

# Quarterly Report on Bank Trading and Derivatives Activities

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Third Quarter 2018

Office of the Comptroller of the Currency  
Washington, D.C.

December 2018

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## About This Report

The Office of the Comptroller of the Currency's (OCC) quarterly report on bank trading and derivatives 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 1,344<sup>1</sup> insured U.S. commercial banks and savings associations reported trading and derivatives activities at the end of the third quarter of 2018. A small group of large financial institutions continues to dominate trading and derivatives activity in the U.S. commercial banking system. During the third quarter of 2018, four large commercial banks represented 89.8 percent of the total banking industry notional amounts and 85.5 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 trading and derivatives 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 derivative categories, migration of certain highly liquid products to clearinghouses, and requirements for posting and collecting margin.

This is the 92nd 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. 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 \$7.1 billion in the third quarter of 2018, \$0.2 billion more (2.7 percent) than in the previous quarter and \$0.1 billion more (1.7 percent) than a year earlier (see page 4).
- Credit exposure from derivatives decreased in the third quarter of 2018 compared with the second quarter of 2018. NCCE decreased \$5 billion, or 1.4 percent, to \$356.6 billion (see page 8).
- Trading risk, as measured by daily value-at-risk (VaR), decreased in the third quarter of 2018. Total VaR<sup>2</sup> across the top five dealer banking companies decreased \$21.0 million, or 7.9 percent, to \$246 million (see page 11).
- Derivative notional amounts decreased in the third quarter of 2018 by \$206 billion, or 0.1 percent, to \$207.0 trillion (see page 13).
- Derivative contracts remained concentrated in interest rate products, which represented 75.7 percent of total derivative notional amounts (see page 13).

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<sup>1</sup> Beginning March 31, 2017, institutions with total assets of 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 separately and distinctly in table 13 in the appendix.

<sup>2</sup> Average daily VaR as reported by the firms 10Q and 10K U.S. Securities and Exchange Commission Reports.

## **Revenue**

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

Insured U.S. commercial banks and savings associations reported \$7.1 billion in trading revenue in the third quarter of 2018, \$0.2 billion more (2.7 percent) than in the previous quarter and \$0.1 billion more (1.7 percent) than a year earlier (see table 1). The quarter-over-quarter increase in trading revenue was primarily due to an increase in interest rate and foreign exchange (FX) trading revenue. 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**

	3Q2018	2Q2018	Q/Q Change	Q/Q % Change	3Q2017	YY Change	YY % Change
Interest Rate & FX	\$5,129	\$4,790	\$338	7.1%	\$4,619	\$510	11.0%
Equity	\$1,444	\$1,486	-\$43	-2.9%	\$1,455	-\$11	-0.8%
Commodity & Other	\$346	\$313	\$34	10.7%	\$300	\$46	15.4%
Credit	\$141	\$281	-\$141	-50.0%	\$566	-\$425	-75.1%
Total Trading Revenue	\$7,059	\$6,870	\$189	2.7%	\$6,940	\$120	1.7%

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 \$13.7 billion in the third quarter of 2018 was \$1.2 billion (7.9 percent) lower than in the previous quarter. The quarter-over-quarter decrease in trading revenue was due to decreases in equity and credit trading revenue products. Year-over-year holding company trading revenue decreased by \$1.2 billion (7.9 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**

	3Q2018	2Q2018	Q/Q Change	Q/Q % Change	3Q2017	YY Change	YY % Change
Interest Rate & FX	\$6,728	\$4,787	\$1,941	40.5%	\$6,972	-\$244	-3.5%
Equity	\$5,284	\$7,445	-\$2,161	-29.0%	\$5,123	\$161	3.1%
Commodity & Other	\$858	\$779	\$78	10.1%	\$769	\$89	11.5%
Credit	\$814	\$1,848	-\$1,034	-55.9%	\$1,996	-\$1,181	-59.2%
Total HC Trading Revenue	\$13,685	\$14,860	-\$1,175	-7.9%	\$14,861	-\$1,176	-7.9%

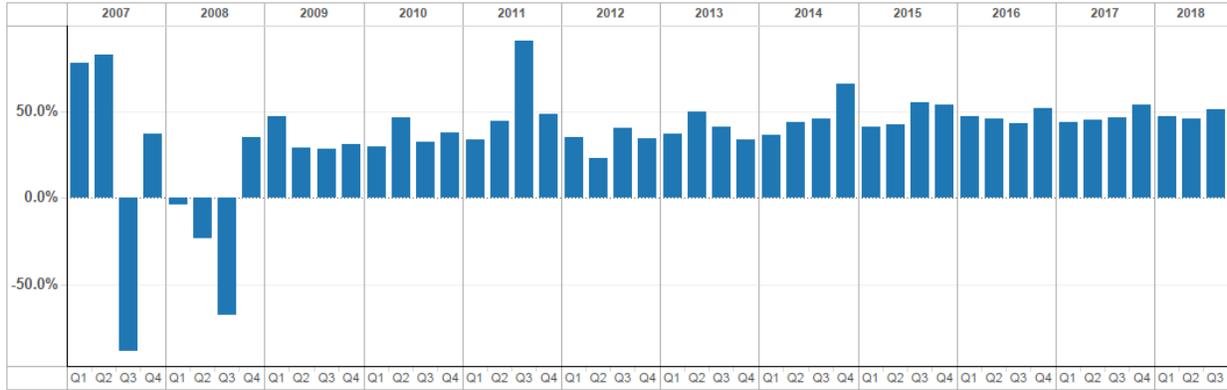
Source: Consolidated Financial Statements for Holding Companies—FR Y-9C, Schedule HI

### ***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 typically 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 the trading of commodity and equity products.

In the third quarter of 2018, banks generated 51.6 percent of consolidated holding company trading revenue, up from 46.2 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)

### **Counterparty Credit Risk**

Counterparty 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 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 on which 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 \$99 billion (5.4 percent) in the third quarter of 2018 to \$1.8 trillion, driven by an \$89 billion (8.4 percent) and a \$25 billion (4.4 percent) decrease in receivables from interest rate and FX contracts, respectively (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 \$104 billion (5.9 percent) to \$1.7 trillion during the quarter, driven by a \$93 billion (9.2 percent) and a \$27 billion (5.0 percent) decrease in payables on interest rate and FX contracts, respectively.

GPFV and GNFV interest rate contracts declined 27.6 percent and 28.8 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 OTC 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**

	3Q2018	2Q2018	Q/Q Change	Q/Q % Change	3Q2017	Y/Y Change	Y/Y % Change
Interest Rate	\$970	\$1,058	-\$89	-8.4%	\$1,339	-\$369	-27.6%
Foreign Exchange	\$544	\$569	-\$25	-4.4%	\$476	\$68	14.2%
Equity	\$132	\$123	\$10	7.8%	\$105	\$27	25.9%
Commodities	\$52	\$50	\$3	5.3%	\$47	\$5	11.5%
Credit	\$55	\$53	\$3	4.7%	\$68	-\$13	-18.7%
<b>Gross Positive Fair Value</b>	<b>\$1,753</b>	<b>\$1,852</b>	<b>-\$99</b>	<b>-5.4%</b>	<b>\$2,035</b>	<b>-\$282</b>	<b>-13.8%</b>

	3Q2018	2Q2018	Q/Q Change	Q/Q % Change	3Q2017	Y/Y Change	Y/Y % Change
Interest Rate	\$916	\$1,009	-\$93	-9.2%	\$1,287	-\$371	-28.8%
Foreign Exchange	\$518	\$545	-\$27	-5.0%	\$462	\$56	12.1%
Equity	\$130	\$118	\$13	10.7%	\$111	\$19	17.6%
Commodities	\$49	\$48	\$1	1.8%	\$48	\$1	2.1%
Credit	\$56	\$53	\$3	5.2%	\$71	-\$15	-21.0%
<b>Gross Negative Fair Value</b>	<b>\$1,669</b>	<b>\$1,773</b>	<b>-\$104</b>	<b>-5.9%</b>	<b>\$1,979</b>	<b>-\$309</b>	<b>-15.6%</b>

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
<b>Total Contracts</b>	<b>10</b>	<b>\$150</b>	<b>NCCE to Bank A From Counterparty B</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 savings associations decreased by \$5.1 billion (1.4 percent) to \$356.6 billion in the third quarter of 2018 (see table 5).<sup>3</sup> Legally enforceable netting agreements allowed banks to reduce GPFV exposures by 79.7 percent (\$1.4 trillion) in the third quarter of 2018.

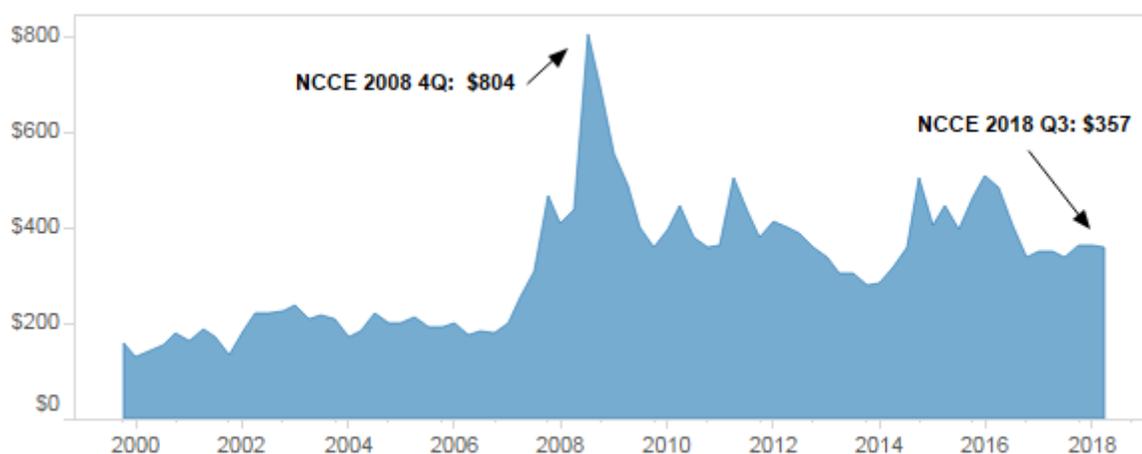
**Table 5. Net Current Credit Exposure, in Billions of Dollars**

	3Q2018	2Q2018	Q/Q Change	Q/Q % Change
Gross Positive Fair Value	\$1,753	\$1,852	-\$99	-5.4%
NCCE RC-R	\$357	\$362	-\$5.1	-1.4%
Netting Benefit RC-R	\$1,397	\$1,491	-\$94	-6.3%
Netting Benefit % RC-R	79.7%	80.5%		-0.8%

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 \$970 billion at the end of the third quarter of 2018 (see table 3). On September 30, 2018, exposure from credit contracts was \$55.3 billion, which is \$1.0 trillion lower (95.0 percent) than the \$1.1 trillion on December 31, 2008.

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



Source: Call reports, Schedule RC-R

<sup>3</sup> Banks report NCCE on 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.

The bulk of NCCE in the financial system is concentrated in banks and securities firms (41.3 percent) and in corporations and other counterparties (45.6 percent) (see table 6). The combined exposure to hedge funds and sovereign governments was small (13.1 percent in total).

**Table 6. NCCE by Counterparty Type as a Percentage of Total NCCE**

	Banks & Securities Firms	Hedge Funds	Sovereign Governments	Corp & All Other Counterparties
2018 Q3	41.3%	4.2%	8.9%	45.6%
2018 Q2	39.8%	4.7%	9.6%	45.9%
2018 Q1	39.7%	5.4%	7.5%	47.4%
2017 Q4	41.7%	3.1%	7.9%	47.3%
2016 Q4	48.5%	2.0%	6.5%	43.0%
2015 Q4	53.3%	2.1%	6.0%	38.5%

Source: Call reports (FFIEC 031), Schedule RC-L

A more risk-sensitive measure of credit exposure would consider the value of collateral held against counterparty exposures. Reporting banks held collateral valued at 108.1 percent of their total NCCE at the end of the third quarter of 2018, down from 110.8 percent in the second quarter of 2018 (see table 7). Collateral held against hedge fund exposures increased in the third quarter as coverage remains very high at 373.3 percent. Bank exposures to hedge funds are secured, because banks take initial margin on transactions with hedge funds, in addition to fully securing any current credit exposure. Collateral coverage of corporate 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 Hedge Funds	FV Sovereign Governments	FV Corp and All Other Counterparties	FV/NCCE%
2018 Q3	118.5%	373.3%	46.2%	86.4%	108.1%
2018 Q2	129.8%	340.3%	42.0%	85.2%	110.8%
2018 Q1	124.6%	336.8%	23.3%	89.7%	111.9%
2017 Q4	124.4%	495.5%	25.1%	89.8%	111.4%
2016 Q4	119.0%	491.5%	34.2%	67.1%	98.5%
2015 Q4	101.6%	435.5%	15.6%	66.2%	89.6%

Source: Call reports (FFIEC 031), Schedule RC-L

The majority of collateral held by banks against NCCE is very liquid with 60.6 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 and liquidity 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
2018 Q3	37.5%	23.1%	10.1%	2.1%	2.0%	8.4%	16.8%
2018 Q2	38.3%	24.8%	9.9%	1.9%	1.9%	7.3%	15.9%
2018 Q1	37.7%	25.4%	10.5%	1.8%	2.1%	8.5%	14.0%
2017 Q4	37.6%	25.5%	10.3%	1.9%	2.5%	5.7%	16.4%
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%

Source: Call reports (FFIEC 031), Schedule RC-L

Credit quality metrics for derivative exposures decreased in the third quarter of 2018, as banks reported net charge-offs of \$8.7 million, compared with net charge-offs of \$4.0 million in the second quarter of 2018 (see graph 7 in the appendix). The number of banks reporting charge-offs decreased from 13 to 10 banks. Net charge-offs in the third quarter of 2018 represented 0.002 percent of the NCCE from derivative contracts. For comparison purposes, commercial and industrial (C&I) loan net charge-offs decreased \$50.31 million, or 3.9 percent, to \$1.3 billion during the quarter and were 0.06 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 the 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 Chase & Co.	Citigroup Inc.	Bank of America Corp.	The Goldman Sachs Group, Inc.	Morgan Stanley	Total
2018 Q3	\$35	\$82	\$34	\$53	\$42	\$246
2018 Q2	\$35	\$90	\$34	\$64	\$44	\$267
Q/Q Change	\$0	-\$8	\$0	-\$11	-\$2	-\$21
Q/Q % Change	0.0%	-8.9%	0.0%	-17.2%	-4.5%	-7.9%
2018 Q2 Equity Capital	\$258,956	\$197,004	\$262,158	\$86,762	\$78,703	\$883,583
2018 Q2 Net Income	\$8,380	\$4,622	\$7,167	\$2,524	\$2,112	\$24,805

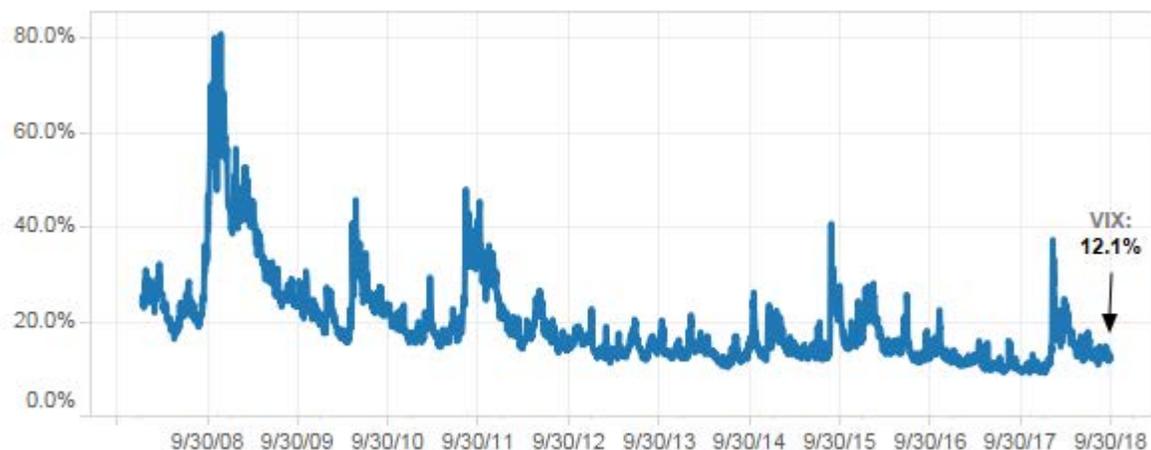
Source: 10K and 10Q U.S. Securities and Exchange Commission reports

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 historic trend 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)**

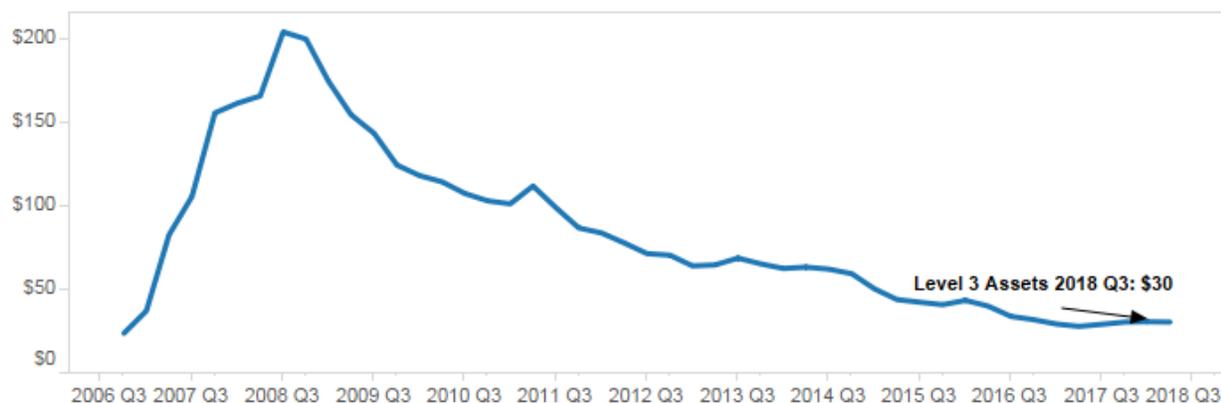


Source: Bloomberg

### **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 2018, banks held \$30.4 billion of level 3 trading assets, down 0.6 percent from the previous quarter, and 9.3 percent higher than a year ago. Level 3 assets are \$173.7 billion (85.1 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.

### Notional Amounts of All Derivative Contracts

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 decreased by \$206.3 billion (0.1 percent) to \$207.0 trillion from the previous quarter (see table 10). The decrease in the notional amount of derivative contracts by underlying risk exposure was primarily driven by a \$653.4 billion decrease in interest rate notional amounts. Interest rate notional amounts continued to represent the majority of banks' derivative holdings at \$156.8 trillion, or 75.7 percent of total derivatives during the third quarter of 2018 (see table 10).

The decrease in the notional amount of derivative contracts by contract type was driven by a decrease in swap contracts (see table 11). Swap contracts remained the leading derivatives contract type at 50.6 percent of all notional amounts.

The four banks with the most derivative activity hold 89.8 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 for further information).

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

	3Q2018	2Q2018	Q/Q Change	Q/Q % Change	3Q2017	Y/Y Change	Y/Y % Change
Interest Rate	\$156,773	\$157,427	-\$653	-0.4%	\$141,270	\$15,503	11.0%
Foreign Exchange	\$40,710	\$40,650	\$60	0.1%	\$37,457	\$3,253	8.7%
Equity	\$3,645	\$3,421	\$224	6.5%	\$3,056	\$589	19.3%
Commodity	\$1,511	\$1,511	\$0	0.0%	\$1,478	\$33	2.2%
Credit Derivatives	\$4,342	\$4,179	\$163	3.9%	\$5,090	-\$749	-14.7%
Total Notional	\$206,980	\$207,186	-\$206	-0.1%	\$188,351	\$18,629	9.9%

Source: Call reports, Schedule RC-L

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

	3Q2018	2Q2018	Q/Q Change	Q/Q % Change	3Q2017	Y/Y Change	Y/Y % Change
Futures & Forwards	\$47,051	\$46,024	\$1,027	2.2%	\$40,133	\$6,919	17.2%
Swaps	\$104,786	\$107,959	-\$3,172	-2.9%	\$101,821	\$2,965	2.9%
Options	\$50,801	\$49,025	\$1,776	3.6%	\$41,307	\$9,494	23.0%
Credit Derivatives	\$4,342	\$4,179	\$163	3.9%	\$5,090	-\$749	-14.7%
Total Notional	\$206,980	\$207,186	-\$206	-0.1%	\$188,351	\$18,629	9.9%

Source: Call reports, Schedule RC-L

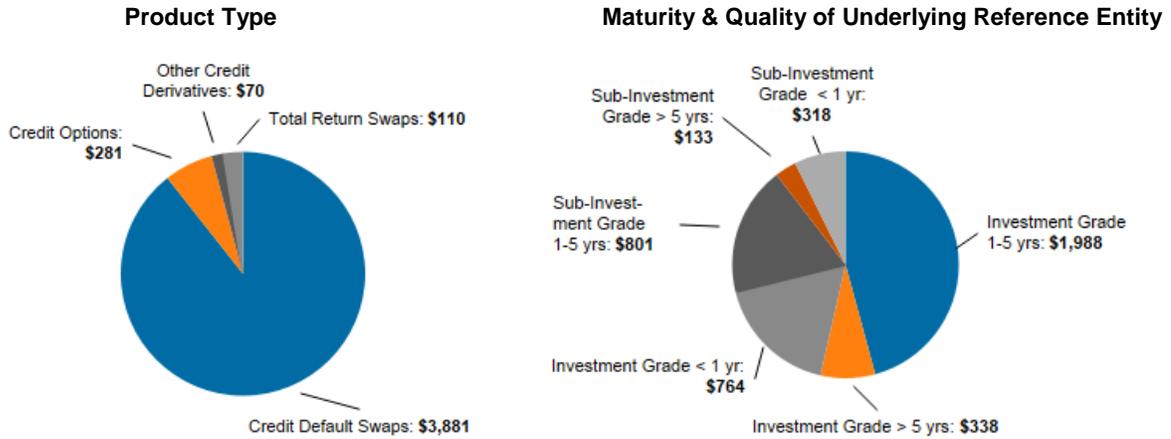
### Credit Derivatives

The notional amounts outstanding of credit derivatives increased \$163.1 billion (3.9 percent), to \$4.3 trillion, in the third quarter of 2018 (see table 10). Contracts referencing sub-investment-grade firms increased \$57.0 billion and contracts referencing investment-grade firms increased \$105 billion in the third quarter (see graph 14 in the appendix). Credit derivatives outstanding remained well below the peak of \$16.4 trillion in the first quarter of 2008 (see graph 1 in the appendix). As shown in figure 5, credit default swaps are the dominant product, at \$3.9 trillion (89.4 percent) of all credit derivative notional amounts.

Credit derivative contracts referencing investment-grade entities with maturities from one to five years represented the largest segment of the market at 45.8 percent of all credit derivative

notional amounts. Contracts of all tenors that reference investment-grade entities are 71.2 percent of the market (see chart on right in figure 5).

**Figure 5. 2018 Q3 Credit Derivative Composition, in Billions of Dollars**



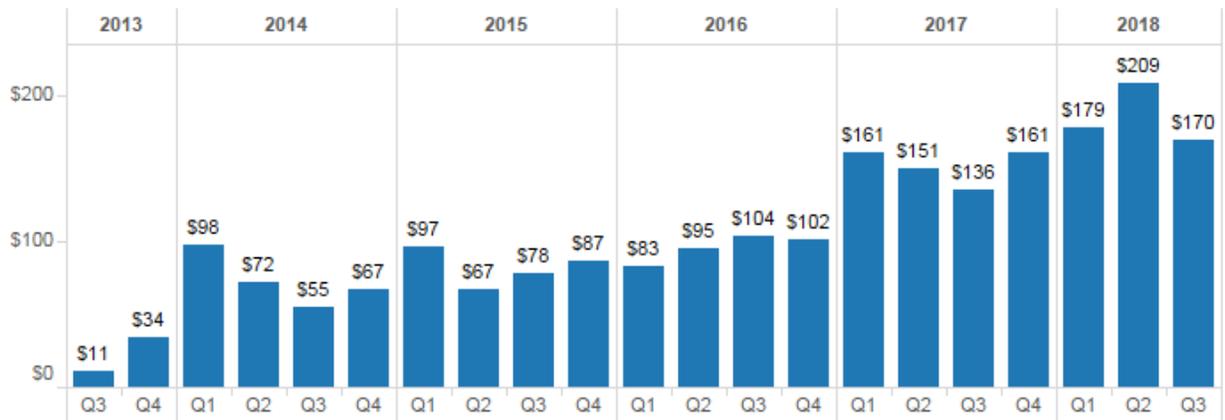
Source: Call reports, Schedule RC-L

The notional amount for the 79 banks that net sold credit protection (i.e., assumed credit risk) was \$2.1 trillion, down \$68.4 billion (3.4 percent) from the second quarter of 2018 (see table 12 in the appendix). The notional amount for the 60 banks that net purchased credit protection (i.e., hedged credit risk) was \$2.2 trillion, \$94.7 billion lower (4.4 percent) than in the second quarter of 2018 (see table 12 in the appendix).

**Compression Activity**

Notional amounts of banks’ derivative contracts have generally declined since 2011 because of trade compression efforts, leading 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 increased in the third quarter of 2018, as shown in figure 6 on page 15.

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



Source: LCH.Clearnet

### **Centrally Cleared Derivative Contracts**

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 2018, 40.7 percent of banks' derivative holdings were centrally cleared (see table 12). From a market factor perspective, 50.5 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 30.8 percent of credit derivative transactions were centrally cleared during the third quarter of 2018.

Centrally cleared derivative transactions were heavily concentrated at qualified central counterparties, with 90.9 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
2018 Q3	50.5%	1.2%	27.6%	9.9%	30.8%	16.9%	40.7%
2018 Q2	51.5%	1.6%	26.8%	9.5%	28.9%	17.3%	41.0%
2018 Q1	49.6%	1.5%	27.9%	8.5%	28.9%	14.9%	39.8%
2017 Q4	47.8%	1.0%	25.7%	7.8%	25.8%	15.0%	38.0%
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%	5.5%	22.3%	16.0%	39.2%
2016 Q4	49.1%	1.0%	23.5%	5.6%	20.4%	15.0%	38.8%
2016 Q3	49.2%	0.7%	24.3%	6.7%	21.2%	14.9%	39.0%
2016 Q2	49.1%	0.5%	22.1%	6.0%	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	44.6%	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 on 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 netting into account. 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 netting into account. 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.

**Qualified central counterparty:** Qualified central counterparties are defined in 12 CFR 3.2 as either a CCP that the Financial Stability Oversight Council has designated systemically important under title VIII of the Dodd–Frank Wall Street Reform and Consumer Protection Act or meets a series of standards. See 12 CFR 3.2 for full definition.

**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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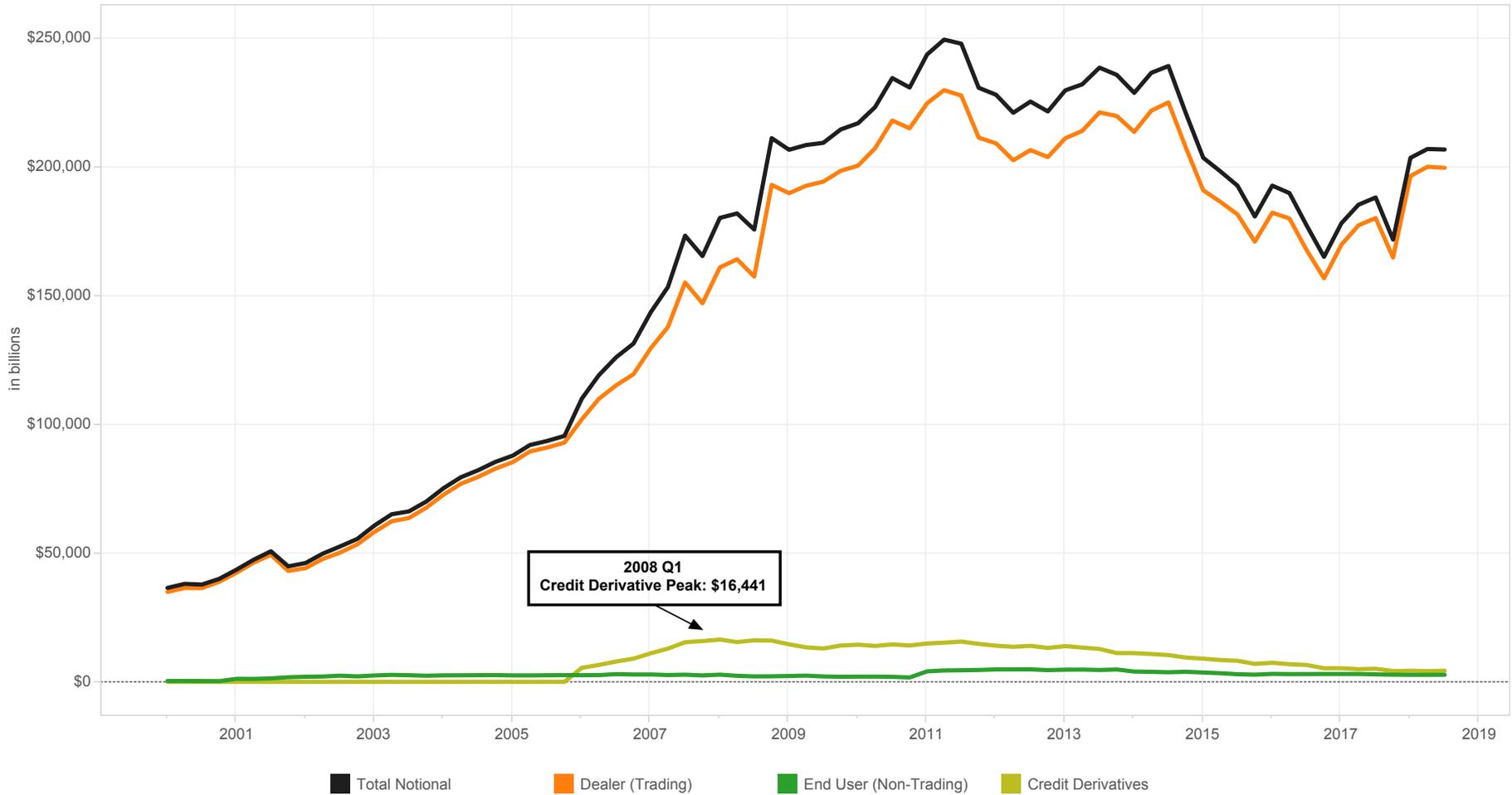
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Table 12. Distribution of Credit Derivative Contracts Held for Trading

Table 13. Derivatives Data Reported by FFIEC 051 Filers

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

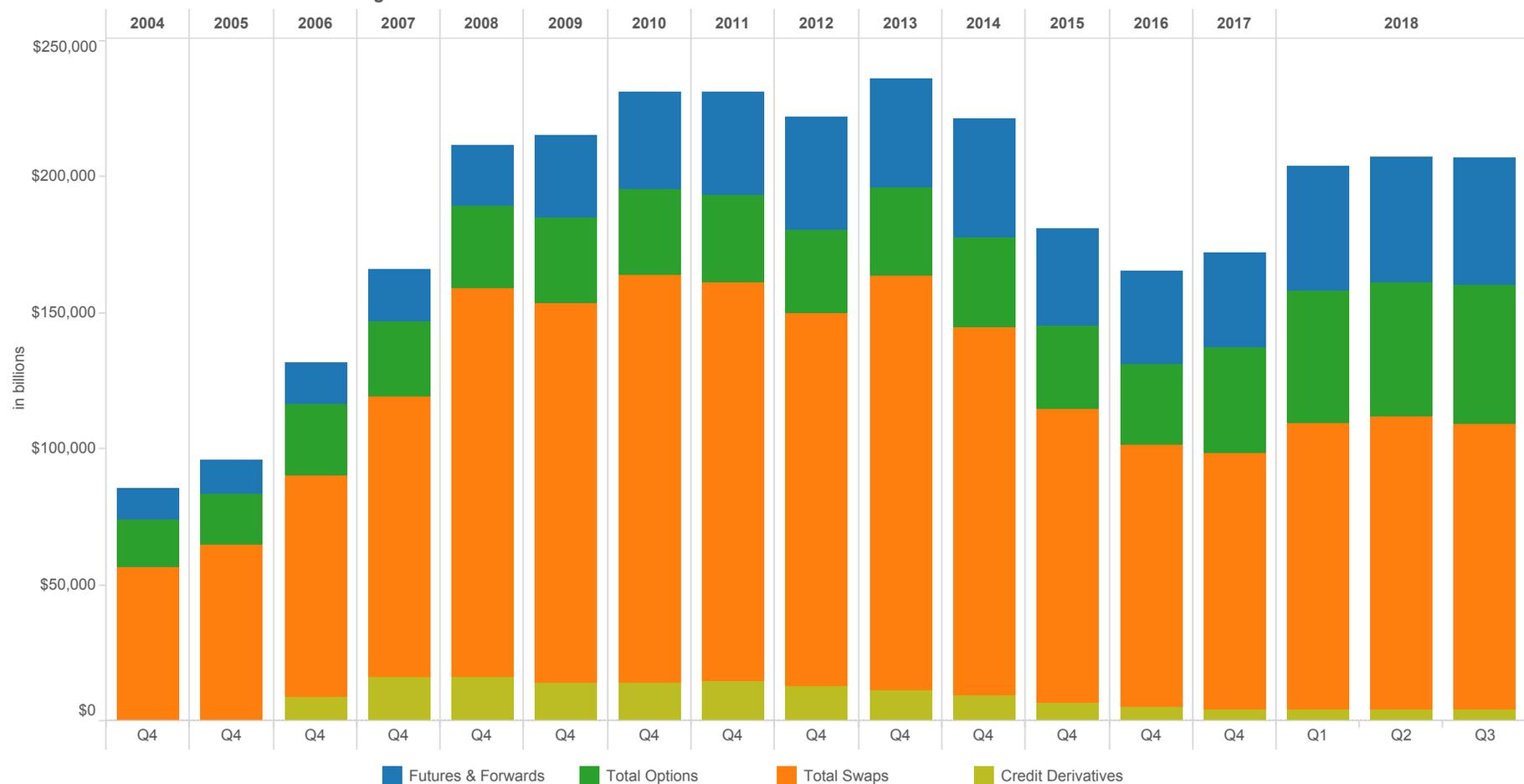


In billions of dollars

	2015				2016				2017				2018		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Total Notional	\$203,777	\$198,530	\$192,942	\$180,959	\$192,952	\$190,057	\$177,466	\$165,252	\$178,335	\$185,522	\$188,351	\$171,958	\$203,752	\$207,186	\$206,980
Dealer (Trading)	191,123	186,686	181,777	171,172	182,437	180,186	167,873	156,901	169,971	177,519	180,344	164,987	196,669	200,271	199,876
End User (Non-Trading)	3,637	3,356	2,968	2,800	3,097	3,018	3,030	3,057	3,061	3,069	2,917	2,785	2,737	2,737	2,763
Credit Derivatives	9,017	8,488	8,198	6,986	7,418	6,853	6,562	5,293	5,304	4,935	5,090	4,186	4,345	4,179	4,342

Note: Numbers may not add up to 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**

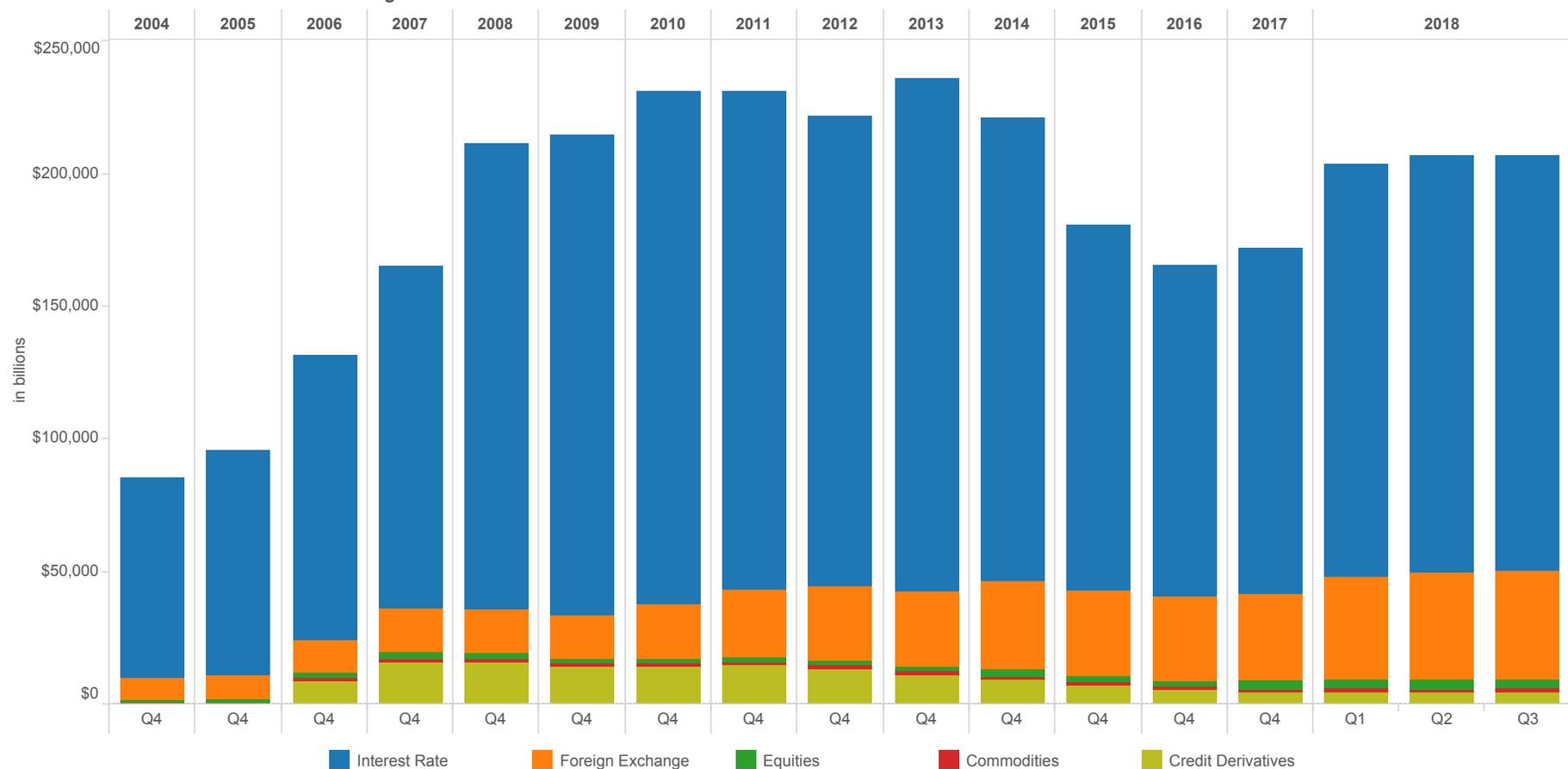
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
	Q4	Q1	Q2	Q3													
<b>Futures &amp; Forwards</b>	\$11,370	\$12,057	\$14,882	\$18,867	\$22,529	\$29,652	\$35,539	\$37,469	\$41,621	\$40,027	\$43,380	\$35,691	\$34,201	\$34,407	\$45,498	\$46,024	\$47,051
<b>Total Options</b>	17,754	18,858	26,277	27,727	29,747	31,884	32,078	32,505	30,375	32,305	33,081	30,889	29,373	38,841	48,814	49,025	50,801
<b>Total Swaps</b>	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	94,524	105,094	107,959	104,786
<b>Credit Derivatives</b>	0	0	9,020	15,863	16,029	14,112	14,151	14,759	13,190	11,191	9,449	6,986	5,293	4,186	4,345	4,179	4,342
<b>Total Notional</b>	85,536	95,627	131,519	165,559	211,416	214,786	231,099	230,998	221,794	235,992	221,078	180,959	165,252	171,958	203,752	207,186	206,980

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

Note: Numbers may not add up to total due to rounding.

Source: Call reports

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

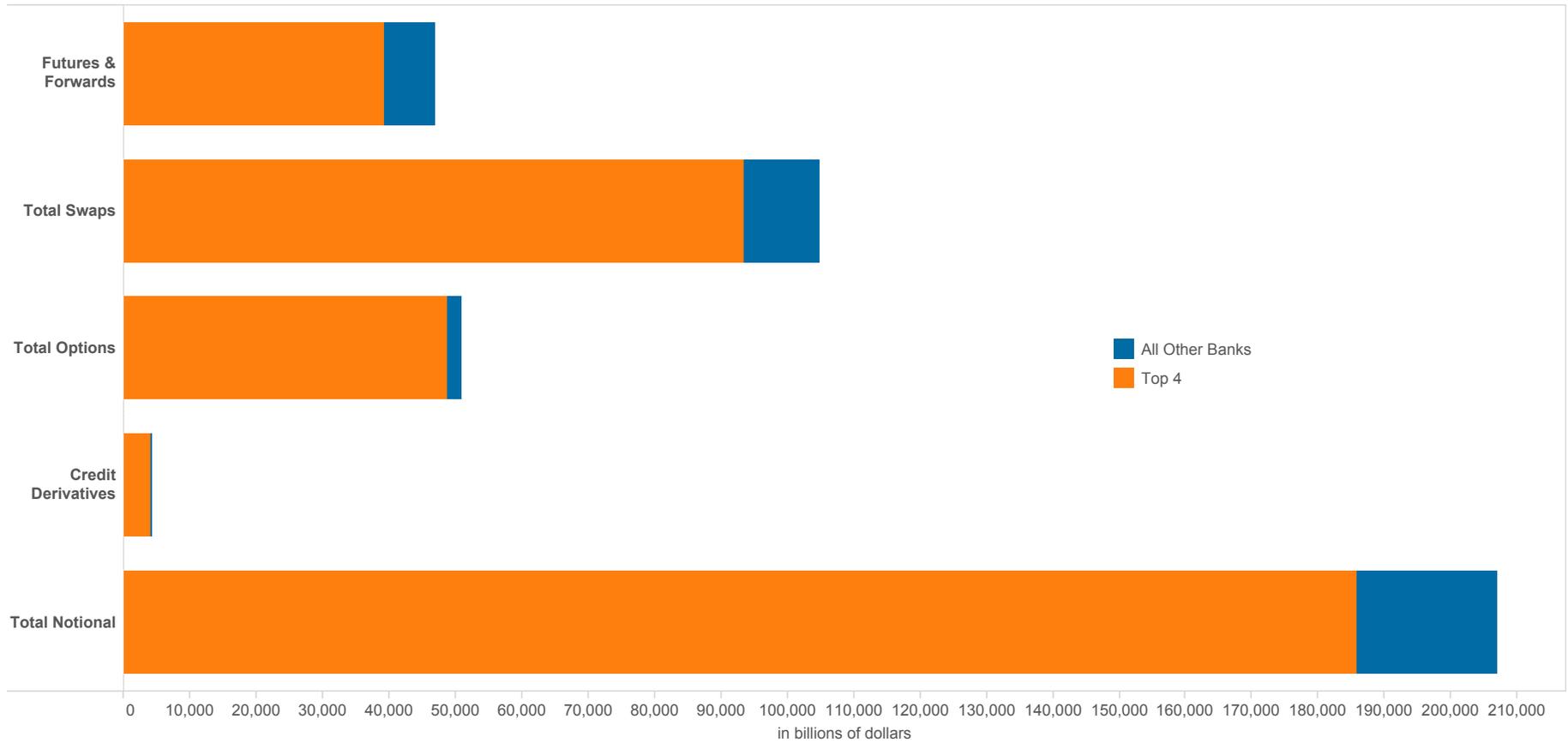


**In billions of dollars**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q1	Q2	Q3
<b>Interest Rate</b>	\$75,533	\$84,530	\$107,435	\$129,491	\$175,895	\$181,454	\$193,399	\$187,866	\$177,650	\$193,084	\$174,687	\$138,369	\$124,488	\$130,417	\$155,469	\$157,427	\$156,773
<b>Foreign Exchange</b>	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	32,903	38,839	40,650	40,710
<b>Equities</b>	1,112	1,255	2,271	2,524	2,207	1,685	1,364	1,606	1,970	2,028	2,537	2,395	2,475	3,080	3,467	3,421	3,645
<b>Commodities</b>	284	552	893	1,067	1,061	979	1,195	1,330	1,397	1,209	1,222	1,108	1,257	1,373	1,631	1,511	1,511
<b>Credit Derivatives</b>	0	0	9,020	15,863	16,029	14,112	14,151	14,759	13,190	11,191	9,449	6,986	5,293	4,186	4,345	4,179	4,342
<b>Total Notional</b>	85,536	95,627	131,519	165,559	211,416	214,786	231,099	230,998	221,794	235,992	221,078	180,959	165,252	171,958	203,752	207,186	206,980

\*Notional amount of total: futures, exchange traded options, over the counter options, forwards, and swaps.  
 Note: As of 2006 Q2 equities and commodities types are shown as separate categories. They were previously shown as "Other Derivs."  
 Numbers may not add up to 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	\$39,381	\$7,671	\$47,051
Total Swaps	93,573	11,214	104,786
Total Options	48,726	2,075	50,801
Credit Derivatives	4,149	193	4,342
Total Notional	185,828	21,152	206,980

\*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**

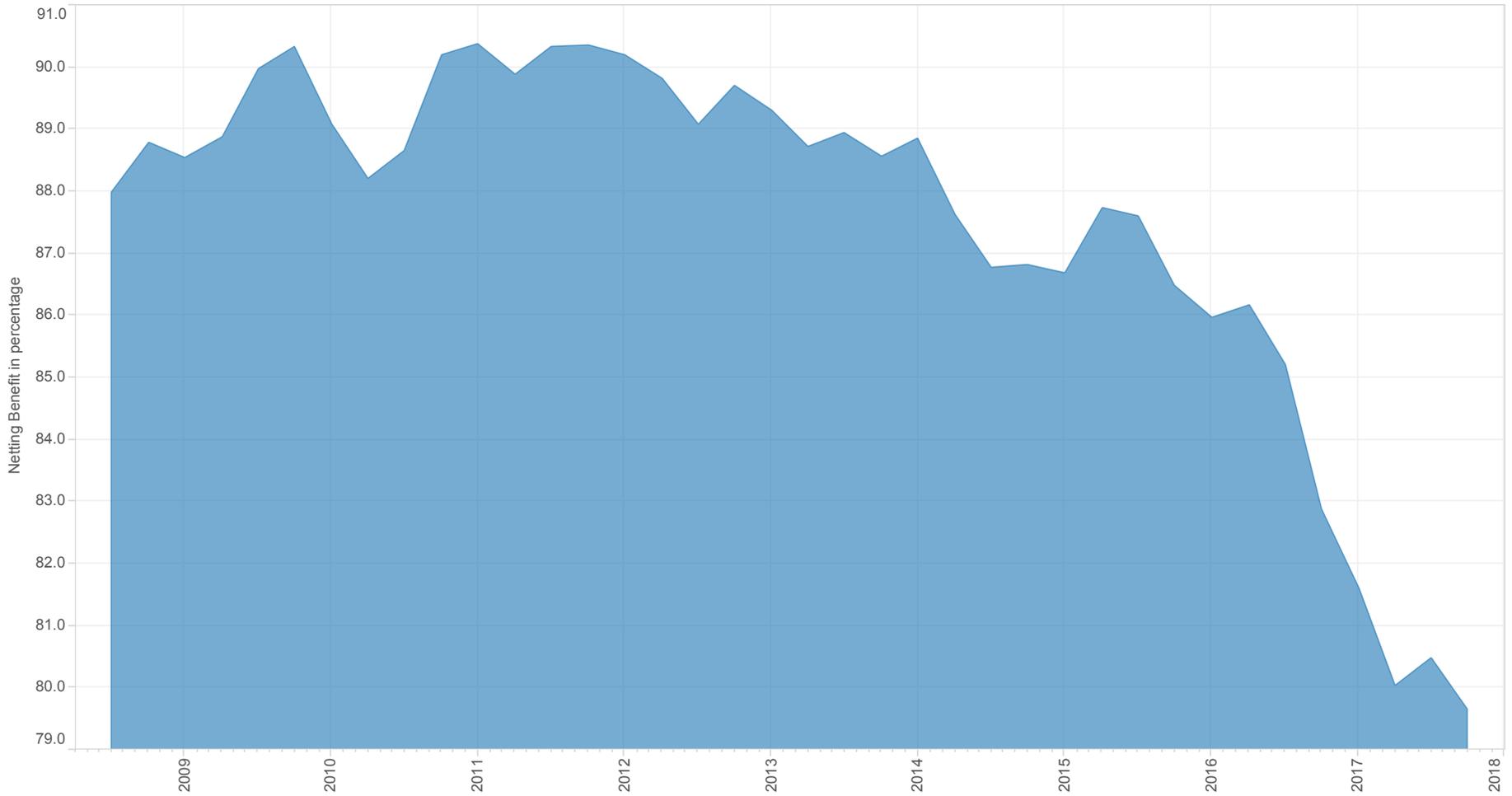


	2013				2014				2015				2016				2017				2018		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3																
<b>JPMorgan Chase Bank NA</b>	219	216	205	183	183	189	181	177	229	228	219	209	225	221	216	199	201	193	195	179	197	184	190
<b>Bank of America NA</b>	129	125	121	117	109	107	107	93	100	95	91	85	81	77	68	66	66	64	59	57	62	61	62
<b>Citibank NA</b>	165	164	161	148	147	156	190	173	187	184	181	166	180	181	188	183	186	184	171	140	146	139	144
<b>Goldman Sachs</b>	703	693	719	741	689	620	539	516	547	563	530	516	482	467	433	481	472	484	433	420	389	384	371
<b>TOTAL</b>	Q1	Q2	Q3	Q4	Q1	Q2	Q3																
	261	258	262	262	248	240	224	211	238	242	232	223	226	222	217	220	220	218	205	191	195	187	188

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**



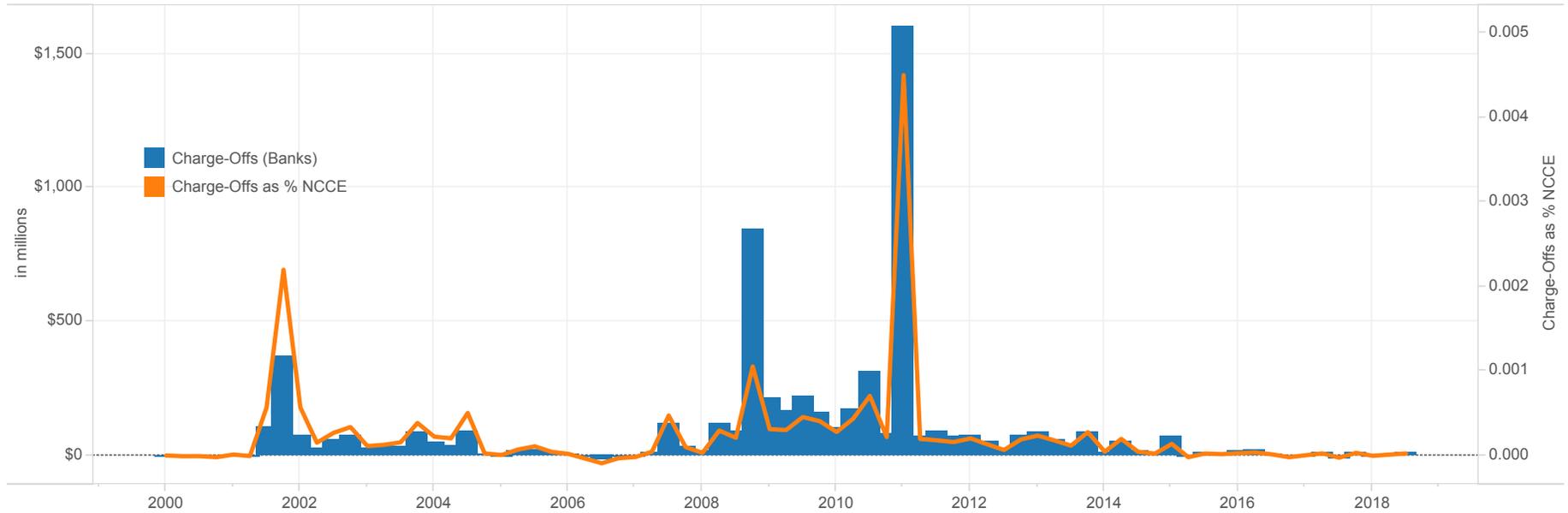
**Netting Benefit (in percentage)**

2010				2011				2012				2013				2014				2015				2016				2017				2018		
Q1	Q2	Q3	Q4	Q1	Q2	Q3																												
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	86.2	85.2	82.9	81.6	80.0	80.5	79.7

\*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**



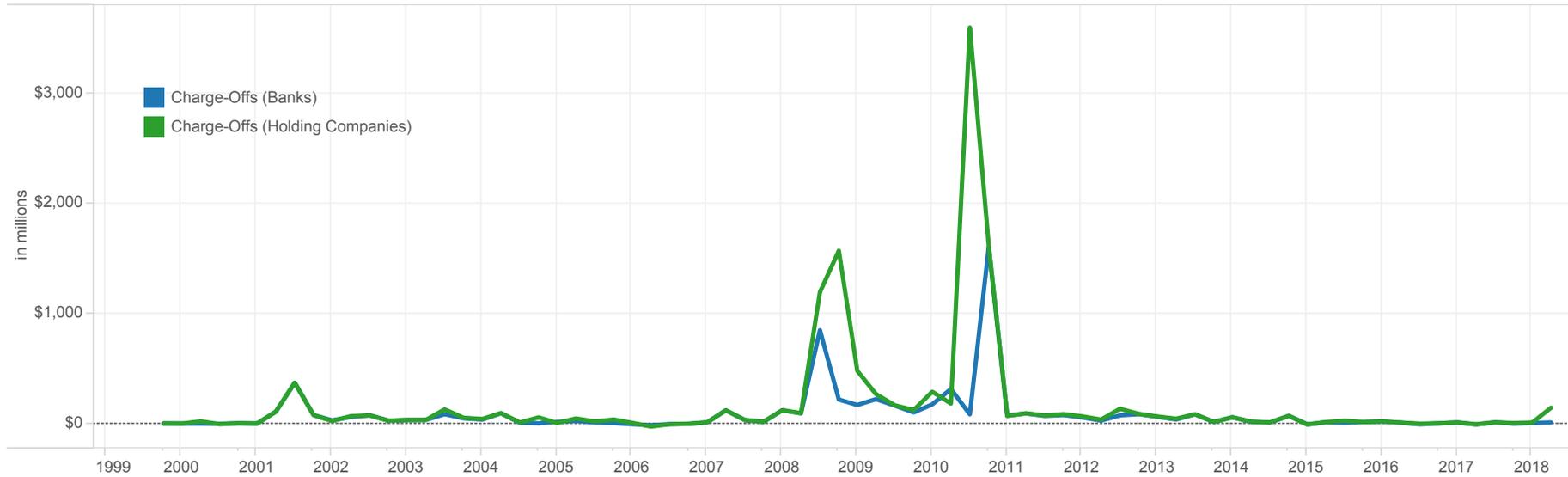
In millions of dollars

	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				2018							
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3					
Charge-Offs (Banks)	13.30	18.56	6.48	-7.84	1.22	8.71	-8.77	10.26	-1.14	3.97	8.73					

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**

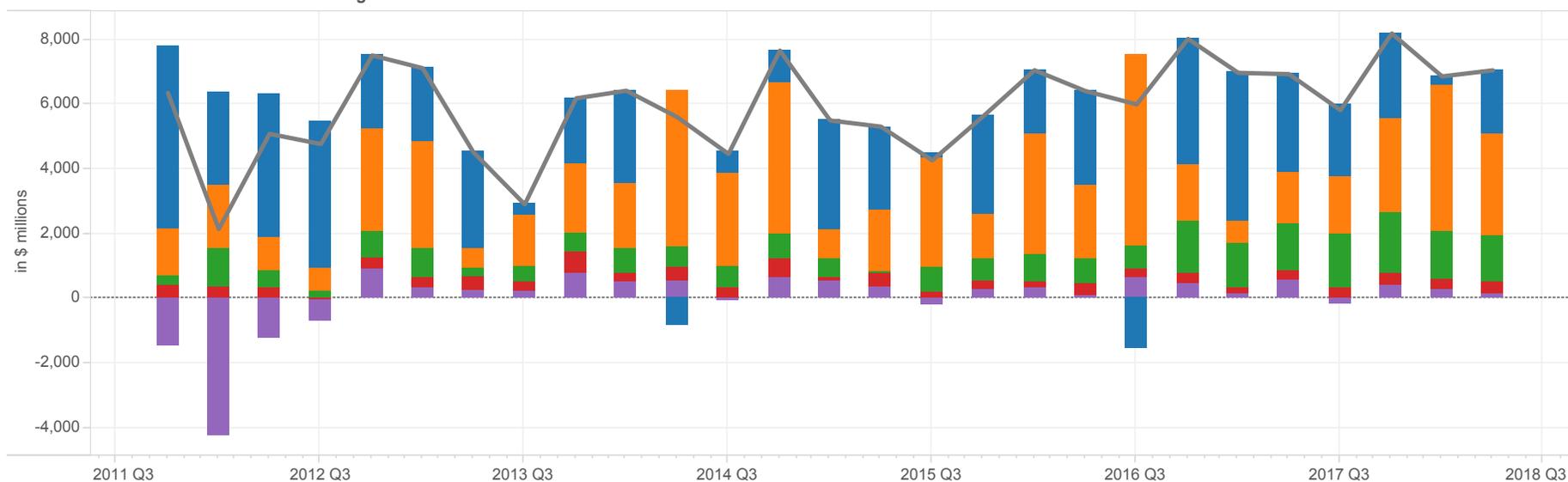


In millions of dollars

	2000				2001				2002				2003				2004			
	Q1	Q2	Q3	Q4	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	46.7	34.9	92.2	5.4
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	51.2	40.4	94.2	9.0
	2005				2006				2007				2008				2009			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Charge-Offs (Banks)	1	14	23	8	4	-7	-16	-6	-3	9	119	31	15	120	92	847	217	168	221	162
Charge-Offs (Holding Companies)	55	4	45	18	35	5	-28	-7	-3	10	119	32	15	120	93	1,192	1,570	477	266	164
	2010				2011				2012				2013				2014			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Charge-Offs (Banks)	100	173	313	83	1,601	72	91	69	76	54	26	73	84	61	36	83	13	56	15	8
Charge-Offs (Holding Companies)	122	288	181	3,598	1,617	68	92	73	85	64	35	133	87	63	43	83	14	56	17	9
	2015				2016				2017				2018							
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3					
Charge-Offs (Banks)	69.3	-7.9	10.4	6.4	13.3	18.6	6.5	-7.8	1.2	8.7	-8.8	10.3	-1.1	4.0	8.7					
Charge-Offs (Holding Companies)	69.0	-10.2	12.9	24.5	12.8	18.0	7.5	-2.5	1.4	8.9	-8.3	9.6	3.1	8.2	143.3					

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**



In millions of dollars

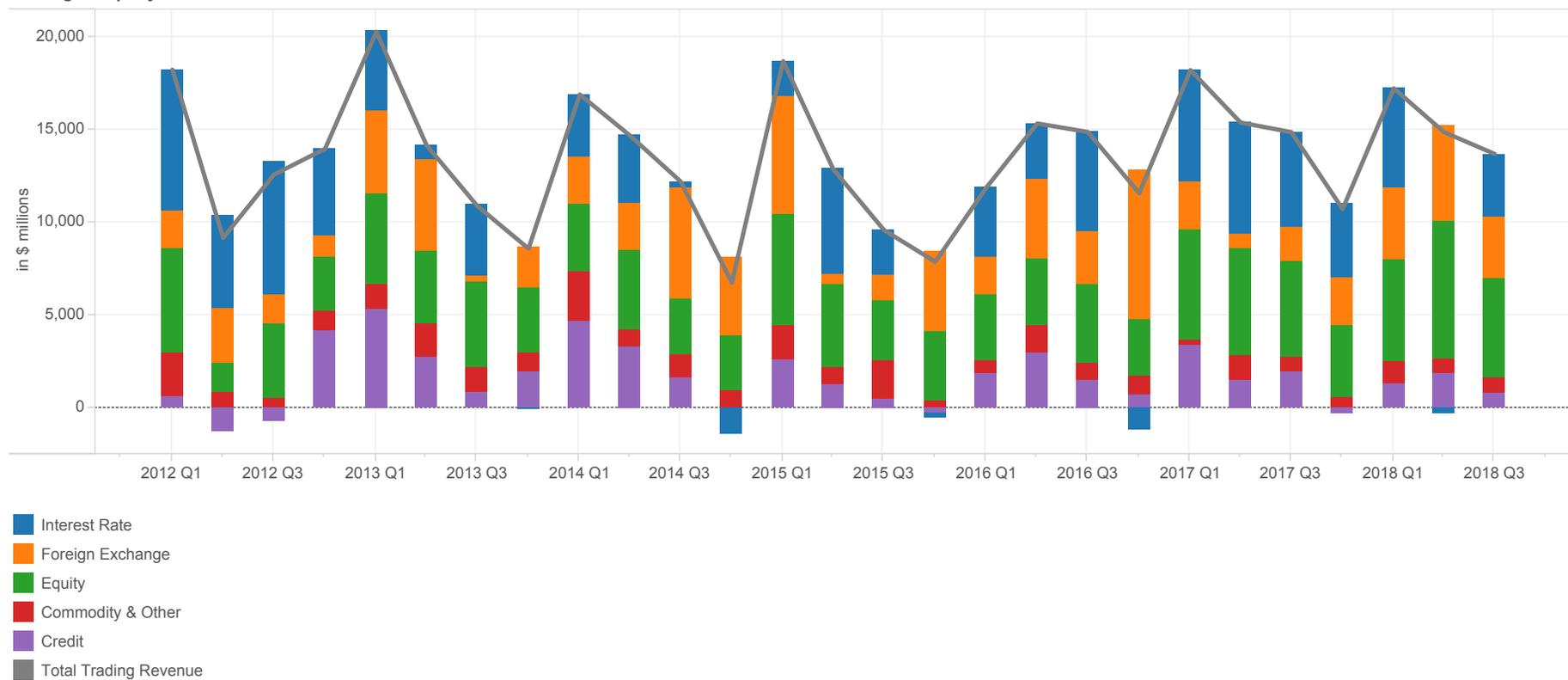
	3Q2018	Average Past 12 Q's	Past 8 Quarter Average	Past 8 Quarter High	Past 8 Quarter Low	Since 2000 Average	Max Since 2000	Min Since 2000
<b>Interest Rate</b>	1,998	2,627	2,223	4,586	-5,282	1,728	9,291	-1,547
<b>Foreign Exchange</b>	3,130	2,241	2,739	5,941	-1,069	1,929	5,941	697
<b>Equity</b>	1,444	920	1,363	1,865	-1,059	647	1,865	681
<b>Commodity &amp; Other</b>	346	350	316	368	-307	235	789	211
<b>Credit</b>	141	295	284	634	-10,237	-155	2,727	-178
<b>Total Trading Revenue</b>	<b>7,059</b>	<b>6,434</b>	<b>6,925</b>	<b>8,198</b>	<b>-10,580</b>	<b>4,383</b>	<b>10,217</b>	<b>5,824</b>

In millions of dollars

	2013				2014				2015				2016				2017				2018		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3																
<b>Interest Rate</b>	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	3,917	4,586	3,011	2,220	2,649	255	1,998
<b>Foreign Exchange</b>	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	1,743	697	1,608	1,811	2,895	4,535	3,130
<b>Equity</b>	838	924	233	491	612	726	654	650	797	587	49	742	668	867	734	681	1,595	1,359	1,454	1,649	1,865	1,486	1,444
<b>Commodity &amp; Other</b>	364	292	481	265	672	293	411	335	587	129	402	198	271	161	353	296	330	211	300	324	368	313	346
<b>Credit</b>	890	339	222	245	756	500	535	-79	624	530	357	-222	263	342	118	634	447	128	566	-178	421	281	141
<b>Total Trading Revenue</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>8,031</b>	<b>6,981</b>	<b>6,940</b>	<b>5,824</b>	<b>8,198</b>	<b>6,870</b>	<b>7,059</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 add up to total due to rounding.  
 Source: Call reports

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



In millions of dollars

	2013				2014				2015				2016				2017				2018		
	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>	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	6,055	6,019	5,124	4,006	5,360	-340	3,369
<b>Foreign Exchange</b>	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	2,524	733	1,848	2,589	3,889	5,127	3,359
<b>Equity</b>	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	5,939	5,783	5,123	3,867	5,431	7,445	5,284
<b>Commodity &amp; Other</b>	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	299	1,317	769	568	1,177	779	858
<b>Credit</b>	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	3,381	1,523	1,996	-310	1,359	1,848	814
<b>Total Trading Revenue</b>	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	18,198	15,376	14,861	10,721	17,216	14,860	13,685

\*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 add up to 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**



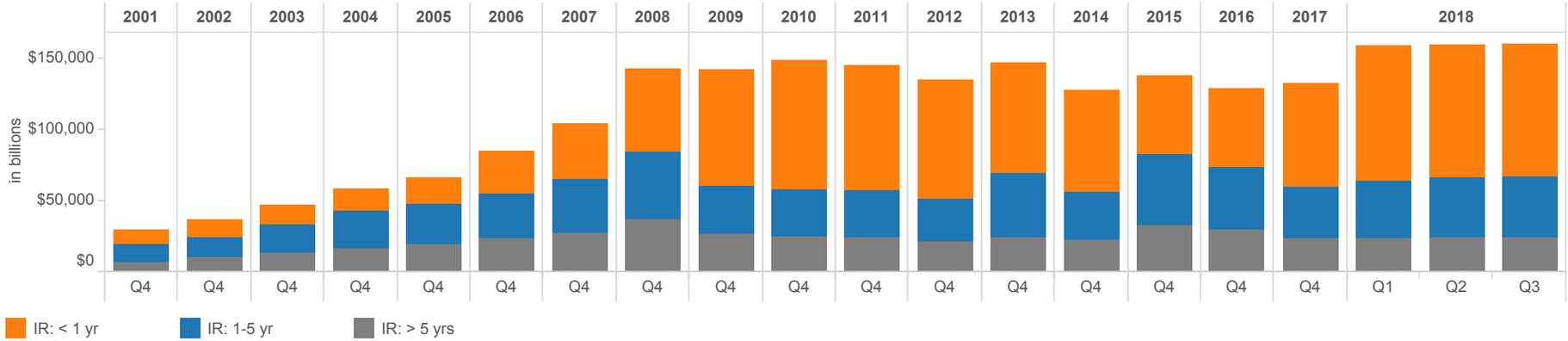
**Trading Revenue to Gross Revenue (in percentage)\***

	2013				2014				2015				2016				2017				2018		
	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>	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	17.98	13.66	14.01	11.52	13.97	10.24	10.26
<b>Bank of America NA</b>	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	3.87	5.62	4.04	4.54
<b>Citibank NA</b>	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	6.94	11.33	10.69	11.26
<b>Goldman Sachs</b>	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	2.15	10.85	1.84	12.77
<b>TOTAL</b>	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	11.68	9.32	9.39	7.55	10.57	8.18	8.82

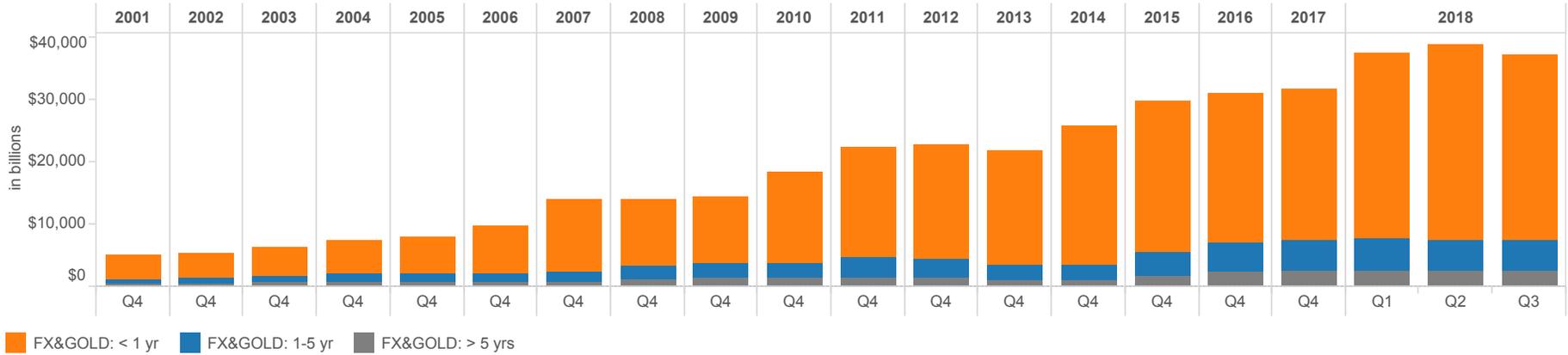
\*The trading revenue figures are for cash and derivative activities. Revenue figures are quarterly, not year-to-date numbers.  
 Note: Gross revenue equals interest income plus non-interest income.  
 Source: Call reports

**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**

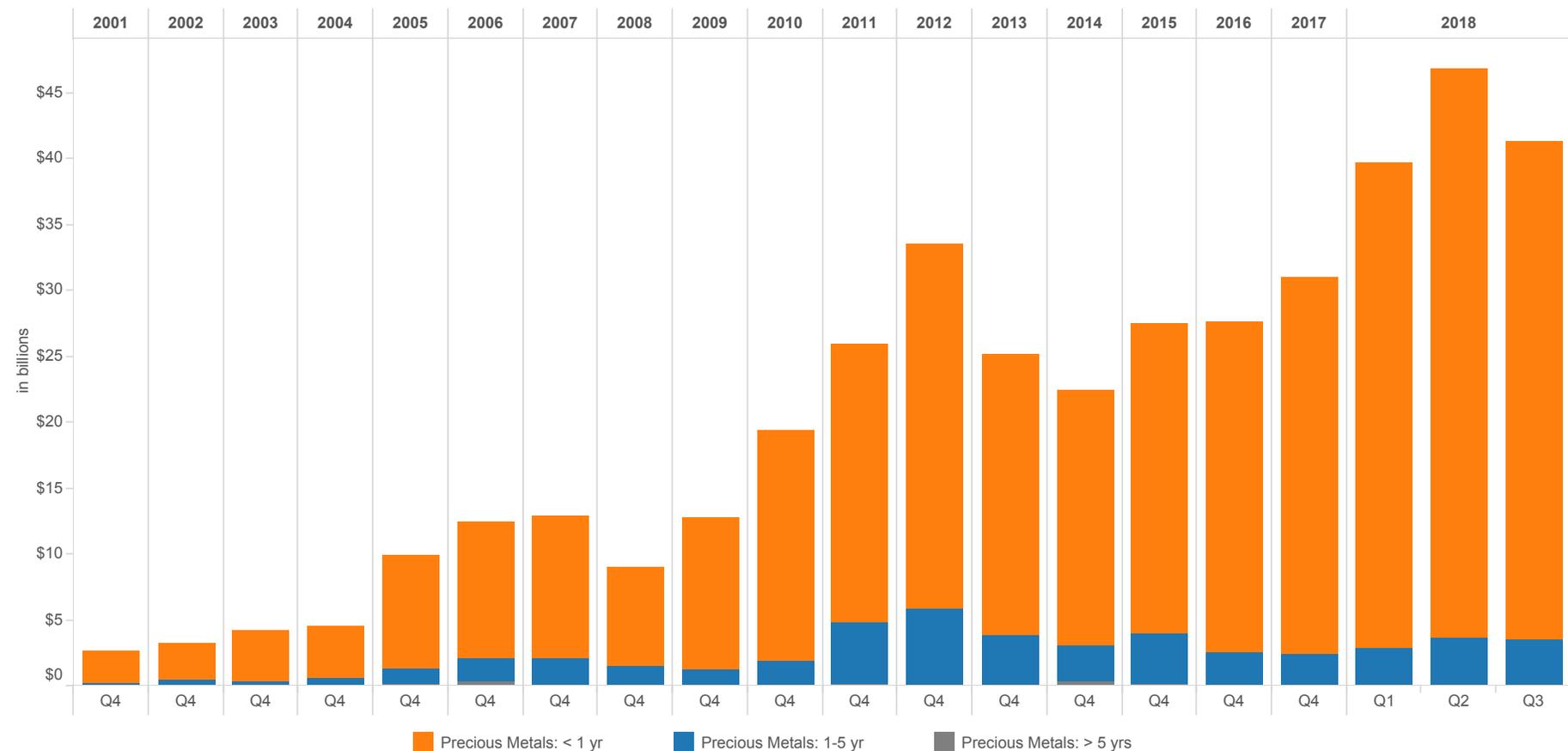
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
	Q4	Q1	Q2	Q3																
IR: < 1 yr	\$10,379	\$12,982	\$13,581	\$15,921	\$18,483	\$29,552	\$39,085	\$58,618	\$81,236	\$90,843	\$87,812	\$82,948	\$77,758	\$71,808	\$55,054	\$55,061	\$72,589	\$95,439	\$91,957	\$93,166
IR: 1-5 yr	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	43,261	36,154	40,334	42,276	42,732
IR: > 5 yrs	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	23,565	23,686	24,373	24,227
FX&GOLD: < 1 yr	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	23,912	24,380	29,696	31,342	29,675
FX&GOLD: 1-5 yr	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	4,454	4,805	5,022	4,906	4,928
FX&GOLD: > 5 yrs	499	439	582	762	689	594	622	1,082	1,347	1,290	1,503	1,480	1,029	969	1,648	2,420	2,525	2,630	2,473	2,470

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**



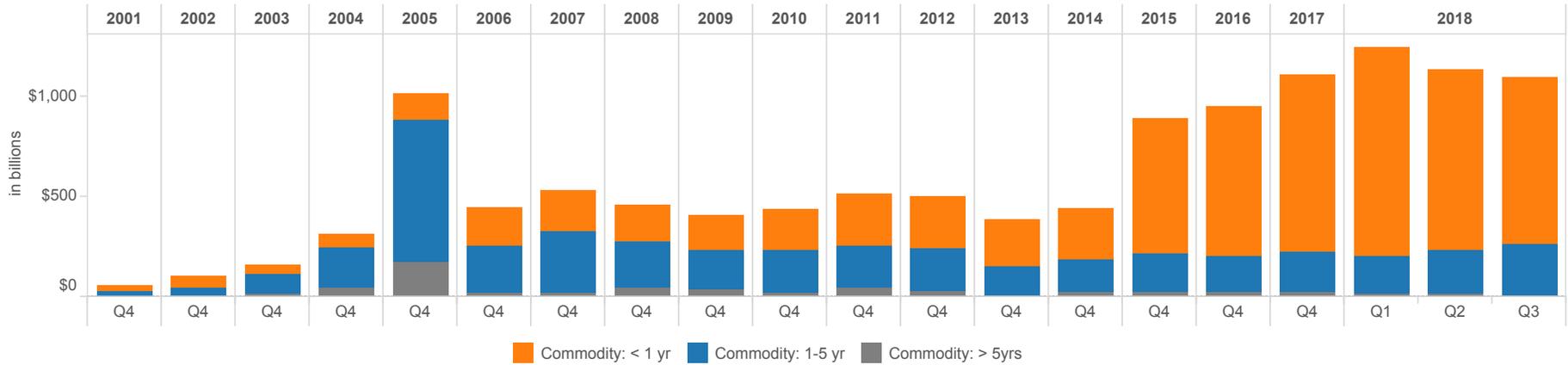
**In billions of dollars**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q1	Q2	Q3
Precious Metals: < 1 yr	2.44	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	25.07	28.62	36.84	43.18	37.82
Precious Metals: 1-5 yr	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	2.49	2.38	2.82	3.61	3.53
Precious Metals: > 5 yrs	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	0.01	0.01	0.01	0.01

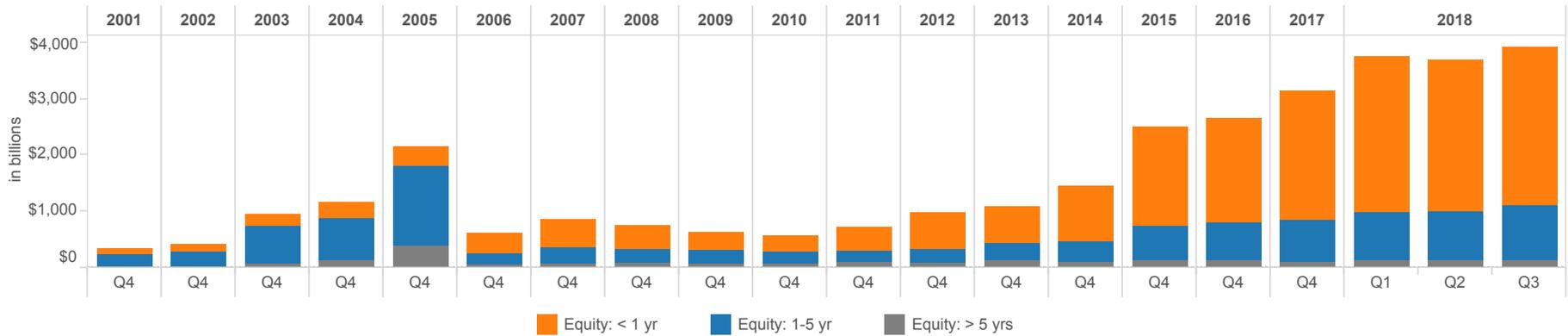
Note: Figures exclude FX contracts with an original maturity of 14 days or less, written options, basis swaps, and any other contracts not subject to risk-based capital requirements.  
Source: Call reports

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

**Commodity**



**Equity**



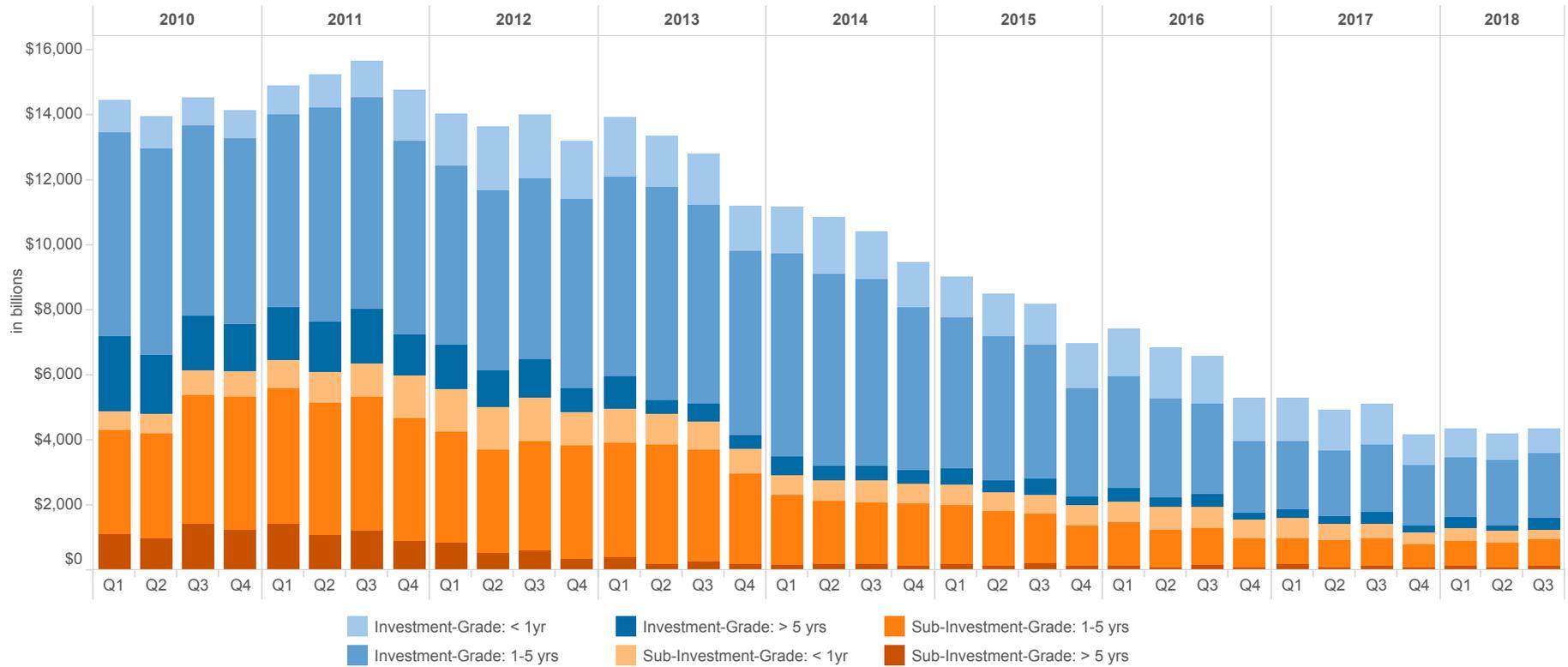
**In billions of dollars**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q1	Q2	Q3
Commodity: < 1 yr	\$31	\$55	\$43	\$64	\$133	\$185	\$206	\$179	\$176	\$203	\$261	\$261	\$235	\$257	\$668	\$750	\$883	\$1,043	\$898	\$832
Commodity: 1-5 yr	25	35	103	205	707	235	297	233	198	209	209	208	144	164	197	179	202	193	219	250
Commodity: > 5 yrs	2	9	14	40	175	20	25	43	33	25	46	28	6	20	22	23	25	11	14	11
Equity: < 1 yr	121	127	197	273	321	341	473	409	312	296	427	627	645	996	1,743	1,842	2,296	2,747	2,679	2,825
Equity: 1-5 yr	209	249	674	736	1,428	221	297	256	228	191	210	262	291	352	628	677	733	843	868	963
Equity: > 5 yrs	18	25	84	140	383	45	70	72	82	85	94	82	136	101	130	123	113	139	124	136

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.  
 Source: Call reports

**Graph 14**

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

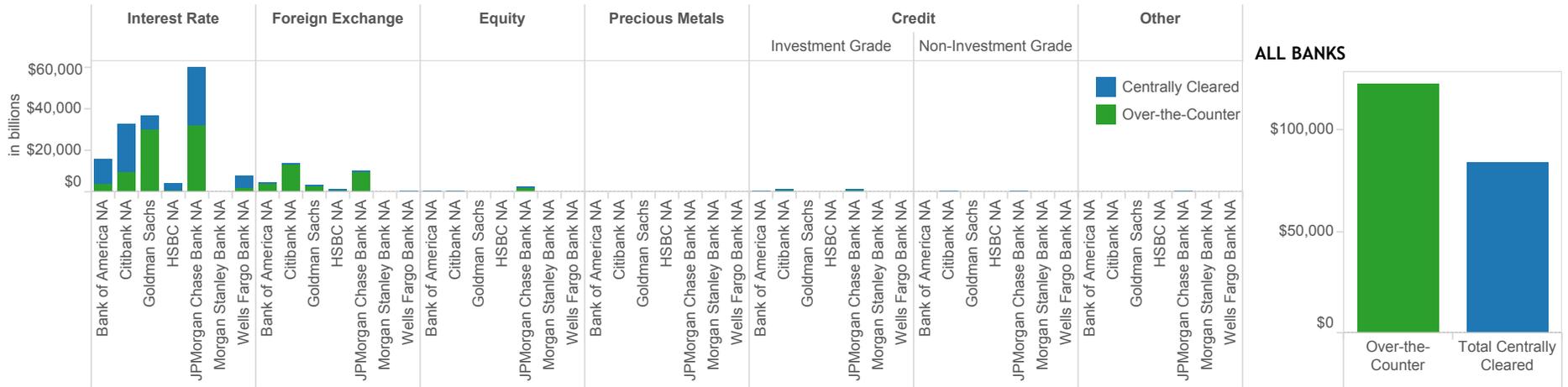


In billions of dollars

	2014				2015				2016				2017				2018		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3												
Investment-Grade: < 1yr	\$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	\$934	\$880	\$805	\$764
Investment-Grade: 1-5 yrs	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	1,897	1,839	1,995	1,988
Investment-Grade: > 5 yrs	577	448	433	382	508	359	520	281	457	262	385	214	309	195	345	186	331	184	338
<b>Total Investment Grade</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>	<b>\$3,016</b>	<b>\$3,050</b>	<b>\$2,984</b>	<b>\$3,089</b>
	2014				2015				2016				2017				2018		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3												
Sub-Investment-Grade: < 1yr	\$619	\$642	\$671	\$658	\$596	\$562	\$569	\$607	\$622	\$683	\$683	\$581	\$582	\$509	\$480	\$375	\$400	\$335	\$318
Sub-Investment-Grade: 1-5 yrs	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	718	763	791	801
Sub-Investment-Grade: > 5 yrs	200	160	157	140	194	152	213	119	155	101	157	111	159	93	149	77	133	69	133
<b>Total Sub-Investment Grade</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>	<b>\$1,170</b>	<b>\$1,296</b>	<b>\$1,195</b>	<b>\$1,252</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**  
**2018 Q3 Notional Amounts of Over-the-Counter and Centrally Cleared Derivative Contracts**  
**Insured U.S. Commercial Banks and Savings Associations**



In billions of dollars

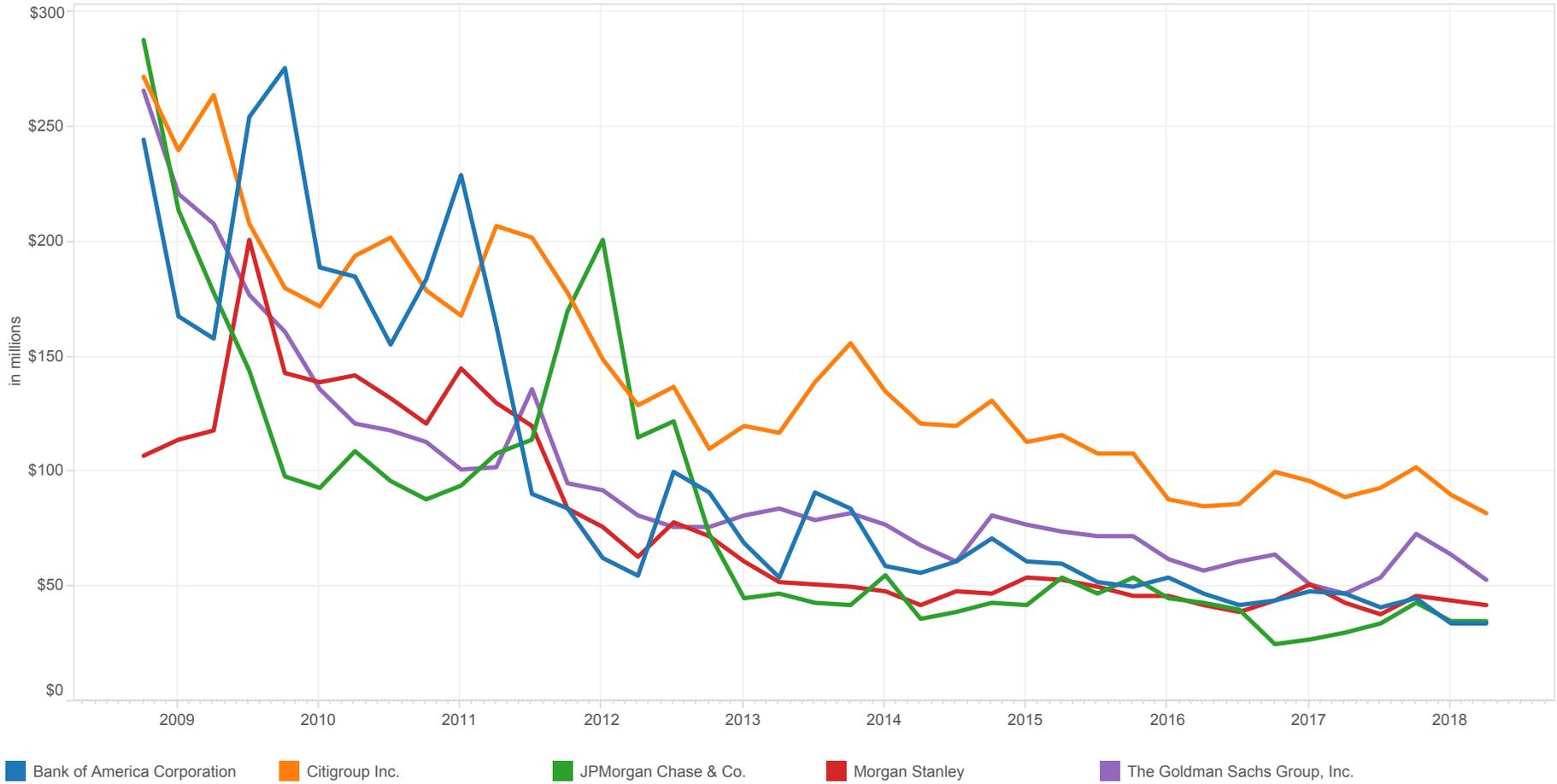
Bank Name	Interest Rate		Foreign Exchange		Equity		Precious Metals		Credit				Other		Total Centrally Cleared	Over-the-Counter	Total Notional
	Centrally Cleared	Over-the-Counter	Investment Grade		Non-Investment Grade		Centrally Cleared	Over-the-Counter									
									Centrally Cleared	Over-the-Counter	Centrally Cleared	Over-the-Counter					
JPMorgan Chase Bank NA	28,365	32,044	94	10,081	845	1,731	0	18	486	528	264	355	73	657	30,128	45,414	75,542
Citibank NA	23,046	9,375	259	13,474	50	514	4	8	248	1,131	71	346	79	146	23,757	24,993	48,751
Bank of America NA	11,524	4,187	60	4,714	146	360	0	0	190	209	59	157	0	23	11,978	9,650	21,628
Goldman Sachs	7,037	29,931	22	3,454	0	30	0	0	0	94	0	71	0	4	7,059	33,585	40,644
HSBC NA	3,376	613	22	1,064	0	79	0	9	6	11	5	28	0	1	3,409	1,805	5,214
Wells Fargo Bank NA	5,943	1,925	0	394	43	98	0	2	1	1	0	17	32	24	6,018	2,460	8,478
Morgan Stanley Bank NA	0	5	0	55	0	0	0	0	0	8	0	2	0	0	0	70	71
<b>Grand Total</b>	<b>79,292</b>	<b>78,079</b>	<b>456</b>	<b>33,235</b>	<b>1,083</b>	<b>2,812</b>	<b>4</b>	<b>37</b>	<b>930</b>	<b>1,982</b>	<b>399</b>	<b>976</b>	<b>184</b>	<b>856</b>	<b>82,349</b>	<b>117,978</b>	<b>200,327</b>
<b>ALL OTHER</b>	1,628	1,126	0	3,382	0	28	0	0	0	10	0	19	0	53	1,629	4,618	6,247
<b>TOTAL</b>	<b>80,920</b>	<b>79,205</b>	<b>457</b>	<b>36,617</b>	<b>1,084</b>	<b>2,841</b>	<b>4</b>	<b>37</b>	<b>930</b>	<b>1,993</b>	<b>400</b>	<b>994</b>	<b>184</b>	<b>908</b>	<b>83,978</b>	<b>122,596</b>	<b>206,574</b>

% of Total

Bank Name	Interest Rate		Foreign Exchange		Equity		Precious Metals		Credit				Other		Total Centrally Cleared as a % of Total Notional	Total Over-the-Counter as a % of Total Notional
	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				
JPMorgan Chase Bank NA	47%	53%	1%	99%	33%	67%	0%	100%	48%	52%	43%	57%	10%	90%	40%	60%
Citibank NA	71%	29%	2%	98%	9%	91%	33%	67%	18%	82%	17%	83%	35%	65%	49%	51%
Bank of America NA	73%	27%	1%	99%	29%	71%			48%	52%	27%	73%	0%	100%	55%	45%
Goldman Sachs	19%	81%	1%	99%	0%	100%			0%	100%	0%	100%	0%	100%	17%	83%
HSBC NA	85%	15%	2%	98%	0%	100%	0%	100%	33%	67%	16%	84%	0%	100%	65%	35%
Wells Fargo Bank NA	76%	24%	0%	100%	30%	70%	0%	100%	28%	72%	0%	100%	57%	43%	71%	29%
Morgan Stanley Bank NA	2%	98%	0%	100%	0%	100%			0%	100%	0%	100%			0%	100%

Source: Call reports, Schedule RC-R

**Graph 16**  
Value-at-Risk (VaR)



In millions of dollars

	2012				2013				2014				2015				2016				2017				2018		
	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 Corporation</b>	\$84	\$63	\$55	\$100	\$91	\$69	\$54	\$91	\$84	\$59	\$56	\$61	\$71	\$61	\$60	\$52	\$50	\$54	\$47	\$42	\$44	\$48	\$47	\$41	\$45	\$34	\$34
<b>Citigroup Inc.</b>	178	149	129	137	110	120	117	139	156	135	121	120	131	113	116	108	108	88	85	86	100	96	89	93	102	90	82
<b>JPMorgan Chase &amp; Co.</b>	170	201	115	122	73	45	47	43	42	55	36	39	43	42	54	47	54	45	43	40	25	27	30	34	43	35	35
<b>Morgan Stanley</b>	84	76	63	78	72	61	52	51	50	48	42	48	47	54	53	50	46	46	42	39	44	51	43	38	46	44	42
<b>The Goldman Sachs Group, Inc.</b>	95	92	81	76	76	81	84	79	82	77	68	61	81	77	74	72	72	62	57	61	64	51	47	54	73	64	53
<b>Total</b>	611	581	443	513	422	376	354	403	414	374	323	329	373	347	357	329	330	295	274	268	277	273	256	260	309	267	246

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, 2018, 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	7H6GLXDRUGQFU57RNE97	\$2,194,835	\$58,715,281	\$1,980,411	\$3,404,590	\$11,317,305	\$30,466,638	\$9,976,678	\$1,569,659	\$747,038
2	CITIBANK NATIONAL ASSN	E570DZWZ7FF32TWEFA76	1,415,081	55,022,678	3,755,920	2,253,988	7,834,795	29,733,987	9,627,239	1,816,749	1,063,025
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	179,244	51,677,977	2,890,048	7,866,860	4,975,244	22,137,569	13,635,709	172,547	276,580
4	BANK OF AMERICA NA	B4TYDEB6GKMZ0031MB27	1,797,881	20,412,126	1,343,053	213,951	5,283,825	11,234,478	1,746,674	590,145	429,381
5	WELLS FARGO BANK NA	KB1H1DSPRFMYMCUFXT09	1,665,128	9,155,876	181,253	173,190	2,931,258	4,716,089	1,125,036	29,050	6,493
6	HSBC NA	11E8VN30JCEQV1H4R804	172,380	5,375,299	101,545	5,078	1,089,042	3,737,025	341,302	101,308	49,821
7	STATE STREET BANK&TRUST CO	571474TGEMMWANRLN572	230,961	2,362,784	14,222	0	2,316,429	5,100	27,033	0	75,134
8	BANK OF NEW YORK MELLON	HPFHU00Q28E4N0NFVK49	273,110	914,096	42,429	47	276,098	573,078	22,264	180	92,044
9	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	368,603	461,500	47,045	1,000	19,527	355,914	29,464	8,549	1,277
10	U S BANK NATIONAL ASSN	6BYL5QZYBDK8S7L73M02	456,011	406,891	20,204	350	56,218	235,348	87,623	7,148	812
11	NORTHERN TRUST CO	6PTKHDJ8HDUF78PFVH30	131,900	304,661	0	0	286,969	16,824	869	0	13,170
12	SUNTRUST BANK	IYDOJBGJWY9T8XKCSX06	205,527	236,099	11,106	10,843	15,555	143,581	50,321	4,694	196
13	TD BANK NATIONAL ASSN	03D0JEWDFUSOSEEK89	294,331	204,668	0	0	2,019	201,936	461	251	0
14	CAPITAL ONE NATIONAL ASSN	207ALC1P1YM00VDV0K75	290,450	150,805	295	0	3,014	143,206	578	3,711	78
15	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	126,891	124,777	2,287	0	8,764	97,297	13,569	2,861	97
16	MUFG UNION BANK NA	OX3PU53ZLPQKJ4700D47	123,983	107,062	1,802	0	33,610	68,433	3,105	111	953
17	KEYBANK NATIONAL ASSN	HUX2X73FUCYHUUVH1BK78	136,905	99,640	3,305	0	6,543	77,686	11,719	386	533
18	FIFTH THIRD BANK	QFROUN1UWUYU0DVIWD51	139,986	99,301	1,026	127	6,243	65,640	21,626	4,640	307
19	REGIONS BANK	EQTWLK1G7ODGC2MGLV11	123,928	94,506	3,639	15	18,186	58,420	9,623	4,623	34
20	MORGAN STANLEY BANK NA	G1MLHISON32I3QPILB75	141,013	89,592	78	0	28,343	32,811	18,438	9,922	5,162
21	MANUFACTURERS&TRADERS TR CO	WWB2V0FCW3A0EE3ZJN75	116,373	58,934	0	0	2,228	37,520	19,186	0	100
22	BRANCH BANKING&TRUST CO	JJKC32MCHWDI71265Z06	216,129	56,860	380	0	4,705	42,759	8,602	414	28
23	COMPASS BANK	C90VT034M03BN29IRA40	89,113	47,576	2,416	0	1,772	33,783	9,279	326	0
24	CAPITAL ONE BANK USA NA	LKE37K2B8CFZUR7F9816	117,943	39,024	0	0	8,278	30,746	0	0	0
25	BOKF NATIONAL ASSN	FU7RSW4CQQY98A207J66	32,904	35,830	712	278	28,415	4,756	1,664	4	0
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$11,040,612	\$206,253,842	\$10,403,175	\$13,930,316	\$36,554,385	\$104,250,626	\$36,788,060	\$4,327,280	\$2,762,262
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,801,597	726,271	8,268	2,654	85,454	535,551	79,927	14,416	1,426
TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,842,209	206,980,113	10,411,442	13,932,971	36,639,839	104,786,177	36,867,988	4,341,695	2,763,688

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 add up to 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, 2018, 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	JPMORGAN CHASE & CO.	815DZWZKVSZ11NUHU748	\$2,615,183	\$58,242,227	\$2,007,546	\$3,634,043	\$11,662,682	\$29,670,463	\$9,664,361	\$1,603,132	\$737,294
2	GOLDMAN SACHS GROUP, INC., THE	784F5XWPLTWKTBV3E584	957,196	56,150,402	3,878,623	8,854,550	6,394,826	20,950,994	14,895,373	1,176,036	363,021
3	CITIGROUP INC.	6SHGI4ZSSLCXQSB395	1,925,165	55,712,918	3,876,332	4,803,451	8,777,796	27,428,407	9,310,080	1,516,852	1,059,146
4	BANK OF AMERICA CORPORATION	9DJT3UX1JIZJ14WXO774	2,338,913	36,374,400	2,346,367	1,177,464	8,234,914	20,020,037	3,639,932	955,686	425,728
5	MORGAN STANLEY	IGJSJL3JD5P30I6NJZ34	865,517	33,270,415	1,402,108	1,658,438	3,792,466	16,760,507	9,216,843	440,053	76,923
6	WELLS FARGO & COMPANY	PBLDOEJDB5FWOLXP3B76	1,872,981	9,244,849	189,280	193,018	3,167,210	4,546,481	1,121,601	27,259	6,395
7	HSBC NORTH AMERICA HOLDINGS INC.	213800JCL1FHBQK3M654	274,314	7,752,205	263,298	431,695	1,089,279	5,517,128	349,521	101,283	49,821
8	MIZUHO AMERICAS LLC		40,919	6,046,970	11,586	2,900	357,801	5,629,179	44,546	958	11,362
9	STATE STREET CORPORATION	549300ZFEEJ2IP5VME73	234,007	2,372,011	14,824	0	2,317,291	12,864	27,033	0	75,134
10	BANK OF NEW YORK MELLON CORPORATION, THE	WFLLPEPC7FZXENRZV188	349,783	913,516	45,623	115	293,229	552,105	22,264	180	92,071
11	BARCLAYS US LLC	213800H14XVWV870I72	154,641	772,145	52,589	309,292	321,127	25,581	0	63,556	38
12	CREDIT SUISSE HOLDINGS (USA), INC.	549300YHT5NGRKJDR94	131,381	700,320	15,432	6,359	531,152	73,995	5,153	68,229	0
13	RBC US GROUP HOLDINGS LLC		120,115	658,666	163,606	381,054	11,103	102,031	497	376	460
14	PNC FINANCIAL SERVICES GROUP, INC., THE	CFGNEKW0P8842LEUIA51	380,276	459,611	47,613	1,020	23,083	349,881	29,464	8,549	1,277
15	U.S. BANCORP	N1GZ7BBF3NP8GI976H15	464,607	406,933	20,204	350	55,251	236,358	87,622	7,148	812
16	TD GROUP US HOLDINGS LLC	549300ARWZ5E3L64UH29	380,646	337,695	72,630	21,570	33,158	209,625	461	251	0
17	NORTHERN TRUST CORPORATION	549300GLF98S992BC502	132,378	303,411	0	0	286,969	15,574	869	0	13,170
18	SUNTRUST BANKS, INC.	7E1PDLW1JL6TS0BS1G03	211,641	232,120	11,106	10,843	15,555	140,674	49,248	4,694	196
19	BNP PARIBAS USA, INC.		127,519	213,652	0	102	187,749	23,763	2,039	0	20
20	CAPITAL ONE FINANCIAL CORPORATION	ZUE8T73ROZOF6FLBAR73	362,909	212,442	295	0	11,417	196,441	578	3,711	78
21	DB USA CORPORATION	529900RO45LRDMWLR157	124,722	157,165	7,719	109,014	3,900	26,764	0	9,768	0
22	CITIZENS FINANCIAL GROUP, INC.	2138004JDDA4ZQUPFW65	158,989	140,755	2,287	0	8,764	106,900	19,484	3,322	97
23	MUFG AMERICAS HOLDINGS CORPORATION		161,036	130,419	6,806	4,515	47,270	68,612	3,105	111	953
24	KEYCORP	RKPI3RZGV1V1FJTH5T61	139,185	105,441	3,305	0	7,734	81,056	12,964	381	533
25	FIFTH THIRD BANCORP	THRNG6BD57P9QWTLG42	141,685	100,006	1,026	127	6,243	66,345	21,626	4,640	307
TOP 25 HOLDING COMPANIES WITH DERIVATIVES			\$14,665,708	\$271,010,695	\$14,440,205	\$21,599,919	\$47,637,967	\$132,811,765	\$48,524,662	\$5,996,177	\$2,914,836

Note: Currently, the Y-9 report does not differentiate credit derivativ

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 add up to 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, 2018, 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 EQUITY CONTRACTS (%)	PERCENT OTHER CONTRACTS (%)	PERCENT CREDIT DERIVATIVES (%)
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$2,194,835	\$58,715,281	9.2	90.8	72.4	20.3	3.1	1.5	2.7
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,415,081	55,022,678	10.9	89.1	66.2	28.0	1.7	0.7	3.3
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	179,244	51,677,977	20.8	79.2	92.5	7.1	0.1	0.0	0.3
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,797,881	20,412,126	7.6	92.4	71.3	23.3	2.3	0.1	2.9
5	WELLS FARGO BANK NA	KB1H1DSPRFMYMUCUFXT09	1,665,128	9,155,876	3.9	96.1	91.9	4.5	2.6	0.8	0.3
6	HSBC NA	11E8VN30JCEQV1H4R804	172,380	5,375,299	2.0	98.0	76.1	19.8	1.5	0.7	1.9
7	STATE STREET BANK&TRUST CO	571474TGEMMWWANRLN572	230,961	2,362,784	0.6	99.4	0.8	98.1	0.0	1.1	0.0
8	BANK OF NEW YORK MELLON	HPFHU00Q28E4N0NFVK49	273,110	914,096	4.6	95.4	34.1	65.8	0.1	0.0	0.0
9	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	368,603	461,500	10.4	89.6	92.0	3.7	1.1	1.3	1.9
10	U S BANK NATIONAL ASSN	6BYL5QZYBDK8S7L73M02	456,011	406,891	5.1	94.9	83.7	14.2	0.0	0.3	1.8
11	NORTHERN TRUST CO	6PTKHDJ8HDUF78PFWH30	131,900	304,661	0.0	100.0	4.7	95.2	0.2	0.0	0.0
12	SUNTRUST BANK	IYDOJBGJWY9T8XKCSX06	205,527	236,099	9.3	90.7	78.3	3.1	15.9	0.7	2.0
13	TD BANK NATIONAL ASSN	03DOJEWDFUSOSEEKG89	294,331	204,668	0.0	100.0	97.7	2.2	0.0	0.0	0.1
14	CAPITAL ONE NATIONAL ASSN	207ALC1P1YM00VDV0K75	290,450	150,805	0.2	99.8	90.0	1.0	0.0	6.5	2.5
15	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	126,891	124,777	1.8	98.2	89.4	8.3	0.0	0.0	2.3
16	MUFG UNION BANK NA	OX3PU53ZLPQKJ4700D47	123,983	107,062	1.7	98.3	92.4	6.7	0.4	0.4	0.1
17	KEYBANK NATIONAL ASSN	HUX2X73FUCYHUUVH1K78	136,905	99,640	3.3	96.7	90.6	8.0	0.0	1.0	0.4
18	FIFTH THIRD BANK	QFROUN1UWUYUODVIWD51	139,986	99,301	1.2	98.8	74.3	12.7	2.5	5.9	4.7
19	REGIONS BANK	EQTWLK1G7ODGC2MGLV11	123,928	94,506	3.9	96.1	92.4	1.5	0.0	1.2	4.9
20	MORGAN STANLEY BANK NA	G1MLHISON32I3QPILB75	141,013	89,592	0.1	99.9	10.1	78.3	0.5	0.0	11.1
21	MANUFACTURERS&TRADERS TR CO	WWB2V0FCW3A0EE3ZJN75	116,373	58,934	0.0	100.0	98.7	1.3	0.0	0.0	0.0
22	BRANCH BANKING&TRUST CO	JJKC32MCHWDI71265Z06	216,129	56,860	0.7	99.3	98.3	1.0	0.0	0.0	0.7
23	COMPASS BANK	C90VT034M03BN29IRA40	89,113	47,576	5.1	94.9	93.7	3.3	2.3	0.0	0.7
24	CAPITAL ONE BANK USA NA	LKE37K2B8CFZUR7F9816	117,943	39,024	0.0	100.0	78.8	21.2	0.0	0.0	0.0
25	BOKF NATIONAL ASSN	FU7RSW4CQQY98A207J66	32,904	35,830	2.8	97.2	90.2	0.8	0.5	8.5	0.0
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$11,040,612	\$206,253,842	\$24,333,491	\$181,920,351	\$156,104,299	\$40,678,745	\$3,640,875	\$1,502,644	\$4,327,280
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,801,597	726,271	10,922	715,349	669,108	31,027	3,684	8,036	14,416
TOTAL FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,842,209	206,980,113	24,344,413	182,635,700	156,773,407	40,709,772	3,644,559	1,510,680	4,341,695
				(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
TOP 25 COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES				99.6	11.8	87.9	75.4	19.7	1.8	0.7	2.1
OTHER COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES				0.4	0.0	0.3	0.3	0.0	0.0	0.0	0.0
TOTAL FOR COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES				100.0	11.8	88.2	75.7	19.7	1.8	0.7	2.1
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 add up to 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, 2018, 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	\$2,194,835	\$58,715,281	\$199,634	\$141,990	\$237,434	\$379,424	190
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,415,081	55,022,678	154,081	68,856	152,669	221,525	144
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	179,244	51,677,977	31,778	50,819	67,203	118,022	371
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,797,881	20,412,126	158,657	43,084	55,234	98,318	62
5	WELLS FARGO BANK NA	KB1H1DSPRFMYMCFXT09	1,665,128	9,155,876	162,353	16,565	31,201	47,766	29
6	HSBC NA	11E8VN30JCEQV1H4R804	172,380	5,375,299	24,936	7,085	19,609	26,693	107
7	STATE STREET BANK&TRUST CO	571474TGEMMWANRLN572	230,961	2,362,784	19,846	5,841	13,985	19,826	100
8	BANK OF NEW YORK MELLON	HPFHU00Q28E4N0NFVK49	273,110	914,096	20,925	4,563	4,975	9,538	46
9	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	368,603	461,500	36,205	3,087	1,224	4,311	12
10	U S BANK NATIONAL ASSN	6BYL5QZYBDK8S7L73M02	456,011	406,891	45,170	1,546	5,558	7,104	16
11	NORTHERN TRUST CO	6PTKHDJ8HDFU78PFVH30	131,900	304,661	9,837	1,377	2,351	3,728	38
12	SUNTRUST BANK	IYDOJBGJWY9T8XKCSX06	205,527	236,099	22,450	1,049	2,652	3,701	16
13	TD BANK NATIONAL ASSN	03D0JEWDFUS0SEEKG89	294,331	204,668	26,916	451	970	1,420	5
14	CAPITAL ONE NATIONAL ASSN	207ALC1P1YM00VDVOK75	290,450	150,805	27,329	1,778	2,624	4,403	16
15	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	126,891	124,777	14,132	270	815	1,085	8
16	MUFG UNION BANK NA	OX3PU53ZLPQKJ4700D47	123,983	107,062	15,342	530	264	794	5
17	KEYBANK NATIONAL ASSN	HUX2X73FUCYHUVH1BK78	136,905	99,640	15,396	597	367	965	6
18	FIFTH THIRD BANK	QFROUN1UWUYU0DVIWD51	139,986	99,301	16,523	743	1,601	2,343	14
19	REGIONS BANK	EQTWLK1G7ODGC2MGLV11	123,928	94,506	13,951	256	363	619	4
20	MORGAN STANLEY BANK NA	G1MLHIS0N32I3QPILB75	141,013	89,592	15,933	223	2,162	2,385	15
21	MANUFACTURERS&TRADERS TR CO	WWB2V0FCW3A0EE3ZJN75	116,373	58,934	12,445	75	209	284	2
22	BRANCH BANKING&TRUST CO	JJKC32MCHWDI71265Z06	216,129	56,860	23,211	171	211	382	2
23	COMPASS BANK	C90VT034M03BN29IRA40	89,113	47,576	9,387	154	191	345	4
24	CAPITAL ONE BANK USA NA	LKE37K2B8CFZUR7F9816	117,943	39,024	18,523	305	107	412	2
25	BOF NATIONAL ASSN	FU7RSW4CQQY98A207J66	32,904	35,830	3,055	6	10	16	1
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$11,040,612	\$206,253,842	\$1,098,015	\$351,422	\$603,989	\$955,411	87
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,801,597	726,271	527,496	5,185	5,734	10,919	2
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,842,209	206,980,113	1,625,512	356,607	609,723	966,330	59

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 add up to 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, 2018, 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	\$2,194,835	\$58,715,281	\$56,899,112	99.6	\$246,510	0.4
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,415,081	55,022,678	53,111,136	99.8	94,793	0.2
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	179,244	51,677,977	51,476,802	99.9	28,628	0.1
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,797,881	20,412,126	19,044,745	96.1	777,236	3.9
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,587,041	\$185,828,062	\$180,531,795	99.4	\$1,147,167	0.6
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			10,255,168	21,152,051	19,343,844	92.3	1,615,611	7.7
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,842,209	206,980,113	199,875,639	98.6	2,762,778	1.4

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 add up to 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, 2018, 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	\$2,194,835	\$58,715,281	\$554,625	\$514,230	\$1,991	\$1,350	\$22,524	\$22,436
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,415,081	55,022,678	407,068	389,773	1,344	731	18,402	18,467
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	179,244	51,677,977	438,137	426,850	199	190	3,760	3,908
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,797,881	20,412,126	163,222	147,053	12,963	18,403	9,138	9,513
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,587,041	\$185,828,062	\$1,563,052	\$1,477,906	\$16,497	\$20,674	\$53,824	\$54,324
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			10,255,168	21,152,051	107,121	106,920	11,130	7,962	1,514	1,690
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,842,209	206,980,113	1,670,173	1,584,826	27,627	28,636	55,338	56,014

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, 2018, 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	7H6GLXDRUGQFU57RNE97	\$2,194,835	\$58,715,281	\$2,661	\$623	\$928	\$809	\$148	\$153
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,415,081	55,022,678	2,043	1,325	453	192	39	34
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	179,244	51,677,977	266	(173)	461	15	0	(37)
4	BANK OF AMERICA NA	B4TYDEB6GKMZ0031MB27	1,797,881	20,412,126	957	122	343	383	82	27
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,587,041	\$185,828,062	\$5,927	\$1,897	\$2,185	\$1,399	\$269	\$177
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			10,255,168	21,152,051	1,132	101	945	45	77	(36)
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,842,209	206,980,113	7,059	1,998	3,130	1,444	346	141

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 add up to total 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, 2018, 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	\$2,194,835	\$58,715,281	\$29,918,085	\$20,573,718	\$9,916,785	\$60,408,588	\$6,900,495	\$2,222,487	\$1,052,161	\$10,175,143
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,415,081	55,022,678	24,333,615	5,052,662	3,034,736	32,421,013	11,992,978	1,210,798	528,748	13,732,524
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	179,244	51,677,977	25,010,984	6,322,041	5,635,712	36,968,737	2,260,611	650,746	564,632	3,475,989
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,797,881	20,412,126	7,536,899	5,466,613	2,707,375	15,710,887	4,021,056	561,052	191,361	4,773,469
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,587,041	\$185,828,062	\$86,799,583	\$37,415,034	\$21,294,608	\$145,509,225	\$25,175,140	\$4,645,083	\$2,336,902	\$32,157,125
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			10,255,168	21,152,051	6,366,460	5,317,068	2,932,395	14,615,922	4,499,754	283,322	133,481	4,916,556
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,842,209	206,980,113	93,166,043	42,732,102	24,227,003	160,125,147	29,674,894	4,928,405	2,470,383	37,073,681

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 up to total 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, 2018, MILLIONS OF DOLLARS**

<b>RANK</b>	<b>BANK NAME</b>	<b>LEGAL ENTITY IDENTIFIER</b>	<b>TOTAL ASSETS</b>	<b>TOTAL DERIVATIVES</b>	<b>PREC METALS MATURITY &lt; 1 YR</b>	<b>PREC METALS MATURITY 1 - 5 YRS</b>	<b>PREC METALS MATURITY &gt; 5 YRS</b>	<b>PREC METALS ALL MATURITIES</b>
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGOFU57RNE97	\$2,194,835	\$58,715,281	\$16,965	\$889	\$0	\$17,854
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,415,081	55,022,678	10,460	1,798	0	12,258
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	179,244	51,677,977	0	0	0	0
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,797,881	20,412,126	0	0	0	0
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,587,041	\$185,828,062	\$27,425	\$2,687	\$0	\$30,112
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			10,255,168	21,152,051	10,399	842	11	11,253
TOTAL FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,842,209	206,980,113	37,824	3,529	11	41,365
<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 add up to 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, 2018, 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	\$2,194,835	\$58,715,281	\$620,584	\$105,224	\$4,898	\$730,706	\$1,855,250	\$622,782	\$98,026	\$2,576,058
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWFA76	1,415,081	55,022,678	150,714	69,762	4,870	225,346	380,339	164,967	18,247	563,553
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	179,244	51,677,977	2,175	1,503	147	3,825	15,524	12,199	2,030	29,753
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,797,881	20,412,126	18,700	4,469	40	23,209	427,242	77,775	1,422	506,439
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,587,041	\$185,828,062	\$792,173	\$180,958	\$9,955	\$983,086	\$2,678,355	\$877,723	\$119,725	\$3,675,803
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			10,255,168	21,152,051	39,644	68,947	826	109,417	146,867	85,373	16,229	248,470
TOTAL FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,842,209	206,980,113	831,817	249,905	10,781	1,092,503	2,825,222	963,096	135,954	3,924,273

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 up to 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, 2018, 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	\$2,194,835	\$58,715,281	\$1,569,659	\$240,133	\$734,710	\$122,775	\$1,097,618	\$114,071	\$300,394	\$57,576	\$472,041
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,415,081	55,022,678	1,816,749	351,491	914,577	131,055	1,397,123	108,854	284,460	26,312	419,626
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	179,244	51,677,977	172,547	20,712	58,080	19,477	98,269	16,314	44,804	13,160	74,278
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,797,881	20,412,126	590,145	140,568	228,780	50,616	419,964	63,612	90,107	16,462	170,181
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,587,041	\$185,828,062	\$4,149,100	\$752,904	\$1,936,147	\$323,923	\$3,012,974	\$302,851	\$719,765	\$113,510	\$1,136,126
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			10,255,168	21,152,051	192,595	10,612	52,202	13,607	76,421	15,264	81,002	19,909	116,175
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,842,209	206,980,113	4,341,695	763,516	1,988,349	337,530	3,089,395	318,115	800,767	133,419	1,252,301

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 up to 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, 2018, MILLIONS OF DOLLARS**

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL CREDIT DERIVATIVES	PURCHASED				SOLD					
						TOTAL CREDIT DERIVATIVES	PURCHASED	SOLD	CREDIT DEFAULT SWAPS	TOTAL RETURN SWAPS	CREDIT OPTIONS	OTHER CREDIT DERIVATIVES	CREDIT DEFAULT SWAPS	TOTAL RETURN SWAPS	CREDIT OPTIONS
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGOFU57RNE97	\$2,194,835	\$57,145,622	\$1,569,659	\$799,894	\$769,765	\$740,711	\$24,000	\$29,892	\$5,291	\$726,944	\$12,324	\$30,364	\$133
2	CITIBANK NATIONAL ASSN	E570DZWZ7FF32TWEFA76	1,415,081	53,205,929	1,816,749	938,772	877,977	838,550	20,519	79,703	0	805,980	9,632	62,365	0
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	179,244	51,505,430	172,547	95,734	76,813	86,113	2,636	6,909	76	67,513	2,696	6,569	35
4	BANK OF AMERICA NA	B4TYDEB6GKMZ0031MB27	1,797,881	19,821,981	590,145	299,096	291,049	257,157	9,623	32,316	0	244,378	13,660	33,011	0
5	WELLS FARGO BANK NA	KB1H1DSPPRFMYMCFXT09	1,665,128	9,126,826	29,050	18,743	10,307	3,294	0	0	15,449	2,604	0	0	7,703
6	HSBC NA	11E8VN30CEQV1H4R804	172,380	5,273,991	101,308	53,486	47,822	48,642	4,844	0	0	46,257	1,565	0	0
7	STATE STREET BANK&TRUST CO	571474TGEMMWANRLN572	230,961	2,362,784	0	0	0	0	0	0	0	0	0	0	0
8	BANK OF NEW YORK MELLON	HPFHU00Q28E4N0FVK49	273,110	913,916	180	180	0	180	0	0	0	0	0	0	0
9	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	368,603	452,951	8,549	2,617	5,933	15	0	0	2,602	0	0	0	5,933
10	U S BANK NATIONAL ASSN	6BYL5QZYBDK8S7L73M02	456,011	399,742	7,148	2,190	4,958	0	0	0	2,190	0	0	0	4,958
11	NORTHERN TRUST CO	6PTKHJ8HDFJ78PFVH30	131,900	304,661	0	0	0	0	0	0	0	0	0	0	0
12	SUNTRUST BANK	IYDOJBGJWY9T8XKCSX06	205,527	231,405	4,694	2,747	1,947	825	1,915	0	7	0	1,915	0	33
13	TD BANK NATIONAL ASSN	03DOJEWDFUS0SEEEKG89	294,331	204,417	251	251	0	251	0	0	0	0	0	0	0
14	CAPITAL ONE NATIONAL ASSN	207ALC1P1YMOOVDV0K75	290,450	147,093	3,711	1,366	2,346	0	0	0	1,366	0	0	0	2,346
15	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	126,891	121,916	2,861	0	2,861	0	0	0	0	0	0	0	2,861
16	MUFG UNION BANK NA	OX3PUS3ZLPQKJ4700D47	123,983	106,950	111	111	0	111	0	0	0	0	0	0	0
17	KEYBANK NATIONAL ASSN	HUX2X73FUCYUHV1BK78	136,905	99,254	386	277	109	277	0	0	0	17	93	0	0
18	FIFTH THIRD BANK	QFROUN1UWUYUODV1WDS51	139,986	94,660	4,640	709	3,931	0	0	0	709	0	0	0	3,931
19	REGIONS BANK	EQTWLK1G7ODGCC2MGLV11	123,928	89,883	4,623	1,448	3,175	43	0	0	1,405	43	0	0	3,133
20	MORGAN STANLEY BANK NA	G1MLHISON321QPILB75	141,013	79,670	9,922	9,242	680	9,242	0	0	0	680	0	0	0
21	MANUFACTURERS&TRADERS TR CO	WWB2V0FCW3A0E3ZJN75	116,373	58,934	0	0	0	0	0	0	0	0	0	0	0
22	BRANCH BANKING&TRUST CO	JJKC32MCHWDI71265Z06	216,129	56,446	414	87	327	0	0	0	87	0	0	0	327
23	COMPASS BANK	C90VT034M03BN291RA40	89,113	47,250	326	0	326	0	0	0	0	326	0	0	0
24	CAPITAL ONE BANK USA NA	LKE37K2B8CFZUR7F9816	117,943	39,024	0	0	0	0	0	0	0	0	0	0	0
25	BOKF NATIONAL ASSN	FU7RSW4CQY98A207J66	32,904	35,825	4	4	1	4	0	0	0	1	0	0	0
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$11,040,612	\$201,926,562	\$4,327,280	\$2,226,953	\$2,100,326	\$1,985,414	\$63,537	\$148,820	\$29,182	\$1,894,742	\$41,885	\$132,309	\$31,391
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,801,597	711,855	14,416	9,062	5,354	20	5,009	0	4,033	454	2	0	4,898
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,842,209	202,638,417	4,341,695	2,236,015	2,105,681	1,985,434	68,546	148,820	33,215	1,895,196	41,886	132,309	36,289
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					99.7	51.3	48.4	45.7	1.5	3.4	0.7	43.6	1.0	3.0	0.7
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES					0.3	0.2	0.1	0.0	0.1	0.0	0.1	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	51.5	48.5	45.7	1.6	3.4	0.8	43.7	1.0	3.0	0.8

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

Note: Numbers may not add up to 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, 2018, MILLIONS OF DOLLARS**

Call Report Schedule SU							
<b>A. Gross Notional Amount of Derivatives</b>	<b>3Q18</b>	<b>2Q18</b>	<b>1Q18</b>	<b>4Q17</b>	<b>3Q17</b>	<b>2Q17</b>	<b>1Q17</b>
Total gross notional amount of interest rate derivatives held for trading	\$751	\$736	\$684	\$542	\$729	\$749	\$655
Total gross notional amount of all other derivatives held for trading	\$2	\$5	\$7	\$5	\$5	\$6	\$2
Total gross notional amount of interest rate derivatives not held for trading	\$6,899	\$7,648	\$8,487	\$6,092	\$7,731	\$8,259	\$7,154
Total gross notional amount of all other derivatives not held for trading	\$2,752	\$3,126	\$530	\$86	\$89	\$89	\$80

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	\$4,447	\$4,591	\$4,476	\$3,847	\$4,657	\$5,024	\$4,758
b. Foreign exchange rate and gold	\$9	\$5	\$429	\$0	\$0	\$0	\$0
c. Credit (investment grade reference asset)	\$23	\$14	\$14	\$13	\$14	\$8	\$4
d. Credit (non-investment grade reference asset)	\$12	\$12	\$11	\$11	\$11	\$11	\$11
e. Equity	\$0	\$0	\$0	\$0	\$0	\$0	\$0
g. Other	\$5	\$5	\$5	\$5	\$5	\$5	\$5
f. Precious metals (except gold)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B. Notional principal amounts of centrally cleared derivative contracts covered by the regulatory capital rules:</b>							
a. Interest rate	\$2,731	\$3,169	\$129	\$249	\$343	\$178	\$158
b. Foreign exchange rate and gold	\$0	\$0	\$0	\$0	\$0	\$0	\$0
c. Credit (investment grade reference asset)	\$0	\$0	\$0	\$0	\$0	\$0	\$4
d. Credit (non-investment grade reference asset)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
e. Equity	\$0	\$0	\$0	\$0	\$0	\$0	\$0
f. Precious metals (except gold)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
g. Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C. Current credit exposure across all derivative contracts covered by the regulatory capital rules</b>	\$76	\$119	\$63	\$44	\$57	\$49	\$39

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