014. For additional information, see Note 21.

Long-term unsecured funding

Year ended December 31, (in millions)	**2015**	2014
Issuance		
Senior notes issued in the U.S. market	**$ 19,212**	$ 16,322
Senior notes issued in non-U.S. markets	**10,188**	11,193
Total senior notes	**29,400**	27,515
Subordinated debt	**3,210**	4,956
Structured notes	**22,165**	19,806
Total long-term unsecured funding – issuance	**$ 54,775**	$ 52,277
Maturities/redemptions		
Senior notes	**$ 18,454**	$ 21,169
Trust preferred securities	**1,500**	–
Subordinated debt	**6,908**	4,487
Structured notes	**18,099**	18,554
Total long-term unsecured funding – maturities/redemptions	**$ 44,961**	$ 44,210

The Firm raises secured long-term funding through securitization of consumer credit card loans and advances from the FHLBs.

The following table summarizes the securitization issuance and FHLB advances and their respective maturities or redemption for the years ended December 31, 2015 and 2014.

Long-term secured funding

Year ended December 31,	Issuance		Maturities/Redemptions	
(in millions)	**2015**	2014	**2015**	2014
Credit card securitization	**$ 6,807**	$ 8,327	**$ 10,130**	$ 3,774
Other securitizations[a]	**–**	–	**248**	309
FHLB advances	**16,550**	15,200	**9,960**	12,079
Other long-term secured funding	**1,105**	802	**383**	3,076
Total long-term secured funding	**$ 24,462**	$ 24,329	**$ 20,721**	$ 19,238

(a) Other securitizations includes securitizations of residential mortgages and student loans.

The Firm's wholesale businesses also securitize loans for client-driven transactions; those client-driven loan securitizations are not considered to be a source of funding for the Firm and are not included in the table above. For further description of the client-driven loan securitizations, see Note 16.

Credit ratings

The cost and availability of financing are influenced by credit ratings. Reductions in these ratings could have an adverse effect on the Firm's access to liquidity sources, increase the cost of funds, trigger additional collateral or funding requirements and decrease the number of investors and counterparties willing to lend to the Firm. Additionally, the Firm's funding requirements for VIEs and other third party commitments may be adversely affected by a decline in credit ratings. For additional information on the impact of a credit ratings downgrade on the funding requirements for VIEs, and on derivatives and collateral agreements, see Special-purpose entities on page 77, and credit risk, liquidity risk and credit-related contingent features in Note 6.

The credit ratings of the Parent Company and the Firm's principal bank and nonbank subsidiaries as of December 31, 2015, were as follows.

	JPMorgan Chase & Co.			JPMorgan Chase Bank, N.A. Chase Bank USA, N.A.			J.P. Morgan Securities LLC		
December 31, 2015	Long-term issuer	Short-term issuer	Outlook	Long-term issuer	Short-term issuer	Outlook	Long-term issuer	Short-term issuer	Outlook
Moody's Investors Service	A3	P-2	Stable	Aa3	P-1	Stable	Aa3	P-1	Stable
Standard & Poor's	A-	A-2	Stable	A+	A-1	Stable	A+	A-1	Stable
Fitch Ratings	A+	F1	Stable	AA-	F1+	Stable	AA-	F1+	Stable

Downgrades of the Firm's long-term ratings by one or two notches could result in an increase in its cost of funds, and access to certain funding markets could be reduced as noted above. The nature and magnitude of the impact of ratings downgrades depends on numerous contractual and behavioral factors (which the Firm believes are incorporated in its liquidity risk and stress testing metrics). The Firm believes that it maintains sufficient liquidity to withstand a potential decrease in funding capacity due to ratings downgrades.

JPMorgan Chase'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 the Firm's credit ratings, financial ratios, earnings, or stock price.

Critical factors in maintaining high credit ratings include a stable and diverse earnings stream, strong capital ratios, strong credit quality and risk management controls, diverse funding sources, and disciplined liquidity monitoring procedures. Rating agencies continue to evaluate economic and geopolitical trends, regulatory developments, future profitability, risk management practices, and litigation matters, as well as their broader ratings methodologies. Changes in any of these factors could lead to changes in the Firm's credit ratings.

In May 2015, Moody's published its new bank rating methodology. As part of this action, the Firm's preferred stock, deposits and bank subordinated debt ratings were upgraded by one notch. Additionally in May 2015, Fitch changed its bank ratings methodology, implementing ratings differentiation between bank holding companies and their bank subsidiaries. This resulted in a one notch upgrade to the issuer ratings, senior debt ratings and long-term deposit ratings of JPMorgan Chase Bank, N.A., and certain other subsidiaries. In December 2015, S&P removed from its ratings for U.S. GSIBs the uplift assumption due to extraordinary government support. As a result, the Firm's short-term and long-term senior unsecured debt ratings and its subordinated unsecured debt ratings were lowered by one notch.

Although the Firm closely monitors and endeavors to manage, to the extent it is able, factors influencing its credit ratings, there is no assurance that its credit ratings will not be changed in the future.

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

Allowance for credit losses

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

The allowance for loan losses includes an asset-specific component, a formula-based component, and a component related to PCI loans. The determination of each of these components involves significant judgment on a number of matters, as discussed below. For further discussion of the methodologies used in establishing the Firm's allowance for credit losses, see Note 15.

Asset-specific component

The asset-specific allowance for loan losses for each of the Firm's portfolio segments is generally measured as the difference between the recorded investment in the impaired loan and the present value of the cash flows expected to be collected, discounted at the loan's original effective interest rate. Estimating the timing and amounts of future cash flows is highly judgmental as these cash flow projections rely upon estimates such as redefault rates, loss severities, the amounts and timing of prepayments and other factors that are reflective of current and expected future market conditions. These estimates are, in turn, dependent on factors such as the level of future home prices, the duration of current overall economic conditions, and other macroeconomic and portfolio-specific factors. All of these estimates and assumptions require significant management judgment and certain assumptions are highly subjective.

Formula-based component — Consumer loans and lending-related commitments, excluding PCI loans

The formula-based allowance for credit losses for the consumer portfolio, including credit card, is calculated by applying statistical credit loss factors to outstanding principal balances over an estimated loss emergence period to arrive at an estimate of incurred credit losses in the portfolio. The loss emergence period represents the time period between the date at which the loss is estimated to have been incurred and the ultimate realization of that loss (through a charge-off). 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 portfolio and collateral valuation trends to review the appropriateness of the primary statistical loss estimate.

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 loan 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.

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 price declines, 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.

Formula-based component — Wholesale loans and lending-related commitments

The Firm'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 calculation for wholesale loans and lending-related components is the product of an estimated PD and estimated LGD. These factors are determined based on the credit quality and specific attributes of the Firm's loans and lending-related commitments to each obligor.

The Firm 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 the Firm.

PD estimates are based on observable external through-the-cycle data, using credit rating agency default statistics. A 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 the Firm's lending exposure in the obligor's capital structure affect LGD. LGD estimates are based on the Firm'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 views of the credit cycle) could also affect the allowance for credit losses.

The Firm applies judgment in estimating PD and LGD used in calculating the allowances. Wherever possible, the Firm uses independent, verifiable data or the Firm's own historical loss experience in its models for estimating the allowances, but differences in characteristics between the Firm's specific loans or lending-related commitments and those reflected in external and Firm-specific historical data could affect loss estimates. Estimates of PD and LGD are subject to periodic refinement based on any changes to underlying external and Firm-specific historical data. The use of different inputs would change the amount of the allowance for credit losses determined appropriate by the Firm.

Management also applies its judgment to adjust the modeled loss estimates, 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 and political conditions, quality of underwriting standards and other relevant internal and external factors affecting the credit quality of the current portfolio.

Allowance for credit losses sensitivity

As noted above, the Firm's allowance for credit losses is sensitive to numerous factors, which may differ depending on the portfolio. Changes in economic conditions or in the Firm's assumptions and estimates could affect its estimate of probable credit losses inherent in the portfolio at the balance sheet date. The Firm uses its best judgment to assess these economic conditions and loss data in estimating the allowance for credit losses and these estimates are subject to periodic refinement based on any changes to underlying external and Firm-specific historical data. In many cases, the use of alternate estimates (for example, the effect of home prices and unemployment rates

on consumer delinquency, or the calibration between the Firm's wholesale loan risk ratings and external credit ratings) or data sources (for example, external PD and LGD factors that incorporate industry-wide information, versus Firm-specific history) would result in a different estimated allowance for credit losses. To illustrate the potential magnitude of certain alternate judgments, the Firm estimates that changes in the following inputs would have the following effects on the Firm's modeled loss estimates as of December 31, 2015, without consideration of any offsetting or correlated effects of other inputs in the Firm's allowance for loan losses:

- For PCI loans, a combined 5% decline in housing prices and a 1% increase in unemployment rates from current levels could imply an increase to modeled credit loss estimates of approximately $700 million.
- For the residential real estate portfolio, excluding PCI loans, a combined 5% decline in housing prices and a 1% increase in unemployment rates from current levels could imply an increase to modeled annual loss estimates of approximately $125 million.
- A 50 basis point deterioration in forecasted credit card loss rates could imply an increase to modeled annualized credit card loan loss estimates of approximately $600 million.
- An increase in PD factors consistent with a one-notch downgrade in the Firm's internal risk ratings for its entire wholesale loan portfolio could imply an increase in the Firm's modeled loss estimates of approximately $2.1 billion.
- A 100 basis point increase in estimated LGD for the Firm's entire wholesale loan portfolio could imply an increase in the Firm's modeled loss estimates of approximately $175 million.

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

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

Fair value of financial instruments, MSRs and commodities inventory

JPMorgan Chase carries a portion of its assets and liabilities at fair value. The majority of such assets and liabilities are measured at fair value on a recurring basis. Certain assets and liabilities are measured at fair value on a nonrecurring basis, including certain mortgage, home equity and other loans, where the carrying value is based on the fair value of the underlying collateral.

Assets measured at fair value

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

December 31, 2015 (in billions, except ratio data)	Total assets at fair value	Total level 3 assets
Trading debt and equity instruments	$ 284.1	$ 11.9
Derivative receivables[a]	59.7	7.9
Trading assets	343.8	19.8
AFS securities	241.8	0.8
Loans	2.9	1.5
MSRs	6.6	6.6
Private equity investments[b]	1.9	1.7
Other	28.0	0.8
Total assets measured at fair value on a recurring basis	625.0	31.2
Total assets measured at fair value on a nonrecurring basis	1.7	1.0
Total assets measured at fair value	$ 626.7	$ 32.2
Total Firm assets	$ 2,351.7	
Level 3 assets as a percentage of total Firm assets[a]		1.4%
Level 3 assets as a percentage of total Firm assets at fair value[a]		5.1%

Note: Effective April 1, 2015, the Firm adopted new accounting guidance for certain investments where the Firm measures fair value using the net asset value per share (or its equivalent) as a practical expedient and has excluded these investments from the fair value hierarchy. For further information, see Note 3.

(a) For purposes of table above, the derivative receivables total reflects the impact of netting adjustments; however, the $7.9 billion of derivative receivables classified as level 3 does not reflect the netting adjustment as such netting is not relevant to a presentation based on the transparency of inputs to the valuation of an asset. However, if the Firm were to net such balances within level 3, the reduction in the level 3 derivative receivables balance would be $546 million at December 31, 2015; this is exclusive of the netting benefit associated with cash collateral, which would further reduce the level 3 balances.

(b) Private equity instruments represent investments within the Corporate line of business.

Valuation

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

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

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

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

The Firm uses various methodologies and assumptions in the determination of fair value. The use of methodologies or assumptions different than those used by the Firm could result in a different estimate of fair value at the reporting date. For a detailed discussion of the Firm's valuation process and hierarchy, and its determination of fair value for individual financial instruments, see Note 3.

Goodwill impairment

Under U.S. GAAP, goodwill must be allocated to reporting units and tested for impairment at least annually. The Firm's process and methodology used to conduct goodwill impairment testing is described in Note 17.

Management applies significant judgment when estimating the fair value of its reporting units. Estimates of fair value are dependent upon estimates of (a) the future earnings potential of the Firm's reporting units, including the estimated effects of regulatory and legislative changes, such as the Dodd-Frank Act, (b) long-term growth rates and (c) the relevant cost of equity. Imprecision in estimating these factors can affect the estimated fair value of the reporting units.

Based upon the updated valuations for all of its reporting units, the Firm concluded that the goodwill allocated to its reporting units was not impaired at December 31, 2015. The fair values of these reporting units exceeded their carrying values by approximately 10% - 180% for all reporting units and did not indicate a significant risk of goodwill impairment based on current projections and valuations.

The goodwill of $101 million remaining as of December 31, 2014 associated with the Private Equity business was disposed of as part of the Private Equity sale completed in January 2015. For further information on the Private Equity sale, see Note 2.

The projections for all of the Firm's reporting units are consistent with management's short-term business outlook assumptions, and in the longer term, incorporate a set of macroeconomic assumptions and the Firm's best estimates of long-term growth and returns on equity of its businesses. Where possible, the Firm uses third-party and peer data to benchmark its assumptions and estimates.

Declines in business performance, increases in credit losses, increases in equity capital requirements, as well as deterioration in economic or market conditions, adverse estimates of regulatory or legislative changes or increases in the estimated cost of equity, could cause the estimated fair values of the Firm's reporting units or their associated goodwill to decline in the future, which could result in a material impairment charge to earnings in a future period related to some portion of the associated goodwill.

For additional information on goodwill, see Note 17.

Income taxes

JPMorgan Chase is subject to the income tax laws of the various jurisdictions in which it operates, including U.S. federal, state and local and non-U.S. jurisdictions. These laws are often complex and may be subject to different interpretations. To determine the financial statement impact of accounting for income taxes, including the provision for income tax expense and unrecognized tax benefits, JPMorgan Chase must make assumptions and judgments about how to interpret and apply these complex tax laws to numerous transactions and business events, as well as make judgments regarding the timing of when certain items may affect taxable income in the U.S. and non-U.S. tax jurisdictions.

JPMorgan Chase's interpretations of tax laws around the world are subject to review and examination by the various taxing authorities in the jurisdictions where the Firm operates, and disputes may occur regarding its view on a tax position. These disputes over interpretations with the various taxing authorities may be settled by audit, administrative appeals or adjudication in the court systems of the tax jurisdictions in which the Firm operates. JPMorgan Chase regularly reviews whether it may be assessed additional income taxes as a result of the resolution of these matters, and the Firm records additional reserves as appropriate. In addition, the Firm may revise its estimate of income taxes due to changes in income tax laws, legal interpretations and tax planning strategies. It is possible that revisions in the Firm's estimate of income taxes may materially affect the Firm's results of operations in any reporting period.

The Firm's provision for income taxes is composed of current and deferred taxes. Deferred taxes arise from differences between assets and liabilities measured for financial reporting 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. The Firm has also recognized deferred tax assets in connection with certain net operating losses ("NOLs") and tax credits. The Firm performs regular reviews to ascertain whether its deferred tax assets are realizable. These reviews include management's estimates and assumptions regarding future taxable income, which also incorporates various tax planning strategies, including strategies that may be available to utilize NOLs before they expire. In connection with these reviews, if it is determined that a deferred tax asset is not realizable, a valuation allowance is established. The valuation allowance may be reversed in a subsequent reporting period if the Firm determines that, based on revised estimates of future taxable income or changes in tax planning strategies, it is more likely than not that all or part of the deferred tax asset will become realizable. As of December 31, 2015, management has determined it is more likely than not that the Firm will realize its deferred tax assets, net of the existing valuation allowance.

JPMorgan Chase does not record U.S. federal income taxes 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. Changes to the income tax rates applicable to these non-U.S. subsidiaries may have a material impact on the effective tax rate in a future period if such changes were to occur.

The Firm adjusts its unrecognized tax benefits as necessary when additional information becomes available. Uncertain tax positions that meet the more-likely-than-not recognition threshold are measured to determine the amount of benefit to recognize. An uncertain tax position is measured at the largest amount of benefit that management believes is more likely than not to be realized upon settlement. It is possible that the reassessment of JPMorgan Chase's unrecognized tax benefits may have a material impact on its effective income tax rate in the period in which the reassessment occurs.

For additional information on income taxes, see Note 26.

Litigation reserves

For a description of the significant estimates and judgments associated with establishing litigation reserves, see Note 31.

ACCOUNTING AND REPORTING DEVELOPMENTS

Financial Accounting Standards Board ("FASB") Standards Adopted during 2015

Standard	Summary of guidance	Effects on financial statements
Simplifying the presentation of debt issuance costs	• Requires that unamortized debt issuance costs be presented as a reduction of the applicable liability rather than as an asset. • Does not impact the amortization method for these costs.	• Adopted October 1, 2015. • There was no material impact on the Firm's Consolidated balance sheets, and no impact on the Firm's Consolidated results of operations. • For further information, see Note 1.[(a)]
Disclosures for investments in certain entities that calculate net asset value per share (or its equivalent)	• Removes the requirement to categorize investments measured under the net asset value ("NAV") practical expedient from the fair value hierarchy. • Limits disclosures required for investments that are eligible to be measured using the NAV practical expedient to investments for which the entity has elected the practical expedient.	• Adopted April 1, 2015. • The application of this guidance only affected the disclosures related to these investments and had no impact on the Firm's Consolidated balance sheets or results of operations. • For further information, see Note 3.[(a)]
Repurchase agreements and similar transactions	• Amends the accounting for certain secured financing transactions. • Requires enhanced disclosures with respect to transactions recognized as sales in which exposure to the derecognized assets is retained through a separate agreement with the counterparty. • Requires enhanced disclosures with respect to the types of financial assets pledged in secured financing transactions and the remaining contractual maturity of the secured financing transactions.	• Accounting amendments adopted January 1, 2015. • Disclosure enhancements adopted April 1, 2015. • There was no material impact on the Firm's Consolidated Financial Statements. • For further information, see Note 6 and Note 13.
Reporting discontinued operations and disclosures of disposals of components of an entity	• Changes the criteria for determining whether a disposition qualifies for discontinued operations presentation. • Requires enhanced disclosures about discontinued operations and significant dispositions that do not qualify to be presented as discontinued operations.	• Adopted January 1, 2015. • There was no material impact on the Firm's Consolidated Financial Statements.
Investments in qualified affordable housing projects	• Applies to accounting for investments in affordable housing projects that qualify for the low-income housing tax credit. • Replaces the effective yield method and allows companies to make an accounting policy election to amortize the initial cost of its investments in proportion to the tax credits and other benefits received if certain criteria are met, and to present the amortization as a component of income tax expense.	• Adopted January 1, 2015. • For further information, see Note 1.[(a)]

(a) The guidance was required to be applied retrospectively and accordingly, certain prior period amounts have been revised to conform with the current period presentation.

FASB Standards Issued but not yet Adopted

Standard	Summary of guidance	Effects on financial statements
Amendments to the consolidation analysis *Issued February 2015*	• Eliminates the deferral issued by the FASB in February 2010 of certain 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.	• Required effective date January 1, 2016. • Will not have a material impact on the Firm's Consolidated Financial Statements.
Measuring the financial assets and financial liabilities of a consolidated collateralized financing entity *Issued August 2014*	• 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.	• Required effective date January 1, 2016. • Will not have a material impact on the Firm's Consolidated 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 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-type 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, the Firm does not expect the new revenue recognition guidance to have a material impact on the elements of its statements of income most closely associated with financial instruments, including Securities Gains, Interest Income and Interest Expense. • The Firm plans to adopt the revenue recognition guidance in the first quarter of 2018 and is currently evaluating the potential impact on the Consolidated Financial statements and its selection of transition method.
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. • For financial liabilities where the fair value option has been elected, the portion of the total change in fair value caused by changes in Firm's own credit risk is required to be presented separately in Other comprehensive income ("OCI"). • Generally requires a cumulative-effective adjustment to its retained earnings as of the beginning of the reporting period of adoption.	• Required effective date January 1, 2018.[(b)] • Adoption of the DVA guidance as of January 1, 2016, would result in a reclassification from retained earnings to AOCI, reflecting the cumulative change in value to change in the Firm's credit spread subsequent to the issuance of each liability. The amount of this reclassification would be immaterial as of January 1, 2016. • The Firm is evaluating the potential impact of the remaining guidance on the Consolidated Financial Statements.

(a) Early adoption is permitted.
(b) Early adoption is permitted for the requirement to report changes in fair value due to the Firm's own credit risk in OCI, and the Firm is planning to early adopt this guidance during 2016.

NONEXCHANGE-TRADED COMMODITY DERIVATIVE CONTRACTS AT FAIR VALUE

In the normal course of business, JPMorgan Chase trades nonexchange-traded commodity derivative contracts. To determine the fair value of these contracts, the Firm uses various fair value estimation techniques, primarily based on internal models with significant observable market parameters. The Firm's nonexchange-traded commodity derivative contracts are primarily energy-related.

The following table summarizes the changes in fair value for nonexchange-traded commodity derivative contracts for the year ended December 31, 2015.

Year ended December 31, 2015 (in millions)	Asset position	Liability position
Net fair value of contracts outstanding at January 1, 2015	$ 9,826	$ 13,926
Effect of legally enforceable master netting agreements	14,327	13,211
Gross fair value of contracts outstanding at January 1, 2015	24,153	27,137
Contracts realized or otherwise settled	(13,419)	(12,583)
Fair value of new contracts	3,704	5,027
Changes in fair values attributable to changes in valuation techniques and assumptions	–	–
Other changes in fair value	1,428	(1,300)
Gross fair value of contracts outstanding at December 31, 2015	15,866	18,281
Effect of legally enforceable master netting agreements	(6,772)	(6,256)
Net fair value of contracts outstanding at December 31, 2015	$ 9,094	$ 12,025

The following table indicates the maturities of nonexchange-traded commodity derivative contracts at December 31, 2015.

December 31, 2015 (in millions)	Asset position	Liability position
Maturity less than 1 year	$ 8,487	$ 9,242
Maturity 1–3 years	5,636	6,148
Maturity 4–5 years	1,122	1,931
Maturity in excess of 5 years	621	960
Gross fair value of contracts outstanding at December 31, 2015	15,866	18,281
Effect of legally enforceable master netting agreements	(6,772)	(6,256)
Net fair value of contracts outstanding at December 31, 2015	$ 9,094	$ 12,025

FORWARD-LOOKING STATEMENTS

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

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

- Local, regional and global business, economic and political conditions and geopolitical events;
- Changes in laws and regulatory requirements, including capital and liquidity requirements;
- Changes in trade, monetary and fiscal policies and laws;
- Securities and capital markets behavior, including changes in market liquidity and volatility;
- Changes in investor sentiment or consumer spending or savings behavior;
- Ability of the Firm to manage effectively its capital and liquidity, including approval of its capital plans by banking regulators;
- Changes in credit ratings assigned to the Firm or its subsidiaries;
- Damage to the Firm's reputation;
- Ability of the Firm to deal effectively with an economic slowdown or other economic or market disruption;
- Technology changes instituted by the Firm, its counterparties or competitors;
- The success of the Firm's business simplification initiatives and the effectiveness of its control agenda;
- Ability of the Firm to develop new products and services, and the extent to which products or services previously sold by the Firm (including but not limited to mortgages and asset-backed securities) require the Firm to incur liabilities or absorb losses not contemplated at their initiation or origination;
- Ability of the Firm to address enhanced regulatory requirements affecting its businesses;
- Acceptance of the Firm's new and existing products and services by the marketplace and the ability of the Firm to innovate and to increase market share;
- Ability of the Firm to attract and retain qualified employees;
- Ability of the Firm to control expense;
- Competitive pressures;
- Changes in the credit quality of the Firm's customers and counterparties;
- Adequacy of the Firm's risk management framework, disclosure controls and procedures and internal control over financial reporting;
- Adverse judicial or regulatory proceedings;
- Changes in applicable accounting policies;
- Ability of the Firm to determine accurate values of certain assets and liabilities;
- Occurrence of natural or man-made disasters or calamities or conflicts and the Firm's ability to deal effectively with disruptions caused by the foregoing;
- Ability of the Firm to maintain the security of its financial, accounting, technology, data processing and other operating systems and facilities; and
- Ability of the Firm to effectively defend itself against cyberattacks and other attempts by unauthorized parties to access information of the Firm or its customers or to disrupt the Firm's systems; and
- The other risks and uncertainties detailed in Part I, Item 1A: Risk Factors in the Firm's Annual Report on Form 10-K for the year ended December 31, 2015.

Any forward-looking statements made by or on behalf of the Firm speak only as of the date they are made, and JPMorgan Chase does not undertake to update forward-looking statements to reflect the impact of circumstances or events that arise after the date the forward-looking statements were made. The reader should, however, consult any further disclosures of a forward-looking nature the Firm may make in any subsequent Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, or Current Reports on Form 8-K.

Management's report on internal control over financial reporting

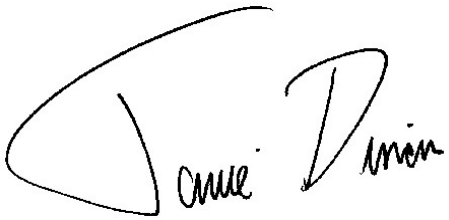
Management of JPMorgan Chase & Co. ("JPMorgan Chase" or the "Firm") is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed by, or under the supervision of, the Firm's principal executive and principal financial officers, or persons performing similar functions, and effected by JPMorgan Chase's Board of Directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America.

JPMorgan Chase's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records, that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the Firm's assets; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Firm are being made only in accordance with authorizations of JPMorgan Chase's management and directors; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Firm's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. Management has completed an assessment of the effectiveness of the Firm's internal control over financial reporting as of December 31, 2015. In making the assessment, management used the "Internal Control – Integrated Framework" ("COSO 2013") promulgated by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO").

Based upon the assessment performed, management concluded that as of December 31, 2015, JPMorgan Chase's internal control over financial reporting was effective based upon the COSO 2013 framework. Additionally, based upon management's assessment, the Firm determined that there were no material weaknesses in its internal control over financial reporting as of December 31, 2015.

The effectiveness of the Firm's internal control over financial reporting as of December 31, 2015, has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears herein.



James Dimon
Chairman and Chief Executive Officer



Marianne Lake
Executive Vice President and Chief Financial Officer

February 23, 2016

Report of independent registered public accounting firm



To the Board of Directors and Stockholders of JPMorgan Chase & Co.:

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of income, comprehensive income, changes in stockholders' equity and cash flows present fairly, in all material respects, the financial position of JPMorgan Chase & Co. and its subsidiaries (the "Firm") at December 31, 2015 and 2014 and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2015 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Firm maintained, in all material respects, effective internal control over financial reporting as of December 31, 2015 based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Firm's management is responsible for these financial statements, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying "Management's report on internal control over financial reporting". Our responsibility is to express opinions on these financial statements and on the Firm's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.



February 23, 2016

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

Consolidated statements of income

Year ended December 31, (in millions, except per share data)	2015	2014	2013
Revenue			
Investment banking fees	**$ 6,751**	$ 6,542	$ 6,354
Principal transactions	**10,408**	10,531	10,141
Lending- and deposit-related fees	**5,694**	5,801	5,945
Asset management, administration and commissions	**15,509**	15,931	15,106
Securities gains[(a)]	**202**	77	667
Mortgage fees and related income	**2,513**	3,563	5,205
Card income	**5,924**	6,020	6,022
Other income	**3,032**	3,013	4,608
Noninterest revenue	**50,033**	51,478	54,048
Interest income	**50,973**	51,531	52,669
Interest expense	**7,463**	7,897	9,350
Net interest income	**43,510**	43,634	43,319
Total net revenue	**93,543**	95,112	97,367
Provision for credit losses	**3,827**	3,139	225
Noninterest expense			
Compensation expense	**29,750**	30,160	30,810
Occupancy expense	**3,768**	3,909	3,693
Technology, communications and equipment expense	**6,193**	5,804	5,425
Professional and outside services	**7,002**	7,705	7,641
Marketing	**2,708**	2,550	2,500
Other expense	**9,593**	11,146	20,398
Total noninterest expense	**59,014**	61,274	70,467
Income before income tax expense	**30,702**	30,699	26,675
Income tax expense	**6,260**	8,954	8,789
Net income	**$ 24,442**	$ 21,745	$ 17,886
Net income applicable to common stockholders	**$ 22,406**	$ 20,077	$ 16,557
Net income per common share data			
Basic earnings per share	**$ 6.05**	$ 5.33	$ 4.38
Diluted earnings per share	**6.00**	5.29	4.34
Weighted-average basic shares	**3,700.4**	3,763.5	3,782.4
Weighted-average diluted shares	**3,732.8**	3,797.5	3,814.9
Cash dividends declared per common share	**$ 1.72**	$ 1.58	$ 1.44

(a) The Firm recognized other-than-temporary impairment ("OTTI") losses of $22 million, $4 million, and $21 million for the years ended December 31, 2015, 2014 and 2013, respectively.

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

Consolidated statements of comprehensive income

Year ended December 31, (in millions)	2015	2014	2013
Net income	**$ 24,442**	$ 21,745	$ 17,886
Other comprehensive income/(loss), after-tax			
Unrealized gains/(losses) on investment securities	**(2,144)**	1,975	(4,070)
Translation adjustments, net of hedges	**(15)**	(11)	(41)
Cash flow hedges	**51**	44	(259)
Defined benefit pension and OPEB plans	**111**	(1,018)	1,467
Total other comprehensive income/(loss), after-tax	**(1,997)**	990	(2,903)
Comprehensive income	**$ 22,445**	$ 22,735	$ 14,983

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

Consolidated balance sheets

December 31, (in millions, except share data)	2015	2014
Assets		
Cash and due from banks	**$ 20,490**	$ 27,831
Deposits with banks	**340,015**	484,477
Federal funds sold and securities purchased under resale agreements (included **$23,141** and $28,585 at fair value)	**212,575**	215,803
Securities borrowed (included **$395** and $992 at fair value)	**98,721**	110,435
Trading assets (included assets pledged of **$115,284** and $125,034)	**343,839**	398,988
Securities (included **$241,754** and $298,752 at fair value and assets pledged of **$14,883** and $24,912)	**290,827**	348,004
Loans (included **$2,861** and $2,611 at fair value)	**837,299**	757,336
Allowance for loan losses	**(13,555)**	(14,185)
Loans, net of allowance for loan losses	**823,744**	743,151
Accrued interest and accounts receivable	**46,605**	70,079
Premises and equipment	**14,362**	15,133
Goodwill	**47,325**	47,647
Mortgage servicing rights	**6,608**	7,436
Other intangible assets	**1,015**	1,192
Other assets (included **$7,604** and $11,909 at fair value and assets pledged of **$1,286** and $1,399)	**105,572**	102,098
Total assets[a]	**$ 2,351,698**	$ 2,572,274
Liabilities		
Deposits (included **$12,516** and $8,807 at fair value)	**$ 1,279,715**	$ 1,363,427
Federal funds purchased and securities loaned or sold under repurchase agreements (included **$3,526** and $2,979 at fair value)	**152,678**	192,101
Commercial paper	**15,562**	66,344
Other borrowed funds (included **$9,911** and $14,739 at fair value)	**21,105**	30,222
Trading liabilities	**126,897**	152,815
Accounts payable and other liabilities (included **$4,401** and $4,155 at fair value)	**177,638**	206,939
Beneficial interests issued by consolidated variable interest entities (included **$787** and $2,162 at fair value)	**41,879**	52,320
Long-term debt (included **$33,065** and $30,226 at fair value)	**288,651**	276,379
Total liabilities[a]	**2,104,125**	2,340,547
Commitments and contingencies (see Notes 29, 30 and 31)		
Stockholders' equity		
Preferred stock ($1 par value; authorized 200,000,000 shares: issued **2,606,750** and 2,006,250 shares)	**26,068**	20,063
Common stock ($1 par value; authorized 9,000,000,000 shares; issued **4,104,933,895** shares)	**4,105**	4,105
Additional paid-in capital	**92,500**	93,270
Retained earnings	**146,420**	129,977
Accumulated other comprehensive income	**192**	2,189
Shares held in restricted stock units ("RSU") trust, at cost (**472,953** shares)	**(21)**	(21)
Treasury stock, at cost (**441,459,392** and 390,144,630 shares)	**(21,691)**	(17,856)
Total stockholders' equity	**247,573**	231,727
Total liabilities and stockholders' equity	**$ 2,351,698**	$ 2,572,274

(a) The following table presents information on assets and liabilities related to VIEs that are consolidated by the Firm at December 31, 2015 and 2014. The difference between total VIE assets and liabilities represents the Firm's interests in those entities, which were eliminated in consolidation.

December 31, (in millions)	2015	2014
Assets		
Trading assets	**$ 3,736**	$ 9,090
Loans	**75,104**	68,880
All other assets	**2,765**	1,815
Total assets	**$ 81,605**	$ 79,785
Liabilities		
Beneficial interests issued by consolidated variable interest entities	**$ 41,879**	$ 52,320
All other liabilities	**809**	949
Total liabilities	**$ 42,688**	$ 53,269

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. At both December 31, 2015 and 2014, the Firm provided limited program-wide credit enhancement of $2.0 billion, related to its Firm-administered multi-seller conduits, which are eliminated in consolidation. For further discussion, see Note 16.

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

Consolidated statements of changes in stockholders' equity

Year ended December 31, (in millions, except per share data)	2015	2014	2013
Preferred stock			
Balance at January 1	**$ 20,063**	$ 11,158	$ 9,058
Issuance of preferred stock	**6,005**	8,905	3,900
Redemption of preferred stock	**–**	–	(1,800)
Balance at December 31	**26,068**	20,063	11,158
Common stock			
Balance at January 1 and December 31	**4,105**	4,105	4,105
Additional paid-in capital			
Balance at January 1	**93,270**	93,828	94,604
Shares issued and commitments to issue common stock for employee stock-based compensation awards, and related tax effects	**(436)**	(508)	(752)
Other	**(334)**	(50)	(24)
Balance at December 31	**92,500**	93,270	93,828
Retained earnings			
Balance at January 1	**129,977**	115,435	104,223
Cumulative effect of change in accounting principle	**–**	–	(284)
Balance at beginning of year, adjusted	**129,977**	115,435	103,939
Net income	**24,442**	21,745	17,886
Dividends declared:			
Preferred stock	**(1,515)**	(1,125)	(805)
Common stock (**$1.72**, $1.58 and $1.44 per share for 2015, 2014 and 2013, respectively)	**(6,484)**	(6,078)	(5,585)
Balance at December 31	**146,420**	129,977	115,435
Accumulated other comprehensive income			
Balance at January 1	**2,189**	1,199	4,102
Other comprehensive income/(loss)	**(1,997)**	990	(2,903)
Balance at December 31	**192**	2,189	1,199
Shares held in RSU Trust, at cost			
Balance at January 1 and December 31	**(21)**	(21)	(21)
Treasury stock, at cost			
Balance at January 1	**(17,856)**	(14,847)	(12,002)
Purchase of treasury stock	**(5,616)**	(4,760)	(4,789)
Reissuance from treasury stock	**1,781**	1,751	1,944
Balance at December 31	**(21,691)**	(17,856)	(14,847)
Total stockholders' equity	**$ 247,573**	$ 231,727	$ 210,857

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

Consolidated statements of cash flows

Year ended December 31, (in millions)	2015	2014	2013
Operating activities			
Net income	**$ 24,442**	$ 21,745	$ 17,886
Adjustments to reconcile net income to net cash provided by/(used in) operating activities:			
Provision for credit losses	**3,827**	3,139	225
Depreciation and amortization	**4,940**	4,759	5,306
Deferred tax expense	**1,333**	4,362	8,139
Other	**1,785**	2,113	1,552
Originations and purchases of loans held-for-sale	**(48,109)**	(67,525)	(75,928)
Proceeds from sales, securitizations and paydowns of loans held-for-sale	**49,363**	71,407	73,566
Net change in:			
Trading assets	**62,212**	(24,814)	89,110
Securities borrowed	**12,165**	1,020	7,562
Accrued interest and accounts receivable	**22,664**	(3,637)	(2,340)
Other assets	**(3,701)**	(9,166)	526
Trading liabilities	**(28,972)**	26,818	(9,772)
Accounts payable and other liabilities	**(23,361)**	6,058	(5,750)
Other operating adjustments	**(5,122)**	314	(2,129)
Net cash provided by operating activities	**73,466**	36,593	107,953
Investing activities			
Net change in:			
Deposits with banks	**144,462**	(168,426)	(194,363)
Federal funds sold and securities purchased under resale agreements	**3,190**	30,848	47,726
Held-to-maturity securities:			
Proceeds from paydowns and maturities	**6,099**	4,169	189
Purchases	**(6,204)**	(10,345)	(24,214)
Available-for-sale securities:			
Proceeds from paydowns and maturities	**76,448**	90,664	89,631
Proceeds from sales	**40,444**	38,411	73,312
Purchases	**(70,804)**	(121,504)	(130,266)
Proceeds from sales and securitizations of loans held-for-investment	**18,604**	20,115	12,033
Other changes in loans, net	**(108,962)**	(51,749)	(23,721)
All other investing activities, net	**3,703**	2,181	(828)
Net cash provided by/(used in) investing activities	**106,980**	(165,636)	(150,501)
Financing activities			
Net change in:			
Deposits	**(88,678)**	89,346	81,476
Federal funds purchased and securities loaned or sold under repurchase agreements	**(39,415)**	10,905	(58,867)
Commercial paper and other borrowed funds	**(57,828)**	9,242	2,784
Beneficial interests issued by consolidated variable interest entities	**(5,632)**	(834)	(10,433)
Proceeds from long-term borrowings	**79,611**	78,515	83,546
Payments of long-term borrowings	**(67,247)**	(65,275)	(60,497)
Proceeds from issuance of preferred stock	**5,893**	8,847	3,873
Redemption of preferred stock	**–**	–	(1,800)
Treasury stock and warrants repurchased	**(5,616)**	(4,760)	(4,789)
Dividends paid	**(7,873)**	(6,990)	(6,056)
All other financing activities, net	**(726)**	(768)	(913)
Net cash provided by/(used in) financing activities	**(187,511)**	118,228	28,324
Effect of exchange rate changes on cash and due from banks	**(276)**	(1,125)	272
Net decrease in cash and due from banks	**(7,341)**	(11,940)	(13,952)
Cash and due from banks at the beginning of the period	**27,831**	39,771	53,723
Cash and due from banks at the end of the period	**$ 20,490**	$ 27,831	$ 39,771
Cash interest paid	**$ 7,220**	$ 8,194	$ 9,573
Cash income taxes paid, net	**9,423**	1,392	3,502

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

Note 1 – Basis of presentation

JPMorgan Chase & Co. ("JPMorgan Chase" or the "Firm"), a financial holding company incorporated under Delaware law in 1968, is a leading global financial services firm and one of the largest banking institutions in the United States of America ("U.S."), with operations worldwide. The Firm is a leader in investment banking, financial services for consumers and small business, commercial banking, financial transaction processing and asset management. For a discussion of the Firm's business segments, see Note 33.

The accounting and financial reporting policies of JPMorgan Chase 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.

Consolidation

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

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

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

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, the Firm's determination of whether it has a controlling interest is primarily based on the amount of voting equity interests held. Entities in which the Firm has a controlling financial interest, through ownership of the majority of the entities' voting equity interests, or through other contractual rights that give the Firm control, are consolidated by the Firm.

Investments in companies in which the Firm 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 the Firm 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 Firm-sponsored asset management funds are structured as limited partnerships or limited liability companies. For many of these entities, the Firm is the general partner or managing member, but the non-affiliated partners or members have the ability to remove the Firm 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, the Firm does not consolidate these funds. In the limited cases where the nonaffiliated partners or members do not have substantive kick-out or participating rights, the Firm consolidates the funds.

The Firm's investment companies have investments in both publicly-held and privately-held entities, including investments in buyouts, growth equity and venture opportunities. 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 the Firm has the power to direct the activities of a VIE that most significantly impact the VIE's economic performance, the Firm 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 the Firm 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, the Firm 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 the Firm 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 the Firm.

The Firm 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 the Firm's involvement with a VIE cause the Firm's consolidation conclusion to change.

In February 2010, the Financial Accounting Standards Board ("FASB") issued an amendment which deferred the requirements of the accounting guidance for VIEs for certain investment funds, including mutual funds, private equity funds and hedge funds. For the funds to which the deferral applies, the Firm continues to apply other existing authoritative accounting guidance to determine whether such funds should be consolidated.

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 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 stockholders' 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. The Firm has elected to net such balances when the specified conditions are met.

The Firm uses master netting agreements 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 the Firm's derivative instruments, see Note 6. For further discussion of the Firm's repurchase and reverse repurchase agreements, and securities borrowing and lending agreements, see Note 13.

Simplifying the presentation of debt issuance costs
Effective October 1, 2015, the Firm early adopted new accounting guidance that simplifies the presentation of debt issuance costs, by requiring that unamortized debt issuance costs be presented as a reduction of the applicable liability rather than as an asset. The adoption of this guidance had no material impact on the Firm's Consolidated balance sheets, and no impact on the Firm's consolidated results of operations. The guidance was required to be applied retrospectively, and accordingly, certain prior period amounts have been revised to conform with the current period presentation.

Investments in qualified affordable housing projects
Effective January 1, 2015, the Firm adopted new accounting guidance for investments in affordable housing projects that qualify for the low-income housing tax credit, which impacted the Corporate & Investment Bank ("CIB"). As a result of the adoption of this new guidance, the Firm made an accounting policy election to amortize the initial cost of its qualifying investments in proportion to the tax credits and other benefits received, and to present the amortization as a component of income tax expense; previously such amounts were predominantly presented in other income. The guidance was required to be applied retrospectively, and accordingly, certain prior period amounts have been revised to conform with the current period presentation. The cumulative effect on retained earnings was a reduction of $284 million as of January 1, 2013. The adoption of this accounting guidance resulted in an increase of $907 million and $924 million in other income and income tax expense, respectively, for the year ended December 31, 2014 and $761 million and $798 million, respectively, for the year ended December 2013, which led to an increase of approximately 2% in the effective tax rate for the year ended December 31, 2014 and 2013. The impact on net income and earnings per share in the periods affected was not material. For further information, see Note 26.

Statements of cash flows
For JPMorgan Chase'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's other significant accounting policies and the Note and page where a detailed description of each policy can be found.

Fair value measurement	Note 3	Page 184
Fair value option	Note 4	Page 203
Derivative instruments	Note 6	Page 208
Noninterest revenue	Note 7	Page 221
Interest income and interest expense	Note 8	Page 223
Pension and other postretirement employee benefit plans	Note 9	Page 223
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Note 2 – Business changes and developments

Private Equity sale
As part of the Firm's business simplification agenda, the sale of a portion of the Private Equity Business ("Private Equity sale") was completed on January 9, 2015. Concurrent with the sale, a new independent management company was formed by the former One Equity Partners investment professionals. The new management company provides investment management services to the acquirer of the investments sold in the Private Equity sale and to the Firm for the portion of the private equity investments that were retained by the Firm. The sale of the investments did not have a material impact on the Firm's Consolidated balance sheets or its results of operations.

Note 3 – Fair value measurement

JPMorgan Chase 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 the Firm'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, where available. If listed 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 the Firm believes its valuation methods are appropriate and consistent with those of other market participants, the methods and assumptions used reflect management judgment and may vary across the Firm's businesses and portfolios.

The Firm uses various methodologies and assumptions in the determination of fair value. The use of different methodologies or assumptions by other market participants compared with those used by the Firm 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. The Firm's valuation control function, which is part of the Firm'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 the Firm's positions are recorded at fair value. In addition, the firmwide 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 the Firm. The VGF is chaired by the Firmwide head of the valuation control function (under the direction of the Firm's Chief Financial Officer ("CFO")), and includes sub-forums covering the Corporate & Investment Bank, Consumer & Community Banking ("CCB"), Commercial Banking, Asset Management and certain corporate functions including Treasury and Chief Investment Office ("CIO").

The valuation control function 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, additional review is performed by the valuation control function to ensure the reasonableness of the estimates. The review may include evaluating the limited market activity including client unwinds, benchmarking of valuation inputs to those 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 valuation control function determines any valuation adjustments that may be required to the estimates provided by the risk-taking functions. No adjustments are applied to the quoted market price 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 the Firm:

- 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.
- The Firm 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, the Firm also applies adjustments to its estimates of fair value in order to appropriately reflect counterparty credit quality, the Firm's own creditworthiness and the impact of funding, utilizing a consistent framework across the Firm. For more information on such adjustments see Credit and funding adjustments on page 200 of this Note.

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 is independent of the model owners. It reviews and approves a wide range of models, including risk management, valuation and regulatory capital models used by the Firm. The Model Risk review and governance functions are part of the Firm's Model Risk unit, and the Firmwide Model Risk Executive reports to the Firm'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.

New valuation models, as well as material changes to existing valuation models, are reviewed and approved prior to implementation except where specified conditions are met, including the approval of an exception granted by the head of the Model Risk function. The Model Risk function performs an annual status assessment that considers developments in the product or market to determine whether valuation models which have already been reviewed need to be, on a full or partial basis, reviewed and approved again.

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 the Firm 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	Level 2
Loans and lending-related commitments – wholesale		
Trading portfolio	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 the Firm, 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 the Firm, 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 the Firm'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 14.	Predominantly level 3
Loans – consumer		
Held for investment consumer loans, excluding credit card	Valuations are based on discounted cash flows, which consider: • Expected lifetime credit losses -considering 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 14.	Predominantly level 3
Held for investment credit card receivables	Valuations are based on discounted cash flows, which consider: • Credit costs – 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 upon observable prices for mortgage-backed securities 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 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 the Firm • Market funding levels • Correlation levels In addition, the following specific inputs are used for the following derivatives that are valued based on models with significant unobservable inputs: *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"), the Firm's own creditworthiness (debit valuation adjustments or "DVA"), and funding valuation adjustment ("FVA") to incorporate the impact of funding. See page 200 of this Note.	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 17.	Level 3
Private equity direct investments	*Private equity direct investments* Fair value is estimated using all available information and considering the range of potential inputs, including: • Transaction prices • Trading multiples of comparable public companies • Operating performance of the underlying portfolio company • Additional available inputs relevant to the investment • Adjustments as required, since comparable public companies are not identical to the company being valued, and for company-specific issues and lack of liquidity	Level 2 or 3
	Public investments held in the Private Equity portfolio • Valued using observable market prices less adjustments for relevant restrictions, where applicable	Level 1 or 2
Fund investments (i.e., mutual/collective investment funds, private equity funds, hedge funds, and real estate funds)	Net asset value ("NAV") • NAV is validated by sufficient level of observable activity (i.e., purchases and sales) • 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 1 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 • The Firm's own creditworthiness (DVA). See page 200 of this Note.	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 derivative valuation. Adjustments are then made to this base valuation to reflect the Firm's own creditworthiness (DVA) and to incorporate the impact of funding (FVA). See page 200 of this Note.	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 asset and liabilities reported at fair value as of December 31, 2015 and 2014, by major product category and fair value hierarchy.

Assets and liabilities measured at fair value on a recurring basis

	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	$ –	$ 23,141	$ –	$ –	$ 23,141
Securities borrowed	–	395	–	–	395
Trading assets:					
Debt instruments:					
Mortgage-backed securities:					
U.S. government agencies[a]	6	31,815	715	–	32,536
Residential – nonagency	–	1,299	194	–	1,493
Commercial – nonagency	–	1,080	115	–	1,195
Total mortgage-backed securities	6	34,194	1,024	–	35,224
U.S. Treasury and government agencies[a]	12,036	6,985	–	–	19,021
Obligations of U.S. states and municipalities	–	6,986	651	–	7,637
Certificates of deposit, bankers' acceptances and commercial paper	–	1,042	–	–	1,042
Non-U.S. government debt securities	27,974	25,064	74	–	53,112
Corporate debt securities	–	22,807	736	–	23,543
Loans[b]	–	22,211	6,604	–	28,815
Asset-backed securities	–	2,392	1,832	–	4,224
Total debt instruments	40,016	121,681	10,921	–	172,618
Equity securities	94,059	606	265	–	94,930
Physical commodities[c]	3,593	1,064	–	–	4,657
Other	–	11,152	744	–	11,896
Total debt and equity instruments[d]	137,668	134,503	11,930	–	284,101
Derivative receivables:					
Interest rate	354	666,491	2,766	(643,248)	26,363
Credit	–	48,850	2,618	(50,045)	1,423
Foreign exchange	734	177,525	1,616	(162,698)	17,177
Equity	–	35,150	709	(30,330)	5,529
Commodity	108	24,720	237	(15,880)	9,185
Total derivative receivables[e]	1,196	952,736	7,946	(902,201)	59,677
Total trading assets	138,864	1,087,239	19,876	(902,201)	343,778
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	–	22,897	–	–	22,897
Total mortgage-backed securities	–	105,581	1	–	105,582
U.S. Treasury and government agencies[a]	10,998	38	–	–	11,036
Obligations of U.S. states and municipalities	–	33,550	–	–	33,550
Certificates of deposit	–	283	–	–	283
Non-U.S. government debt securities	23,199	13,477	–	–	36,676
Corporate debt securities	–	12,436	–	–	12,436
Asset-backed securities:					
Collateralized loan obligations	–	30,248	759	–	31,007
Other	–	9,033	64	–	9,097
Equity securities	2,087	–	–	–	2,087
Total available-for-sale securities	36,284	204,646	824	–	241,754
Loans	–	1,343	1,518	–	2,861
Mortgage servicing rights	–	–	6,608	–	6,608
Other assets:					
Private equity investments[f]	102	101	1,657	–	1,860
All other	3,815	28	744	–	4,587
Total other assets	3,917	129	2,401	–	6,447
Total assets measured at fair value on a recurring basis	$ 179,065	$ 1,316,893[g]	$ 31,227[g]	$ (902,201)	$ 624,984
Deposits	$ –	$ 9,566	$ 2,950	$ –	$ 12,516
Federal funds purchased and securities loaned or sold under repurchase agreements	–	3,526	–	–	3,526
Other borrowed funds	–	9,272	639	–	9,911
Trading liabilities:					
Debt and equity instruments[d]	53,845	20,199	63	–	74,107
Derivative payables:					
Interest rate	216	633,060	1,890	(624,945)	10,221
Credit	–	48,460	2,069	(48,988)	1,541
Foreign exchange	669	187,890	2,341	(171,131)	19,769
Equity	–	36,440	2,223	(29,480)	9,183
Commodity	52	26,430	1,172	(15,578)	12,076
Total derivative payables[e]	937	932,280	9,695	(890,122)	52,790
Total trading liabilities	54,782	952,479	9,758	(890,122)	126,897
Accounts payable and other liabilities	4,382	–	19	–	4,401
Beneficial interests issued by consolidated VIEs	–	238	549	–	787
Long-term debt	–	21,452	11,613	–	33,065
Total liabilities measured at fair value on a recurring basis	$ 59,164	$ 996,533	$ 25,528	$ (890,122)	$ 191,103

	Fair value hierarchy				
December 31, 2014 (in millions)	Level 1	Level 2	Level 3	Derivative netting adjustments	Total fair value
Federal funds sold and securities purchased under resale agreements	$ –	$ 28,585	$ –	$ –	$ 28,585
Securities borrowed	–	992	–	–	992
Trading assets:					
Debt instruments:					
Mortgage-backed securities:					
U.S. government agencies[a]	14	31,904	922	–	32,840
Residential – nonagency	–	1,381	663	–	2,044
Commercial – nonagency	–	927	306	–	1,233
Total mortgage-backed securities	14	34,212	1,891	–	36,117
U.S. Treasury and government agencies[a]	17,816	8,460	–	–	26,276
Obligations of U.S. states and municipalities	–	9,298	1,273	–	10,571
Certificates of deposit, bankers' acceptances and commercial paper	–	1,429	–	–	1,429
Non-U.S. government debt securities	25,854	27,294	302	–	53,450
Corporate debt securities	–	28,099	2,989	–	31,088
Loans[b]	–	23,080	13,287	–	36,367
Asset-backed securities	–	3,088	1,264	–	4,352
Total debt instruments	43,684	134,960	21,006	–	199,650
Equity securities	104,890	624	431	–	105,945
Physical commodities[c]	2,739	1,741	2	–	4,482
Other	–	8,762	1,050	–	9,812
Total debt and equity instruments[d]	151,313	146,087	22,489	–	319,889
Derivative receivables:					
Interest rate	473	945,635 [g]	4,149	(916,532) [g]	33,725
Credit	–	73,853	2,989	(75,004)	1,838
Foreign exchange	758	212,153 [g]	2,276	(193,934) [g]	21,253
Equity	–	39,937 [g]	2,552	(34,312) [g]	8,177
Commodity	247	42,807	599	(29,671)	13,982
Total derivative receivables[e]	1,478	1,314,385 [g]	12,565	(1,249,453) [g]	78,975
Total trading assets	152,791	1,460,472 [g]	35,054	(1,249,453) [g]	398,864
Available-for-sale securities:					
Mortgage-backed securities:					
U.S. government agencies[a]	–	65,319	–	–	65,319
Residential – nonagency	–	50,865	30	–	50,895
Commercial – nonagency	–	21,009	99	–	21,108
Total mortgage-backed securities	–	137,193	129	–	137,322
U.S. Treasury and government agencies[a]	13,591	54	–	–	13,645
Obligations of U.S. states and municipalities	–	30,068	–	–	30,068
Certificates of deposit	–	1,103	–	–	1,103
Non-U.S. government debt securities	24,074	28,669	–	–	52,743
Corporate debt securities	–	18,532	–	–	18,532
Asset-backed securities:					
Collateralized loan obligations	–	29,402	792	–	30,194
Other	–	12,499	116	–	12,615
Equity securities	2,530	–	–	–	2,530
Total available-for-sale securities	40,195	257,520	1,037	–	298,752
Loans	–	70	2,541	–	2,611
Mortgage servicing rights	–	–	7,436	–	7,436
Other assets:					
Private equity investments[f]	648	2,624	2,225	–	5,497
All other	4,018	17	959	–	4,994
Total other assets	4,666	2,641	3,184	–	10,491
Total assets measured at fair value on a recurring basis	$ 197,652	$ 1,750,280 [g]	$ 49,252	$ (1,249,453) [g]	$ 747,731
Deposits	$ –	$ 5,948	$ 2,859	$ –	$ 8,807
Federal funds purchased and securities loaned or sold under repurchase agreements	–	2,979	–	–	2,979
Other borrowed funds	–	13,286	1,453	–	14,739
Trading liabilities:					
Debt and equity instruments[d]	62,914	18,713	72	–	81,699
Derivative payables:					
Interest rate	499	914,357 [g]	3,523	(900,634) [g]	17,745
Credit	–	73,095	2,800	(74,302)	1,593
Foreign exchange	746	221,066 [g]	2,802	(201,644) [g]	22,970
Equity	–	41,925 [g]	4,337	(34,522) [g]	11,740
Commodity	141	44,318	1,164	(28,555)	17,068
Total derivative payables[e]	1,386	1,294,761 [g]	14,626	(1,239,657) [g]	71,116
Total trading liabilities	64,300	1,313,474 [g]	14,698	(1,239,657) [g]	152,815
Accounts payable and other liabilities [g]	4,129	–	26	–	4,155
Beneficial interests issued by consolidated VIEs	–	1,016	1,146	–	2,162
Long-term debt	–	18,349	11,877	–	30,226
Total liabilities measured at fair value on a recurring basis	$ 68,429	$ 1,355,052 [g]	$ 32,059	$ (1,239,657) [g]	$ 215,883

Note: Effective April 1, 2015, the Firm adopted new accounting guidance for investments in certain entities that calculate net asset value per share (or its equivalent). As a result of the adoption of this new guidance, 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, 2015 and 2014, the fair values of these investments, which include certain hedge funds, private equity funds, real estate and other funds, were $1.2 billion and $1.5 billion, respectively, of which $337 million and $1.2 billion had been previously classified in level 2 and level 3, respectively, at December 31, 2014. Included on the Firm's balance sheet at December 31, 2015 and 2014, were trading assets of $61 million and $124 million, respectively, and other assets of $1.2 billion and $1.4 billion, respectively. The guidance was required to be applied retrospectively, and accordingly, prior period amounts have been revised to conform with the current period presentation.

(a) At December 31, 2015 and 2014, included total U.S. government-sponsored enterprise obligations of $67.0 billion and $84.1 billion, respectively, which were predominantly mortgage-related.
(b) At December 31, 2015 and 2014, included within trading loans were $11.8 billion and $17.0 billion, respectively, of residential first-lien mortgages, and $4.3 billion and $5.8 billion, respectively, of commercial first-lien mortgages. Residential mortgage loans include conforming mortgage loans originated with the intent to sell to U.S. government agencies of $5.3 billion and $7.7 billion, respectively, and reverse mortgages of $2.5 billion and $3.4 billion, respectively.
(c) 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 the Firm's physical commodities inventories are either not applicable or immaterial to the value of the inventory. Therefore, market approximates fair value for the Firm'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 the Firm's hedge accounting relationships, see Note 6. To provide consistent fair value disclosure information, all physical commodities inventories have been included in each period presented.
(d) Balances reflect the reduction of securities owned (long positions) by the amount of identical securities sold but not yet purchased (short positions).
(e) As permitted under U.S. GAAP, the Firm has elected to net derivative receivables and derivative payables and the related cash collateral received and paid when a legally enforceable master netting agreement exists. For purposes of the tables above, the Firm 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. However, if the Firm were to net such balances within level 3, the reduction in the level 3 derivative receivables and payables balances would be $546 million and $2.5 billion at December 31, 2015 and 2014, respectively; this is exclusive of the netting benefit associated with cash collateral, which would further reduce the level 3 balances.
(f) Private equity instruments represent investments within the Corporate line of business. The cost basis of the private equity investment portfolio totaled $3.5 billion and $6.0 billion at December 31, 2015 and 2014, respectively.
(g) Certain prior period amounts (including the corresponding fair value parenthetical disclosure for accounts payable and other liabilities on the Consolidated balance sheets) were revised to conform with the current period presentation.

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

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

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

- $3.1 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 for certain structured notes with embedded equity derivatives
- $2.1 billion of gross equity derivatives for both receivables and 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 approximately $1.2 billion for both receivables and payables
- $2.8 billion of trading loans driven by an increase in observability of certain collateralized financing transactions; and $2.4 billion of corporate debt driven by a decrease in 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
- $2.7 billion of trading loans, $2.6 billion of margin loans, $2.3 billion of private equity investments, $2.0 billion of corporate debt, and $1.3 billion of long-term debt, based on increased liquidity and price transparency

Transfers from level 2 into level 3 included $1.1 billion of other borrowed funds, $1.1 billion of trading loans and $1.0 billion of long-term debt, based on a decrease in observability of valuation inputs and price transparency.

During the year ended December 31, 2013, transfers from level 3 to level 2 included the following:

- Certain highly rated CLOs, including $27.4 billion held in the Firm's available-for-sale ("AFS") securities portfolio and $1.4 billion held in the trading portfolio, based on increased liquidity and price transparency;
- $1.3 billion of long-term debt, largely driven by an increase in observability of certain equity structured notes.

Transfers from level 2 to level 3 included $1.4 billion of corporate debt securities in the trading portfolio largely driven by a decrease in observability for certain credit instruments.

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

Level 3 valuations

The Firm has established well-documented processes for determining fair value, including for instruments where fair value is estimated using significant unobservable inputs (level 3). For further information on the Firm's valuation process and a detailed discussion of the determination of fair value for individual financial instruments, see pages 185–188 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 the Firm. 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 the Firm's primary level 3 financial instruments, the valuation techniques used to measure the fair value of those financial instruments, the significant unobservable inputs, the range of values for those inputs and, for certain instruments, the weighted averages of such inputs. While the determination to classify an instrument within level 3 is based on the significance of the unobservable inputs to the overall fair value measurement, level 3 financial instruments typically include observable components (that is, components that are actively quoted and can be validated to external sources) in addition to the unobservable components. The level 1 and/or level 2 inputs are not included in the table. In addition, the Firm manages the risk of the observable components of level 3 financial instruments using securities and derivative positions that are classified within levels 1 or 2 of the fair value hierarchy.

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

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

For the Firm's derivatives and structured notes positions classified within level 3 at December 31, 2015, interest rate correlation inputs used in estimating fair value were concentrated towards the upper end of the range presented; equities correlation inputs were concentrated at the lower end of the range; the credit correlation inputs were distributed across the range presented; and the foreign exchange correlation inputs were concentrated at the top end of the range presented. In addition, the interest rate volatility inputs and the foreign exchange correlation inputs used in estimating fair value were each concentrated at the upper end of the range presented. The equity volatilities are concentrated in the lower half end of the range. The forward commodity prices used in estimating the fair value of commodity derivatives were concentrated within the lower end of the range presented.

Level 3 inputs[a]

December 31, 2015 (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	$ 5,212	Discounted cash flows	Yield	3% - 26%	6%
			Prepayment speed	0% - 20%	6%
			Conditional default rate	0% - 33%	2%
			Loss severity	0% - 100%	28%
Commercial mortgage-backed securities and loans[b]	2,844	Discounted cash flows	Yield	1% - 25%	6%
			Conditional default rate	0% - 91%	29%
			Loss severity	40%	40%
Corporate debt securities, obligations of U.S. states and municipalities, and other[c]	3,277	Discounted cash flows	Credit spread	60 bps - 225 bps	146 bps
			Yield	1% - 20%	5%
	2,740	Market comparables	Price	$ – - $168	$89
Net interest rate derivatives	876	Option pricing	Interest rate correlation	(52)% - 99%	
			Interest rate spread volatility	3% - 38%	
Net credit derivatives[b][c]	549	Discounted cash flows	Credit correlation	35% - 90%	
Net foreign exchange derivatives	(725)	Option pricing	Foreign exchange correlation	0% - 60%	
Net equity derivatives	(1,514)	Option pricing	Equity volatility	20% - 65%	
Net commodity derivatives	(935)	Discounted cash flows	Forward commodity price	$ 22 - $46 per barrel	
Collateralized loan obligations	759	Discounted cash flows	Credit spread	354 bps - 550 bps	396 bps
			Prepayment speed	20%	20%
			Conditional default rate	2%	2%
			Loss severity	40%	40%
	180	Market comparables	Price	$ – - $99	$69
Mortgage servicing rights	6,608	Discounted cash flows	Refer to Note 17		
Private equity investments	1,657	Market comparables	EBITDA multiple	7.2x - 10.4x	8.5x
			Liquidity adjustment	0% - 13%	8%
Long-term debt, other borrowed funds, and deposits[d]	14,707	Option pricing	Interest rate correlation	(52)% - 99%	
			Interest rate spread volatility	3% - 38%	
			Foreign exchange correlation	0% - 60%	
			Equity correlation	(50)% - 80%	
	495	Discounted cash flows	Credit correlation	35% - 90%	
Beneficial interests issued by consolidated VIEs[e]	549	Discounted cash flows	Yield	4% - 28%	4%
			Prepayment Speed	1% - 12%	6%
			Conditional default rate	2% - 15%	2%
			Loss severity	30% - 100%	31%

(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.

(b) The unobservable inputs and associated input ranges for approximately $349 million of credit derivative receivables and $310 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 $434 million of credit derivative receivables and $401 million of credit derivative payables with underlying asset-backed securities 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 the Firm that are predominantly financial instruments containing embedded derivatives. The estimation of the fair value of structured notes is predominantly based on the derivative features embedded within the instruments. The significant unobservable inputs are broadly consistent with those presented for derivative receivables.

(e) The parameters are related to residential mortgage-backed securities.

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 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.

In addition, the following discussion provides a description of attributes of the underlying instruments and external market factors that affect the range of inputs used in the valuation of the Firm's positions.

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 the Firm. 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 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, 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 the Firm'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 loan-to-value 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 and foreign exchange) 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.

EBITDA multiple – EBITDA multiples refer to the input (often derived from the value of a comparable company) that is multiplied by the historic and/or expected earnings before interest, taxes, depreciation and amortization ("EBITDA") of a company in order to estimate the company's value. An increase in the EBITDA multiple, in isolation, net of adjustments, would result in an increase in a fair value measurement.

Changes in level 3 recurring fair value measurements

The following tables include a rollforward of the Consolidated balance sheets amounts (including changes in fair value) for financial instruments classified by the Firm within level 3 of the fair value hierarchy for the years ended December 31, 2015, 2014 and 2013. 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, the Firm risk-manages the observable components of level 3 financial instruments using securities and derivative positions that are classified within level 1 or 2 of the fair value hierarchy; as these level 1 and level 2 risk management instruments are not included below, the gains or losses in the following tables do not reflect the effect of the Firm's risk management activities related to such level 3 instruments.

Year ended December 31, 2015 (in millions)	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	Change in unrealized gains/ (losses) related to financial instruments held at Dec. 31, 2015
	Fair value measurements using significant unobservable inputs							
Assets:								
Trading assets:								
Debt instruments:								
Mortgage-backed securities:								
U.S. government agencies	$ 922	$ (28)	$ 327	$ (303)	$ (132)	$ (71)	$ 715	$ (27)
Residential – nonagency	663	130	253	(611)	(23)	(218)	194	4
Commercial – nonagency	306	(14)	246	(262)	(22)	(139)	115	(5)
Total mortgage-backed securities	1,891	88	826	(1,176)	(177)	(428)	1,024	(28)
Obligations of U.S. states and municipalities	1,273	14	352	(133)	(27)	(828)	651	(1)
Non-U.S. government debt securities	302	9	205	(123)	(64)	(255)	74	(16)
Corporate debt securities	2,989	(77)	1,171	(1,038)	(125)	(2,184)	736	2
Loans	13,287	(174)	3,532	(4,661)	(3,112)	(2,268)	6,604	(181)
Asset-backed securities	1,264	(41)	1,920	(1,229)	(35)	(47)	1,832	(32)
Total debt instruments	21,006	(181)	8,006	(8,360)	(3,540)	(6,010)	10,921	(256)
Equity securities	431	96	89	(193)	(26)	(132)	265	82
Physical commodities	2	(2)	–	–	–	–	–	–
Other	1,050	119	1,581	(1,313)	192	(885)	744	85
Total trading assets – debt and equity instruments	22,489	32 [c]	9,676	(9,866)	(3,374)	(7,027)	11,930	(89) [c]
Net derivative receivables:[a]								
Interest rate	626	962	513	(173)	(732)	(320)	876	263
Credit	189	118	129	(136)	165	84	549	260
Foreign exchange	(526)	657	19	(149)	(296)	(430)	(725)	49
Equity	(1,785)	731	890	(1,262)	(158)	70	(1,514)	5
Commodity	(565)	(856)	1	(24)	512	(3)	(935)	(41)
Total net derivative receivables	(2,061)	1,612 [c]	1,552	(1,744)	(509)	(599)	(1,749)	536 [c]
Available-for-sale securities:								
Asset-backed securities	908	(32)	51	(43)	(61)	–	823	(28)
Other	129	–	–	–	(29)	(99)	1	–
Total available-for-sale securities	1,037	(32) [d]	51	(43)	(90)	(99)	824	(28) [d]
Loans	2,541	(133) [c]	1,290	(92)	(1,241)	(847)	1,518	(32) [c]
Mortgage servicing rights	7,436	(405) [e]	985	(486)	(922)	–	6,608	(405) [e]
Other assets:								
Private equity investments	2,225	(120) [c]	281	(362)	(187)	(180)	1,657	(304) [c]
All other	959	91 [f]	65	(147)	(224)	–	744	15 [f]

Year ended December 31, 2015 (in millions)	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	Change in unrealized (gains)/losses related to financial instruments held at Dec. 31, 2015
	Fair value measurements using significant unobservable inputs								
Liabilities:[b]									
Deposits	$ 2,859	$ (39) [c]	$ –	$ –	$ 1,993	$ (850)	$ (1,013)	$ 2,950	$ (29) [c]
Other borrowed funds	1,453	(697) [c]	–	–	3,334	(2,963)	(488)	639	(57) [c]
Trading liabilities – debt and equity instruments	72	15 [c]	(163)	160	–	(17)	(4)	63	(4) [c]
Accounts payable and other liabilities	26	–	–	–	–	(7)	–	19	–
Beneficial interests issued by consolidated VIEs	1,146	(82) [c]	–	–	286	(574)	(227)	549	(63) [c]
Long-term debt	11,877	(480) [c]	(58)	–	9,359	(6,299)	(2,786)	11,613	385 [c]

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
	Fair value measurements using significant unobservable inputs							
Assets:								
Trading assets:								
Debt instruments:								
Mortgage-backed securities:								
U.S. government agencies	$ 1,005	$ (97)	$ 351	$ (186)	$ (121)	$ (30)	$ 922	$ (92)
Residential – nonagency	726	66	827	(761)	(41)	(154)	663	(15)
Commercial – nonagency	432	17	980	(914)	(60)	(149)	306	(12)
Total mortgage-backed securities	2,163	(14)	2,158	(1,861)	(222)	(333)	1,891	(119)
Obligations of U.S. states and municipalities	1,382	90	298	(358)	(139)	–	1,273	(27)
Non-U.S. government debt securities	143	24	719	(617)	(3)	36	302	10
Corporate debt securities	5,920	210	5,854	(3,372)	(4,531)	(1,092)	2,989	379
Loans	13,455	387	13,551	(7,917)	(4,623)	(1,566)	13,287	123
Asset-backed securities	1,272	19	2,240	(2,126)	(283)	142	1,264	(30)
Total debt instruments	24,335	716	24,820	(16,251)	(9,801)	(2,813)	21,006	336
Equity securities	867	113	248	(259)	(286)	(252)	431	46
Physical commodities	4	(1)	–	–	(1)	–	2	–
Other	2,000	239	1,426	(276)	(201)	(2,138)	1,050	329
Total trading assets – debt and equity instruments	27,206	1,067 [c]	26,494	(16,786)	(10,289)	(5,203)	22,489	711 [c]
Net derivative receivables:[a]								
Interest rate	2,379	184	198	(256)	(1,771)	(108)	626	(853)
Credit	95	(149)	272	(47)	92	(74)	189	(107)
Foreign exchange	(1,200)	(137)	139	(27)	668	31	(526)	(62)
Equity	(1,063)	154	2,044	(2,863)	10	(67)	(1,785)	583
Commodity	115	(465)	1	(113)	(109)	6	(565)	(186)
Total net derivative receivables	326	(413) [c]	2,654	(3,306)	(1,110)	(212)	(2,061)	(625) [c]
Available-for-sale securities:								
Asset-backed securities	1,088	(41)	275	(2)	(101)	(311)	908	(40)
Other	1,234	(19)	122	–	(223)	(985)	129	(2)
Total available-for-sale securities	2,322	(60) [d]	397	(2)	(324)	(1,296)	1,037	(42) [d]
Loans	1,931	(254) [c]	3,258	(845)	(1,549)	–	2,541	(234) [c]
Mortgage servicing rights	9,614	(1,826) [e]	768	(209)	(911)	–	7,436	(1,826) [e]
Other assets:								
Private equity investments	5,816	400 [c]	145	(1,967)	(197)	(1,972)	2,225	33 [c]
All other	1,382	83 [f]	10	(357)	(159)	–	959	59 [f]

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
	Fair value measurements using significant unobservable inputs								
Liabilities:[b]									
Deposits	$ 2,255	$ 149 [c]	$ –	$ –	$ 1,578	$ (197)	$ (926)	$ 2,859	$ 130 [c]
Other borrowed funds	2,074	(596) [c]	–	–	5,377	(6,127)	725	1,453	(415) [c]
Trading liabilities – debt and equity instruments	113	(5) [c]	(305)	323	–	(5)	(49)	72	2 [c]
Accounts payable and other liabilities	–	27 [c]	–	–	–	(1)	–	26	–
Beneficial interests issued by consolidated VIEs	1,240	(4) [c]	–	–	775	(763)	(102)	1,146	(22) [c]
Long-term debt	10,008	(40) [c]	–	–	7,421	(5,231)	(281)	11,877	(9) [c]

Year ended December 31, 2013 (in millions)	Fair value at January 1, 2013	Total realized/ unrealized gains/ (losses)	Purchases[g]	Sales	Settlements[h]	Transfers into and/or out of level 3[i]	Fair value at Dec. 31, 2013	Change in unrealized gains/ (losses) related to financial instruments held at Dec. 31, 2013
	Fair value measurements using significant unobservable inputs							
Assets:								
Trading assets:								
Debt instruments:								
Mortgage-backed securities:								
U.S. government agencies	$ 498	$ 169	$ 819	$ (381)	$ (100)	$ –	$ 1,005	$ 200
Residential – nonagency	663	407	780	(1,028)	(91)	(5)	726	205
Commercial – nonagency	1,207	114	841	(1,522)	(208)	–	432	(4)
Total mortgage-backed securities	2,368	690	2,440	(2,931)	(399)	(5)	2,163	401
Obligations of U.S. states and municipalities	1,436	71	472	(251)	(346)	–	1,382	18
Non-U.S. government debt securities	67	4	1,449	(1,479)	(8)	110	143	(1)
Corporate debt securities	5,308	103	7,602	(5,975)	(1,882)	764	5,920	466
Loans	10,787	665	10,411	(7,431)	(685)	(292)	13,455	315
Asset-backed securities	3,696	191	1,912	(2,379)	(292)	(1,856)	1,272	105
Total debt instruments	23,662	1,724	24,286	(20,446)	(3,612)	(1,279)	24,335	1,304
Equity securities	1,092	(37)	328	(266)	(135)	(115)	867	46
Physical commodities	–	(4)	–	(8)	–	16	4	(4)
Other	863	558	659	(95)	(120)	135	2,000	1,074
Total trading assets – debt and equity instruments	25,617	2,241 [c]	25,273	(20,815)	(3,867)	(1,243)	27,206	2,420 [c]
Net derivative receivables:[a]								
Interest rate	3,322	1,358	344	(220)	(2,391)	(34)	2,379	107
Credit	1,873	(1,697)	115	(12)	(357)	173	95	(1,449)
Foreign exchange	(1,750)	(101)	3	(4)	683	(31)	(1,200)	(110)
Equity	(1,806)	2,528	1,305	(2,111)	(1,353)	374	(1,063)	872
Commodity	254	816	105	(3)	(1,107)	50	115	410
Total net derivative receivables	1,893	2,904 [c]	1,872	(2,350)	(4,525)	532	326	(170) [c]
Available-for-sale securities:								
Asset-backed securities	28,024	4	579	(57)	(57)	(27,405)	1,088	4
Other	892	26	508	(216)	(6)	30	1,234	25
Total available-for-sale securities	28,916	30 [d]	1,087	(273)	(63)	(27,375)	2,322	29 [d]
Loans	2,282	81 [c]	1,065	(191)	(1,306)	–	1,931	(21) [c]
Mortgage servicing rights	7,614	1,612 [e]	2,215	(725)	(1,102)	–	9,614	1,612 [e]
Other assets:								
Private equity investments	5,590	824 [c]	537	(1,080)	140	(195)	5,816	42 [c]
All other	2,122	(17) [f]	49	(427)	(345)	–	1,382	(64) [f]

Year ended December 31, 2013 (in millions)	Fair value at January 1, 2013	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, 2013	Change in unrealized (gains)/losses related to financial instruments held at Dec. 31, 2013
	Fair value measurements using significant unobservable inputs								
Liabilities:[b]									
Deposits	$ 1,983	$ (82) [c]	$ –	$ –	$ 1,248	$ (222)	$ (672)	$ 2,255	$ (88) [c]
Other borrowed funds	1,619	(177) [c]	–	–	7,108	(6,845)	369	2,074	291 [c]
Trading liabilities – debt and equity instruments	205	(83) [c]	(2,418)	2,594	–	(54)	(131)	113	(100) [c]
Accounts payable and other liabilities	–	–	–	–	–	–	–	–	–
Beneficial interests issued by consolidated VIEs	925	174 [c]	–	–	353	(212)	–	1,240	167 [c]
Long-term debt	8,476	(435) [c]	–	–	6,830	(4,362)	(501)	10,008	(85) [c]

Note: Effective April 1, 2015, the Firm adopted new accounting guidance for certain investments where the Firm measures fair value using the net asset value per share (or its equivalent) as a practical expedient and excluded such investments from the fair value hierarchy. The guidance was required to be applied retrospectively, and accordingly, prior period amounts have been revised to conform with the current period presentation. For further information, see page 190.

(a) All level 3 derivatives are presented on a net basis, irrespective of underlying counterparty.
(b) Level 3 liabilities as a percentage of total Firm liabilities accounted for at fair value (including liabilities measured at fair value on a nonrecurring basis) were 13%, 15% and 18% at December 31, 2015, 2014 and 2013, respectively.
(c) Predominantly reported in principal transactions revenue, except for changes in fair value for CCB 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 remeasurement adjustments recorded in income on AFS securities were $(7) million, $(43) million, and $17 million for the years ended December 31, 2015, 2014 and 2013, respectively. Unrealized gains/(losses) recorded on AFS securities in OCI were $(25) million, $(16) million and $13 million for the years ended December 31, 2015, 2014 and 2013, respectively.
(e) Changes in fair value for CCB 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 deconsolidations 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 quarterly 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 1.4% of total Firm assets at December 31, 2015. The following describes significant changes to level 3 assets since December 31, 2014, 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 pages 200–201.

For the year ended December 31, 2015

Level 3 assets were $31.2 billion at December 31, 2015, reflecting a decrease of $18.0 billion from December 31, 2014. This decrease was driven by settlements (including repayments and restructurings) and transfers to Level 2 due to an increase in observability and a decrease in the significance of unobservable inputs. In particular:

- $10.6 billion decrease in trading assets – debt and equity instruments was driven by a decrease of $6.7 billion in trading loans due to sales, maturities and transfers from level 3 to level 2 as a result of an increase in observability of certain valuation inputs and a $2.3 billion decrease in corporate debt securities due to transfers from level 3 to level 2 as a result of an increase in observability of certain valuation inputs
- $4.6 billion decrease in gross derivative receivables was driven by a $3.9 billion decrease in equity, interest rate and foreign exchange derivative receivables due to market movements and transfers from level 3 to level 2 as a result of an increase in 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 years ended December 31, 2015, 2014 and 2013. For further information on these instruments, see Changes in level 3 recurring fair value measurements rollforward tables on pages 195–199.

2015

- $1.6 billion of net gains in interest rate, foreign exchange and equity derivative receivables largely due to market movements; partially offset by loss in commodity derivatives due to market movements
- $1.3 billion of net gains in liabilities due to market movements

2014

- $1.8 billion of losses on MSRs. For further discussion of the change, refer to Note 17
- $1.1 billion of net gains on trading assets – debt and equity instruments, largely driven by market movements and client-driven financing transactions

2013

- $2.9 billion of net gains on derivatives, largely driven by $2.5 billion of gains on equity derivatives, primarily related to client-driven market-making activity and a rise in equity markets; and $1.4 billion of gains, predominantly on interest rate lock and mortgage loan purchase commitments; partially offset by $1.7 billion of losses on credit derivatives from the impact of tightening reference entity credit spreads
- $2.2 billion of net gains on trading assets – debt and equity instruments, largely driven by market making and credit spread tightening in nonagency mortgage-backed securities and trading loans, and the impact of market movements on client-driven financing transactions
- $1.6 billion of net gains on MSRs. For further discussion of the change, refer to Note 17

Credit and funding adjustments

When determining the fair value of an instrument, it may be necessary to record adjustments to the Firm's estimates of fair value in order to reflect counterparty credit quality, the Firm's own creditworthiness, and the impact of funding:

- CVA is taken to reflect the credit quality of a counterparty in the valuation of derivatives. Derivatives are generally valued using models that use as their basis observable market parameters. These market parameters may not consider counterparty non-performance risk. Therefore, an adjustment may be necessary to reflect the credit quality of each derivative counterparty to arrive at fair value.

  The Firm estimates derivatives CVA using a scenario analysis to estimate the expected credit exposure across all of the Firm's positions with each counterparty, and then estimates losses as a result of a counterparty credit event. The key inputs to this methodology are (i) the expected positive exposure to each counterparty based on a simulation that assumes the current population of existing derivatives with each counterparty remains unchanged and considers contractual factors designed to mitigate the Firm's credit exposure, such as collateral and legal rights of offset; (ii) the probability of a default event occurring for each counterparty, as derived from observed or estimated CDS spreads; and (iii) estimated recovery rates implied by CDS, adjusted to consider the differences in recovery rates as a derivative creditor relative to those reflected in CDS spreads, which generally reflect senior unsecured creditor risk. As such, the Firm estimates derivatives CVA relative to the relevant benchmark interest rate.

- DVA is taken to reflect the credit quality of the Firm in the valuation of liabilities measured at fair value. The DVA calculation methodology is generally consistent with the CVA methodology described above and incorporates JPMorgan Chase's credit spreads as observed through the CDS market to estimate the probability of default and loss given default as a result of a systemic event affecting the Firm. Structured notes DVA is estimated using the current fair value of the structured note as the exposure amount, and is otherwise consistent with the derivative DVA methodology.

- FVA is taken to incorporate the impact of funding in the Firm's valuation estimates where there is evidence that a market participant in the principal market would incorporate it in a transfer of the instrument. For collateralized derivatives, the fair value is estimated by discounting expected future cash flows at the relevant overnight indexed swap ("OIS") rate given the underlying collateral agreement with the counterparty. For uncollateralized (including partially collateralized) over-the-counter ("OTC") derivatives and structured notes, effective in 2013, the Firm implemented a FVA framework to incorporate the impact of funding into its valuation estimates. The Firm's FVA framework leverages its existing CVA and DVA calculation methodologies, and considers the fact that the Firm's own credit risk is a significant component of funding costs. The key inputs to FVA are: (i) the expected funding requirements arising from the Firm's positions with each counterparty and collateral arrangements; (ii) for assets, the estimated market funding cost in the principal market; and (iii) for liabilities, the hypothetical market funding cost for a transfer to a market participant with a similar credit standing as the Firm.

Upon the implementation of the FVA framework in 2013, the Firm recorded a one-time $1.5 billion loss in principal transactions revenue that was recorded in the CIB. While the FVA framework applies to both assets and liabilities, the loss on implementation largely related to uncollateralized derivative receivables given that the impact of the Firm's own credit risk, which is a significant component of funding costs, was already incorporated in the valuation of liabilities through the application of DVA.

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

Year ended December 31, (in millions)	**2015**	2014	2013
Credit adjustments:			
Derivatives CVA	**$ 620**	$ (322)	$ 1,886
Derivatives DVA and FVA[a]	**73**	(58)	(1,152)
Structured notes DVA and FVA[b]	**754**	200	(760)

(a) Included derivatives DVA of $(6) million, $(1) million and $(115) million for the years ended December 31, 2015, 2014 and 2013, respectively.

(b) Included structured notes DVA of $171 million, $20 million and $(337) million for the years ended December 31, 2015, 2014 and 2013, respectively.

Assets and liabilities measured at fair value on a nonrecurring basis

At December 31, 2015 and 2014, assets measured at fair value on a nonrecurring basis were $1.7 billion and $4.5 billion, respectively, consisting predominantly of loans that had fair value adjustments for the years ended December 31, 2015 and 2014. At December 31, 2015, $696 million and $959 million of these assets were classified in levels 2 and 3 of the fair value hierarchy, respectively. At December 31, 2014, $1.3 billion and $3.2 billion 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, 2015 and 2014. For the years ended December 31, 2015, 2014 and 2013, there were no significant transfers between levels 1, 2 and 3 related to assets held at the balance sheet date.

Of the $959 million in level 3 assets measured at fair value on a nonrecurring basis as of December 31, 2015:

- $556 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 Firm's experience with actual liquidation values. These discounts to the broker price opinions ranged from 4% to 59%, with a weighted average of 22%.

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, 2015, 2014 and 2013, related to financial instruments held at those dates, were losses of $294 million, $992 million and $789 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 14.

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's assets and liabilities. For example, the Firm 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, 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, 2015 and 2014, of financial assets and liabilities, excluding financial instruments which are carried at fair value on a recurring basis. 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 185–188 of this Note.

	December 31, 2015					December 31, 2014				
		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	**$ 20.5**	**$ 20.5**	**$ –**	**$ –**	**$ 20.5**	$ 27.8	$ 27.8	$ –	$ –	$ 27.8
Deposits with banks	**340.0**	**335.9**	**4.1**	**–**	**340.0**	484.5	480.4	4.1	–	484.5
Accrued interest and accounts receivable	**46.6**	**–**	**46.4**	**0.2**	**46.6**	70.1	–	70.0	0.1	70.1
Federal funds sold and securities purchased under resale agreements	**189.5**	**–**	**189.5**	**–**	**189.5**	187.2	–	187.2	–	187.2
Securities borrowed	**98.3**	**–**	**98.3**	**–**	**98.3**	109.4	–	109.4	–	109.4
Securities, held-to-maturity[a]	**49.1**	**–**	**50.6**	**–**	**50.6**	49.3	–	51.2	–	51.2
Loans, net of allowance for loan losses[b]	**820.8**	**–**	**25.4**	**802.7**	**828.1**	740.5	–	21.8	723.1	744.9
Other	**66.0**	**0.1**	**56.3**	**14.3**	**70.7**	64.7	–	55.7	13.3	69.0
Financial liabilities										
Deposits	**$ 1,267.2**	**$ –**	**$ 1,266.1**	**$ 1.2**	**$ 1,267.3**	$ 1,354.6	$ –	$ 1,353.6	$ 1.2	$ 1,354.8
Federal funds purchased and securities loaned or sold under repurchase agreements	**149.2**	**–**	**149.2**	**–**	**149.2**	189.1	–	189.1	–	189.1
Commercial paper	**15.6**	**–**	**15.6**	**–**	**15.6**	66.3	–	66.3	–	66.3
Other borrowed funds	**11.2**	**–**	**11.2**	**–**	**11.2**	15.5		15.5	–	15.5
Accounts payable and other liabilities[c]	**144.6**	**–**	**141.7**	**2.8**	**144.5**	172.6	–	169.6	2.9	172.5
Beneficial interests issued by consolidated VIEs[d]	**41.1**	**–**	**40.2**	**0.9**	**41.1**	50.2	–	48.2	2.0	50.2
Long-term debt and junior subordinated deferrable interest debentures[e]	**255.6**	**–**	**257.4**	**4.3**	**261.7**	246.2	–	251.2	3.8	255.0

(a) Carrying value reflects unamortized discount or premium.

(b) 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 the Firm's methodologies for estimating the fair value of loans and lending-related commitments, see Valuation hierarchy on pages 185–188.

(c) Certain prior period amounts have been revised to conform with the current presentation.

(d) Carrying value reflects unamortized issuance costs.

(e) Carrying value reflects unamortized premiums and discounts, issuance costs, and other valuation adjustments.

The majority of the Firm'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 allowance and the estimated fair value of the Firm's wholesale lending-related commitments were as follows for the periods indicated.

	December 31, 2015					December 31, 2014				
		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	**$ 0.8**	**$ –**	**$ –**	**$ 3.0**	**$ 3.0**	$ 0.6	$ –	$ –	$ 1.6	$ 1.6

(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.

The Firm does not estimate the fair value of consumer lending-related commitments. In many cases, the Firm can reduce or cancel these commitments by providing the borrower notice or, in some cases as permitted by law, without notice. For a further discussion of the valuation of lending-related commitments, see page 186 of this Note.

Note 4 – 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.

The Firm has elected to measure certain instruments at fair value in order to:

- Mitigate income statement volatility caused by the differences in the measurement basis of elected instruments (e.g. certain instruments elected were previously accounted for on an accrual basis) while the associated risk management arrangements are accounted for on a fair value basis;
- Eliminate the complexities of applying certain accounting models (e.g., hedge accounting or bifurcation accounting for hybrid instruments); and/or
- Better reflect those instruments that are managed on a fair value basis.

The Firm'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.
- Certain investments that receive tax credits and other equity investments acquired as part of the Washington Mutual transaction.
- Structured notes issued as part of CIB's client-driven activities. (Structured notes are predominantly financial instruments that contain embedded derivatives.)
- Certain long-term beneficial interests issued by CIB'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, 2015, 2014 and 2013, 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.

	2015			2014			2013		
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	**$ (38)**	**$ –**	**$ (38)**	$ (15)	$ –	$ (15)	$ (454)	$ –	$ (454)
Securities borrowed	**(6)**	**–**	**(6)**	(10)	–	(10)	10	–	10
Trading assets:									
Debt and equity instruments, excluding loans	**756**	**(10)** [d]	**746**	639	–	639	582	7 [c]	589
Loans reported as trading assets:									
Changes in instrument-specific credit risk	**138**	**41** [c]	**179**	885	29 [c]	914	1,161	23 [c]	1,184
Other changes in fair value	**232**	**818** [c]	**1,050**	352	1,353 [c]	1,705	(133)	1,833 [c]	1,700
Loans:									
Changes in instrument-specific credit risk	**35**	**–**	**35**	40	–	40	36	–	36
Other changes in fair value	**4**	**–**	**4**	34	–	34	17	–	17
Other assets	**79**	**(1)** [d]	**78**	24	6 [d]	30	32	86 [d]	118
Deposits[a]	**93**	**–**	**93**	(287)	–	(287)	260	–	260
Federal funds purchased and securities loaned or sold under repurchase agreements	**8**	**–**	**8**	(33)	–	(33)	73	–	73
Other borrowed funds[a]	**1,996**	**–**	**1,996**	(891)	–	(891)	(399)	–	(399)
Trading liabilities	**(20)**	**–**	**(20)**	(17)	–	(17)	(46)	–	(46)
Beneficial interests issued by consolidated VIEs	**49**	**–**	**49**	(233)	–	(233)	(278)	–	(278)
Other liabilities	**–**	**–**	**–**	(27)	–	(27)	–	–	–
Long-term debt:									
Changes in instrument-specific credit risk[a]	**300**	**–**	**300**	101	–	101	(271)	–	(271)
Other changes in fair value[b]	**1,088**	**–**	**1,088**	(615)	–	(615)	1,280	–	1,280

(a) Total changes in instrument-specific credit risk (DVA) related to structured notes were $171 million, $20 million and $(337) million for the years ended December 31, 2015, 2014 and 2013, respectively. These totals include such changes for structured notes classified within deposits and other borrowed funds, as well as long-term debt.

(b) Structured notes are predominantly financial instruments containing embedded derivatives. Where present, the embedded derivative is the primary driver of risk. 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 included in earnings 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 the Firm'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, 2015 and 2014, for loans, long-term debt and long-term beneficial interests for which the fair value option has been elected.

	2015			2014		
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	**$ 3,484**	**$ 631**	**$ (2,853)**	$ 3,847	$ 905	$ (2,942)
Loans	**7**	**7**	**—**	7	7	—
Subtotal	**3,491**	**638**	**(2,853)**	3,854	912	(2,942)
All other performing loans						
Loans reported as trading assets	**30,780**	**28,184**	**(2,596)**	37,608	35,462	(2,146)
Loans	**2,771**	**2,752**	**(19)**	2,397	2,389	(8)
Total loans	**$ 37,042**	**$ 31,574**	**$ (5,468)**	$ 43,859	$ 38,763	$ (5,096)
Long-term debt						
Principal-protected debt	**$ 17,910** [c]	**$ 16,611**	**$ (1,299)**	$ 14,660 [c]	$ 15,484	$ 824
Nonprincipal-protected debt[b]	**NA**	**16,454**	**NA**	NA	14,742	NA
Total long-term debt	**NA**	**$ 33,065**	**NA**	NA	$ 30,226	NA
Long-term beneficial interests						
Nonprincipal-protected debt	**NA**	**$ 787**	**NA**	NA	$ 2,162	NA
Total long-term beneficial interests	**NA**	**$ 787**	**NA**	NA	$ 2,162	NA

(a) There were no performing loans that were ninety days or more past due as of December 31, 2015 and 2014, respectively.

(b) Remaining contractual principal is not applicable to nonprincipal-protected notes. Unlike principal-protected structured notes, for which the Firm is obligated to return a stated amount of principal at the maturity of the note, nonprincipal-protected structured notes do not obligate the Firm 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 the Firm as issuer for both nonprincipal-protected and principal protected notes.

(c) Where the Firm issues principal-protected zero-coupon or discount notes, the balance reflects the contractual principal payment at maturity or, if applicable, the contractual principal payment at the Firm's next call date.

At December 31, 2015 and 2014, the contractual amount of letters of credit for which the fair value option was elected was $4.6 billion and $4.5 billion, respectively, with a corresponding fair value of $(94) million and $(147) million, respectively. For further information regarding off-balance sheet lending-related financial instruments, see Note 29.

Structured note products by balance sheet classification and risk component

The table below presents the fair value of the structured notes issued by the Firm, by balance sheet classification and the primary risk to which the structured notes' embedded derivative relates.

	December 31, 2015				December 31, 2014			
(in millions)	Long-term debt	Other borrowed funds	Deposits	Total	Long-term debt	Other borrowed funds	Deposits	Total
Risk exposure								
Interest rate	**$ 12,531**	**$ 58**	**$ 3,340**	**$ 15,929**	$ 10,858	$ 460	$ 2,119	$ 13,437
Credit	**3,195**	**547**	**–**	**3,742**	4,023	450	–	4,473
Foreign exchange	**1,765**	**77**	**11**	**1,853**	2,150	211	17	2,378
Equity	**14,293**	**8,447**	**4,993**	**27,733**	12,348	12,412	4,415	29,175
Commodity	**640**	**50**	**1,981**	**2,671**	710	644	2,012	3,366
Total structured notes	**$ 32,424**	**$ 9,179**	**$ 10,325**	**$ 51,928**	$ 30,089	$ 14,177	$ 8,563	$ 52,829

Note 5 – 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 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 the Firm's risk appetite.

In the Firm'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. The Firm'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 14.

The Firm 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 loan-to-value ratios, results in a significant concentration of credit risk. Terms of loan products and collateral coverage are included in the Firm's assessment when extending credit and establishing its allowance for loan losses.

The table below presents both on-balance sheet and off-balance sheet consumer and wholesale-related credit exposure by the Firm's three credit portfolio segments as of December 31, 2015 and 2014.

	2015				2014			
	Credit exposure	On-balance sheet		Off-balance sheet[f]	Credit exposure	On-balance sheet		Off-balance sheet[f][g]
December 31, (in millions)		Loans	Derivatives			Loans	Derivatives	
Total consumer, excluding credit card	**$ 403,424**	**$ 344,821**	**$ –**	**$ 58,478**	$ 353,635	$ 295,374	$ –	$ 58,153
Total credit card	**646,981**	**131,463**	**–**	**515,518**	657,011	131,048	–	525,963
Total consumer	**1,050,405**	**476,284**	**–**	**573,996**	1,010,646	426,422	–	584,116
Wholesale-related[a]								
Real Estate	**116,857**	**92,820**	**312**	**23,725**	105,975	79,113	327	26,535
Consumer & Retail	**85,460**	**27,175**	**1,573**	**56,712**	83,663	25,094	1,845	56,724
Technology, Media & Telecommunications	**57,382**	**11,079**	**1,032**	**45,271**	46,655	11,362	2,190	33,103
Industrials	**54,386**	**16,791**	**1,428**	**36,167**	47,859	16,040	1,303	30,516
Healthcare	**46,053**	**16,965**	**2,751**	**26,337**	56,516	13,794	4,542	38,180
Banks & Finance Cos	**43,398**	**20,401**	**10,218**	**12,779**	55,098	23,367	15,706	16,025
Oil & Gas	**42,077**	**13,343**	**1,902**	**26,832**	43,148	15,616	1,836	25,696
Utilities	**30,853**	**5,294**	**1,689**	**23,870**	27,441	4,844	2,272	20,325
State & Municipal Govt	**29,114**	**9,626**	**3,287**	**16,201**	31,068	7,593	4,002	19,473
Asset Managers	**23,815**	**6,703**	**7,733**	**9,379**	27,488	8,043	9,386	10,059
Transportation	**19,227**	**9,157**	**1,575**	**8,495**	20,619	10,381	2,247	7,991
Central Govt	**17,968**	**2,000**	**13,240**	**2,728**	19,881	1,103	15,527	3,251
Chemicals & Plastics	**15,232**	**4,033**	**369**	**10,830**	12,612	3,087	410	9,115
Metals & Mining	**14,049**	**4,622**	**607**	**8,820**	14,969	5,628	589	8,752
Automotive	**13,864**	**4,473**	**1,350**	**8,041**	12,754	3,779	766	8,209
Insurance	**11,889**	**1,094**	**1,992**	**8,803**	13,350	1,175	3,474	8,701
Financial Markets Infrastructure	**7,973**	**724**	**2,602**	**4,647**	11,986	928	6,789	4,269
Securities Firms	**4,412**	**861**	**1,424**	**2,127**	4,801	1,025	1,351	2,425
All other[b]	**149,117**	**109,889**	**4,593**	**34,635**	134,475	92,530	4,413	37,532
Subtotal	**783,126**	**357,050**	**59,677**	**366,399**	770,358	324,502	78,975	366,881
Loans held-for-sale and loans at fair value	**3,965**	**3,965**	**–**	**–**	6,412	6,412	–	–
Receivables from customers and other[c]	**13,372**	**–**	**–**	**–**	28,972	–	–	–
Total wholesale-related	**800,463**	**361,015**	**59,677**	**366,399**	805,742	330,914	78,975	366,881
Total exposure[d][e]	**$ 1,850,868**	**$ 837,299**	**$ 59,677**	**$ 940,395**	$ 1,816,388	$ 757,336	$ 78,975	$ 950,997

(a) Effective in the fourth quarter 2015, the Firm realigned its wholesale industry divisions in order to better monitor and manage industry concentrations. Prior period amounts have been revised to conform with current period presentation. For additional information, see Wholesale credit portfolio on pages 122–129.

(b) All other includes: individuals; SPEs; holding companies; and private education and civic organizations. For more information on exposures to SPEs, see Note 16.

(c) Primarily consists of margin loans to prime brokerage customers that are generally over-collateralized through a pledge of assets maintained in clients' brokerage accounts and are subject to daily minimum collateral requirements. As a result of the Firm's credit risk mitigation practices, the Firm did not hold any reserves for credit impairment on these receivables.

(d) For further information regarding on-balance sheet credit concentrations by major product and/or geography, see Note 6 and Note 14. For information regarding concentrations of off-balance sheet lending-related financial instruments by major product, see Note 29.

(e) Excludes cash placed with banks of $351.0 billion and $501.5 billion, at December 31, 2015 and 2014, respectively, placed with various central banks, predominantly Federal Reserve Banks.

(f) Represents lending-related financial instruments.

(g) Effective January 1, 2015, the Firm no longer includes within its disclosure of wholesale lending-related commitments the unused amount of advised uncommitted lines of credit as it is within the Firm's discretion whether or not to make a loan under these lines, and the Firm's approval is generally required prior to funding. Prior period amounts have been revised to conform with the current period presentation.

Note 6 – Derivative instruments

Derivative instruments enable end-users to modify or mitigate exposure to credit or market risks. Counterparties to a derivative contract seek to obtain risks and rewards similar to those that could be obtained from purchasing or selling a related cash instrument without having to exchange upfront the full purchase or sales price. JPMorgan Chase makes markets in derivatives for clients and also uses derivatives to hedge or manage its own risk exposures. Predominantly all of the Firm's derivatives are entered into for market-making or risk management purposes.

Market-making derivatives
The majority of the Firm'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. The Firm 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. The Firm also seeks to earn a spread between the client derivatives and offsetting positions, and from the remaining open risk positions.

Risk management derivatives
The Firm manages its market risk exposures using various derivative instruments.

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. The Firm 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 the Firm'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 credit default swaps. For a further discussion of credit derivatives, see the discussion in the Credit derivatives section on pages 218–220 of this Note.

For more information about risk management derivatives, see the risk management derivatives gains and losses table on page 218 of this Note, and the hedge accounting gains and losses tables on pages 216–218 of this Note.

Derivative counterparties and settlement types
The Firm enters into OTC derivatives, which are negotiated and settled bilaterally with the derivative counterparty. The Firm 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 central counterparties ("CCPs"). ETD contracts are generally standardized contracts traded on an exchange and cleared by the CCP, which is the 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
The Firm provides clearing services for clients where the Firm acts as a clearing member with respect to certain derivative exchanges and clearing houses. The Firm does not reflect the clients' derivative contracts in its Consolidated Financial Statements. For further information on the Firm's clearing services, see Note 29.

Accounting for derivatives

All free-standing derivatives that the Firm executes for its own account are required to be recorded on the Consolidated balance sheets at fair value.

As permitted under U.S. GAAP, the Firm nets derivative assets and liabilities, and the related cash collateral receivables and payables, when a legally enforceable master netting agreement exists between the Firm 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 212–218 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 3 and 4.

Derivatives designated as hedges

The Firm applies hedge accounting to certain derivatives executed for risk management purposes – generally interest rate, foreign exchange and commodity derivatives. However, JPMorgan Chase does not seek to apply hedge accounting to all of the derivatives involved in the Firm's risk management activities. For example, the Firm does not apply hedge accounting to purchased credit default swaps 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, the Firm 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, the Firm 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 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 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 uses foreign currency hedges to protect the value of the Firm'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 the Firm's primary uses of derivatives and the related hedge accounting designation or disclosure category.

Type of Derivative	Use of Derivative	Designation and disclosure	Affected segment or unit	Page reference
Manage specifically identified risk exposures in qualifying hedge accounting relationships:				
◦ Interest rate	Hedge fixed rate assets and liabilities	Fair value hedge	Corporate	216
◦ Interest rate	Hedge floating-rate assets and liabilities	Cash flow hedge	Corporate	217
◦ Foreign exchange	Hedge foreign currency-denominated assets and liabilities	Fair value hedge	Corporate	216
◦ Foreign exchange	Hedge forecasted revenue and expense	Cash flow hedge	Corporate	217
◦ Foreign exchange	Hedge the value of the Firm's investments in non-U.S. subsidiaries	Net investment hedge	Corporate	218
◦ Commodity	Hedge commodity inventory	Fair value hedge	CIB	216
Manage specifically identified risk exposures not designated in qualifying hedge accounting relationships:				
◦ Interest rate	Manage the risk of the mortgage pipeline, warehouse loans and MSRs	Specified risk management	CCB	218
◦ Credit	Manage the credit risk of wholesale lending exposures	Specified risk management	CIB	218
◦ Commodity	Manage the risk of certain commodities-related contracts and investments	Specified risk management	CIB	218
◦ Interest rate and foreign exchange	Manage the risk of certain other specified assets and liabilities	Specified risk management	Corporate	218
Market-making derivatives and other activities:				
• Various	Market-making and related risk management	Market-making and other	CIB	218
• Various	Other derivatives	Market-making and other	CIB, Corporate	218

Notional amount of derivative contracts

The following table summarizes the notional amount of derivative contracts outstanding as of December 31, 2015 and 2014.

	Notional amounts[b]	
December 31, (in billions)	**2015**	2014
Interest rate contracts		
Swaps	**$ 24,162**	$ 29,734
Futures and forwards	**5,167**	10,189
Written options	**3,506**	3,903
Purchased options	**3,896**	4,259
Total interest rate contracts	**36,731**	48,085
Credit derivatives[a]	**2,900**	4,249
Foreign exchange contracts		
Cross-currency swaps	**3,199**	3,346
Spot, futures and forwards	**5,028**	4,669
Written options	**690**	790
Purchased options	**706**	780
Total foreign exchange contracts	**9,623**	9,585
Equity contracts		
Swaps	**232**	206
Futures and forwards	**43**	50
Written options	**395**	432
Purchased options	**326**	375
Total equity contracts	**996**	1,063
Commodity contracts		
Swaps	**83**	126
Spot, futures and forwards	**99**	193
Written options	**115**	181
Purchased options	**112**	180
Total commodity contracts	**409**	680
Total derivative notional amounts	**$ 50,659**	$ 63,662

(a) For more information on volumes and types of credit derivative contracts, see the Credit derivatives discussion on pages 218–220 of this Note.

(b) Represents the sum of gross long and gross short third-party notional derivative contracts.

While the notional amounts disclosed above give an indication of the volume of the Firm's derivatives activity, the notional amounts significantly exceed, in the Firm's view, the possible losses that could arise from such transactions. For most derivative 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 following table summarizes information on derivative receivables and payables (before and after netting adjustments) that are reflected on the Firm's Consolidated balance sheets as of December 31, 2015 and 2014, 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, 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	**$ 665,531**	**$ 4,080**	**$ 669,611**	**$ 26,363**	**$ 632,928**	**$ 2,238**	**$ 635,166**	**$ 10,221**
Credit	**51,468**	**–**	**51,468**	**1,423**	**50,529**	**–**	**50,529**	**1,541**
Foreign exchange	**179,072**	**803**	**179,875**	**17,177**	**189,397**	**1,503**	**190,900**	**19,769**
Equity	**35,859**	**–**	**35,859**	**5,529**	**38,663**	**–**	**38,663**	**9,183**
Commodity	**23,713**	**1,352**	**25,065**	**9,185**	**27,653**	**1**	**27,654**	**12,076**
Total fair value of trading assets and liabilities	**$ 955,643**	**$ 6,235**	**$ 961,878**	**$ 59,677**	**$ 939,170**	**$ 3,742**	**$ 942,912**	**$ 52,790**

	Gross derivative receivables				Gross derivative payables			
December 31, 2014 (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	$ 944,885 [c]	$ 5,372	$ 950,257 [c]	$ 33,725	$ 915,368 [c]	$ 3,011	$ 918,379 [c]	$ 17,745
Credit	76,842	–	76,842	1,838	75,895	–	75,895	1,593
Foreign exchange	211,537 [c]	3,650	215,187 [c]	21,253	223,988 [c]	626	224,614 [c]	22,970
Equity	42,489 [c]	–	42,489 [c]	8,177	46,262 [c]	–	46,262 [c]	11,740
Commodity	43,151	502	43,653	13,982	45,455	168	45,623	17,068
Total fair value of trading assets and liabilities	$1,318,904 [c]	$ 9,524	$1,328,428 [c]	$ 78,975	$1,306,968 [c]	$ 3,805	$1,310,773 [c]	$ 71,116

(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, the Firm has elected to net derivative receivables and derivative payables and the related cash collateral receivables and payables when a legally enforceable master netting agreement exists.
(c) The prior period amounts have been revised to conform with the current period presentation. These revisions had no impact on Firm's Consolidated balance sheets or its results of operations.

The following table presents, as of December 31, 2015 and 2014, the gross and net derivative receivables by contract and settlement type. Derivative receivables have been netted on the Consolidated balance sheets against derivative payables and cash collateral payables to the same counterparty with respect to derivative contracts for which the Firm has obtained an appropriate legal opinion with respect to the master netting agreement. Where such a legal opinion has not been either sought or obtained, the receivables are not eligible under U.S. GAAP for netting on the Consolidated balance sheets, and are shown separately in the table below.

	2015			2014		
December 31, (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:						
OTC	**$ 417,386**	**$ (396,506)**	**$ 20,880**	$ 542,107 [c]	$ (514,914) [c]	$ 27,193
OTC-cleared	**246,750**	**(246,742)**	**8**	401,656	(401,618)	38
Exchange-traded[a]	**–**	**–**	**–**	–	–	–
Total interest rate contracts	**664,136**	**(643,248)**	**20,888**	943,763 [c]	(916,532) [c]	27,231
Credit contracts:						
OTC	**44,082**	**(43,182)**	**900**	66,636	(65,720)	916
OTC-cleared	**6,866**	**(6,863)**	**3**	9,320	(9,284)	36
Total credit contracts	**50,948**	**(50,045)**	**903**	75,956	(75,004)	952
Foreign exchange contracts:						
OTC	**175,060**	**(162,377)**	**12,683**	208,803 [c]	(193,900) [c]	14,903
OTC-cleared	**323**	**(321)**	**2**	36	(34)	2
Exchange-traded[a]	**–**	**–**	**–**	–	–	–
Total foreign exchange contracts	**175,383**	**(162,698)**	**12,685**	208,839 [c]	(193,934) [c]	14,905
Equity contracts:						
OTC	**20,690**	**(20,439)**	**251**	23,258	(22,826)	432
OTC-cleared	**–**	**–**	**–**	–	–	–
Exchange-traded[a]	**12,285**	**(9,891)**	**2,394**	13,840 [c]	(11,486) [c]	2,354
Total equity contracts	**32,975**	**(30,330)**	**2,645**	37,098 [c]	(34,312) [c]	2,786
Commodity contracts:						
OTC	**15,001**	**(6,772)**	**8,229**	22,555	(14,327)	8,228
OTC-cleared	**–**	**–**	**–**	–	–	–
Exchange-traded[a]	**9,199**	**(9,108)**	**91**	19,500	(15,344)	4,156
Total commodity contracts	**24,200**	**(15,880)**	**8,320**	42,055	(29,671)	12,384
Derivative receivables with appropriate legal opinion	**$ 947,642**	**$ (902,201)** [b]	**$ 45,441**	$ 1,307,711 [c]	$(1,249,453) [b][c]	$ 58,258
Derivative receivables where an appropriate legal opinion has not been either sought or obtained	**14,236**		**14,236**	20,717		20,717
Total derivative receivables recognized on the Consolidated balance sheets	**$ 961,878**		**$ 59,677**	$ 1,328,428 [c]		$ 78,975

(a) Exchange-traded derivative amounts that relate to futures contracts are settled daily.
(b) Included cash collateral netted of $73.7 billion and $74.0 billion at December 31, 2015, and 2014, respectively.
(c) The prior period amounts have been revised to conform with the current period presentation. These revisions had no impact on Firm's Consolidated balance sheets or its results of operations.

The following table presents, as of December 31, 2015 and 2014, the gross and net derivative payables by contract and settlement type. Derivative payables have been netted on the Consolidated balance sheets against derivative receivables and cash collateral receivables from the same counterparty with respect to derivative contracts for which the Firm has obtained an appropriate legal opinion with respect to the master netting agreement. Where such a legal opinion has not been either sought or obtained, the payables are not eligible under U.S. GAAP for netting on the Consolidated balance sheets, and are shown separately in the table below.

	2015			2014		
December 31, (in millions)	Gross derivative payables	Amounts netted on the Consolidated balance sheets	Net derivative payables	Gross derivative payables	Amounts netted on the Consolidated balance sheets	Net derivative payables
U.S. GAAP nettable derivative payables						
Interest rate contracts:						
OTC	**$ 393,709**	**$ (384,576)**	**$ 9,133**	$ 515,904 [c]	$ (503,384) [c]	$ 12,520
OTC-cleared	**240,398**	**(240,369)**	**29**	398,518	(397,250)	1,268
Exchange-traded[a]	**–**	**–**	**–**	–	–	–
Total interest rate contracts	**634,107**	**(624,945)**	**9,162**	914,422 [c]	(900,634) [c]	13,788
Credit contracts:						
OTC	**44,379**	**(43,019)**	**1,360**	65,432	(64,904)	528
OTC-cleared	**5,969**	**(5,969)**	**–**	9,398	(9,398)	–
Total credit contracts	**50,348**	**(48,988)**	**1,360**	74,830	(74,302)	528
Foreign exchange contracts:						
OTC	**185,178**	**(170,830)**	**14,348**	217,998 [c]	(201,578) [c]	16,420
OTC-cleared	**301**	**(301)**	**–**	66	(66)	–
Exchange-traded[a]	**–**	**–**	**–**	–	–	–
Total foreign exchange contracts	**185,479**	**(171,131)**	**14,348**	218,064 [c]	(201,644) [c]	16,420
Equity contracts:						
OTC	**23,458**	**(19,589)**	**3,869**	27,908	(23,036)	4,872
OTC-cleared	**–**	**–**	**–**	–	–	–
Exchange-traded[a]	**10,998**	**(9,891)**	**1,107**	12,864 [c]	(11,486) [c]	1,378
Total equity contracts	**34,456**	**(29,480)**	**4,976**	40,772 [c]	(34,522) [c]	6,250
Commodity contracts:						
OTC	**16,953**	**(6,256)**	**10,697**	25,129	(13,211)	11,918
OTC-cleared	**–**	**–**	**–**	–	–	–
Exchange-traded[a]	**9,374**	**(9,322)**	**52**	18,486	(15,344)	3,142
Total commodity contracts	**26,327**	**(15,578)**	**10,749**	43,615	(28,555)	15,060
Derivative payables with appropriate legal opinions	**$ 930,717**	**$ (890,122)** [b]	**$ 40,595**	$ 1,291,703 [c]	$(1,239,657) [b][c]	$ 52,046
Derivative payables where an appropriate legal opinion has not been either sought or obtained	**12,195**		**12,195**	19,070		19,070
Total derivative payables recognized on the Consolidated balance sheets	**$ 942,912**		**$ 52,790**	$ 1,310,773 [c]		$ 71,116

(a) Exchange-traded derivative balances that relate to futures contracts are settled daily.
(b) Included cash collateral netted of $61.6 billion and $64.2 billion related to OTC and OTC-cleared derivatives at December 31, 2015, and 2014, respectively.
(c) The prior period amounts have been revised to conform with the current period presentation. These revisions had no impact on Firm's Consolidated balance sheets or its results of operations.

In addition to the cash collateral received and transferred that is presented on a net basis with net derivative receivables and payables, the Firm receives and transfers additional collateral (financial instruments and cash). These amounts mitigate counterparty credit risk associated with the Firm's derivative instruments but are not eligible for net presentation, because (a) the collateral consists of non-cash financial instruments (generally U.S. government and agency securities and other Group of Seven Nations ("G7") government bonds), (b) the amount of collateral held or transferred exceeds the fair value exposure, at the individual counterparty level, as of the date presented, or (c) the collateral relates to derivative receivables or payables where an appropriate legal opinion has not been either sought or obtained.

The following tables present information regarding certain financial instrument collateral received and transferred as of December 31, 2015 and 2014, that is not eligible for net presentation under U.S. GAAP. The collateral included in these tables relates only to the derivative instruments for which appropriate legal opinions have been obtained; excluded are (i) additional collateral that exceeds the fair value exposure and (ii) all collateral related to derivative instruments where an appropriate legal opinion has not been either sought or obtained.

Derivative receivable collateral

	2015			2014		
December 31, (in millions)	Net derivative receivables	Collateral not nettable on the Consolidated balance sheets	Net exposure	Net derivative receivables	Collateral not nettable on the Consolidated balance sheets	Net exposure
Derivative receivables with appropriate legal opinions	**$ 45,441**	**$ (13,543)** [(a)]	**$ 31,898**	$ 58,258	$ (16,194) [(a)]	$ 42,064

Derivative payable collateral[(b)]

	2015			2014		
December 31, (in millions)	Net derivative payables	Collateral not nettable on the Consolidated balance sheets	Net amount[(c)]	Net derivative payables	Collateral not nettable on the Consolidated balance sheets	Net amount[(c)]
Derivative payables with appropriate legal opinions	**$ 40,595**	**$ (7,957)** [(a)]	**$ 32,638**	$ 52,046	$ (10,505) [(a)]	$ 41,541

(a) Represents liquid security collateral as well as cash collateral held at third party custodians. 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.

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

(c) Net amount represents exposure of counterparties to the Firm.

Liquidity risk and credit-related contingent features

In addition to the specific market risks introduced by each derivative contract type, derivatives expose JPMorgan Chase 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 the Firm proves to be of insufficient value to cover the payment obligation. It is the policy of JPMorgan Chase 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 the Firm.

While derivative receivables expose the Firm to credit risk, derivative payables expose the Firm to liquidity risk, as the derivative contracts typically require the Firm 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 the Firm's and its subsidiaries' respective credit ratings. Certain derivative contracts also provide for termination of the contract, generally upon a downgrade of either the Firm 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 the Firm has posted in the normal course of business, at December 31, 2015 and 2014.

OTC and OTC-cleared derivative payables containing downgrade triggers

December 31, (in millions)	2015	2014
Aggregate fair value of net derivative payables	**$ 22,328**	$ 32,303
Collateral posted	**18,942**	27,585

The following table shows the impact of a single-notch and two-notch downgrade of the long-term issuer ratings of JPMorgan Chase & Co. and its subsidiaries, predominantly JPMorgan Chase Bank, National Association ("JPMorgan Chase Bank, N.A."), at December 31, 2015 and 2014, 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 by the rating agencies referred to in the derivative contract.

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

December 31, (in millions)	2015 Single-notch downgrade	2015 Two-notch downgrade	2014 Single-notch downgrade	2014 Two-notch downgrade
Amount of additional collateral to be posted upon downgrade[a]	**$ 807**	**$ 3,028**	$ 1,046	$ 3,331
Amount required to settle contracts with termination triggers upon downgrade[b]	**271**	**1,093**	366	1,388

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

Derivatives executed in contemplation of a sale of the underlying financial asset

In certain instances the Firm enters into transactions in which it transfers financial assets but maintains the economic exposure to the transferred assets by entering into a derivative with the same counterparty in contemplation of the initial transfer. The Firm generally accounts for such transfers as collateralized financing transactions as described in Note 13, 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, 2015 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.

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 pretax gains/(losses) recorded on such derivatives and the related hedged items for the years ended December 31, 2015, 2014 and 2013, respectively. The Firm 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, 2015 (in millions)	Derivatives	Hedged items	Total income statement impact	Hedge ineffectiveness[d]	Excluded components[e]
Contract type					
Interest rate[a]	**$ 38**	**$ 911**	**$ 949**	**$ 3**	**$ 946**
Foreign exchange[b]	**6,030**	**(6,006)**	**24**	**—**	**24**
Commodity[c]	**1,153**	**(1,142)**	**11**	**(13)**	**24**
Total	**$ 7,221**	**$ (6,237)**	**$ 984**	**$ (10)**	**$ 994**

	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[d]	Excluded components[e]
Contract type					
Interest rate[a]	$ 2,106	$ (801)	$ 1,305	$ 131	$ 1,174
Foreign exchange[b]	8,279	(8,532)	(253)	—	(253)
Commodity[c]	49	145	194	42	152
Total	$ 10,434	$ (9,188)	$ 1,246	$ 173	$ 1,073

	Gains/(losses) recorded in income			Income statement impact due to:	
Year ended December 31, 2013 (in millions)	Derivatives	Hedged items	Total income statement impact	Hedge ineffectiveness[d]	Excluded components[e]
Contract type					
Interest rate[a]	$ (3,469)	$ 4,851	$ 1,382	$ (132)	$ 1,514
Foreign exchange[b]	(1,096)	864	(232)	—	(232)
Commodity[c]	485	(1,304)	(819)	38	(857)
Total	$ (4,080)	$ 4,411	$ 331	$ (94)	$ 425

(a) Primarily consists of hedges of the benchmark (e.g., London Interbank Offered Rate ("LIBOR")) interest rate risk of fixed-rate long-term debt and AFS securities. Gains and losses were recorded in net interest income.
(b) Primarily consists of hedges of the foreign currency risk of long-term debt and AFS securities for changes in spot foreign currency rates. Gains and losses related to the derivatives and the hedged items, due to changes in foreign currency rates, were recorded primarily in principal transactions revenue and net interest income.

(c) 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.
(d) 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.
(e) The assessment of hedge effectiveness excludes certain components of the changes in fair values of the derivatives and hedged items such as forward points on foreign exchange forward contracts 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 pretax gains/(losses) recorded on such derivatives, for the years ended December 31, 2015, 2014 and 2013, respectively. The Firm 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, 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)]	**$ (99)**	**$ –**	**$ (99)**	**$ (44)**	**$ 55**
Foreign exchange[(b)]	**(81)**	**–**	**(81)**	**(53)**	**28**
Total	**$ (180)**	**$ –**	**$ (180)**	**$ (97)**	**$ 83**

	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)]	$ (54)	$ –	$ (54)	$ 189	$ 243
Foreign exchange[(b)]	78	–	78	(91)	(169)
Total	$ 24	$ –	$ 24	$ 98	$ 74

	Gains/(losses) recorded in income and other comprehensive income/(loss)			
Year ended December 31, 2013 (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)]	$ (108)	$ –	$ (108)	$ (565)	$ (457)
Foreign exchange[(b)]	7	–	7	40	33
Total	$ (101)	$ –	$ (101)	$ (525)	$ (424)

(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 the Firm 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.

In 2015, the Firm reclassified approximately $150 million of net losses from AOCI to other income because the Firm 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. The Firm did not experience any forecasted transactions that failed to occur for the years ended December 31, 2014 or 2013.

Over the next 12 months, the Firm expects that approximately $95 million (after-tax) of net losses recorded in AOCI at December 31, 2015, 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 7 years. For open cash flow hedges, the maximum length of time over which forecasted transactions are hedged is approximately 2 years. The Firm's longer-dated forecasted transactions relate to core lending and borrowing activities.

Net investment hedge gains and losses

The following table presents hedging instruments, by contract type, that were used in net investment hedge accounting relationships, and the pretax gains/(losses) recorded on such instruments for the years ended December 31, 2015, 2014 and 2013.

	Gains/(losses) recorded in income and other comprehensive income/(loss)					
	2015		2014		2013	
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	**$(379)**	**$1,885**	$(448)	$1,698	$(383)	$773

(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. The Firm 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 2015, 2014 and 2013.

Gains and losses on derivatives used for specified risk management purposes

The following table presents pretax 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, AFS securities, foreign currency-denominated assets and liabilities, and commodities-related contracts and investments.

	Derivatives gains/(losses) recorded in income		
Year ended December 31, (in millions)	**2015**	2014	2013
Contract type			
Interest rate[a]	**$ 853**	$ 2,308	$ 617
Credit[b]	**70**	(58)	(142)
Foreign exchange[c]	**25**	(7)	1
Commodity[d]	**(12)**	156	178
Total	**$ 936**	$ 2,399	$ 654

(a) Primarily represents interest rate derivatives used to hedge the interest rate risk inherent in the mortgage pipeline, warehouse loans and MSRs, as well as written commitments to originate warehouse loans. Gains and losses were recorded predominantly in mortgage fees and related income.

(b) Relates to credit derivatives used to mitigate credit risk associated with lending exposures in the Firm's wholesale businesses. These derivatives do not include credit derivatives used to mitigate counterparty credit risk arising from derivative receivables, which is included in gains and losses on derivatives related to market-making activities and other derivatives. Gains and losses were recorded in principal transactions revenue.

(c) Primarily relates to hedges of the foreign exchange risk of specified foreign currency-denominated assets and liabilities. Gains and losses were recorded in principal transactions revenue.

(d) Primarily relates to commodity derivatives used to mitigate energy price risk associated with energy-related contracts and investments. Gains and losses were recorded in principal transactions revenue.

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

The Firm makes markets in derivatives in order to meet the needs of customers and uses derivatives to manage certain risks associated with net open risk positions from the Firm's 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 7 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.

The Firm 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, the Firm 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, the Firm uses credit derivatives to manage credit risk associated with lending exposures (loans and unfunded commitments) and derivatives counterparty exposures in the Firm's wholesale businesses, and to manage the credit risk arising from certain financial instruments in the Firm'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. The Firm 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 the Firm sold and purchased as of December 31, 2015 and 2014. Upon a credit event, the Firm 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. The Firm 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.

The Firm does not use notional amounts of credit derivatives as the primary measure of risk management for such derivatives, because the notional amount does not take into account the probability of the occurrence of a credit event, the recovery value of the reference obligation, or related cash instruments and economic hedges, each of which reduces, in the Firm's view, the risks associated with such derivatives.

Total credit derivatives and credit-related notes

	Maximum payout/Notional amount			
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	**$ (1,386,071)**	**$ 1,402,201**	**$ 16,130**	**$ 12,011**
Other credit derivatives[a]	**(42,738)**	**38,158**	**(4,580)**	**18,792**
Total credit derivatives	**(1,428,809)**	**1,440,359**	**11,550**	**30,803**
Credit-related notes	**(30)**	**–**	**(30)**	**4,715**
Total	**$ (1,428,839)**	**$ 1,440,359**	**$ 11,520**	**$ 35,518**

	Maximum payout/Notional amount			
December 31, 2014 (in millions)	Protection sold	Protection purchased with identical underlyings[b]	Net protection (sold)/ purchased[c]	Other protection purchased[d]
Credit derivatives				
Credit default swaps	$ (2,056,982)	$ 2,078,096	$ 21,114	$ 18,631
Other credit derivatives[a]	(43,281)	32,048	(11,233)	19,475
Total credit derivatives	(2,100,263)	2,110,144	9,881	38,106
Credit-related notes	(40)	–	(40)	3,704
Total	$ (2,100,303)	$ 2,110,144	$ 9,841	$ 41,810

(a) Other credit derivatives predominantly 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 the Firm on referenced instruments (single-name, portfolio or index) where the Firm has not sold any protection on the identical reference instrument.

The following tables summarize the notional amounts by the ratings and maturity profile, and the total fair value, of credit derivatives and credit-related notes as of December 31, 2015 and 2014, where JPMorgan Chase is the seller of protection. The maturity profile is based on the remaining contractual maturity of the credit derivative contracts. The ratings profile is based on the rating of the reference entity on which the credit derivative contract is based. The ratings and maturity profile of credit derivatives and credit-related notes where JPMorgan Chase is the purchaser of protection are comparable to the profile reflected below.

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

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	**$ (307,211)**	**$ (699,227)**	**$ (46,970)**	**$ (1,053,408)**	**$ 13,539**	**$ (6,836)**	**$ 6,703**
Noninvestment-grade	**(109,195)**	**(245,151)**	**(21,085)**	**(375,431)**	**10,823**	**(18,891)**	**(8,068)**
Total	**$ (416,406)**	**$ (944,378)**	**$ (68,055)**	**$ (1,428,839)**	**$ 24,362**	**$ (25,727)**	**$ (1,365)**

December 31, 2014 (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	$ (323,398)	$ (1,118,293)	$ (79,486)	$ (1,521,177)	$ 25,767	$ (6,314)	$ 19,453
Noninvestment-grade	(157,281)	(396,798)	(25,047)	(579,126)	20,677	(22,455)	(1,778)
Total	$ (480,679)	$ (1,515,091)	$ (104,533)	$ (2,100,303)	$ 46,444	$ (28,769)	$ 17,675

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

Note 7 – Noninterest revenue

Investment banking fees

This revenue category includes equity and debt underwriting and advisory fees. Underwriting fees are recognized as revenue when the Firm has rendered all services to the issuer and is entitled to collect the fee from the issuer, as long as there are no other contingencies associated with the fee. Underwriting fees are net of syndicate expense; the Firm 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.

The following table presents the components of investment banking fees.

Year ended December 31, (in millions)	2015	2014	2013
Underwriting			
Equity	**$ 1,408**	$ 1,571	$ 1,499
Debt	**3,232**	3,340	3,537
Total underwriting	**4,640**	4,911	5,036
Advisory	**2,111**	1,631	1,318
Total investment banking fees	**$ 6,751**	$ 6,542	$ 6,354

Principal transactions

Principal transactions revenue consists of realized and unrealized gains and losses on derivatives and other instruments (including those accounted for under the fair value option) primarily used in client-driven market-making activities and on private equity investments. In connection with its client-driven market-making activities, the Firm transacts in debt and equity instruments, derivatives and commodities (including physical commodities inventories and financial instruments that reference commodities).

Principal transactions revenue also includes 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 6.

In the financial commodity markets, the Firm transacts in OTC derivatives (e.g., swaps, forwards, options) and exchange-traded derivatives that reference a wide range of underlying commodities. In the physical commodity markets, the Firm primarily purchases and sells precious and base metals and may hold other commodities inventories under financing and other arrangements with clients. Prior to the 2014 sale of certain parts of its physical commodity business, the Firm also engaged in the purchase, sale, transport and storage of power, gas, liquefied natural gas, coal, crude oil and refined products.

Physical commodities inventories are generally carried at the lower of cost or market (market approximates fair value) subject to any applicable fair value hedge accounting adjustments, with realized gains and losses and unrealized losses recorded in principal transactions revenue.

The following table presents all realized and unrealized gains and losses recorded in principal transactions revenue. This table excludes interest income and interest expense on trading assets and liabilities, which are an integral part of the overall performance of the Firm's client-driven market-making activities. See Note 8 for further information on interest income and interest expense. Trading revenue is presented primarily by instrument type. The Firm's client-driven market-making businesses generally utilize a variety of instrument types in connection with their market-making and related risk-management activities; accordingly, the trading revenue presented in the table below is not representative of the total revenue of any individual line of business.

Year ended December 31, (in millions)	2015	2014	2013
Trading revenue by instrument type			
Interest rate	**$ 1,933**	$ 1,362	$ 284
Credit	**1,735**	1,880	2,654
Foreign exchange	**2,557**	1,556	1,801
Equity	**2,990**	2,563	2,517
Commodity[a]	**842**	1,663	2,083
Total trading revenue	**10,057**	9,024	9,339
Private equity gains[b]	**351**	1,507	802
Principal transactions	**$ 10,408**	$ 10,531	$ 10,141

(a) Commodity derivatives are frequently used to manage the Firm's risk exposure to its physical commodities inventories. For gains/(losses) related to commodity fair value hedges, see Note 6.

(b) Includes revenue on private equity investments held in the Private Equity business within Corporate, as well as those held in other business segments.

Lending- and deposit-related fees

This revenue category includes fees from loan commitments, standby letters of credit, financial guarantees, deposit-related fees in lieu of compensating balances, cash management-related activities or transactions, deposit accounts and other loan-servicing activities. These fees are recognized over the period in which the related service is provided.

Asset management, administration and commissions

This revenue category includes fees from investment management and related services, custody, brokerage services, insurance premiums and commissions, and other products. These fees are recognized over the period in which the related service is provided. Performance-based fees, which are earned based on exceeding certain benchmarks or other performance targets, are accrued and recognized at the end of the performance period in which the target is met. The Firm 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.

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

Year ended December 31, (in millions)	2015	2014	2013
Asset management fees			
Investment management fees[a]	**$ 9,403**	$ 9,169	$ 8,044
All other asset management fees[b]	**352**	477	505
Total asset management fees	**9,755**	9,646	8,549
Total administration fees[c]	**2,015**	2,179	2,101
Commissions and other fees			
Brokerage commissions	**2,304**	2,270	2,321
All other commissions and fees	**1,435**	1,836	2,135
Total commissions and fees	**3,739**	4,106	4,456
Total asset management, administration and commissions	**$ 15,509**	$ 15,931	$ 15,106

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

Mortgage fees and related income

This revenue category primarily reflects CCB'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 CCB MSRs are reported in mortgage fees and related income. Net interest income from mortgage loans is recorded in interest income. For a further discussion of MSRs, see Note 17.

Card income

This revenue category includes interchange income from credit and debit cards and net fees earned from processing credit card transactions for merchants. Card income is recognized as earned. Cost related to rewards programs is 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.

Credit card revenue sharing agreements

The Firm has contractual agreements with numerous co-brand partners and affinity organizations (collectively, "partners"), which grant the Firm exclusive rights to market to the customers or members of such partners. These partners endorse the credit card programs and provide their customer and member lists to the Firm, and they may also conduct marketing activities and provide awards under the various credit card programs. The terms of these agreements generally range from three to ten years.

The Firm typically makes incentive payments to the partners based on new account originations, sales volumes and the cost of the partners' marketing activities and awards. Payments based on new account originations are accounted for as direct loan origination costs. Payments to partners based on sales volumes are deducted from interchange income as the related revenue is earned. Payments based on marketing efforts undertaken by the partners are expensed by the Firm as incurred and reported as noninterest expense.

Other income

Other income on the Firm's Consolidated statements of income included the following:

Year ended December 31, (in millions)	2015	2014	2013
Operating lease income	**$ 2,081**	$ 1,699	$ 1,472
Gain from sale of Visa B shares	**–**	–	1,310

Note 8 – 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. Interest income and interest expense includes the current-period interest accruals for financial instruments measured at fair value, except for 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.

Details of interest income and interest expense were as follows.

Year ended December 31, (in millions)	2015	2014	2013
Interest Income			
Loans	**$ 33,134**	$ 32,218	$ 33,489
Taxable securities	**6,550**	7,617	6,916
Non taxable securities[a]	**1,706**	1,423	896
Total securities	**8,256**	9,040	7,812
Trading assets	**6,621**	7,312	8,099
Federal funds sold and securities purchased under resale agreements	**1,592**	1,642	1,940
Securities borrowed[b]	**(532)**	(501)	(127)
Deposits with banks	**1,250**	1,157	918
Other assets[c]	**652**	663	538
Total interest income	**$ 50,973**	$ 51,531	$ 52,669
Interest expense			
Interest bearing deposits	**$ 1,252**	$ 1,633	$ 2,067
Federal funds purchased and securities loaned or sold under repurchase agreements	**609**	604	582
Commercial paper	**110**	134	112
Trading liabilities - debt, short-term and other liabilities	**622**	712	1,104
Long-term debt	**4,435**	4,409	5,007
Beneficial interest issued by consolidated VIEs	**435**	405	478
Total interest expense	**$ 7,463**	$ 7,897	$ 9,350
Net interest income	**$ 43,510**	$ 43,634	$ 43,319
Provision for credit losses	**3,827**	3,139	225
Net interest income after provision for credit losses	**$ 39,683**	$ 40,495	$ 43,094

(a) Represents securities which are tax exempt for U.S. federal income tax purposes.
(b) Negative interest income for the years ended December 31, 2015, 2014 and 2013, is a result of increased 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.
(c) Largely margin loans.
(d) Includes brokerage customer payables.

Note 9 – Pension and other postretirement employee benefit plans

The Firm 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 plans

The Firm has a qualified noncontributory U.S. defined benefit pension plan that provides benefits to substantially all U.S. employees. The U.S. plan employs a cash balance formula in the form of pay and interest credits to determine the benefits to be provided at retirement, based on years of service and eligible compensation (generally base salary/ regular pay and variable incentive compensation capped at $100,000 annually). Employees begin to accrue plan benefits after completing one year of service, and benefits generally vest after three years of service. The Firm also offers benefits through defined benefit pension plans to qualifying employees in certain non-U.S. locations based on factors such as eligible compensation, age and/or years of service.

It is the Firm's policy to fund the pension plans in amounts sufficient to meet the requirements under applicable laws. The Firm does not anticipate at this time any contribution to the U.S. defined benefit pension plan in 2016. The 2016 contributions to the non-U.S. defined benefit pension plans are expected to be $47 million of which $31 million are contractually required.

JPMorgan Chase also has a number of defined benefit pension plans that are not subject to Title IV of the Employee Retirement Income Security Act. The most significant of these plans is the 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 Excess Retirement Plan had an unfunded projected benefit obligation ("PBO") in the amount of $237 million and $257 million, at December 31, 2015 and 2014, respectively.

Defined contribution plans

JPMorgan Chase currently provides two qualified defined contribution plans in the U.S. and other similar arrangements 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.

The Firm matches eligible employee contributions up to 5% of eligible compensation (generally base salary/regular pay and variable 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.

OPEB plans

JPMorgan Chase offers postretirement medical and life insurance benefits to certain retirees and postretirement medical benefits to qualifying U.S. employees. These benefits vary with the length of service and the date of hire and provide for limits on the Firm's share of covered medical benefits. The medical and life insurance benefits are both contributory. Effective January 1, 2015, there was a transition of certain Medicare eligible retirees from JPMC group sponsored coverage to Medicare exchanges. As a result of this change, eligible retirees will receive a Healthcare Reimbursement Account amount each year if they enroll through the Medicare exchange. The impact of this change was not material. Postretirement medical benefits also are offered to qualifying United Kingdom ("U.K.") employees.

JPMorgan Chase's U.S. OPEB obligation is funded with corporate-owned life insurance ("COLI") purchased on the lives of eligible employees and retirees. While the Firm owns the COLI policies, COLI proceeds (death benefits, withdrawals and other distributions) may be used only to reimburse the Firm for its net postretirement benefit claim payments and related administrative expense. The U.K. OPEB plan is unfunded.

The following table presents the changes in benefit obligations, plan assets and funded status amounts reported on the Consolidated balance sheets for the Firm's U.S. and non-U.S. defined benefit pension and OPEB plans.

As of or for the year ended December 31,	Defined benefit pension plans					
	U.S.		Non-U.S.		OPEB plans[d]	
(in millions)	**2015**	2014	**2015**	2014	**2015**	2014
Change in benefit obligation						
Benefit obligation, beginning of year	**$ (12,536)**	$(10,776)	**$ (3,640)**	$ (3,433)	**$ (842)**	$ (826)
Benefits earned during the year	**(340)**	(281)	**(37)**	(33)	**(1)**	–
Interest cost on benefit obligations	**(498)**	(534)	**(112)**	(137)	**(31)**	(38)
Plan amendments	**–**	(53)	**–**	–	**–**	–
Special termination benefits	**–**	**–**	**(1)**	(1)	**–**	–
Curtailments	**–**	**–**	**–**	–	**–**	(3)
Employee contributions	**NA**	NA	**(7)**	(7)	**(25)**	(62)
Net gain/(loss)	**702**	(1,669)	**146**	(408)	**71**	(58)
Benefits paid	**760**	777	**120**	119	**88**	145
Expected Medicare Part D subsidy receipts	**NA**	NA	**NA**	NA	**(6)**	(2)
Foreign exchange impact and other	**–**	**–**	**184**	260	**2**	2
Benefit obligation, end of year	**$ (11,912)**	$(12,536)	**$ (3,347)**	$ (3,640)	**$ (744)**	$ (842)
Change in plan assets						
Fair value of plan assets, beginning of year	**$ 14,623**	$ 14,354	**$ 3,718**	$ 3,532	**$ 1,903**	$ 1,757
Actual return on plan assets	**231**	1,010	**52**	518	**13**	159
Firm contributions	**31**	36	**45**	46	**2**	3
Employee contributions	**–**	–	**7**	7	**–**	–
Benefits paid	**(760)**	(777)	**(120)**	(119)	**(63)**	(16)
Foreign exchange impact and other	**–**	**–**	**(191)**	(266)	**–**	–
Fair value of plan assets, end of year	**$ 14,125**	$ 14,623 [b][c]	**$ 3,511**	$ 3,718	**$ 1,855**	$ 1,903
Net funded status[a]	**$ 2,213**	$ 2,087	**$ 164**	$ 78	**$ 1,111**	$ 1,061
Accumulated benefit obligation, end of year	**$ (11,774)**	$(12,375)	**$ (3,322)**	$ (3,615)	**NA**	NA

(a) Represents plans with an aggregate overfunded balance of $4.1 billion and $3.9 billion at December 31, 2015 and 2014, respectively, and plans with an aggregate underfunded balance of $636 million and $708 million at December 31, 2015 and 2014, respectively.

(b) At December 31, 2015 and 2014, approximately $533 million and $336 million, respectively, of U.S. plan assets included participation rights under participating annuity contracts.

(c) At December 31, 2015 and 2014, defined benefit pension plan amounts not measured at fair value included $74 million and $106 million, respectively, of accrued receivables, and $123 million and $257 million, respectively, of accrued liabilities, for U.S. plans.

(d) Includes an unfunded accumulated postretirement benefit obligation of $32 million and $37 million at December 31, 2015 and 2014, respectively, for the U.K. plan.

Gains and losses

For the Firm'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. defined benefit pension plan is currently seven 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 average remaining amortization period for the U.S. defined benefit pension plan for current prior service costs is four years.

For the Firm's OPEB plans, a calculated value that recognizes changes in fair value over a five-year period is used to determine the expected return on plan assets. This value is referred to as the market related value of assets. Amortization of net gains and losses, adjusted for gains and losses not yet recognized, 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 accumulated postretirement benefit obligation or the market related value of assets. Any excess net gain or loss is amortized over the average expected lifetime of retired participants, which is currently thirteen years; however, prior service costs resulting from plan changes are amortized over the average years of service remaining to full eligibility age, which is currently two years.

The following table presents pretax pension and OPEB amounts recorded in AOCI.

	Defined benefit pension plans					
December 31,	U.S.		Non-U.S.		OPEB plans	
(in millions)	**2015**	2014	**2015**	2014	**2015**	2014
Net gain/(loss)	**$ (3,096)**	$ (3,346)	**$ (513)**	$ (628)	**$ 109**	$ 130
Prior service credit/(cost)	**68**	102	**9**	11	**–**	–
Accumulated other comprehensive income/(loss), pretax, end of year	**$ (3,028)**	$ (3,244)	**$ (504)**	$ (617)	**$ 109**	$ 130

The following table presents the components of net periodic benefit costs reported in the Consolidated statements of income and other comprehensive income for the Firm's U.S. and non-U.S. defined benefit pension, defined contribution and OPEB plans.

	Pension plans								
	U.S.			Non-U.S.			OPEB plans		
Year ended December 31, (in millions)	**2015**	2014	2013	**2015**	2014	2013	**2015**	2014	2013
Components of net periodic benefit cost									
Benefits earned during the year	**$ 340**	$ 281	$ 314	**$ 37**	$ 33	$ 34	**$ 1**	$ –	$ 1
Interest cost on benefit obligations	**498**	534	447	**112**	137	125	**31**	38	35
Expected return on plan assets	**(929)**	(985)	(956)	**(150)**	(172)	(142)	**(106)**	(101)	(92)
Amortization:									
Net (gain)/loss	**247**	25	271	**35**	47	49	**–**	–	1
Prior service cost/(credit)	**(34)**	(41)	(41)	**(2)**	(2)	(2)	**–**	(1)	–
Special termination benefits	**–**	–	–	**1**	–	–	**–**	–	–
Net periodic defined benefit cost	**122**	(186)	35	**33**	43	64	**(74)**	(64)	(55)
Other defined benefit pension plans[a]	**14**	14	15	**10**	6	14	**NA**	NA	NA
Total defined benefit plans	**136**	(172)	50	**43**	49	78	**(74)**	(64)	(55)
Total defined contribution plans	**449**	438	447	**320**	329	321	**NA**	NA	NA
Total pension and OPEB cost included in compensation expense	**$ 585**	$ 266	$ 497	**$ 363**	$ 378	$ 399	**$ (74)**	$ (64)	$ (55)
Changes in plan assets and benefit obligations recognized in other comprehensive income									
Net (gain)/loss arising during the year	**$ (3)**	$ 1,645	$ (1,817)	**$ (47)**	$ 57	$ 19	**$ 21**	$ (5)	$ (257)
Prior service credit arising during the year	**–**	53	–	**–**	–	–	**–**	–	–
Amortization of net loss	**(247)**	(25)	(271)	**(35)**	(47)	(49)	**–**	–	(1)
Amortization of prior service (cost)/credit	**34**	41	41	**2**	2	2	**–**	1	–
Foreign exchange impact and other	**–**	–	–	**(33)** [a]	(39) [a]	14 [a]	**–**	–	–
Total recognized in other comprehensive income	**$ (216)**	$ 1,714	$ (2,047)	**$ (113)**	$ (27)	$ (14)	**$ 21**	$ (4)	$ (258)
Total recognized in net periodic benefit cost and other comprehensive income	**$ (94)**	$ 1,528	$ (2,012)	**$ (80)**	$ 16	$ 50	**$ (53)**	$ (68)	$ (313)

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

The estimated pretax amounts that will be amortized from AOCI into net periodic benefit cost in 2016 are as follows.

	Defined benefit pension plans		OPEB plans	
(in millions)	U.S.	Non-U.S.	U.S.	Non-U.S.
Net loss/(gain)	$ 231	$ 23	$ –	$ –
Prior service cost/(credit)	(34)	(2)	–	–
Total	$ 197	$ 21	$ –	$ –

The following table presents the actual rate of return on plan assets for the U.S. and non-U.S. defined benefit pension and OPEB plans.

	U.S.			Non-U.S.		
Year ended December 31,	**2015**	2014	2013	**2015**	2014	2013
Actual rate of return:						
Defined benefit pension plans	**0.88%**	7.29%	15.95%	**(0.48) - 4.92%**	5.62 - 17.69%	3.74 - 23.80%
OPEB plans	**1.16**	9.84	13.88	**NA**	NA	NA

Plan assumptions

JPMorgan Chase's expected long-term rate of return for U.S. defined benefit pension and OPEB plan assets is a blended average of the investment advisor's projected long-term (10 years or more) returns for the various asset classes, weighted by the asset allocation. Returns on asset classes are developed using a forward-looking approach and are not strictly based on historical returns. Equity returns are generally developed as the sum of inflation, expected real earnings growth and expected long-term dividend yield. Bond returns are generally developed as the sum of inflation, real bond yield and risk spread (as appropriate), adjusted for the expected effect on returns from changing yields. Other asset-class returns are derived from their relationship to the equity and bond markets. Consideration is also given to current market conditions and the short-term portfolio mix of each plan.

For the U.K. defined benefit pension plans, which represent the most significant of the non-U.S. defined benefit pension plans, procedures similar to those in the U.S. 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. defined benefit pension and OPEB plans was provided by our actuaries. This rate was selected by reference to the yields on portfolios of bonds with maturity dates and coupons that closely match each of 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 Citigroup Pension Discount 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 our actuaries.

In 2014, the Society of Actuaries ("SOA") completed a comprehensive review of mortality experience of uninsured private retirement plans in the U.S. In October 2014, the SOA published new mortality tables and a new mortality improvement scale that reflects improved life expectancies and an expectation that this trend will continue. In 2014, the Firm adopted the SOA's tables and projection scale, resulting in an estimated increase in PBO of $533 million. In 2015, the SOA updated the projection scale to reflect two additional years of historical data. The Firm has adopted the updated projection scale resulting in an estimated decrease in PBO in 2015 of $112 million.

At December 31, 2015, the Firm increased the discount rates used to determine its benefit obligations for the U.S. defined benefit pension and OPEB plans in light of current market interest rates, which will result in a decrease in expense of approximately $63 million for 2016. The 2016 expected long-term rate of return on U.S. defined benefit pension plan assets and U.S. OPEB plan assets are 6.50% and 5.75%, respectively. For 2016, the initial health care benefit obligation trend assumption has been set at 5.50%, and the ultimate health care trend assumption and the year to reach the ultimate rate remains at 5.00% and 2017, respectively, unchanged from 2015. As of December 31, 2015, the interest crediting rate assumption and the assumed rate of compensation increase remained at 5.00% and 3.50%, respectively.

The following tables present the weighted-average annualized actuarial assumptions for the projected and accumulated postretirement benefit obligations, and the components of net periodic benefit costs, for the Firm's significant U.S. and non-U.S. defined benefit pension and OPEB plans, as of and for the periods indicated.

Weighted-average assumptions used to determine benefit obligations

	U.S.		Non-U.S.	
December 31,	**2015**	2014	**2015**	2014
Discount rate:				
Defined benefit pension plans	**4.50%**	4.00%	**0.80 - 3.70%**	1.00 - 3.60%
OPEB plans	**4.40**	4.10	**–**	–
Rate of compensation increase	**3.50**	3.50	**2.25 - 4.30**	2.75 - 4.20
Health care cost trend rate:				
Assumed for next year	**5.50**	6.00	**–**	–
Ultimate	**5.00**	5.00	**–**	–
Year when rate will reach ultimate	**2017**	2017	**–**	–

Weighted-average assumptions used to determine net periodic benefit costs

	U.S.			Non-U.S.		
Year ended December 31,	**2015**	2014	2013	**2015**	2014	2013
Discount rate:						
Defined benefit pension plans	**4.00%**	5.00%	3.90%	**1.00 - 3.60%**	1.10 - 4.40%	1.40 - 4.40%
OPEB plans	**4.10**	4.90	3.90	**–**	–	–
Expected long-term rate of return on plan assets:						
Defined benefit pension plans	**6.50**	7.00	7.50	**0.90 - 4.80**	1.20 - 5.30	2.40 - 4.90
OPEB plans	**6.00**	6.25	6.25	**NA**	NA	NA
Rate of compensation increase	**3.50**	3.50	4.00	**2.75 - 4.20**	2.75 - 4.60	2.75 - 4.10
Health care cost trend rate:						
Assumed for next year	**6.00**	6.50	7.00	**–**	–	–
Ultimate	**5.00**	5.00	5.00	**–**	–	–
Year when rate will reach ultimate	**2017**	2017	2017	**–**	–	–

The following table presents the effect of a one-percentage-point change in the assumed health care cost trend rate on JPMorgan Chase's accumulated postretirement benefit obligation. As of December 31, 2015, there was no material effect on total service and interest cost.

Year ended December 31, 2015 (in millions)	1-Percentage point increase	1-Percentage point decrease
Effect on accumulated postretirement benefit obligation	$ 8	$ (7)

JPMorgan Chase's U.S. defined benefit pension and OPEB plan expense is sensitive to the expected long-term rate of return on plan assets and the discount rate. With all other assumptions held constant, a 25-basis point decline in the expected long-term rate of return on U.S. plan assets would result in an aggregate increase of approximately $39 million in 2016 U.S. defined benefit pension and OPEB plan expense. A 25-basis point decline in the discount rate for the U.S. plans would result in an increase in 2016 U.S. defined benefit pension and OPEB plan expense of approximately an aggregate $31 million and an increase in the related benefit obligations of approximately an aggregate $296 million. A 25-basis point decrease in the interest crediting rate for the U.S. defined benefit pension plan would result in a decrease in 2016 U.S. defined benefit pension expense of approximately $35 million and a decrease in the related PBO of approximately $145 million. A 25-basis point decline in the discount rates for the non-U.S. plans would result in an increase in the 2016 non-U.S. defined benefit pension plan expense of approximately $17 million.

Investment strategy and asset allocation

The Firm's U.S. defined benefit pension plan assets are held in trust and are invested in a well-diversified portfolio of equity and fixed income securities, cash and cash equivalents, and alternative investments (e.g., hedge funds, private equity, real estate and real assets). Non-U.S. defined benefit pension plan assets are held in various trusts and are also invested in well-diversified portfolios of equity, fixed income and other securities. Assets of the Firm's COLI policies, which are used to partially fund the U.S. OPEB plan, are held in separate accounts of an insurance company and are allocated to investments intended to replicate equity and fixed income indices.

The investment policy for the Firm's U.S. defined benefit pension plan assets is to optimize the risk-return relationship as appropriate to the needs and goals of the plan using a global portfolio of various asset classes diversified by market segment, economic sector, and issuer. Assets are managed by a combination of internal and external investment managers. Periodically the Firm performs a comprehensive analysis on the U.S. defined benefit pension plan asset allocations, incorporating projected asset and liability data, which focuses on the short- and long-term impact of the asset allocation on cumulative pension expense, economic cost, present value of contributions and funded status. As the U.S. defined benefit pension plan is overfunded, the investment strategy for this plan was adjusted in 2013 to provide for greater liquidity. Currently, approved asset allocation ranges are: U.S. equity 0% to 45%, international equity 0% to 40%, debt securities 0% to 80%, hedge funds 0% to 5%, real estate 0% to 10%, real assets 0% to 10% and private equity 0% to 20%. Asset allocations are not managed to a specific target but seek to shift asset class allocations within these stated ranges. Investment strategies incorporate the economic outlook and the anticipated implications of the macroeconomic environment on the various asset classes while maintaining an appropriate level of liquidity for the plan. The Firm regularly reviews the asset allocations and asset managers, as well as other factors that impact the portfolio, which is rebalanced when deemed necessary.

For the U.K. defined benefit pension plans, which represent the most significant of the non-U.S. defined benefit pension plans, the assets are invested to maximize returns subject to an appropriate level of risk relative to the plans' liabilities. In order 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. Similar to the U.S. defined benefit pension plan, asset allocations and asset managers for the U.K. plans are reviewed regularly and the portfolios are rebalanced when deemed necessary.

Investments held by the Plans include financial instruments which are exposed to various risks such as interest rate, market and credit risks. Exposure to a concentration of credit risk is mitigated by the broad diversification of both U.S. and non-U.S. investment instruments. Additionally, the investments in each of the common/collective trust funds and registered investment companies are further diversified into various financial instruments. As of December 31, 2015, assets held by the Firm's U.S. and non-U.S. defined benefit pension and OPEB plans do not include JPMorgan Chase common stock, except through indirect exposures through investments in third-party stock-index funds. The plans hold investments in funds that are sponsored or managed by affiliates of JPMorgan Chase in the amount of $3.2 billion and $3.7 billion for U.S. plans and $1.2 billion and $1.4 billion for non-U.S. plans, as of December 31, 2015 and 2014, 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 range/target allocation by asset category, for the Firm's U.S. and non-U.S. defined benefit pension and OPEB plans.

	Defined benefit pension plans								
	U.S.			Non-U.S.			OPEB plans[c]		
	Target	% of plan assets		Target	% of plan assets		Target	% of plan assets	
December 31,	Allocation	**2015**	2014	Allocation	**2015**	2014	Allocation	**2015**	2014
Asset category									
Debt securities[a]	0-80%	**32%**	31%	59%	**60%**	61%	30-70%	**50%**	50%
Equity securities	0-85	**48**	46	40	**38**	38	30-70	**50**	50
Real estate	0-10	**4**	4	–	**1**	–	–	**–**	–
Alternatives[b]	0-35	**16**	19	1	**1**	1	–	**–**	–
Total	100%	**100%**	100%	100%	**100%**	100%	100%	**100%**	100%

(a) Debt securities primarily include corporate debt, U.S. federal, state, local and non-U.S. government, and mortgage-backed securities.
(b) Alternatives primarily include limited partnerships.
(c) Represents the U.S. OPEB plan only, as the U.K. OPEB plan is unfunded.

Fair value measurement of the plans' assets and liabilities

For information on fair value measurements, including descriptions of level 1, 2, and 3 of the fair value hierarchy and the valuation methods employed by the Firm, see Note 3.

Pension and OPEB plan assets and liabilities measured at fair value

December 31, 2015 (in millions)	U.S. defined benefit pension plans				Non-U.S. defined benefit pension plans[g]		
	Level 1	Level 2	Level 3	Total fair value	Level 1	Level 2	Total fair value
Cash and cash equivalents	$ 112	$ –	$ –	$ 112	$ 114	$ 1	$ 115
Equity securities	4,826	5	2	4,833	1,002	157	1,159
Common/collective trust funds[a]	339	–	–	339	135	–	135
Limited partnerships[b]	53	–	–	53	–	–	–
Corporate debt securities[c]	–	1,619	2	1,621	–	758	758
U.S. federal, state, local and non-U.S. government debt securities	580	108	–	688	212	504	716
Mortgage-backed securities	–	67	1	68	2	26	28
Derivative receivables	–	104	–	104	–	209	209
Other[d]	1,760	27	534	2,321	257	53	310
Total assets measured at fair value	$ 7,670	$ 1,930	$ 539	$ 10,139 [e]	$ 1,722	$ 1,708	$ 3,430
Derivative payables	$ –	$ (35)	$ –	$ (35)	$ –	$ (153)	$ (153)
Total liabilities measured at fair value	$ –	$ (35)	$ –	$ (35) [f]	$ –	$ (153)	$ (153)

December 31, 2014 (in millions)	U.S. defined benefit pension plans				Non-U.S. defined benefit pension plans[g]		
	Level 1	Level 2	Level 3	Total fair value	Level 1	Level 2	Total fair value
Cash and cash equivalents	$ 87	$ –	$ –	$ 87	$ 128	$ 1	$ 129
Equity securities	5,286	20	4	5,310	1,019	169	1,188
Common/collective trust funds[a]	345	–	–	345	112	–	112
Limited partnerships[b]	70	–	–	70	–	–	–
Corporate debt securities[c]	–	1,454	9	1,463	–	724	724
U.S. federal, state, local and non-U.S. government debt securities	446	161	–	607	235	540	775
Mortgage-backed securities	1	73	1	75	2	77	79
Derivative receivables	–	114	–	114	–	258	258
Other[d]	2,031	27	337	2,395	283	58	341
Total assets measured at fair value	$ 8,266	$ 1,849	$ 351	$ 10,466 [e]	$ 1,779	$ 1,827	$ 3,606
Derivative payables	$ –	$ (23)	$ –	$ (23)	$ –	$ (139)	$ (139)
Total liabilities measured at fair value	$ –	$ (23)	$ –	$ (23) [f]	$ –	$ (139)	$ (139)

Note: Effective April 1, 2015, the Firm adopted new accounting guidance for certain investments where the Firm measures fair value using the net asset value per share (or its equivalent) as a practical expedient and excluded them from the fair value hierarchy. Accordingly, such investments are not included within these tables. At December 31, 2015 and 2014, the fair values of these investments, which include certain limited partnerships and common/collective trust funds, were $4.1 billion and $4.3 billion, respectively, of U.S. defined benefit pension plan investments, and $234 million and $251 million, respectively, of non-U.S. defined benefit pension plan investments. Of these investments $1.3 billion and $3.0 billion, respectively, of U.S. defined benefit pension plan investments had been previously classified in level 2 and level 3, respectively, and $251 million of non-U.S. defined benefit pension plan investments had been previously classified in level 2 at December 31, 2014. The guidance was required to be applied retrospectively, and accordingly, prior period amounts have been revised to conform with the current period presentation.

(a) At December 31, 2015 and 2014, common/collective trust funds primarily included a mix of short-term investment funds, domestic and international equity investments (including index) and real estate funds.
(b) Unfunded commitments to purchase limited partnership investments for the plans were $895 million and $1.2 billion for 2015 and 2014, respectively.
(c) Corporate debt securities include debt securities of U.S. and non-U.S. corporations.
(d) Other consists of money markets funds, exchange-traded funds and participating and non-participating annuity contracts. Money markets funds and exchange-traded funds are primarily classified within level 1 of the fair value hierarchy given they are valued using market observable prices. Participating and non-participating annuity contracts are classified within level 3 of the fair value hierarchy due to lack of market mechanisms for transferring each policy and surrender restrictions.
(e) At December 31, 2015 and 2014, excluded U.S. defined benefit pension plan receivables for investments sold and dividends and interest receivables of $74 million and $106 million, respectively.
(f) At December 31, 2015 and 2014, excluded $106 million and $241 million, respectively, of U.S. defined benefit pension plan payables for investments purchased; and $17 million and $16 million, respectively, of other liabilities.
(g) There were zero assets or liabilities classified as level 3 for the non-U.S. defined benefit pension plans as of December 31, 2015 and 2014.

The Firm's U.S. OPEB plan was partially funded with COLI policies of $1.9 billion at both December 31, 2015 and 2014, which were classified in level 3 of the valuation hierarchy.

Changes in level 3 fair value measurements using significant unobservable inputs

Year ended December 31, 2015 (in millions)	Fair value, January 1, 2015	Actual return on plan assets: Realized gains/(losses)	Actual return on plan assets: Unrealized gains/(losses)	Purchases, sales and settlements, net	Transfers in and/or out of level 3	Fair value, December 31, 2015
U.S. defined benefit pension plans						
Equities	**$ 4**	**$ –**	**$ (2)**	**$ –**	**$ –**	**$ 2**
Corporate debt securities	**9**	**–**	**–**	**(7)**	**–**	**2**
Mortgage-backed securities	**1**	**–**	**–**	**–**	**–**	**1**
Other	**337**	**–**	**197**	**–**	**–**	**534**
Total U.S. defined benefit pension plans	**$ 351**	**$ –**	**$ 195**	**$ (7)**	**$ –**	**$ 539**
OPEB plans						
COLI	**$ 1,903**	**$ –**	**$ (48)**	**$ –**	**$ –**	**$ 1,855**
Total OPEB plans	**$ 1,903**	**$ –**	**$ (48)**	**$ –**	**$ –**	**$ 1,855**

Year ended December 31, 2014 (in millions)	Fair value, January 1, 2014	Actual return on plan assets: Realized gains/(losses)	Actual return on plan assets: Unrealized gains/(losses)	Purchases, sales and settlements, net	Transfers in and/or out of level 3	Fair value, December 31, 2014
U.S. defined benefit pension plans						
Equities	$ 4	$ –	$ –	$ –	$ –	$ 4
Corporate debt securities	7	(2)	2	4	(2)	9
Mortgage-backed securities	–	–	–	1	–	1
Other	430	–	(93)	–	–	337
Total U.S. defined benefit pension plans	$ 441	$ (2)	$ (91)	$ 5	$ (2)	$ 351
OPEB plans						
COLI	$ 1,749	$ –	$ 154	$ –	$ –	$ 1,903
Total OPEB plans	$ 1,749	$ –	$ 154	$ –	$ –	$ 1,903

Year ended December 31, 2013 (in millions)	Fair value, January 1, 2013	Actual return on plan assets: Realized gains/(losses)	Actual return on plan assets: Unrealized gains/(losses)	Purchases, sales and settlements, net	Transfers in and/or out of level 3	Fair value, December 31, 2013
U.S. defined benefit pension plans						
Equities	$ 4	$ –	$ –	$ –	$ –	$ 4
Corporate debt securities	1	–	–	–	6	7
Mortgage-backed securities	–	–	–	–	–	–
Other	420	–	10	–	–	430
Total U.S. defined benefit pension plans	$ 425	$ –	$ 10	$ –	$ 6	$ 441
OPEB plans						
COLI	$ 1,554	$ –	$ 195	$ –	$ –	$ 1,749
Total OPEB plans	$ 1,554	$ –	$ 195	$ –	$ –	$ 1,749

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. The OPEB medical and life insurance payments are net of expected retiree contributions.

Year ended December 31, (in millions)	U.S. defined benefit pension plans	Non-U.S. defined benefit pension plans	OPEB before Medicare Part D subsidy	Medicare Part D subsidy
2016	$ 762	$ 107	$ 68	$ 1
2017	798	110	66	1
2018	927	119	63	1
2019	966	123	61	1
2020	1,009	129	59	1
Years 2021–2025	4,409	722	259	4

Note 10 – Employee stock-based incentives

Employee stock-based awards

In 2015, 2014 and 2013, JPMorgan Chase granted long-term stock-based awards to certain employees under its Long-Term Incentive Plan, as amended and restated effective May 19, 2015 ("LTIP"). Under the terms of the LTIP, as of December 31, 2015, 93 million shares of common stock were available for issuance through May 2019. The LTIP is the only active plan under which the Firm is currently granting stock-based incentive awards. In the following discussion, the LTIP, plus prior Firm plans and plans assumed as the result of acquisitions, are referred to collectively as the "LTI Plans," and such plans constitute the Firm'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 RSUs 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.

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. The Firm periodically grants employee stock options to individual employees. There were no material grants of stock options or SARs in 2015 and 2014. Grants of SARs in 2013 become exercisable ratably over five years (i.e., 20% per year) and contain clawback provisions similar to RSUs. The 2013 grants of SARs contain full-career eligibility provisions. SARs generally expire ten years after the grant date.

The Firm separately recognizes compensation expense for each tranche of each award 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, the Firm 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.

The Firm's policy for issuing shares upon settlement of employee stock-based incentive awards is to issue either new shares of common stock or treasury shares. During 2015, 2014 and 2013, the Firm settled all of its employee stock-based awards by issuing treasury shares.

In January 2008, the Firm 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 the Firm. On July 15, 2014, the Compensation & Management Development Committee and Board of Directors 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, had been extended to six and one-half years. The Firm recognized $3 million and $14 million in compensation expense in 2014 and 2013, respectively, for this award.

RSUs, employee stock options and SARs activity

Compensation expense for RSUs is measured based on the number of shares 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's RSUs, employee stock options and SARs activity for 2015.

	RSUs		Options/SARs			
Year ended December 31, 2015 (in thousands, except weighted-average data, and where otherwise stated)	Number of shares	Weighted-average grant date fair value	Number of awards	Weighted-average exercise price	Weighted-average remaining contractual life (in years)	Aggregate intrinsic value
Outstanding, January 1	**100,568**	**$ 47.81**	**59,195**	**$ 45.00**		
Granted	**36,096**	**56.31**	**107**	**64.41**		
Exercised or vested	**(47,709)**	**41.64**	**(14,313)**	**40.44**		
Forfeited	**(3,648)**	**54.17**	**(943)**	**43.04**		
Canceled	**NA**	**NA**	**(580)**	**278.93**		
Outstanding, December 31	**85,307**	**$ 54.60**	**43,466**	**$ 43.51**	**4.6**	**$ 1,109,411**
Exercisable, December 31	**NA**	**NA**	**31,853**	**43.85**	**4.0**	**832,929**

The total fair value of RSUs that vested during the years ended December 31, 2015, 2014 and 2013, was $2.8 billion, $3.2 billion and $2.9 billion, respectively. The weighted-average grant date per share fair value of stock options and SARs granted during the year ended December 31, 2013, was $9.58. The total intrinsic value of options exercised during the years ended December 31, 2015, 2014 and 2013, was $335 million, $539 million and $507 million, respectively.

Compensation expense

The Firm recognized the following noncash compensation expense related to its various employee stock-based incentive plans in its Consolidated statements of income.

Year ended December 31, (in millions)	**2015**	2014	2013
Cost of prior grants of RSUs and SARs that are amortized over their applicable vesting periods	**$ 1,109**	$ 1,371	$ 1,440
Accrual of estimated costs of stock-based awards to be granted in future periods including those to full-career eligible employees	**878**	819	779
Total noncash compensation expense related to employee stock-based incentive plans	**$ 1,987**	$ 2,190	$ 2,219

At December 31, 2015, approximately $688 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 0.9 years. The Firm does not capitalize any compensation expense related to share-based compensation awards to employees.

Cash flows and tax benefits

Income tax benefits related to stock-based incentive arrangements recognized in the Firm's Consolidated statements of income for the years ended December 31, 2015, 2014 and 2013, were $746 million, $854 million and $865 million, respectively.

The following table sets forth the cash received from the exercise of stock options under all stock-based incentive arrangements, and the actual income tax benefit realized related to tax deductions from the exercise of the stock options.

Year ended December 31, (in millions)	**2015**	2014	2013
Cash received for options exercised	**$ 20**	$ 63	$ 166
Tax benefit realized[(a)]	**64**	104	42

(a) The tax benefit realized from dividends or dividend equivalents paid on equity-classified share-based payment awards that are charged to retained earnings are recorded as an increase to additional paid-in capital and included in the pool of excess tax benefits available to absorb tax deficiencies on share-based payment awards.

Valuation assumptions

The following table presents the assumptions used to value employee stock options and SARs granted during the year ended December 31, 2013, under the Black-Scholes valuation model. There were no material grants of stock options or SARs for the years ended December 31, 2015 and 2014.

Year ended December 31,	2013
Weighted-average annualized valuation assumptions	
Risk-free interest rate	1.18%
Expected dividend yield	2.66
Expected common stock price volatility	28
Expected life (in years)	6.6

The expected dividend yield is determined using forward-looking assumptions. The expected volatility assumption is derived from the implied volatility of JPMorgan Chase's stock options. The expected life assumption is an estimate of the length of time that an employee might hold an option or SAR before it is exercised or canceled, and the assumption is based on the Firm's historical experience.

Note 11 – Noninterest expense

For details on noninterest expense, see Consolidated statements of income on page 176. Included within other expense is the following:

Year ended December 31, (in millions)	2015	2014	2013
Legal expense	**$ 2,969**	$ 2,883	$ 11,143
Federal Deposit Insurance Corporation-related ("FDIC") expense	**1,227**	1,037	1,496

Note 12 – Securities

Securities are classified as trading, AFS or held-to-maturity ("HTM"). Securities classified as trading assets are discussed in Note 3. Predominantly all of the Firm'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, 2015, 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 accumulated other comprehensive income/(loss). 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 2014, the Firm transferred U.S. government agency mortgage-backed securities and obligations of U.S. states and municipalities with a fair value of $19.3 billion from AFS to HTM. These securities were transferred at fair value, and the transfer was a non-cash transaction. AOCI included net pretax unrealized losses of $9 million on the securities at the date of transfer. The transfer reflected the Firm's intent to hold the securities to maturity in order to reduce the impact of price volatility on AOCI and certain capital measures under Basel III.

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

	2015				2014			
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]	**$ 53,689**	**$ 1,483**	**$ 106**	**$ 55,066**	$ 63,089	$ 2,302	$ 72	$ 65,319
Residential:								
Prime and Alt-A	**7,462**	**40**	**57**	**7,445**	5,595	78	29	5,644
Subprime	**210**	**7**	**–**	**217**	677	14	–	691
Non-U.S.	**19,629**	**341**	**13**	**19,957**	43,550	1,010	–	44,560
Commercial	**22,990**	**150**	**243**	**22,897**	20,687	438	17	21,108
Total mortgage-backed securities	**103,980**	**2,021**	**419**	**105,582**	133,598	3,842	118	137,322
U.S. Treasury and government agencies[a]	**11,202**	**–**	**166**	**11,036**	13,603	56	14	13,645
Obligations of U.S. states and municipalities	**31,328**	**2,245**	**23**	**33,550**	27,841	2,243	16	30,068
Certificates of deposit	**282**	**1**	**–**	**283**	1,103	1	1	1,103
Non-U.S. government debt securities	**35,864**	**853**	**41**	**36,676**	51,492	1,272	21	52,743
Corporate debt securities	**12,464**	**142**	**170**	**12,436**	18,158	398	24	18,532
Asset-backed securities:								
Collateralized loan obligations	**31,146**	**52**	**191**	**31,007**	30,229	147	182	30,194
Other	**9,125**	**72**	**100**	**9,097**	12,442	184	11	12,615
Total available-for-sale debt securities	**235,391**	**5,386**	**1,110**	**239,667**	288,466	8,143	387	296,222
Available-for-sale equity securities	**2,067**	**20**	**–**	**2,087**	2,513	17	–	2,530
Total available-for-sale securities	**237,458**	**5,406**	**1,110**	**241,754**	290,979	8,160	387	298,752
Total held-to-maturity securities[b]	**$ 49,073**	**$ 1,560**	**$ 46**	**$ 50,587**	$ 49,252	$ 1,902	$ –	$ 51,154

(a) Includes total U.S. government-sponsored enterprise obligations with fair values of $42.3 billion and $59.3 billion at December 31, 2015 and 2014, respectively, which were predominantly mortgage-related.

(b) As of December 31, 2015, consists of mortgage backed securities ("MBS") issued by U.S. government-sponsored enterprises with an amortized cost of $30.8 billion, MBS issued by U.S. government agencies with an amortized cost of $5.5 billion and obligations of U.S. states and municipalities with an amortized cost of $12.8 billion. As of December 31, 2014, consists of MBS issued by U.S. government-sponsored enterprises with an amortized cost of $35.3 billion, MBS issued by U.S. government agencies with an amortized cost of $3.7 billion and obligations of U.S. states and municipalities with an amortized cost of $10.2 billion.

Securities impairment

The following tables present the fair value and gross unrealized losses for the investment securities portfolio by aging category at December 31, 2015 and 2014.

	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	**5,147**	**51**	**238**	**6**	**5,385**	**57**
Subprime	**–**	**–**	**–**	**–**	**–**	**–**
Non-U.S.	**2,021**	**12**	**167**	**1**	**2,188**	**13**
Commercial	**13,779**	**239**	**658**	**4**	**14,437**	**243**
Total mortgage-backed securities	**33,949**	**397**	**1,760**	**22**	**35,709**	**419**
U.S. Treasury and government agencies	**10,998**	**166**	**–**	**–**	**10,998**	**166**
Obligations of U.S. states and municipalities	**1,676**	**18**	**205**	**5**	**1,881**	**23**
Certificates of deposit	**–**	**–**	**–**	**–**	**–**	**–**
Non-U.S. government debt securities	**3,267**	**26**	**367**	**15**	**3,634**	**41**
Corporate debt securities	**3,198**	**125**	**848**	**45**	**4,046**	**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	**72,712**	**859**	**14,877**	**251**	**87,589**	**1,110**
Available-for-sale equity securities	**–**	**–**	**–**	**–**	**–**	**–**
Held-to-maturity securities	**3,763**	**46**	**–**	**–**	**3,763**	**46**
Total securities with gross unrealized losses	**$ 76,475**	**$ 905**	**$ 14,877**	**$ 251**	**$ 91,352**	**$ 1,156**

	Securities with gross unrealized losses					
	Less than 12 months		12 months or more			
December 31, 2014 (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	$ 1,118	$ 5	$ 4,989	$ 67	$ 6,107	$ 72
Residential:						
Prime and Alt-A	1,840	10	405	19	2,245	29
Subprime	–	–	–	–	–	–
Non-U.S.	–	–	–	–	–	–
Commercial	4,803	15	92	2	4,895	17
Total mortgage-backed securities	7,761	30	5,486	88	13,247	118
U.S. Treasury and government agencies	8,412	14	–	–	8,412	14
Obligations of U.S. states and municipalities	1,405	15	130	1	1,535	16
Certificates of deposit	1,050	1	–	–	1,050	1
Non-U.S. government debt securities	4,433	4	906	17	5,339	21
Corporate debt securities	2,492	22	80	2	2,572	24
Asset-backed securities:						
Collateralized loan obligations	13,909	76	9,012	106	22,921	182
Other	2,258	11	–	–	2,258	11
Total available-for-sale debt securities	41,720	173	15,614	214	57,334	387
Available-for-sale equity securities	–	–	–	–	–	–
Held-to-maturity securities	–	–	–	–	–	–
Total securities with gross unrealized losses	$ 41,720	$ 173	$ 15,614	$ 214	$ 57,334	$ 387

Gross unrealized losses

The Firm has recognized the unrealized losses on securities it intends to sell. As of December 31, 2015, the Firm does not intend to sell any securities with a loss position in AOCI, and it is not likely that the Firm 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, the Firm believes that the securities with an unrealized loss in AOCI are not other-than-temporarily impaired as of December 31, 2015.

Other-than-temporary impairment

AFS debt and equity securities and HTM debt securities in unrealized loss positions are analyzed as part of the Firm's ongoing assessment of other-than-temporary impairment ("OTTI"). For most types of debt securities, the Firm considers a decline in fair value to be other-than-temporary when the Firm 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 the Firm would not recover substantially all of its recorded investment, the Firm considers an impairment to be other than temporary when there is an adverse change in expected cash flows. For AFS equity securities, the Firm considers a decline in fair value to be other-than-temporary if it is probable that the Firm 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 the Firm's intent and ability to hold the security until recovery.

For AFS debt securities, the Firm recognizes OTTI losses in earnings if the Firm has the intent to sell the debt security, or if it is more likely than not that the Firm 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 the Firm 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.

The Firm'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, the Firm 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. The Firm 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 the Firm intends to sell the security. In other cases the Firm considers the relevant factors noted above, as well as the Firm'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)	2015	2014	2013
Realized gains	**$ 351**	$ 314	$ 1,302
Realized losses	**(127)**	(233)	(614)
OTTI losses	**(22)**	(4)	(21)
Net securities gains	**202**	77	667
OTTI losses			
Credit losses recognized in income	**(1)**	(2)	(1)
Securities the Firm intends to sell[(a)]	**(21)**	(2)	(20)
Total OTTI losses recognized in income	**$ (22)**	$ (4)	$ (21)

(a) Excludes realized losses on securities sold of $5 million, $3 million and $12 million for the years ended December 31, 2015, 2014 and 2013, 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 following table presents a rollforward for the years ended December 31, 2015, 2014 and 2013, of the credit loss component of OTTI losses that have been recognized in income, related to AFS debt securities that the Firm does not intend to sell.

Year ended December 31, (in millions)	2015	2014	2013
Balance, beginning of period	**$ 3**	$ 1	$ 522
Additions:			
Newly credit-impaired securities	**1**	2	1
Losses reclassified from other comprehensive income on previously credit-impaired securities	**—**	—	—
Reductions:			
Sales and redemptions of credit-impaired securities	**—**	—	(522)
Balance, end of period	**$ 4**	$ 3	$ 1

Contractual maturities and yields

The following table presents the amortized cost and estimated fair value at December 31, 2015, of JPMorgan Chase's investment securities portfolio by contractual maturity.

By remaining maturity December 31, 2015 (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	$ 2,415	$ 9,728	$ 6,562	$ 85,275	$ 103,980
Fair value	2,421	9,886	6,756	86,519	105,582
Average yield[b]	1.48%	1.86%	3.15%	3.08%	2.93%
U.S. Treasury and government agencies[a]					
Amortized cost	$ –	$ –	$ 10,069	$ 1,133	$ 11,202
Fair value	–	–	9,932	1,104	11,036
Average yield[b]	–%	–%	0.31%	0.48%	0.33%
Obligations of U.S. states and municipalities					
Amortized cost	$ 184	$ 754	$ 1,520	$ 28,870	$ 31,328
Fair value	187	774	1,600	30,989	33,550
Average yield[b]	5.21%	3.50%	5.57%	6.68%	6.54%
Certificates of deposit					
Amortized cost	$ 230	$ 52	$ –	$ –	$ 282
Fair value	231	52	–	–	283
Average yield[b]	8.66%	3.28%	–%	–%	7.68%
Non-U.S. government debt securities					
Amortized cost	$ 6,126	$ 11,177	$ 16,575	$ 1,986	$ 35,864
Fair value	6,422	11,429	16,747	2,078	36,676
Average yield[b]	3.11%	1.84%	1.06%	0.67%	1.63%
Corporate debt securities					
Amortized cost	$ 2,761	$ 7,175	$ 2,385	$ 143	$ 12,464
Fair value	2,776	7,179	2,347	134	12,436
Average yield[b]	2.87%	2.32%	3.09%	4.46%	2.61%
Asset-backed securities					
Amortized cost	$ 39	$ 442	$ 20,501	$ 19,289	$ 40,271
Fair value	40	449	20,421	19,194	40,104
Average yield[b]	0.71%	1.72%	1.79%	1.84%	1.81%
Total available-for-sale debt securities					
Amortized cost	$ 11,755	$ 29,328	$ 57,612	$ 136,696	$ 235,391
Fair value	12,077	29,769	57,803	140,018	239,667
Average yield[b]	2.85%	2.00%	1.63%	3.61%	2.89%
Available-for-sale equity securities					
Amortized cost	$ –	$ –	$ –	$ 2,067	$ 2,067
Fair value	–	–	–	2,087	2,087
Average yield[b]	–%	–%	–%	0.30%	0.30%
Total available-for-sale securities					
Amortized cost	$ 11,755	$ 29,328	$ 57,612	$ 138,763	$ 237,458
Fair value	12,077	29,769	57,803	142,105	241,754
Average yield[b]	2.85%	2.00%	1.63%	3.56%	2.87%
Total held-to-maturity securities					
Amortized cost	$ 51	$ –	$ 931	$ 48,091	$ 49,073
Fair value	50	–	976	49,561	50,587
Average yield[b]	4.42%	–%	5.01%	3.98%	4.00%

(a) U.S. government-sponsored enterprises were the only issuers whose securities exceeded 10% of JPMorgan Chase's total stockholders' equity at December 31, 2015.

(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 the Firm's residential mortgage-backed securities 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 five years for agency residential mortgage-backed securities, two years for agency residential collateralized mortgage obligations and four years for nonagency residential collateralized mortgage obligations.

Note 13 – Securities financing activities

JPMorgan Chase enters into resale agreements, repurchase agreements, securities borrowed transactions and securities loaned transactions (collectively, "securities financing agreements") primarily to finance the Firm's inventory positions, acquire securities to cover short positions, accommodate customers' financing needs, and settle other securities obligations.

Securities financing agreements are treated as collateralized financings on the Firm'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.

The Firm has elected the fair value option for certain securities financing agreements. For further information regarding the fair value option, see Note 4. 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.

Secured financing transactions expose the Firm to credit and liquidity risk. To manage these risks, the Firm 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, the Firm 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, the Firm 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 the Firm'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 30.

As a result of the Firm's credit risk mitigation practices with respect to resale and securities borrowed agreements as described above, the Firm did not hold any reserves for credit impairment with respect to these agreements as of December 31, 2015 and 2014.

Certain prior period amounts for securities purchased under resale agreements and securities borrowed, as well as securities sold under repurchase agreements and securities loaned, have been revised to conform with the current period presentation. These revisions had no impact on the Firm's Consolidated balance sheets or its results of operations.

The following table presents as of December 31, 2015 and 2014, the gross and net securities purchased under resale agreements and securities borrowed. Securities purchased under resale agreements have been presented on the Consolidated balance sheets net of securities sold under repurchase agreements where the Firm has obtained an appropriate legal opinion with respect to the master netting agreement, and where the other relevant criteria have been met. Where such a legal opinion has not been either sought or obtained, the securities purchased under resale agreements are not eligible for netting and are shown separately in the table below. Securities borrowed are presented on a gross basis on the Consolidated balance sheets.

	2015			2014		
December 31, (in millions)	Gross asset balance	Amounts netted on the Consolidated balance sheets	Net asset balance	Gross asset balance	Amounts netted on the Consolidated balance sheets	Net asset balance
Securities purchased under resale agreements						
Securities purchased under resale agreements with an appropriate legal opinion	**$ 365,805**	**$ (156,258)**	**$ 209,547**	$ 347,142	$ (142,719)	$ 204,423
Securities purchased under resale agreements where an appropriate legal opinion has not been either sought or obtained	**2,343**		**2,343**	10,598		10,598
Total securities purchased under resale agreements	**$ 368,148**	**$ (156,258)**	**$ 211,890** [(a)]	$ 357,740	$ (142,719)	$ 215,021 [(a)]
Securities borrowed	**$ 98,721**	**NA**	**$ 98,721** [(b)(c)]	$ 110,435	NA	$ 110,435 [(b)(c)]

(a) At December 31, 2015 and 2014, included securities purchased under resale agreements of $23.1 billion and $28.6 billion, respectively, accounted for at fair value.
(b) At December 31, 2015 and 2014, included securities borrowed of $395 million and $992 million, respectively, accounted for at fair value.
(c) Included $31.3 billion and $35.3 billion at December 31, 2015 and 2014, respectively, of securities borrowed where an appropriate legal opinion has not been either sought or obtained with respect to the master netting agreement.

The following table presents information as of December 31, 2015 and 2014, regarding the securities purchased under resale agreements and securities borrowed for which an appropriate legal opinion has been obtained with respect to the master netting agreement. The below table excludes information related to resale agreements and securities borrowed where such a legal opinion has not been either sought or obtained.

	2015				2014			
		Amounts not nettable on the Consolidated balance sheets[(a)]				Amounts not nettable on the Consolidated balance sheets[(a)]		
December 31, (in millions)	Net asset balance	Financial instruments[(b)]	Cash collateral	Net exposure	Net asset balance	Financial instruments[(b)]	Cash collateral	Net exposure
Securities purchased under resale agreements with an appropriate legal opinion	**$ 209,547**	**$ (206,423)**	**$ (351)**	**$ 2,773**	$ 204,423	$ (201,375)	$ (246)	$ 2,802
Securities borrowed	**$ 67,453**	**$ (65,081)**	**$ —**	**$ 2,372**	$ 75,113	$ (72,730)	$ —	$ 2,383

(a) For some counterparties, the sum of the financial instruments and cash collateral not nettable on the Consolidated balance sheets may exceed the net asset balance. Where this is the case the total amounts reported in these two columns are limited to the balance of the net reverse repurchase agreement or securities borrowed asset with that counterparty. As a result a net exposure amount is reported even though the Firm, on an aggregate basis for its securities purchased under resale agreements and securities borrowed, has received securities collateral with a total fair value that is greater than the funds provided to counterparties.
(b) Includes financial instrument collateral received, repurchase liabilities and securities loaned liabilities with an appropriate legal opinion with respect to the master netting agreement; these amounts are not presented net on the Consolidated balance sheets because other U.S. GAAP netting criteria are not met.

The following table presents as of December 31, 2015 and 2014, the gross and net securities sold under repurchase agreements and securities loaned. Securities sold under repurchase agreements have been presented on the Consolidated balance sheets net of securities purchased under resale agreements where the Firm has obtained an appropriate legal opinion with respect to the master netting agreement, and where the other relevant criteria have been met. Where such a legal opinion has not been either sought or obtained, the securities sold under repurchase agreements are not eligible for netting and are shown separately in the table below. Securities loaned are presented on a gross basis on the Consolidated balance sheets.

	2015			2014		
December 31, (in millions)	Gross liability balance	Amounts netted on the Consolidated balance sheets	Net liability balance	Gross liability balance	Amounts netted on the Consolidated balance sheets	Net liability balance
Securities sold under repurchase agreements						
Securities sold under repurchase agreements with an appropriate legal opinion	**$ 277,415**	**$ (156,258)**	**$ 121,157**	$ 290,529	$ (142,719)	$ 147,810
Securities sold under repurchase agreements where an appropriate legal opinion has not been either sought or obtained[a]	**12,629**		**12,629**	21,996		21,996
Total securities sold under repurchase agreements	**$ 290,044**	**$ (156,258)**	**$ 133,786** [c]	$ 312,525	$ (142,719)	$ 169,806 [c]
Securities loaned[b]	**$ 22,556**	**NA**	**$ 22,556** [d][e]	$ 25,927	NA	$ 25,927 [d][e]

(a) Includes repurchase agreements that are not subject to a master netting agreement but do provide rights to collateral.
(b) Included securities-for-securities lending transactions of $4.4 billion and $4.1 billion at December 31, 2015 and 2014, respectively, accounted for at fair value, where the Firm is acting as lender. These amounts are presented within other liabilities in the Consolidated balance sheets.
(c) At December 31, 2015 and 2014, included securities sold under repurchase agreements of $3.5 billion and $3.0 billion, respectively, accounted for at fair value.
(d) There were no securities loaned accounted for at fair value at December 31, 2015 and 2014, respectively.
(e) Included $45 million and $271 million at December 31, 2015 and 2014, respectively, of securities loaned where an appropriate legal opinion has not been either sought or obtained with respect to the master netting agreement.

The following table presents information as of December 31, 2015 and 2014, regarding the securities sold under repurchase agreements and securities loaned for which an appropriate legal opinion has been obtained with respect to the master netting agreement. The below table excludes information related to repurchase agreements and securities loaned where such a legal opinion has not been either sought or obtained.

	2015				2014			
		Amounts not nettable on the Consolidated balance sheets[a]				Amounts not nettable on the Consolidated balance sheets[a]		
December 31, (in millions)	Net liability balance	Financial instruments[b]	Cash collateral	Net amount[c]	Net liability balance	Financial instruments[b]	Cash collateral	Net amount[c]
Securities sold under repurchase agreements with an appropriate legal opinion	**$ 121,157**	**$ (117,825)**	**$ (1,007)**	**$ 2,325**	$ 147,810	$ (145,732)	$ (497)	$ 1,581
Securities loaned	**$ 22,511**	**$ (22,245)**	**$ –**	**$ 266**	$ 25,656	$ (25,287)	$ –	$ 369

(a) For some counterparties the sum of the financial instruments and cash collateral not nettable on the Consolidated balance sheets may exceed the net liability balance. Where this is the case the total amounts reported in these two columns are limited to the balance of the net repurchase agreement or securities loaned liability with that counterparty.
(b) Includes financial instrument collateral transferred, reverse repurchase assets and securities borrowed assets with an appropriate legal opinion with respect to the master netting agreement; these amounts are not presented net on the Consolidated balance sheets because other U.S. GAAP netting criteria are not met.
(c) Net amount represents exposure of counterparties to the Firm.

Effective April 1, 2015, the Firm adopted new accounting guidance, which requires enhanced disclosures with respect to the types of financial assets pledged in secured financing transactions and the remaining contractual maturity of the secured financing transactions; the following tables present this information as of December 31, 2015.

	Gross liability balance	
December 31, 2015 (in millions)	Securities sold under repurchase agreements	Securities loaned
Mortgage-backed securities	$ 12,790	$ –
U.S. Treasury and government agencies	154,377	5
Obligations of U.S. states and municipalities	1,316	–
Non-U.S. government debt	80,162	4,426
Corporate debt securities	21,286	78
Asset-backed securities	4,394	–
Equity securities	15,719	18,047
Total	$ 290,044	$ 22,556

	Remaining contractual maturity of the agreements				
December 31, 2015 (in millions)	Overnight and continuous	Up to 30 days	30 – 90 days	Greater than 90 days	Total
Total securities sold under repurchase agreements	$ 114,595	$ 100,082	$ 29,955	$ 45,412	$ 290,044
Total securities loaned	8,320	708	793	12,735	22,556

Transfers not qualifying for sale accounting

At December 31, 2015 and 2014, the Firm held $7.5 billion and $13.8 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 predominantly recorded in other borrowed funds on the Consolidated balance sheets.

Note 14 – Loans

Loan accounting framework

The accounting for a loan depends on management's strategy for the loan, and on whether the loan was credit-impaired at the date of acquisition. The Firm accounts for loans based on the following categories:

- Originated or purchased loans held-for-investment (i.e., "retained"), other than purchased credit-impaired ("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 measured at the principal amount outstanding, net of the following: allowance for loan losses; 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 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 in doubt, 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 the Firm 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, the Firm separately establishes an allowance for the estimated uncollectible portion of accrued 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. Changes in the allowance for loan losses are recorded in the provision for credit losses on the Firm's Consolidated statements of income. See Note 15 for further information on the Firm'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 at 180 days past due. Auto and student loans are charged off no later than 120 days past due, and modified credit card loans are charged off at 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. 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.
- 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 and scored business banking loans are charged off within 60 days of receiving notification of the bankruptcy filing or other event. Student loans are generally charged off when the loan becomes 60 days past due after receiving notification of a bankruptcy.

- 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, the Firm 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 the Firm'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, the Firm 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 the Firm 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, the Firm 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 the Firm'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 the Firm's policies. The Firm 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, the Firm'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.

For these loans, the earned current contractual interest payment is recognized in interest income. 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, the Firm's allowance for loan losses and charge-off policies do not apply to these loans.

See Note 4 for further information on the Firm's elections of fair value accounting under the fair value option. See Note 3 and Note 4 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 255 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 the Firm's allowance methodology. For a further discussion of the methodologies used in establishing the Firm's allowance for loan losses, see Note 15.

Loan modifications
The Firm seeks to modify certain loans in conjunction with its loss-mitigation activities. Through the modification, JPMorgan Chase grants one or more concessions to a borrower who is experiencing financial difficulty in order to minimize the Firm's economic loss, avoid foreclosure or repossession of the collateral, and to ultimately maximize payments received by the Firm 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 the Firm 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: (a) the borrower has performed under the modified terms for a minimum of six months and/or six payments, and (b) the Firm 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, loan-to-value ("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 the Firm'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 the Firm's asset-specific allowance, see Note 15.

Foreclosed property
The Firm 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).

The Firm 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, the Firm 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

The Firm's loan portfolio is divided into three portfolio segments, which are the same segments used by the Firm to determine the allowance for loan losses: Consumer, excluding credit card; Credit card; and Wholesale. Within each portfolio segment, the Firm monitors and assesses the credit risk in the following classes of loans, based on the risk characteristics of each loan class:

Consumer, excluding credit card[a]	Credit card	Wholesale[c]
Residential real estate – excluding PCI • Home equity – senior lien • Home equity – junior lien • Prime mortgage, including option ARMs • Subprime mortgage Other consumer loans • Auto[b] • Business banking[b] • 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[d]

(a) Includes loans held in CCB, prime mortgage and home equity loans held in AM and prime mortgage loans held in Corporate.
(b) Includes certain business banking and auto dealer risk-rated loans that apply the wholesale methodology for determining the allowance for loan losses; these loans are managed by CCB, and therefore, for consistency in presentation, are included with the other consumer loan classes.
(c) Includes loans held in CIB, CB, AM and Corporate. Excludes prime mortgage and home equity loans held in AM and prime mortgage loans held in Corporate. Classes are internally defined and may not align with regulatory definitions.
(d) Includes loans to: individuals; SPEs; holding companies; and private education and civic organizations. For more information on exposures to SPEs, see Note 16.

The following tables summarize the Firm's loan balances by portfolio segment.

December 31, 2015 (in millions)	Consumer, excluding credit card	Credit card[a]	Wholesale	Total	
Retained	**$ 344,355**	**$ 131,387**	**$ 357,050**	**$ 832,792**	[b]
Held-for-sale	**466**	**76**	**1,104**	**1,646**	
At fair value	**–**	**–**	**2,861**	**2,861**	
Total	**$ 344,821**	**$ 131,463**	**$ 361,015**	**$ 837,299**	

December 31, 2014 (in millions)	Consumer, excluding credit card	Credit card[a]	Wholesale	Total	
Retained	$ 294,979	$ 128,027	$ 324,502	$ 747,508	[b]
Held-for-sale	395	3,021	3,801	7,217	
At fair value	–	–	2,611	2,611	
Total	$ 295,374	$ 131,048	$ 330,914	$ 757,336	

(a) Includes billed finance charges and fees net of an allowance for uncollectible amounts.
(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, 2015 and 2014.

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. The Firm manages its exposure to credit risk on an ongoing basis. Selling loans is one way that the Firm reduces its credit exposures.

	2015			
Year ended December 31, (in millions)	Consumer, excluding credit card	Credit card	Wholesale	Total
Purchases	**$ 5,279** [a][b]	**$ –**	**$ 2,154**	**$ 7,433**
Sales	**5,099**	**–**	**9,188**	**14,287**
Retained loans reclassified to held-for-sale	**1,514**	**79**	**642**	**2,235**

	2014			
Year ended December 31, (in millions)	Consumer, excluding credit card	Credit card	Wholesale	Total
Purchases	$ 7,434 [a][b]	$ –	$ 885	$ 8,319
Sales	6,655	– [c]	7,381	14,036
Retained loans reclassified to held-for-sale	1,190	3,039	581	4,810

	2013			
Year ended December 31, (in millions)	Consumer, excluding credit card	Credit card	Wholesale	Total
Purchases	$ 7,616 [a][b]	$ 328	$ 697	$ 8,641
Sales	4,845	–	4,232	9,077
Retained loans reclassified to held-for-sale	1,261	309	5,641	7,211

(a) Purchases predominantly represent the Firm's voluntary repurchase of certain delinquent loans from loan pools as permitted by Ginnie Mae guidelines. The Firm typically elects to repurchase these delinquent loans as it continues to service them and/or manage the foreclosure process in accordance with applicable requirements of Ginnie Mae, 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 the Firm's standards. Such purchases were $50.3 billion, $15.1 billion and $5.7 billion for the years ended December 31, 2015, 2014 and 2013, respectively.

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

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)	**2015**	2014	2013
Net gains/(losses) on sales of loans (including lower of cost or fair value adjustments)[a]			
Consumer, excluding credit card	**$ 305**	$ 341	$ 313
Credit card	**1**	(241)	3
Wholesale	**34**	101	(76)
Total net gains on sales of loans (including lower of cost or fair value adjustments)	**$ 340**	$ 201	$ 240

(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 originated by Washington Mutual that may result in negative amortization.

The table below provides information about retained consumer loans, excluding credit card, by class.

December 31, (in millions)	2015	2014
Residential real estate – excluding PCI		
Home equity:		
Senior lien	**$ 14,848**	$ 16,367
Junior lien	**30,711**	36,375
Mortgages:		
Prime, including option ARMs	**162,549**	104,921
Subprime	**3,690**	5,056
Other consumer loans		
Auto	**60,255**	54,536
Business banking	**21,208**	20,058
Student and other	**10,096**	10,970
Residential real estate – PCI		
Home equity	**14,989**	17,095
Prime mortgage	**8,893**	10,220
Subprime mortgage	**3,263**	3,673
Option ARMs	**13,853**	15,708
Total retained loans	**$ 344,355**	$ 294,979

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 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 pages 259–260 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 the Firm'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 the Firm's Consolidated balance sheets.

Residential real estate – excluding PCI loans

December 31, (in millions, except ratios)	Home equity[i]				Mortgages					
	Senior lien		Junior lien		Prime, including option ARMs[i]		Subprime		Total residential real estate – excluding PCI	
	2015	2014	**2015**	2014	**2015**	2014	**2015**	2014	**2015**	2014
Loan delinquency[a]										
Current	**$ 14,278**	$ 15,730	**$ 30,021**	$ 35,575	**$ 153,323**	$ 93,951	**$ 3,140**	$ 4,296	**$ 200,762**	$ 149,552
30–149 days past due	**238**	275	**470**	533	**3,666**	4,091	**376**	489	**4,750**	5,388
150 or more days past due	**332**	362	**220**	267	**5,560**	6,879	**174**	271	**6,286**	7,779
Total retained loans	**$ 14,848**	$ 16,367	**$ 30,711**	$ 36,375	**$ 162,549**	$104,921	**$ 3,690**	$ 5,056	**$ 211,798**	$ 162,719
% of 30+ days past due to total retained loans[b]	**3.84%**	3.89%	**2.25%**	2.20%	**0.71%**	1.42%	**14.91%**	15.03%	**1.40%**	2.27%
90 or more days past due and government guaranteed[c]	**–**	–	**–**	–	**6,056**	7,544	**–**	–	**6,056**	7,544
Nonaccrual loans	**867**	938	**1,324**	1,590	**1,752**	2,190	**751**	1,036	**4,694**	5,754
Current estimated LTV ratios[d][e][f][g]										
Greater than 125% and refreshed FICO scores:										
Equal to or greater than 660	**$ 42**	$ 37	**$ 123**	$ 252	**$ 56**	$ 97	**$ 2**	$ 4	**$ 223**	$ 390
Less than 660	**3**	6	**29**	65	**65**	72	**12**	28	**109**	171
101% to 125% and refreshed FICO scores:										
Equal to or greater than 660	**50**	83	**1,294**	2,105	**249**	478	**25**	76	**1,618**	2,742
Less than 660	**23**	40	**411**	651	**190**	282	**101**	207	**725**	1,180
80% to 100% and refreshed FICO scores:										
Equal to or greater than 660	**311**	466	**4,226**	5,849	**3,013**	2,686	**146**	382	**7,696**	9,383
Less than 660	**142**	206	**1,267**	1,647	**597**	838	**399**	703	**2,405**	3,394
Less than 80% and refreshed FICO scores:										
Equal to or greater than 660	**11,721**	12,588	**17,927**	19,435	**140,942**	82,350	**1,299**	1,624	**171,889**	115,997
Less than 660	**1,942**	2,184	**2,992**	3,326	**5,280**	4,872	**1,517**	1,795	**11,731**	12,177
No FICO/LTV available	**614**	757	**2,442**	3,045	**1,469**	1,136	**189**	237	**4,714**	5,175
U.S. government-guaranteed	**–**	–	**–**	–	**10,688**	12,110	**–**	–	**10,688**	12,110
Total retained loans	**$ 14,848**	$ 16,367	**$ 30,711**	$ 36,375	**$ 162,549**	$104,921	**$ 3,690**	$ 5,056	**$ 211,798**	$ 162,719
Geographic region										
California	**$ 2,072**	$ 2,232	**$ 6,873**	$ 8,144	**$ 46,745**	$ 28,133	**$ 518**	$ 718	**$ 56,208**	$ 39,227
New York	**2,583**	2,805	**6,564**	7,685	**20,941**	16,550	**521**	677	**30,609**	27,717
Illinois	**1,189**	1,306	**2,231**	2,605	**11,379**	6,654	**145**	207	**14,944**	10,772
Texas	**1,581**	1,845	**951**	1,087	**8,986**	4,935	**142**	177	**11,660**	8,044
Florida	**797**	861	**1,612**	1,923	**6,763**	5,106	**414**	632	**9,586**	8,522
New Jersey	**647**	654	**1,943**	2,233	**5,395**	3,361	**172**	227	**8,157**	6,475
Washington	**442**	506	**1,009**	1,216	**4,097**	2,410	**79**	109	**5,627**	4,241
Arizona	**815**	927	**1,328**	1,595	**3,081**	1,805	**74**	112	**5,298**	4,439
Michigan	**650**	736	**700**	848	**1,866**	1,203	**79**	121	**3,295**	2,908
Ohio	**1,014**	1,150	**638**	778	**1,166**	615	**81**	112	**2,899**	2,655
All other[h]	**3,058**	3,345	**6,862**	8,261	**52,130**	34,149	**1,465**	1,964	**63,515**	47,719
Total retained loans	**$ 14,848**	$ 16,367	**$ 30,711**	$ 36,375	**$ 162,549**	$104,921	**$ 3,690**	$ 5,056	**$ 211,798**	$ 162,719

(a) Individual delinquency classifications include mortgage loans insured by U.S. government agencies as follows: current included $2.6 billion and $2.6 billion; 30–149 days past due included $3.2 billion and $3.5 billion; and 150 or more days past due included $4.9 billion and $6.0 billion at December 31, 2015 and 2014, respectively.

(b) At December 31, 2015 and 2014, Prime, including option ARMs loans excluded mortgage loans insured by U.S. government agencies of $8.1 billion and $9.5 billion, respectively. These amounts have been excluded from nonaccrual loans 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, 2015 and 2014, these balances included $3.4 billion and $4.2 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 not guaranteed by U.S. government agencies that are 90 or more days past due and still accruing at December 31, 2015 and 2014.

(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. Effective December 31, 2015, the current estimated LTV ratios reflect updates to the nationally recognized home price index valuation estimates incorporated into the Firm's home valuation models. The prior period ratios have been revised to conform with these updates in the home price index.

(e) Junior lien represents combined LTV, which considers all available lien positions, as well as unused lines, related to the property. All other products are presented without consideration of subordinate liens on the property.

(f) Refreshed FICO scores represent each borrower's most recent credit score, which is obtained by the Firm on at least a quarterly basis.

(g) The current period current estimated LTV ratios disclosures have been updated to reflect where either the FICO score or estimated property value is unavailable. The prior period amounts have been revised to conform with the current presentation.

(h) At December 31, 2015 and 2014, included mortgage loans insured by U.S. government agencies of $10.7 billion and $12.1 billion, respectively.

(i) Includes residential real estate loans to private banking clients in AM, for which the primary credit quality indicators are the borrower's financial position and LTV.

The following table represent the Firm's delinquency statistics for junior lien home equity loans and lines as of December 31, 2015 and 2014.

	Total loans		Total 30+ day delinquency rate	
December 31,				
(in millions, except ratios)	**2015**	2014	**2015**	2014
HELOCs:[a]				
Within the revolving period[b]	**$ 17,050**	**$ 25,252**	**1.57%**	**1.75%**
Beyond the revolving period	**11,252**	**7,979**	**3.10**	**3.16**
HELOANs	**2,409**	**3,144**	**3.03**	**3.34**
Total	**$ 30,711**	**$ 36,375**	**2.25%**	**2.20%**

(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 originated by Washington Mutual that allow interest-only payments beyond the revolving period.

(b) The Firm manages the risk of HELOCs during their revolving period by closing or reducing the undrawn line to the extent permitted by law when borrowers are experiencing financial difficulty or when the collateral does not support the loan amount.

Home equity lines of credit ("HELOCs") beyond the revolving period and home equity loans ("HELOANs") have higher delinquency rates than do HELOCs within the revolving period. That is primarily because the fully-amortizing payment that is generally required for those products is higher than the minimum payment options available for HELOCs within the revolving period. The higher delinquency rates associated with amortizing HELOCs and HELOANs are factored into the loss estimates produced by the Firm's delinquency roll-rate methodology, which estimates defaults based on the current delinquency status of a portfolio.

Impaired loans

The table below sets forth information about the Firm's residential real estate impaired loans, excluding PCI loans. These loans are considered to be impaired as they have been modified in a TDR. All impaired loans are evaluated for an asset-specific allowance as described in Note 15.

	Home equity				Mortgages				Total residential real estate - excluding PCI	
	Senior lien		Junior lien		Prime, including option ARMs		Subprime			
December 31, (in millions)	**2015**	2014	**2015**	2014	**2015**	2014	**2015**	2014	**2015**	2014
Impaired loans										
With an allowance	**$ 557**	$ 552	**$ 736**	$ 722	**$ 3,850**	$ 4,949	**$ 1,393**	$ 2,239	**$ 6,536**	$ 8,462
Without an allowance[a]	**491**	549	**574**	582	**976**	1,196	**471**	639	**2,512**	2,966
Total impaired loans[b][c]	**$ 1,048**	$ 1,101	**$ 1,310**	$ 1,304	**$ 4,826**	$ 6,145	**$ 1,864**	$ 2,878	**$ 9,048**	$ 11,428
Allowance for loan losses related to impaired loans	**$ 53**	$ 84	**$ 85**	$ 147	**$ 93**	$ 127	**$ 15**	$ 64	**$ 246**	$ 422
Unpaid principal balance of impaired loans[d]	**1,370**	1,451	**2,590**	2,603	**6,225**	7,813	**2,857**	4,200	**13,042**	16,067
Impaired loans on nonaccrual status[e]	**581**	628	**639**	632	**1,287**	1,559	**670**	931	**3,177**	3,750

(a) Represents collateral-dependent residential mortgage loans that are charged off to the fair value of the underlying collateral less cost to sell. The Firm reports, in accordance with regulatory guidance, residential real estate loans that have been discharged under Chapter 7 bankruptcy and not reaffirmed by the borrower ("Chapter 7 loans") as collateral-dependent nonaccrual TDRs, regardless of their delinquency status. At December 31, 2015, Chapter 7 residential real estate loans included approximately 17% of senior lien home equity, 9% of junior lien home equity, 18% of prime mortgages, including option ARMs, and 15% of subprime mortgages that were 30 days or more past due.

(b) At December 31, 2015 and 2014, $3.8 billion and $4.9 billion, respectively, of loans modified subsequent to repurchase from Government National Mortgage Association ("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, 2015 and 2014. 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, 2015 and 2014, nonaccrual loans included $2.5 billion and $2.9 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 242–244 of this Note.

The following table presents average impaired loans and the related interest income reported by the Firm.

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)	**2015**	2014	2013	**2015**	2014	2013	**2015**	2014	2013
Home equity									
Senior lien	**$ 1,077**	$ 1,122	$ 1,151	**$ 51**	$ 55	$ 59	**$ 35**	$ 37	$ 40
Junior lien	**1,292**	1,313	1,297	**77**	82	82	**50**	53	55
Mortgages									
Prime, including option ARMs	**5,397**	6,730	7,214	**217**	262	280	**46**	54	59
Subprime	**2,300**	3,444	3,798	**131**	182	200	**41**	51	55
Total residential real estate – excluding PCI	**$ 10,066**	$ 12,609	$ 13,460	**$ 476**	$ 581	$ 621	**$ 172**	$ 195	$ 209

(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.

Loan modifications

Modifications of residential real estate loans, excluding PCI loans, are generally accounted for and reported as TDRs. There were no additional commitments to lend to borrowers whose residential real estate loans, excluding PCI loans, have been modified in TDRs.

The following table presents new TDRs reported by the Firm.

Year ended December 31, (in millions)	**2015**	2014	2013
Home equity:			
Senior lien	**$ 108**	$ 110	$ 210
Junior lien	**293**	211	388
Mortgages:			
Prime, including option ARMs	**209**	287	770
Subprime	**58**	124	319
Total residential real estate – excluding PCI	**$ 668**	$ 732	$ 1,687

Nature and extent of modifications

The U.S. Treasury's Making Home Affordable ("MHA") programs, as well as the Firm's proprietary modification programs, generally provide various concessions to financially troubled borrowers including, but not limited to, interest rate reductions, term or payment extensions and deferral of principal and/or interest payments that would otherwise have been required under the terms of the original agreement.

The following table provides information about how residential real estate loans, excluding PCI loans, were modified under the Firm's loss mitigation programs during the periods presented. This table excludes Chapter 7 loans where the sole concession granted is the discharge of debt.

	Home equity						Mortgages								
	Senior lien			Junior lien			Prime, including option ARMs			Subprime			Total residential real estate – excluding PCI		
Year ended Dec. 31,	**2015**	2014	2013	**2015**	2014	2013	**2015**	2014	2013	**2015**	2014	2013	**2015**	2014	2013
Number of loans approved for a trial modification	**1,345**	939	1,719	**2,588**	626	884	**1,103**	1,052	2,846	**1,608**	2,056	4,233	**6,644**	4,673	9,682
Number of loans permanently modified	**1,096**	1,171	1,765	**3,200**	2,813	5,040	**1,495**	2,507	4,356	**1,650**	3,141	5,364	**7,441**	9,632	16,525
Concession granted:[(a)]															
Interest rate reduction	**75%**	53%	70%	**63%**	84%	88%	**72%**	43%	73%	**71%**	47%	72%	**68%**	58%	77%
Term or payment extension	**86**	67	76	**90**	83	80	**80**	51	73	**82**	53	56	**86**	63	70
Principal and/or interest deferred	**32**	16	12	**19**	23	24	**34**	19	30	**21**	12	13	**24**	18	21
Principal forgiveness	**4**	36	38	**8**	22	32	**24**	51	38	**31**	53	48	**16**	41	39
Other[(b)]	**–**	–	–	**–**	–	–	**9**	10	23	**13**	10	14	**5**	6	11

(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 the Firm's loss mitigation programs 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						Mortgages								
	Senior lien			Junior lien			Prime, including option ARMs			Subprime			Total residential real estate – excluding PCI		
	2015	2014	2013	**2015**	2014	2013	**2015**	2014	2013	**2015**	2014	2013	**2015**	2014	2013
Weighted-average interest rate of loans with interest rate reductions – before TDR	**5.69%**	6.38%	6.35%	**4.93%**	4.81%	5.05%	**5.03%**	4.82%	5.28%	**6.67%**	7.16%	7.33%	**5.51%**	5.61%	5.88%
Weighted-average interest rate of loans with interest rate reductions – after TDR	**2.70**	3.03	3.23	**2.17**	2.00	2.14	**2.55**	2.69	2.77	**3.15**	3.37	3.52	**2.64**	2.78	2.92
Weighted-average remaining contractual term (in years) of loans with term or payment extensions – before TDR	**17**	17	19	**18**	19	20	**25**	25	25	**24**	24	24	**22**	23	23
Weighted-average remaining contractual term (in years) of loans with term or payment extensions – after TDR	**32**	30	31	**36**	35	34	**37**	37	37	**36**	36	35	**36**	36	36
Charge-offs recognized upon permanent modification	**$ 1**	$ 2	$ 7	**$ 3**	$ 25	$ 70	**$ 9**	$ 9	$ 16	**$ 2**	$ 3	$ 5	**$ 15**	$ 39	$ 98
Principal deferred	**13**	5	7	**14**	11	24	**41**	39	129	**17**	19	43	**85**	74	203
Principal forgiven	**2**	14	30	**4**	21	51	**34**	83	206	**32**	89	218	**72**	207	505
Balance of loans that redefaulted within one year of permanent modification[(a)]	**$ 14**	$ 19	$ 26	**$ 7**	$ 10	$ 20	**$ 75**	$ 121	$ 164	**$ 58**	$ 93	$ 106	**$ 154**	$ 243	$ 316

(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, 2015, the weighted-average estimated remaining lives of residential real estate loans, excluding PCI loans, permanently modified in TDRs were 10 years for senior lien home equity, 9 years for junior lien home equity, 10 years for prime mortgages, including option ARMs, and 8 years for subprime 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, 2015 and 2014, the Firm had non-PCI residential real estate loans, excluding those insured by U.S. government agencies, with a carrying value of $1.2 billion and $1.5 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	
	2015	2014	**2015**	2014	**2015**	2014	**2015**	2014
Loan delinquency[a]								
Current	**$59,442**	$53,866	**$20,887**	$19,710	**$ 9,405**	$10,080	**$ 89,734**	$83,656
30–119 days past due	**804**	663	**215**	208	**445**	576	**1,464**	1,447
120 or more days past due	**9**	7	**106**	140	**246**	314	**361**	461
Total retained loans	**$60,255**	$54,536	**$21,208**	$20,058	**$10,096**	$10,970	**$ 91,559**	$85,564
% of 30+ days past due to total retained loans	**1.35%**	1.23%	**1.51%**	1.73%	**1.63%** [d]	2.15% [d]	**1.42%** [d]	1.47% [d]
90 or more days past due and still accruing [b]	**$ –**	$ –	**$ –**	$ –	**$ 290**	$ 367	**$ 290**	$ 367
Nonaccrual loans	**116**	115	**263**	279	**242**	270	**621**	664
Geographic region								
California	**$ 7,186**	$ 6,294	**$ 3,530**	$ 3,008	**$ 1,051**	$ 1,143	**$ 11,767**	$10,445
New York	**3,874**	3,662	**3,359**	3,187	**1,224**	1,259	**8,457**	8,108
Illinois	**3,678**	3,175	**1,459**	1,373	**679**	729	**5,816**	5,277
Texas	**6,457**	5,608	**2,622**	2,626	**839**	868	**9,918**	9,102
Florida	**2,843**	2,301	**941**	827	**516**	521	**4,300**	3,649
New Jersey	**1,998**	1,945	**500**	451	**366**	378	**2,864**	2,774
Washington	**1,135**	1,019	**264**	258	**212**	235	**1,611**	1,512
Arizona	**2,033**	2,003	**1,205**	1,083	**236**	239	**3,474**	3,325
Michigan	**1,550**	1,633	**1,361**	1,375	**415**	466	**3,326**	3,474
Ohio	**2,340**	2,157	**1,363**	1,354	**559**	629	**4,262**	4,140
All other	**27,161**	24,739	**4,604**	4,516	**3,999**	4,503	**35,764**	33,758
Total retained loans	**$60,255**	$54,536	**$21,208**	$20,058	**$10,096**	$10,970	**$ 91,559**	$85,564
Loans by risk ratings[c]								
Noncriticized	**$11,277**	$ 9,822	**$15,505**	$14,619	**NA**	NA	**$ 26,782**	$24,441
Criticized performing	**76**	35	**815**	708	**NA**	NA	**891**	743
Criticized nonaccrual	**–**	–	**210**	213	**NA**	NA	**210**	213

(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 $3.8 billion and $4.3 billion; 30-119 days past due included $299 million and $364 million; and 120 or more days past due included $227 million and $290 million at December 31, 2015 and 2014, respectively.

(b) These amounts represent student loans, which are 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, 2015 and 2014, excluded loans 30 days or more past due and still accruing, which are insured by U.S. government agencies under the FFELP, of $526 million and $654 million, respectively. These amounts were excluded as reimbursement of insured amounts is proceeding normally.

Other consumer impaired loans and loan modifications

The table below sets forth information about the Firm's other consumer impaired loans, including risk-rated business banking and auto loans that have been placed on nonaccrual status, and loans that have been modified in TDRs.

December 31, (in millions)	2015	2014
Impaired loans		
With an allowance	**$ 527**	$ 557
Without an allowance[a]	**31**	35
Total impaired loans[b][c]	**$ 558**	$ 592
Allowance for loan losses related to impaired loans	**$ 118**	$ 117
Unpaid principal balance of impaired loans[d]	**668**	719
Impaired loans on nonaccrual status	**449**	456

(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 $566 million, $599 million and $648 million for the years ended December 31, 2015, 2014 and 2013, respectively. The related interest income on impaired loans, including those on a cash basis, was not material for the years ended December 31, 2015, 2014 and 2013.
(d) Represents the contractual amount of principal owed at December 31, 2015 and 2014. 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 the Firm's other consumer loans modified in TDRs. New TDRs were not material for the years ended December 31, 2015 and 2014.

December 31, (in millions)	2015	2014
Loans modified in TDRs[a][b]	**$ 384**	$ 442
TDRs on nonaccrual status	**275**	306

(a) The impact of these modifications was not material to the Firm for the years ended December 31, 2015 and 2014.
(b) Additional commitments to lend to borrowers whose loans have been modified in TDRs as of December 31, 2015 and 2014 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, the Firm 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 foregone 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.

The Firm continues to modify certain PCI loans. The impact of these modifications is incorporated into the Firm'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, the Firm incorporates the effect of any foregone interest and also considers the potential for redefault. The Firm develops product-specific probability of default estimates, which are used to compute expected credit losses. In developing these probabilities of default, the Firm 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. The Firm 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 the Firm'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 loans were determined not to be reasonably estimable, no interest would be accreted and the loans would be reported as nonaccrual loans; however, since the timing and amounts of expected cash flows for the Firm's PCI consumer loans are reasonably estimable, interest is being accreted and the loans 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 the Firm's PCI loans are accounted for at a pool level, the Firm 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 the Firm'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, 2015, to have a remaining weighted-average life of 9 years.

Residential real estate – PCI loans

The table below sets forth information about the Firm's consumer, excluding credit card, PCI loans.

December 31, (in millions, except ratios)	Home equity		Prime mortgage		Subprime mortgage		Option ARMs		Total PCI	
	2015	2014	**2015**	2014	**2015**	2014	**2015**	2014	**2015**	2014
Carrying value[a]	**$14,989**	$17,095	**$ 8,893**	$10,220	**$ 3,263**	$ 3,673	**$13,853**	$15,708	**$40,998**	$46,696
Related allowance for loan losses[b]	**1,708**	1,758	**985**	1,193	**–**	180	**49**	194	**2,742**	3,325
Loan delinquency (based on unpaid principal balance)										
Current	**$14,387**	$16,295	**$ 7,894**	$ 8,912	**$ 3,232**	$ 3,565	**$12,370**	$13,814	**$37,883**	$42,586
30–149 days past due	**322**	445	**424**	500	**439**	536	**711**	858	**1,896**	2,339
150 or more days past due	**633**	1,000	**601**	837	**380**	551	**1,272**	1,824	**2,886**	4,212
Total loans	**$15,342**	$17,740	**$ 8,919**	$10,249	**$ 4,051**	$ 4,652	**$14,353**	$16,496	**$42,665**	$49,137
% of 30+ days past due to total loans	**6.22%**	8.15%	**11.49%**	13.05%	**20.22%**	23.37%	**13.82%**	16.26%	**11.21%**	13.33%
Current estimated LTV ratios (based on unpaid principal balance)[c][d][e]										
Greater than 125% and refreshed FICO scores:										
Equal to or greater than 660	**$ 153**	$ 301	**$ 10**	$ 22	**$ 10**	$ 22	**$ 19**	$ 50	**$ 192**	$ 395
Less than 660	**80**	159	**28**	52	**55**	106	**36**	84	**199**	401
101% to 125% and refreshed FICO scores:										
Equal to or greater than 660	**942**	1,448	**120**	268	**77**	144	**166**	330	**1,305**	2,190
Less than 660	**444**	728	**152**	284	**220**	390	**239**	448	**1,055**	1,850
80% to 100% and refreshed FICO scores:										
Equal to or greater than 660	**2,709**	3,591	**816**	1,405	**331**	451	**977**	1,695	**4,833**	7,142
Less than 660	**1,136**	1,485	**614**	969	**643**	911	**1,050**	1,610	**3,443**	4,975
Lower than 80% and refreshed FICO scores:										
Equal to or greater than 660	**6,724**	6,626	**4,243**	4,211	**863**	787	**7,073**	7,053	**18,903**	18,677
Less than 660	**2,265**	2,308	**2,438**	2,427	**1,642**	1,585	**4,065**	4,291	**10,410**	10,611
No FICO/LTV available	**889**	1,094	**498**	611	**210**	256	**728**	935	**2,325**	2,896
Total unpaid principal balance	**$15,342**	$17,740	**$ 8,919**	$10,249	**$ 4,051**	$ 4,652	**$14,353**	$16,496	**$42,665**	$49,137
Geographic region (based on unpaid principal balance)										
California	**$ 9,205**	$10,671	**$ 5,172**	$ 5,965	**$ 1,005**	$ 1,138	**$ 8,108**	$ 9,190	**$23,490**	$26,964
New York	**788**	876	**580**	672	**400**	463	**813**	933	**2,581**	2,944
Illinois	**358**	405	**263**	301	**196**	229	**333**	397	**1,150**	1,332
Texas	**224**	273	**94**	92	**243**	281	**75**	85	**636**	731
Florida	**1,479**	1,696	**586**	689	**373**	432	**1,183**	1,440	**3,621**	4,257
New Jersey	**310**	348	**238**	279	**139**	165	**470**	553	**1,157**	1,345
Washington	**819**	959	**194**	225	**81**	95	**339**	395	**1,433**	1,674
Arizona	**281**	323	**143**	167	**76**	85	**203**	227	**703**	802
Michigan	**44**	53	**141**	166	**113**	130	**150**	182	**448**	531
Ohio	**17**	20	**45**	48	**62**	72	**61**	69	**185**	209
All other	**1,817**	2,116	**1,463**	1,645	**1,363**	1,562	**2,618**	3,025	**7,261**	8,348
Total unpaid principal balance	**$15,342**	$17,740	**$ 8,919**	$10,249	**$ 4,051**	$ 4,652	**$14,353**	$16,496	**$42,665**	$49,137

(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 the Firm'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. Effective December 31, 2015, the current estimated LTV ratios reflect updates to the nationally recognized home price index valuation estimates incorporated into the Firm's home valuation models. The prior period ratios have been revised to conform with these updates in the home price index.

(d) Refreshed FICO scores represent each borrower's most recent credit score, which is obtained by the Firm on at least a quarterly basis.

(e) The current period current estimated LTV ratios disclosures have been updated to reflect where either the FICO score or estimated property value is unavailable. The prior period amounts have been revised to conform with the current presentation.

Approximately 23% 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, 2015 and 2014.

	Total loans		Total 30+ day delinquency rate	
December 31, (in millions, except ratios)	**2015**	2014	**2015**	2014
HELOCs:[a]				
Within the revolving period[b]	**$ 5,000**	$ 8,972	**4.10%**	6.42%
Beyond the revolving period[c]	**6,252**	4,143	**4.46**	6.42
HELOANs	**582**	736	**5.33**	8.83
Total	**$ 11,834**	$ 13,851	**4.35%**	6.55%

(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 the Firm's PCI consumer loans for the years ended December 31, 2015, 2014 and 2013, and represents the Firm's estimate of gross interest income expected to be earned over the remaining life of the PCI loan portfolios. The table excludes the cost to fund the PCI portfolios, and therefore the accretable yield does not represent net interest income expected to be earned on these portfolios.

Year ended December 31, (in millions, except ratios)	Total PCI		
	2015	2014	2013
Beginning balance	**$ 14,592**	$ 16,167	$ 18,457
Accretion into interest income	**(1,700)**	(1,934)	(2,201)
Changes in interest rates on variable-rate loans	**279**	(174)	(287)
Other changes in expected cash flows[a]	**230**	533	198
Reclassification from nonaccretable difference[b]	**90**	–	–
Balance at December 31	**$ 13,491**	$ 14,592	$ 16,167
Accretable yield percentage	**4.20%**	4.19%	4.31%

(a) Other changes in expected cash flows may vary from period to period as the Firm continues to refine its cash flow model and periodically updates model assumptions. For the years ended December 31, 2015 and December 31, 2014, other changes in expected cash flows were driven by changes in prepayment assumptions. For the year ended December 31, 2013, other changes in expected cash flows were due to refining the expected interest cash flows on HELOCs with balloon payments, partially offset by 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.

The factors that most significantly affect estimates of gross cash flows expected to be collected, and accordingly the accretable yield balance, include: (i) changes in the benchmark interest rate indices for variable-rate products such as option ARM and home equity loans; and (ii) changes in prepayment assumptions.

Active and suspended foreclosure

At December 31, 2015 and 2014, the Firm had PCI residential real estate loans with an unpaid principal balance of $2.3 billion and $3.2 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 the Firm. 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, the Firm 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 table below; FICO is considered to be the industry benchmark for credit scores.

The Firm 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 the Firm's credit card loans.

As of or for the year ended December 31, (in millions, except ratios)	2015	2014
Net charge-offs	**$ 3,122**	$ 3,429
% of net charge-offs to retained loans	**2.51%**	2.75%
Loan delinquency		
Current and less than 30 days past due and still accruing	**$ 129,502**	$ 126,189
30–89 days past due and still accruing	**941**	943
90 or more days past due and still accruing	**944**	895
Total retained credit card loans	**$ 131,387**	$ 128,027
Loan delinquency ratios		
% of 30+ days past due to total retained loans	**1.43%**	1.44%
% of 90+ days past due to total retained loans	**0.72**	0.70
Credit card loans by geographic region		
California	**$ 18,802**	$ 17,940
Texas	**11,847**	11,088
New York	**11,360**	10,940
Florida	**7,806**	7,398
Illinois	**7,655**	7,497
New Jersey	**5,879**	5,750
Ohio	**4,700**	4,707
Pennsylvania	**4,533**	4,489
Michigan	**3,562**	3,552
Colorado	**3,399**	3,226
All other	**51,844**	51,440
Total retained credit card loans	**$ 131,387**	$ 128,027
Percentage of portfolio based on carrying value with estimated refreshed FICO scores		
Equal to or greater than 660	**84.4%**	85.7%
Less than 660	**15.6**	14.3

Credit card impaired loans and loan modifications

The table below sets forth information about the Firm's impaired credit card loans. All of these loans are considered to be impaired as they have been modified in TDRs.

December 31, (in millions)	2015	2014
Impaired credit card loans with an allowance[a][b]		
Credit card loans with modified payment terms[c]	**$ 1,286**	$ 1,775
Modified credit card loans that have reverted to pre-modification payment terms[d]	**179**	254
Total impaired credit card loans[e]	**$ 1,465**	$ 2,029
Allowance for loan losses related to impaired credit card loans	**$ 460**	$ 500

(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 December 31, 2015 and 2014, $113 million and $159 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 $66 million and $95 million at December 31, 2015 and 2014, respectively, of these loans are to borrowers who have successfully completed a short-term modification program. The Firm 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)	2015	2014	2013
Average impaired credit card loans	**$ 1,710**	$ 2,503	$ 3,882
Interest income on impaired credit card loans	**82**	123	198

Loan modifications

JPMorgan Chase 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. The Firm 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 the Firm'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, the Firm does not reinstate the borrower's line of credit.

New enrollments in these loan modification programs for the years ended December 31, 2015, 2014 and 2013, were $638 million, $807 million and $1.2 billion, 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)	2015	2014	2013
Weighted-average interest rate of loans – before TDR	**15.08%**	14.96%	15.37%
Weighted-average interest rate of loans – after TDR	**4.40**	4.40	4.38
Loans that redefaulted within one year of modification[a]	**$ 85**	$ 119	$ 167

(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 the Firm's standard charge-off policy. Based on historical experience, the estimated weighted-average default rate for credit card loans modified was expected to be 25.61%, 27.91% and 30.72% as of December 31, 2015, 2014 and 2013, 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 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 and not be fully repaid by the borrower. 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. The Firm'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, the Firm 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 5 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[e]		Total retained loans	
	2015	2014	**2015**	2014	**2015**	2014	**2015**	2014	**2015**	2014	**2015**	2014
Loans by risk ratings												
Investment grade	**$ 62,150**	$ 63,069	**$74,330**	$61,006	**$21,786**	$ 27,111	**$11,363**	$8,393	**$ 98,107**	$ 82,087	**$267,736**	$241,666
Noninvestment grade:												
Noncriticized	**45,632**	44,117	**17,008**	16,541	**7,667**	7,093 [d]	**256**	300	**11,390**	10,067 [d]	**81,953**	78,118
Criticized performing	**4,542**	2,251	**1,251**	1,313	**320**	316	**7**	3	**253**	236	**6,373**	4,119
Criticized nonaccrual	**608**	188	**231**	253	**10**	18	**–**	–	**139**	140	**988**	599
Total noninvestment grade	**50,782**	46,556	**18,490**	18,107	**7,997**	7,427 [d]	**263**	303	**11,782**	10,443 [d]	**89,314**	82,836
Total retained loans	**$112,932**	$109,625	**$92,820**	$79,113	**$29,783**	$ 34,538 [d]	**$11,626**	$8,696	**$109,889**	$ 92,530 [d]	**$357,050**	$324,502
% of total criticized to total retained loans	**4.56%**	2.22%	**1.60 %**	1.98 %	**1.11 %**	0.97 %	**0.06 %**	0.03%	**0.36%**	0.41 %	**2.06%**	1.45%
% of nonaccrual loans to total retained loans	**0.54**	0.17	**0.25**	0.32	**0.03**	0.05	**–**	–	**0.13**	0.15	**0.28**	0.18
Loans by geographic distribution[a]												
Total non-U.S.	**$ 30,063**	$ 33,739	**$ 3,003**	$ 2,099	**$17,166**	$ 20,944	**$ 1,788**	$1,122	**$ 42,031**	$ 42,961	**$ 94,051**	$100,865
Total U.S.	**82,869**	75,886	**89,817**	77,014	**12,617**	13,594 [d]	**9,838**	7,574	**67,858**	49,569 [d]	**262,999**	223,637
Total retained loans	**$112,932**	$109,625	**$92,820**	$79,113	**$29,783**	$ 34,538 [d]	**$11,626**	$8,696	**$109,889**	$ 92,530 [d]	**$357,050**	$324,502
Net charge-offs/ (recoveries)	**$ 26**	$ 22	**$ (14)**	$ (9)	**$ (5)**	$ (12)	**$ (8)**	$ 25	**$ 11**	$ (14)	**$ 10**	$ 12
% of net charge-offs/ (recoveries) to end-of-period retained loans	**0.02%**	0.02%	**(0.02)%**	(0.01)%	**(0.02)%**	(0.04) %	**(0.07)%**	0.29%	**0.01%**	(0.02) %	**–%**	–%
Loan delinquency[b]												
Current and less than 30 days past due and still accruing	**$112,058**	$108,857	**$92,381**	$78,552	**$29,713**	$ 34,416 [d]	**$11,565**	$8,627	**$108,734**	$ 91,160 [d]	**$354,451**	$321,612
30–89 days past due and still accruing	**259**	566	**193**	275	**49**	104	**55**	69	**988**	1,201	**1,544**	2,215
90 or more days past due and still accruing[c]	**7**	14	**15**	33	**11**	–	**6**	–	**28**	29	**67**	76
Criticized nonaccrual	**608**	188	**231**	253	**10**	18	**–**	–	**139**	140	**988**	599
Total retained loans	**$112,932**	$109,625	**$92,820**	$79,113	**$29,783**	$ 34,538 [d]	**$11,626**	$8,696	**$109,889**	$ 92,530 [d]	**$357,050**	$324,502

(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) Effective in the fourth quarter 2015, the Firm realigned its wholesale industry divisions in order to better monitor and manage industry concentrations. Prior period amounts have been revised to conform with current period presentation. For additional information, see Wholesale credit portfolio on pages 122–129.
(e) Other includes: individuals; SPEs; holding companies; and private education and civic organizations. For more information on exposures to SPEs, see Note 16.

The following table presents additional information on the real estate class of loans within the Wholesale portfolio segment for the periods indicated. The real estate class primarily consists of secured commercial loans mainly to borrowers for multi-family and commercial lessor properties. Multifamily lending specifically finances apartment buildings. Commercial lessors receive financing specifically for real estate leased to retail, office and industrial tenants. Commercial construction and development loans represent financing for the construction of apartments, office and professional buildings and malls. Other real estate loans include lodging, real estate investment trusts ("REITs"), single-family, homebuilders and other real estate.

December 31, (in millions, except ratios)	Multifamily		Commercial lessors		Commercial construction and development		Other		Total real estate loans	
	2015	2014	**2015**	2014	**2015**	**2014**	**2015**	**2014**	**2015**	**2014**
Real estate retained loans	**$ 60,290**	$ 51,049	**$ 20,062**	$ 17,438	**$ 4,920**	$ 4,264	**$ 7,548**	$ 6,362	**$ 92,820**	$ 79,113
Criticized	**520**	652	**844**	841	**43**	42	**75**	31	**1,482**	1,566
% of criticized to total real estate retained loans	**0.86%**	1.28%	**4.21%**	4.82%	**0.87%**	0.98%	**0.99%**	0.49%	**1.60%**	1.98%
Criticized nonaccrual	**$ 85**	$ 126	**$ 100**	$ 110	**$ 1**	$ –	**$ 45**	$ 17	**$ 231**	$ 253
% of criticized nonaccrual to total real estate retained loans	**0.14%**	0.25%	**0.50%**	0.63%	**0.02%**	–%	**0.60%**	0.27%	**0.25%**	0.32%

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 15.

The table below sets forth information about the Firm's wholesale impaired loans.

December 31, (in millions)	Commercial and industrial		Real estate		Financial institutions		Government agencies		Other		Total retained loans	
	2015	2014	**2015**	2014	**2015**	2014	**2015**	2014	**2015**	2014	**2015**	2014
Impaired loans												
With an allowance	**$ 522**	$ 174	**$ 148**	$ 193	**$ 10**	$ 15	**$ –**	$ –	**$ 46**	$ 89	**$ 726**	$ 471
Without an allowance[a]	**98**	24	**106**	87	**–**	3	**–**	–	**94**	52	**298**	166
Total impaired loans	**$ 620**	$ 198	**$ 254**	$ 280	**$ 10**	$ 18	**$ –**	$ –	**$ 140**	$ 141	**$ 1,024** [c]	$ 637 [c]
Allowance for loan losses related to impaired loans	**$ 220**	$ 34	**$ 27**	$ 36	**$ 3**	$ 4	**$ –**	$ –	**$ 24**	$ 13	**$ 274**	$ 87
Unpaid principal balance of impaired loans[b]	**669**	266	**363**	345	**13**	22	**–**	–	**164**	202	**1,209**	835

(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, 2015 and 2014. The unpaid principal balance differs from the impaired loan balances due to various factors, including charge-offs; interest payments received and applied to the carrying value; net deferred loan fees or costs; and unamortized discount or premiums on purchased loans.

(c) Based upon the domicile of the borrower, largely consists of loans in the U.S.

The following table presents the Firm's average impaired loans for the years ended 2015, 2014 and 2013.

Year ended December 31, (in millions)	**2015**	2014	2013
Commercial and industrial	**$ 453**	$ 243	$ 412
Real estate	**250**	297	484
Financial institutions	**13**	20	17
Government agencies	**–**	–	–
Other	**129**	155	211
Total[a]	**$ 845**	$ 715	$ 1,124

(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, 2015, 2014 and 2013.

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 not material as of December 31, 2015 and 2014.

Note 15 – Allowance for credit losses

JPMorgan Chase'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 the Firm's loan portfolio. The allowance for loan losses includes an asset-specific component, a formula-based component and a component related to PCI loans, as described below. Management also estimates an allowance for wholesale and consumer lending-related commitments using methodologies similar to those used to estimate the allowance on the underlying loans. During 2015, the Firm 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.

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.

The Firm 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 provision 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 and therefore may not be subject to an asset-specific reserve as are other impaired loans. See Note 14 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 foregone 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, the Firm develops product-specific probability of default estimates, which are applied at a loan level to compute expected losses. In developing these probabilities of default, the Firm 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. The Firm 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 the Firm's historical experience by type of modification program. For wholesale loans modified in TDRs, expected losses incorporate redefaults based on management's expectation of the borrower's ability to repay under the modified terms.

The formula-based component is based on a statistical calculation to provide for incurred credit losses in performing risk-rated loans and all consumer loans, except for any loans restructured in TDRs and PCI loans. See Note 14 for more information on PCI loans.

For scored loans, the statistical calculation is performed on pools of loans with similar risk characteristics (e.g., product type) and generally computed by applying loss factors to outstanding principal balances over an estimated loss emergence period. The loss emergence period represents the time period between the date at which the loss is estimated to have been incurred and the ultimate realization of that loss (through a charge-off). 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.

Loss factors are statistically derived and sensitive to changes in delinquency status, credit scores, collateral values and other risk factors. The Firm uses a number of different forecasting models to estimate both the PD and the loss severity, including delinquency roll rate models and credit loss severity models. In developing PD and loss severity assumptions, the Firm also considers known and anticipated changes in the economic environment, including changes in home prices, unemployment rates and other risk indicators.

A nationally recognized home price index measure is used to estimate both the PD and the loss severity on residential real estate loans at the metropolitan statistical areas ("MSA") level. Loss severity estimates are regularly validated by comparison to actual losses recognized on defaulted loans, market-specific real estate appraisals and property sales activity. 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.

For risk-rated loans, the statistical calculation is the product of an estimated PD and an estimated LGD. These factors are determined based on the credit quality and specific attributes of the Firm's loans and lending-related commitments to each obligor. In assessing the risk rating of a particular loan, 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. Emphasizing one factor over another or considering additional factors could impact the risk rating assigned by the Firm. PD estimates are based on observable external through-the-cycle data, using credit-rating agency default statistics. LGD estimates are based on the Firm's history of actual credit losses over more than one credit cycle. Estimates of PD and LGD are subject to periodic refinement based on changes to underlying external and Firm-specific historical data.

Management applies judgment within an established framework to adjust the results of applying the statistical calculation described above. The determination of the appropriate adjustment is based on management's view of loss events that have occurred but that are not yet reflected in the loss factors and that relate to current macroeconomic and political conditions, the quality of underwriting standards and other relevant internal and external factors affecting the credit quality of the portfolio. For the scored loan portfolios, adjustments to the statistical calculation are made in part by analyzing the historical loss experience for each major product segment. Factors related to unemployment, home prices, borrower behavior and lien position, the estimated effects of the mortgage foreclosure-related settlement with federal and state officials and uncertainties regarding the ultimate success of loan modifications are incorporated into the calculation, as appropriate. For junior lien products, management considers the delinquency and/or modification status of any senior liens in determining the adjustment. In addition, for the risk-rated portfolios, any adjustments made to the statistical calculation take into consideration model imprecision, deteriorating conditions within an industry, product or portfolio type, geographic location, credit concentration, and current economic events that have occurred but that are not yet reflected in the factors used to derive the statistical calculation.

Management establishes an asset-specific allowance for lending-related commitments that are considered impaired and computes a formula-based allowance for performing consumer and wholesale lending-related commitments. These are computed using a methodology similar to that used for the wholesale loan portfolio, modified for expected maturities and probabilities of drawdown.

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 Chief Risk Officer, the Chief Financial Officer and the Controller of the Firm and discussed with the Risk Policy and Audit Committees of the Board of Directors of the Firm. As of December 31, 2015, JPMorgan Chase deemed the allowance for credit losses to be appropriate (i.e., sufficient to absorb probable credit losses inherent in the portfolio).

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.

	2015			
Year ended December 31, (in millions)	Consumer, excluding credit card	Credit card	Wholesale	Total
Allowance for loan losses				
Beginning balance at January 1,	$ 7,050	$ 3,439	$ 3,696	$ 14,185
Gross charge-offs	1,658	3,488	95	5,241
Gross recoveries	(704)	(366)	(85)	(1,155)
Net charge-offs/(recoveries)	954	3,122	10	4,086
Write-offs of PCI loans[a]	208	–	–	208
Provision for loan losses	(82)	3,122	623	3,663
Other	–	(5)	6	1
Ending balance at December 31,	$ 5,806	$ 3,434	$ 4,315	$ 13,555
Allowance for loan losses by impairment methodology				
Asset-specific[b]	$ 364	$ 460 [c]	$ 274	$ 1,098
Formula-based	2,700	2,974	4,041	9,715
PCI	2,742	–	–	2,742
Total allowance for loan losses	$ 5,806	$ 3,434	$ 4,315	$ 13,555
Loans by impairment methodology				
Asset-specific	$ 9,606	$ 1,465	$ 1,024	$ 12,095
Formula-based	293,751	129,922	356,022	779,695
PCI	40,998	–	4	41,002
Total retained loans	$ 344,355	$ 131,387	$ 357,050	$ 832,792
Impaired collateral-dependent loans				
Net charge-offs	$ 104	$ –	$ 16	$ 120
Loans measured at fair value of collateral less cost to sell	2,566	–	283	2,849
Allowance for lending-related commitments				
Beginning balance at January 1,	$ 13	$ –	$ 609	$ 622
Provision for lending-related commitments	1	–	163	164
Other	–	–	–	–
Ending balance at December 31,	$ 14	$ –	$ 772	$ 786
Allowance for lending-related commitments by impairment methodology				
Asset-specific	$ –	$ –	$ 73	$ 73
Formula-based	14	–	699	713
Total allowance for lending-related commitments	$ 14	$ –	$ 772	$ 786
Lending-related commitments by impairment methodology				
Asset-specific	$ –	$ –	$ 193	$ 193
Formula-based	58,478	515,518	366,206	940,202
Total lending-related commitments	$ 58,478	$ 515,518	$ 366,399	$ 940,395

(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 the fourth quarter of 2014, the Firm recorded a $291 million adjustment to reduce the PCI allowance and the recorded investment in the Firm's PCI loan portfolio, primarily reflecting the cumulative effect of interest forgiveness modifications. This adjustment had no impact to the Firm'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, the Firm no longer includes within its disclosure of wholesale lending-related commitments the unused amount of advised uncommitted lines of credit as it is within the Firm's discretion whether or not to make a loan under these lines, and the Firm'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)

	2014				2013			
	Consumer, excluding credit card	Credit card	Wholesale	Total	Consumer, excluding credit card	Credit card	Wholesale	Total
	$ 8,456	$ 3,795	$ 4,013	$ 16,264	$ 12,292	$ 5,501	$ 4,143	$ 21,936
	2,132	3,831	151	6,114	2,754	4,472	241	7,467
	(814)	(402)	(139)	(1,355)	(847)	(593)	(225)	(1,665)
	1,318	3,429	12	4,759	1,907	3,879	16	5,802
	533	–	–	533	53	–	–	53
	414	3,079	(269)	3,224	(1,872)	2,179	(119)	188
	31	(6)	(36)	(11)	(4)	(6)	5	(5)
	$ 7,050	$ 3,439	$ 3,696	$ 14,185	$ 8,456	$ 3,795	$ 4,013	$ 16,264
	$ 539	$ 500 [c]	$ 87	$ 1,126	$ 601	$ 971 [c]	$ 181	$ 1,753
	3,186	2,939	3,609	9,734	3,697	2,824	3,832	10,353
	3,325	–	–	3,325	4,158	–	–	4,158
	$ 7,050	$ 3,439	$ 3,696	$ 14,185	$ 8,456	$ 3,795	$ 4,013	$ 16,264
	$ 12,020	$ 2,029	$ 637	$ 14,686	$ 13,785	$ 3,115	$ 845	$ 17,745
	236,263	125,998	323,861	686,122	221,609	124,350	307,412	653,371
	46,696	–	4	46,700	53,055	–	6	53,061
	$ 294,979	$ 128,027	$ 324,502	$ 747,508	$ 288,449	$ 127,465	$ 308,263	$ 724,177
	$ 133	$ –	$ 21	$ 154	$ 235	$ –	$ 37	$ 272
	3,025	–	326	3,351	3,105	–	362	3,467
	$ 8	$ –	$ 697	$ 705	$ 7	$ –	$ 661	$ 668
	5	–	(90)	(85)	1	–	36	37
	–	–	2	2	–	–	–	–
	$ 13	$ –	$ 609	$ 622	$ 8	$ –	$ 697	$ 705
	$ –	$ –	$ 60	$ 60	$ –	$ –	$ 60	$ 60
	13	–	549	562	8	–	637	645
	$ 13	$ –	$ 609	$ 622	$ 8	$ –	$ 697	$ 705
	$ –	$ –	$ 103	$ 103	$ –	$ –	$ 206	$ 206
	58,153	525,963	366,778 [d]	950,894	56,057	529,383	344,032 [d]	929,472
	$ 58,153	$ 525,963	$ 366,881	$ 950,997	$ 56,057	$ 529,383	$ 344,238	$ 929,678

Note 16 – Variable interest entities

For a further description of JPMorgan Chase's accounting policies regarding consolidation of VIEs, see Note 1.

The following table summarizes the most significant types of Firm-sponsored VIEs by business segment. The Firm considers a "sponsored" VIE to include any entity where: (1) JPMorgan Chase is the primary beneficiary of the structure; (2) the VIE is used by JPMorgan Chase to securitize Firm assets; (3) the VIE issues financial instruments with the JPMorgan Chase name; or (4) the entity is a JPMorgan Chase–administered asset-backed commercial paper conduit.

Line-of-Business	*Transaction Type*	*Activity*	*Annual Report page references*
CCB	Credit card securitization trusts	Securitization of both originated and purchased credit card receivables	266
	Mortgage securitization trusts	Servicing and securitization of both originated and purchased residential mortgages	267–269
CIB	Mortgage and other securitization trusts	Securitization of both originated and purchased residential and commercial mortgages and student loans	267–269
	Multi-seller conduits	Assist clients in accessing the financial markets in a cost-efficient manner and structures transactions to meet investor needs	269–271
	Investor intermediation activities:		
	Municipal bond vehicles		269–270

The Firm's other business segments are also involved with VIEs, but to a lesser extent, as follows:

- Asset Management: AM sponsors and manages certain funds that are deemed VIEs. As asset manager of the funds, AM earns a fee based on assets managed; the fee varies with each fund's investment objective and is competitively priced. For fund entities that qualify as VIEs, AM's interests are, in certain cases, considered to be significant variable interests that result in consolidation of the financial results of these entities.
- Commercial Banking: CB makes investments in and provides lending to community development entities that may meet the definition of a VIE. In addition, CB provides financing and lending-related services to certain client-sponsored VIEs. In general, CB does not control the activities of these entities and does not consolidate these entities.
- Corporate: The Private Equity business, within Corporate, is involved with entities that may meet the definition of VIEs. However, the Firm's Private Equity business is generally subject to specialized investment company accounting, which does not require the consolidation of investments, including VIEs.

The Firm also invests in and provides financing and other services to VIEs sponsored by third parties, as described on page 271 of this Note.

Significant Firm-sponsored variable interest entities

Credit card securitizations

The Card business securitizes both originated and purchased credit card loans, primarily through the Chase Issuance Trust (the "Trust"). The Firm's continuing involvement in credit card securitizations includes servicing the receivables, retaining an undivided seller's interest in the receivables, retaining certain senior and subordinated securities and maintaining escrow accounts.

The Firm is considered to be the primary beneficiary of these Firm-sponsored credit card securitization trusts based on the Firm's ability to direct the activities of these VIEs through its servicing responsibilities and other duties, including making decisions as to the receivables that are transferred into those trusts and as to any related modifications and workouts. Additionally, the nature and extent of the Firm's other continuing involvement with the trusts, as indicated above, obligates the Firm to absorb losses and gives the Firm the right to receive certain benefits from these VIEs that could potentially be significant.

The underlying securitized credit card receivables and other assets of the securitization trusts are available only for payment of the beneficial interests issued by the securitization trusts; they are not available to pay the Firm's other obligations or the claims of the Firm's other creditors.

The agreements with the credit card securitization trusts require the Firm to maintain a minimum undivided interest in the credit card trusts (which is generally 4%). As of December 31, 2015 and 2014, the Firm held undivided interests in Firm-sponsored credit card securitization trusts of $13.6 billion and $10.9 billion, respectively. The Firm maintained an average undivided interest in principal receivables owned by those trusts of approximately 22% for both the years ended December 31, 2015 and 2014. As of December 31, 2015 and 2014, the Firm also retained $0 million and $40 million of senior securities, and as of both December 31, 2015 and 2014, retained $5.3 billion of subordinated securities in certain of its credit card securitization trusts. The Firm's undivided interests in the credit card trusts and securities retained are eliminated in consolidation.

Firm-sponsored mortgage and other securitization trusts
The Firm securitizes (or has securitized) originated and purchased residential mortgages, commercial mortgages and other consumer loans (including student loans) primarily in its CCB and CIB businesses.

Depending on the particular transaction, as well as the respective business involved, the Firm may act as the servicer of the loans and/or retain certain beneficial interests in the securitization trusts.

The following table presents the total unpaid principal amount of assets held in Firm-sponsored private-label securitization entities, including those in which the Firm has continuing involvement, and those that are consolidated by the Firm. Continuing involvement includes servicing the loans; holding senior interests or subordinated interests; recourse or guarantee arrangements; and derivative transactions. In certain instances, the Firm's only continuing involvement is servicing the loans. See Securitization activity on page 272 of this Note for further information regarding the Firm's cash flows with and interests retained in nonconsolidated VIEs, and pages 272–273 of this Note for information on the Firm's loan sales to U.S. government agencies.

	Principal amount outstanding			JPMorgan Chase interest in securitized assets in nonconsolidated VIEs[c][d][e]		
December 31, 2015 [a] (in billions)	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
Securitization-related						
Residential mortgage:						
Prime/Alt-A and option ARMs	**$ 85.7**	**$ 1.4**	**$ 66.7**	**$ 0.4**	**$ 1.6**	**$ 2.0**
Subprime	**24.4**	**0.1**	**22.6**	**0.1**	**–**	**0.1**
Commercial and other[b]	**123.5**	**0.1**	**80.3**	**0.4**	**3.5**	**3.9**
Total	**$ 233.6**	**$ 1.6**	**$ 169.6**	**$ 0.9**	**$ 5.1**	**$ 6.0**

	Principal amount outstanding			JPMorgan Chase interest in securitized assets in nonconsolidated VIEs[c][d][e]		
December 31, 2014[a] (in billions)	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
Securitization-related						
Residential mortgage:						
Prime/Alt-A and option ARMs	$ 96.3	$ 2.7	$ 78.3	$ 0.5	$ 0.7	$ 1.2
Subprime	28.4	0.8	25.7	0.1	–	0.1
Commercial and other[b]	129.6	0.2	94.4	0.4	3.5	3.9
Total	$ 254.3	$ 3.7	$ 198.4	$ 1.0	$ 4.2	$ 5.2

(a) Excludes U.S. government agency securitizations. See pages 272–273 of this Note for information on the Firm'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. The Firm generally does not retain a residual interest in its sponsored commercial mortgage securitization transactions.
(c) The table above excludes the following: retained servicing (see Note 17 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 6 for further information on derivatives); senior and subordinated securities of $163 million and $73 million, respectively, at December 31, 2015, and $136 million and $34 million, respectively, at December 31, 2014, which the Firm purchased in connection with CIB's secondary market-making activities.
(d) Includes interests held in re-securitization transactions.
(e) As of December 31, 2015 and 2014, 76% and 77%, respectively, of the Firm'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 $1.9 billion and $1.1 billion of investment-grade and $93 million and $185 million of noninvestment-grade retained interests at December 31, 2015 and 2014, respectively. The retained interests in commercial and other securitizations trusts consisted of $3.7 billion and $3.7 billion of investment-grade and $198 million and $194 million of noninvestment-grade retained interests at December 31, 2015 and 2014, respectively.

Residential mortgage
The Firm securitizes residential mortgage loans originated by CCB, as well as residential mortgage loans purchased from third parties by either CCB or CIB. CCB generally retains servicing for all residential mortgage loans originated or purchased by CCB, and for certain mortgage loans purchased by CIB. For securitizations holding loans serviced by CCB, the Firm has the power to direct the significant activities of the VIE because it is responsible for decisions related to loan modifications and workouts. CCB may also retain an interest upon securitization.

In addition, CIB engages in underwriting and trading activities involving securities issued by Firm-sponsored securitization trusts. As a result, CIB 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 CIB or held by CCB, when considered together with the servicing arrangements entered into by CCB, the Firm is deemed to be the primary beneficiary of certain securitization trusts. See the table on page 271 of this Note for more information on consolidated residential mortgage securitizations.

The Firm does not consolidate a residential mortgage securitization (Firm-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, 2015 and 2014, the Firm did not consolidate the assets of certain Firm-sponsored residential mortgage securitization VIEs, in which the Firm had continuing involvement, primarily due to the fact that the Firm did not hold an interest in these trusts that could potentially be significant to the trusts. See the table on page 271 of this Note for more information on the consolidated residential mortgage securitizations, and the table on the previous page of this Note for further information on interests held in nonconsolidated residential mortgage securitizations.

Commercial mortgages and other consumer securitizations
CIB originates and securitizes commercial mortgage loans, and engages in underwriting and trading activities involving the securities issued by securitization trusts. CIB may retain unsold senior and/or subordinated interests in commercial mortgage securitizations at the time of securitization but, generally, the Firm 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"). See the table on page 271 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.

The Firm retains servicing responsibilities for certain student loan securitizations. The Firm has the power to direct the activities of these VIEs through these servicing responsibilities. See the table on page 271 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.

Re-securitizations
The Firm engages in certain re-securitization transactions in which debt securities are transferred to a VIE in exchange for new beneficial interests. These transfers occur in connection with both agency (Federal National Mortgage Association ("Fannie Mae"), Federal Home Loan Mortgage Company ("Freddie Mac") and Ginnie Mae) and nonagency (private-label) sponsored VIEs, which may be backed by either residential or commercial mortgages. The Firm's consolidation analysis is largely dependent on the Firm's role and interest in the re-securitization trusts. During the years ended December 31, 2015, 2014 and 2013, the Firm transferred $21.9 billion, $22.7 billion and $25.3 billion, respectively, of securities to agency VIEs, and $777 million, $1.1 billion and $55 million, respectively, of securities to private-label VIEs.

Most re-securitizations with which the Firm is involved are client-driven transactions in which a specific client or group of clients is seeking a specific return or risk profile. For these transactions, the Firm has concluded that the decision-making power of the entity is shared between the Firm and its clients, considering the joint effort and decisions in establishing the re-securitization trust and its assets, as well as the significant economic interest the client holds in the re-securitization trust; therefore the Firm does not consolidate the re-securitization VIE.

In more limited circumstances, the Firm creates a re-securitization trust independently and not in conjunction with specific clients. In these circumstances, the Firm is deemed to have the unilateral ability to direct the most significant activities of the re-securitization trust because of the decisions made during the establishment and design of the trust; therefore, the Firm consolidates the re-securitization VIE if the Firm holds an interest that could potentially be significant.

Additionally, the Firm may invest in beneficial interests of third-party re-securitizations and generally purchases these interests in the secondary market. In these circumstances, the Firm does not have the unilateral ability to direct the most significant activities of the re-securitization trust, either because it was not involved in the initial design of the trust, or the Firm is involved with an independent third-party sponsor and demonstrates shared power over the creation of the trust; therefore, the Firm does not consolidate the re-securitization VIE.

As of December 31, 2015 and 2014, total assets (including the notional amount of interest-only securities) of nonconsolidated Firm-sponsored private-label re-securitization entities in which the Firm has continuing involvement were $2.2 billion and $2.9 billion, respectively. At December 31, 2015 and 2014, the Firm held $4.6 billion and $2.4 billion, respectively, of interests in nonconsolidated agency re-securitization entities. The Firm's exposure to non-consolidated private-label re-securitization entities as of December 31, 2015 and 2014 was not material. As of December 31, 2015 and 2014, the Firm did not consolidate any agency re-securitizations. As of December 31, 2015 and 2014, the Firm consolidated an insignificant amount of assets and liabilities of Firm-sponsored private-label re-securitizations.

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 the Firm. 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 the Firm'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.

The Firm consolidates its Firm-administered multi-seller conduits, as the Firm 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, the Firm makes decisions regarding asset types and credit quality, and manages the commercial paper funding needs of the conduits. The Firm'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 271 of this Note for further information on consolidated VIE assets and liabilities.

In the normal course of business, JPMorgan Chase makes markets in and invests in commercial paper issued by the Firm-administered multi-seller conduits. The Firm held $15.7 billion and $5.7 billion of the commercial paper issued by the Firm-administered multi-seller conduits at December 31, 2015 and 2014, respectively. The Firm's investments reflect the Firm's funding needs and capacity and were not driven by market illiquidity. The Firm is not obligated under any agreement to purchase the commercial paper issued by the Firm-administered multi-seller conduits.

Deal-specific liquidity facilities, program-wide liquidity and credit enhancement provided by the Firm have been eliminated in consolidation. The Firm or the Firm-administered multi-seller conduits provide lending-related commitments to certain clients of the Firm-administered multi-seller conduits. The unfunded portion of these commitments was $5.6 billion and $9.9 billion at December 31, 2015 and 2014, respectively, and are reported as off-balance sheet lending-related commitments. For more information on off-balance sheet lending-related commitments, see Note 29.

VIEs associated with investor intermediation activities

As a financial intermediary, the Firm creates certain types of VIEs and also structures transactions with these VIEs, typically using derivatives, to meet investor needs. The Firm 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 the Firm is exposed. The principal types of VIEs for which the Firm 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 the Firm. The Firm serves as sponsor for all Non-Customer TOB transactions and certain Customer TOB transactions established prior to 2014. The Firm may provide various services to a TOB trust, including remarketing agent, liquidity or tender option provider, and/or sponsor.

J.P. Morgan Securities LLC may serve as a remarketing agent on the Floaters for TOB trusts. The remarketing agent is responsible for establishing the periodic variable rate on the Floaters, conducting the initial placement and remarketing tendered Floaters. The remarketing agent may, but is not obligated to make markets in Floaters. At December 31, 2015 and 2014, the Firm held an insignificant amount of these Floaters on its Consolidated balance sheets and did not hold any significant amounts during 2015.

JPMorgan Chase Bank, N.A. or J.P. Morgan Securities LLC 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 purchase of or directly purchases the tendered Floaters. In certain Customer TOB transactions, the Firm, as liquidity provider, has entered into a reimbursement agreement with the Residual holder. In those transactions, upon the termination of the vehicle, if the proceeds from the sale of the underlying municipal bonds are not sufficient to repay amounts owed to the Firm, as liquidity or tender option provider, the Firm has recourse to the third party Residual holders for any shortfall. Residual holders with reimbursement agreements are required to post collateral with the Firm to support such reimbursement obligations should the market value of the underlying municipal bonds decline. The Firm 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. The Firm consolidates Non-Customer TOB trusts because as the Residual holder, the Firm has the right to make decisions that significantly impact the economic performance of the municipal bond vehicle, and have the right to receive benefits and bear losses that could potentially be significant to the municipal bond vehicle. The Firm does not consolidate Customer TOB trusts, since the Firm does not have the power to make decisions that significantly impact the economic performance of the municipal bond vehicle. Certain non-consolidated Customer TOB trusts are sponsored by a third party, and not the Firm. See page 271 of this Note for further information on consolidated municipal bond vehicles.

The Firm's exposure to nonconsolidated municipal bond VIEs at December 31, 2015 and 2014, including the ratings profile of the VIEs' assets, was as follows.

December 31, (in billions)	Fair value of assets held by VIEs	Liquidity facilities	Excess[a]	Maximum exposure
Nonconsolidated municipal bond vehicles				
2015	**$ 6.9**	**$ 3.8**	**$ 3.1**	**$ 3.8**
2014	11.5	6.3	5.2	6.3

	Ratings profile of VIE assets[b]						
	Investment-grade				Noninvestment-grade		
December 31, (in billions, except where otherwise noted)	AAA to AAA-	AA+ to AA-	A+ to A-	BBB+ to BBB-	BB+ and below	Fair value of assets held by VIEs	Wt. avg. expected life of assets (years)
2015	**$ 1.7**	**$ 4.6**	**$ 0.5**	**$ –**	**$ 0.1**	**$ 6.9**	**4.0**
2014	2.7	8.4	0.4	–	–	$ 11.5	4.9

(a) Represents the excess 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.

VIEs sponsored by third parties

The Firm enters into transactions with VIEs structured by other parties. These include, for example, acting as a derivative counterparty, liquidity provider, investor, underwriter, placement agent, remarketing agent, trustee or custodian. These transactions are conducted at arm's-length, and individual credit decisions are based on the analysis of the specific VIE, taking into consideration the quality of the underlying assets. Where the Firm does not have the power to direct the activities of the VIE that most significantly impact the VIE's economic performance, or a variable interest that could potentially be significant, the Firm records and reports these positions on its Consolidated balance sheets similarly to the way 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 the Firm as of December 31, 2015 and 2014.

	Assets				Liabilities		
December 31, 2015 (in billions)[a]	Trading assets	Loans	Other[c]	Total assets[d]	Beneficial interests in VIE assets[e]	Other[f]	Total liabilities
VIE program type							
Firm-sponsored credit card trusts	**$ –**	**$ 47.4**	**$ 0.7**	**$ 48.1**	**$ 27.9**	**$ –**	**$ 27.9**
Firm-administered multi-seller conduits	**–**	**24.4**	**–**	**24.4**	**8.7**	**–**	**8.7**
Municipal bond vehicles	**2.7**	**–**	**–**	**2.7**	**2.6**	**–**	**2.6**
Mortgage securitization entities[b]	**0.8**	**1.4**	**–**	**2.2**	**0.8**	**0.7**	**1.5**
Student loan securitization entities	**–**	**1.9**	**0.1**	**2.0**	**1.8**	**–**	**1.8**
Other	**0.2**	**–**	**2.0**	**2.2**	**0.1**	**0.1**	**0.2**
Total	**$ 3.7**	**$ 75.1**	**$ 2.8**	**$ 81.6**	**$ 41.9**	**$ 0.8**	**$ 42.7**

	Assets				Liabilities		
December 31, 2014 (in billions)[a]	Trading assets	Loans	Other[c]	Total assets[d]	Beneficial interests in VIE assets[e]	Other[f]	Total liabilities
VIE program type							
Firm-sponsored credit card trusts	$ –	$ 48.3	$ 0.7	$ 49.0	$ 31.2	$ –	$ 31.2
Firm-administered multi-seller conduits	–	17.7	0.1	17.8	12.0	–	12.0
Municipal bond vehicles	5.3	–	–	5.3	4.9	–	4.9
Mortgage securitization entities[b]	3.3	0.7	–	4.0	2.1	0.8	2.9
Student loan securitization entities	0.2	2.2	–	2.4	2.1	–	2.1
Other	0.3	–	1.0	1.3	–	0.2	0.2
Total	$ 9.1	$ 68.9	$ 1.8	$ 79.8	$ 52.3	$ 1.0	$ 53.3

(a) Excludes intercompany transactions, which were eliminated in consolidation.
(b) Includes residential and commercial mortgage securitizations as well as re-securitizations.
(c) Includes assets classified as cash, AFS securities, and other assets within 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 the Firm'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. Included in beneficial interests in VIE assets are long-term beneficial interests of $30.6 billion and $35.4 billion at December 31, 2015 and 2014, respectively. The maturities of the long-term beneficial interests as of December 31, 2015, were as follows: $5.1 billion under one year, $21.6 billion between one and five years, and $3.9 billion over five years, all respectively.
(f) Includes liabilities classified as accounts payable and other liabilities in the Consolidated balance sheets.

Loan securitizations

The Firm 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 the Firm.

For loan securitizations in which the Firm is not required to consolidate the trust, the Firm 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 the Firm's creditors; (2) the transferee or beneficial interest holder can pledge or exchange the transferred financial assets; and (3) the Firm does not maintain effective control over the transferred financial assets (e.g., the Firm 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, the Firm 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 the Firm's securitization activities for the years ended December 31, 2015, 2014 and 2013, related to assets held in JPMorgan Chase-sponsored securitization entities that were not consolidated by the Firm, and where sale accounting was achieved based on the accounting rules in effect at the time of the securitization.

	2015		2014		2013	
Year ended December 31, (in millions, except rates)[a]	Residential mortgage[d][e]	Commercial and other[e][f]	Residential mortgage[d][e]	Commercial and other[e][f]	Residential mortgage[d][e]	Commercial and other[e][f]
Principal securitized	**$ 3,008**	**$ 11,933**	$ 2,558	$ 11,911	$ 1,404	$ 11,318
All cash flows during the period:						
Proceeds from new securitizations[b]	**$ 3,022**	**$ 12,011**	$ 2,569	$ 12,079	$ 1,410	$ 11,507
Servicing fees collected	**528**	**3**	557	4	576	5
Purchases of previously transferred financial assets (or the underlying collateral)[c]	**3**	**–**	121	–	294	–
Cash flows received on interests	**407**	**597**	179	578	156	325

(a) Excludes re-securitization transactions.

(b) Proceeds from residential mortgage securitizations were received in the form of securities. During 2015, $3.0 billion of residential mortgage securitizations were received as securities and classified in level 2, and $59 million were classified in level 3 of the fair value hierarchy. During 2014, $2.4 billion of residential mortgage securitizations were received as securities and classified in level 2, and $185 million were classified in level 3 of the fair value hierarchy. During 2013, $1.4 billion of residential mortgage securitizations were received as securities and classified in level 2. Proceeds from commercial mortgage securitizations were received as securities and cash. During 2015, $12.0 billion of proceeds from commercial mortgage securitizations were received as securities and classified in level 2, and $43 million of proceeds were classified in level 3 of the fair value hierarchy; and zero of proceeds from commercial mortgage securitizations were received as cash. During 2014, $11.4 billion of proceeds from commercial mortgage securitizations were received as securities and classified in level 2, and $130 million of proceeds were classified in level 3 of the fair value hierarchy: and $568 million of proceeds from commercial mortgage securitizations were received as cash. During 2013, $11.3 billion of commercial mortgage securitizations were classified in level 2 of the fair value hierarchy, and $207 million of proceeds from commercial mortgage securitizations were received as cash.

(c) Includes cash paid by the Firm to reacquire assets from off-balance sheet, nonconsolidated entities – for example, loan repurchases due to representation and warranties and servicer clean-up calls.

(d) Includes prime, Alt-A, subprime, and option ARMs. Excludes certain loan securitization transactions entered into with Ginnie Mae, Fannie Mae and Freddie Mac.

(e) Key assumptions used to measure residential mortgage retained interests originated during the year included weighted-average life (in years) of 4.2, 5.9 and 3.9 for the years ended December 31, 2015, 2014 and 2013, respectively, and weighted-average discount rate of 2.9%, 3.4% and 2.5% for the years ended December 31, 2015, 2014 and 2013, respectively. Key assumptions used to measure commercial and other retained interests originated during the year included weighted-average life (in years) of 6.2, 6.5 and 8.3 for the years ended December 31, 2015, 2014, and 2013, respectively, and weighted-average discount rate of 4.1%, 4.8% and 3.2% for the years ended December 31, 2015, 2014 and 2013, respectively.

(f) Includes commercial and student loan securitizations.

Loans and excess MSRs sold to U.S. government-sponsored enterprises ("U.S. GSEs"), 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, the Firm, in the normal course of business, sells originated and purchased mortgage loans and certain originated excess MSRs on a nonrecourse basis, predominantly to U.S. GSEs. These loans and excess MSRs are sold primarily for the purpose of securitization by the U.S. GSEs, who provide certain guarantee provisions (e.g., credit enhancement of the loans). The Firm also sells loans into securitization transactions pursuant to Ginnie Mae guidelines; these loans are typically insured or guaranteed by another U.S. government agency. The Firm does not consolidate the securitization vehicles underlying these transactions as it is not the primary beneficiary. For a limited number of loan sales, the Firm is obligated to share a portion of the credit risk associated with the sold loans

with the purchaser. See Note 29 for additional information about the Firm's loan sales- and securitization-related indemnifications.

See Note 17 for additional information about the impact of the Firm's sale of certain excess MSRs.

The following table summarizes the activities related to loans sold to the U.S. GSEs, loans in securitization transactions pursuant to Ginnie Mae guidelines, and other third-party-sponsored securitization entities.

Year ended December 31, (in millions)	**2015**	2014	2013
Carrying value of loans sold	**$ 42,161**	$ 55,802	$ 166,028
Proceeds received from loan sales as cash	**$ 313**	$ 260	$ 782
Proceeds from loans sales as securities[a]	**41,615**	55,117	163,373
Total proceeds received from loan sales[b]	**$ 41,928**	$ 55,377	$ 164,155
Gains on loan sales[c]	**$ 299**	$ 316	$ 302

(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. Gains on loan sales include the value of MSRs.
(c) The carrying value of the loans accounted for at fair value approximated the proceeds received upon loan sale.

Options to repurchase delinquent loans

In addition to the Firm's obligation to repurchase certain loans due to material breaches of representations and warranties as discussed in Note 29, the Firm also has the option to repurchase delinquent loans that it services for Ginnie Mae loan pools, as well as for other U.S. government agencies under certain arrangements. The Firm typically elects to repurchase delinquent loans from Ginnie Mae loan pools as it continues to service them and/or manage the foreclosure process in accordance with the applicable requirements, and such loans continue to be insured or guaranteed. When the Firm's repurchase option becomes exercisable, such loans must be reported on the Consolidated balance sheets as a loan with a corresponding liability. As of December 31, 2015 and 2014, the Firm had recorded on its Consolidated balance sheets $11.1 billion and $12.4 billion, respectively, of loans that either had been repurchased or for which the Firm had an option to repurchase. Predominantly all of these amounts relate to loans that have been repurchased from Ginnie Mae loan pools. Additionally, real estate owned resulting from voluntary repurchases of loans was $343 million and $464 million as of December 31, 2015 and 2014, respectively. Substantially all of these loans and real estate owned are insured or guaranteed by U.S. government agencies. For additional information, refer to Note 14.

Loan delinquencies and liquidation losses

The table below includes information about components of nonconsolidated securitized financial assets, in which the Firm has continuing involvement, and delinquencies as of December 31, 2015 and 2014.

	Securitized assets		90 days past due		Liquidation losses	
As of or for the year ended December 31, (in millions)	**2015**	2014	**2015**	2014	**2015**	2014
Securitized loans[a]						
Residential mortgage:						
Prime/ Alt-A & option ARMs	**$ 66,708**	$ 78,294	**$ 8,325**	$ 11,363	**$ 1,946**	$ 2,166
Subprime	**22,549**	25,659	**5,448**	6,473	**1,431**	1,931
Commercial and other	**80,319**	94,438	**1,808**	1,522	**375**	1,267
Total loans securitized[b]	**$ 169,576**	$ 198,391	**$ 15,581**	$ 19,358	**$ 3,752**	$ 5,364

(a) Total assets held in securitization-related SPEs were $233.6 billion and $254.3 billion, respectively, at December 31, 2015 and 2014. The $169.6 billion and $198.4 billion, respectively, of loans securitized at December 31, 2015 and 2014, excludes: $62.4 billion and $52.2 billion, respectively, of securitized loans in which the Firm has no continuing involvement, and $1.6 billion and $3.7 billion, respectively, of loan securitizations consolidated on the Firm's Consolidated balance sheets at December 31, 2015 and 2014.
(b) Includes securitized loans that were previously recorded at fair value and classified as trading assets.

Note 17 – Goodwill and other intangible assets

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 goodwill associated with each business combination is allocated to the related reporting units, which are determined based on how the Firm's businesses are managed and how they are reviewed by the Firm's Operating Committee. The following table presents goodwill attributed to the business segments.

December 31, (in millions)	2015	2014	2013
Consumer & Community Banking	**$ 30,769**	$ 30,941	$ 30,985
Corporate & Investment Bank	**6,772**	6,780	6,888
Commercial Banking	**2,861**	2,861	2,862
Asset Management	**6,923**	6,964	6,969
Corporate	**–**	101	377
Total goodwill	**$ 47,325**	$ 47,647	$ 48,081

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

Year ended December 31, (in millions)	2015	2014	2013
Balance at beginning of period	**$ 47,647**	$ 48,081	$ 48,175
Changes during the period from:			
Business combinations	**28**	43	64
Dispositions	**(160)** [(b)]	(80)	(5)
Other[(a)]	**(190)**	(397)	(153)
Balance at December 31,	**$ 47,325**	$ 47,647	$ 48,081

(a) Includes foreign currency translation adjustments, other tax-related adjustments, and, during 2014, goodwill impairment associated with the Firm's Private Equity business of $276 million.

(b) Includes $101 million of Private Equity goodwill, which was disposed of as part of the Private Equity sale completed in January 2015.

Impairment testing

The Firm's goodwill was not impaired at December 31, 2015. Further, except for the goodwill related to its Private Equity business, the Firm's goodwill was not impaired at December 31, 2014. $276 million of goodwill was written off during 2014 related to the goodwill impairment associated with the Firm's Private Equity business. No goodwill was written off due to impairment during 2013.

The goodwill impairment test is performed in two steps. In the first step, the current fair value of each reporting unit is compared with its carrying value, including goodwill. If the fair value is in excess of the carrying value (including goodwill), then the reporting unit's 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 reporting unit's goodwill is determined by comparing the fair value of the reporting unit (as determined in step one) to the fair value of the net assets of the reporting unit, as if the reporting unit were being acquired in a business combination. The resulting implied current fair value of goodwill is then compared with the carrying value of the reporting unit'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.

The Firm uses the reporting units' allocated equity plus goodwill capital as a proxy for the carrying amounts of equity for the reporting units in the goodwill impairment testing. Reporting unit equity is determined on a similar basis as the allocation of equity to the Firm's lines of business, which takes into consideration the capital the business segment would require if it were operating independently, incorporating sufficient capital to address regulatory capital requirements (including Basel III), economic risk measures and capital levels for similarly rated peers. Proposed line of business equity levels are incorporated into the Firm's annual budget process, which is reviewed by the Firm's Board of Directors. Allocated equity is further reviewed on a periodic basis and updated as needed.

The primary method the Firm uses to estimate the fair value of its reporting units is the income approach. The models project cash flows for the forecast period and use the perpetuity growth method to calculate terminal values. These cash flows and terminal values are then discounted using an appropriate discount rate. Projections of cash flows are based on the reporting units' earnings forecasts, which include the estimated effects of regulatory and legislative changes (including, but not limited to the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act")), and which are reviewed with the senior management of the Firm. The discount rate used for each reporting unit represents an estimate of the cost of equity for that reporting unit and is determined considering the Firm's overall estimated cost of equity (estimated using the Capital Asset Pricing Model), as adjusted for the risk characteristics specific to each reporting unit (for example, for higher levels of risk or uncertainty associated with the business or management's forecasts and assumptions). To assess the reasonableness of the discount rates used for each reporting unit management compares the discount rate to the estimated cost of equity for publicly traded institutions with similar businesses and risk characteristics. In addition, the weighted average cost of equity (aggregating the various reporting units) is compared with the Firms' overall estimated cost of equity to ensure reasonableness.

The valuations derived from the discounted cash flow models are then compared with market-based trading and transaction multiples for relevant competitors. Trading and transaction comparables are used as general indicators to

assess the general reasonableness of the estimated fair values, although precise conclusions generally cannot be drawn due to the differences that naturally exist between the Firm's businesses and competitor institutions. Management also takes into consideration a comparison between the aggregate fair value of the Firm's reporting units and JPMorgan Chase's market capitalization. In evaluating this comparison, management considers several factors, including (a) a control premium that would exist in a market transaction, (b) factors related to the level of execution risk that would exist at the firmwide level that do not exist at the reporting unit level and (c) short-term market volatility and other factors that do not directly affect the value of individual reporting units.

Declines in business performance, increases in credit losses, increases in equity capital requirements, as well as deterioration in economic or market conditions, adverse estimates of regulatory or legislative changes or increases in the estimated cost of equity, could cause the estimated fair values of the Firm's reporting units or their associated goodwill to decline in the future, which could result in a material impairment charge to earnings in a future period related to some portion of the associated goodwill.

Mortgage servicing rights

Mortgage servicing rights 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, the Firm has elected to account for its MSRs at fair value. The Firm 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. The Firm 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 the Firm'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. The Firm 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 consist of the MSR asset. Conversely, securities (e.g., mortgage-backed securities), principal-only certificates and certain derivatives (i.e., those for which the Firm receives fixed-rate interest payments) increase in value when interest rates decline. JPMorgan Chase uses combinations of derivatives and securities to manage 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, 2015, 2014 and 2013.

As of or for the year ended December 31, (in millions, except where otherwise noted)	2015	2014	2013
Fair value at beginning of period	**$ 7,436**	$ 9,614	$ 7,614
MSR activity:			
Originations of MSRs	**550**	757	2,214
Purchase of MSRs	**435**	11	1
Disposition of MSRs[a]	**(486)**	(209)	(725)
Net additions	**499**	559	1,490
Changes due to collection/realization of expected cash flows	**(922)**	(911)	(1,102)
Changes in valuation due to inputs and assumptions:			
Changes due to market interest rates and other[b]	**(160)**	(1,608)	2,122
Changes in valuation due to other inputs and assumptions:			
Projected cash flows (e.g., cost to service)	**(112)**	133	109
Discount rates	**(10)**	(459) [e]	(78)
Prepayment model changes and other[c]	**(123)**	108	(541)
Total changes in valuation due to other inputs and assumptions	**(245)**	(218)	(510)
Total changes in valuation due to inputs and assumptions	**$ (405)**	$ (1,826)	$ 1,612
Fair value at December 31,	**$ 6,608**	$ 7,436	$ 9,614
Change in unrealized gains/(losses) included in income related to MSRs held at December 31,	**$ (405)**	$ (1,826)	$ 1,612
Contractual service fees, late fees and other ancillary fees included in income	**$ 2,533**	$ 2,884	$ 3,309
Third-party mortgage loans serviced at December 31, (in billions)	**$ 677**	$ 756	$ 822
Servicer advances, net of an allowance for uncollectible amounts, at December 31, (in billions)[d]	**$ 6.5**	$ 8.5	$ 9.6

(a) For 2014 and 2013, predominantly represents excess MSRs transferred to agency-sponsored trusts in exchange for stripped mortgage backed securities ("SMBS"). In each transaction, a portion of the SMBS was acquired by third parties at the transaction date; the Firm acquired and has retained the remaining balance of those SMBS as trading securities. Also includes sales of MSRs.

(b) Represents both the impact of changes in estimated future prepayments due to changes in market interest rates, and the difference between actual and expected prepayments.

(c) Represents changes in prepayments other than those attributable to changes in market interest rates.

(d) Represents amounts the Firm pays as the servicer (e.g., scheduled principal and interest, taxes and insurance), which will generally be reimbursed within a short period of time after the advance from future cash flows from the trust or the underlying loans. The Firm's credit risk associated with these servicer advances is minimal because reimbursement of the advances is typically senior to all cash payments to investors. In addition, the Firm maintains the right to stop payment to investors if the collateral is insufficient to cover the advance. However, certain of these servicer advances may not be recoverable if they were not made in accordance with applicable rules and agreements.

(e) 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 the Firm believed a market participant would consider, taking into account factors such as the operating risk environment and regulatory and economic capital requirements.

The following table presents the components of mortgage fees and related income (including the impact of MSR risk management activities) for the years ended December 31, 2015, 2014 and 2013.

Year ended December 31, (in millions)	2015	2014	2013
CCB mortgage fees and related income			
Net production revenue	**$ 769**	$ 1,190	$ 3,004
Net mortgage servicing revenue:			
Operating revenue:			
Loan servicing revenue	**2,776**	3,303	3,552
Changes in MSR asset fair value due to collection/realization of expected cash flows	**(917)**	(905)	(1,094)
Total operating revenue	**1,859**	2,398	2,458
Risk management:			
Changes in MSR asset fair value due to market interest rates and other[(a)]	**(160)**	(1,606)	2,119
Other changes in MSR asset fair value due to other inputs and assumptions in model[(b)]	**(245)**	(218)	(511)
Change in derivative fair value and other	**288**	1,796	(1,875)
Total risk management	**(117)**	(28)	(267)
Total net mortgage servicing revenue	**1,742**	2,370	2,191
Total CCB mortgage fees and related income	**2,511**	3,560	5,195
All other	**2**	3	10
Mortgage fees and related income	**$ 2,513**	$ 3,563	$ 5,205

(a) Represents both the impact of changes in estimated future prepayments due to changes in market interest rates, and the difference between actual and expected prepayments.

(b) Represents the aggregate impact of changes in model inputs and assumptions such as projected cash flows (e.g., cost to service), discount rates and changes in prepayments other than those attributable to changes in market interest rates (e.g., changes in prepayments due to changes in home prices).

The table below outlines the key economic assumptions used to determine the fair value of the Firm's MSRs at December 31, 2015 and 2014, and outlines the sensitivities of those fair values to immediate adverse changes in those assumptions, as defined below.

December 31, (in millions, except rates)	2015	2014
Weighted-average prepayment speed assumption ("CPR")	**9.81%**	9.80%
Impact on fair value of 10% adverse change	**$ (275)**	$ (337)
Impact on fair value of 20% adverse change	**(529)**	(652)
Weighted-average option adjusted spread	**9.02%**	9.43%
Impact on fair value of 100 basis points adverse change	**$ (258)**	$ (300)
Impact on fair value of 200 basis points adverse change	**(498)**	(578)

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 18 – Premises and equipment

Premises and equipment, including leasehold improvements, are carried at cost less accumulated depreciation and amortization. JPMorgan Chase computes depreciation using the straight-line method over the estimated useful life of an asset. For leasehold improvements, the Firm 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 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 19 – Deposits

At December 31, 2015 and 2014, noninterest-bearing and interest-bearing deposits were as follows.

December 31, (in millions)	**2015**	2014
U.S. offices		
Noninterest-bearing	**$ 392,721**	$ 437,558
Interest-bearing		
Demand[a]	**84,088**	90,319
Savings[b]	**486,043**	466,730
Time (included **$10,916** and $7,501 at fair value)[c]	**92,873**	86,301
Total interest-bearing deposits	**663,004**	643,350
Total deposits in U.S. offices	**1,055,725**	1,080,908
Non-U.S. offices		
Noninterest-bearing	**18,921**	19,078
Interest-bearing		
Demand	**154,773**	217,011
Savings	**2,157**	2,673
Time (included **$1,600** and $1,306 at fair value)[c]	**48,139**	43,757
Total interest-bearing deposits	**205,069**	263,441
Total deposits in non-U.S. offices	**223,990**	282,519
Total deposits	**$1,279,715**	$1,363,427

(a) Includes Negotiable Order of Withdrawal ("NOW") accounts, and certain trust accounts.
(b) Includes Money Market Deposit Accounts ("MMDAs").
(c) Includes structured notes classified as deposits for which the fair value option has been elected. For further discussion, see Note 4.

At December 31, 2015 and 2014, time deposits in denominations of $250,000 or more were as follows.

December 31, (in millions)	**2015**	2014
U.S. offices	$ 64,519	$ 56,983
Non-U.S. offices	48,091	43,719
Total	$112,610	$ 100,702

At December 31, 2015, the maturities of interest-bearing time deposits were as follows.

December 31, 2015 (in millions)	U.S.	Non-U.S.	**Total**
2016	78,246	47,791	126,037
2017	2,940	145	3,085
2018	2,172	39	2,211
2019	1,564	47	1,611
2020	1,615	117	1,732
After 5 years	6,336	–	6,336
Total	$ 92,873	$ 48,139	$ 141,012

Note 20 – Accounts payable and other liabilities

Accounts payable and other liabilities consist of payables to customers; payables to brokers, dealers and clearing organizations; payables from security purchases that did not settle; income taxes payables; accrued expense, including interest-bearing liabilities; and all other liabilities, including litigation reserves and obligations to return securities received as collateral.

The following table details the components of accounts payable and other liabilities.

December 31, (in millions)	2015	2014
Brokerage payables[a]	**$ 107,632**	$ 134,467
Accounts payable and other liabilities	**70,006**	72,472
Total	**$ 177,638**	$ 206,939

(a) Includes payables to customers, brokers, dealers and clearing organizations, and payables from security purchases that did not settle.

Note 21 – Long-term debt

JPMorgan Chase issues long-term debt denominated in various currencies, although 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 the Firm 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, 2015.

By remaining maturity at December 31,		2015				2014
(in millions, except rates)		Under 1 year	1-5 years	After 5 years	**Total**	Total
Parent company						
Senior debt:	Fixed rate	**$ 12,014**	**$ 54,200**	**$ 51,544**	**$ 117,758**	$ 108,529
	Variable rate	**15,158**	**23,254**	**5,766**	**44,178**	42,201
	Interest rates[a]	**0.16-7.00%**	**0.24-7.25%**	**0.31-6.40%**	**0.16-7.25%**	0.18-7.25%
Subordinated debt:	Fixed rate	**$ –**	**$ 2,292**	**$ 13,958**	**$ 16,250**	$ 16,645
	Variable rate	**–**	**1,038**	**9**	**1,047**	3,452
	Interest rates[a]	**–%**	**1.06-8.53%**	**3.38-8.00%**	**1.06-8.53%**	0.48-8.53%
	Subtotal	**$ 27,172**	**$ 80,784**	**$ 71,277**	**$ 179,233**	$ 170,827
Subsidiaries						
Federal Home Loan Banks ("FHLB") advances:	Fixed rate	**$ 5**	**$ 30**	**$ 156**	**$ 191**	$ 2,204
	Variable rate	**9,700**	**56,690**	**5,000**	**71,390**	62,790
	Interest rates[a]	**0.37-0.65%**	**0.17-0.72%**	**0.50-0.70%**	**0.17-0.72%**	0.11-2.04%
Senior debt:	Fixed rate	**$ 631**	**$ 1,288**	**$ 3,631**	**$ 5,550**	$ 5,751
	Variable rate	**10,493**	**7,456**	**2,639**	**20,588**	20,082
	Interest rates[a]	**0.47-1.00%**	**0.53-4.61%**	**1.30-7.28%**	**0.47-7.28%**	0.26-8.00%
Subordinated debt:	Fixed rate	**$ 1,472**	**$ 3,647**	**$ 1,461**	**$ 6,580**	$ 6,928
	Variable rate	**1,150**	**–**	**–**	**1,150**	2,362
	Interest rates[a]	**0.83-5.88%**	**6.00%**	**4.38-8.25%**	**0.83-8.25%**	0.57-8.25%
	Subtotal	**$ 23,451**	**$ 69,111**	**$ 12,887**	**$ 105,449**	$ 100,117
Junior subordinated debt:	Fixed rate	**$ –**	**$ –**	**$ 717**	**$ 717**	$ 2,185
	Variable rate	**–**	**–**	**3,252**	**3,252**	3,250
	Interest rates[a]	**–%**	**–%**	**0.83-8.75%**	**0.83-8.75%**	0.73-8.75%
	Subtotal	**$ –**	**$ –**	**$ 3,969**	**$ 3,969**	$ 5,435
Total long-term debt[b][c][d]		**$ 50,623**	**$ 149,895**	**$ 88,133**	**$ 288,651** [f][g]	$ 276,379
Long-term beneficial interests:						
	Fixed rate	**$ 1,674**	**$ 10,931**	**$ 1,594**	**$ 14,199**	$ 13,949
	Variable rate	**3,393**	**10,642**	**2,323**	**16,358**	21,418
	Interest rates	**0.45-5.16%**	**0.37-5.23%**	**0.00-15.94%**	**0.00-15.94%**	0.05-15.93%
Total long-term beneficial interests[e]		**$ 5,067**	**$ 21,573**	**$ 3,917**	**$ 30,557**	$ 35,367

(a) The interest rates shown are the range of contractual rates in effect at year-end, 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 the Firm'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, 2015, for total long-term debt was (0.19)% to 8.88%, versus the contractual range of 0.16% to 8.75% presented in the table above. The interest rate ranges shown exclude structured notes accounted for at fair value.

(b) Included long-term debt of $76.6 billion and $69.2 billion secured by assets totaling $171.6 billion and $156.7 billion at December 31, 2015 and 2014, respectively. The amount of long-term debt secured by assets does not include amounts related to hybrid instruments.

(c) Included $33.1 billion and $30.2 billion of long-term debt accounted for at fair value at December 31, 2015 and 2014, respectively.
(d) Included $5.5 billion and $2.9 billion of outstanding zero-coupon notes at December 31, 2015 and 2014, respectively. The aggregate principal amount of these notes at their respective maturities is $16.2 billion and $7.5 billion, respectively. The aggregate principal amount reflects the contractual principal payment at maturity, which may exceed the contractual principal payment at the Firm's next call date, if applicable.
(e) Included on the Consolidated balance sheets in beneficial interests issued by consolidated VIEs. Also included $787 million and $2.2 billion accounted for at fair value at December 31, 2015 and 2014, respectively. Excluded short-term commercial paper and other short-term beneficial interests of $11.3 billion and $17.0 billion at December 31, 2015 and 2014, respectively.
(f) At December 31, 2015, long-term debt in the aggregate of $39.1 billion was redeemable at the option of JPMorgan Chase, in whole or in part, prior to maturity, based on the terms specified in the respective instruments.
(g) The aggregate carrying values of debt that matures in each of the five years subsequent to 2015 is $50.6 billion in 2016, $49.5 billion in 2017, $39.2 billion in 2018, $30.4 billion in 2019 and $30.7 billion in 2020.

The weighted-average contractual interest rates for total long-term debt excluding structured notes accounted for at fair value were 2.34% and 2.42% as of December 31, 2015 and 2014, respectively. In order to modify exposure to interest rate and currency exchange rate movements, JPMorgan Chase utilizes derivative instruments, primarily interest rate and cross-currency interest rate swaps, in conjunction with some of its debt issues. The use of these instruments modifies the Firm'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 1.64% and 1.50% as of December 31, 2015 and 2014, respectively.

JPMorgan Chase & Co. has guaranteed certain long-term debt of its subsidiaries, including both long-term debt and structured notes. These guarantees rank on parity with the Firm's other unsecured and unsubordinated indebtedness. The amount of such guaranteed long-term debt was $152 million and $352 million at December 31, 2015 and 2014, respectively.

The Firm'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 the Firm's credit ratings, financial ratios, earnings or stock price.

Junior subordinated deferrable interest debentures held by trusts that issued guaranteed capital debt securities
At December 31, 2015, the Firm had outstanding eight wholly owned Delaware statutory business trusts ("issuer trusts") that had issued trust preferred securities.

The junior subordinated deferrable interest debentures issued by the Firm to the issuer trusts, totaling $4.0 billion and $5.4 billion at December 31, 2015 and 2014, respectively, were reflected on the Firm's Consolidated balance sheets in long-term debt, and in the table on the preceding page under the caption "Junior subordinated debt." The Firm also records the common capital securities issued by the issuer trusts in other assets in its Consolidated balance sheets at December 31, 2015 and 2014. Beginning in 2014, the debentures issued to the issuer trusts by the Firm, less the common capital securities of the issuer trusts, began being phased out from inclusion as Tier 1 capital under Basel III. As of December 31, 2015 and 2014, $992 million and $2.7 billion of these debentures qualified as Tier 1 capital, while $3.0 billion and $2.7 billion qualified as Tier 2 capital.

The following is a summary of the outstanding trust preferred securities, including unamortized original issue discount, issued by each trust, and the junior subordinated deferrable interest debenture issued to each trust, as of December 31, 2015.

December 31, 2015 (in millions)	Amount of trust preferred securities issued by trust[a]	Principal amount of debenture issued to trust[b]	Issue date	Stated maturity of trust preferred securities and debentures	Earliest redemption date	Interest rate of trust preferred securities and debentures	Interest payment/ distribution dates
BANK ONE Capital III	$ 474	$ 717	2000	2030	Any time	8.75%	Semiannually
Chase Capital II	483	496	1997	2027	Any time	LIBOR + 0.50%	Quarterly
Chase Capital III	296	304	1997	2027	Any time	LIBOR + 0.55%	Quarterly
Chase Capital VI	242	248	1998	2028	Any time	LIBOR + 0.625%	Quarterly
First Chicago NBD Capital I	249	256	1997	2027	Any time	LIBOR + 0.55%	Quarterly
J.P. Morgan Chase Capital XIII	466	477	2004	2034	Any time	LIBOR + 0.95%	Quarterly
JPMorgan Chase Capital XXI	836	832	2007	2037	Any time	LIBOR + 0.95%	Quarterly
JPMorgan Chase Capital XXIII	644	639	2007	2047	Any time	LIBOR + 1.00%	Quarterly
Total	$ 3,690	$ 3,969					

(a) Represents the amount of trust preferred securities issued to the public by each trust, including unamortized original-issue discount.
(b) Represents the principal amount of JPMorgan Chase debentures issued to each trust, including unamortized original-issue discount. The principal amount of debentures issued to the trusts includes the impact of hedging and purchase accounting fair value adjustments that were recorded on the Firm's Consolidated Financial Statements.

On April 2, 2015, the Firm redeemed $1.5 billion, or 100% of the liquidation amount, of the guaranteed capital debt securities ("trust preferred securities") of JPMorgan Chase Capital XXIX trust preferred securities. On May 8, 2013, the Firm redeemed approximately $5.0 billion, or 100% of the liquidation amount, of the following eight series of trust preferred securities: JPMorgan Chase Capital X, XI, XII, XIV, XVI, XIX and XXIV, and BANK ONE Capital VI. Other income for the year ended December 31, 2013, reflected a modest loss related to the redemption of trust preferred securities.

Note 22 – Preferred stock

At December 31, 2015 and 2014, JPMorgan Chase was authorized to issue 200 million shares of preferred stock, in one or more series, with a par value of $1 per share.

In the event of a liquidation or dissolution of the Firm, JPMorgan Chase's preferred stock then outstanding takes precedence over the Firm's common stock for the payment of dividends and the distribution of assets.

The following is a summary of JPMorgan Chase's non-cumulative preferred stock outstanding as of December 31, 2015 and 2014.

	Shares at December 31,[a]		Carrying value (in millions) at December 31,			Contractual rate in effect at December 31, 2015	Earliest redemption date	Date at which dividend rate becomes floating	Floating annual rate of three-month LIBOR plus:
	2015	2014	**2015**	2014	Issue date				
Fixed-rate:									
Series O	**125,750**	125,750	**$ 1,258**	$ 1,258	8/27/2012	**5.500%**	9/1/2017	NA	NA
Series P	**90,000**	90,000	**900**	900	2/5/2013	**5.450**	3/1/2018	NA	NA
Series T	**92,500**	92,500	**925**	925	1/30/2014	**6.700**	3/1/2019	NA	NA
Series W	**88,000**	88,000	**880**	880	6/23/2014	**6.300**	9/1/2019	NA	NA
Series Y	**143,000**	–	**1,430**	–	2/12/2015	**6.125**	3/1/2020	NA	NA
Series AA	**142,500**	–	**1,425**	–	6/4/2015	**6.100**	9/1/2020	NA	NA
Series BB	**115,000**	–	**1,150**	–	7/29/2015	**6.150**	9/1/2020	NA	NA
Fixed-to-floating-rate:									
Series I	**600,000**	600,000	**6,000**	6,000	4/23/2008	**7.900%**	4/30/2018	4/30/2018	LIBOR + 3.47 %
Series Q	**150,000**	150,000	**1,500**	1,500	4/23/2013	**5.150**	5/1/2023	5/1/2023	LIBOR + 3.25
Series R	**150,000**	150,000	**1,500**	1,500	7/29/2013	**6.000**	8/1/2023	8/1/2023	LIBOR + 3.30
Series S	**200,000**	200,000	**2,000**	2,000	1/22/2014	**6.750**	2/1/2024	2/1/2024	LIBOR + 3.78
Series U	**100,000**	100,000	**1,000**	1,000	3/10/2014	**6.125**	4/30/2024	4/30/2024	LIBOR + 3.33
Series V	**250,000**	250,000	**2,500**	2,500	6/9/2014	**5.000**	7/1/2019	7/1/2019	LIBOR + 3.32
Series X	**160,000**	160,000	**1,600**	1,600	9/23/2014	**6.100**	10/1/2024	10/1/2024	LIBOR + 3.33
Series Z	**200,000**	–	**2,000**	–	4/21/2015	**5.300**	5/1/2020	5/1/2020	LIBOR + 3.80
Total preferred stock	**2,606,750**	2,006,250	**$ 26,068**	$ 20,063					

(a) Represented by depositary shares.

Each series of preferred stock has a liquidation value and redemption price per share of $10,000, plus any accrued but unpaid dividends.

Dividends on fixed-rate preferred stock are payable quarterly. Dividends on fixed-to-floating-rate preferred stock are payable semiannually while at a fixed rate, and will become payable quarterly after converting to a floating rate.

On September 1, 2013, the Firm redeemed all of the outstanding shares of its 8.625% Non-Cumulative Preferred Stock, Series J at their stated redemption value.

Redemption rights

Each series of the Firm's preferred stock may be redeemed on any dividend payment date on or after the earliest redemption date for that series. All outstanding preferred stock series except Series I may also be redeemed following a "capital treatment event", as described in the terms of each series. Any redemption of the Firm's preferred stock is subject to non-objection from the Board of Governors of the Federal Reserve System (the "Federal Reserve").

Note 23 – Common stock

At December 31, 2015 and 2014, JPMorgan Chase was authorized to issue 9.0 billion shares of common stock with a par value of $1 per share.

Common shares issued (newly issued or distributed from treasury) by JPMorgan Chase during the years ended December 31, 2015, 2014 and 2013 were as follows.

Year ended December 31, (in millions)	**2015**	2014	2013
Total issued – balance at January 1 and December 31	**4,104.9**	4,104.9	4,104.9
Treasury – balance at January 1	**(390.1)**	(348.8)	(300.9)
Purchase of treasury stock	**(89.8)**	(82.3)	(96.1)
Issued from treasury:			
Employee benefits and compensation plans	**32.8**	39.8	47.1
Issuance of shares for warrant exercise	**4.7**	–	–
Employee stock purchase plans	**1.0**	1.2	1.1
Total issued from treasury	**38.5**	41.0	48.2
Total treasury – balance at December 31	**(441.4)**	(390.1)	(348.8)
Outstanding at December 31	**3,663.5**	3,714.8	3,756.1

At December 31, 2015, 2014, and 2013, respectively, the Firm had 47.4 million, 59.8 million and 59.8 million warrants outstanding to purchase shares of common stock (the "Warrants"). The Warrants are currently traded on the New York Stock Exchange, and they are exercisable, in whole or in part, at any time and from time to time until October 28, 2018. The original warrant exercise price was $42.42 per share. The number of shares issuable upon the exercise of each warrant and the warrant exercise price is subject to adjustment upon the occurrence of certain events, including, but not limited to, the extent to which regular quarterly cash dividends exceed $0.38 per share. As a result of the Firm's quarterly common stock dividend exceeding $0.38 per share commencing with the second quarter of 2014, the exercise price of the Warrants has been adjusted each subsequent quarter, and was $42.284 as of December 31, 2015. There has been no change in the number of shares issuable upon exercise.

On March 11, 2015, in conjunction with the Federal Reserve's release of its 2015 Comprehensive Capital Analysis and Review ("CCAR") results, the Firm's Board of Directors has authorized a $6.4 billion common equity (i.e., common stock and warrants) repurchase program. As of December 31, 2015, $2.7 billion (on a settlement-date basis) of authorized repurchase capacity remained under the program. This authorization includes shares repurchased to offset issuances under the Firm's equity-based compensation plans.

The following table sets forth the Firm's repurchases of common equity for the years ended December 31, 2015, 2014 and 2013, on a settlement-date basis. There were no warrants repurchased during the years ended December 31, 2015, 2014 and 2013.

Year ended December 31, (in millions)	**2015**	2014	2013
Total number of shares of common stock repurchased	**89.8**	82.3	96.1
Aggregate purchase price of common stock repurchases	**$ 5,616**	$ 4,760	$ 4,789

The Firm may, from time to time, enter into written trading plans under Rule 10b5-1 of the Securities Exchange Act of 1934 to facilitate repurchases in accordance with the common equity repurchase program. A Rule 10b5-1 repurchase plan allows the Firm to repurchase its equity during periods when it would not otherwise be repurchasing common equity – for example, during internal trading "blackout periods." All purchases under a Rule 10b5-1 plan must be made according to a predefined plan established when the Firm is not aware of material nonpublic information. For additional information regarding repurchases of the Firm's equity securities, see Part II, Item 5: Market for registrant's common equity, related stockholder matters and issuer purchases of equity securities, on page 20.

As of December 31, 2015, approximately 195 million unissued shares of common stock were reserved for issuance under various employee incentive, compensation, option and stock purchase plans, director compensation plans, and the Warrants, as discussed above.

Note 24 – Earnings per share

Earnings per share ("EPS") is calculated under the two-class method under which all earnings (distributed and undistributed) are allocated to each class of common stock and participating securities based on their respective rights to receive dividends. JPMorgan Chase grants restricted stock and RSUs to certain employees under its stock-based compensation programs, which entitle 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. Options issued under employee benefit plans that have an antidilutive effect are excluded from the computation of diluted EPS.

The following table presents the calculation of basic and diluted EPS for the years ended December 31, 2015, 2014 and 2013.

Year ended December 31, (in millions, except per share amounts)	**2015**	2014	2013
Basic earnings per share			
Net income	**$ 24,442**	$ 21,745	$ 17,886
Less: Preferred stock dividends	**1,515**	1,125	805
Net income applicable to common equity	**22,927**	20,620	17,081
Less: Dividends and undistributed earnings allocated to participating securities	**521**	543	524
Net income applicable to common stockholders	**$ 22,406**	$ 20,077	$ 16,557
Total weighted-average basic shares outstanding	**3,700.4**	3,763.5	3,782.4
Net income per share	**$ 6.05**	$ 5.33	$ 4.38
Diluted earnings per share			
Net income applicable to common stockholders	**$ 22,406**	$ 20,077	$ 16,557
Total weighted-average basic shares outstanding	**3,700.4**	3,763.5	3,782.4
Add: Employee stock options, SARs and warrants[a]	**32.4**	34.0	32.5
Total weighted-average diluted shares outstanding[b]	**3,732.8**	3,797.5	3,814.9
Net income per share	**$ 6.00**	$ 5.29	$ 4.34

(a) Excluded from the computation of diluted EPS (due to the antidilutive effect) were certain options issued under employee benefit plans. The aggregate number of shares issuable upon the exercise of such options was not material for the year ended December 31, 2015, and 1 million and 6 million for the years ended December 31, 2014 and 2013, respectively.

(b) Participating securities were included in the calculation of diluted EPS using the two-class method, as this computation was more dilutive than the calculation using the treasury stock method.

Note 25 – 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 the Firm's defined benefit pension and OPEB plans.

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	Accumulated other comprehensive income/(loss)
Balance at December 31, 2012	$ 6,868	$ (95)	$ 120	$ (2,791)	$ 4,102
Net change	(4,070)	(41)	(259)	1,467	(2,903)
Balance at December 31, 2013	$ 2,798	$ (136)	$ (139)	$ (1,324)	$ 1,199
Net change	1,975	(11)	44	(1,018)	990
Balance at December 31, 2014	$ 4,773	$ (147)	$ (95)	$ (2,342)	$ 2,189
Net change	**(2,144)**	**(15)**	**51**	**111**	**(1,997)**
Balance at December 31, 2015	**$ 2,629**	**$ (162)**	**$ (44)**	**$ (2,231)**	**$ 192**

(a) Represents the after-tax difference between the fair value and amortized cost of securities accounted for as AFS including, as of the date of transfer during 2014, $9 million of net unrealized losses related to AFS securities that were transferred to HTM. Subsequent to transfer, includes any net unamortized unrealized gains and losses related to the transferred securities.

The following table presents the before- and after-tax changes in the components of other comprehensive income/(loss).

	2015			2014			2013		
Year ended December 31, (in millions)	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	**$(3,315)**	**$ 1,297**	**$(2,018)**	$ 3,193	$(1,170)	$ 2,023	$(5,987)	$ 2,323	$(3,664)
Reclassification adjustment for realized (gains)/losses included in net income[a]	**(202)**	**76**	**(126)**	(77)	29	(48)	(667)	261	(406)
Net change	**(3,517)**	**1,373**	**(2,144)**	3,116	(1,141)	1,975	(6,654)	2,584	(4,070)
Translation adjustments:									
Translation[b]	**(1,876)**	**682**	**(1,194)**	(1,638)	588	(1,050)	(807)	295	(512)
Hedges[b]	**1,885**	**(706)**	**1,179**	1,698	(659)	1,039	773	(302)	471
Net change	**9**	**(24)**	**(15)**	60	(71)	(11)	(34)	(7)	(41)
Cash flow hedges:									
Net unrealized gains/(losses) arising during the period	**(97)**	**35**	**(62)**	98	(39)	59	(525)	206	(319)
Reclassification adjustment for realized (gains)/losses included in net income[c][e]	**180**	**(67)**	**113**	(24)	9	(15)	101	(41)	60
Net change	**83**	**(32)**	**51**	74	(30)	44	(424)	165	(259)
Defined benefit pension and OPEB plans:									
Prior service credits arising during the period	**–**	**–**	**–**	(53)	21	(32)	–	–	–
Net gains/(losses) arising during the period	**29**	**(47)**	**(18)**	(1,697)	688	(1,009)	2,055	(750)	1,305
Reclassification adjustments included in net income[d]:									
Amortization of net loss	**282**	**(106)**	**176**	72	(29)	43	321	(124)	197
Prior service costs/(credits)	**(36)**	**14**	**(22)**	(44)	17	(27)	(43)	17	(26)
Foreign exchange and other	**33**	**(58)**	**(25)**	39	(32)	7	(14)	5	(9)
Net change	**308**	**(197)**	**111**	(1,683)	665	(1,018)	2,319	(852)	1,467
Total other comprehensive income/(loss)	**$(3,117)**	**$ 1,120**	**$(1,997)**	$ 1,567	$ (577)	$ 990	$(4,793)	$ 1,890	$(2,903)

(a) The pretax 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 pretax amounts are predominantly recorded in net interest income in the Consolidated statements of income.
(d) The pretax amount is reported in compensation expense in the Consolidated statements of income.
(e) In 2015, the Firm reclassified approximately $150 million of net losses from AOCI to other income because the Firm determined that it is probable that the forecasted interest payment cash flows will not occur. For additional information, see Note 6.

Note 26 – Income taxes

JPMorgan Chase and its eligible subsidiaries file a consolidated U.S. federal income tax return. JPMorgan Chase uses the asset and liability method to provide income taxes on all transactions recorded in the Consolidated Financial Statements. This method requires that income taxes reflect the expected future tax consequences of temporary differences between the carrying amounts of assets or liabilities for book and tax purposes. Accordingly, a deferred tax asset or liability for each temporary difference is determined based on the tax rates that the Firm expects to be in effect when the underlying items of income and expense are realized. JPMorgan Chase's expense for income taxes includes the current and deferred portions of that expense. A valuation allowance is established to reduce deferred tax assets to the amount the Firm expects to realize.

Due to the inherent complexities arising from the nature of the Firm'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 and the many tax jurisdictions in which the Firm files tax returns may not be finalized for several years. Thus, the Firm'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, 2015, 2014 and 2013, is presented in the following table.

Effective tax rate

Year ended December 31,	2015	2014	2013
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	**1.5**	2.7	2.2
Tax-exempt income	**(3.3)**	(3.1)	(3.0)
Non-U.S. subsidiary earnings[a]	**(3.9)**	(2.0)	(4.8)
Business tax credits	**(3.7)**	(3.3)	(3.4)
Nondeductible legal expense	**0.8**	2.3	7.8
Tax audit resolutions	**(5.7)**	(1.4)	(0.6)
Other, net	**(0.3)**	(1.0)	(0.3)
Effective tax rate	**20.4%**	29.2%	32.9%

(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, 2015, 2014, and 2013.

Income tax expense/(benefit)

Year ended December 31, (in millions)	2015	2014	2013
Current income tax expense/(benefit)			
U.S. federal	**$ 3,160**	$ 2,382	$ (654)
Non-U.S.	**1,220**	1,353	1,308
U.S. state and local	**547**	857	(4)
Total current income tax expense/ (benefit)	**4,927**	4,592	650
Deferred income tax expense/(benefit)			
U.S. federal	**1,213**	3,890	7,216
Non-U.S.	**(95)**	71	10
U.S. state and local	**215**	401	913
Total deferred income tax expense/(benefit)	**1,333**	4,362	8,139
Total income tax expense	**$ 6,260**	$ 8,954	$ 8,789

Total income tax expense includes $2.4 billion, $451 million and $531 million of tax benefits recorded in 2015, 2014, and 2013, respectively, as a result of tax audit resolutions. In 2013, the relationship between current and deferred income tax expense was largely driven by the reversal of significant deferred tax assets as well as prior-year tax adjustments and audit resolutions.

Tax effect of items recorded in stockholders' equity

The preceding table does not reflect the tax effect of certain items that are recorded each period directly in stockholders' equity and certain tax benefits associated with the Firm's employee stock-based compensation plans. The tax effect of all items recorded directly to stockholders' equity resulted in a increase of $1.5 billion in 2015, a decrease of $140 million in 2014, and an increase of $2.1 billion in 2013.

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, 2015, 2014 and 2013.

Year ended December 31, (in millions)	2015	2014	2013
U.S.	**$ 23,191**	$ 23,422	$ 17,990
Non-U.S.[a]	**7,511**	7,277	8,685
Income before income tax expense	**$ 30,702**	$ 30,699	$ 26,675

(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'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, the Firm 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 2015, pretax earnings of $3.5 billion were generated and will be indefinitely reinvested in these subsidiaries. At December 31, 2015, the cumulative amount of undistributed pretax earnings in these subsidiaries were $34.6 billion. If the Firm were to record a deferred tax liability associated with these undistributed earnings, the amount would be $8.2 billion at December 31, 2015.

These undistributed earnings are related to subsidiaries located predominantly in the U.K. where the 2015 statutory tax rate was 20.25%.

Affordable housing tax credits

The Firm recognized $1.6 billion, $1.6 billion and $1.5 billion of tax credits and other tax benefits associated with investments in affordable housing projects within income tax expense for the years 2015, 2014 and 2013, 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, $1.1 billion and $989 million, respectively. The carrying value of these investments, which are reported in other assets on the Firm's Consolidated balance sheets, was $7.7 billion and $7.3 billion at December 31, 2015 and 2014, respectively. The amount of commitments related to these investments, which are reported in accounts payable and other liabilities on the Firm's Consolidated balance sheets, was $2.0 billion and $1.8 billion at December 31, 2015 and 2014, 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, 2015 and 2014.

December 31, (in millions)		2015		2014
Deferred tax assets				
Allowance for loan losses	**$**	**5,343**	$	5,756
Employee benefits		**2,972**		3,378
Accrued expenses and other		**7,299**		8,637
Non-U.S. operations		**5,365**		5,106
Tax attribute carryforwards		**2,602**		570
Gross deferred tax assets		**23,581**		23,447
Valuation allowance		**(735)**		(820)
Deferred tax assets, net of valuation allowance	**$**	**22,846**	$	22,627
Deferred tax liabilities				
Depreciation and amortization	**$**	**3,167**	$	3,073
Mortgage servicing rights, net of hedges		**4,968**		5,533
Leasing transactions		**3,042**		2,495
Non-U.S. operations		**4,285**		4,444
Other, net		**4,419**		5,392
Gross deferred tax liabilities		**19,881**		20,937
Net deferred tax assets	**$**	**2,965**	$	1,690

JPMorgan Chase has recorded deferred tax assets of $2.6 billion at December 31, 2015, in connection with U.S. federal, state and local, and non-U.S. net operating loss ("NOL") carryforwards and foreign tax credit carryforwards. At December 31, 2015, total U.S. federal NOL carryforwards were approximately $5.2 billion, state and local NOL carryforwards were $509 million, and non-U.S. NOL carryforwards were $288 million. If not utilized, the U.S. federal NOLs will expire between 2025 and 2034 and the state and local and non-U.S. NOL carryforwards will expire between 2016 and 2017. Non-U.S. tax credit carryforwards were $704 million and will expire by 2023.

The valuation allowance at December 31, 2015, was due to losses associated with non-U.S. subsidiaries.

Unrecognized tax benefits

At December 31, 2015, 2014 and 2013, JPMorgan Chase's unrecognized tax benefits, excluding related interest expense and penalties, were $3.5 billion, $4.9 billion and $5.5 billion, respectively, of which $2.1 billion, $3.5 billion and $3.7 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 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 balance 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, 2015, 2014 and 2013.

Year ended December 31, (in millions)	**2015**	2014	2013
Balance at January 1,	**$ 4,911**	$ 5,535	$ 7,158
Increases based on tax positions related to the current period	**408**	810	542
Increases based on tax positions related to prior periods	**1,028**	477	88
Decreases based on tax positions related to prior periods	**(2,646)**	(1,902)	(2,200)
Decreases related to cash settlements with taxing authorities	**(204)**	(9)	(53)
Balance at December 31,	**$ 3,497**	$ 4,911	$ 5,535

After-tax interest expense/(benefit) and penalties related to income tax liabilities recognized in income tax expense were $(156) million, $17 million and $(184) million in 2015, 2014 and 2013, respectively.

At December 31, 2015 and 2014, in addition to the liability for unrecognized tax benefits, the Firm had accrued $578 million and $1.2 billion, respectively, for income tax-related interest and penalties.

Tax examination status

JPMorgan Chase is continually under examination by the Internal Revenue Service, by taxing authorities throughout the world, and by many states throughout the U.S. The following table summarizes the status of significant income tax examinations of JPMorgan Chase and its consolidated subsidiaries as of December 31, 2015.

December 31, 2015	Periods under examination	Status
JPMorgan Chase - U.S.	2003 - 2005	Field examination completed; at Appellate level
JPMorgan Chase - U.S.	2006 - 2010	Field examination completed, JPMorgan Chase filed amended returns and intends to appeal
JPMorgan Chase - U.S.	2011 - 2013	Field Examination
JPMorgan Chase - New York State	2008 - 2011	Field Examination
JPMorgan Chase - California	2011 - 2012	Field Examination
JPMorgan Chase - U.K.	2006 - 2012	Field examination of certain select entities

Note 27 – Restrictions on cash and intercompany funds transfers

The business of JPMorgan Chase Bank, National Association ("JPMorgan Chase Bank, N.A.") is subject to examination and regulation by the Office of the Comptroller of the Currency. The Bank is a member of the U.S. Federal Reserve System, and its deposits in the U.S. are insured by the FDIC.

The Federal Reserve requires depository institutions to maintain cash reserves with a Federal Reserve Bank. The average required amount of reserve balances deposited by the Firm's bank subsidiaries with various Federal Reserve Banks was approximately $14.4 billion and $10.6 billion in 2015 and 2014, respectively.

Restrictions imposed by U.S. federal law prohibit JPMorgan Chase & Co. ("Parent Company") and certain of its affiliates from borrowing from banking subsidiaries unless the loans are secured in specified amounts. Such secured loans provided by any banking subsidiary to the Parent Company or to any particular affiliate, together with certain other transactions with such affiliate, (collectively referred to as "covered transactions"), are generally limited to 10% of the banking subsidiary's total capital, as determined by the risk-based capital guidelines; the aggregate amount of covered transactions between any banking subsidiary and all of its affiliates is limited to 20% of the banking subsidiary's total capital.

The principal sources of JPMorgan Chase's income (on a parent company-only basis) are dividends and interest from JPMorgan Chase Bank, N.A., and the other banking and nonbanking subsidiaries of JPMorgan Chase. In addition to dividend restrictions set forth in statutes and regulations, the Federal Reserve, the Office of the Comptroller of the Currency ("OCC") and 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 and its subsidiaries that are banks or bank holding companies, 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, 2016, JPMorgan Chase's banking subsidiaries could pay, in the aggregate, approximately $25 billion in dividends to their respective bank holding companies without the prior approval of their relevant banking regulators. The capacity to pay dividends in 2016 will be supplemented by the banking subsidiaries' earnings during the year.

In compliance with rules and regulations established by U.S. and non-U.S. regulators, as of December 31, 2015 and 2014, cash in the amount of $12.6 billion and $16.8 billion, respectively, were segregated in special bank accounts for the benefit of securities and futures brokerage customers. Also, as of December 31, 2015 and 2014, the Firm had receivables within other assets of $16.2 billion and $14.9 billion, respectively, consisting of cash deposited with clearing organizations for the benefit of customers. Securities with a fair value of $20.0 billion and $10.1 billion, respectively, were also restricted in relation to customer activity. In addition, as of December 31, 2015 and 2014, the Firm had other restricted cash of $3.7 billion and $3.3 billion, respectively, primarily representing cash reserves held at non-U.S. central banks and held for other general purposes.

Note 28 – Regulatory capital

The Federal Reserve establishes capital requirements, including well-capitalized standards, for the consolidated financial holding company. The OCC establishes similar capital requirements and standards for the Firm's national banks, including JPMorgan Chase Bank, N.A. and Chase Bank USA, N.A.

Basel III capital rules, for large and internationally active U.S. bank holding companies and banks, including the Firm and its insured depository institution ("IDI") subsidiaries, revised, among other things, the definition of capital and introduced a new common equity tier 1 capital ("CET1 capital") requirement. Basel III presents two comprehensive methodologies for calculating risk-weighted assets ("RWA"), a general (Standardized) approach, which replaced Basel I RWA effective January 1, 2015 ("Basel III Standardized") and an advanced approach, which replaced Basel II RWA ("Basel III Advanced"); and sets out minimum capital ratios and overall capital adequacy standards. 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").

There are three categories of risk-based capital under the Basel III Transitional rules: CET1 capital, as well as Tier 1 capital and Tier 2 capital. CET1 capital predominantly includes common stockholders' 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.

The following tables present the regulatory capital, assets and risk-based capital ratios for JPMorgan Chase and its significant national bank subsidiaries under both Basel III Standardized Transitional and Basel III Advanced Transitional at December 31, 2015 and 2014.

	JPMorgan Chase & Co.[f]			
	Basel III Standardized Transitional		Basel III Advanced Transitional	
(in millions, except ratios)	**Dec 31, 2015**	Dec 31, 2014	**Dec 31, 2015**	Dec 31, 2014
Regulatory capital				
CET1 capital	**$ 175,398**	$ 164,426	**$ 175,398**	$ 164,426
Tier 1 capital[a]	**200,482**	186,263	**200,482**	186,263
Total capital	**234,413**	221,117	**224,616**	210,576
Assets				
Risk-weighted[b]	**1,465,262**	1,472,602	**1,485,336**	1,608,240
Adjusted average[c]	**2,361,177**	2,464,915	**2,361,177**	2,464,915
Capital ratios[d]				
CET1	**12.0%**	11.2%	**11.8%**	10.2%
Tier 1[a]	**13.7**	12.6	**13.5**	11.6
Total	**16.0**	15.0	**15.1**	13.1
Tier 1 leverage[e]	**8.5**	7.6	**8.5**	7.6

	JPMorgan Chase Bank, N.A.[f]			
	Basel III Standardized Transitional		Basel III Advanced Transitional	
(in millions, except ratios)	**Dec 31, 2015**	Dec 31, 2014	**Dec 31, 2015**	Dec 31, 2014
Regulatory capital				
CET1 capital	**$ 168,857**	$ 156,567	**$ 168,857**	$ 156,567
Tier 1 capital[a]	**169,222**	156,891	**169,222**	156,891
Total capital	**183,262**	173,322	**176,423**	166,326
Assets				
Risk-weighted[b]	**1,264,056**	1,230,358	**1,249,607**	1,330,175
Adjusted average[c]	**1,913,448**	1,968,131	**1,913,448**	1,968,131
Capital ratios[d]				
CET1	**13.4%**	12.7%	**13.5%**	11.8%
Tier 1[a]	**13.4**	12.8	**13.5**	11.8
Total	**14.5**	14.1	**14.1**	12.5
Tier 1 leverage[e]	**8.8**	8.0	**8.8**	8.0

	Chase Bank USA, N.A.[f]			
	Basel III Standardized Transitional		Basel III Advanced Transitional	
(in millions, except ratios)	**Dec 31, 2015**	Dec 31, 2014	**Dec 31, 2015**	Dec 31, 2014
Regulatory capital				
CET1 capital	$ 15,419	$ 14,556	$ 15,419	$ 14,556
Tier 1 capital[a]	15,419	14,556	15,419	14,556
Total capital	21,418	20,517	20,069	19,206
Assets				
Risk-weighted[b]	105,807	103,468	181,775	157,565
Adjusted average[c]	134,152	128,111	134,152	128,111
Capital ratios[d]				
CET1	14.6%	14.1%	8.5%	9.2%
Tier 1[a]	14.6	14.1	8.5	9.2
Total	20.2	19.8	11.0	12.2
Tier 1 leverage[e]	11.5	11.4	11.5	11.4

(a) At December 31, 2015, trust preferred securities included in Basel III Tier 1 capital were $992 million and $420 million for JPMorgan Chase and JPMorgan Chase Bank, N.A., respectively. At December 31, 2015 Chase Bank USA, N.A. had no trust preferred securities.

(b) Effective January 1, 2015, the Basel III Standardized RWA is calculated under the Basel III definition of the Standardized approach. Prior periods were based on Basel I (inclusive of Basel 2.5).

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

(d) For each of the risk-based capital ratios, the capital adequacy of the Firm and its national bank 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.

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

(f) Asset and capital amounts for JPMorgan Chase's banking subsidiaries reflect intercompany transactions; whereas the respective amounts for JPMorgan Chase reflect the elimination of intercompany transactions.

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. The Firm had deferred tax liabilities resulting from non-taxable business combinations of $105 million and $130 million at December 31, 2015, and 2014, respectively; and deferred tax liabilities resulting from tax-deductible goodwill of $3.0 billion and $2.7 billion at December 31, 2015, and 2014, respectively.

Under the risk-based capital guidelines of the Federal Reserve, JPMorgan Chase is required to maintain minimum ratios of CET1, Tier 1 and Total capital to risk-weighted assets, as well as minimum leverage ratios (which are defined as Tier 1 capital divided by adjusted quarterly average assets). Failure to meet these minimum requirements could cause the Federal Reserve to take action. Bank subsidiaries also are subject to these capital requirements by their respective primary regulators. The following table presents the minimum ratios to which the Firm and its national bank subsidiaries are subject as of December 31, 2015.

	Minimum capital ratios[a]	Well-capitalized ratios	
		BHC[b]	IDI[c]
Capital ratios			
CET1	4.5%	–%	6.5%
Tier 1	6.0	6.0	8.0
Total	8.0	10.0	10.0
Tier 1 leverage	4.0	–	5.0

(a) As defined by the regulations issued by the Federal Reserve, OCC and FDIC and to which the Firm and its national bank subsidiaries are subject.
(b) Represents requirements for bank holding companies pursuant to regulations issued by the Federal Reserve.
(c) Represents requirements for bank subsidiaries pursuant to regulations issued under the FDIC Improvement Act.

As of December 31, 2015 and 2014, JPMorgan Chase and all of its banking subsidiaries were well-capitalized and met all capital requirements to which each was subject.

Note 29 – Off–balance sheet lending-related financial instruments, guarantees, and other commitments

JPMorgan Chase 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 the Firm should the counterparty draw upon the commitment or the Firm 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 expire without being drawn or a default occurring. As a result, the total contractual amount of these instruments is not, in the Firm's view, representative of its 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 15 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, 2015 and 2014. The amounts in the table below for credit card and home equity lending-related commitments represent the total available credit for these products. The Firm has not experienced, and does not anticipate, that all available lines of credit for these products will be utilized at the same time. The Firm can reduce or cancel credit card lines of credit by providing the borrower notice or, in some cases as permitted by law, without notice. In addition, the Firm typically closes credit card lines when the borrower is 60 days or more past due. The Firm may reduce or close home equity lines of credit when there are significant decreases in the value of the underlying property, or when there has been a demonstrable decline in the creditworthiness of the borrower.

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

By remaining maturity at December 31, (in millions)	Contractual amount						Carrying value[j]	
	2015					2014	2015	2014
	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 - senior lien	**$ 1,546**	**$ 3,817**	**$ 726**	**$ 4,743**	**$ 10,832**	$ 11,807	**$ –**	$ –
Home equity - junior lien	**2,375**	**4,354**	**657**	**4,538**	**11,924**	14,859	**–**	–
Prime mortgage[a]	**12,992**	**–**	**–**	**–**	**12,992**	8,579	**–**	–
Subprime mortgage	**–**	**–**	**–**	**–**	**–**	–	**–**	–
Auto	**8,907**	**1,160**	**80**	**90**	**10,237**	10,462	**2**	2
Business banking	**11,085**	**699**	**92**	**475**	**12,351**	11,894	**12**	11
Student and other	**4**	**3**	**–**	**135**	**142**	552	**–**	–
Total consumer, excluding credit card	**36,909**	**10,033**	**1,555**	**9,981**	**58,478**	58,153	**14**	13
Credit card	**515,518**	**–**	**–**	**–**	**515,518**	525,963	**–**	–
Total consumer[b]	**552,427**	**10,033**	**1,555**	**9,981**	**573,996**	584,116	**14**	13
Wholesale:								
Other unfunded commitments to extend credit[c][d][e]	**85,861**	**89,925**	**140,640**	**6,899**	**323,325**	318,278	**649**	491
Standby letters of credit and other financial guarantees[c][d][e]	**16,083**	**14,287**	**5,819**	**2,944**	**39,133**	44,272	**548**	671
Other letters of credit[c]	**3,570**	**304**	**67**	**–**	**3,941**	4,331	**2**	1
Total wholesale[f][g]	**105,514**	**104,516**	**146,526**	**9,843**	**366,399**	366,881	**1,199**	1,163
Total lending-related	**$ 657,941**	**$ 114,549**	**$ 148,081**	**$ 19,824**	**$ 940,395**	$ 950,997	**$ 1,213**	$ 1,176
Other guarantees and commitments								
Securities lending indemnification agreements and guarantees[h]	**$ 183,329**	**$ –**	**$ –**	**$ –**	**$ 183,329**	$ 171,059	**$ –**	$ –
Derivatives qualifying as guarantees	**3,194**	**285**	**11,160**	**39,145**	**53,784**	53,589	**222**	80
Unsettled reverse repurchase and securities borrowing agreements	**42,482**	**–**	**–**	**–**	**42,482**	40,993	**–**	–
Unsettled repurchase and securities lending agreements	**21,798**	–	–	–	**21,798**	42,578	**–**	–
Loan sale and securitization-related indemnifications:								
Mortgage repurchase liability	**NA**	**NA**	**NA**	**NA**	**NA**	NA	**148**	275
Loans sold with recourse	**NA**	**NA**	**NA**	**NA**	**4,274**	6,063	**82**	102
Other guarantees and commitments[i]	**369**	**2,603**	**1,075**	**1,533**	**5,580**	5,720	**(94)**	(121)

(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, 2015 and 2014, reflects the contractual amount net of risk participations totaling $385 million and $243 million, respectively, for other unfunded commitments to extend credit; $11.2 billion and $13.0 billion, respectively, for standby letters of credit and other financial guarantees; and $341 million and $469 million, respectively, for other letters of credit. In regulatory filings with the Federal Reserve these commitments are shown gross of risk participations.

(d) At December 31, 2015 and 2014, included credit enhancements and bond and commercial paper liquidity commitments to U.S. states and municipalities, hospitals and other nonprofit entities of $12.3 billion and $14.8 billion, respectively, within other unfunded commitments to extend credit; and $9.6 billion and $13.3 billion, respectively, within standby letters of credit and other financial guarantees. Other unfunded commitments to extend credit also include liquidity facilities to nonconsolidated municipal bond VIEs; see Note 16.

(e) Effective in 2015, commitments to issue standby letters of credit, including those that could be issued under multipurpose facilities, are presented as other unfunded commitments to extend credit. Previously, such commitments were presented as standby letters of credit and other financial guarantees. At December 31, 2014, these commitments were $45.6 billion. Prior period amounts have been revised to conform with current period presentation.

(f) At December 31, 2015 and 2014, the U.S. portion of the contractual amount of total wholesale lending-related commitments was 77% and 73%, respectively.

(g) Effective January 1, 2015, the Firm no longer includes within its disclosure of wholesale lending-related commitments the unused amount of advised uncommitted lines of credit as it is within the Firm's discretion whether or not to make a loan under these lines, and the Firm's approval is generally required prior to funding. Prior period amounts have been revised to conform with the current period presentation.

(h) At December 31, 2015 and 2014, collateral held by the Firm in support of securities lending indemnification agreements was $190.6 billion and $177.1 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.

(i) At December 31, 2015 and 2014, included unfunded commitments of $50 million and $147 million, respectively, to third-party private equity funds; and $871 million and $961 million, respectively, to other equity investments. These commitments included $73 million and $150 million, respectively, related to investments that are generally fair valued at net asset value as discussed in Note 3. In addition, at December 31, 2015 and 2014, included letters of credit hedged by derivative transactions and managed on a market risk basis of $4.6 billion and $4.5 billion, respectively.

(j) For lending-related products, the carrying value represents the allowance for lending-related commitments and the guarantee liability; for derivative-related products, the carrying value represents the fair value.

Other unfunded commitments to extend credit
Other unfunded commitments to extend credit generally consist of commitments for working capital and general corporate purposes, extensions of credit to support commercial paper facilities and bond financings in the event that those obligations cannot be remarketed to new investors, as well as committed liquidity facilities to clearing organizations. The Firm also issues commitments under multipurpose facilities which could be drawn upon in several forms, including the issuance of a standby letter of credit.

Also included in other unfunded commitments to extend credit are commitments to noninvestment-grade counterparties in connection with leveraged finance activities, which were $32.1 billion and $23.4 billion at December 31, 2015 and 2014, respectively. For further information, see Note 3 and Note 4.

The Firm acts as a settlement and custody bank in the U.S. tri-party repurchase transaction market. In its role as settlement and custody bank, the Firm 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 the Firm extends to its clients (i.e. cash borrowers); these facilities contractually limit the Firm's intra-day credit risk to the facility amount and must be repaid by the end of the day. As of December 31, 2015 and 2014, the secured clearance advance facility maximum outstanding commitment amount was $2.9 billion and $12.6 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. The Firm considers the following off-balance sheet lending-related arrangements to be guarantees under U.S. GAAP: standby letters of credit and financial guarantees, securities lending indemnifications, certain indemnification agreements included within third-party contractual arrangements and certain derivative contracts.

As required by U.S. GAAP, the Firm 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, the Firm 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 the Firm'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, 2015 and 2014, 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 ("SBLC") and other financial guarantees are conditional lending commitments issued by the Firm 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 $550 million and $672 million at December 31, 2015 and 2014, respectively, which were classified in accounts payable and other liabilities on the Consolidated balance sheets; these carrying values included $123 million and $118 million, respectively, for the allowance for lending-related commitments, and $427 million and $554 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 the Firm's customers, as of December 31, 2015 and 2014.

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

	2015		2014	
December 31, (in millions)	Standby letters of credit and other financial guarantees[b]	Other letters of credit	Standby letters of credit and other financial guarantees[b]	Other letters of credit
Investment-grade[a]	**$ 31,751**	**$ 3,290**	$ 37,709	$ 3,476
Noninvestment-grade[a]	**7,382**	**651**	6,563	855
Total contractual amount	**$ 39,133**	**$ 3,941**	$ 44,272	$ 4,331
Allowance for lending-related commitments	**$ 121**	**$ 2**	$ 117	$ 1
Commitments with collateral	**18,825**	**996**	20,750	1,509

(a) The ratings scale is based on the Firm's internal ratings, which generally correspond to ratings as defined by S&P and Moody's.
(b) Effective in 2015, commitments to issue standby letters of credit, including those that could be issued under multipurpose facilities, are presented as other unfunded commitments to extend credit. Previously, such commitments were presented as standby letters of credit and other financial guarantees. At December 31, 2014, these commitments were $45.6 billion. Prior period amounts have been revised to conform with current period presentation.

Securities lending indemnifications
Through the Firm's securities lending program, customers' securities, via custodial and non-custodial arrangements, may be lent to third parties. As part of this program, the Firm 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, the Firm 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, the Firm 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
In addition to the contracts described above, the Firm transacts certain derivative contracts that have the characteristics of a guarantee under U.S. GAAP. These contracts include written put options that require the Firm to purchase assets upon exercise by the option holder at a specified price by a specified date in the future. The Firm 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 the Firm 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 the Firm 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 the Firm deems to be guarantees was $53.8 billion and $53.6 billion at December 31, 2015 and 2014, respectively. The notional amount generally represents the Firm'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 $28.4 billion and $27.5 billion at December 31, 2015 and 2014, respectively, and the maximum exposure to loss was $3.0 billion and $2.9 billion at December 31, 2015 and 2014, respectively. The fair values of the contracts reflect the probability of whether the Firm will be required to perform under the contract. The fair value of derivatives that the Firm deems to be guarantees were derivative payables of $236 million and $102 million and derivative receivables of $14 million and $22 million at December 31, 2015 and 2014, respectively. The Firm 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, the Firm is both a purchaser and seller of credit protection in the credit derivatives market. For a further discussion of credit derivatives, see Note 6.

Unsettled reverse repurchase and securities borrowing agreements, and unsettled repurchase and securities lending agreements
In the normal course of business, the Firm 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 the Firm advancing cash to and receiving securities collateral from the counterparty. The Firm also enters into repurchase agreements and securities lending agreements. At settlement, these commitments result in the Firm 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 13.

Loan sales- and securitization-related indemnifications

Mortgage repurchase liability
In connection with the Firm's mortgage loan sale and securitization activities with U.S. GSEs, as described in Note 16, the Firm has made representations and warranties that the loans sold meet certain requirements. The Firm has been, and may be, required to repurchase loans and/or indemnify U.S. GSEs (e.g., with "make-whole" payments to reimburse U.S. GSEs for their realized losses on liquidated loans). To the extent that repurchase demands that are received relate to loans that the Firm purchased from third parties that remain viable, the Firm typically will have the right to seek a recovery of related repurchase losses from the third party. Generally, the maximum amount of future payments the Firm 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. The carrying values of the repurchase liabilities were $148 million and $275 million at December 31, 2015 and 2014, respectively.

Private label securitizations
The liability related to repurchase demands associated with private label securitizations is separately evaluated by the Firm in establishing its litigation reserves.

On November 15, 2013, the Firm announced that it had reached a $4.5 billion agreement with 21 major institutional investors to make a binding offer to the trustees of 330 residential mortgage-backed securities trusts issued by J.P.Morgan, Chase, and Bear Stearns ("RMBS Trust Settlement") to resolve all representation and warranty claims, as well as all servicing claims, on all trusts issued by J.P. Morgan, Chase, and Bear Stearns between 2005 and 2008. For further information see Note 31.

In addition, from 2005 to 2008, Washington Mutual made certain loan level representations and warranties in connection with approximately $165 billion of residential mortgage loans that were originally sold or deposited into private-label securitizations by Washington Mutual. Of the $165 billion, approximately $81 billion has been repaid. In addition, approximately $50 billion of the principal amount of such loans has liquidated with an average loss severity of 59%. Accordingly, the remaining outstanding principal balance of these loans as of December 31, 2015, was approximately $33 billion, of which $6 billion was 60 days or more past due. The Firm believes that any repurchase obligations related to these loans remain with the FDIC receivership.

For additional information regarding litigation, see Note 31.

Loans sold with recourse
The Firm provides servicing for mortgages and certain commercial lending products on both a recourse and nonrecourse basis. In nonrecourse servicing, the principal credit risk to the Firm 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. The Firm'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, 2015 and 2014, the unpaid principal balance of loans sold with recourse totaled $4.3 billion and $6.1 billion, respectively. The carrying value of the related liability that the Firm has recorded, which is representative of the Firm's view of the likelihood it will have to perform under its recourse obligations, was $82 million and $102 million at December 31, 2015 and 2014, respectively.

Other off-balance sheet arrangements

Indemnification agreements – general
In connection with issuing securities to investors, the Firm may enter into contractual arrangements with third parties that require the Firm 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 the Firm to settle the contract at its fair value in lieu of making a payment under the indemnification clause. The Firm 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 the Firm prior to the sale of the business or assets. It is difficult to estimate the Firm'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 the Firm 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 $12 million, $10 million, and $14 million on $949.3 billion, $847.9 billion, and $750.1 billion of aggregate volume processed for the years ended December 31, 2015, 2014 and 2013, 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 $20 million and $4 million at December 31, 2015 and 2014, respectively, which the Firm believes, based on historical experience and the collateral held by Commerce Solutions of $136 million and $174 million at December 31, 2015 and 2014, respectively, is representative of the payment or performance risk to the Firm related to charge-backs.

Clearing Services – Client Credit Risk
The Firm 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, the Firm 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. 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, the Firm is exposed to the risk of nonperformance by its clients, but is not liable to clients for the performance of the CCPs. Where possible, the Firm 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. The Firm can also cease providing clearing services if clients do not adhere to their obligations under the clearing agreement. In the event of non-performance by a client, the Firm 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 the Firm as a clearing member.

The Firm reflects its exposure to nonperformance risk of the client through the recognition of margin payables or receivables to clients and CCPs, but does not reflect the clients' underlying securities or derivative contracts on its Consolidated Financial Statements.

It is difficult to estimate the Firm'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 the Firm, management believes it is unlikely that the Firm 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 the Firm executes for its own account and records in its Consolidated Financial Statements, see Note 6.

Exchange & Clearing House Memberships
The Firm 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 the Firm 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 the Firm'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 be a full pro-rata share of the residual losses after applying the guarantee fund. Additionally, certain clearing houses require the Firm as a member to pay a pro rata share of losses resulting 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 the Firm's maximum possible exposure under these membership agreements, since this would require an assessment of future claims that may be made against the Firm that have not yet occurred. However, based on historical experience, management expects the risk of loss to be remote.

Guarantees of subsidiaries
In the normal course of business, JPMorgan Chase & Co. ("Parent Company") may provide counterparties with guarantees of certain of the trading and other obligations of its subsidiaries on a contract-by-contract basis, as negotiated with the Firm's counterparties. The obligations of the subsidiaries are included on the Firm's Consolidated balance sheets or are reflected as off-balance sheet commitments; therefore, the Parent Company has not recognized a separate liability for these guarantees. The Firm believes that the occurrence of any event that would trigger payments by the Parent Company under these guarantees is remote.

The Parent Company has guaranteed certain debt of its subsidiaries, including both long-term debt and structured notes. These guarantees are not included in the table on page 291 of this Note. For additional information, see Note 21.

JPMorgan Chase Financial Company LLC ("JPMFC"), a direct, 100%-owned finance subsidiary of the Parent Company, was formed on September 30, 2015, for the purpose of issuing debt and other securities in offerings to investors. Any securities issued by JPMFC will be fully and unconditionally guaranteed by the Parent Company, and these guarantees will rank on a parity with the Firm's unsecured and unsubordinated indebtedness. As of December 31, 2015, no securities had been issued by JPMFC.

Note 30 – Commitments, pledged assets and collateral

Lease commitments

At December 31, 2015, JPMorgan Chase and its subsidiaries were obligated under a number of noncancelable operating leases for premises and equipment used primarily for banking purposes, and for energy-related tolling service agreements. Certain leases contain renewal options or escalation clauses providing for increased rental payments based on maintenance, utility and tax increases, or they require the Firm to perform restoration work on leased premises. No lease agreement imposes restrictions on the Firm'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, 2015.

Year ended December 31, (in millions)	
2016	$ 1,668
2017	1,647
2018	1,447
2019	1,263
2020	1,125
After 2020	4,679
Total minimum payments required	11,829
Less: Sublease rentals under noncancelable subleases	(1,889)
Net minimum payment required	$ 9,940

Total rental expense was as follows.

Year ended December 31, (in millions)	**2015**	2014	2013
Gross rental expense	**$ 2,015**	$ 2,255	$ 2,187
Sublease rental income	**(411)**	(383)	(341)
Net rental expense	**$ 1,604**	$ 1,872	$ 1,846

Pledged assets

The Firm 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. Certain of these pledged assets may be sold or repledged by the secured parties and are identified as financial instruments owned (pledged to various parties) on the Consolidated balance sheets. At December 31, 2015 and 2014, the Firm had pledged assets of $385.6 billion and $324.5 billion, respectively, at Federal Reserve Banks and FHLBs. In addition, as of December 31, 2015 and 2014, the Firm had pledged $50.7 billion and $60.1 billion, respectively, of financial assets that may not be sold or repledged 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 16 for additional information on assets and liabilities of consolidated VIEs. For additional information on the Firm's securities financing activities and long-term debt, see Note 13 and Note 21, respectively. The significant components of the Firm's pledged assets were as follows.

December 31, (in billions)	**2015**	2014
Securities	**$ 124.3**	$ 118.7
Loans	**298.6**	248.2
Trading assets and other	**144.9**	169.0
Total assets pledged	**$ 567.8**	$ 535.9

Collateral

At December 31, 2015 and 2014, the Firm had accepted assets as collateral that it could sell or repledge, deliver or otherwise use with a fair value of approximately $748.5 billion and $761.7 billion, respectively. This collateral was generally obtained under resale agreements, securities borrowing agreements, customer margin loans and derivative agreements. Of the collateral received, approximately $580.9 billion and $596.8 billion, respectively, were sold or repledged, generally as collateral under repurchase agreements, securities lending agreements or to cover short sales and to collateralize deposits and derivative agreements.

Note 31 – Litigation

Contingencies

As of December 31, 2015, the Firm and its subsidiaries and affiliates 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 the Firm'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.

The Firm believes the estimate of the aggregate range of reasonably possible losses, in excess of reserves established, for its legal proceedings is from $0 to approximately $3.6 billion at December 31, 2015. This estimated aggregate range of reasonably possible losses is based upon currently available information for those proceedings in which the Firm believes that an estimate of reasonably possible loss can be made. For certain matters, the Firm does not believe that such an estimate can be made. The Firm's estimate of the aggregate range of reasonably possible losses involves significant judgment, given the number, variety and varying stages of the proceedings (including the fact that many are in preliminary stages), the existence in many such proceedings of multiple defendants (including the Firm) whose share of liability 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, particularly proceedings that could result from government investigations. Accordingly, the Firm's estimate will change from time to time, and actual losses may vary significantly.

Set forth below are descriptions of the Firm's material legal proceedings.

Auto Dealer Regulatory Matter. The U.S. Department of Justice ("DOJ") is investigating potential statistical disparities in markups charged to borrowers of different races and ethnicities by automobile dealers on loans originated by those dealers and purchased by the Firm.

CIO Litigation. The Firm has been sued in a consolidated shareholder class action, a consolidated putative class action brought under the Employee Retirement Income Security Act ("ERISA") and seven shareholder derivative actions brought in Delaware state court and in New York federal and state courts relating to 2012 losses in the synthetic credit portfolio managed by the Firm's Chief Investment Office ("CIO"). A settlement of the shareholder class action, under which the Firm will pay $150 million, has been preliminarily approved by the court. The putative ERISA class action has been dismissed, and plaintiffs have filed a notice of appeal. Six of the seven shareholder derivative actions have been dismissed.

Credit Default Swaps Investigations and Litigation. In July 2013, the European Commission (the "EC") filed a Statement of Objections against the Firm (including various subsidiaries) and other industry members in connection with its ongoing investigation into the credit default swaps ("CDS") marketplace. The EC asserted that between 2006 and 2009, a number of investment banks acted collectively through the International Swaps and Derivatives Association ("ISDA") and Markit Group Limited ("Markit") to foreclose exchanges from the potential market for exchange-traded credit derivatives. In December 2015, the EC announced the closure of its investigation as to the Firm and other investment banks.

Separately, the Firm and other defendants have entered separate agreements to settle a consolidated putative class action filed in the United States District Court for the Southern District of New York on behalf of purchasers and sellers of CDS. The complaint in this action had alleged that the defendant investment banks and dealers, including the Firm, as well as Markit and/or ISDA, collectively prevented new entrants into the market for exchange-traded CDS products. These settlements are subject to Court approval.

Custody Assets Investigation. The U.K. Financial Conduct Authority ("FCA") has closed its previously-reported investigation concerning compliance by JPMorgan Chase Bank, N.A., London branch and J.P. Morgan Europe Limited with the FCA's rules regarding the provision of custody services relating to the administration of client assets.

Foreign Exchange Investigations and Litigation. The Firm previously reported settlements with certain government authorities relating to its foreign exchange ("FX") sales and trading activities and controls related to those activities. FX-related investigations and inquiries by other, non-U.S. government authorities, including competition authorities, remain ongoing, and the Firm is cooperating with those matters.

The Firm 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, the Firm 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 actions"), and participants or beneficiaries of qualified ERISA plans (the "ERISA actions"). In July 2015, the plaintiffs in the U.S. class action filed an amended complaint, and the Court consolidated the exchange-based

actions into the U.S. class action. The Firm has entered into a revised settlement agreement to resolve the consolidated U.S. class action, including the exchange-based actions, and that agreement is subject to Court approval. The consumer actions and ERISA actions remain pending.

In September 2015, two class actions were filed in Canada against the Firm 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 seeks to represent only those persons in Quebec who engaged in FX transactions.

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 March 2013, the Bankruptcy Court granted JPMorgan Chase Bank, N.A.'s motion for summary judgment and dismissed the Creditors Committee's complaint on the grounds that JPMorgan Chase Bank, N.A. did not authorize the filing of the UCC-3 termination statement at issue. The Creditors Committee appealed the Bankruptcy Court's dismissal of its claim to the United States Court of Appeals for the Second Circuit. In January 2015, the Court of Appeals 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 have entered into an agreement to settle the cases for a cash payment of $6.1 billion to the class plaintiffs (of which the Firm'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 provides for modifications to each credit card network's rules, including those that prohibit surcharging credit card transactions. In December 2013, the Court issued a decision granting final approval of the settlement. A number of merchants appealed, and oral argument was held in September 2015. Certain merchants and trade associations have also filed a motion with the District Court seeking to set aside the approval of the class settlement on the basis of alleged improper communications between one of MasterCard's former outside counsel and one of plaintiffs' outside counsel. That motion remains pending. Certain merchants that opted out of the class settlement have filed actions against Visa and MasterCard, as well as against the Firm and other banks. Defendants' motion to dismiss those actions was denied in July 2014.

Investment Management Litigation. The Firm is defending two pending cases that are being coordinated for pre-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.

Lehman Brothers Bankruptcy Proceedings. In May 2010, Lehman Brothers Holdings Inc. ("LBHI") and its Official Committee of Unsecured Creditors (the "Committee") filed a complaint (and later an amended complaint) against JPMorgan Chase Bank, N.A. in the United States Bankruptcy Court for the Southern District of New York that asserted both federal bankruptcy law and state common law claims, and sought, among other relief, to recover $7.9 billion in collateral (after deducting $700 million of returned collateral) that was transferred to JPMorgan Chase Bank, N.A. in the weeks preceding LBHI's bankruptcy. The amended complaint also sought unspecified damages on the grounds that JPMorgan Chase Bank, N.A.'s collateral requests hastened LBHI's bankruptcy. The Bankruptcy Court dismissed the claims in the amended complaint that sought to void the allegedly constructively fraudulent and preferential transfers made to the Firm during September 2008, but did not dismiss the other claims, including claims for duress and fraud. The Firm filed counterclaims against LBHI, including alleging that LBHI fraudulently induced the Firm to make large extensions of credit against inappropriate collateral in connection with the Firm's role as the clearing bank for Lehman Brothers Inc. ("LBI"), LBHI's broker-dealer subsidiary. These extensions of credit left the Firm with more than $25 billion in claims against the estate of LBI, which was repaid principally through collateral posted by LBHI and LBI. In September 2015, the District Court, to which the case had been transferred from the Bankruptcy Court, granted summary judgment in favor

of JPMorgan Chase Bank, N.A. on most of the claims against it that the Bankruptcy Court had not previously dismissed, including the claims for duress and fraud. The District Court also denied LBHI's motion for summary judgment on certain of its claims and for dismissal of the Firm's counterclaims. The claims that remained following the District Court's ruling challenged the propriety of the Firm's post-petition payment, from collateral posted by LBHI, of approximately $1.9 billion of derivatives, repo and securities lending claims.

In the Bankruptcy Court proceedings, LBHI and several of its subsidiaries that had been Chapter 11 debtors had filed a separate complaint and objection to derivatives claims asserted by the Firm alleging that the amount of the derivatives claims had been overstated and challenging certain set-offs taken by JPMorgan Chase entities to recover on the claims. In January 2015, LBHI filed claims objections with respect to guaranty claims asserted by the Firm arising from close-outs of derivatives transactions with LBI and one of its affiliates, and a claim objection with respect to derivatives close-out claims acquired by the Firm in the Washington Mutual transaction.

In January 2016, the parties reached an agreement, approved by the Bankruptcy Court, under which the Firm will pay $1.42 billion to settle all of the claims, counterclaims and claims objections, including all appeal rights, except for the claims specified in the following paragraph. One *pro se* objector is seeking to appeal the settlement.

The settlement did not resolve the following remaining matters: In the Bankruptcy Court proceedings, LBHI and the Committee filed an objection to the claims asserted by JPMorgan Chase Bank, N.A. against LBHI with respect to clearing advances made to LBI, principally on the grounds that the Firm had not conducted the sale of the securities collateral held for its claims in a commercially reasonable manner. In January 2015, LBHI brought two claims objections relating to securities lending claims and a group of other smaller claims. Discovery with respect to these objections is ongoing.

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 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 EC, the FCA, the Canadian Competition Bureau, the Swiss Competition Commission 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. The Firm is responding to and continuing to cooperate with these inquiries. As previously reported, the Firm has resolved EC inquiries relating to Yen LIBOR and Swiss Franc LIBOR. In May 2014, the EC issued a Statement of Objections outlining its case against the Firm (and others) as to EURIBOR, to which the Firm has filed a response and made oral representations. Other inquiries have been discontinued without any action against JPMorgan Chase, including by the FCA and the Canadian Competition Bureau.

In addition, the Firm 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, in which 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 and/or EURIBOR rates by submitting rates that were artificially low or high. Plaintiffs allege that they transacted in loans, derivatives or other financial instruments whose values are affected by changes in U.S. dollar LIBOR, Yen LIBOR, Swiss franc LIBOR, Euroyen TIBOR or EURIBOR and assert a variety of claims including antitrust claims seeking treble damages. These matters are in various stages of litigation.

The U.S. dollar LIBOR-related putative class actions and most U.S. dollar LIBOR-related individual actions were consolidated for pre-trial purposes in the United States District Court for the Southern District of New York. The Court dismissed certain claims, including the antitrust claims, and permitted other claims under the Commodity Exchange Act and common law to proceed. Certain plaintiffs appealed the dismissal of the antitrust claims, and the United States Court of Appeals for the Second Circuit dismissed the appeal for lack of jurisdiction. In January 2015, the United States Supreme Court reversed the decision of the Court of Appeals, holding that plaintiffs have the jurisdictional right to appeal, and remanded the case to the Court of Appeals for further proceedings. The Court of Appeals heard oral argument on remand in November 2015.

The Firm 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 Commodities Exchange Act.

Madoff Litigation. Various subsidiaries of the Firm, including J.P. Morgan Securities plc, have been named as defendants in lawsuits filed in Bankruptcy Court in New York arising out of the liquidation proceedings of Fairfield Sentry Limited and Fairfield Sigma Limited, so-called Madoff feeder funds.

These actions seek to recover payments made by the funds to defendants totaling approximately $155 million. All but two of these actions have been dismissed.

In addition, a putative class action was brought by investors in certain feeder funds against JPMorgan Chase in the United States District Court for the Southern District of New York, as was a motion by separate potential class plaintiffs to add claims against the Firm and certain subsidiaries to an already pending putative class action in the same court. The allegations in these complaints largely track those previously raised -- and resolved as to the Firm -- by the court-appointed trustee for Bernard L. Madoff Investment Securities LLC. The District Court dismissed these complaints and the United States Court of Appeals for the Second Circuit affirmed the District Court's decision. The United States Supreme Court denied plaintiffs' petition for a writ of certiorari in March 2015. Plaintiffs subsequently served a motion in the Court of Appeals seeking to have the Court reconsider its prior decision in light of another recent appellate decision. That motion was denied in June 2015.

The Firm is a defendant in five other Madoff-related individual investor actions pending in New York state court. The allegations in all of these actions are essentially identical, and involve claims against the Firm for, among other things, aiding and abetting breach of fiduciary duty, conversion and unjust enrichment. In August 2014, the Court dismissed all claims against the Firm. In January 2016, the Appellate Court affirmed the dismissal.

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, federal and state racketeering statutes and multiple common law and statutory claims including breach of trust, aiding and abetting embezzlement, unjust enrichment, conversion and commercial bad faith. 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 Firm moved to transfer both the Florida and New Jersey actions to the United States District Court for the Southern District of New York. The Florida court denied the transfer motion, but subsequently granted the Firm's motion to dismiss the case in September 2015. Plaintiffs have filed a notice of appeal, which is pending. In addition, the same plaintiffs have re-filed their dismissed state claims in Florida state court. The New Jersey court granted the transfer motion to the Southern District of New York, and the Firm has moved to dismiss the case pending in New York.

Three shareholder derivative actions have also been filed in New York federal and state court against the Firm, as nominal defendant, and certain of its current and former Board members, alleging breach of fiduciary duty in connection with the Firm's relationship with Bernard Madoff and the alleged failure to maintain effective internal controls to detect fraudulent transactions. The actions seek declaratory relief and damages. All three actions have been dismissed. The plaintiff in one action did not appeal, the dismissal has been affirmed on appeal in another action, and one appeal remains pending.

Mortgage-Backed Securities and Repurchase Litigation and Related Regulatory Investigations. The Firm 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"). These cases include actions by individual MBS purchasers and actions by monoline insurance companies that guaranteed payments of principal and interest for particular tranches of MBS offerings. Following the settlements referred to below, there are currently pending and tolled investor claims involving MBS with an original principal balance of approximately $4.2 billion, of which $2.6 billion involves JPMC, Bear Stearns or Washington Mutual as issuer and $1.6 billion involves JPMC, Bear Stearns or Washington Mutual solely as underwriter. The Firm and certain of its current and former officers and Board members have also been sued in shareholder derivative actions relating to the Firm's MBS activities, and trustees have asserted or have threatened to assert claims that loans in securitization trusts should be repurchased.

Issuer Litigation – Class Actions. JPMC has fully resolved all pending putative class actions on behalf of purchasers of MBS.

Issuer Litigation – Individual Purchaser Actions. The Firm is defending 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). The Firm has settled a number of these actions. Several actions remain pending in federal and state courts across the U.S. and are in various stages of litigation.

Monoline Insurer Litigation. The Firm has settled two pending actions relating to a monoline insurer's guarantees of principal and interest on certain classes of 11 different Bear Stearns MBS offerings. This settlement fully resolves all pending actions by monoline insurers against the Firm relating to RMBS issued and/or sponsored by the Firm.

Underwriter Actions. In actions against the Firm involving offerings where the Firm was solely an underwriter of other issuers' MBS offerings, the Firm has contractual rights to indemnification from the issuers. However, those indemnity rights may prove effectively unenforceable in various situations, such as where the issuers are now defunct. Currently there is one such action pending against the Firm relating to a single offering of another issuer.

Repurchase Litigation. The Firm is defending a number of actions brought by trustees, securities administrators 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. Deutsche Bank National Trust Company, acting as trustee for various MBS trusts, has filed such a suit against JPMorgan Chase Bank, N.A. and the Federal Deposit Insurance Corporation (the "FDIC") in connection with 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, the Firm 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 is subject to a judicial approval proceeding initiated by the trustees and pending in New York state court. The judicial approval hearing was held in January 2016, and the parties are awaiting a decision. An investor in some of the trusts for which the settlement has been accepted has intervened in the judicial approval proceeding to challenge the trustees' allocation of the settlement among the trusts. Separately, in October 2015, JPMC reached agreements to resolve repurchase and servicing claims for four trusts among the 16 that were previously excluded from the trustee settlement. In December 2015, the court approved the trustees' decision to accept these separate settlements. The trustees are seeking to obtain certain remaining approvals necessary to effectuate these settlements.

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.

Derivative Actions. Shareholder derivative actions relating to the Firm's MBS activities have been filed against the Firm, as nominal defendant, and certain of its current and former officers and members of its Board of Directors, in New York state court and California federal court. Two of the New York actions have been dismissed, one of which is on appeal. A consolidated action in California federal court has been dismissed without prejudice for lack of personal jurisdiction and plaintiffs are pursuing discovery relating to jurisdiction.

Government Enforcement Investigations and Litigation. The Firm 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 the Firm and its subsidiaries. The Firm has also received subpoenas and informal requests for information from state authorities concerning the issuance and underwriting of MBS-related matters. The Firm continues to respond to these MBS-related regulatory inquiries.

In addition, the Firm continues to cooperate with investigations by the DOJ, including the United States Attorney's Office for the District of Connecticut, and by the SEC Division of Enforcement and the Office of the Special Inspector General for the Troubled Asset Relief Program, all of which relate to, among other matters, communications with counterparties in connection with certain secondary market trading in residential and commercial MBS.

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

Mortgage-Related Investigations and Litigation. One shareholder derivative action has been filed in New York Supreme Court against the Firm's Board of Directors alleging that the Board failed to exercise adequate oversight as to wrongful conduct by the Firm regarding mortgage servicing. In December 2014, the court granted defendants' motion to dismiss the complaint and in January 2016, the dismissal was affirmed on appeal.

The Civil Division of the United States Attorney's Office for the Southern District of New York is conducting an investigation concerning the Firm's compliance with the Fair Housing Act and Equal Credit Opportunity Act in connection with its mortgage lending practices. In addition, three municipalities have commenced litigation against the Firm 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 are stayed, and a motion to dismiss is pending in the remaining action.

In March 2015, JPMorgan Chase Bank, N.A entered into a settlement agreement with the Executive Office for United States Bankruptcy Trustees and the United States Trustee Program (collectively, the "Bankruptcy Trustee") to resolve issues relating to mortgage payment change notices and escrow statements in bankruptcy proceedings. In January 2016, the OCC determined that, among other things, the mortgage payment change notices issues that were the subject of the settlement with the Bankruptcy Trustee violated the 2011 mortgage servicing-related consent order

entered into by JPMorgan Chase Bank, N.A. and the OCC (as amended in 2013 and 2015), and assessed a $48 million civil money penalty. The OCC concurrently terminated that consent order.

Municipal Derivatives Litigation. Several civil actions were commenced in New York and Alabama courts against the Firm relating to certain Jefferson County, Alabama (the "County") warrant underwritings and swap transactions. The claims in the civil actions generally alleged that the Firm 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 the Firm 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 the Firm, were satisfied or waived and the transactions contemplated by the Plan of Adjustment occurred in December 2013. Accordingly, all the above-described actions against the Firm 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. The actions collectively seek recovery of approximately $450 million. Defendants have moved to dismiss the complaints in the actions filed by the Petters bankruptcy trustees.

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 the Firm's sale and use of proprietary products, such as J.P. Morgan mutual funds, in the Firm's 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. As part of the settlements, JPMorgan Chase Bank, N.A. and J.P. Morgan Securities LLC paid penalties, disgorgement and interest totaling approximately $307 million. The Firm continues to cooperate with inquiries from other government authorities concerning disclosure of conflicts associated with the Firm's sale and use of proprietary products. A putative class action 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. Plaintiffs' appeal of the dismissal is pending.

Referral Hiring Practices Investigations. Various regulators are investigating, among other things, the Firm's compliance with the Foreign Corrupt Practices Act and other laws with respect to the Firm's hiring practices related to candidates referred by clients, potential clients and government officials, and its engagement of consultants in the Asia Pacific region. The Firm is responding to and cooperating 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 the Firm 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 is appealing that ruling and the case has otherwise been stayed pending the outcome of that appeal.

Certain holders of Washington Mutual Bank debt filed an action against JPMorgan Chase which alleged that by acquiring substantially all of the assets of Washington Mutual Bank from the FDIC, JPMorgan Chase Bank, N.A. caused Washington Mutual Bank to default on its bond obligations. JPMorgan Chase and the FDIC moved to dismiss this action and the District Court dismissed the case except as to the plaintiffs' claim that JPMorgan Chase tortiously interfered with the plaintiffs' bond contracts with Washington Mutual Bank prior to its closure. The action has

been stayed pending a decision on JPMorgan Chase's motion to dismiss the plaintiffs' remaining claim.

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 and the FDIC relating to JPMorgan Chase's purchase of most of the assets and certain liabilities of Washington Mutual Bank.

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. In April 2015, JPMorgan Chase Bank, N.A. was notified that the authorities were formally investigating the role of its Paris branch in the transactions, including alleged criminal tax abuse. JPMorgan Chase is responding to and cooperating with the investigation. 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 are named as defendants or are otherwise involved in a substantial number of other legal proceedings and inquiries. The Firm believes it has meritorious defenses to the claims asserted against it in its currently outstanding legal proceedings and inquiries, and it intends to defend itself vigorously in all such matters. Additional legal proceedings and inquiries may be initiated from time to time in the future.

The Firm has established reserves for several hundred of its currently outstanding legal proceedings. In accordance with the provisions of U.S. GAAP for contingencies, the Firm accrues for a litigation-related liability when it is probable that such a liability has been incurred and the amount of the loss can be reasonably estimated. The Firm evaluates its outstanding legal proceedings each quarter to assess its litigation reserves, and makes adjustments in such reserves, upwards or downward, as appropriate, based on management's best judgment after consultation with counsel. During the years ended December 31, 2015, 2014 and 2013, the Firm incurred legal expense of $3.0 billion, $2.9 billion and $11.1 billion, respectively. There is no assurance that the Firm's litigation reserves will not need to be adjusted in the future.

In view of the inherent difficulty of predicting the outcome of legal proceedings, particularly where the claimants seek very large or indeterminate damages, or where the matters present novel legal theories, involve a large number of parties or are in early stages of discovery, the Firm cannot state with confidence what will be the eventual outcomes of the currently pending matters, the timing of their ultimate resolution or the eventual losses, fines, penalties or impact related to those matters. JPMorgan Chase 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 the Firm's consolidated financial condition. The Firm notes, however, that in light of the uncertainties involved in such proceedings, there is no assurance the ultimate resolution of these matters will not significantly exceed the reserves it has currently accrued; as a result, the outcome of a particular matter may be material to JPMorgan Chase's operating results for a particular period, depending on, among other factors, the size of the loss or liability imposed and the level of JPMorgan Chase's income for that period.

Note 32 – International operations

The following table presents income statement- and balance sheet-related information for JPMorgan Chase by major international geographic area. The Firm defines international activities for purposes of this footnote presentation as business transactions that involve clients residing outside of the U.S., and the information presented below is based predominantly on the domicile of the client, the location from which the client relationship is managed, or the location of the trading desk. However, many of the Firm's U.S. operations serve international businesses.

As the Firm's operations are highly integrated, estimates and subjective assumptions have been made to apportion revenue and expense between U.S. and international operations. These estimates and assumptions are consistent with the allocations used for the Firm's segment reporting as set forth in Note 33.

The Firm's long-lived assets for the periods presented are not considered by management to be significant in relation to total assets. The majority of the Firm's long-lived assets are located in the U.S.

As of or for the year ended December 31, (in millions)	Revenue[b]	Expense[c]	Income before income tax expense	Net income	Total assets	
2015						
Europe/Middle East and Africa	**$ 14,206**	**$ 8,871**	**$ 5,335**	**$ 4,158**	**$ 347,647**	[d]
Asia and Pacific	**6,151**	**4,241**	**1,910**	**1,285**	**138,747**	
Latin America and the Caribbean	**1,923**	**1,508**	**415**	**253**	**48,185**	
Total international	**22,280**	**14,620**	**7,660**	**5,696**	**534,579**	
North America[a]	**71,263**	**48,221**	**23,042**	**18,746**	**1,817,119**	
Total	**$ 93,543**	**$ 62,841**	**$ 30,702**	**$ 24,442**	**$ 2,351,698**	
2014						
Europe/Middle East and Africa	$ 16,013	$ 10,123	$ 5,890	$ 3,935	$ 481,328	[d]
Asia and Pacific	6,083	4,478	1,605	1,051	147,357	
Latin America and the Caribbean	2,047	1,626	421	269	44,567	
Total international	24,143	16,227	7,916	5,255	673,252	
North America[a]	70,969	48,186	22,783	16,490	1,899,022	
Total	$ 95,112	$ 64,413	$ 30,699	$ 21,745	$ 2,572,274	
2013						
Europe/Middle East and Africa	$ 15,585	$ 9,069	$ 6,516	$ 4,842	$ 514,747	[d]
Asia and Pacific	6,168	4,248	1,920	1,254	145,999	
Latin America and the Caribbean	2,251	1,626	625	381	41,473	
Total international	24,004	14,943	9,061	6,477	702,219	
North America[a]	73,363	55,749	17,614	11,409	1,712,660	
Total	$ 97,367	$ 70,692	$ 26,675	$ 17,886	$ 2,414,879	

(a) Substantially reflects the U.S.
(b) Revenue is composed of net interest income and noninterest revenue.
(c) Expense is composed of noninterest expense and the provision for credit losses.
(d) Total assets for the U.K. were approximately $306 billion, $434 billion, and $451 billion at December 31, 2015, 2014 and 2013, respectively.

Note 33 – Business segments

The Firm is managed on a line of business basis. There are four major reportable business segments – Consumer & Community Banking, Corporate & Investment Bank, Commercial Banking and Asset Management. In addition, there is a Corporate segment. The business segments are determined based on the products and services provided, or the type of customer served, and they reflect the manner in which financial information is currently evaluated by management. Results of these lines of business are presented on a managed basis. For a definition of managed basis, see Explanation and Reconciliation of the Firm's use of non-GAAP financial measures, on pages 80–82. For a further discussion concerning JPMorgan Chase's business segments, see Business Segment Results on pages 83–84.

The following is a description of each of the Firm's business segments, and the products and services they provide to their respective client bases.

Consumer & Community Banking
Consumer & Community Banking ("CCB") serves consumers and businesses through personal service at bank branches and through ATMs, online, mobile and telephone banking. CCB is organized into Consumer & Business Banking (including Consumer Banking/Chase Wealth Management and Business Banking), Mortgage Banking (including Mortgage Production, Mortgage Servicing and Real Estate Portfolios) and Card, Commerce Solutions & Auto ("Card"). Consumer & Business Banking offers deposit and investment products and services to consumers, and lending, deposit, and cash management and payment solutions to small businesses. Mortgage Banking includes mortgage origination and servicing activities, as well as portfolios consisting of residential mortgages and home equity loans. Card issues credit cards to consumers and small businesses, offers payment processing services to merchants, and provides auto loans and leases and student loan services.

Corporate & Investment Bank
The Corporate & Investment Bank ("CIB"), which consists of Banking and Markets & Investor Services, offers a broad suite of investment banking, market-making, prime brokerage, and treasury and securities products and services to a global client base of corporations, investors, financial institutions, government and municipal entities. Banking offers a full range of investment banking products and services in all major capital markets, including advising on corporate strategy and structure, capital-raising in equity and debt markets, as well as loan origination and syndication. Banking also includes Treasury Services, which provides transaction services, consisting of cash management and liquidity solutions. Markets & Investor Services is a global market-maker in cash securities and derivative instruments, and also offers sophisticated risk management solutions, prime brokerage, and research. Markets & Investor Services also includes Securities Services, a leading global custodian which provides custody, fund accounting and administration, and securities lending products principally for asset managers, insurance companies and public and private investment funds.

Commercial Banking
Commercial Banking ("CB") delivers extensive industry knowledge, local expertise and dedicated service to U.S. and U.S. multinational clients, including corporations, municipalities, financial institutions and nonprofit entities with annual revenue generally ranging from $20 million to $2 billion. In addition, CB provides financing to real estate investors and owners. Partnering with the Firm's other businesses, CB provides comprehensive financial solutions, including lending, treasury services, investment banking and asset management to meet its clients' domestic and international financial needs.

Asset Management
Asset Management ("AM"), with client assets of $2.4 trillion, is a global leader in investment and wealth management. AM clients include institutions, high-net-worth individuals and retail investors in many major markets throughout the world. AM offers investment management across most major asset classes including equities, fixed income, alternatives and money market funds. AM also offers multi-asset investment management, providing solutions for a broad range of clients' investment needs. For Global Wealth Management clients, AM also provides retirement products and services, brokerage and banking services including trusts and estates, loans, mortgages and deposits. The majority of AM's client assets are in actively managed portfolios.

Corporate
The Corporate segment consists of Treasury and Chief Investment Office ("CIO") and Other Corporate, which includes corporate staff units and expense that is centrally managed. Treasury and CIO are predominantly responsible for measuring, monitoring, reporting and managing the Firm's liquidity, funding and structural interest rate and foreign exchange risks, as well as executing the Firm's capital plan. The major Other Corporate units include Real Estate, Enterprise Technology, Legal, Compliance, Finance, Human Resources, Internal Audit, Risk Management, Oversight & Control, Corporate Responsibility and various Other Corporate groups. Other centrally managed expense includes the Firm's occupancy and pension-related expenses that are subject to allocation to the businesses.

Segment results

The following tables provide a summary of the Firm's segment results as of or for the years ended December 31, 2015, 2014 and 2013 on a managed basis. Total net revenue (noninterest revenue and net interest income) for each of the segments is presented on a fully taxable-equivalent ("FTE") basis. Accordingly, revenue from investments that receive tax credits and tax-exempt securities is presented in the managed results on a basis comparable to taxable investments and securities. This non-GAAP financial measure allows management to assess the comparability of revenue arising from both taxable and tax-exempt sources. The corresponding income tax impact related to tax-exempt items is recorded within income tax expense/(benefit).

Preferred stock dividend allocation

As part of its funds transfer pricing process, the Firm allocates substantially all of the cost of its outstanding preferred stock to its reportable business segments, while retaining the balance of the cost in Corporate. This cost is included as a reduction to net income applicable to common equity to be consistent with the presentation of firmwide results.

Business segment capital allocation changes

On at least an annual basis, the Firm assesses the level of capital required for each line of business as well as the assumptions and methodologies used to allocate capital to its lines of business, and updates the equity allocations to its lines of business as refinements are implemented. Each business segment is allocated capital by taking into consideration stand-alone peer comparisons, regulatory capital requirements (as estimated under Basel III Advanced Fully Phased-In rules) and economic risk. The amount of capital assigned to each business is referred to as equity.

Segment results and reconciliation

As of or for the year ended December 31, (in millions, except ratios)	Consumer & Community Banking			Corporate & Investment Bank			Commercial Banking		
	2015	2014	2013	**2015**	2014	2013	**2015**	2014	2013
Noninterest revenue	**$ 15,592**	$ 15,937	$ 17,552	**$ 23,693**	$ 23,420	$ 23,736	**$ 2,365**	$ 2,349	$ 2,298
Net interest income	**28,228**	28,431	28,985	**9,849**	11,175	10,976	**4,520**	4,533	4,794
Total net revenue	**43,820**	44,368	46,537	**33,542**	34,595	34,712	**6,885**	6,882	7,092
Provision for credit losses	**3,059**	3,520	335	**332**	(161)	(232)	**442**	(189)	85
Noninterest expense	**24,909**	25,609	27,842	**21,361**	23,273	21,744	**2,881**	2,695	2,610
Income/(loss) before income tax expense/(benefit)	**15,852**	15,239	18,360	**11,849**	11,483	13,200	**3,562**	4,376	4,397
Income tax expense/(benefit)	**6,063**	6,054	7,299	**3,759**	4,575	4,350	**1,371**	1,741	1,749
Net income/(loss)	**$ 9,789**	$ 9,185	$ 11,061	**$ 8,090**	$ 6,908	$ 8,850	**$ 2,191**	$ 2,635	$ 2,648
Average common equity	**$ 51,000**	$ 51,000	$ 46,000	**$ 62,000**	$ 61,000	$ 56,500	**$ 14,000**	$ 14,000	$ 13,500
Total assets	**502,652**	455,634	452,929	**748,691**	861,466	843,248	**200,700**	195,267	190,782
Return on common equity	**18%**	18%	23%	**12%**	10%	15%	**15%**	18%	19%
Overhead ratio	**57**	58	60	**64**	67	63	**42**	39	37

(a) Segment managed results reflect revenue on a FTE basis with the corresponding income tax impact recorded within income tax expense/(benefit). These adjustments are eliminated in reconciling items to arrive at the Firm's reported U.S. GAAP results.

(table continued from previous page)

Asset Management			Corporate			Reconciling Items[a]			Total		
2015	2014	2013	**2015**	2014	2013	**2015**	2014	2013	**2015**	2014	2013
$ 9,563	$ 9,588	$ 9,029	**$ 800**	$ 1,972	$ 3,093	**$ (1,980)**	$ (1,788)	$ (1,660)	**$ 50,033**	$ 51,478	$ 54,048
2,556	2,440	2,376	**(533)**	(1,960)	(3,115)	**(1,110)**	(985)	(697)	**43,510**	43,634	43,319
12,119	12,028	11,405	**267**	12	(22)	**(3,090)**	(2,773)	(2,357)	**93,543**	95,112	97,367
4	4	65	**(10)**	(35)	(28)	**–**	–	–	**3,827**	3,139	225
8,886	8,538	8,016	**977**	1,159	10,255	**–**	–	–	**59,014**	61,274	70,467
3,229	3,486	3,324	**(700)**	(1,112)	(10,249)	**(3,090)**	(2,773)	(2,357)	**30,702**	30,699	26,675
1,294	1,333	1,241	**(3,137)**	(1,976)	(3,493)	**(3,090)**	(2,773)	(2,357)	**6,260**	8,954	8,789
$ 1,935	$ 2,153	$ 2,083	**$ 2,437**	$ 864	$ (6,756)	**$ –**	$ –	$ –	**$ 24,442**	$ 21,745	$ 17,886
$ 9,000	$ 9,000	$ 9,000	**$ 79,690**	$ 72,400	$ 71,409	**$ –**	$ –	$ –	**$ 215,690**	$ 207,400	$ 196,409
131,451	128,701	122,414	**768,204**	931,206	805,506	**NA**	NA	NA	**2,351,698**	2,572,274	2,414,879
21%	23%	23%	**NM**	NM	NM	**NM**	NM	NM	**11%**	10%	9%
73	71	70	**NM**	NM	NM	**NM**	NM	NM	**63**	64	72

Note 34 – Parent company

Parent company – Statements of income and comprehensive income

Year ended December 31, (in millions)	2015	2014	2013
Income			
Dividends from subsidiaries and affiliates:			
Bank and bank holding company	**$ 10,653**	$ –	$ 1,175
Nonbank[a]	**8,172**	14,716	876
Interest income from subsidiaries	**443**	378	757
Other interest income	**234**	284	303
Other income from subsidiaries, primarily fees:			
Bank and bank holding company	**1,438**	779	318
Nonbank	**(2,945)**	52	2,065
Other income/(loss)	**3,316**	508	(1,380)
Total income	**21,311**	16,717	4,114
Expense			
Interest expense to subsidiaries and affiliates[a]	**98**	169	309
Other interest expense	**3,720**	3,645	4,031
Other noninterest expense	**2,611**	827	9,597
Total expense	**6,429**	4,641	13,937
Income (loss) before income tax benefit and undistributed net income of subsidiaries	**14,882**	12,076	(9,823)
Income tax benefit	**1,640**	1,430	4,301
Equity in undistributed net income of subsidiaries	**7,920**	8,239	23,408
Net income	**$ 24,442**	$ 21,745	$ 17,886
Other comprehensive income, net	**(1,997)**	990	(2,903)
Comprehensive income	**$ 22,445**	$ 22,735	$ 14,983

Parent company – Balance sheets

December 31, (in millions)	2015	2014
Assets		
Cash and due from banks	**$ 74**	$ 211
Deposits with banking subsidiaries	**65,799**	95,884
Trading assets	**13,830**	18,222
Available-for-sale securities	**3,154**	3,321
Loans	**1,887**	2,260
Advances to, and receivables from, subsidiaries:		
Bank and bank holding company	**32,454**	33,810
Nonbank	**58,674**	52,626
Investments (at equity) in subsidiaries and affiliates:		
Bank and bank holding company	**225,613**	215,732
Nonbank[a]	**34,205**	41,173
Other assets	**18,088**	18,200
Total assets	**$ 453,778**	$ 481,439
Liabilities and stockholders' equity		
Borrowings from, and payables to, subsidiaries and affiliates[a]	**$ 11,310**	$ 17,381
Other borrowed funds, primarily commercial paper	**3,722**	49,586
Other liabilities	**11,940**	11,918
Long-term debt[b][c]	**179,233**	170,827
Total liabilities[c]	**206,205**	249,712
Total stockholders' equity	**247,573**	231,727
Total liabilities and stockholders' equity	**$ 453,778**	$ 481,439

Parent company – Statements of cash flows

Year ended December 31, (in millions)	2015	2014	2013
Operating activities			
Net income	**$ 24,442**	$ 21,745	$ 17,886
Less: Net income of subsidiaries and affiliates[a]	**26,745**	22,972	25,496
Parent company net loss	**(2,303)**	(1,227)	(7,610)
Cash dividends from subsidiaries and affiliates[a]	**17,023**	14,714	1,917
Other operating adjustments	**2,483**	(1,681)	3,217
Net cash provided by/(used in) operating activities	**17,203**	11,806	(2,476)
Investing activities			
Net change in:			
Deposits with banking subsidiaries	**30,085**	(31,040)	10,679
Available-for-sale securities:			
Proceeds from paydowns and maturities	**120**	12,076	61
Purchases	**–**	–	(12,009)
Other changes in loans, net	**321**	(319)	(713)
Advances to and investments in subsidiaries and affiliates, net	**(81)**	3,306	14,469
All other investing activities, net	**153**	32	22
Net cash provided by/(used in) investing activities	**30,598**	(15,945)	12,509
Financing activities			
Net change in:			
Borrowings from subsidiaries and affiliates[a]	**(4,062)**	4,454	(2,715)
Other borrowed funds	**(47,483)**	(5,778)	(7,297)
Proceeds from the issuance of long-term debt	**42,121**	40,284	31,303
Payments of long-term debt	**(30,077)**	(31,050)	(21,510)
Proceeds from issuance of preferred stock	**5,893**	8,847	3,873
Redemption of preferred stock	**–**	–	(1,800)
Treasury stock and warrants repurchased	**(5,616)**	(4,760)	(4,789)
Dividends paid	**(7,873)**	(6,990)	(6,056)
All other financing activities, net	**(840)**	(921)	(994)
Net cash provided by/(used in) financing activities	**(47,937)**	4,086	(9,985)
Net increase/(decrease) in cash and due from banks	**(137)**	(53)	48
Cash and due from banks at the beginning of the year, primarily with bank subsidiaries	**211**	264	216
Cash and due from banks at the end of the year, primarily with bank subsidiaries	**$ 74**	$ 211	$ 264
Cash interest paid	**$ 3,873**	$ 3,921	$ 4,409
Cash income taxes paid, net	**8,251**	200	2,390

(a) Affiliates include trusts that issued guaranteed capital debt securities ("issuer trusts"). The Parent received dividends of $2 million, $2 million and $5 million from the issuer trusts in 2015, 2014 and 2013, respectively. For further discussion on these issuer trusts, see Note 21.

(b) At December 31, 2015, long-term debt that contractually matures in 2016 through 2020 totaled $27.2 billion, $26.0 billion, $21.1 billion, $11.5 billion and $22.2 billion, respectively.

(c) For information regarding the Parent's guarantees of its subsidiaries' obligations, see Notes 21 and 29.

Supplementary information

Selected quarterly financial data (unaudited)

(Table continued on next page)

As of or for the period ended	2015				2014			
(in millions, except per share, ratio, headcount data and where otherwise noted)	4th quarter	3rd quarter	2nd quarter	1st quarter	4th quarter	3rd quarter	2nd quarter	1st quarter
Selected income statement data								
Total net revenue	**$ 22,885**	**$ 22,780**	**$ 23,812**	**$ 24,066**	$ 22,750	$ 24,469	$ 24,678	$ 23,215
Total noninterest expense	**14,263**	**15,368**	**14,500**	**14,883**	15,409	15,798	15,431	14,636
Pre-provision profit	**8,622**	**7,412**	**9,312**	**9,183**	7,341	8,671	9,247	8,579
Provision for credit losses	**1,251**	**682**	**935**	**959**	840	757	692	850
Income before income tax expense	**7,371**	**6,730**	**8,377**	**8,224**	6,501	7,914	8,555	7,729
Income tax expense	**1,937**	**(74)**	**2,087**	**2,310**	1,570	2,349	2,575	2,460
Net income	**$ 5,434**	**$ 6,804**	**$ 6,290**	**$ 5,914**	$ 4,931	$ 5,565	$ 5,980	$ 5,269
Per common share data								
Net income: Basic	**$ 1.34**	**$ 1.70**	**$ 1.56**	**$ 1.46**	$ 1.20	$ 1.37	$ 1.47	$ 1.29
Diluted	**1.32**	**1.68**	**1.54**	**1.45**	1.19	1.35	1.46	1.28
Average shares: Basic	**3,674.2**	**3,694.4**	**3,707.8**	**3,725.3**	3,730.9	3,755.4	3,780.6	3,787.2
Diluted	**3,704.6**	**3,725.6**	**3,743.6**	**3,757.5**	3,765.2	3,788.7	3,812.5	3,823.6
Market and per common share data								
Market capitalization	**$ 241,899**	**$ 224,438**	**$ 250,581**	**$ 224,818**	$ 232,472	$ 225,188	$ 216,725	$ 229,770
Common shares at period-end	**3,663.5**	**3,681.1**	**3,698.1**	**3,711.1**	3,714.8	3,738.2	3,761.3	3,784.7
Share price[a]:								
High	**$ 69.03**	**$ 70.61**	**$ 69.82**	**$ 62.96**	$ 63.49	$ 61.85	$ 61.29	$ 61.48
Low	**58.53**	**50.07**	**59.65**	**54.27**	54.26	54.96	52.97	54.20
Close	**66.03**	**60.97**	**67.76**	**60.58**	62.58	60.24	57.62	60.71
Book value per share	**60.46**	**59.67**	**58.49**	**57.77**	56.98	56.41	55.44	53.97
Tangible book value per share ("TBVPS")[b]	**48.13**	**47.36**	**46.13**	**45.45**	44.60	44.04	43.08	41.65
Cash dividends declared per share	**0.44**	**0.44**	**0.44**	**0.40**	0.40	0.40	0.40	0.38
Selected ratios and metrics								
Return on common equity ("ROE")	**9%**	**12%**	**11%**	**11%**	9%	10%	11%	10%
Return on tangible common equity ("ROTCE")[b]	**11**	**15**	**14**	**14**	11	13	14	13
Return on assets ("ROA")	**0.90**	**1.11**	**1.01**	**0.94**	0.78	0.90	0.99	0.89
Overhead ratio	**62**	**67**	**61**	**62**	68	65	63	63
Loans-to-deposits ratio	**65**	**64**	**61**	**56**	56	56	57	57
HQLA (in billions)[c]	**$ 496**	**$ 505**	**$ 532**	**$ 614**	$ 600	$ 572	$ 576	$ 538
CET1 capital ratio[d]	**11.8%**	**11.5%**	**11.2%**	**10.7%**	10.2%	10.2%	9.8%	10.9%
Tier 1 capital ratio[d]	**13.5**	**13.3**	**12.8**	**12.1**	11.6	11.5	11.0	12.0
Total capital ratio[d]	**15.1**	**14.9**	**14.4**	**13.6**	13.1	12.8	12.5	14.5
Tier 1 leverage ratio	**8.5**	**8.4**	**8.0**	**7.5**	7.6	7.6	7.6	7.3
Selected balance sheet data (period-end)								
Trading assets	**$ 343,839**	**$ 361,708**	**$ 377,870**	**$ 398,981**	$ 398,988	$ 410,657	$ 392,543	$ 375,204
Securities	**290,827**	**306,660**	**317,795**	**331,136**	348,004	366,358	361,918	351,850
Loans	**837,299**	**809,457**	**791,247**	**764,185**	757,336	743,257	746,983	730,971
Core Loans	**732,093**	**698,988**	**674,767**	**641,285**	628,785	607,617	603,440	582,206
Total assets	**2,351,698**	**2,416,635**	**2,449,098**	**2,576,619**	2,572,274	2,526,158	2,519,494	2,476,152
Deposits	**1,279,715**	**1,273,106**	**1,287,332**	**1,367,887**	1,363,427	1,334,534	1,319,751	1,282,705
Long-term debt[e]	**288,651**	**292,503**	**286,240**	**280,123**	276,379	268,265	269,472	274,053
Common stockholders' equity	**221,505**	**219,660**	**216,287**	**214,371**	211,664	210,876	208,520	204,246
Total stockholders' equity	**247,573**	**245,728**	**241,205**	**235,864**	231,727	230,939	226,983	219,329
Headcount	**234,598**	**235,678**	**237,459**	**241,145**	241,359	242,388	245,192	246,994

(Table continued from previous page)

As of or for the period ended	2015				2014			
(in millions, except ratio data)	4th quarter	3rd quarter	2nd quarter	1st quarter	4th quarter	3rd quarter	2nd quarter	1st quarter
Credit quality metrics								
Allowance for credit losses	**$ 14,341**	**$ 14,201**	**$ 14,535**	**$ 14,658**	$ 14,807	$ 15,526	$ 15,974	$ 16,485
Allowance for loan losses to total retained loans	**1.63%**	**1.67%**	**1.78%**	**1.86%**	1.90%	2.02%	2.08%	2.20%
Allowance for loan losses to retained loans excluding purchased credit-impaired loans[f]	**1.37**	**1.40**	**1.45**	**1.52**	1.55	1.63	1.69	1.75
Nonperforming assets	**$ 7,034**	**$ 7,294**	**$ 7,588**	**$ 7,714**	$ 7,967	$ 8,390	$ 9,017	$ 9,473
Net charge-offs	**1,064**	**963**	**1,007**	**1,052**	1,218	1,114	1,158	1,269
Net charge-off rate	**0.52%**	**0.49%**	**0.53%**	**0.57%**	0.65%	0.60%	0.64%	0.71%

Note: Effective October 1, 2015, and January 1, 2015, JPMorgan Chase & Co. ("JPMorgan Chase" or the "Firm") adopted new accounting guidance, retrospectively, related to (1) the presentation of debt issuance costs, and (2) investments in affordable housing projects that qualify for the low-income housing tax credit, respectively. For additional information, see Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 80–82 , Accounting and Reporting Developments on page 170, and Note 1.

(a) Share prices shown for JPMorgan Chase's common stock are from the New York Stock Exchange.
(b) TBVPS and ROTCE are non-GAAP financial measures. For further discussion of these measures, see Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 80–82.
(c) HQLA represents the amount of assets that qualify for inclusion in the liquidity coverage ratio under the final U.S. rule ("U.S. LCR") for 4Q15, 3Q15, 2Q15 and 1Q15 and the estimated amounts for 4Q14 and 3Q14 prior to the effective date of the final rule and under the Basel III liquidity coverage ratio ("Basel III LCR") for 2Q14 and 1Q14. For additional information, see HQLA on page 160.
(d) As of December 31, 2015, September 30, 2015, June 30, 2015, March 31, 2015, December 31, 2014, September 30, 2014, and June 30, 2014, the ratios presented are calculated under the U.S. Basel III transitional rules. As of March 31, 2015 the ratio presented is calculated under Basel III Standardized Transitional rules. All periods shown represent the Collins Floor. See Capital Management on pages 149–158 for additional information on Basel III and non-GAAP financial measures of regulatory capital.
(e) Included unsecured long-term debt of $211.8 billion, $214.6 billion, $209.1 billion, $209.0 billion, $207.0 billion, $204.2 billion, $205.1 billion and $205.6 respectively, for the periods presented.
(f) Excludes the impact of residential real estate PCI loans, a non-GAAP financial measure. For further discussion of these measures, see Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 80–82. For further discussion, see Allowance for credit losses on pages 130–132.

Active foreclosures: Loans referred to foreclosure where formal foreclosure proceedings are ongoing. Includes both judicial and non-judicial states.

Allowance for loan losses to total loans: Represents period-end allowance for loan losses divided by retained loans.

Alternative assets: The following types of assets constitute alternative investments – hedge funds, currency, real estate, private equity and other investment funds designed to focus on nontraditional strategies.

Assets under management: Represent assets actively managed by AM on behalf of its Private Banking, Institutional and Retail clients. Includes "Committed capital not Called," on which AM earns fees.

Beneficial interests issued by consolidated VIEs: Represents the interest of third-party holders of debt, equity securities, or other obligations, issued by VIEs that JPMorgan Chase consolidates.

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

Central counterparty ("CCP"): A CCP is a clearing house that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the future performance of open contracts. A CCP becomes counterparty to trades with market participants through novation, an open offer system, or another legally binding arrangement.

Chase Liquid℠ cards: Refers to a prepaid, reloadable card product.

Client advisors: Investment product specialists, including private client advisors, financial advisors, financial advisor associates, senior financial advisors, independent financial advisors and financial advisor associate trainees, who advise clients on investment options, including annuities, mutual funds, stock trading services, etc., sold by the Firm or by third-party vendors through retail branches, Chase Private Client locations and other channels.

Client assets: Represent assets under management as well as custody, brokerage, administration and deposit accounts.

Client deposits and other third party liabilities: Deposits, as well as deposits that are swept to on-balance sheet liabilities (e.g., commercial paper, federal funds purchased and securities loaned or sold under repurchase agreements) as part of client cash management programs. During the third quarter 2015 the Firm completed the discontinuation of its commercial paper customer sweep cash management program.

Client investment managed accounts: Assets actively managed by Chase Wealth Management on behalf of clients. The percentage of managed accounts is calculated by dividing managed account assets by total client investment assets.

Commercial Card provides a wide range of payment services to corporate and public sector clients worldwide through the commercial card products. Services include procurement, corporate travel and entertainment, expense management services, and business-to-business payment solutions.

Core loans: Loans considered central to the Firm's ongoing businesses; core loans exclude loans classified as trading assets, runoff portfolios, discontinued portfolios and portfolios the Firm has an intent to exit.

Credit cycle: A period of time over which credit quality improves, deteriorates and then improves again (or vice versa). The duration of a credit cycle can vary from a couple of years to several years.

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.

Deposit margin/deposit spread: Represents net interest income expressed as a percentage of average deposits.

Distributed denial-of-service attack: The use of a large number of remote computer systems to electronically send a high volume of traffic to a target website to create a service outage at the target. This is a form of cyberattack.

Exchange-traded derivatives: Derivative contracts that are executed on an exchange and settled via a central clearing house.

Fee share: Proportion of fee revenue based on estimates of investment banking fees generated across the industry from investment banking transactions in M&A, equity and debt underwriting, and loan syndications. Source: Dealogic, a third party provider of investment banking fee competitive analysis and volume-based league tables for the above noted industry products.

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.

Forward points: Represents the interest rate differential between two currencies, which is either added to or subtracted from the current exchange rate (i.e., "spot rate") to determine the forward exchange rate.

Group of Seven ("G7") 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.

Headcount-related expense: Includes salary and benefits (excluding performance-based incentives), and other noncompensation costs related to employees.

Home equity – senior lien: Represents loans and commitments where JPMorgan Chase holds the first security interest on the property.

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

Impaired loan: Impaired loans are loans measured at amortized cost, for which it is probable that the Firm will be unable to collect all amounts due, including principal and interest, according to the contractual terms of the agreement. Impaired loans include the following:

- All wholesale nonaccrual loans
- All TDRs (both wholesale and consumer), including ones that have returned to accrual status

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'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.

LLC: Limited Liability Company.

Loan-to-value ("LTV") ratio: For residential real estate loans, the relationship, expressed as a percentage, between the principal amount of a loan and the appraised value of the collateral (i.e., residential real estate) securing the loan.

Origination date LTV ratio

The LTV ratio at the origination date of the loan. Origination date LTV ratios are calculated based on the actual appraised values of collateral (i.e., loan-level data) at the origination date.

Current estimated LTV ratio

An estimate of the LTV as of a certain date. The current estimated LTV ratios are calculated using estimated collateral values derived from a nationally recognized home price index measured at the metropolitan statistical area ("MSA") level. These MSA-level home price indices consist of actual data to the extent available and forecasted data where actual data is not available. As a result, the estimated collateral values used to calculate these ratios do not represent actual appraised loan-level collateral values; as such, the resulting LTV ratios are necessarily imprecise and should therefore be viewed as estimates.

Combined LTV ratio

The LTV ratio considering all available lien positions, as well as unused lines, related to the property. Combined LTV ratios are used for junior lien home equity products.

Managed basis: A non-GAAP presentation of financial results that includes reclassifications to present revenue on a fully taxable-equivalent basis. Management uses this non-GAAP financial measure at the segment level, because it believes this provides information to enable investors to understand the underlying operational performance and trends of the particular business segment and facilitates a comparison of the business segment with the performance of competitors.

Master netting agreement: 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.

Mortgage origination channels:

Retail – Borrowers who buy or refinance a home through direct contact with a mortgage banker employed by the Firm using a branch office, the Internet or by phone. Borrowers are frequently referred to a mortgage banker by a banker in a Chase branch, real estate brokers, home builders or other third parties.

Correspondent – Banks, thrifts, other mortgage banks and other financial institutions that sell closed loans to the Firm.

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 the Firm's Alt-A loans are those where a borrower does not provide complete documentation of his or her assets or the amount or source of his or her income.

Option ARMs

The option ARM real estate loan product is an adjustable-rate mortgage loan that provides the borrower with the option each month to make a fully amortizing, interest-only or minimum payment. The minimum payment on an option ARM loan is based on the interest rate charged during the introductory period. This introductory rate is usually significantly below the fully indexed rate. The fully indexed rate is calculated using an index rate plus a margin. Once the introductory period ends, the contractual interest rate charged on the loan increases to the fully indexed rate and adjusts monthly to reflect movements in the index. The minimum payment is typically insufficient to cover interest accrued in the prior month, and any unpaid interest is

deferred and added to the principal balance of the loan. Option ARM loans are subject to payment recast, which converts the loan to a variable-rate fully amortizing loan upon meeting specified loan balance and anniversary date triggers.

Prime

Prime mortgage loans are made to borrowers with good credit records who meet specific underwriting requirements, including prescriptive requirements related to income and overall debt levels. New prime mortgage borrowers provide full documentation and generally have reliable payment histories.

Subprime

Subprime loans are loans that, prior to mid-2008, were offered to certain customers with one or more high risk characteristics, including but not limited to: (i) unreliable or poor payment histories; (ii) a high LTV ratio of greater than 80% (without borrower-paid mortgage insurance); (iii) a high debt-to-income ratio; (iv) an occupancy type for the loan is other than the borrower's primary residence; or (v) a history of delinquencies or late payments on the loan.

Multi-asset: Any fund or account that allocates assets under management to more than one asset class.

N/A: Data is not applicable or available for the period presented.

Net charge-off/(recovery) rate: Represents net charge-offs/(recoveries) (annualized) divided by average retained loans for the reporting period.

Net production revenue: Includes net gains or losses on originations and sales of mortgage loans, other production-related fees and losses related to the repurchase of previously-sold loans.

Net mortgage servicing revenue includes the following components:

Operating revenue predominantly represents the return on Mortgage Servicing's MSR asset and includes:

- Actual gross income earned from servicing third-party mortgage loans, such as contractually specified servicing fees and ancillary income; and
- The change in the fair value of the MSR asset due to the collection or realization of expected cash flows.

Risk management represents the components of Mortgage Servicing's MSR asset that are subject to ongoing risk management activities, together with derivatives and other instruments used in those risk management activities.

Net yield on interest-earning assets: The average rate for interest-earning assets less the average rate paid for all sources of funds.

NM: Not meaningful.

Nonaccrual loans: Loans for which interest income is not recognized on an accrual basis. Loans (other than credit card loans and certain consumer loans insured by U.S. government agencies) are placed on nonaccrual status when full payment of principal and interest is not expected or when principal and interest has been in default for a period of 90 days or more unless the loan is both well-secured and in the process of collection. Collateral-dependent loans are typically maintained on nonaccrual status.

Nonperforming assets: Nonperforming assets include nonaccrual loans, nonperforming derivatives and certain assets acquired in loan satisfaction, predominantly real estate owned and other commercial and personal property.

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.

Overhead ratio: Noninterest expense as a percentage of total net revenue.

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.

Personal bankers: Retail branch office personnel who acquire, retain and expand new and existing customer relationships by assessing customer needs and recommending and selling appropriate banking products and services.

Pre-provision profit/(loss): Represents total net revenue less noninterest expense. The Firm believes that this financial measure is useful in assessing the ability of a lending institution to generate income in excess of its provision for credit losses.

Pretax margin: Represents income before income tax expense divided by total net revenue, which is, in management's view, a comprehensive measure of pretax performance derived by measuring earnings after all costs are taken into consideration. It is one basis upon which management evaluates the performance of AM against the performance of their respective competitors.

Principal transactions revenue: Principal transactions revenue includes realized and unrealized gains and losses recorded on derivatives, other financial instruments, private equity investments, and physical commodities used in market making and client-driven activities. In addition, 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 specified risk management purposes, primarily to mitigate credit risk, foreign exchange risk and commodity risk, and (c) other derivatives.

Purchased credit-impaired ("PCI") 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 Financial Accounting Standards Board ("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.

Real assets: Real assets include investments in productive assets such as agriculture, energy rights, mining and timber properties and exclude raw land to be developed for real estate purposes.

Real estate investment trust ("REIT"): 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 prime and retail brokerage customers which are included in accrued interest and accounts receivable on the Consolidated balance sheets.

Reported basis: Financial statements prepared under U.S. GAAP, which excludes the impact of taxable-equivalent adjustments.

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

Revenue wallet: Proportion of fee revenue based on estimates of investment banking fees generated across the industry (i.e., the revenue wallet) from investment banking transactions in M&A, equity and debt underwriting, and loan syndications. Source: Dealogic, a third party provider of investment banking competitive analysis and volume-based league tables for the above noted industry products.

Risk-weighted assets ("RWA"): 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.

Sales specialists: Retail branch office and field personnel, including relationship managers and loan officers, who specialize in marketing and sales of various business banking products (i.e., business loans, letters of credit, deposit accounts, Commerce Solutions, etc.) and mortgage products to existing and new clients.

Seed capital: Initial JPMorgan capital invested in products, such as mutual funds, with the intention of ensuring the fund is of sufficient size to represent a viable offering to clients, enabling pricing of its shares, and allowing the manager to develop a track record. After these goals are achieved, the intent is to remove the Firm's capital from the investment.

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

Structural interest rate risk: Represents interest rate risk of the non-trading assets and liabilities of the Firm.

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.

Taxable-equivalent basis: In presenting managed results, the total net revenue for each of the business segments and the Firm is presented on a tax-equivalent basis. Accordingly, revenue from investments that receive tax credits and tax-exempt securities is presented in the managed results on a basis comparable to taxable investments and securities; the corresponding income tax impact related to tax-exempt items is recorded within income tax expense.

Troubled debt restructuring ("TDR"): A TDR is deemed to occur when the Firm modifies the original terms of a loan agreement by granting a concession to a borrower that is experiencing financial difficulty.

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. 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. Treasury: U.S. Department of the Treasury.

Value-at-risk ("VaR"): A measure of the dollar amount of potential loss from adverse market moves in an ordinary market environment.

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.

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Corporate headquarters

270 Park Avenue
New York, NY 10017-2070
Telephone: 212-270-6000
jpmorganchase.com

Principal subsidiaries

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Chase Bank USA,
National Association
J.P. Morgan Securities LLC
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Annual Report on Form 10-K

The Annual Report on Form 10-K of JPMorgan Chase & Co. as filed with the U.S. Securities and Exchange Commission will be made available without charge upon request to:

Office of the Secretary
JPMorgan Chase & Co.
270 Park Avenue
New York, NY 10017-2070

Stock listing

New York Stock Exchange
London Stock Exchange

The New York Stock Exchange ticker symbol for the common stock of JPMorgan Chase & Co. is JPM.

Financial information about JPMorgan Chase & Co. can be accessed by visiting the Investor Relations website at jpmorganchase.com. Additional questions should be addressed to:

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JPMorgan Chase & Co.
270 Park Avenue
New York, NY 10017-2070
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To contact any of the Board members or committee chairs, the Lead Independent Director or the non-management directors as a group, please mail correspondence to:

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Attention (Board member(s))
Office of the Secretary
270 Park Avenue
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The Corporate Governance Principles of the Board, the charters of the principal Board committees, the Code of Conduct, the Code of Ethics for Finance Professionals and other governance information can be accessed by visiting our website at jpmorganchase.com and clicking on "Governance" under the "About us" tab.

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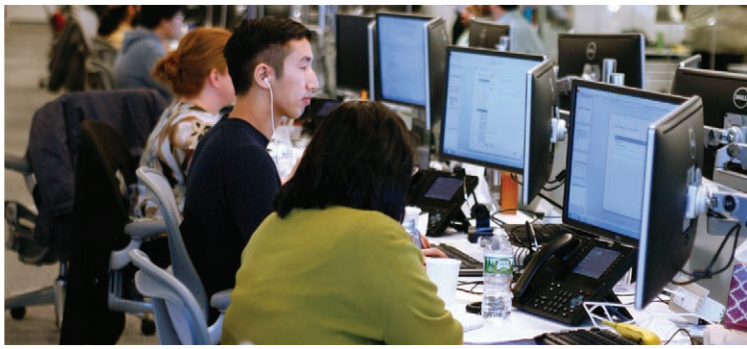












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