

## Quarterly Report on Bank Trading and Derivatives Activities

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Third Quarter 2017

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## About This Report

The Office of the Comptroller of the Currency's (OCC) quarterly report on bank trading and derivative activities is based on call report information provided by all insured U.S. commercial banks (including trust companies) and savings associations; reports filed by U.S. financial holding companies; and other published data. A total of 1,391<sup>1</sup> insured U.S. commercial banks and savings associations reported derivative activities at the end of the third quarter of 2017. A small group of large financial institutions continues to dominate derivative activity in the U.S. commercial banking system. During the third quarter of 2017, four large commercial banks represented 90.2 percent of the total banking industry notional amounts and 86.3 percent of industry net current credit exposure (NCCE) (see table 4 in the appendix).

The OCC and other supervisors have dedicated examiners at the largest banks to continuously evaluate the credit, market, operational, reputation, and compliance risks of bank derivative activities. In addition to the OCC's supervisory activities, the OCC works with other financial supervisors and major market participants to address infrastructure, clearing, and margining issues in over-the-counter (OTC) derivatives. OCC activities include development of objectives and milestones for stronger trade processing and improved market transparency across all OTC derivative categories, migration of certain highly liquid products to clearinghouses, and requirements for posting and collecting margin.

This is the 88th edition of the OCC's Quarterly Report on Bank Trading and Derivatives Activities. The first report was published in 1995. In our continuous efforts to improve this report, we now incorporate an entity's Legal Entity Identifier (LEI), if available, in the supplementary tables in the appendix.<sup>2</sup> Please send any comments or feedback on the structure and content of this report to the OCC by email: [QuarterlyDerivatives@occ.treas.gov](mailto:QuarterlyDerivatives@occ.treas.gov).

## Executive Summary

- Insured U.S. commercial banks and savings associations (collectively, banks) reported trading revenue of \$6.4 billion in the third quarter of 2017, \$0.2 billion less (3.6 percent) than in the previous quarter and \$0.02 billion less (0.4 percent) than a year earlier (see page 4).
- Credit exposure from derivatives decreased in the third quarter of 2017 as compared to the second quarter of 2017. NCCE decreased \$21.1 billion, or 5.7 percent, to \$348.4 billion (see page 8).
- Trading risk, as measured by value-at-risk (VaR), decreased in the third quarter of 2017. Total average VaR across the top five dealer banking companies decreased \$17.0 million, or 6.2 percent, to \$256 million (see page 11).
- Derivative notional amounts increased in the third quarter of 2017 by \$2.8 trillion, or 1.5 percent, to \$188.3 trillion (see page 14).
- Derivative contracts remained concentrated in interest rate products, which represented 75.0 percent of total derivative notional amounts (see page 14).

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<sup>1</sup> Beginning March 31, 2017, institutions with total assets less than \$1 billion have the option to file the FFIEC 051 Call Report. Due to the limited amount of derivatives data provided by FFIEC 051 Call Report filers, this report provides this information in a separate and distinct table in the appendix (see table 13 in the appendix).

<sup>2</sup> The Legal Entity Identifier (LEI) is a 20-digit, alphanumeric code that enables clear and unique identification of legal entities. For more information, see the Global Legal Entity Identifier Foundation's website at [www.gleif.org](http://www.gleif.org).

## Revenue

### ***Insured U.S. Commercial Banks and Savings Associations' Trading Revenue***

Insured U.S. commercial banks and savings associations reported \$6.4 billion in trading revenue in the third quarter of 2017, \$0.2 billion less (3.6 percent) than in the previous quarter and \$0.02 billion less (0.4 percent) than a year earlier (see table 1). The driver of the year-over-year decrease in trading revenue was interest rate and foreign exchange (FX) trading offset by an increase in equity and credit trading revenue.

Combined interest rate and FX revenue led the quarterly decrease, decreasing \$0.7 billion to \$4.5 billion. Since dealers often use interest rate contracts to hedge exposures in FX derivatives, it is useful to view these categories collectively. For a historical view of quarterly bank trading revenue by instrument, see graph 9a in the appendix.

**Table 1. Quarterly Bank Trading Revenue, in Millions of Dollars**

	2017 Q3	2017 Q2	Q/Q Change	Q/Q % Change	2016 Q3	Y/Y Change	Y/Y % Change
Interest Rate & FX	\$4,458	\$5,201	-\$743	-14.3%	\$5,214	-\$756	-14.5%
Equity	\$1,184	\$1,122	\$62	5.5%	\$734	\$449	61.2%
Commodity & Other	\$284	\$206	\$78	38.1%	\$354	-\$69	-19.6%
Credit	\$470	\$108	\$362	333.3%	\$118	\$352	297.2%
<b>Total Trading Revenue</b>	<b>\$6,396</b>	<b>\$6,637</b>	<b>-\$241</b>	<b>-3.6%</b>	<b>\$6,420</b>	<b>-\$24</b>	<b>-0.4%</b>

Source: Call reports, Schedule RI

### ***Holding Company Trading Revenue***

Consolidated bank holding company (BHC) trading performance provides a more complete picture of trading revenue in the banking system. As shown in table 2, consolidated holding company trading revenue of \$13.9 billion in the third quarter of 2017 was \$1.2 billion (7.7 percent) lower than in the previous quarter. A \$0.9 billion decrease in equity revenue and a \$0.5 billion decrease in commodity and other revenue drove the decrease in trading revenue from the previous quarter. Year-over-year holding company trading results decreased by \$0.9 billion (6.2 percent). For a historical view of quarterly holding company trading revenue by instrument, see graph 9b in the appendix.

**Table 2. Quarterly Holding Company Trading Revenue, in Millions of Dollars**

	2017 Q3	2017 Q2	Q/Q Change	Q/Q % Change	2016 Q3	Y/Y Change	Y/Y % Change
Interest Rate & FX	\$6,546	\$6,605	-\$59	-0.9%	\$8,258	-\$1,712	-20.7%
Equity	\$4,705	\$5,682	-\$977	-17.2%	\$4,159	\$546	13.1%
Commodity & Other	\$784	\$1,330	-\$545	-41.0%	\$969	-\$185	-19.1%
Credit	\$1,917	\$1,493	\$424	28.4%	\$1,482	\$435	29.3%
<b>Total HC Trading Revenue</b>	<b>\$13,953</b>	<b>\$15,111</b>	<b>-\$1,158</b>	<b>-7.7%</b>	<b>\$14,868</b>	<b>-\$915</b>	<b>-6.2%</b>

Source: Consolidated Financial Statements for Holding Companies—FR Y-9C, Schedule HI

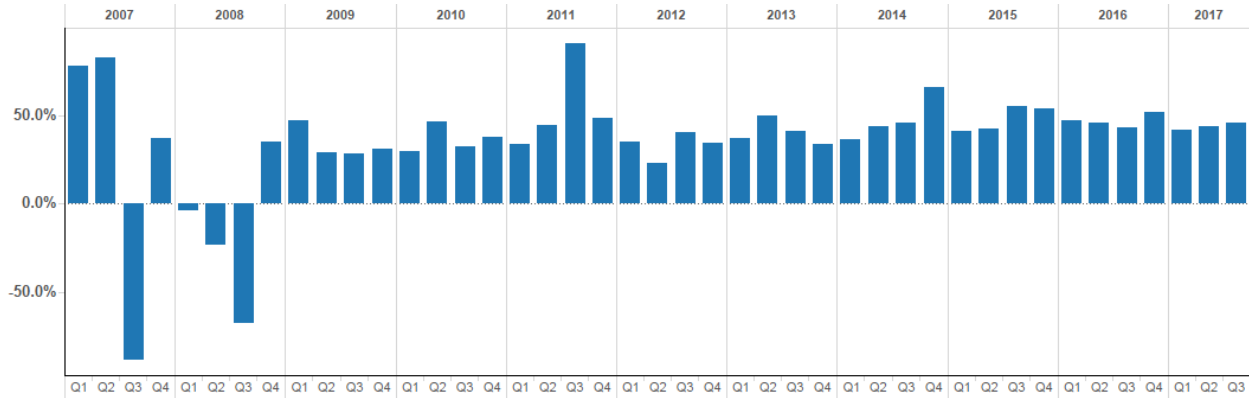
### ***Bank Trading Revenue as a Percentage of Consolidated Holding Company Trading Revenue***

Before the financial crisis, trading revenue at banks typically ranged from 60 percent to 80 percent of consolidated BHC trading revenue. Since the financial crisis and the adoption of bank charters by the former investment banks, the percentage of bank trading revenue to consolidated BHC trading revenue has fallen and is now between 30 percent and 50 percent. This decline reflects the significant amount of trading activity by the former investment banks that,

while included in BHC results, remains outside insured commercial banks. More generally, insured U.S. commercial banks and savings associations have more limited legal authorities than their holding companies, particularly in trading commodity and equity products.

In the third quarter of 2017, banks generated 45.8 percent of consolidated holding company trading revenue, up from 43.9 percent in the previous quarter (see figure 1).

**Figure 1. Bank Trading Revenue as a Percentage of Consolidated Holding Company Trading Revenue**



Source: Consolidated Financial Statements for Holding Companies—FR Y-9C (Schedule HI) and call report (Schedule RI)

## **Credit Risk**

Credit risk is a significant risk in bank derivative trading activities. The notional amount of a derivative contract is a reference amount that determines contractual payments, but it is generally not an amount at risk. The credit risk in a derivative contract is a function of a number of variables, such as whether counterparties exchange notional principal, the volatility of the underlying market factors (interest rate, currency, commodity, equity, or corporate reference entity), the maturity and liquidity of the contract, and the creditworthiness of the counterparty.

Credit risk in derivatives differs from credit risk in loans because of the more uncertain nature of the potential credit exposure. Because the credit exposure is a function of movements in market factors, banks do not know, and can only estimate, how much the value of the derivative contract might be at various points in the future.

The credit exposure is bilateral in most derivative transactions, such as swaps (which make up the bulk of bank derivative contracts). Each party to the contract may (and, if the contract has a long enough tenor, probably will) have a current credit exposure to the other party at various times during the contract's life. With a funded traditional loan, the amount at risk is the amount advanced to the borrower. The credit risk is unilateral as the bank faces the credit exposure of the borrower.

Measuring credit exposure in derivative contracts involves identifying those contracts where a bank would lose value if the counterparty to a contract defaulted. The total of all contracts with positive value (i.e., derivative receivables) to the bank is the gross positive fair value (GPFV) and represents an initial measurement of credit exposure. The total of all contracts with negative value (i.e., derivative payables) to the bank is the gross negative fair value (GNFV) and represents a measurement of the exposure the bank poses to its counterparties.

GPFV decreased by \$322.0 billion (13.7 percent) in the third quarter of 2017 to \$2.0 trillion, driven by a \$295 billion (18.1 percent) decrease in receivables from interest rate contracts (see table 3).

Because banks mostly hedge the market risk of their derivative portfolios with other derivatives, a similar decrease in GNFVs generally matched the change in GPFV. Derivative payables, GNFV, decreased \$317.0 billion (13.8 percent) to \$2.0 trillion during the quarter, driven by a decrease in payables on interest rate contracts

GPFV and GNFV interest rate contracts declined 53.1 percent and 53.6 percent respectively year-over-year. Part of the decline is a result of the continued implementation of settled-to-market (STM) treatment for variation margin. STM allows for the characterization of variation margin for over the counter derivatives that are cleared through central clearing parties (CCP), to constitute a settlement of the exposure, as opposed to collateralization.

**Table 3. Gross Positive Fair Values and Gross Negative Fair Values, in Billions of Dollars**

	2017 Q3	2017 Q2	Q/Q Change	Q/Q % Change	2016 Q3	Y/Y Change	Y/Y % Change
Interest Rate	\$1,339	\$1,634	-\$295	-18.1%	\$2,853	-\$1,514	-53.1%
Foreign Exchange	\$476	\$515	-\$39	-7.6%	\$481	-\$5	-1.0%
Equity	\$105	\$97	\$8	8.2%	\$96	\$9	9.0%
Commodities	\$47	\$42	\$5	11.7%	\$42	\$5	11.7%
Credit	\$68	\$69	-\$1	-1.1%	\$91	-\$23	-25.3%
Gross Positive Fair Value	\$2,035	\$2,357	-\$322	-13.7%	\$3,563	-\$1,529	-42.9%

	2017 Q3	2017 Q2	Q/Q Change	Q/Q % Change	2016 Q3	Y/Y Change	Y/Y % Change
Interest Rate	\$1,287	\$1,565	-\$279	-17.8%	\$2,776	-\$1,489	-53.6%
Foreign Exchange	\$462	\$515	-\$53	-10.3%	\$467	-\$5	-1.2%
Equity	\$111	\$102	\$9	8.6%	\$95	\$16	17.0%
Commodities	\$48	\$43	\$5	11.6%	\$44	\$4	9.3%
Credit	\$71	\$69	\$1	2.1%	\$91	-\$20	-21.9%
Gross Negative Fair Value	\$1,979	\$2,295	-\$317	-13.8%	\$3,473	-\$1,494	-43.0%

Source: Call reports, Schedule RC-L

A legally enforceable netting agreement between a bank and a counterparty creates a single legal obligation for all transactions (called a “netting set”) under the agreement. Therefore, when banks have such agreements with their counterparties, contracts with negative values (an amount a bank would pay to its counterparty) can offset contracts with positive values (an amount owed by the counterparty to the bank), leaving an NCCE as shown in table 4.

**Table 4. Netting Contract Examples**

Bank A Portfolio With Counterparty B	Number of Contracts	Value of Contracts	Credit Measure/Metric
Contracts With Positive Value to Bank A	6	\$500	Gross Positive Fair Value
Contracts With Negative Value to Bank A	4	\$350	Gross Negative Fair Value
Total Contracts	10	\$150	NCCE to Bank A From Counterparty B

Most, but not necessarily all, derivative transactions that a bank has with an individual counterparty are subject to a legally enforceable netting agreement. Some transactions may be subject to the laws of a jurisdiction that does not provide legal certainty of netting agreements, in which case banks must regard such transactions as separate from the netting set. Other transactions may involve nonstandard contractual documentation. Transactions that are not subject to the same legally enforceable netting agreement have distinct values that cannot be netted and for which the appropriate current credit measure is the gross exposure to the bank, if that amount is positive. While banks can net exposures within a netting set under the same netting agreement, they cannot net exposures across netting sets without a separate legally enforceable netting agreement. As a result, a bank’s NCCE to a particular counterparty equals the sum of the GPFV of contracts less the dollar amount of netting benefits with that counterparty. A bank’s NCCE across all counterparties equals the sum of its NCCE to each of its counterparties.

NCCE is the primary metric the OCC uses to evaluate credit risk in bank derivative activities. NCCE for insured U.S. commercial banks and saving associations decreased by \$21.1 billion (5.7 percent) to \$348.4 billion in the third quarter of 2017 (see table 5).<sup>3</sup> Legally enforceable netting agreements allowed banks to reduce GPFV exposures by 82.9 percent (\$1.7 trillion) in the third quarter of 2017 compared with 84.3 percent (\$2.0 trillion) in the previous quarter.

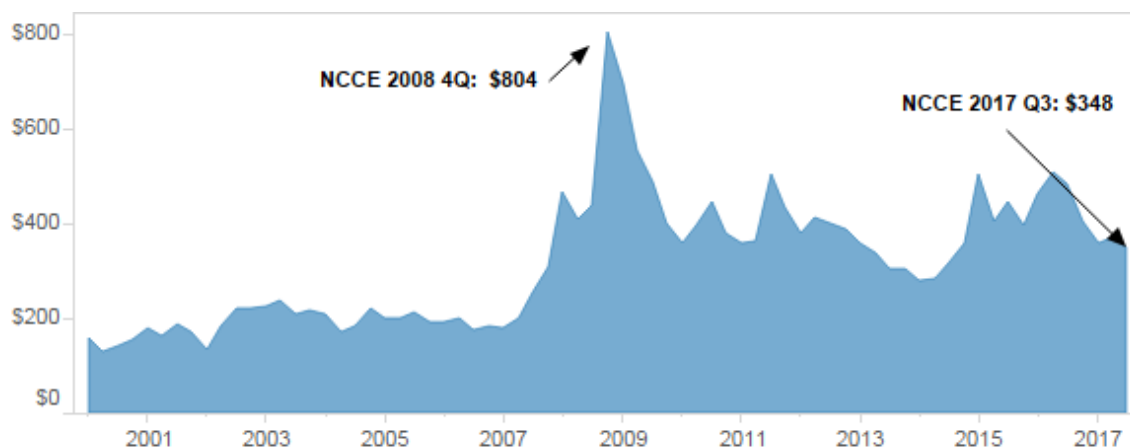
**Table 5. Net Current Credit Exposure, in Billions of Dollars**

	2017 Q3	2017 Q2	Q/Q Change	Q/Q % Change
Gross Positive Fair Value	\$2,035	\$2,357	-\$322	-13.7%
NCCE RC-R	\$348	\$369	-\$21	-5.7%
Netting Benefit RC-R	\$1,686	\$1,987	-\$301	-15.2%
Netting Benefit % RC-R	82.9%	84.3%		-1.4%

Source: Call reports, Schedules RC-L and RC-R

NCCE peaked at \$804.1 billion at the end of 2008, during the financial crisis, when interest rates had plunged and credit spreads were very high (see figure 2). The significant decline in NCCE since 2008 has largely resulted from declines in the GPFV of interest rate and credit contracts. GPFV from interest rate contracts has fallen from \$5.1 trillion at the end of 2008 to \$1.3 trillion at the end of the third quarter of 2017. On September 30, 2017, exposure from credit contracts were \$68.1 billion (see table 3), which is \$1.0 trillion lower (93.8 percent) than the \$1.1 trillion on December 31, 2008. New regulations and a decrease in client demand have led to the reduction in credit derivative notional amounts since 2008.

**Figure 2. Net Current Credit Exposure, in Billions of Dollars**



Source: Call reports, Schedule RC-R

The bulk of bank's NCCE in the financial system is concentrated in banks and securities firms (40.1 percent) and corporations and other counterparties (49.0 percent) (see table 6).

The combined exposure to hedge funds, sovereign governments, and monoline financial firms was small (10.9 percent in total). The sheer size of aggregate counterparty exposures, however,

<sup>3</sup> Banks report NCCE in two different schedules (RC-R and RC-L) of the call report, and the amounts reported are not the same because of differences in the scope of coverage. Neither measure comprehensively captures NCCE. RC-L includes exposure only from OTC derivative transactions; it excludes exchange-traded transactions. RC-R excludes transactions not subject to capital requirements. This report uses RC-R to measure NCCE.



results in the potential for major losses, even in sectors where credit exposure is a small percentage of the total. For example, notwithstanding the minimal share of NCCE to monolines, banks suffered material losses on these exposures during the credit crisis. Sovereign credit exposures were also a small component (7.6 percent) of NCCE during the quarter and, like monoline exposures before the financial crisis, are largely unsecured.

**Table 6. Net Current Credit Exposure by Counterparty Type as a Percentage of Total Net Current Credit Exposure**

	Banks & Securities Firms	Monoline Financial Firms	Hedge Funds	Sovereign Governments	Corp & All Other Counterparties
2017 Q3	40.1%	0.1%	3.2%	7.6%	49.0%
2017 Q2	47.5%	0.1%	2.5%	7.1%	42.8%
2017 Q1	47.5%	0.1%	2.2%	7.5%	42.7%
2016 Q4	48.5%	0.1%	2.0%	6.5%	43.0%
2015 Q4	53.3%	0.1%	2.1%	6.0%	38.5%
2014 Q4	53.2%	0.1%	1.9%	6.4%	38.4%

Source: Call reports, Schedule RC-L

A more risk-sensitive measure of credit exposure would consider the value of collateral held against counterparty exposures. Commercial banks and savings associations with total assets greater than \$10 billion report the fair value of collateral held against various classifications of counterparty exposure.

Reporting banks held collateral valued at 109.2 percent of their total NCCE at the end of the third quarter of 2017, up from 108.6 percent in the second quarter of 2017 (see table 7). The increase in the ratio of the value of collateral held to the value of counterparty exposure was due primarily to stronger collateral coverage ratio of exposures to banks and securities firms, which increased from 125.7 percent to 133.6 percent. Collateral held against hedge fund exposures decreased in the third quarter, but coverage remains very high at 461.8 percent. Bank exposures to hedge funds have always been secured, because banks take initial margin on transactions with hedge funds, in addition to fully securing any current credit exposure. Collateral coverage of corporate, monoline, and sovereign exposures is much less than coverage of financial institutions and hedge funds, although coverage of corporate exposures has been increasing over the past several years because of increases in the volume of trades cleared at central counterparties.

**Table 7. Ratio of Fair Value Collateral to Net Current Credit Exposure**

	FV Banks & Securities Firms	FV Monoline Financial Firms	FV Hedge Funds	FV Sovereign Governments	FV Corp and All Other Counterparties	FV/NCCE%
2017 Q3	133.6%	0.0%	461.8%	34.1%	77.9%	109.2%
2017 Q2	125.7%	0.0%	522.3%	35.0%	77.5%	108.6%
2017 Q1	122.7%	0.0%	579.9%	34.5%	77.4%	106.7%
2016 Q4	119.0%	0.0%	491.5%	34.2%	67.1%	98.5%
2015 Q4	101.6%	5.2%	435.5%	15.6%	66.2%	89.6%
2014 Q4	94.4%	0.0%	361.5%	11.0%	59.5%	80.6%

Source: Call reports, Schedule RC-L

Collateral quality held by banks was very high and liquid during the quarter, with 65.0 percent held in cash (both U.S. dollar and non-dollar) and an additional 12.2 percent held in U.S.

Treasuries and government agency securities (see table 8). Supervisors assess changes in the quality of collateral held as a key early indicator of potential easing in credit terms. Examiners review the collateral management practices of derivative dealers as a regular part of their supervision activities.

**Table 8. Composition of Collateral**

	Cash U.S. Dollar	Cash Other Currencies	U.S. Treasury Securities	U.S. Gov't Agency	Corp Bonds	Equity Securities	All Other Collateral
2017 Q3	38.2%	26.8%	10.1%	2.1%	2.2%	5.8%	14.8%
2017 Q2	40.9%	27.6%	9.5%	2.1%	2.0%	5.3%	12.5%
2017 Q1	42.0%	27.5%	8.3%	1.9%	2.0%	5.5%	12.8%
2016 Q4	40.1%	31.5%	8.1%	1.7%	1.6%	5.0%	12.0%
2015 Q4	43.7%	31.7%	4.6%	1.6%	1.4%	5.3%	11.7%
2014 Q4	43.8%	31.9%	4.1%	1.7%	1.2%	1.7%	15.7%

Source: Call reports, Schedule RC-L

Credit quality metrics for derivative exposures improved in the third quarter of 2017, as banks reported net recoveries of \$8.8 million, compared to net charge-offs of \$8.7 million in the second quarter of 2017 (see graph 7 in the appendix). The number of banks reporting charge-offs decreased from 14 to seven banks. Net recoveries in the third quarter of 2017 represented 0.003 percent of the NCCE from derivative contracts. For comparison purposes, commercial and industrial (C&I) loan net charge-offs decreased \$296.4 million, or 15.6 percent, to \$1.6 billion during the quarter and were 0.08 percent of total C&I loans. Charge-offs of derivative exposures typically are associated with problem commercial lending exposures, in which the borrower has an associated swap transaction.

**Market Risk****Value-at-Risk**

Banks primarily control market risk in trading operations by establishing limits against potential losses. Banks use VaR to quantify the maximum expected loss over a specified time period and at a certain confidence level under relevant market conditions. Since VaR does not measure the maximum potential loss, banks stress test trading portfolios to assess the potential for loss beyond the VaR measure. Banks and supervisors have been working to expand the use of stress testing to complement the VaR risk measurement process that banks typically use to assess a bank's exposure to market risk.

The large trading banks disclose average VaR data in published financial reports. Comparing the VaR numbers over time to equity capital and net income provides perspective on market risk of trading activities. As shown in table 9, market risk reported by the five largest banking companies, as measured by VaR, is small as a percentage of their equity capital.

**Table 9. Value-at-Risk at Major Bank Holding Companies, in Millions of Dollars**

	JPMORGAN	CITIGROUP	BANK OF AMERICA	GOLDMAN	MORGAN STANLEY	TOTAL
Q3 2017	\$30	\$89	\$47	\$47	\$43	\$256
Q2 2017	\$27	\$96	\$48	\$51	\$51	\$273
Q/Q Change	\$3	-\$7	-\$1	-\$4	-\$8	-\$17
Q/Q % Change	11.1%	-7.3%	-2.1%	-7.8%	-15.7%	-6.2%
Equity Capital	\$258,483	\$230,019	\$270,987	\$86,675	\$77,826	\$923,990
2016 Net Income	\$59,979	\$37,251	\$40,708	\$16,541	\$14,142	\$168,621
Avg VaR/Equity	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%
Avg VaR/Net Income	0.1%	0.2%	0.1%	0.3%	0.3%	0.2%

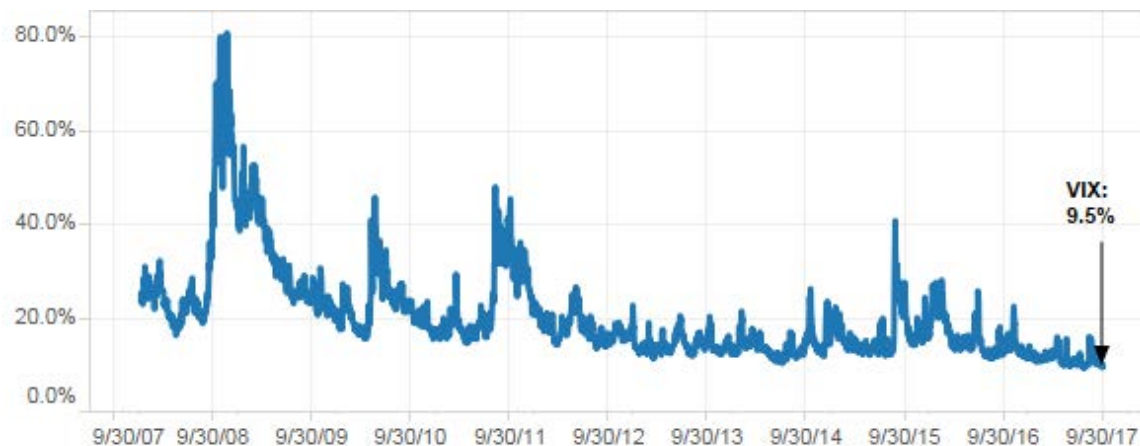
Source: 10K and 10Q U.S. Securities and Exchange Commission reports

VaR measures are not comparable across firms because of methodological differences in calculating VaR, as well as differences in the scope of coverage. These differences can result in materially different VaR estimates across firms, even for the same portfolios. When assessing trading risk in the banking system, it is therefore appropriate to review the trend in VaR at individual firms, not in aggregate across firms.

Because of methodological differences in calculating VaR, readers are cautioned that a higher VaR figure at a particular bank may not necessarily imply that the bank has more trading risk than another bank with a lower VaR. For example, JPMorgan, Goldman Sachs, and Morgan Stanley calculate VaR using a 95 percent confidence interval. If those firms used a 99 percent confidence interval, as Bank of America and Citigroup do, their VaR estimates would be meaningfully higher. The data series used to measure risk also is an important factor in the calculated risk. VaR for a single portfolio of exposures will differ if the historical period used to measure risk differs. The scope of coverage of the VaR measure is also important when reviewing risks across institutions. Some firms disclose VaR based only on their trading and intermediation activity, while others also include risks from hedging mortgage-servicing assets, fair value option portfolios, and asset and liability management activities. Graph 16 in the appendix illustrates the trend over the past seven years in average VaR at each of the top five large banking companies.

Figure 3 shows the VIX, a volatility index,<sup>4</sup> which measures the market’s expectation of stock market volatility in the S&P 500 index over the next 30-day period. The chart illustrates that there has been an extended period of low volatility since the end of the financial crisis.

**Figure 3. Volatility Index (VIX)**

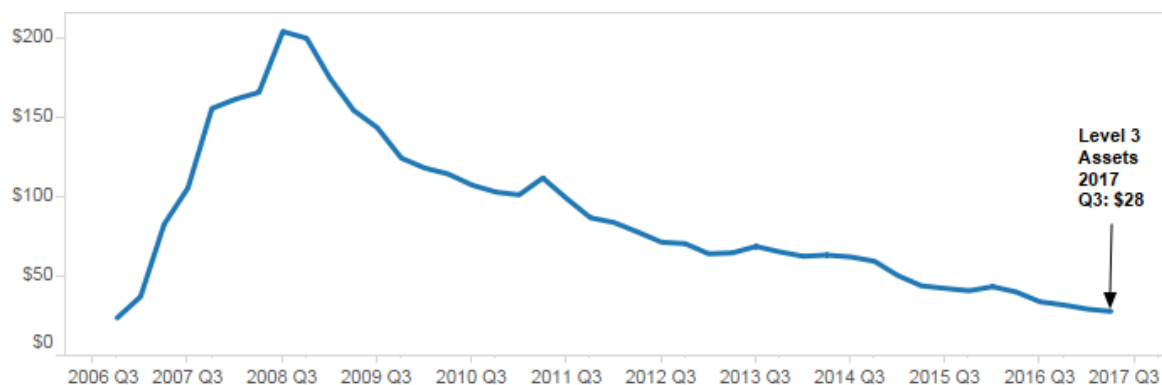


Source: Bloomberg

### **Level 3 Trading Assets**

Another measure used to assess market risk is the volume of and changes in level 3 trading assets. Level 3 trading assets are assets whose fair value cannot be determined by using observable inputs, such as market prices. Since the peak of the financial crisis at the end of 2008, major dealers have reduced the volume of level 3 trading assets. Because banks cannot observe inputs into the models that determine the fair value of these illiquid exposures, banks use their own assumptions in determining their fair values. Level 3 assets peaked at \$204.1 billion at the end of 2008 (see figure 4). At the end of the third quarter of 2017, banks held \$27.8 billion of level 3 trading assets, down 4.8 percent from the previous quarter, and 30.4 percent lower than a year ago. Level 3 assets are \$176.3 billion (86.4 percent) lower than the peak level from 2008.

**Figure 4. Level 3 Trading Assets, in Billions of Dollars**



Source: Call reports, Schedule RC-Q

<sup>4</sup> VIX is the trademarked ticker symbol for the Chicago Board Options Exchange SPX Volatility Index.

## Credit Derivatives

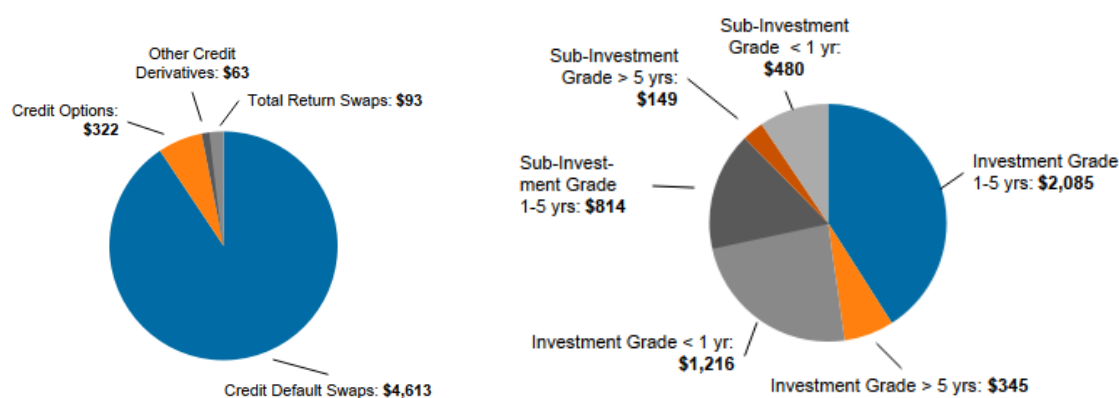
The notional amounts outstanding of credit derivatives increased \$156.0 billion (3.2 percent) in the third quarter of 2017 to \$5.0 trillion. Contracts referencing sub-investment-grade firms increased \$10.9 billion in the third quarter, while contracts referencing investment-grade firms increased \$144.7 billion. Credit derivatives outstanding remained well below the peak of \$16.4 trillion in the first quarter of 2008 (see graphs 1 and 14 in the appendix). As shown in figure 5, credit default swaps are the dominant product, at \$4.6 trillion (90.6 percent) of all credit derivative notional amounts (see also tables 11 and 12 in the appendix).

Contracts referencing investment-grade entities with maturities from one to five years, which increased by \$12.2 billion (0.6 percent) in the quarter, represented the largest segment of the market at 41.0 percent of all credit derivative notional amounts. Contracts of all tenors that reference investment-grade entities are 71.6 percent of the market (see chart on right in figure 5 and graph 14 in the appendix).

**Figure 5. 2017 Q3 Credit Derivative Composition, in Billions of Dollars**

**By Product Type**

**By Maturity and Quality of Underlying Reference Entity**



Source: Call reports, Schedule RC-L

The notional amount for the 70 banks that net sold credit protection (i.e., assumed credit risk) was \$2.5 trillion, down \$73.2 billion (3.0 percent) from the second quarter of 2017. The notional amount for the 56 banks that net purchased credit protection (i.e., hedged credit risk) was \$2.6 trillion, \$82.4 billion lower (3.3 percent) than in the second quarter of 2017 (see table 12 in the appendix).

## Notional Amounts

Changes in notional amounts are generally reasonable reflections of business activity and can provide insight into potential revenue and operational issues. The notional amount of derivative contracts, however, does not provide a useful measure of market or credit risk.

The notional amount of derivative contracts held by banks in the third quarter increased by \$2.8 trillion (1.5 percent) to \$188.3 trillion from the previous quarter (see table 10). The increase in the notional amount of derivative contracts by underlying risk exposure was driven by a \$1.4 trillion increase in interest rate notional amounts as well as a \$0.9 trillion increase in foreign exchange notional amounts. Interest rate notional amounts continued to represent the majority of

banks' derivative holdings at \$141.2 trillion, or 75.0 percent of total derivatives during the third quarter of 2017 (see table 10).

Conversely, the increase in the notional amount of derivative contracts by contract type was driven by a \$3.6 trillion increase in options contracts (9.5 percent) to \$41.3 trillion offset somewhat by a \$1.2 trillion decrease in swap contracts (see table 11). Swap contracts remained the leading derivatives contract type at 54.1 percent of all notional amounts.

The four banks with the most derivative activity hold 90.2 percent of all bank derivatives, while the largest 25 banks account for nearly 100 percent of all contracts (see tables 3 and 5 and graph 4 in the appendix).

**Table 10. Derivative Notional Amounts by Underlying Risk Exposure Quarter-Over-Quarter, in Billions of Dollars**

	2017 Q3	2017 Q2	Q/Q Change	Q/Q % Change	2016 Q3	Y/Y Change	Y/Y % Change
Interest Rate	\$141,244	\$139,817	\$1,426	1.0%	\$132,993	\$8,251	6.2%
Foreign Exchange	\$37,457	\$36,521	\$936	2.6%	\$33,858	\$3,599	10.6%
Equity	\$3,056	\$2,908	\$147	5.1%	\$2,735	\$321	11.7%
Commodity	\$1,478	\$1,334	\$143	10.7%	\$1,312	\$165	12.6%
Credit Derivatives	\$5,090	\$4,935	\$156	3.2%	\$6,562	-\$1,472	-22.4%
Total Notional	\$188,324	\$185,516	\$2,808	1.5%	\$177,461	\$10,864	6.1%

Source: Call reports, Schedule RC-L

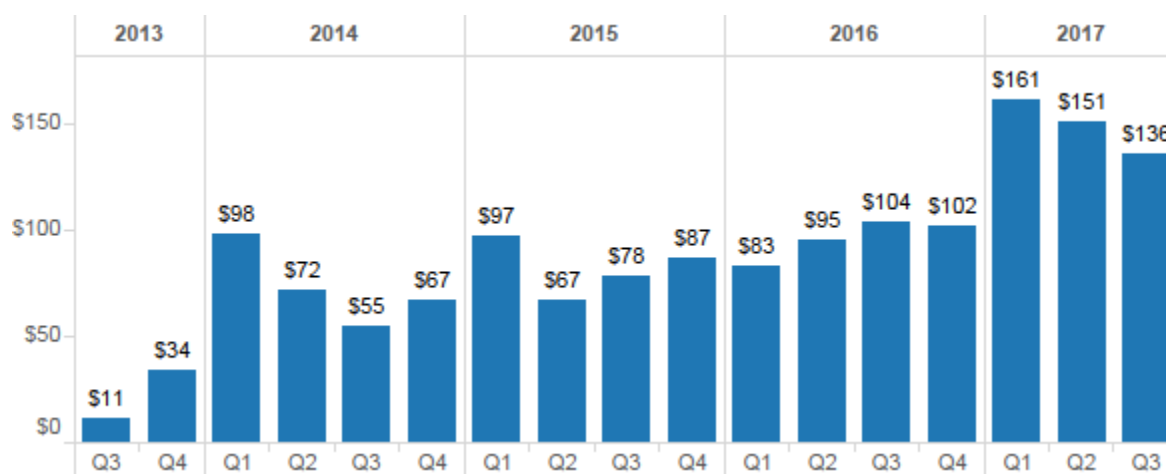
**Table 11. Derivative Notional Amounts by Contract Type Quarter-Over-Quarter, in Billions of Dollars**

	2017 Q3	2017 Q2	Q/Q Change	Q/Q % Change	2016 Q3	Y/Y Change	Y/Y % Change
Futures & Forwards	\$40,119	\$39,841	\$277	0.7%	\$36,957	\$3,162	8.6%
Swaps	\$101,809	\$103,004	-\$1,196	-1.2%	\$103,014	-\$1,205	-1.2%
Options	\$41,307	\$37,736	\$3,571	9.5%	\$30,928	\$10,379	33.6%
Credit Derivatives	\$5,090	\$4,935	\$156	3.2%	\$6,562	-\$1,472	-22.4%
Total Notional	\$188,324	\$185,516	\$2,808	1.5%	\$177,461	\$10,864	6.1%

Source: Call reports, Schedule RC-L

### **Compression Activity**

Notional amounts of banks' derivative contracts have generally declined since 2011 due to trade compression efforts, which has led to less need for risk management products. Trade compression continues to be a significant factor in reducing the amount of notional derivatives outstanding. Trade compression aggregates a large number of swap contracts with similar factors, such as risk or cash flows, into fewer trades. Compression removes economic redundancy in a derivative book and reduces operational risk and capital costs for large banks. Trade compression activities decreased in the third quarter of 2017, as shown in figure 6.

**Figure 6. Quarterly Compression Activity, in Trillions of Dollars**


Source: LCH.Clearnet

In the first quarter of 2015, banks began reporting their volumes of cleared and non-cleared derivative transactions, as well as risk weights for counterparties in each of these categories. In the third quarter of 2017, 39.6 percent of bank's derivative holdings were centrally cleared (see table 12). From a market factor perspective, 50.2 percent of interest rate derivative contracts' notional amounts outstanding were centrally cleared, while very little of the FX derivative market was centrally cleared. The bank-held credit derivative market remained largely uncleared, as 27.7 percent of investment grade and 23.4 percent of non-investment-grade transactions were centrally cleared (see graph 15 in the appendix).

Centrally cleared derivative transactions were heavily concentrated at qualified central counterparties, with 91.6 percent of notional amounts reflecting the 2 percent risk weight applicable to such counterparties.

**Table 12. Centrally Cleared Derivative Contracts as a Percentage of Total Derivative Contracts**

	Interest Rate	Foreign Exchange	Equity	Precious Metals	Credit	Other	Total
2017 Q3	50.2%	1.3%	28.6%	4.3%	26.2%	15.5%	39.6%
2017 Q2	50.8%	1.1%	27.3%	4.9%	23.6%	15.5%	40.3%
2017 Q1	49.8%	1.2%	25.1%	5.0%	22.3%	16.0%	39.2%
2016 Q4	49.2%	1.0%	23.4%	5.1%	20.4%	15.0%	38.8%
2016 Q3	49.2%	0.7%	24.3%	6.4%	21.2%	14.9%	39.0%
2016 Q2	49.1%	0.5%	22.1%	5.5%	18.3%	13.7%	39.1%
2016 Q1	45.4%	0.5%	21.4%	4.4%	19.4%	13.6%	36.5%
2015 Q4	46.2%	0.5%	20.0%	3.7%	16.8%	14.0%	36.9%
2015 Q3	44.7%	0.5%	14.5%	5.0%	20.4%	12.5%	36.0%
2015 Q2	43.1%	0.3%	13.6%	2.6%	19.6%	10.7%	35.0%
2015 Q1	44.7%	0.2%	13.6%	1.6%	19.7%	16.0%	36.5%

Source: Call reports, Schedule RC-R



## **Glossary of Terms**

**Bilateral netting:** A legally enforceable arrangement between a bank and a counterparty that creates a single legal obligation covering all included individual contracts. This arrangement means that a bank's receivables or payables, in the event of the default or insolvency of one of the parties, would be the net sum of all positive and negative fair values of contracts included in the bilateral netting arrangement.

**Centrally cleared derivative contract:** A standardized derivative contract that is transacted bilaterally but submitted for clearing to a central counterparty, with the central counterparty becoming the ultimate counterparty to both the buyer and the seller.

**Credit derivative:** A financial contract that allows a party to take, or reduce, credit exposure (generally on a bond, loan, or index). The OCC's derivatives survey includes OTC credit derivatives, such as credit default swaps, total return swaps, and credit spread options.

**Derivative:** A financial contract in which the value is derived from the performance of underlying market factors, such as interest rates, currency exchange rates, and commodity, credit, and equity prices. Derivative transactions include a wide assortment of financial contracts, such as structured debt obligations and deposits, swaps, futures, options, caps, floors, collars, forwards, and various combinations thereof.

**Gross negative fair value (GNFV):** The sum total of the fair values of contracts when the bank owes money to its counterparties, without taking into account netting. This amount represents the maximum losses the bank's counterparties would incur if the bank defaulted and there was no netting of contracts, and the counterparties held no bank collateral. GNFVs associated with credit derivatives are included.

**Gross positive fair value (GPFV):** The sum total of the fair values of contracts when the bank is owed money by its counterparties, without taking into account netting. This amount represents the maximum losses a bank would incur if all its counterparties defaulted and there was no netting of contracts, and the bank held no counterparty collateral. GPFVs associated with credit derivatives are included.

**Net current credit exposure (NCCE):** For a portfolio of derivative contracts, NCCE is the GPFV of contracts less the dollar amount of netting benefits. On any individual contract, current credit exposure (CCE) is the fair value of the contract if positive, and zero when the fair value is negative or zero. NCCE is also the net amount owed to banks if all contracts were immediately liquidated.

**Notional amount:** The nominal or face amount that is used to calculate payments made on swaps and other risk management products. This amount generally does not change hands and is thus referred to as notional.

**OTC derivative contracts:** Privately negotiated derivative contracts that are transacted off of organized exchanges.

**Potential future exposure (PFE):** An estimate of what the CCE could be over time, based on a supervisory formula in the agencies' risk-based capital rules. PFE is generally determined by multiplying the notional amount of the contract by a credit conversion factor that is based on the underlying market factor (e.g., interest rates, commodity prices, or equity prices) and the contract's remaining maturity. The risk-based capital rules, however, permit banks to adjust the



formulaic PFE measure by the net-to-gross ratio, which proxies the risk-reduction benefits attributable to a valid bilateral netting contract. PFE data in this report use the amounts on which banks hold risk-based capital.

**Total credit exposure (TCE):** The sum total of NCCE and PFE.

**Total risk-based capital:** The sum of tier 1 plus tier 2 capital. Tier 1 capital generally consists of common shareholders' equity, perpetual preferred shareholders' equity with noncumulative dividends, retained earnings, and tier 1 capital of consolidated subsidiaries that is not owned by the bank (minority interest) less regulatory adjustments and deductions. Tier 2 capital generally consists of subordinated debt, intermediate-term preferred stock, cumulative and long-term preferred stock, tier 2 capital of consolidated subsidiaries that is not owned by the bank (minority interest), and a portion of a bank's allowance for loan and lease losses less regulatory adjustments and deductions.

**Trade compression:** A significant factor in reducing the amount of notional derivatives outstanding. Trade compression aggregates a large number of swap contracts with similar factors, such as risk or cash flows, into fewer trades. Compression removes economic redundancy in a derivative book and reduces operational risks and capital costs for large banks.

**Volatility index (VIX):** A measure of the market's expectation of stock market volatility of S&P 500 index options over the next 30-day period.

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Table 9. Notional Amounts of Derivative Contracts by Contract Type and Maturity (precious metals)

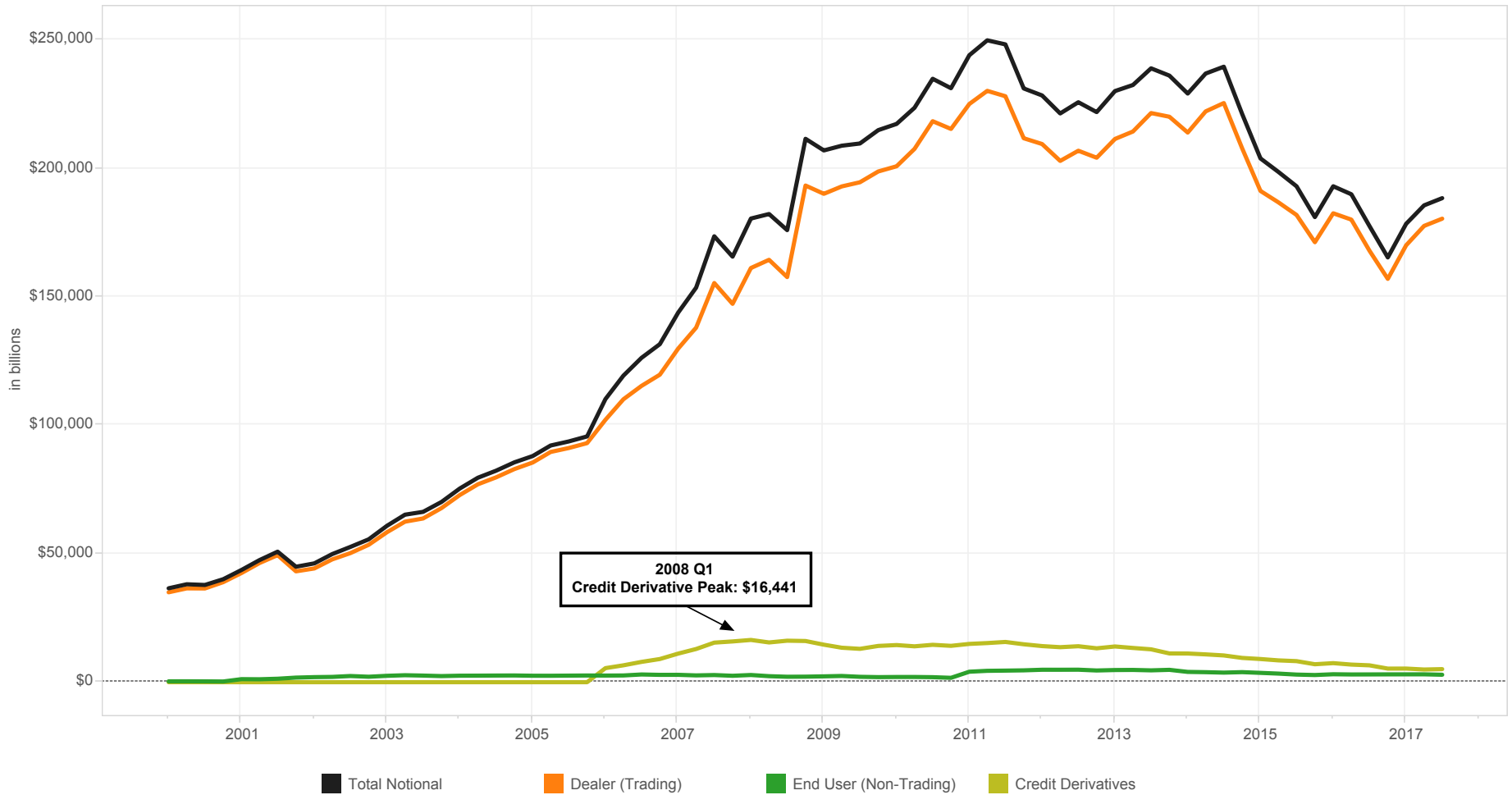
Table 10. Notional Amounts of Derivative Contracts by Contract Type and Maturity (other commodity and equity)

Table 11. Notional Amounts of Credit Derivative Contracts by Contract Type and Maturity (investment grade and sub-investment grade)

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Table 13. Derivatives Data Reported By FFIEC 051 Filers

**Graph 1**  
**Derivative Notional Amounts by Type**  
**Insured U.S. Commercial Banks and Savings Associations**

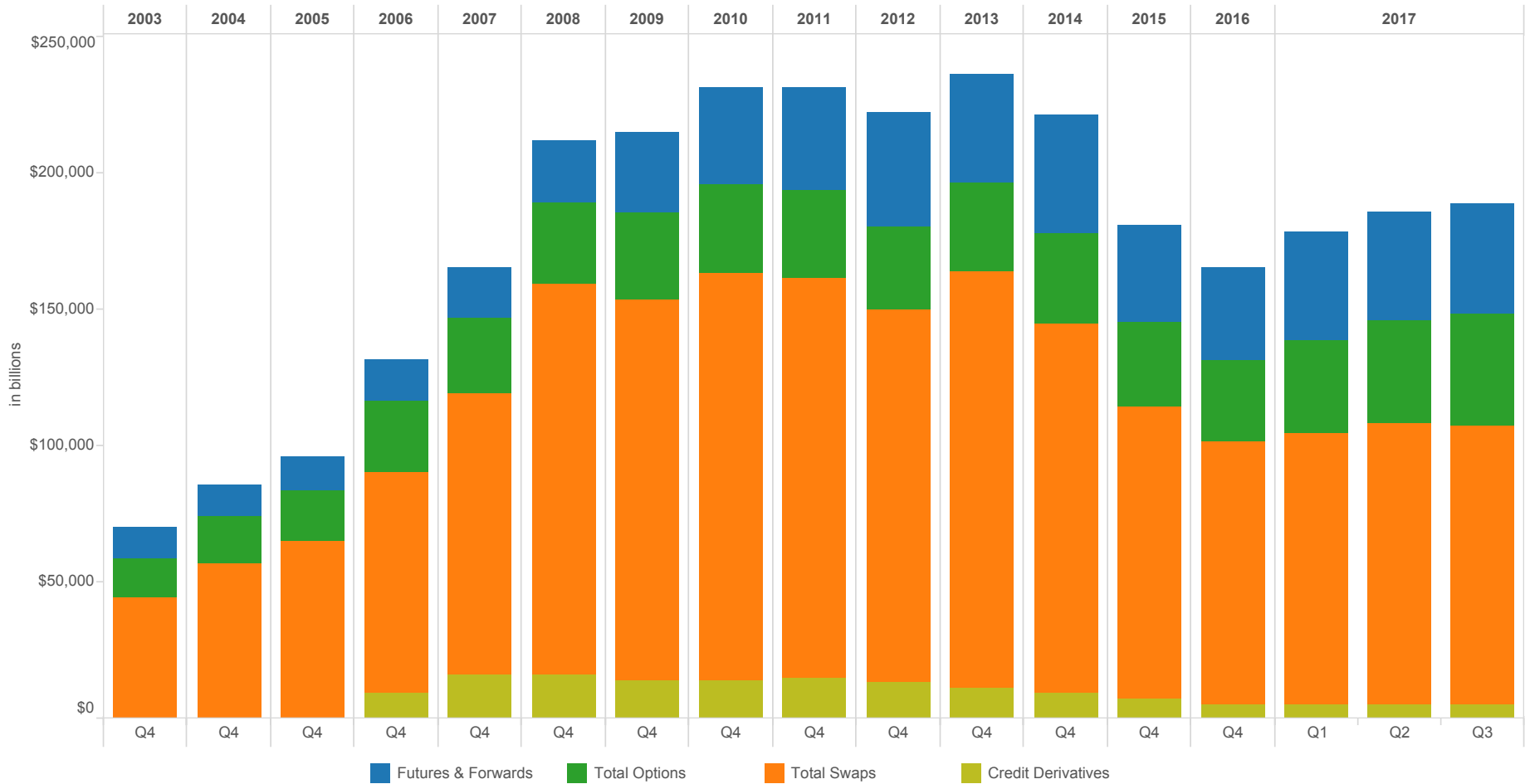


In billions of dollars

	2013				2014				2015				2016				2017		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
<b>Total Notional</b>	\$229,987	\$232,342	\$238,827	\$235,992	\$229,011	\$236,808	\$239,459	\$221,078	\$203,771	\$198,523	\$192,937	\$180,952	\$192,947	\$189,834	\$177,461	\$165,256	\$178,343	\$185,516	\$188,324
<b>Dealer (Trading)</b>	211,353	214,240	221,425	219,990	213,838	222,078	225,318	207,711	191,123	186,686	181,777	171,172	182,437	179,971	167,873	156,913	169,983	177,519	180,337
<b>End User (Non-Trading)</b>	4,733	4,776	4,610	4,812	4,008	3,903	3,732	3,918	3,632	3,349	2,963	2,794	3,092	3,010	3,025	3,049	3,056	3,063	2,898
<b>Credit Derivatives</b>	13,901	13,327	12,793	11,191	11,165	10,827	10,408	9,449	9,017	8,488	8,198	6,986	7,418	6,853	6,562	5,293	5,304	4,935	5,090

Note: Numbers may not total due to rounding. Total derivative notionals are now reported including credit derivatives, for which regulatory reporting does not differentiate between trading and non-trading.  
 Source: Call reports

**Graph 2**  
**Derivative Contracts by Product\***  
**Insured U.S. Commercial Banks and Savings Associations**

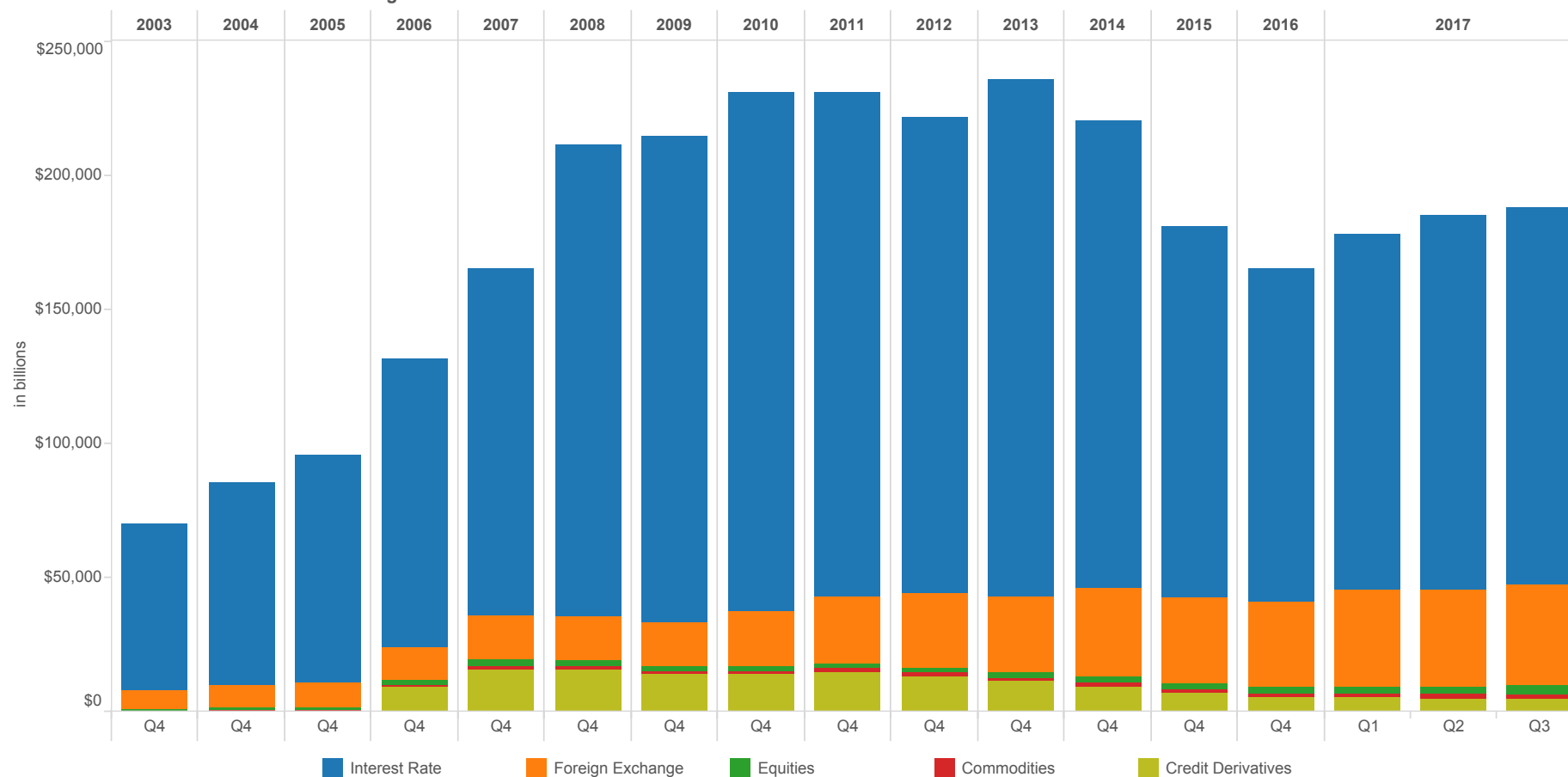


In billions of dollars

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q1	Q2	Q3
<b>Futures &amp; Forwards</b>	\$11,406	\$11,370	\$12,057	\$14,882	\$18,867	\$22,529	\$29,652	\$35,539	\$37,469	\$41,621	\$40,027	\$43,380	\$35,685	\$34,193	\$39,858	\$39,841	\$40,119
<b>Total Options</b>	14,616	17,754	18,858	26,277	27,727	29,747	31,884	32,078	32,505	30,375	32,305	33,081	30,889	29,386	33,999	37,736	41,307
<b>Total Swaps</b>	44,090	56,411	64,712	81,340	103,102	143,111	139,138	149,331	146,266	136,608	152,469	135,169	107,392	96,384	99,183	103,004	101,809
<b>Credit Derivatives</b>	0	0	0	9,020	15,863	16,029	14,112	14,151	14,759	13,190	11,191	9,449	6,986	5,293	5,304	4,935	5,090
<b>Total Notional</b>	70,112	85,536	95,627	131,519	165,559	211,416	214,786	231,099	230,998	221,794	235,992	221,078	180,952	165,256	178,343	185,516	188,324

\*Notional amount of total: futures, exchange-traded options, over the counter options, forwards and swaps.  
 Note: Numbers may not add due to rounding  
 Source: Call reports

**Graph 3**  
**Derivative Contracts by Type\***  
**Insured U.S. Commercial Banks and Savings Associations**

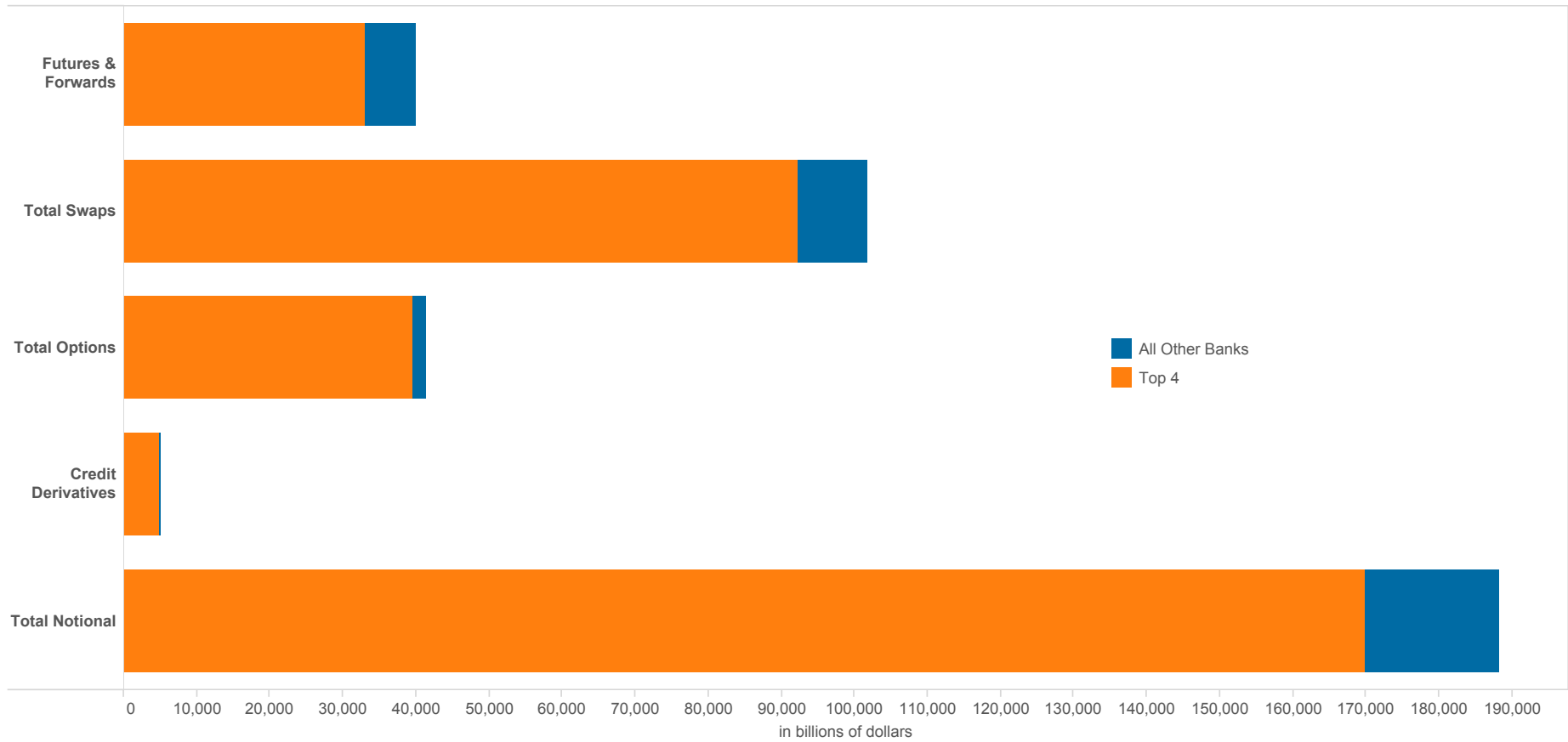


In billions of dollars

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q1	Q2	Q3
<b>Interest Rate</b>	\$61,876	\$75,533	\$84,530	\$107,435	\$129,491	\$175,895	\$181,454	\$193,399	\$187,866	\$177,650	\$193,084	\$174,687	\$138,363	\$124,480	\$132,690	\$139,817	\$141,244
<b>Foreign Exchange</b>	7,185	8,607	9,289	11,900	16,614	16,224	16,555	20,990	25,436	27,587	28,480	33,183	32,100	31,737	36,161	36,521	37,457
<b>Equities</b>	829	1,112	1,255	2,271	2,524	2,207	1,685	1,364	1,606	1,970	2,028	2,537	2,395	2,488	2,839	2,908	3,056
<b>Commodities</b>	223	284	552	893	1,067	1,061	979	1,195	1,330	1,397	1,209	1,222	1,108	1,257	1,350	1,334	1,478
<b>Credit Derivatives</b>	0	0	0	9,020	15,863	16,029	14,112	14,151	14,759	13,190	11,191	9,449	6,986	5,293	5,304	4,935	5,090
<b>Total Notional</b>	70,112	85,536	95,627	131,519	165,559	211,416	214,786	231,099	230,998	221,794	235,992	221,078	180,952	165,256	178,343	185,516	188,324

Note: As of 2006 Q2 equities and commodities types are shown as separate categories. They were previously shown as "Other Derivs."  
 Numbers may not total due to rounding.  
 Source: Call Reports

**Graph 4**  
**Four Banks Dominate in Derivatives\***  
*Insured U.S. Commercial Banks and Savings Associations*

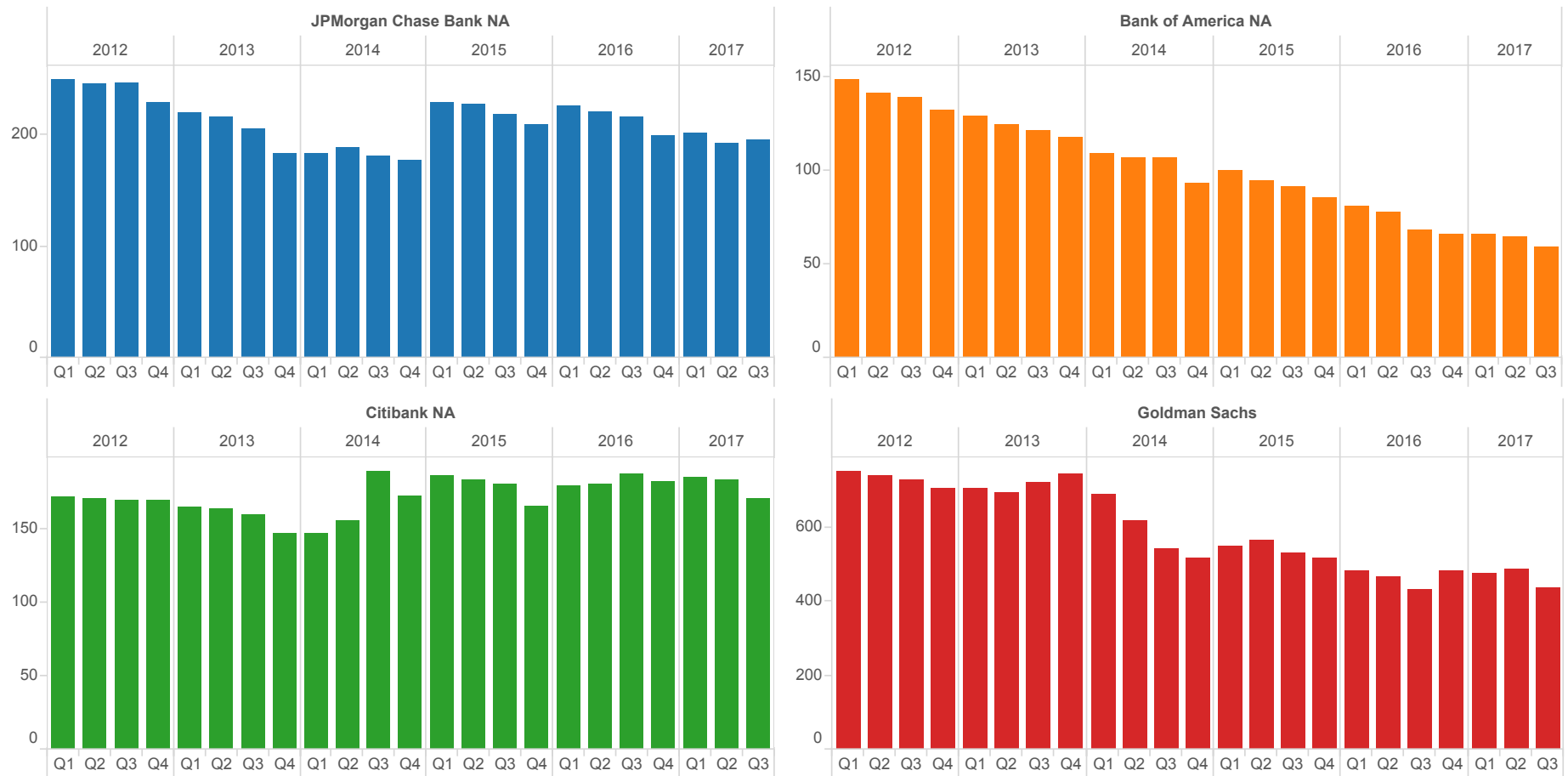


In billions of dollars

	Top 4	All Other Banks	Grand Total
Futures & Forwards	\$33,202	\$6,917	\$40,119
Total Swaps	92,263	9,546	101,809
Total Options	39,534	1,772	41,307
Credit Derivatives	4,913	177	5,090
Total Notional	169,912	18,412	188,324

\*Notional amount of total: futures, exchange-traded options, over-the-counter options, forwards, and swaps.  
 Source: Call reports

**Graph 5**  
**Credit Exposure to Risk-Based Capital (in Percentage)**  
**Top 4 Insured U.S. Commercial Banks and Savings Associations by Derivative Holdings**



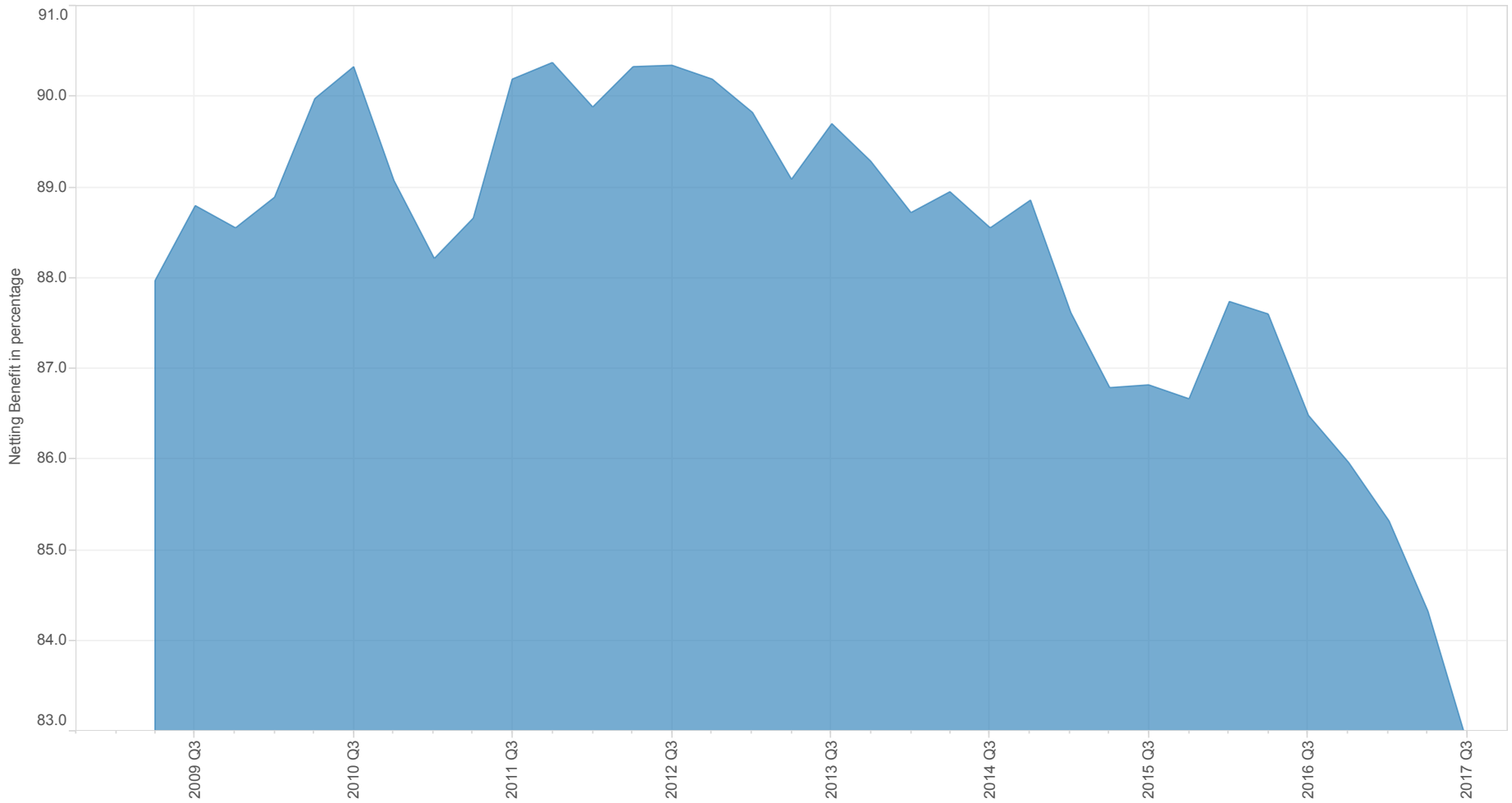
	2012				2013				2014				2015				2016				2017		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
<b>JPMorgan Chase Bank NA</b>	250	246	247	229	219	216	205	183	183	189	181	177	229	228	219	209	225	221	216	199	201	193	195
<b>Bank of America NA</b>	149	141	139	132	129	125	121	117	109	107	107	93	100	95	91	85	81	77	68	66	66	64	59
<b>Citibank NA</b>	172	171	170	170	165	164	161	148	147	156	190	173	187	184	181	166	180	181	188	183	186	184	171
<b>Goldman Sachs</b>	751	738	727	705	703	693	719	741	689	620	539	516	547	563	530	516	482	467	433	481	472	484	433
<b>TOTAL</b>	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
	284	282	281	271	261	258	262	262	248	240	224	211	238	242	232	223	226	222	217	220	220	218	205

Note: The methodology to calculate the credit risk exposure to capital ratio for the Top 4 category uses a weighted average of total current credit exposure.  
 Source: Call reports



**Graph 6**

**Netting Benefit\*: Amount of Gross Credit Exposure Eliminated Through Bilateral Netting Insured U.S. Commercial Banks and Savings Associations by Derivative Holdings**



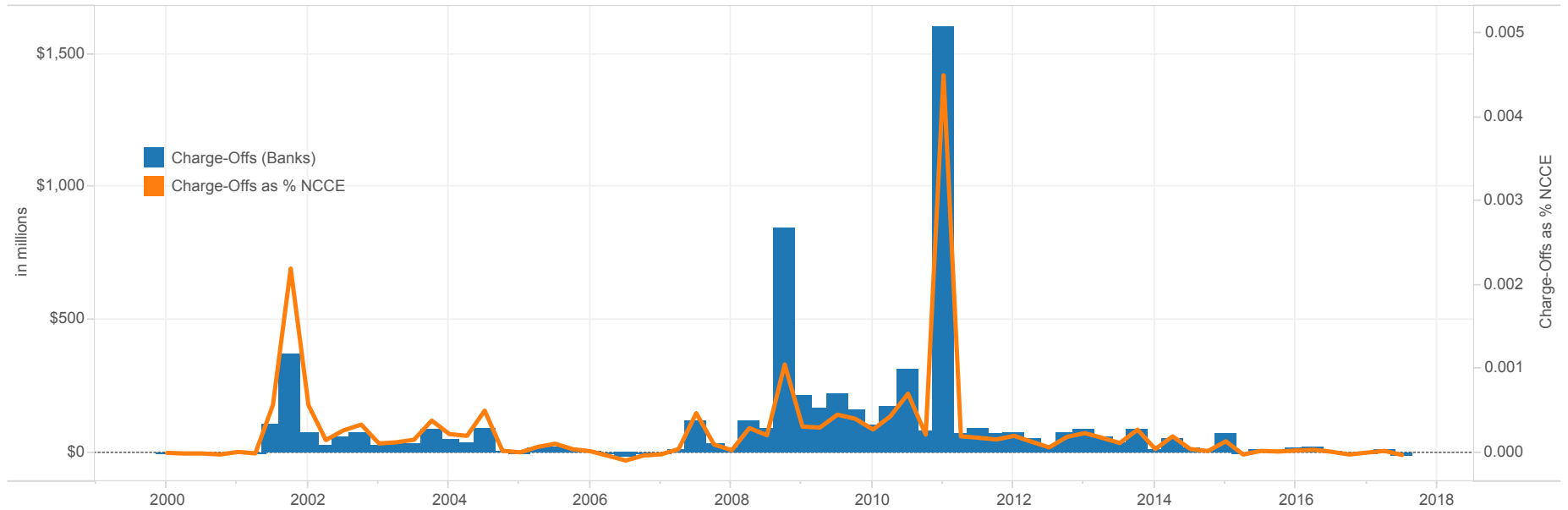
**Netting Benefit (in percentage)**

2009			2010				2011				2012				2013				2014				2015				2016				2017		
Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3				
88.0	88.8	88.5	88.9	90.0	90.3	89.1	88.2	88.6	90.2	90.4	89.9	90.3	90.3	90.2	89.8	89.1	89.7	89.3	88.7	88.9	88.6	88.8	87.6	86.8	86.8	86.7	87.7	87.6	86.5	86.0	85.3	84.3	82.9

\*The netting benefit is defined as: \$ amount of netting benefits/gross positive fair value.  
Source: Call reports, beginning the first quarter of 2015 RC-R; otherwise RC-L

**Graph 7**

**Quarterly Charge-Offs/(Recoveries) From Derivatives - Bank  
Insured U.S. Commercial Banks and Savings Associations with Derivatives**



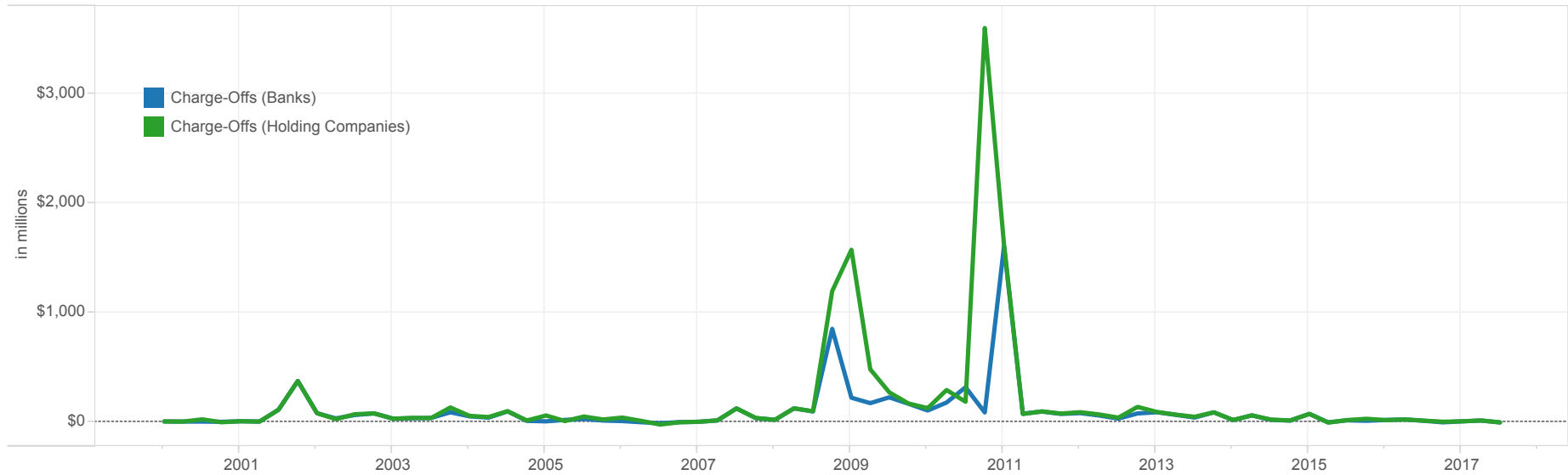
In millions of dollars

	2000				2001				2002				2003			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Charge-Offs (Banks)	0.0	-1.0	-1.0	-3.0	2.0	-1.0	107.3	370.0	75.8	28.2	59.0	73.7	25.3	29.9	32.3	83.7
	2004				2005				2006				2007			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Charge-Offs (Banks)	46.7	34.9	92.2	5.4	1.3	14.2	23.0	8.3	3.6	-7.0	-16.0	-5.8	-3.1	9.1	119.5	30.7
	2008				2009				2010				2011			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Charge-Offs (Banks)	15	120	92	847	217	168	221	162	100	173	313	83	1,601	72	91	69
	2012				2013				2014				2015			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Charge-Offs (Banks)	76.35	54.34	26.12	73.44	84.28	60.72	35.77	83.45	12.78	55.90	14.53	7.91	69.31	-7.93	10.44	6.40
	2016				2017											
	Q1	Q2	Q3	Q4	Q1	Q2	Q3									
Charge-Offs (Banks)	13.30	18.56	6.48	-7.84	1.22	8.71	-8.77									

Note: The figures are for each quarter alone, not year-to-date.  
 NCCE: Pre 2009 Q2 (RC-R); 2009 Q2 - 2014 Q4 (RC-L); 2015 Q1 onward (RC-R)  
 Source: Call reports

**Graph 8**

**Quarterly Charge-Offs/(Recoveries) From Derivatives - Holding Company**  
**Insured U.S. Commercial Banks and Savings Associations with Derivatives Compared with Holding Companies**

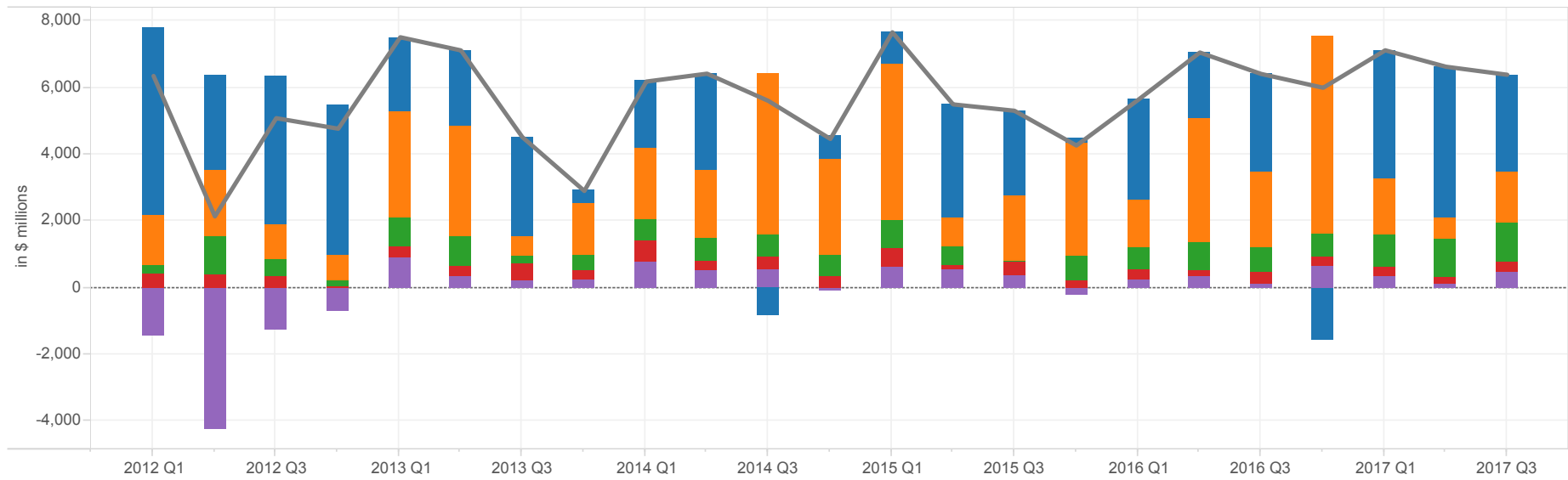


In millions of dollars

	2000				2001				2002				2003										
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4							
Charge-Offs (Banks)	0.0	-1.0	-1.0	-3.0	2.0	-1.0	107.3	370.0	75.8	28.2	59.0	73.7	25.3	29.9	32.3	83.7							
Charge-Offs (Holding Companies)	0.1	-1.0	19.3	-7.0	2.0	-1.0	107.3	369.6	75.8	21.2	66.0	73.7	25.3	32.9	31.4	127.8							
	2004				2005				2006				2007										
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4							
Charge-Offs (Banks)	46.7	34.9	92.2	5.4	1.3	14.2	23.0	8.3	3.6	-7.0	-16.0	-5.8	-3.1	9.1	119.5	30.7							
Charge-Offs (Holding Companies)	51.2	40.4	94.2	9.0	54.9	3.6	45.1	18.1	35.4	5.4	-28.1	-7.2	-3.1	10.4	119.4	32.2							
	2008				2009				2010				2011										
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4							
Charge-Offs (Banks)	15	120	92	847	217	168	221	162	100	173	313	83	1,601	72	91	69							
Charge-Offs (Holding Companies)	15	120	93	1,192	1,570	477	266	164	122	288	181	3,598	1,617	68	92	73							
	2012				2013				2014				2015				2016				2017		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Charge-Offs (Banks)	76.3	54.3	26.1	73.4	84.3	60.7	35.8	83.5	12.8	55.9	14.5	7.9	69.3	-7.9	10.4	6.4	13.3	18.6	6.5	-7.8	1.2	8.7	-8.8
Charge-Offs (Holding Companies)	84.6	64.0	34.9	133.4	87.2	62.6	42.9	83.4	13.6	55.6	17.2	9.1	69.0	-10.2	12.9	24.5	12.8	18.0	7.5	-2.5	1.4	8.9	-8.3

Note: The figures are for each quarter alone, not year-to-date.  
 Source: Call reports and Y-9

**Graph 9a**  
**Quarterly Trading Revenue (Cash and Derivative Positions)\* - Bank**  
**Insured U.S. Commercial Banks and Savings Associations**



- Interest Rate
- Foreign Exchange
- Equity
- Commodity & Other
- Credit
- Total Trading Revenue

In millions of dollars

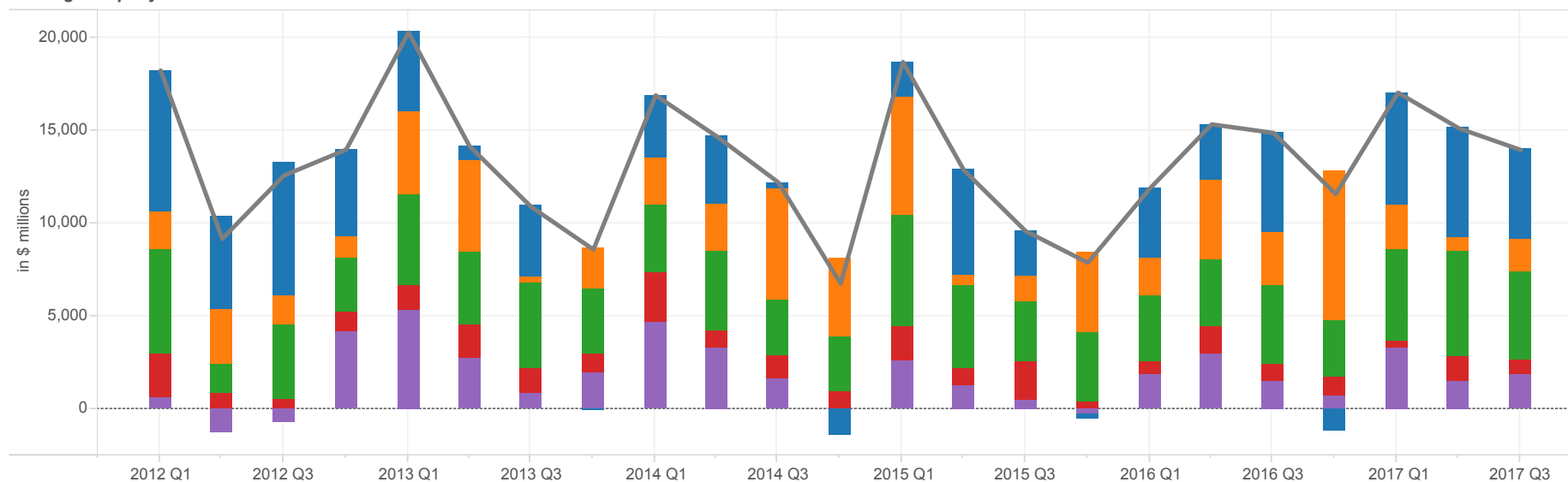
	3Q2017	Average Past 12 Q3's	Past 8 Quarter Average	Past 8 Quarter High	Past 8 Quarter Low	Since 2000 Average	Max Since 2000	Min Since 2000
Interest Rate	2,918	1,899	2,267	4,520	-5,282	1,711	9,291	-1,547
Foreign Exchange	1,540	2,649	2,513	5,941	-1,069	1,843	5,941	681
Equity	1,183	655	774	1,183	-1,059	574	1,830	49
Commodity & Other	284	362	278	402	-307	227	789	161
Credit	470	370	267	634	-10,237	-172	2,727	-222
<b>Total Trading Revenue</b>	<b>6,396</b>	<b>5,936</b>	<b>6,099</b>	<b>7,129</b>	<b>-10,580</b>	<b>4,182</b>	<b>10,217</b>	<b>4,273</b>

In millions of dollars

	2012				2013				2014				2015				2016				2017		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Interest Rate	5,627	2,870	4,457	4,521	2,243	2,268	3,002	360	2,015	2,883	-819	664	958	3,406	2,578	154	3,023	1,973	2,920	-1,547	3,865	4,520	2,918
Foreign Exchange	1,505	1,990	1,020	753	3,185	3,303	588	1,550	2,137	2,026	4,830	2,902	4,703	855	1,931	3,401	1,424	3,719	2,294	5,941	1,685	681	1,540
Equity	260	1,140	508	187	838	924	233	491	612	726	654	650	797	587	49	742	668	867	734	681	922	1,122	1,183
Commodity & Other	412	390	350	30	364	292	481	265	672	293	411	335	587	129	402	198	271	161	353	296	328	206	284
Credit	-1,444	-4,243	-1,242	-713	890	339	222	245	756	500	535	-79	624	530	357	-222	263	342	118	634	330	108	470
<b>Total Trading Revenue</b>	<b>6,359</b>	<b>2,147</b>	<b>5,093</b>	<b>4,778</b>	<b>7,520</b>	<b>7,125</b>	<b>4,527</b>	<b>2,911</b>	<b>6,192</b>	<b>6,428</b>	<b>5,612</b>	<b>4,471</b>	<b>7,669</b>	<b>5,507</b>	<b>5,316</b>	<b>4,273</b>	<b>5,650</b>	<b>7,062</b>	<b>6,420</b>	<b>6,006</b>	<b>7,129</b>	<b>6,637</b>	<b>6,396</b>

\*The trading revenue figures are for cash and derivative activities. Revenue figures are for each quarter alone, not year-to-date.  
 Note: Numbers may not total due to rounding.  
 Source: Call reports

**Graph 9b**  
**Quarterly Trading Revenue (Cash and Derivative Positions)\***  
**Holding Company**



- Interest Rate
- Foreign Exchange
- Equity
- Commodity & Other
- Credit
- Total Trading Revenue

**In millions of dollars**

	2012				2013				2014				2015				2016				2017		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
<b>Interest Rate</b>	7,592	5,032	7,139	4,683	4,272	823	3,811	-94	3,395	3,645	353	-1,396	1,893	5,662	2,403	-243	3,808	2,965	5,359	-1,193	6,013	5,884	4,780
<b>Foreign Exchange</b>	2,005	2,959	1,617	1,185	4,414	4,890	320	2,205	2,472	2,521	5,985	4,243	6,329	552	1,393	4,338	2,025	4,318	2,899	8,007	2,440	721	1,766
<b>Equity</b>	5,684	1,543	3,973	2,849	4,960	3,936	4,561	3,484	3,682	4,296	2,938	2,947	6,022	4,481	3,196	3,696	3,441	3,612	4,159	3,021	4,902	5,682	4,705
<b>Commodity &amp; Other</b>	2,265	880	542	1,107	1,324	1,746	1,347	1,052	2,617	924	1,242	954	1,833	871	2,146	412	738	1,491	969	1,003	399	1,330	784
<b>Credit</b>	673	-1,239	-696	4,143	5,292	2,761	855	1,949	4,718	3,292	1,687	14	2,603	1,294	452	-317	1,880	2,940	1,482	742	3,274	1,493	1,917
<b>Total Trading Revenue</b>	18,220	9,175	12,575	13,968	20,262	14,156	10,893	8,595	16,885	14,679	12,205	6,762	18,680	12,860	9,590	7,887	11,892	15,327	14,868	11,579	17,028	15,111	13,953

\*The trading revenue figures are for cash and derivative activities. Revenue figures are for each quarter alone, not year-to-date.

Note: Numbers may not total due to rounding.

Source: Y9

**Graph 10**

**Quarterly Trading Revenue (Cash and Derivative Positions) as a Percentage of Gross Revenue (in Percentage)**  
**Top 4 Insured U.S. Commercial Banks and Savings Associations by Derivative Holdings**



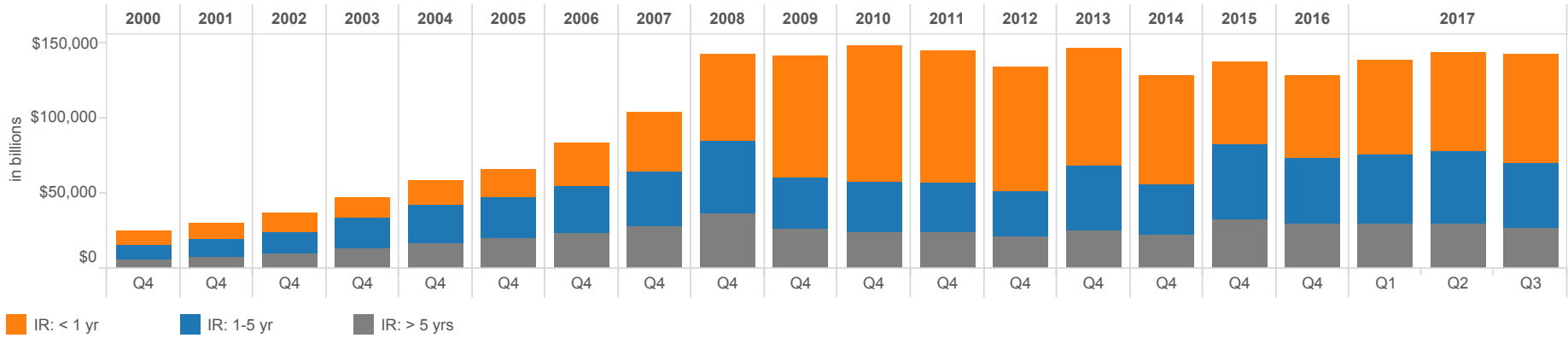
**Trading Revenue to Gross Revenue (in percentage)\***

	2012				2013				2014				2015				2016				2017		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
JPMorgan Chase Bank NA	10.24	-1.48	13.79	10.50	18.65	18.73	10.67	1.24	12.63	13.31	13.47	6.97	17.73	13.25	12.65	7.03	12.26	13.34	13.83	11.17	13.84	12.16	11.64
Bank of America NA	0.67	4.16	1.28	1.35	3.39	-5.97	2.14	-1.58	7.80	9.11	5.11	3.68	6.78	0.49	5.19	1.72	3.90	6.87	4.18	3.28	4.70	4.49	4.09
Citibank NA	10.95	5.36	5.74	3.94	7.45	11.71	6.39	7.20	8.51	7.43	5.48	4.78	9.17	8.41	6.54	6.30	7.19	9.41	6.47	10.97	10.47	8.50	9.12
Goldman Sachs	65.27	12.48	33.26	17.68	32.65	37.30	11.54	24.45	23.67	22.21	13.74	13.06	15.85	17.32	13.32	6.16	23.78	9.54	12.16	7.22	17.71	15.66	7.10
<b>TOTAL</b>	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
	8.70	2.78	7.86	5.72	10.42	9.56	6.72	2.77	10.06	10.45	8.53	5.35	11.68	7.62	8.41	5.03	8.45	10.14	8.51	8.51	10.10	8.74	8.47

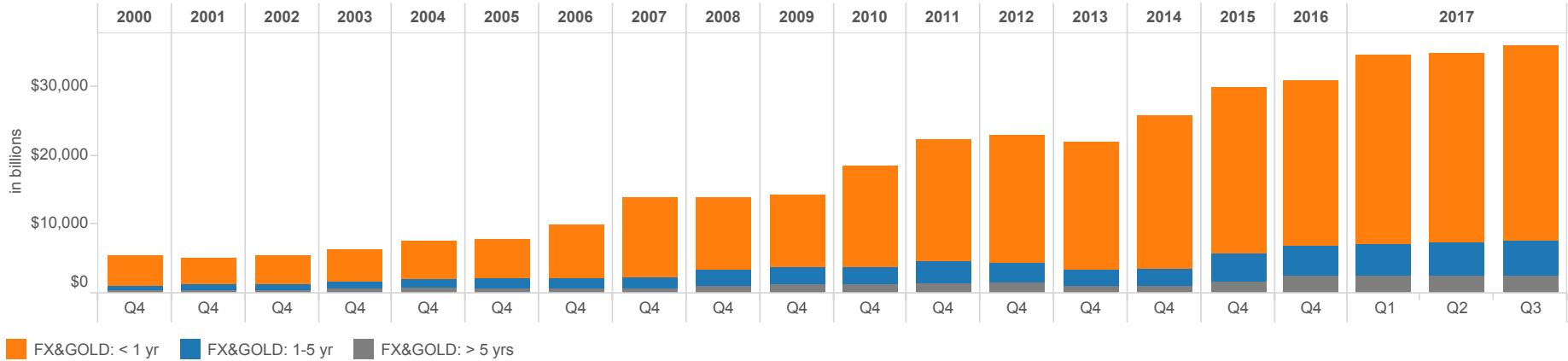
\*The trading revenue figures are for cash and derivative activities. Revenue figures are quarterly, not year-to-date numbers.  
 Note: Gross revenue equals interest income plus non-interest income.  
 Source: Call reports

**Graph 11**  
**Notional Amounts of Interest Rate and FX + Gold Contracts by Maturity**  
**Insured U.S. Commercial Banks and Savings Associations**

**Interest Rate**



**FX & Gold**



**In billions of dollars**

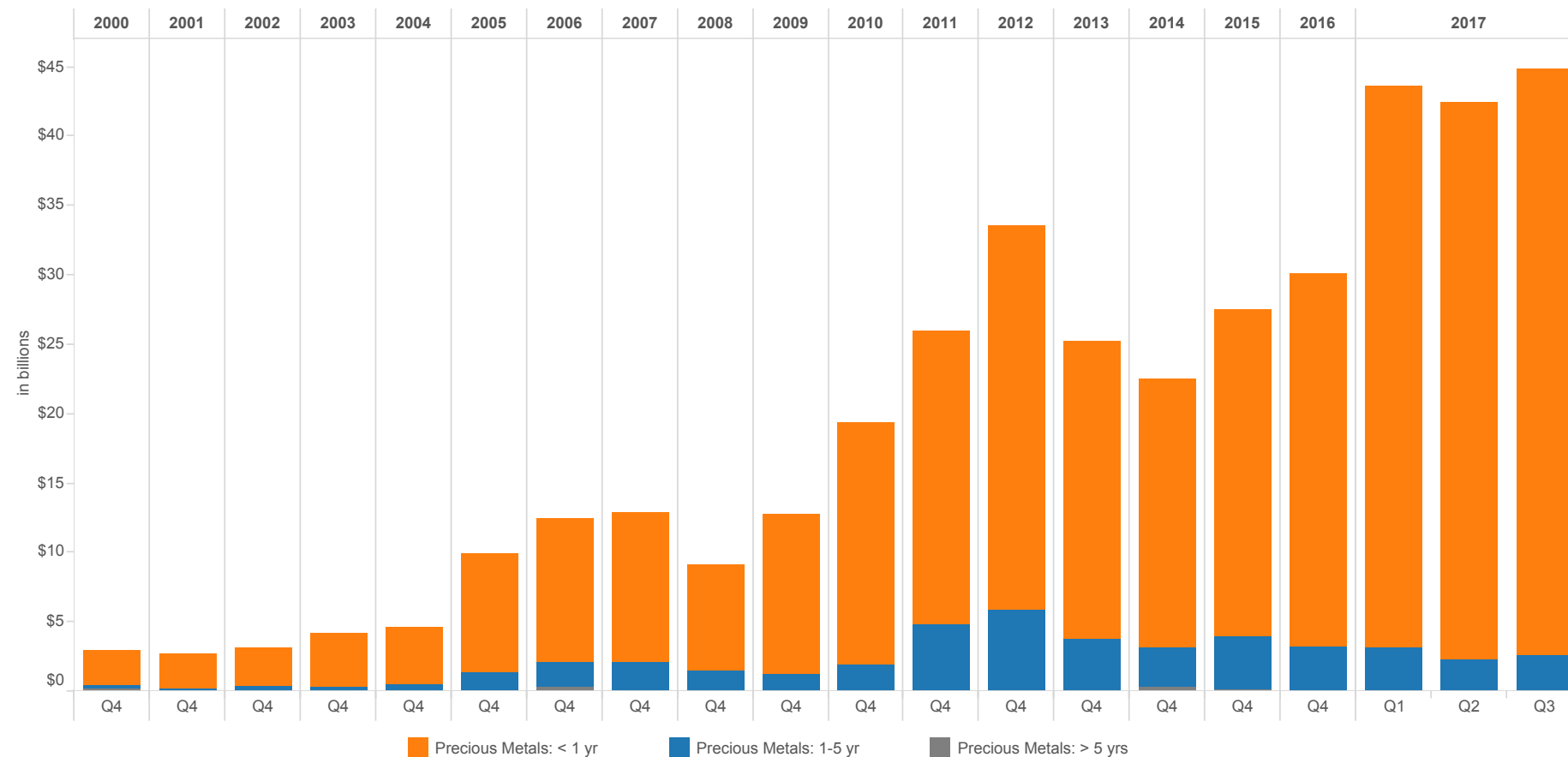
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q1	Q2	Q3
<b>IR: &lt; 1 yr</b>	\$9,688	\$10,379	\$12,982	\$13,581	\$15,921	\$18,483	\$29,552	\$39,085	\$58,618	\$81,236	\$90,843	\$87,812	\$82,948	\$77,758	\$71,808	\$55,047	\$55,053	\$61,923	\$65,969	\$72,143
<b>IR: 1-5 yr</b>	9,894	11,709	14,328	20,404	25,893	27,683	31,386	37,222	47,456	33,970	33,497	32,750	30,191	44,157	33,727	49,406	43,262	46,450	48,374	43,430
<b>IR: &gt; 5 yrs</b>	5,830	7,451	9,735	13,117	16,492	19,825	23,273	27,724	36,868	26,374	24,307	24,168	21,175	24,630	22,214	32,981	29,762	29,972	29,633	27,040
<b>FX&amp;GOLD: &lt; 1 yr</b>	4,397	3,816	4,078	4,510	5,384	5,728	7,730	11,660	10,640	10,490	14,629	17,632	18,386	18,372	22,145	24,130	23,911	27,320	27,411	28,416
<b>FX&amp;GOLD: 1-5 yr</b>	622	686	857	1,146	1,317	1,381	1,452	1,639	2,195	2,473	2,462	3,117	2,910	2,341	2,587	3,986	4,453	4,772	4,813	4,987
<b>FX&amp;GOLD: &gt; 5 yrs</b>	361	499	439	582	762	689	594	622	1,082	1,347	1,290	1,503	1,480	1,029	969	1,648	2,420	2,429	2,496	2,544

Note: Figures above exclude FX contracts with an original maturity of 14 days or less, written options, basis swaps, and any other contracts not subject to risk-based capital requirements. Effective Q1 2015, the reporting form and call report instructions changed. Schedule RC-R now requires banks to report gold and FX notionals in aggregate, rather than separately. Source: Call reports

**Graph 12**

**Notional Amounts of Precious Metal Contracts by Maturity  
Insured U.S. Commercial Banks and Savings Associations**

**Precious Metals**



**In billions of dollars**

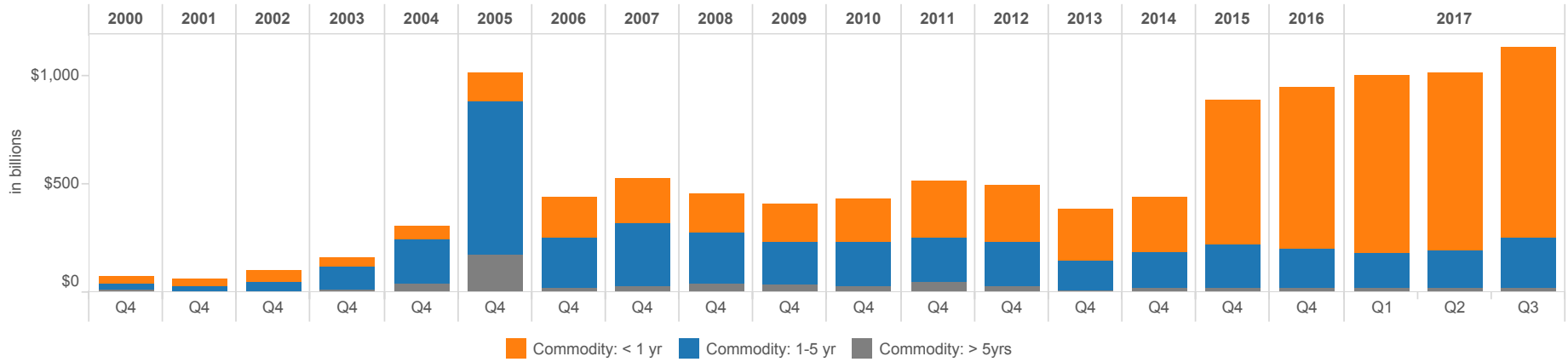
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q1	Q2	Q3
Precious Metals: < 1 yr	2.51	2.44	2.72	3.87	4.04	8.59	10.35	10.72	7.55	11.55	17.47	21.12	27.68	21.41	19.29	23.51	26.87	40.42	40.14	42.21
Precious Metals: 1-5 yr	0.25	0.23	0.46	0.33	0.51	1.29	1.75	2.10	1.51	1.24	1.89	4.74	5.82	3.80	2.84	3.92	3.27	3.13	2.24	2.56
Precious Metals: > 5 yrs	0.16	0.00	0.00	0.00	0.00	0.06	0.33	0.01	0.00	0.00	0.03	0.10	0.03	0.00	0.29	0.07	0.02	0.05	0.04	0.04

Note: Figures exclude FX contracts with an original maturity of 14 days or less, written options, basis swaps, and any other contracts not subject to risk-based capital requirements.  
Source: Call reports

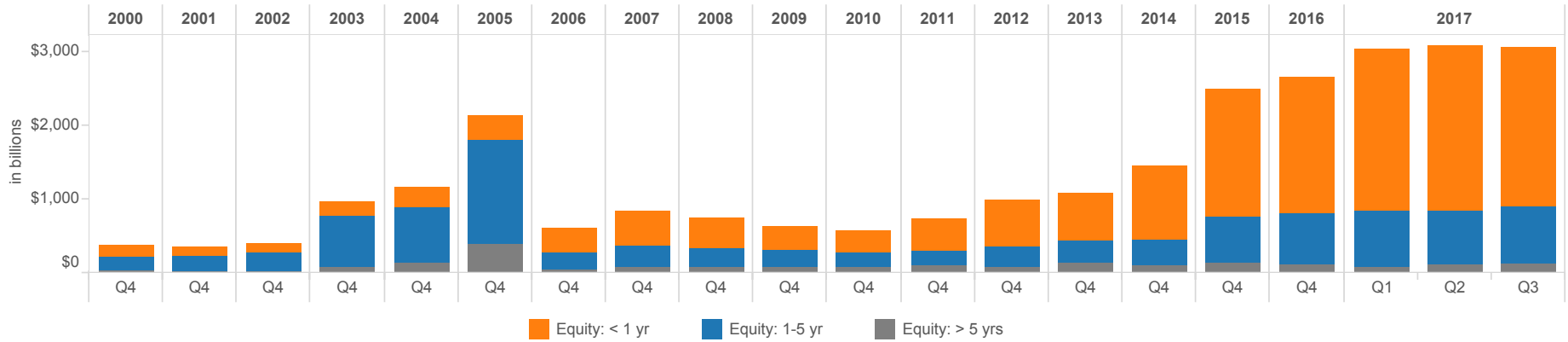


**Graph 13**  
**Notional Amounts of Commodity and Equity Contracts by Maturity**  
**Insured U.S. Commercial Banks and Savings Associations**

**Commodity**



**Equity**



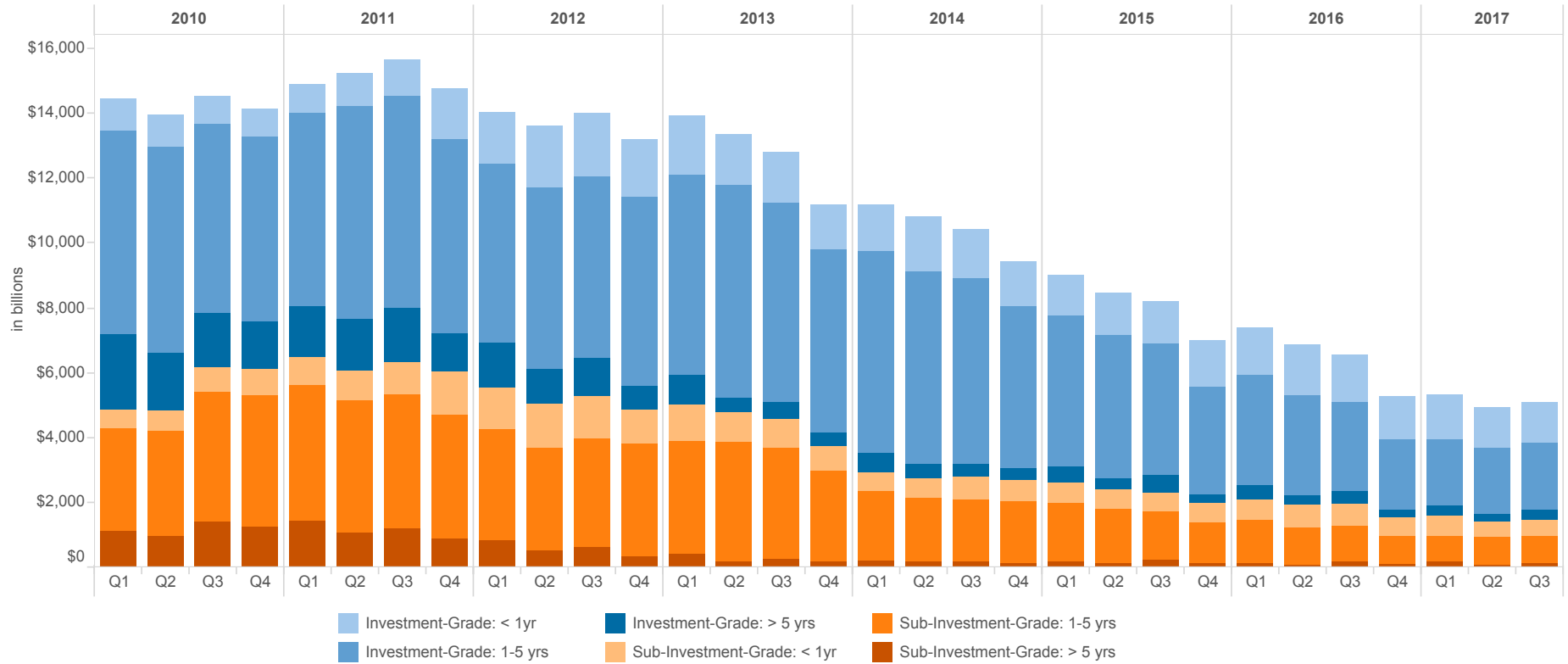
**In billions of dollars**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q1	Q2	Q3
Commodity: < 1 yr	\$36	\$31	\$55	\$43	\$64	\$133	\$185	\$206	\$179	\$176	\$203	\$261	\$261	\$235	\$257	\$668	\$750	\$824	\$819	\$883
Commodity: 1-5 yr	27	25	35	103	205	707	235	297	233	198	209	209	208	144	164	197	179	160	175	233
Commodity: > 5yrs	11	2	9	14	40	175	20	25	43	33	25	46	28	6	20	22	23	20	21	23
Equity: < 1 yr	162	121	127	197	273	321	341	473	409	312	296	427	627	645	996	1,743	1,847	2,203	2,236	2,160
Equity: 1-5 yr	180	209	249	674	736	1,428	221	297	256	228	191	210	262	291	352	628	680	763	720	781
Equity: > 5 yrs	38	18	25	84	140	383	45	70	72	82	85	94	82	136	101	130	123	85	127	119

Note: Figures above exclude foreign exchange contracts with an original maturity of 14 days or less, written options, basis swaps, and any other contracts not subject to risk-based capital requirements.  
 Data Source: Call reports

**Graph 14**

**Notional Amounts of Credit Derivative Contracts by Credit Quality and Maturity  
Insured U.S. Commercial Banks and Savings Associations**



In billions of dollars

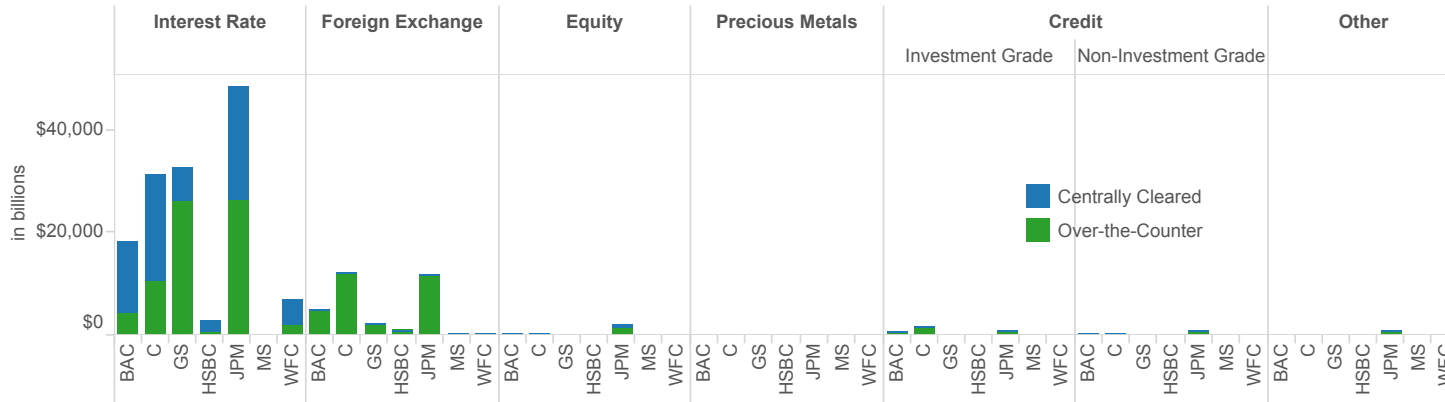
	2013				2014				2015				2016				2017		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Investment-Grade: < 1yr	\$1,790	\$1,550	\$1,548	\$1,384	\$1,414	\$1,707	\$1,478	\$1,375	\$1,256	\$1,292	\$1,270	\$1,380	\$1,471	\$1,549	\$1,451	\$1,348	\$1,343	\$1,234	\$1,216
Investment-Grade: 1-5 yrs	6,168	6,536	6,127	5,661	6,227	5,909	5,722	5,007	4,649	4,450	4,108	3,328	3,400	3,101	2,765	2,170	2,072	2,073	2,085
Investment-Grade: > 5 yrs	948	455	552	409	577	448	433	382	508	359	520	281	457	262	385	214	309	195	345
<b>Total Investment Grade</b>	<b>\$8,906</b>	<b>\$8,541</b>	<b>\$8,228</b>	<b>\$7,455</b>	<b>\$8,218</b>	<b>\$8,064</b>	<b>\$7,633</b>	<b>\$6,764</b>	<b>\$6,413</b>	<b>\$6,101</b>	<b>\$5,898</b>	<b>\$4,990</b>	<b>\$5,328</b>	<b>\$4,911</b>	<b>\$4,601</b>	<b>\$3,732</b>	<b>\$3,724</b>	<b>\$3,502</b>	<b>\$3,647</b>

	2013				2014				2015				2016				2017		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Sub-Investment-Grade: < 1yr	\$1,090	\$933	\$879	\$765	\$619	\$642	\$671	\$658	\$596	\$562	\$569	\$607	\$622	\$683	\$683	\$581	\$582	\$509	\$480
Sub-Investment-Grade: 1-5 yrs	3,491	3,656	3,424	2,792	2,127	1,960	1,948	1,887	1,813	1,673	1,518	1,271	1,313	1,159	1,122	869	838	830	814
Sub-Investment-Grade: > 5 yrs	414	197	262	179	200	160	157	140	194	152	213	119	155	101	157	111	159	93	149
<b>Total Sub-Investment Grade</b>	<b>\$4,995</b>	<b>\$4,786</b>	<b>\$4,565</b>	<b>\$3,736</b>	<b>\$2,946</b>	<b>\$2,763</b>	<b>\$2,775</b>	<b>\$2,685</b>	<b>\$2,604</b>	<b>\$2,387</b>	<b>\$2,299</b>	<b>\$1,997</b>	<b>\$2,090</b>	<b>\$1,943</b>	<b>\$1,962</b>	<b>\$1,561</b>	<b>\$1,579</b>	<b>\$1,432</b>	<b>\$1,443</b>

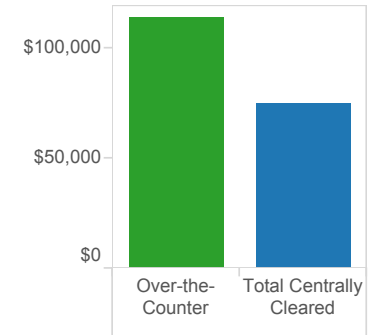
Note: Figures exclude FX contracts with an original maturity of 14 days or less, written options, basis swaps, and any other contracts not subject to risk-based capital requirements.  
Source: Call reports

**Graph 15**

**2017 Q3 Notional Amounts of Over-the-Counter and Centrally Cleared Derivative Contracts Insured U.S. Commercial Banks and Savings Associations**



**ALL BANKS**



**In billions of dollars**

Bank Name	Interest Rate		Foreign Exchange		Equity		Precious Metals		Credit				Other	
	Centrally Cleared	Over-the-Counter	Centrally Cleared	Over-the-Counter	Centrally Cleared	Over-the-Counter	Centrally Cleared	Over-the-Counter	Investment Grade		Non-Investment Grade		Centrally Cleared	Over-the-Counter
									Centrally Cleared	Over-the-Counter	Centrally Cleared	Over-the-Counter		
<b>JPM</b>	21,891	26,431	127	11,853	700	1,356	0	22	352	619	254	643	80	787
<b>C</b>	20,681	10,481	302	11,962	58	394	2	8	317	1,278	94	381	66	86
<b>BAC</b>	13,831	4,346	27	4,901	89	284	0	0	249	373	54	188	0	14
<b>GS</b>	6,509	25,996	0	2,387	0	25	0	0	0	93	0	61	0	6
<b>HSBC</b>	2,512	568	17	951	0	38	0	11	1	19	3	24	0	1
<b>WFC</b>	4,728	2,077	0	431	26	58	0	2	1	1	2	17	29	24
<b>MS</b>	0	1	0	343	0	0	0	0	0	8	0	2	0	0
<b>Grand Total</b>	<b>70,152</b>	<b>69,899</b>	<b>472</b>	<b>32,827</b>	<b>874</b>	<b>2,156</b>	<b>2</b>	<b>43</b>	<b>920</b>	<b>2,391</b>	<b>407</b>	<b>1,318</b>	<b>176</b>	<b>917</b>

Total Centrally Cleared	Over-the-Counter	Total Notional
23,405	41,711	65,116
21,521	24,590	46,112
14,249	10,106	24,356
6,509	28,568	35,077
2,532	1,611	4,143
4,787	2,609	7,395
0	354	354
<b>73,003</b>	<b>109,550</b>	<b>182,553</b>

**ALL OTHER**

1,446	1,117	0	2,648	0	30	0	0	0	7	0	13	1	45
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1,447	3,860	5,307
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**TOTAL**

71,598	71,015	473	35,475	874	2,185	2	43	920	2,398	407	1,331	177	962
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74,450	113,410	187,860
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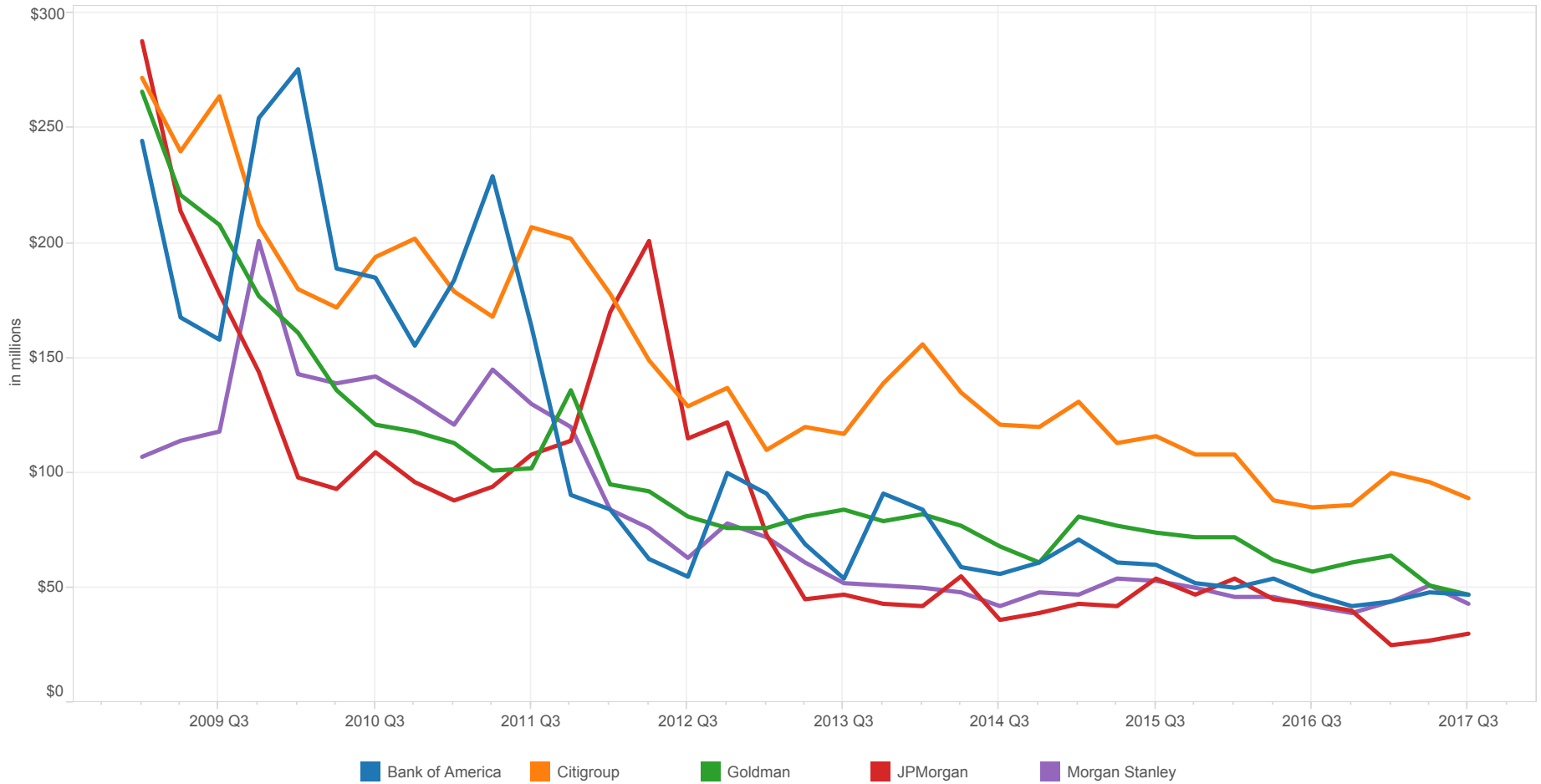
**% of Total**

Bank Name	Interest Rate		Foreign Exchange		Equity		Precious Metals		Credit				Other	
	Centrally Cleared	Over-the-Counter	Centrally Cleared	Over-the-Counter	Centrally Cleared	Over-the-Counter	Centrally Cleared	Over-the-Counter	Investment Grade		Non-Investment Grade		Centrally Cleared	Over-the-Counter
									Centrally Cleared	Over-the-Counter	Centrally Cleared	Over-the-Counter		
<b>JPM</b>	45%	55%	1%	99%	34%	66%	0%	100%	36%	64%	28%	72%	9%	91%
<b>C</b>	66%	34%	2%	98%	13%	87%	20%	80%	20%	80%	20%	80%	43%	57%
<b>BAC</b>	76%	24%	1%	99%	24%	76%	0%	100%	40%	60%	22%	78%	0%	100%
<b>GS</b>	20%	80%	0%	100%	0%	100%	0%	100%	0%	100%	0%	100%	0%	100%
<b>HSBC</b>	82%	18%	2%	98%	0%	100%	0%	100%	6%	94%	10%	90%	0%	100%
<b>WFC</b>	69%	31%	0%	100%	31%	69%	0%	100%	51%	49%	12%	88%	56%	44%
<b>MS</b>	0%	100%	0%	100%	0%	100%	0%	100%	0%	100%	0%	100%	0%	100%

Total Centrally Cleared as a % of Total Notional	Total Over-the-Counter as a % of Total Notional
36%	64%
47%	53%
59%	41%
19%	81%
61%	39%
65%	35%
0%	100%

Source: Call reports, Schedule RC-R.

**Graph 16**  
**Value-at-Risk (VaR)**  
**Insured U.S. Commercial Banks and Savings Associations**



In millions of dollars

	2011				2012				2013				2014				2015				2016				2017		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
<b>Bank of America</b>	\$184	\$229	\$164	\$90	\$84	\$63	\$55	\$100	\$91	\$69	\$54	\$91	\$84	\$59	\$56	\$61	\$71	\$61	\$60	\$52	\$50	\$54	\$47	\$42	\$44	\$48	\$47
<b>Citigroup</b>	179	168	207	202	178	149	129	137	110	120	117	139	156	135	121	120	131	113	116	108	108	88	85	86	100	96	89
<b>Goldman</b>	113	101	102	136	95	92	81	76	76	81	84	79	82	77	68	61	81	77	74	72	72	62	57	61	64	51	47
<b>JPMorgan</b>	88	94	108	114	170	201	115	122	73	45	47	43	42	55	36	39	43	42	54	47	54	45	43	40	25	27	30
<b>Morgan Stanley</b>	121	145	130	120	84	76	63	78	72	61	52	51	50	48	42	48	47	54	53	50	46	46	42	39	44	51	43
<b>Total</b>	685	737	711	662	611	581	443	513	422	376	354	403	414	374	323	329	373	347	357	329	330	295	274	268	277	273	256

Data Source: 10Q, 10k U.S. Securities and Exchange Commission Reports

TABLE 1

**NOTIONAL AMOUNTS OF DERIVATIVE CONTRACTS  
TOP 25 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES  
SEPTEMBER 30, 2017, MILLIONS OF DOLLARS**

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL FUTURES (EXCH TR)	TOTAL OPTIONS (EXCH TR)	TOTAL FORWARDS (OTC)	TOTAL SWAPS (OTC)	TOTAL OPTIONS (OTC)	TOTAL CREDIT DERIVATIVES (OTC)	SPOT FX
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGOFU57RNE97	\$2,153,028	\$52,610,957	\$1,875,791	\$2,334,113	\$10,148,840	\$27,416,368	\$9,008,870	\$1,826,975	\$619,798
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,407,297	51,267,510	2,788,718	1,339,533	6,376,310	30,061,597	8,617,527	2,083,825	931,200
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	157,953	43,416,228	2,099,557	6,573,662	2,891,647	21,889,379	9,800,581	161,402	61,424
4	BANK OF AMERICA NA	B4TYDEB6GKMZ0031MB27	1,725,215	22,617,425	1,303,674	249,053	5,717,522	12,895,179	1,611,060	840,937	430,003
5	WELLS FARGO BANK NA	KB1H1DSRPFMYMCUFXT09	1,737,980	7,988,553	177,060	222,301	2,572,122	4,081,474	903,479	32,117	7,406
6	HSBC NA	11E8VN30JCEQV1H4R804	195,907	4,493,807	180,238	14,912	1,005,719	2,975,301	221,724	95,914	45,123
7	STATE STREET BANK&TRUST CO	571474TGEMMWANRLN572	232,359	1,626,248	14,190	0	1,581,653	4,337	26,068	0	62,955
8	BANK OF NEW YORK MELLON	HPFHU00Q28E4N0NFVK49	281,342	906,817	32,287	90	505,541	342,493	26,226	180	64,170
9	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	363,681	428,204	40,850	22,400	24,735	306,383	26,863	6,974	1,135
10	MORGAN STANLEY BANK NA	G1MLHISON32I3QPILB75	126,898	368,871	0	0	69,512	261,038	27,927	10,394	6,412
11	U S BANK NATIONAL ASSN	6BYL5QZYBDK8S7L73M02	452,252	348,741	4,423	675	56,977	212,171	69,380	5,116	4,610
12	NORTHERN TRUST CO	6PTKHDJ8HDUF78PFWH30	130,997	330,552	0	0	313,618	15,808	1,126	0	12,432
13	SUNTRUST BANK	IYDOJBGJWY9T8XKCSX06	203,381	264,535	24,103	20,009	20,647	137,275	56,831	5,671	131
14	TD BANK NATIONAL ASSN	03D0JEWFDUS0SEEKG89	285,495	180,309	0	0	4,797	174,500	642	371	0
15	MUFG UNION BANK NA	OX3PU53ZLPQKJ4700D47	118,553	155,595	2,979	0	77,045	68,982	6,589	0	580
16	CAPITAL ONE NATIONAL ASSN	207ALC1P1YM00VDV0K75	290,965	123,660	244	0	3,119	116,811	455	3,031	28
17	KEYBANK NATIONAL ASSN	HUX2X73FUCYHU1BK78	134,819	95,042	4,175	0	7,885	76,394	6,095	494	557
18	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	120,725	90,066	0	0	3,967	74,959	8,471	2,670	244
19	REGIONS BANK	EQTWLK1G7ODGC2MGLV11	122,472	89,786	5,258	0	24,297	52,974	4,143	3,115	26
20	FIFTH THIRD BANK	QFROUN1UWUYU0DVIWD51	139,988	76,808	622	407	5,979	51,988	14,489	3,322	268
21	BRANCH BANKING&TRUST CO	JJKC32MCHWDI71265Z06	214,780	59,844	231	0	7,248	43,992	8,373	0	23
22	BOKF NATIONAL ASSN	FU7RSW4CQQY98A207J66	33,102	55,987	551	358	50,109	3,457	1,511	1	19
23	COMPASS BANK	C90VT034M03BN29IRA40	84,701	46,677	795	0	1,403	34,520	9,918	41	44
24	CAPITAL ONE BANK USA NA	LKE37K2B8CFZUR7F9816	116,456	43,413	0	0	8,607	34,806	0	0	27
25	HUNTINGTON NATIONAL BANK	2WHM8VNJH63UN14OL754	102,068	37,789	41	0	2,447	32,661	816	1,824	3
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$10,932,413	\$187,723,424	\$8,555,786	\$10,777,512	\$31,481,744	\$101,364,846	\$30,459,164	\$5,084,372	\$2,248,617
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,510,613	600,932	5,352	3,618	75,742	443,849	66,515	5,856	1,619
TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,443,026	188,324,356	8,561,138	10,781,130	31,557,486	101,808,695	30,525,679	5,090,228	2,250,236

Note: Credit derivatives have been included in the sum of total derivatives. Credit derivatives have been included as an "over the counter" category, although the call report does not differentiate by market currently.

Note: Before the first quarter of 1995 total derivatives included spot FX. Beginning in that quarter, spot FX has been reported separately.

Note: Numbers may not total due to rounding.

Source: Call reports, Schedule RC-L

TABLE 2

**NOTIONAL AMOUNTS OF DERIVATIVE CONTRACTS (HOLDING COMPANIES)  
TOP 25 HOLDING COMPANIES IN DERIVATIVES  
SEPTEMBER 30, 2017, MILLIONS OF DOLLARS**

RANK	HOLDING COMPANY	LEGAL ENTITY IDENTIFIER	TOTAL ASSETS	TOTAL DERIVATIVES	FUTURES (EXCH TR)	OPTIONS (EXCH TR)	FORWARDS (OTC)	SWAPS (OTC)	OPTIONS (OTC)	CREDIT DERIVATIVES (OTC)	SPOT FX
1	CITIGROUP INC.	6SHG14ZSSLXQXSBB395	\$1,889,133	\$54,751,534	\$2,930,361	\$5,585,973	\$7,668,579	\$28,337,146	\$8,442,833	\$1,786,642	\$927,641
2	GOLDMAN SACHS GROUP, INC., THE	784F5XWPLTWKTBV3E584	930,161	53,054,605	3,285,137	7,590,138	7,242,084	22,013,819	11,525,713	1,397,714	418,958
3	JPMORGAN CHASE & CO.	815DZWKVSI1NUHU748	2,563,074	51,981,312	1,883,033	2,521,003	10,485,464	26,561,056	8,679,980	1,850,776	610,022
4	BANK OF AMERICA CORPORATION	9DJT3UX1JIZJ14WXO774	2,285,062	36,673,926	1,761,042	1,025,601	8,252,264	20,897,250	3,587,546	1,150,223	400,583
5	MORGAN STANLEY	IGJSJL3JD5P30I6NJZ34	853,693	32,394,340	3,110,607	1,694,441	3,309,448	16,946,318	6,614,119	719,407	57,462
6	WELLS FARGO & COMPANY	PBLDOEJDB5FWOLXP3B76	1,934,939	7,881,903	185,244	242,819	2,614,176	3,909,333	900,191	30,140	7,373
7	HSBC NORTH AMERICA HOLDINGS INC.	213800JCL1FHBQK3M654	286,418	7,098,673	705,494	685,600	1,006,734	4,375,005	229,927	95,914	45,122
8	MIZUHO AMERICAS LLC		42,411	5,243,365	10,375	2,185	435,605	4,755,979	38,356	865	1,044
9	STATE STREET CORPORATION	549300ZFEJ2IP5VME73	236,000	1,634,104	14,277	0	1,581,929	11,830	26,068	0	62,955
10	RBC USA HOLDCO CORPORATION		138,285	1,247,575	167,047	813,496	198,112	68,088	458	374	97
11	CREDIT SUISSE HOLDINGS (USA), INC.	549300YHT5NGRJKD1R94	219,902	961,090	31,887	22,530	773,657	76,210	4,293	52,514	0
12	BANK OF NEW YORK MELLON CORPORATION, THE	WFLLEPC7FZXENRZV188	354,397	905,062	33,252	1,815	526,704	316,887	26,224	180	64,125
13	BARCLAYS US LLC	213800H14XVWVW87O172	175,284	587,569	37,434	200,314	244,935	26,770	0	78,116	104
14	PNC FINANCIAL SERVICES GROUP, INC., THE	CFGNEKW0P8842LEUIA51	375,256	425,389	41,065	22,400	27,315	300,772	26,863	6,974	1,135
15	U. S. BANCORP	N1GZ7BBF3NP8GI976H15	459,227	350,831	4,423	675	56,262	214,976	69,380	5,115	4,610
16	NORTHERN TRUST CORPORATION	549300GLF98S992BC502	131,400	329,802	0	0	313,618	15,058	1,126	0	12,432
17	BNP PARIBAS USA, INC.	549300QVEGJN81E8T563	146,032	285,768	5	2,552	255,522	24,928	2,761	0	34
18	TD GROUP US HOLDINGS LLC	549300ARWZ5E3L64UH29	374,293	277,662	52,403	12,250	27,105	184,795	642	468	0
19	SUNTRUST BANKS, INC.	7E1PDLW1JL6TS0BS1G03	208,366	261,564	24,179	20,009	20,647	135,227	55,831	5,671	131
20	DB USA CORPORATION	529900RO45LRDMWLR157	164,939	199,777	4,608	132,080	38,600	17,019	5,065	2,405	0
21	CAPITAL ONE FINANCIAL CORPORATION	ZUE8T73ROZOF6FLBAR73	361,402	179,465	244	0	11,875	163,860	455	3,031	54
22	MUFG AMERICAS HOLDINGS CORPORATION		154,852	176,507	8,457	28	92,250	69,182	6,589	0	580
23	CITIZENS FINANCIAL GROUP, INC.	2138004JDDA4ZQUPFW65	151,764	101,334	0	0	3,967	84,777	9,395	3,195	244
24	KEYCORP	RKPI3RZGV1V1FJTH5T61	137,130	100,506	4,175	0	9,607	79,097	7,143	484	557
25	REGIONS FINANCIAL CORPORATION	CW05CS5KW59QTCODG824	123,518	87,686	5,258	0	24,297	50,874	4,143	3,115	26
TOP 25 HOLDING COMPANIES WITH DERIVATIVES			\$14,696,938	\$257,191,351	\$14,300,006	\$20,575,909	\$45,220,757	\$129,636,257	\$40,265,101	\$7,193,322	\$2,615,290

Note: Currently, the Y-9 report does not differentiate credit derivatives by contract type. Credit derivatives have been included in the sum of total derivatives.

Note: Before to the first quarter of 2005, total derivatives included spot FX. Beginning in that quarter, spot FX has been reported separately.

Note: Numbers may not total due to rounding.

Source: Consolidated Financial Statements for Bank Holding Companies, FR Y- 9, Schedule HC-L

TABLE 3

**DISTRIBUTION OF DERIVATIVE CONTRACTS**  
**TOP 25 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES**  
**SEPTEMBER 30, 2017, MILLIONS OF DOLLARS**

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	TOTAL ASSETS	TOTAL DERIVATIVES	PERCENT EXCH TRADED CONTRACTS	PERCENT OTC CONTRACTS	PERCENT INT RATE CONTRACTS	PERCENT FOREIGN EXCH CONTRACTS	PERCENT OTHER CONTRACTS	PERCENT CREDIT DERIVATIVES
					(%)	(%)	(%)	(%)	(%)	(%)
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGOFU57RNE97	\$2,153,028	\$52,610,957	8.0	92.0	68.7	22.8	5.0	3.5
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,407,297	51,267,510	8.1	91.9	67.2	26.7	2.1	4.1
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	157,953	43,416,228	20.0	80.0	93.9	5.7	0.1	0.4
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,725,215	22,617,425	6.9	93.1	72.9	21.8	1.6	3.7
5	WELLS FARGO BANK NA	KB1H1DSPRFMYMCFXT09	1,737,980	7,988,553	5.0	95.0	91.2	5.6	2.9	0.4
6	HSBC NA	1IE8VN30JCEQV1H4R804	195,907	4,493,807	4.3	95.7	73.9	21.5	2.5	2.1
7	STATE STREET BANK&TRUST CO	571474TGEMMWANRLN572	232,359	1,626,248	0.9	99.1	1.1	97.4	1.6	0.0
8	BANK OF NEW YORK MELLON	HPFHU00Q28E4N0NFVK49	281,342	906,817	3.6	96.4	35.5	64.4	0.1	0.0
9	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	363,681	428,204	14.8	85.2	92.7	4.1	1.5	1.6
10	MORGAN STANLEY BANK NA	G1MLHISON32I3QPILB75	126,898	368,871	0.0	100.0	1.1	96.0	0.1	2.8
11	U S BANK NATIONAL ASSN	6BYL5QZYBDK8S7L73M02	452,252	348,741	1.5	98.5	83.4	14.8	0.3	1.5
12	NORTHERN TRUST CO	6PTKHDJ8HDUF78PFWH30	130,997	330,552	0.0	100.0	4.2	95.7	0.1	0.0
13	SUNTRUST BANK	IYDOJBGJWY9T8XKCSX06	203,381	264,535	16.7	83.3	77.6	2.7	17.5	2.1
14	TD BANK NATIONAL ASSN	03D0JEWFDUFUSOSEEK89	285,495	180,309	0.0	100.0	95.6	4.2	0.0	0.2
15	MUFG UNION BANK NA	OX3PU53ZLPQKJ4700D47	118,553	155,595	1.9	98.1	94.0	3.9	2.1	0.0
16	CAPITAL ONE NATIONAL ASSN	207ALC1P1YMO0VDV0K75	290,965	123,660	0.2	99.8	91.0	0.8	5.7	2.5
17	KEYBANK NATIONAL ASSN	HUX2X73FUCYHUHVH1BK78	134,819	95,042	4.4	95.6	89.4	9.4	0.7	0.5
18	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	120,725	90,066	0.0	100.0	85.8	11.3	0.0	3.0
19	REGIONS BANK	EQTWLK1G7ODGC2MGLV11	122,472	89,786	5.9	94.1	93.8	1.9	0.8	3.5
20	FIFTH THIRD BANK	QFROUN1UWUYUODVIWD51	139,988	76,808	1.3	98.7	77.0	12.7	5.9	4.3
21	BRANCH BANKING&TRUST CO	JJKC32MCHWDI71265Z06	214,780	59,844	0.4	99.6	99.1	0.9	0.0	0.0
22	BOKF NATIONAL ASSN	FU7RSW4CQQY98A207J66	33,102	55,987	1.6	98.4	95.1	0.9	4.0	0.0
23	COMPASS BANK	C90VT034M03BN291RA40	84,701	46,677	1.7	98.3	93.5	3.1	3.3	0.1
24	CAPITAL ONE BANK USA NA	LKE37K2B8CFZUR7F9816	116,456	43,413	0.0	100.0	80.2	19.8	0.0	0.0
25	HUNTINGTON NATIONAL BANK	2WHM8VNJH63UN14OL754	102,068	37,789	0.1	99.9	85.9	3.9	5.4	4.8
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$10,932,413	\$187,723,424	\$19,333,299	\$168,390,126	\$140,684,532	\$37,430,372	\$63	\$5,084,372
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,510,613	600,932	8,970	591,962	559,228	26,759	606	5,856
TOTAL FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,443,026	188,324,356	19,342,268	168,982,088	141,243,760	37,457,131	670	5,090,228
				(%)	(%)	(%)	(%)	(%)	(%)	(%)
TOP 25 COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES				99.7	10.3	89.4	74.7	19.9	0.0	2.7
OTHER COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES				0.3	0.0	0.3	0.3	0.0	0.0	0.0
TOTAL FOR COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES				100.0	10.3	89.7	75.0	19.9	0.0	2.7

Note: Currently, the call report does not differentiate credit derivatives by over the counter or exchange traded. Credit derivatives have been included in the "over the counter" category as well as in the sum of total derivatives here.

Note: "FX" does not include spot FX.

Note: "Other" is defined as the sum of commodity and equity contracts.

Note: Numbers may not total due to rounding.

Source: Call reports, Schedule RC-L

TABLE 4

**CREDIT EQUIVALENT EXPOSURES**  
**TOP 25 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES**  
**SEPTEMBER 30, 2017, MILLIONS OF DOLLARS**

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL RISK-BASED CAPITAL	BILATERALLY NETTED CURRENT CREDIT EXPOSURE		TOTAL CREDIT EXPOSURE TOTAL CREDIT FROM ALL CONTRACTS (%)	
						POTENTIAL FUTURE EXPOSURE	TOTAL CREDIT EXPOSURE	TOTAL CREDIT EXPOSURE TO CAPITAL	
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$2,153,028	\$52,610,957	\$197,962	\$134,926	\$250,299	\$385,225	195
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,407,297	51,267,510	154,424	70,375	194,125	264,500	171
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	157,953	43,416,228	27,508	57,156	62,041	119,197	433
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,725,215	22,617,425	164,735	38,350	59,277	97,627	59
5	WELLS FARGO BANK NA	KB1H1DSPRFMYMCFXT09	1,737,980	7,988,553	162,723	13,913	29,249	43,162	27
6	HSBC NA	11E8VN30JCEQV1H4R804	195,907	4,493,807	26,432	7,581	12,590	20,172	76
7	STATE STREET BANK&TRUST CO	571474TGEMMWANRLN572	232,359	1,626,248	17,477	5,303	9,824	15,127	87
8	BANK OF NEW YORK MELLON	HPFHU00Q28E4NONFVK49	281,342	906,817	21,185	4,922	4,840	9,762	46
9	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	363,681	428,204	35,116	2,906	1,402	4,308	12
10	MORGAN STANLEY BANK NA	G1MLHISON32I3QPILB75	126,898	368,871	15,110	275	3,147	3,422	23
11	U S BANK NATIONAL ASSN	6BYL5QZYBDK8S7L73M02	452,252	348,741	45,012	796	4,609	5,405	12
12	NORTHERN TRUST CO	6PTKHDJ8HDUF78PFWH30	130,997	330,552	9,789	1,465	2,506	3,971	41
13	SUNTRUST BANK	IYDOJBGJWY9T8XKCSX06	203,381	264,535	21,806	1,070	2,945	4,015	18
14	TD BANK NATIONAL ASSN	03D0JEWDFUS0SEEKG89	285,495	180,309	25,996	1,385	1,119	2,503	10
15	MUFG UNION BANK NA	OX3PU53ZLPQKJ4700D47	118,553	155,595	15,517	873	332	1,205	8
16	CAPITAL ONE NATIONAL ASSN	207ALC1P1YM00VDVOK75	290,965	123,660	26,724	650	2,003	2,653	10
17	KEYBANK NATIONAL ASSN	HUX2X73FUCYHUHVH1BK78	134,819	95,042	14,891	469	335	804	5
18	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	120,725	90,066	13,745	598	653	1,251	9
19	REGIONS BANK	EQTWLK1G7ODGC2MGLV11	122,472	89,786	14,198	317	643	960	7
20	FIFTH THIRD BANK	QFROUN1UWUYUODVIWD51	139,988	76,808	16,344	391	976	1,367	8
21	BRANCH BANKING&TRUST CO	JJKC32MCHWDI71265Z06	214,780	59,844	22,707	495	476	971	4
22	BOKF NATIONAL ASSN	FU7RSW4CQQY98A2O7J66	33,102	55,987	3,116	192	211	403	13
23	COMPASS BANK	C90VT034M03BN29IRA40	84,701	46,677	9,038	242	187	429	5
24	CAPITAL ONE BANK USA NA	LKE37K2B8CFZUR7F9816	116,456	43,413	15,600	100	121	221	1
25	HUNTINGTON NATIONAL BANK	2WHM8VNJH63UN14QL754	102,068	37,789	11,068	320	494	814	7
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$10,932,413	\$187,723,424	\$1,088,221	\$345,070	\$644,405	\$989,475	91
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,510,613	600,932	486,484	3,299	4,492	7,791	2
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,443,026	188,324,356	1,574,705	348,369	648,897	997,266	63

Note: Total credit exposure is defined as the credit equivalent amount from derivative contracts (RC-R column B lines 20 and 21), which is the sum of netted current credit exposure and PFE.

Note: The total credit exposure to capital ratio is calculated using risk based capital (tier 1 plus tier 2 capital).

Note: Currently, the call report does not differentiate credit derivatives by contract type. Credit derivatives have been included in the sum of total derivatives here.

Note: Numbers may not total due to rounding.

Source: Call reports, Schedule RC-R.



TABLE 5

**NOTIONAL AMOUNTS OF DERIVATIVE CONTRACTS HELD FOR TRADING  
TOP 4 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES  
SEPTEMBER 30, 2017, MILLIONS OF DOLLARS**

<b>RANK</b>	<b>BANK NAME</b>	<b>LEGAL ENTITY IDENTIFIER</b>	<b>TOTAL ASSETS</b>	<b>TOTAL DERIVATIVES</b>	<b>TOTAL HELD FOR TRADING &amp; MTM</b>	<b>% HELD FOR TRADING &amp; MTM</b>	<b>TOTAL NOT FOR TRADING MTM</b>	<b>% NOT FOR TRADING MTM</b>
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$2,153,028	\$52,610,957	\$50,469,659	99.4	\$314,323	0.6
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,407,297	51,267,510	49,134,172	99.9	49,513	0.1
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	157,953	43,416,228	43,231,861	99.9	22,965	0.1
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,725,215	22,617,425	20,909,341	96.0	867,147	4.0
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,443,493	\$169,912,120	\$163,745,033	99.2	\$1,253,948	0.8
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			9,999,533	18,412,236	16,591,552	91.0	1,643,596	9.0
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,443,026	188,324,356	180,336,585	98.4	2,897,544	1.6

Note: Currently, the call report does not differentiate between traded and not-traded credit derivatives. Credit derivatives have been excluded from the sum of total derivatives here.

Note: Numbers may not total due to rounding.

Source: Call reports, Schedule RC-L

TABLE 6

**GROSS FAIR VALUES OF DERIVATIVE CONTRACTS  
TOP 4 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES  
SEPTEMBER 30, 2017, MILLIONS OF DOLLARS**

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	TOTAL ASSETS	TOTAL DERIVATIVES	TRADING		NOT FOR TRADING		CREDIT DERIVATIVES	
					GROSS POSITIVE FAIR VALUE*	GROSS NEGATIVE FAIR VALUE**	GROSS POSITIVE FAIR VALUE*	GROSS NEGATIVE FAIR VALUE**	GROSS POSITIVE FAIR VALUE*	GROSS NEGATIVE FAIR VALUE**
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$2,153,028	\$52,610,957	\$739,405	\$707,419	\$3,390	\$2,634	\$24,737	\$25,283
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,407,297	51,267,510	395,869	384,312	917	359	27,801	29,236
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	157,953	43,416,228	507,856	495,418	48	80	2,849	2,746
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,725,215	22,617,425	168,576	162,332	19,127	24,717	10,871	11,624
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,443,493	\$169,912,120	\$1,811,706	\$1,749,481	\$23,482	\$27,790	\$66,258	\$68,889
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			9,999,533	18,412,236	122,996	120,044	8,444	10,386	1,789	1,984
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,443,026	188,324,356	1,934,702	1,869,525	31,926	38,176	68,047	70,873

Note: Currently, the call report does not differentiate between traded and non-traded credit derivatives. Credit derivatives have been included in the sum of total derivatives here. Numbers may not sum due to rounding.

\*Market value of contracts that have a positive fair value as of the end of the quarter.

\*\*Market value of contracts that have a negative fair value as of the end of the quarter.

Source: Call reports, Schedule RC-L

TABLE 7

**TRADING REVENUES FROM CASH INSTRUMENTS AND DERIVATIVES**  
**TOP 4 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES**  
**SEPTEMBER 30, 2017, MILLIONS OF DOLLARS**  
**NOTE: REVENUE FIGURES ARE FOR THE QUARTER (NOT YEAR-TO-DATE)**

<b>RANK</b>	<b>BANK NAME</b>	<b>LEGAL ENTITY IDENTIFIER</b>	<b>TOTAL ASSETS</b>	<b>TOTAL DERIVATIVES</b>	<b>TOTAL TRADING REV FROM CASH &amp; OFF BAL SHEET POSITIONS</b>	<b>TRADING REV FROM INT RATE POSITIONS</b>	<b>TRADING REV FROM FOREIGN EXCH POSITIONS</b>	<b>TRADING REV FROM EQUITY POSITIONS</b>	<b>TRADING REV FROM COMMOD &amp; OTH POSITIONS</b>	<b>TRADING REV FROM CREDIT POSITIONS</b>
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGOFU57RNE97	\$2,153,028	\$52,610,957	\$2,677	\$959	\$653	\$725	\$110	\$230
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,407,297	51,267,510	1,510	897	383	183	31	16
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	157,953	43,416,228	99	466	(604)	3	0	234
4	BANK OF AMERICA NA	B4TYDEB6GKMZ0031MB27	1,725,215	22,617,425	762	178	309	234	46	(5)
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,443,493	\$169,912,120	\$5,048	\$2,500	\$741	\$1,145	\$187	\$475
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			9,999,533	18,412,236	1,348	418	799	38	97	(5)
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,443,026	188,324,356	6,396	2,918	1,540	1,183	284	470

Note: Effective in the first quarter of 2007, trading revenues from credit exposures are reported separately, along with the four other types of exposures. The total derivatives column includes credit exposures.

Note: Trading revenue is defined here as "trading revenue from cash instruments and off-balance-sheet derivative instruments."

Note: Numbers may not sum due to rounding.

Source: Call reports, Schedule RI

TABLE 8

**NOTIONAL AMOUNTS OF DERIVATIVE CONTRACTS BY CONTRACT TYPE AND MATURITY (INTEREST RATE, FX AND GOLD)  
TOP 4 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES  
SEPTEMBER 30, 2017, MILLIONS OF DOLLARS**

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	TOTAL ASSETS	TOTAL DERIVATIVES	INT RATE MATURITY < 1 YR	INT RATE MATURITY 1 - 5 YRS	INT RATE MATURITY > 5 YRS	INT RATE ALL MATURITIES	FX and GOLD MATURITY < 1 YR	FX and GOLD MATURITY 1 - 5 YRS	FX and GOLD MATURITY > 5 YRS	FX and GOLD ALL MATURITIES
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$2,153,028	\$52,610,957	\$22,876,106	\$16,223,206	\$9,222,604	\$48,321,916	\$8,619,725	\$2,229,275	\$1,131,049	\$11,980,049
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,407,297	51,267,510	14,267,982	10,856,404	6,037,644	31,162,030	10,627,477	1,181,701	454,768	12,263,946
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	157,953	43,416,228	20,058,171	6,445,392	6,000,921	32,504,484	1,050,312	720,520	615,754	2,386,586
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,725,215	22,617,425	9,462,672	5,725,265	2,989,699	18,177,636	4,122,597	577,146	227,420	4,927,163
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,443,493	\$169,912,120	\$66,664,931	\$39,250,267	\$24,250,868	\$130,166,066	\$24,420,111	\$4,708,642	\$2,428,991	\$31,557,744
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			9,999,533	18,412,236	5,477,685	4,180,056	2,789,232	12,446,973	3,996,332	278,507	114,820	4,389,659
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,443,026	188,324,356	72,142,616	43,430,323	27,040,100	142,613,039	28,416,443	4,987,149	2,543,811	35,947,403

Note: Figures above exclude any contracts not subject to risk-based capital requirements, such as FX contracts with an original maturity of 14 days or less, futures contracts, written options, and basis swaps. Therefore, the total notional amount of derivatives by maturity will not add to the total derivatives figure in this table.

Note: Numbers may not add due to rounding.

Note: Effective 2015 Q1, the reporting form and call report instructions changed. Schedule RC-R now requires banks to report FX and gold notional amounts in aggregate, rather than separately.

Source: Call reports, Schedule RC-R

TABLE 9

**NOTIONAL AMOUNTS OF DERIVATIVE CONTRACTS BY CONTRACT TYPE & MATURITY (PRECIOUS METALS)  
TOP 4 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES  
SEPTEMBER 30, 2017, MILLIONS OF DOLLARS**

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	TOTAL ASSETS	TOTAL DERIVATIVES	PREC METALS MATURITY < 1 YR	PREC METALS MATURITY 1 - 5 YRS	PREC METALS MATURITY > 5 YRS	PREC METALS ALL MATURITIES
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGOFU57RNE97	\$2,153,028	\$52,610,957	\$21,427	\$546	\$0	\$21,973
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,407,297	51,267,510	8,534	1,148	0	9,682
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	157,953	43,416,228	0	0	0	0
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,725,215	22,617,425	31	0	0	31
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,443,493	\$169,912,120	\$29,992	\$1,694	\$0	\$31,686
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			9,999,533	18,412,236	12,216	863	39	13,118
TOTAL FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,443,026	188,324,356	42,208	2,557	39	44,804
<p>Note: Figures above exclude any contracts not subject to risk-based capital requirements, such as FX contracts with an original maturity of 14 days or less, futures contracts, written options, and basis swaps. Therefore, the total notional amount of derivatives by maturity will not add to the total derivatives figure in this table.</p> <p>Note: Numbers may not total due to rounding.</p> <p>Source: Call reports, Schedule RC-R</p>								



TABLE 10

**NOTIONAL AMOUNTS OF DERIVATIVE CONTRACTS BY CONTRACT TYPE AND MATURITY (OTHER COMMODITY AND EQUITY)  
TOP 4 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES  
SEPTEMBER 30, 2017, MILLIONS OF DOLLARS**

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	TOTAL ASSETS	TOTAL DERIVATIVES	OTHER COMM MATURITY < 1 YR	OTHER COMM MATURITY 1 - 5 YRS	OTHER COMM MATURITY > 5 YRS	OTHER COMM ALL MATURITIES	EQUITY MATURITY < 1 YR	EQUITY MATURITY 1 - 5 YRS	EQUITY MATURITY > 5 YRS	EQUITY ALL MATURITIES
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGOFU57RNE97	\$2,153,028	\$52,610,957	\$734,969	\$115,090	\$16,954	\$867,013	\$1,445,907	\$516,495	\$93,893	\$2,056,295
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWFA76	1,407,297	51,267,510	102,042	46,721	4,009	152,772	312,438	130,443	9,268	452,149
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	157,953	43,416,228	2,616	3,135	95	5,846	7,897	13,413	4,127	25,437
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,725,215	22,617,425	9,133	4,514	573	14,220	306,309	60,157	6,895	373,361
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,443,493	\$169,912,120	\$848,760	\$169,460	\$21,631	\$1,039,851	\$2,072,551	\$720,508	\$114,183	\$2,907,242
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			9,999,533	18,412,236	34,133	63,672	1,162	98,966	87,082	60,326	5,008	152,417
TOTAL FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,443,026	188,324,356	882,893	233,132	22,793	1,138,817	2,159,633	780,834	119,191	3,059,659

Note: Figures above exclude any contracts not subject to risk-based capital requirements, such as FX contracts with an original maturity of 14 days or less, futures contracts, written options, and basis swaps.

Therefore, the total notional amount of derivatives by maturity will not add to the total derivatives figure in this table.

Note: Numbers may not total due to rounding.

Source: Call reports, Schedule RC-R

TABLE 11

**NOTIONAL AMOUNTS OF CREDIT DERIVATIVE CONTRACTS BY CONTRACT TYPE AND MATURITY (INVESTMENT GRADE AND SUB-INVESTMENT GRADE)  
TOP 4 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES  
SEPTEMBER 30, 2017, MILLIONS OF DOLLARS**

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL CREDIT DERIVATIVES	CREDIT DERIVATIVES INVESTMENT GRADE				CREDIT DERIVATIVES SUB-INVESTMENT GRADE			
						MATURITY < 1 YR	MATURITY 1 - 5 YRS	MATURITY > 5 YRS	ALL MATURITIES	MATURITY < 1 YR	MATURITY 1 - 5 YRS	MATURITY > 5 YRS	ALL MATURITIES
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGOFU57RNE97	\$2,153,028	\$52,610,957	\$1,826,975	\$448,364	\$620,438	\$136,578	\$1,205,380	\$204,027	\$348,274	\$69,294	\$621,595
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,407,297	51,267,510	2,083,825	446,442	1,034,205	123,481	1,604,128	135,148	316,134	28,415	479,697
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	157,953	43,416,228	161,402	31,059	49,828	17,930	98,817	17,643	32,058	12,884	62,585
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,725,215	22,617,425	840,937	276,740	325,699	57,915	660,354	105,928	49,903	24,752	180,583
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,443,493	\$169,912,120	\$4,913,139	\$1,202,605	\$2,030,170	\$335,904	\$3,568,679	\$462,746	\$746,369	\$135,345	\$1,344,460
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			9,999,533	18,412,236	177,089	13,829	55,251	9,216	78,295	17,751	67,421	13,621	98,793
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,443,026	188,324,356	5,090,228	1,216,434	2,085,421	345,120	3,646,974	480,497	813,790	148,966	1,443,253

Note: Figures above exclude any contracts not subject to risk-based capital requirements, such as FX contracts with an original maturity of 14 days or less, futures contracts, written options, and basis swaps.

Therefore, the total notional amount of derivatives by maturity will not add to the total derivatives figure in this table.

Note: Numbers may not total due to rounding.

Source: Call reports, Schedule RC-L and RC-R



TABLE 12

**DISTRIBUTION OF CREDIT DERIVATIVE CONTRACTS HELD FOR TRADING**  
**TOP 25 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES**  
**SEPTEMBER 30, 2017, MILLIONS OF DOLLARS**

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL CREDIT DERIVATIVES	TOTAL CREDIT DERIVATIVES				PURCHASED				SOLD			
						PURCHASED	SOLD	CREDIT DEFAULT SWAPS	TOTAL RETURN SWAPS	CREDIT OPTIONS	OTHER CREDIT DERIVATIVES	CREDIT DEFAULT SWAPS	TOTAL RETURN SWAPS	CREDIT OPTIONS	OTHER CREDIT DERIVATIVES		
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGOFU57RNE97	\$2,153,028	\$50,783,982	\$1,826,975	\$927,882	\$899,093	\$849,469	\$16,732	\$56,618	\$5,063	\$835,302	\$6,179	\$57,580	\$32		
2	CITIBANK NATIONAL ASSN	E570DZWZ7FF32TWEFA76	1,407,297	49,183,685	2,083,825	1,056,140	1,027,685	968,524	22,296	65,320	0	956,722	9,739	61,224	0		
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	157,953	43,254,826	161,402	88,609	72,793	79,535	2,128	6,895	51	63,865	2,128	6,800	0		
4	BANK OF AMERICA NA	B4TYDEB6GKMZ0031MB27	1,725,215	21,776,488	840,937	422,501	418,436	377,980	9,990	34,531	0	373,367	12,059	33,010	0		
5	WELLS FARGO BANK NA	KB1H1DSPRFMYMCFXT09	1,737,980	7,956,436	32,117	20,961	11,156	3,226	0	0	17,735	2,480	0	0	8,676		
6	HSBC NA	11E8VN30CEQV1H4R804	195,907	4,397,893	95,914	50,686	45,228	45,895	4,790	0	0	43,644	1,584	0	0		
7	STATE STREET BANK&TRUST CO	571474TGEMMWANRLN572	232,359	1,626,248	0	0	0	0	0	0	0	0	0	0	0		
8	BANK OF NEW YORK MELLON	HPFHU00028E4N0NFVK49	281,342	906,637	180	180	0	180	0	0	0	0	0	0	0		
9	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	363,681	421,231	6,974	3,110	3,864	15	0	0	3,095	0	0	0	3,864		
10	MORGAN STANLEY BANK NA	G1MLHISON3213QPILB75	126,898	358,477	10,394	10,294	100	10,294	0	0	0	100	0	0	0		
11	U S BANK NATIONAL ASSN	6BYL5OZYBOKB57L73M02	452,252	343,625	5,116	1,515	3,600	25	0	0	1,490	0	0	0	3,600		
12	NORTHERN TRUST CO	6PTKHDJ8HDUF78PFVH30	130,997	330,552	0	0	0	0	0	0	0	0	0	0	0		
13	SUNTRUST BANK	IYDOJBGJWY978XKCSX06	203,381	258,864	5,671	3,147	2,524	630	2,512	0	5	0	2,512	0	11		
14	TD BANK NATIONAL ASSN	03DOJEWFDUFUS0SEKGG89	285,495	179,938	371	0	366	5	0	0	0	5	0	0	0		
15	MUFG UNION BANK NA	OX3PUS3ZLPQKJ4700D47	118,553	155,595	0	0	0	0	0	0	0	0	0	0	0		
16	CAPITAL ONE NATIONAL ASSN	207ALC1P1YMO0VDV0K75	290,965	120,629	3,031	924	2,107	0	0	0	924	0	0	0	2,107		
17	KEYBANK NATIONAL ASSN	HUX2X73FUCYHUHV1BK78	134,819	94,548	494	375	119	375	0	0	0	26	93	0	0		
18	CITIZENS BANK NATIONAL ASSN	DRMSV100EMEXLAU1P80	120,725	87,397	2,670	0	2,670	0	0	0	0	0	0	0	2,670		
19	REGIONS BANK	EQTWLKG7ODGCCMGLV11	122,472	86,671	3,115	921	2,194	38	0	0	884	38	0	0	2,157		
20	FIFTH THIRD BANK	QFROUN1UWUYU0DV1VD51	139,988	73,486	3,322	503	2,820	0	0	0	503	0	0	0	2,820		
21	BRANCH BANKING&TRUST CO	JJKC32MCHWDI1265Z06	214,780	59,844	0	0	0	0	0	0	0	0	0	0	0		
22	BOKF NATIONAL ASSN	FU7RSW4CQQY98A2O7J66	33,102	55,986	1	1	0	1	0	0	0	0	0	0	0		
23	COMPASS BANK	C90VT034M03BN291RA40	84,701	46,636	41	0	41	0	0	0	0	41	0	0	0		
24	CAPITAL ONE BANK USA NA	LKE37K2B8CFZUR7F9816	116,456	43,413	0	0	0	0	0	0	0	0	0	0	0		
25	HUNTINGTON NATIONAL BANK	2WHM8VNJH63UN140L754	102,068	35,965	1,824	1,186	638	0	0	0	1,186	0	0	0	638		
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$10,932,413	\$182,639,053	\$5,084,372	\$2,589,300	\$2,495,072	\$2,336,552	\$58,449	\$163,364	\$30,935	\$2,275,590	\$34,294	\$158,614	\$26,574		
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,510,613	595,076	5,856	2,300	3,556	11	79	0	2,210	349	2	0	3,204		
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,443,026	183,234,128	5,090,228	2,591,600	2,498,628	2,336,563	58,528	163,364	33,145	2,275,939	34,296	158,614	29,778		
TOP 25 COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES					(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)		
OTHER COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES					99.9	50.9	49.0	45.9	1.1	3.2	0.6	44.7	0.7	3.1	0.5		
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES					0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1		
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES					100.0	50.9	49.1	45.9	1.1	3.2	0.7	44.7	0.7	3.1	0.6		

Note: Credit derivatives have been excluded from the sum of total derivatives here.

Note: Numbers may not total due to rounding.

Source: Call reports, Schedule RC-L

TABLE 13

DERIVATIVES DATA REPORTED BY FFIEC 051 FILERS  
COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES  
SEPTEMBER 30, 2017, MILLIONS OF DOLLARS

Call Report Schedule SU	
<b>A. Gross Notional Amount of Derivatives</b>	
Total gross notional amount of interest rate derivatives held for trading	\$729
Total gross notional amount of all other derivatives held for trading	\$5
Total gross notional amount of interest rate derivatives not held for trading	\$7,730
Total gross notional amount of all other derivatives not held for trading	\$92

Call Report Schedule RC-R	
<b>A. Notional principal amounts of over-the-counter derivative contracts covered by the regulatory capital rules:</b>	
a. Interest rate	\$4,659
b. Foreign exchange rate and gold	\$0
c. Credit (investment grade reference asset)	\$14
d. Credit (non-investment grade reference asset)	\$11
e. Equity	\$0
g. Other	\$5
f. Precious metals (except gold)	\$0
<b>B. Notional principal amounts of centrally cleared derivative contracts covered by the regulatory capital rules:</b>	
a. Interest rate	\$343
b. Foreign exchange rate and gold	\$0
c. Credit (investment grade reference asset)	\$0
d. Credit (non-investment grade reference asset)	\$0
e. Equity	\$0
f. Precious metals (except gold)	\$0
g. Other	\$0
<b>C. Current credit exposure across all derivative contracts covered by the regulatory capital rules</b>	<b>\$57</b>

Source: Call reports, Schedule SU and Schedule RC-R