

Quarterly Report on Bank Trading and Derivatives Activities

Fourth Quarter 2016

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Executive Summary

- Insured U.S. commercial banks and savings associations (collectively, banks) reported trading revenue of \$6.0 billion in the fourth quarter of 2016, \$0.4 billion less (6.8 percent) than in the previous quarter and \$1.7 billion higher (40.0 percent) than a year earlier (see page 4).
- Credit exposure from derivatives decreased in the fourth quarter of 2016 as compared to the third quarter. Net current credit exposure (NCCE) decreased \$79.6 billion, or 16.5 percent, to \$402.2 billion (see page 8).
- Trading risk, as measured by value-at-risk (VaR), decreased in the fourth quarter of 2016. Total average VaR across the top five dealer banking companies decreased \$10.0 million, or 3.6 percent, to \$264.0 million (see page 11).
- Derivative notional amounts decreased in the fourth quarter by \$12.3 trillion, or 6.9 percent, to \$165.2 trillion (see page 14).
- Derivative contracts remained concentrated in interest rate products, which represented 75.3 percent of total derivative notional amounts (see page 14).

The Office of the Comptroller of the Currency's (OCC) quarterly report on bank trading and derivative activities is based on call report information provided by all insured U.S. commercial banks (including trust companies) and savings associations; reports filed by U.S. financial holding companies; and other published data. A total of 1,420 insured U.S. commercial banks and savings associations reported derivative activities at the end of the fourth quarter of 2016. A small group of large financial institutions continues to dominate derivative activity in the U.S. commercial banking system. During the fourth quarter of 2016, four large commercial banks represented 89.3 percent of the total banking industry notional amounts and 84.0 percent of industry NCCE (see table 4 in the appendix).

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

Revenue

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

Insured U.S. commercial banks and savings associations reported \$6.0 billion in trading revenue in the fourth quarter of 2016, \$0.4 billion less (6.8 percent) than in the previous quarter and \$1.7 billion more (40.0 percent) than a year earlier (see table 1). The largest driver of the year-over-year increase in trading revenue was interest rate and foreign exchange (FX) trading. Trading in interest rate products benefited from significant market moves in interest rates during the quarter, including a rise in the U.S. Treasury rate over the course of the quarter.

Combined interest rate and FX revenue led the quarterly decline, with revenue decreasing \$0.7 billion to \$4.6 billion. Since dealers often use interest rate contracts to hedge exposures in FX derivatives, it is useful to view these categories collectively. For a historical view of quarterly bank trading revenue by instrument, see graph 9a in the appendix.

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

	2016 Q4	2016 Q3	Q/Q Change	Q/Q % Change	2015 Q4	Y/Y Change	Y/Y % Change
Interest Rate & FX	\$4,567	\$5,254	-\$687	-13.1%	\$3,556	\$1,011	28.4%
Equity	\$575	\$729	-\$154	-21.1%	\$742	-\$167	-22.5%
Commodity & Other	\$296	\$354	-\$58	-16.3%	\$198	\$98	49.8%
Credit	\$547	\$86	\$460	532.9%	-\$222	\$769	346.5%
Total Trading Revenue	\$5,985	\$6,423	-\$438	-6.8%	\$4,274	\$1,711	40.0%

Source: Call report, 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 \$11.4 billion in the fourth quarter of 2016 was \$3.4 billion (23.2 percent) lower than in the previous quarter. A \$1.5 billion decrease in combined interest rate and FX revenue drove the decrease in trading revenue from the previous quarter. Year-over-year holding company trading results improved by \$3.5 billion (44.2 percent), with combined interest rate and FX trading revenue increasing \$2.1 billion (51.7 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

	2016 Q4	2016 Q3	Q/Q Change	Q/Q % Change	2015 Q4	Y/Y Change	Y/Y % Change
Interest Rate & FX	\$6,221	\$7,698	-\$1,478	-19.2%	\$4,101	\$2,120	51.7%
Equity	\$3,403	\$4,657	-\$1,254	-26.9%	\$3,696	-\$293	-7.9%
Commodity & Other	\$1,301	\$784	\$517	65.9%	\$412	\$889	215.7%
Credit	\$455	\$1,670	-\$1,215	-72.7%	-\$317	\$772	243.8%
Total HC Trading Revenue	\$11,379	\$14,809	-\$3,430	-23.2%	\$7,892	\$3,487	44.2%

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

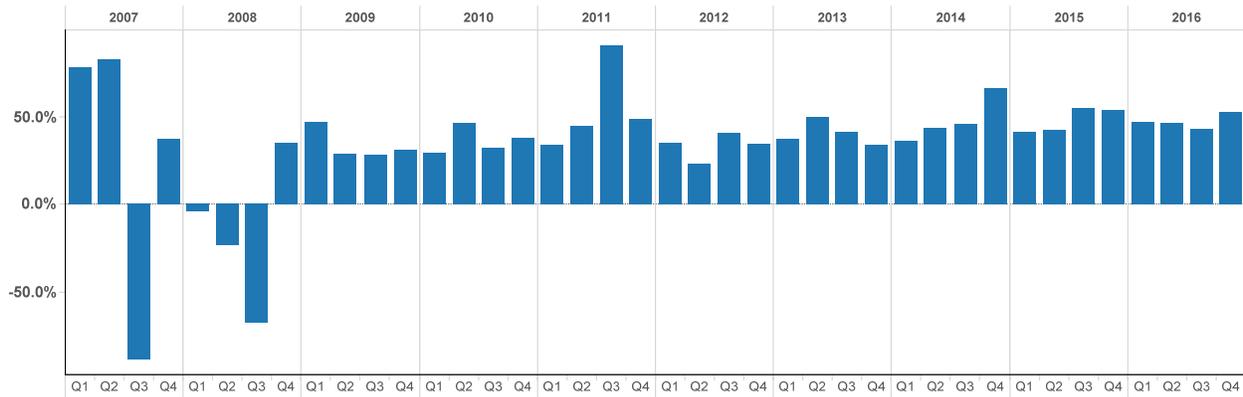
Bank Trading Revenue as a Percentage of Consolidated Holding Company Trading Revenue

Before the financial crisis, trading revenue at banks typically ranged from 60 percent to 80 percent of consolidated BHC trading revenue. Since the financial crisis and the adoption of bank charters by the former investment banks, the percentage of bank trading revenue to

consolidated BHC trading revenue has fallen and is now between 30 percent and 50 percent. This decline reflects the significant amount of trading activity by the former investment banks that, while included in BHC results, remains outside insured commercial banks. More generally, insured U.S. commercial banks and savings associations have more limited legal authorities than their holding companies, particularly in trading commodity and equity products.

In the fourth quarter of 2016, banks generated 52.6 percent of consolidated holding company trading revenue, up from 43.4 percent in the previous quarter (see figure 1).

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



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

Credit Risk

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

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

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

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

GPFV decreased by \$0.7 trillion (19.6 percent) in the fourth quarter of 2016 to \$2.9 trillion, driven by a 30.7 percent decrease in receivables from interest rate contracts (see table 3). Because interest rate contracts make up 69.0 percent of total notional derivative contracts, changes in interest rates drive credit exposure in derivative portfolios. Declines in interest rates tend to increase exposure. This effect has increased in recent years, as the maturity profile of interest rate derivatives has increased, making credit exposure more sensitive to changes in longer-term rates.

Because banks hedge the market risk of their derivative portfolios, a similar increase in GNFVs matched the change in GPFV. Derivative payables, GNFV, decreased \$0.7 trillion (19.6 percent) to \$2.8 trillion during the quarter, driven by decreases in payables on interest rate contracts.

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

	2016 Q4	2016 Q3	Q/Q Change	Q/Q % Change	2015 Q4	Y/Y Change	Y/Y % Change
Interest Rate	\$1,976	\$2,853	-\$877	-30.7%	\$2,146	-\$170	-7.9%
Foreign Exchange	\$673	\$481	\$192	40.0%	\$535	\$138	25.8%
Equity	\$91	\$96	-\$5	-5.3%	\$97	-\$5	-5.6%
Commodities	\$48	\$42	\$6	13.8%	\$62	-\$14	-22.9%
Credit	\$76	\$91	-\$15	-16.4%	\$123	-\$46	-37.8%
Gross Positive Fair Value	\$2,865	\$3,563	-\$699	-19.6%	\$2,963	-\$98	-3.3%

	2016 Q4	2016 Q3	Q/Q Change	Q/Q % Change	2015 Q4	Y/Y Change	Y/Y % Change
Interest Rate	\$1,914	\$2,776	-\$862	-31.1%	\$2,079	-\$165	-7.9%
Foreign Exchange	\$663	\$467	\$195	41.7%	\$548	\$115	20.9%
Equity	\$94	\$95	-\$1	-1.4%	\$91	\$2	2.2%
Commodities	\$47	\$44	\$3	6.7%	\$65	-\$18	-28.1%
Credit	\$75	\$91	-\$16	-17.9%	\$118	-\$44	-36.9%
Gross Negative Fair Value	\$2,791	\$3,473	-\$682	-19.6%	\$2,902	-\$110	-3.8%

Source: Call report, Schedule RC-L

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

Table 4. Netting Contract Examples

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

Most, but not necessarily all, derivative transactions that a bank has with an individual counterparty are subject to a legally enforceable netting agreement. Some transactions may be subject to the laws of a jurisdiction that does not provide legal certainty of netting agreements, in which case banks must regard such transactions as separate from the netting set. Other transactions may involve nonstandard contractual documentation. Transactions that are not subject to the same legally enforceable netting agreement become unique netting sets that 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. In some cases, transactions that fall under separate netting sets may be tied together under a separate legally enforceable netting agreement. 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 credit exposures across all netting sets with that counterparty. A bank’s NCCE across all counterparties equals the sum of its NCCE to each of its counterparties.

NCCE is the primary metric the OCC uses to evaluate credit risk in bank derivative activities. NCCE for insured U.S. commercial banks and saving associations decreased by \$79.6 billion

(16.5 percent) to \$402.2 billion in the fourth quarter of 2016 (see table 5).¹ Legally enforceable netting agreements allowed banks to reduce GPFV exposures by 86.0 percent (\$2.5 trillion) in the fourth quarter of 2016.

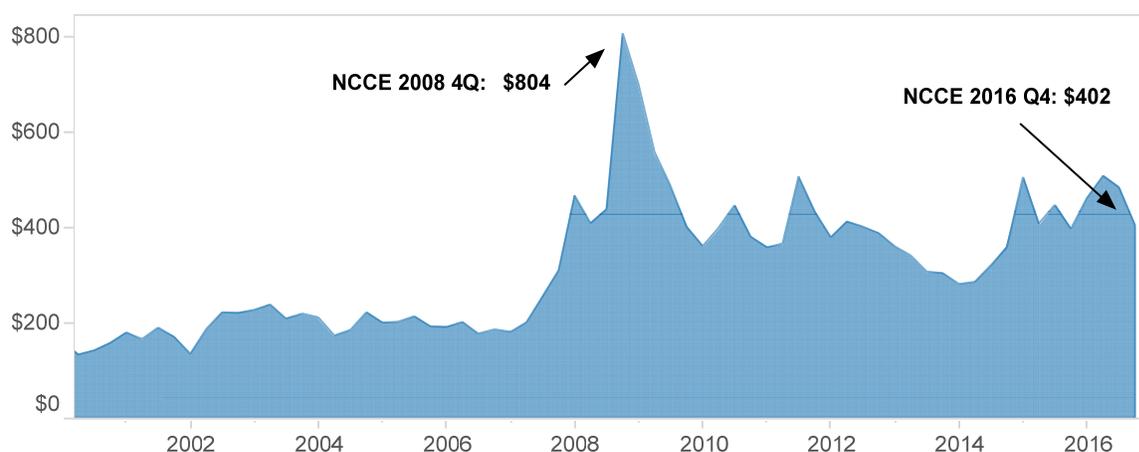
Table 5. Net Current Credit Exposure, in Billions of Dollars

	2016 Q4	2016 Q3	Q/Q Change	Q/Q % Change
Gross Positive Fair Value	\$2,865	\$3,563	-\$699	-19.6%
NCCE RC-R	\$402	\$482	-\$80	-16.5%
Netting Benefit RC-R	\$2,463	\$3,082	-\$619	-20.1%
Netting % RC-R	86.0%	86.5%	-0.6%	

Source: Call report, 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 \$2.0 trillion at the end of the fourth quarter of 2016. On December 31, 2016, exposure from credit contracts of \$76.1 billion was \$1.0 trillion lower (93.1 percent) than the \$1.1 trillion on December 31, 2008. New regulations and a decrease in client demand have led to the reduction in credit derivative notional amounts.

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



Source: Call report, Schedule RC-R

The bulk of NCCE in the financial system is concentrated in banks and securities firms (48.5 percent) and corporations and other counterparties (43.0 percent) (see table 6). Relative to the third quarter of 2016, the fourth quarter of 2016 saw a decrease in the percentage of total credit exposure to banks and securities firms (from 51.0 percent to 48.5 percent), and an increase

¹ Banks report NCCE in two different schedules (RC-R and RC-L) of the call report, and the amounts reported are not the same because of differences in the scope of coverage. Neither measure comprehensively captures NCCE. RC-L includes exposure only from OTC derivative transactions; it excludes exchange-traded transactions. RC-R excludes transactions not subject to capital requirements. This report uses RC-R to measure NCCE.

in the percentage of total credit exposure to corporations and other counterparties (from 39.5 percent to 43.0 percent).

The combined exposure to hedge funds, sovereign governments, and monoline financial firms was small (8.6 percent in total). The sheer size of aggregate counterparty exposures, however, results in the potential for major losses, even in sectors where credit exposure is a small percentage of the total. For example, notwithstanding the minimal share of NCCE to monolines, banks suffered material losses on these exposures during the credit crisis. Sovereign credit exposures were also a small component (6.5 percent) of NCCE during the quarter and, like monoline exposures before the financial crisis, are largely unsecured.

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

		Banks & Securities Firms	Monoline Financial Firms	Hedge Funds	Sovereign Governments	Corporations & All Other Counterparties
2016	Q4	48.5%	0.1%	2.0%	6.5%	43.0%
2016	Q3	51.0%	0.1%	2.0%	7.4%	39.5%
2016	Q2	49.0%	0.1%	2.1%	6.5%	42.3%
2016	Q1	49.7%	0.1%	2.2%	6.7%	41.4%
2015	Q4	53.3%	0.1%	2.1%	6.0%	38.5%
2014	Q4	53.2%	0.1%	1.9%	6.4%	38.4%

Source: Call report, Schedule RC-L

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

Reporting banks held collateral against 98.5 percent of their total NCCE at the end of the fourth quarter of 2016, up from 95.1 percent in the third quarter of 2016 (see table 7). The increase in the ratio of collateral held against counterparty exposure was due primarily to stronger collateral coverage of exposures to banks and securities firms, which increased from 107.2 percent to 119.0 percent. Collateral held against hedge fund exposures increased in the fourth quarter, and coverage remains very high at 491.5 percent. Bank exposures to hedge funds have always been secured, because banks take “initial margin” on transactions with hedge funds, in addition to fully securing any current credit exposure. Collateral coverage of corporate, monoline, and sovereign exposures is much less than coverage of financial institutions and hedge funds, although coverage of corporate exposures has been increasing over the past several years because of increases in the volume of trades cleared at central counterparties.

Table 7. Fair Value Collateral to Net Current Credit Exposure

		FV Banks & Securities Firms	FV Monoline Financial Firms	FV Hedge Funds	FV Sovereign Governments	FV Corporations & All Other Counterparties	FV/NCCE%
2016	Q4	119.0%	0.0%	491.5%	34.2%	67.1%	98.5%
2016	Q3	107.2%	0.7%	461.7%	26.4%	73.9%	95.1%
2016	Q2	103.1%	4.6%	368.4%	26.7%	62.4%	86.2%
2016	Q1	94.6%	0.0%	378.8%	20.1%	65.5%	83.7%
2015	Q4	101.6%	5.2%	435.5%	15.6%	66.2%	89.6%
2014	Q4	94.4%	0.0%	361.5%	11.0%	59.5%	80.6%

Source: Call report, Schedule RC-L

Collateral quality held by banks was very high and liquid during the quarter, with 71.6 percent held in cash (both U.S. dollar and non-dollar) and an additional 9.8 percent held in U.S. Treasuries and government agency securities (see table 8). Supervisors assess changes in the quality of collateral held as a key early indicator of potential easing in credit terms. Examiners review the collateral management practices of derivative dealers as a regular part of their supervision activities.

Table 8. Composition of Collateral

		Cash U.S. Dollar	Cash Other Currencies	U.S. Treasury Securities	U.S. Gov't Agency	Corporate Bonds	Equity Securities	All Other Collateral
2016	Q4	40.1%	31.5%	8.1%	1.7%	1.6%	5.0%	12.0%
2016	Q3	42.8%	33.3%	5.7%	2.0%	1.4%	5.2%	9.6%
2016	Q2	44.2%	33.3%	5.2%	2.2%	1.3%	4.9%	8.8%
2016	Q1	45.7%	32.2%	4.9%	1.9%	1.2%	4.9%	9.0%
2015	Q4	43.7%	31.7%	4.6%	1.6%	1.4%	5.3%	11.7%
2014	Q4	43.8%	31.9%	4.1%	1.7%	1.2%	1.7%	15.7%

Source: Call report, Schedule RC-L

Credit quality metrics for derivative exposures improved in the fourth quarter of 2016, as banks reported net recoveries of \$7.8 million, compared to net charge-offs of \$6.5 million in the third quarter of 2016 (see graph 7 in the appendix). The number of banks reporting charge-offs decreased from 12 to 7 banks. A record 14 banks reported recoveries. Net recoveries in the fourth quarter of 2016 represented 0.002 percent of the NCCE from derivative contracts. For comparison purposes, commercial and industrial (C&I) loan net charge-offs increased \$319.4 million, or 15.2 percent, to \$2.4 billion during the quarter, and were 0.1 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 in normal markets. VaR is not the maximum potential loss. Since VaR does not measure the maximum potential loss, banks stress test trading portfolios to assess the potential for loss beyond the VaR measure. Banks and supervisors have been working to expand the use of stress testing to complement the VaR risk measurement process that banks typically use to assess a bank's exposure to market risk.

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

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

	JPMorgan	Citigroup	Bank of America	Goldman Sachs	Morgan Stanley	Total
2016 Q4 VaR	\$38	\$86	\$41	\$61	\$38	\$264
2016 Q3 VaR	\$43	\$85	\$47	\$57	\$42	\$274
Q/Q Change	-\$5	\$1	-\$6	\$4	-\$4	-\$10
Q/Q % Change	-11.6%	1.2%	-12.8%	7.0%	-9.5%	-3.6%
Equity Capital	\$254,190	\$225,120	\$266,840	\$86,893	\$76,050	\$909,093
2016 Net Income	\$59,979	\$37,251	\$40,708	\$16,541	\$14,142	\$168,621
Avg VaR/Equity	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%
Avg VaR/Net Income	0.1%	0.2%	0.1%	0.4%	0.3%	0.2%

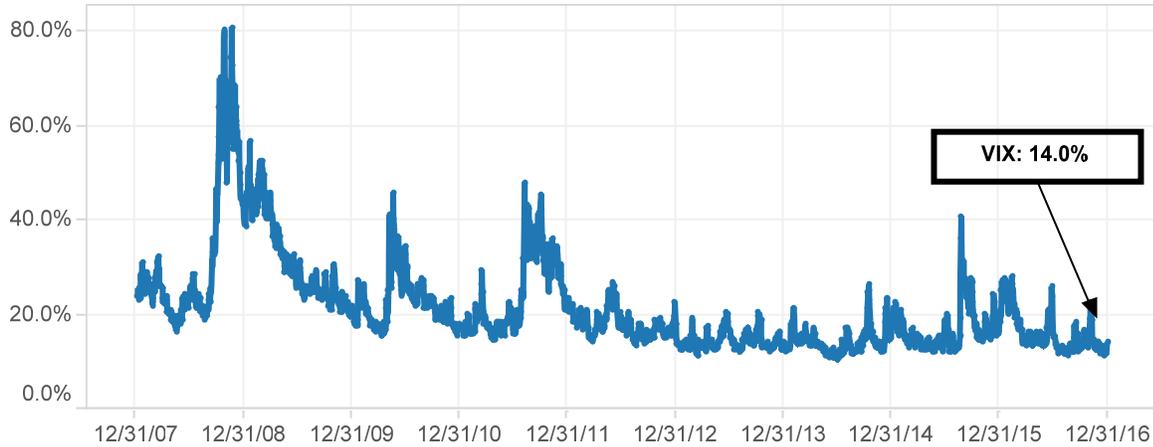
Source: 10K and 10Q U.S. Securities and Exchange Commission reports

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

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

Figure 3 shows the VIX, a volatility index,² which measures the market’s expectation of stock market volatility of S&P 500 index options 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)

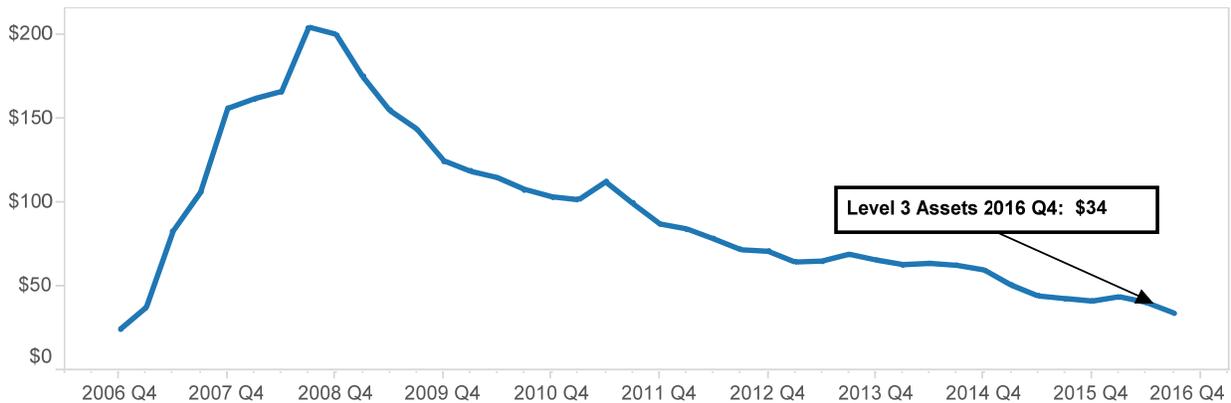


Source: Bloomberg

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 fourth quarter of 2016, banks held \$33.8 billion of level 3 trading assets, down 15.5 percent from the previous quarter, and 20.1 percent lower than a year ago. Level 3 assets are \$170.3 billion (83.4 percent) lower than the peak level from 2008.

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



Source: Call reports, Schedule RC-Q

² VIX is the trademarked ticker symbol for the Chicago Board Options Exchange SPX Volatility Index.

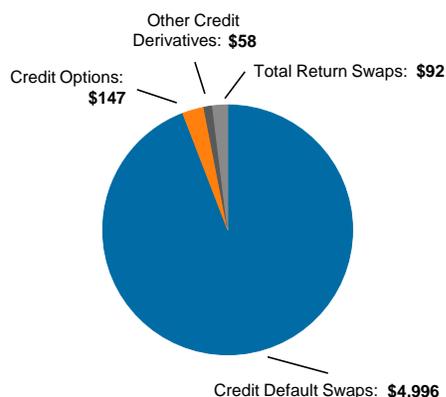
Credit Derivatives

The notional amounts outstanding of credit derivatives decreased \$1.3 trillion (19.3 percent) in the fourth quarter of 2016 to \$5.3 trillion. Contracts referencing sub-investment-grade firms decreased \$400.5 billion, while contracts referencing investment-grade firms decreased \$868.5 billion. Credit derivatives outstanding remained well below the peak of \$16.4 trillion in the first quarter of 2008 (see graphs 1 and 14 in the appendix). As shown in figure 5, credit default swaps are the dominant product, at \$5.0 trillion (94.4 percent) of all credit derivative notional amounts (see also tables 11 and 12 in the appendix).

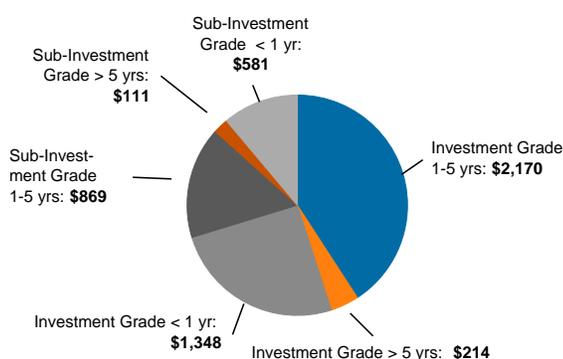
Contracts referencing investment-grade entities with maturities from one to five years, which decreased by \$594.7 billion (21.5 percent) in the quarter, represented the largest segment of the market at 41.0 percent of all credit derivative notional amounts. Contracts of all tenors that reference investment-grade entities are 70.5 percent of the market (see chart on right in figure 5 and graph 14 in the appendix).

Figure 5. 2016 Q4 Credit Derivative Composition, in Billions of Dollars

By Product Type



By Maturity and Quality of Underlying Reference Entity



Source: Call reports, Schedule RC-L

The notional amount for the 62 insured U.S. commercial banks and savings associations that sold credit protection (i.e., assumed credit risk) was \$2.6 trillion, down \$608.0 billion (18.9 percent) from the third quarter of 2016. The notional amount for the 51 banks that purchased credit protection (i.e., hedged credit risk) was \$2.7 trillion, \$661.1 billion lower (20.5 percent) than in the third quarter of 2016 (see table 12 in the appendix).

Notional Amounts

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

The notional amount of derivative contracts held by insured U.S. commercial banks and savings associations in the fourth quarter decreased by \$12.3 trillion (6.9 percent) to \$165.2 trillion from the previous quarter (see table 10). The decrease was driven by an \$8.6 trillion decrease in interest rate notional amounts. A \$6.6 trillion decrease in swaps contracts (6.4 percent) to \$96.4 trillion drove the decrease in interest rate notional amounts (see table 11). Swap contracts remained the dominant derivatives product at 58.3 percent of all notional amounts.

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

	4Q2016	3Q2016	Q/Q Change	Q/Q % Change	4Q2015	Y/Y Change	Y/Y % Change
Interest Rate	\$124,425	\$132,993	-\$8,568	-6.4%	\$138,363	-\$13,938	-10.1%
Foreign Exchange	\$31,735	\$33,858	-\$2,123	-6.3%	\$32,100	-\$365	-1.1%
Equity	\$2,488	\$2,735	-\$247	-9.0%	\$2,395	\$93	3.9%
Commodities	\$1,257	\$1,312	-\$55	-4.2%	\$1,108	\$149	13.5%
Credit	\$5,293	\$6,562	-\$1,269	-19.3%	\$6,986	-\$1,693	-24.2%
Total Notional	\$165,199	\$177,461	-\$12,262	-6.9%	\$180,953	-\$15,754	-8.7%

Source: Call reports, Schedule RC-L

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

	2016 Q4	2016 Q3	Q/Q Change	Q/Q % Change	2015 Q4	Y/Y Change	Y/Y % Change
Futures & Forwards	\$34,193	\$36,958	-\$2,766	-7.5%	\$35,685	-\$1,492	-4.2%
Swaps	\$96,384	\$103,014	-\$6,630	-6.4%	\$107,392	-\$11,009	-10.3%
Options	\$29,329	\$30,926	-\$1,597	-5.2%	\$30,889	-\$1,560	-5.0%
Credit Derivatives	\$5,293	\$6,562	-\$1,269	-19.3%	\$6,986	-\$1,693	-24.2%
Total Notional	\$165,199	\$177,461	-\$12,262	-6.9%	\$180,953	-\$15,754	-8.7%

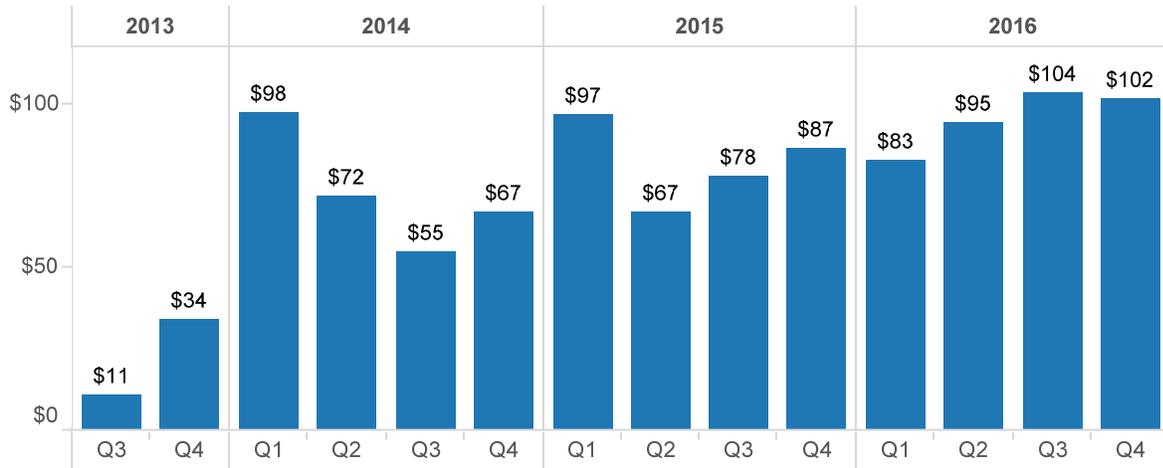
Source: Call reports, Schedule RC-L

The four banks with the most derivative activity hold 89.3 percent of all 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).

Interest rate contracts continued to represent the majority of the derivative market at \$124.4 trillion, or 75.3 percent of total derivatives during the fourth quarter of 2016 (see table 10). FX and credit derivatives were 19.2 percent and 3.2 percent of total notional amounts, respectively. Commodity and equity derivatives collectively were only 2.3 percent of total notional derivatives.

Notional amounts have generally declined since 2011 due to trade compression efforts, which has led to less need for risk management products. Trade compression continues to be a significant factor in reducing the amount of notional derivatives outstanding. Trade compression aggregates a large number of swap contracts with similar factors, such as risk or cash flows, into fewer trades. Compression removes economic redundancy in a derivative book and reduces operational risk and capital costs for large banks. Trade compression activities decreased in the fourth quarter of 2016, as shown in figure 6.

Figure 6. Quarterly Compression Activity, in Trillions of Dollars



Source: LCH.Clearnet

In the first quarter of 2015, banks began reporting their volumes of cleared and non-cleared derivative transactions, as well as risk weights for counterparties in each of these categories. In the fourth quarter of 2016, 38.8 percent of the derivative market was centrally cleared (see table 12). From a market factor perspective, 49.1 percent of interest rate derivative contracts' notional amounts outstanding were centrally cleared, while very little of the FX derivative market was centrally cleared. The credit derivative market remained largely uncleared, as 22.5 percent of investment grade and 15.5 percent of non-investment-grade transactions were centrally cleared.

Centrally cleared derivative transactions were heavily concentrated at qualified central counterparties, with 91.9 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
2016	Q4	49.1%	1.0%	23.4%	5.1%	20.4%	15.0%	38.8%
2016	Q3	49.2%	0.7%	24.3%	6.4%	21.2%	14.9%	39.0%
2016	Q2	49.1%	0.5%	22.1%	5.5%	18.3%	13.7%	39.1%
2016	Q1	45.4%	0.5%	21.4%	4.4%	19.4%	13.6%	36.5%
2015	Q4	46.2%	0.5%	20.0%	3.7%	16.8%	14.0%	36.9%
2015	Q3	44.7%	0.5%	14.5%	5.0%	20.4%	12.5%	36.0%
2015	Q2	43.1%	0.3%	13.6%	2.6%	19.6%	10.7%	35.0%
2015	Q1	44.7%	0.2%	13.6%	1.6%	19.7%	16.0%	36.5%

Source: Call reports, Schedule RC-R

Glossary of Terms

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

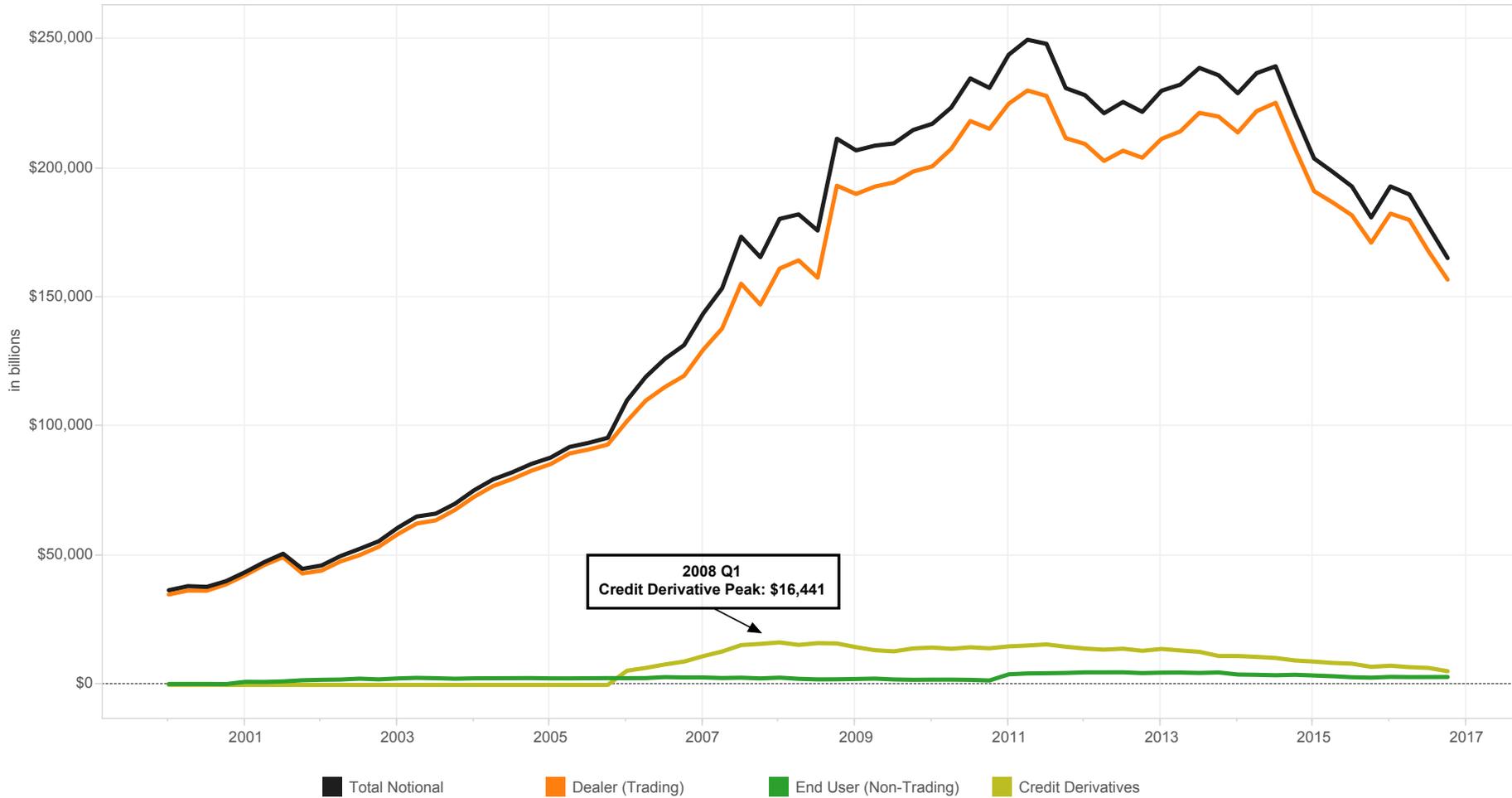
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Graph 1
Derivative Notional Amounts by Type
Insured U.S. Commercial Banks and Savings Associations

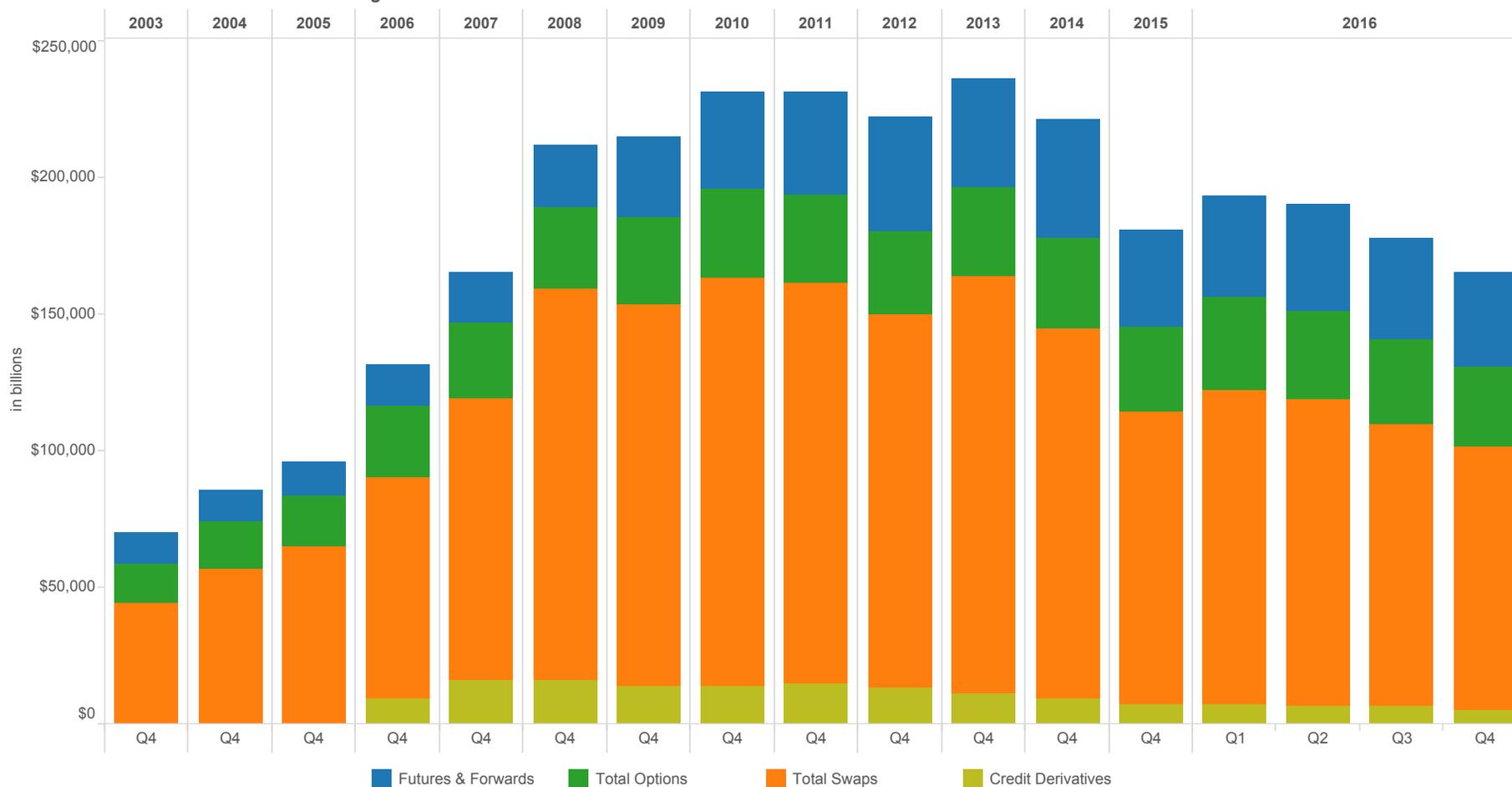


In billions of dollars

	2013				2014				2015				2016			
	Q1	Q2	Q3	Q4												
Total Notional	\$229,987	\$232,342	\$238,827	\$235,992	\$229,011	\$236,808	\$239,459	\$221,078	\$203,771	\$198,523	\$192,937	\$180,953	\$192,948	\$189,834	\$177,461	\$165,199
Dealer (Trading)	211,353	214,240	221,425	219,990	213,838	222,078	225,318	207,711	191,123	186,686	181,777	171,173	182,438	179,971	167,873	156,858
End User (Non-Trading)	4,733	4,776	4,610	4,812	4,008	3,903	3,732	3,918	3,632	3,349	2,963	2,794	3,092	3,010	3,025	3,048
Credit Derivatives	13,901	13,327	12,793	11,191	11,165	10,827	10,408	9,449	9,017	8,488	8,198	6,986	7,418	6,853	6,562	5,293

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

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



In billions of dollars

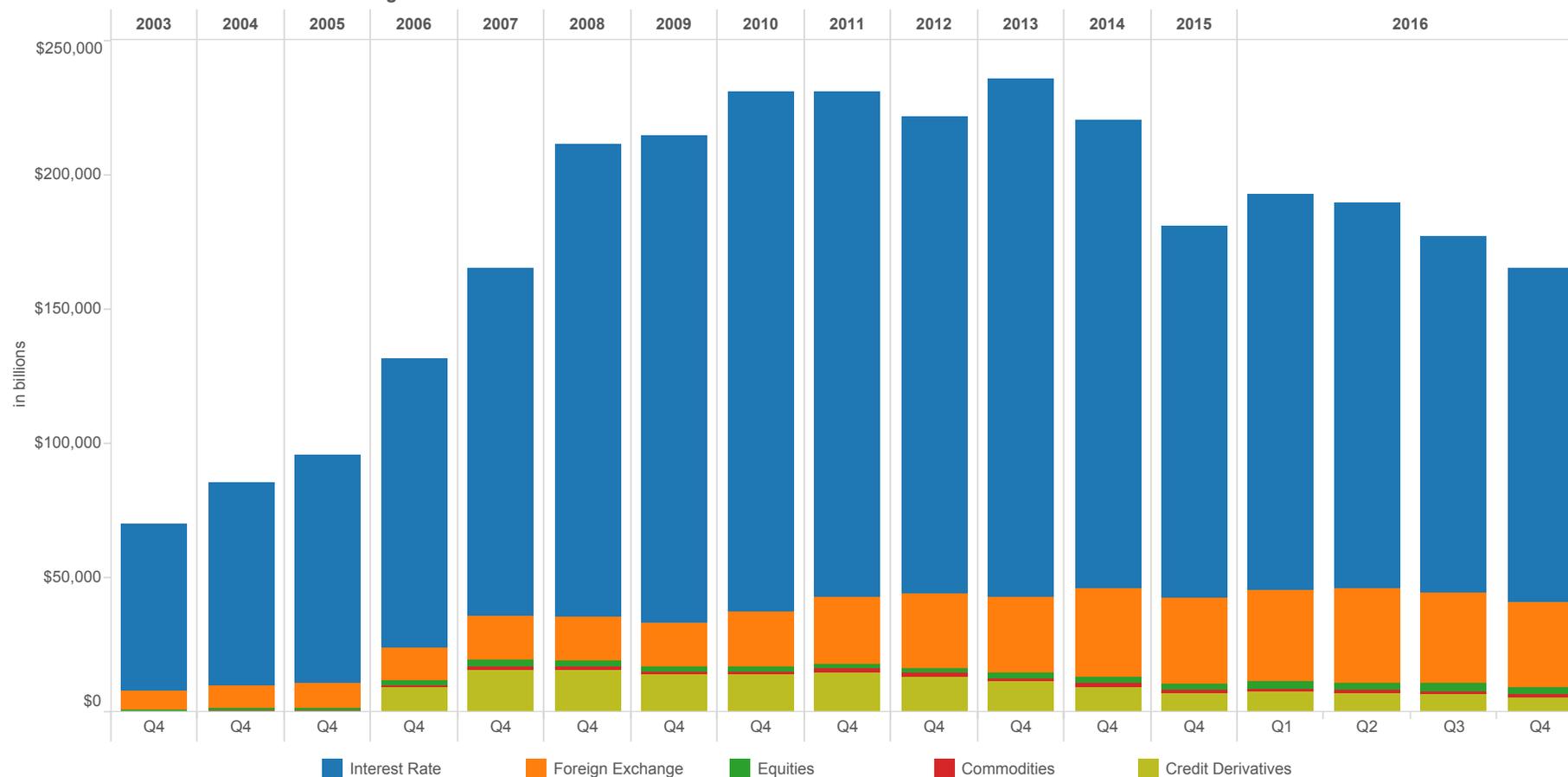
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
	Q4	Q1	Q2	Q3	Q4												
Futures & Forwards	\$11,406	\$11,370	\$12,057	\$14,882	\$18,867	\$22,529	\$29,652	\$35,539	\$37,469	\$41,621	\$40,027	\$43,380	\$35,685	\$37,151	\$38,790	\$36,958	\$34,193
Total Options	14,616	17,754	18,858	26,277	27,727	29,747	31,884	32,078	32,505	30,375	32,305	33,081	30,889	33,564	32,289	30,926	29,329
Total Swaps	44,090	56,411	64,712	81,340	103,102	143,111	139,138	149,331	146,266	136,608	152,469	135,169	107,392	114,814	111,901	103,014	96,384
Credit Derivatives	0	0	0	9,020	15,863	16,029	14,112	14,151	14,759	13,190	11,191	9,449	6,986	7,418	6,853	6,562	5,293
Total Notional	70,112	85,536	95,627	131,519	165,559	211,416	214,786	231,099	230,998	221,794	235,992	221,078	180,953	192,948	189,834	177,461	165,199

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

Note: Numbers may not add due to rounding

Source: Call reports

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

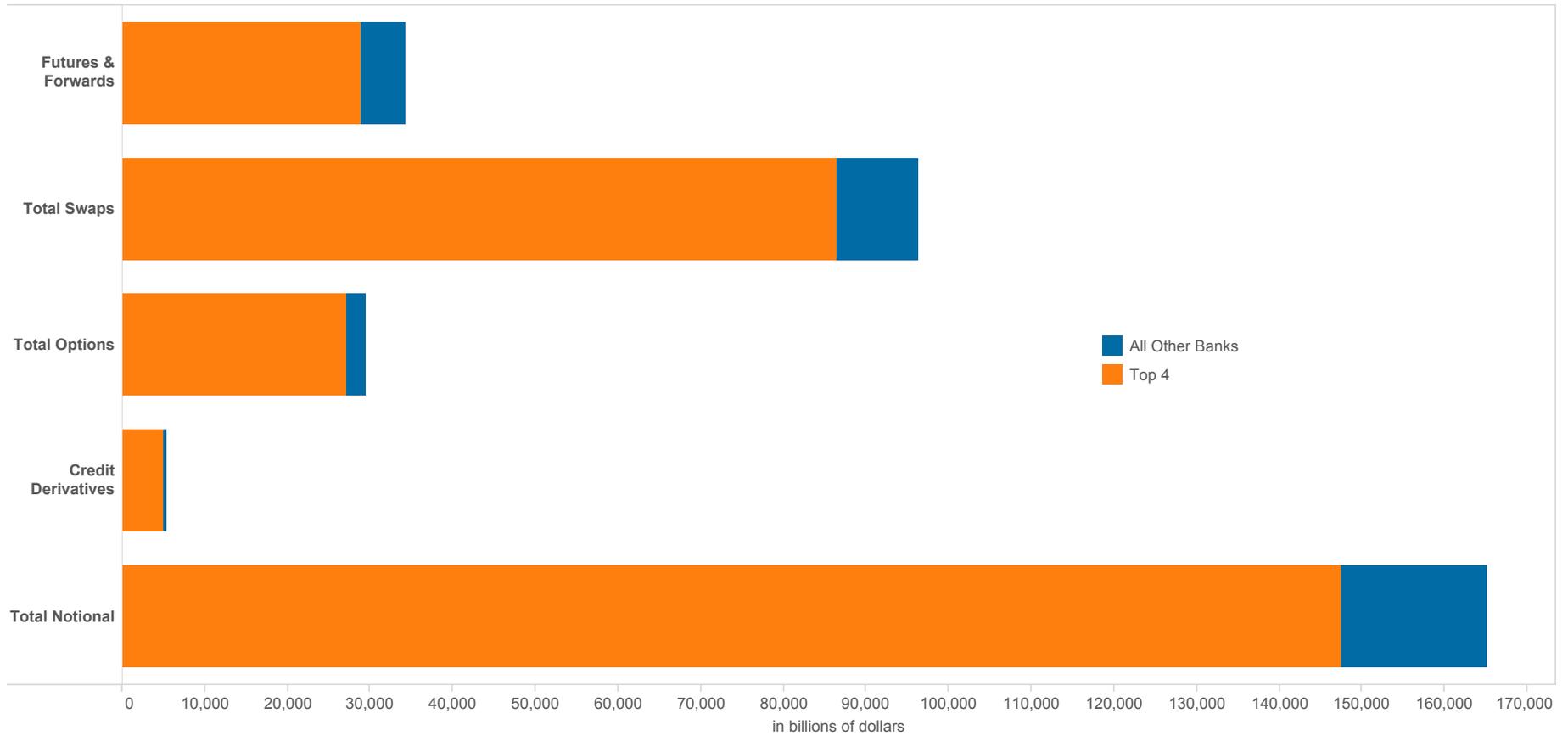


In billions of dollars

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q1	Q2	Q3	Q4
Interest Rate	\$61,876	\$75,533	\$84,530	\$107,435	\$129,491	\$175,895	\$181,454	\$193,399	\$187,866	\$177,650	\$193,084	\$174,687	\$138,363	\$147,218	\$143,795	\$132,993	\$124,425
Foreign Exchange	7,185	8,607	9,289	11,900	16,614	16,224	16,555	20,990	25,436	27,587	28,480	33,183	32,100	34,568	35,185	33,858	31,735
Equities	829	1,112	1,255	2,271	2,524	2,207	1,685	1,364	1,606	1,970	2,028	2,537	2,395	2,534	2,672	2,735	2,488
Commodities	223	284	552	893	1,067	1,061	979	1,195	1,330	1,397	1,209	1,222	1,108	1,210	1,328	1,312	1,257
Credit Derivatives	0	0	0	9,020	15,863	16,029	14,112	14,151	14,759	13,190	11,191	9,449	6,986	7,418	6,853	6,562	5,293
Total Notional	70,112	85,536	95,627	131,519	165,559	211,416	214,786	231,099	230,998	221,794	235,992	221,078	180,953	192,948	189,834	177,461	165,199

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

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

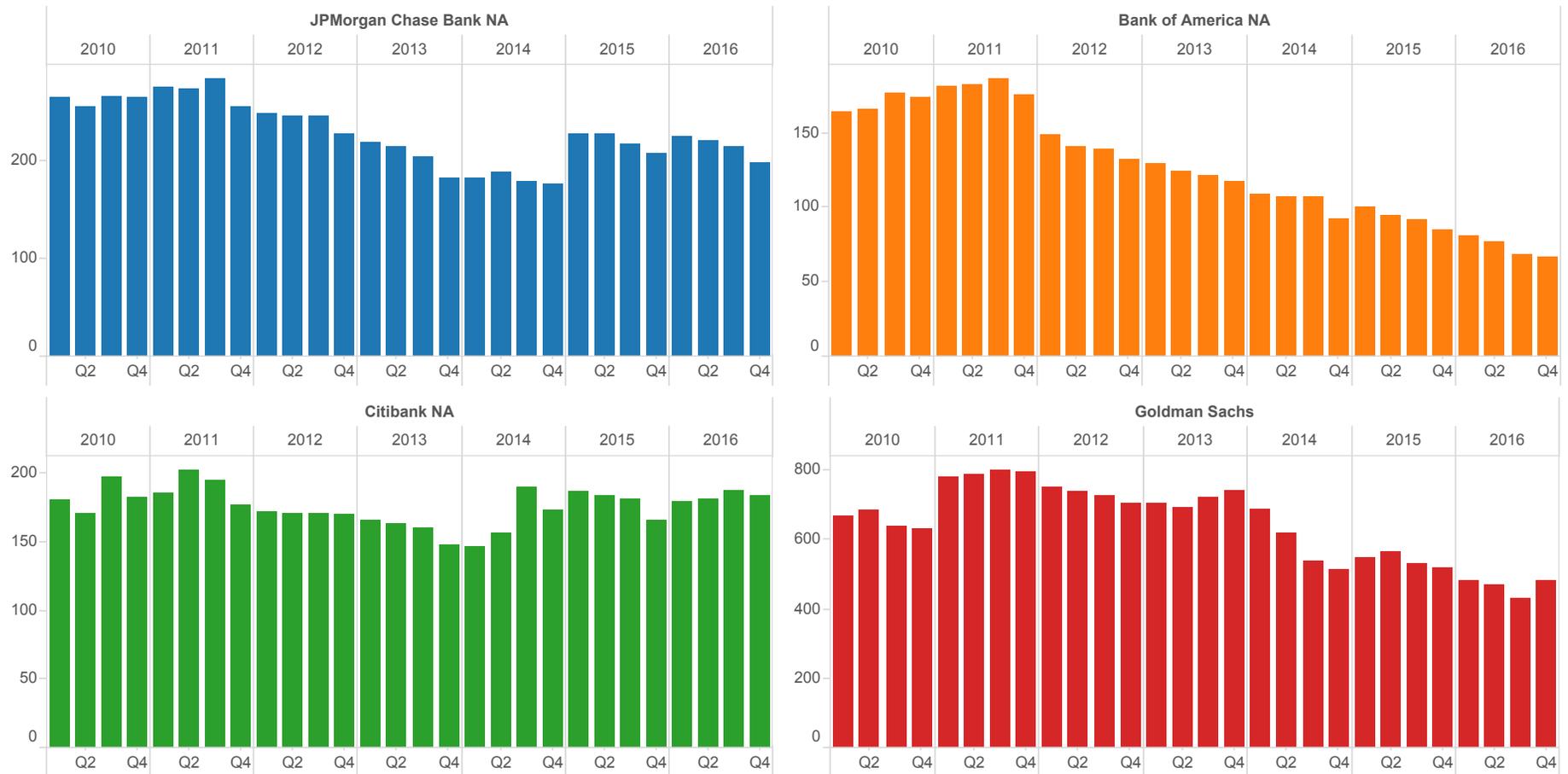


In billions of dollars

	Top 4	All Other Banks	Grand Total
Futures & Forwards	\$28,797	\$5,396	\$34,193
Total Swaps	86,420	9,964	96,384
Total Options	27,173	2,156	29,329
Credit Derivatives	5,092	201	5,293
Total Notional	147,482	17,717	165,199

*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

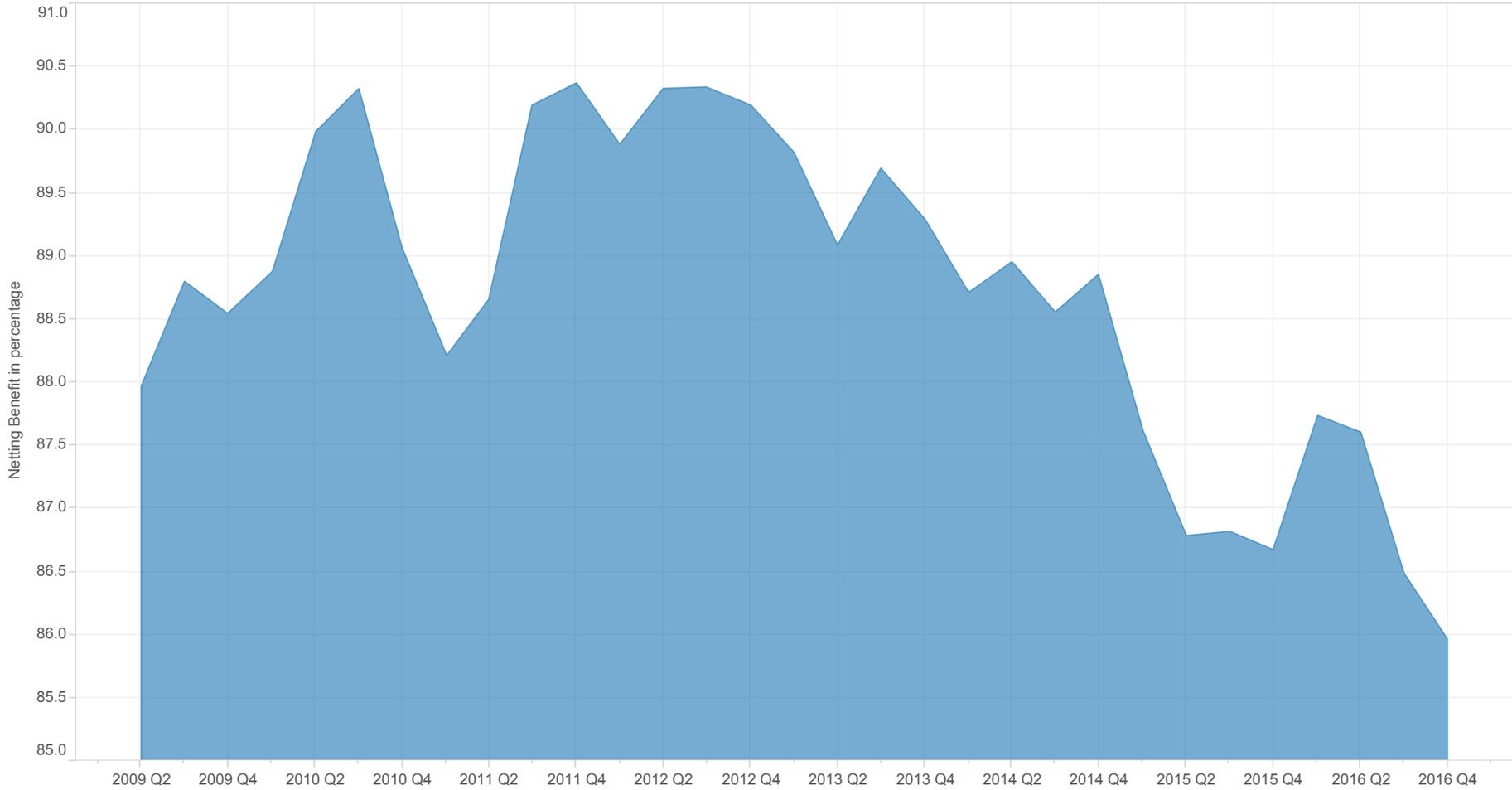


	2010				2011				2012				2013				2014				2015				2016			
	Q1	Q2	Q3	Q4																								
JPMorgan Chase Bank NA	266	257	267	265	275	274	285	256	250	246	247	229	219	216	205	183	183	189	181	177	229	228	219	209	225	221	216	199
Bank of America NA	164	166	177	174	182	182	187	176	149	141	139	132	129	125	121	117	109	107	107	93	100	95	91	85	81	77	68	66
Citibank NA	180	171	197	182	185	203	195	177	172	171	170	170	165	164	161	148	147	156	190	173	187	184	181	166	180	181	188	183
Goldman Sachs	666	685	638	628	781	788	801	794	751	738	727	705	703	693	719	741	689	620	539	516	547	563	530	516	482	467	433	481
TOTAL																												
	285	287	282	278	304	310	313	297	284	282	281	271	261	258	262	262	248	240	224	211	238	242	232	223	226	222	217	220

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

Graph 6

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



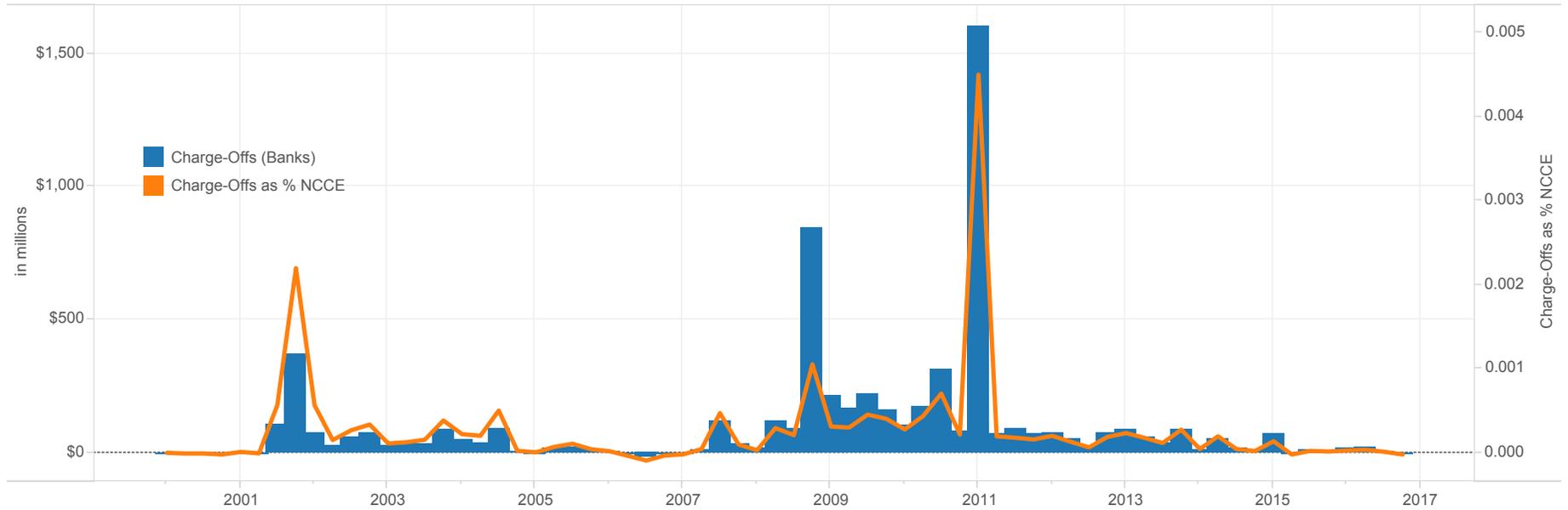
Netting Benefit (in percentage)

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

*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



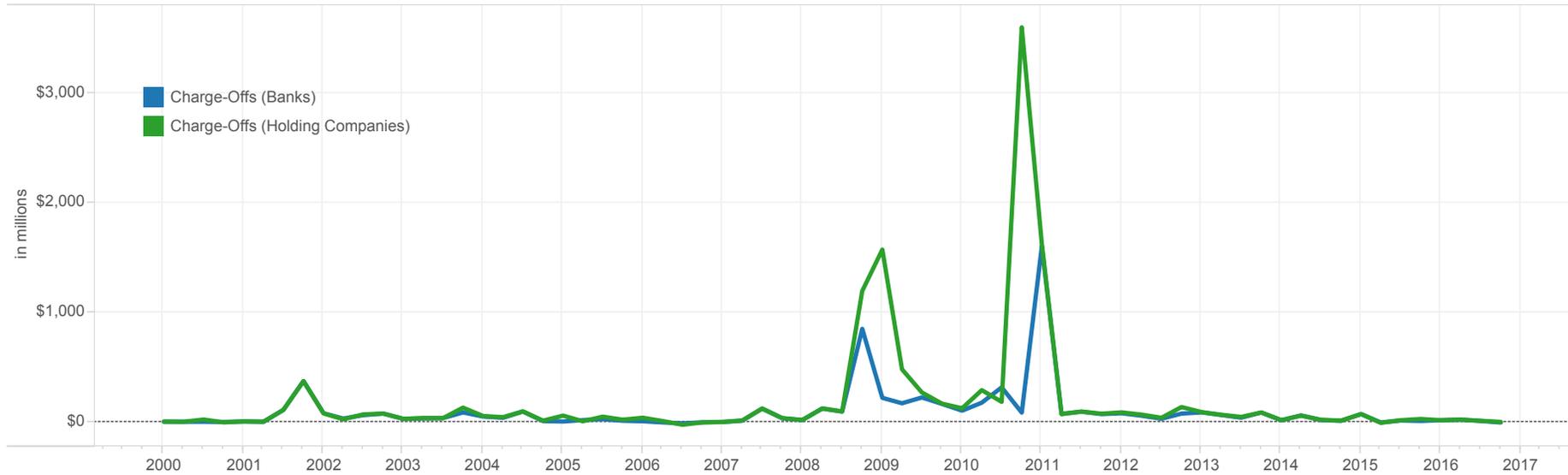
In millions of dollars

	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															
	Q1	Q2	Q3	Q4												
Charge-Offs (Banks)	13.30	18.56	6.48	-7.84												

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

Graph 8

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

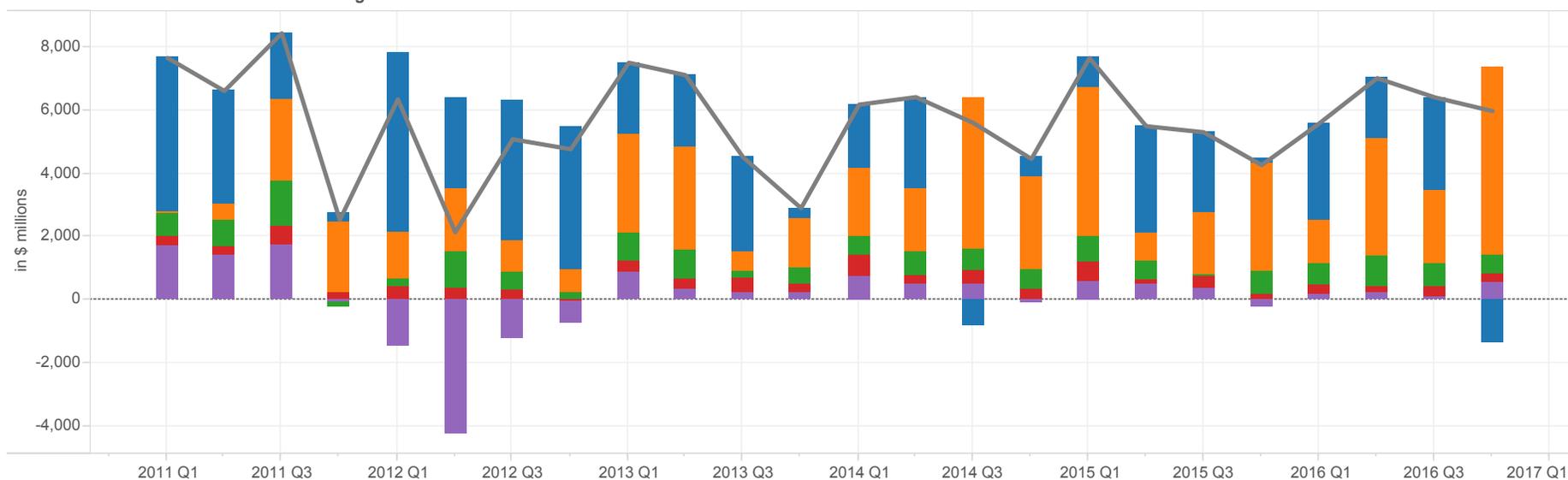


In millions of dollars

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

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

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



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

In millions of dollars

	4Q2016	Average Past 12 Q4's	Past 8 Quarter Average	Past 8 Quarter High	Past 8 Quarter Low	Since 2000 Average	Max Since 2000	Min Since 2000
Interest Rate	-1,375	-49	1,591	3,406	-5,282	1,624	9,291	-1,375
Foreign Exchange	5,941	3,449	3,019	5,941	-1,069	1,867	5,941	855
Equity	575	615	642	972	-1,059	552	1,830	49
Commodity & Other	296	273	304	587	-307	225	789	129
Credit	547	123	254	624	-10,237	-197	2,727	-222
Total Trading Revenue	5,985	4,410	5,809	7,669	-10,580	4,071	10,217	4,274

In millions of dollars

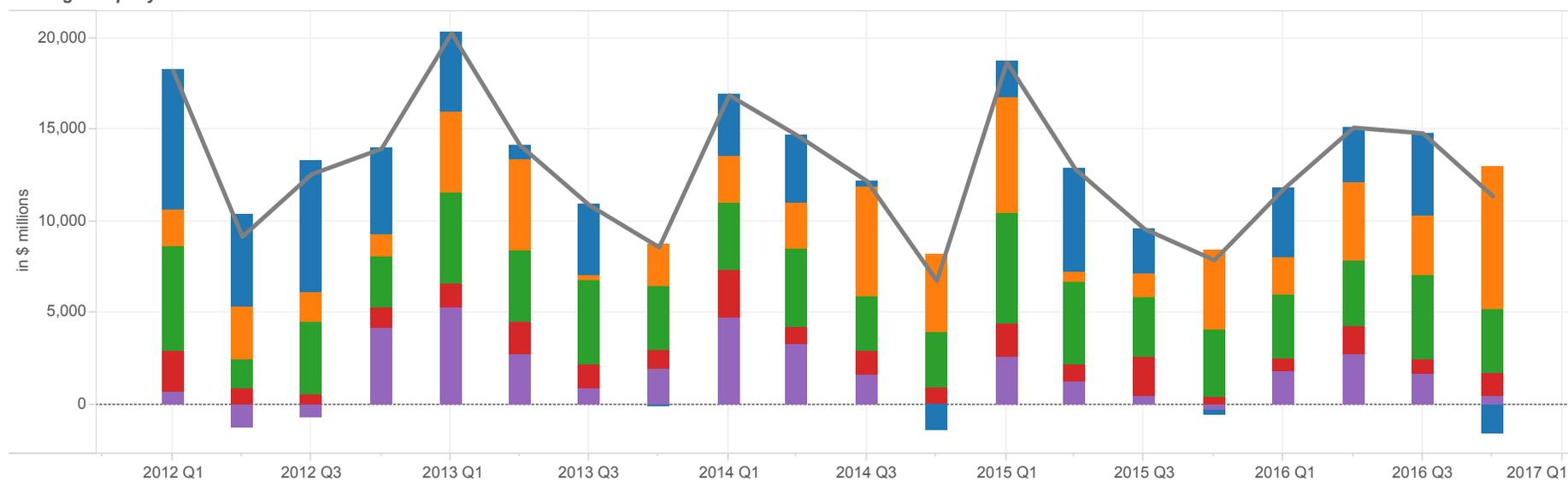
	2011				2012				2013				2014				2015				2016			
	Q1	Q2	Q3	Q4																				
Interest Rate	4,855	3,611	2,093	257	5,627	2,870	4,457	4,521	2,243	2,268	3,002	360	2,015	2,883	-819	664	958	3,406	2,578	155	3,070	1,904	2,960	-1,375
Foreign Exchange	35	491	2,595	2,235	1,505	1,990	1,020	753	3,185	3,303	588	1,550	2,137	2,026	4,830	2,902	4,703	855	1,931	3,401	1,407	3,736	2,294	5,941
Equity	762	808	1,442	-111	260	1,140	508	187	838	924	233	491	612	726	654	650	797	587	49	742	674	972	729	575
Commodity & Other	319	307	558	259	412	390	350	30	364	292	481	265	672	293	411	335	587	129	402	198	271	161	353	296
Credit	1,699	1,406	1,764	-102	-1,444	-4,243	-1,242	-713	890	339	222	245	756	500	535	-79	624	530	357	-222	185	257	86	547
Total Trading Revenue	7,671	6,624	8,451	2,539	6,359	2,147	5,093	4,778	7,520	7,125	4,527	2,911	6,192	6,428	5,612	4,471	7,669	5,507	5,316	4,274	5,608	7,030	6,423	5,985

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

Note: Numbers may not total due to rounding.

Source: Call reports

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



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

In millions of dollars

	2012				2013				2014				2015				2016			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Interest Rate	7,592	5,032	7,139	4,683	4,272	823	3,811	-94	3,395	3,645	353	-1,396	1,893	5,662	2,403	-237	3,807	2,973	4,544	-1,578
Foreign Exchange	2,005	2,959	1,617	1,185	4,414	4,890	320	2,205	2,472	2,521	5,985	4,243	6,329	552	1,393	4,338	2,025	4,318	3,154	7,799
Equity	5,684	1,543	3,973	2,849	4,960	3,936	4,561	3,484	3,682	4,296	2,938	2,947	6,022	4,481	3,196	3,696	3,441	3,612	4,657	3,403
Commodity & Other	2,265	880	542	1,107	1,324	1,746	1,347	1,052	2,617	924	1,242	954	1,833	871	2,146	412	738	1,491	784	1,301
Credit	673	-1,239	-696	4,143	5,292	2,761	855	1,949	4,718	3,292	1,687	14	2,603	1,294	452	-317	1,799	2,724	1,670	455
Total Trading Revenue	18,220	9,175	12,575	13,968	20,262	14,156	10,893	8,595	16,885	14,679	12,205	6,762	18,680	12,860	9,590	7,892	11,810	15,118	14,809	11,379

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

Note: Numbers may not total due to rounding.

Source: Y9

Graph 10

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



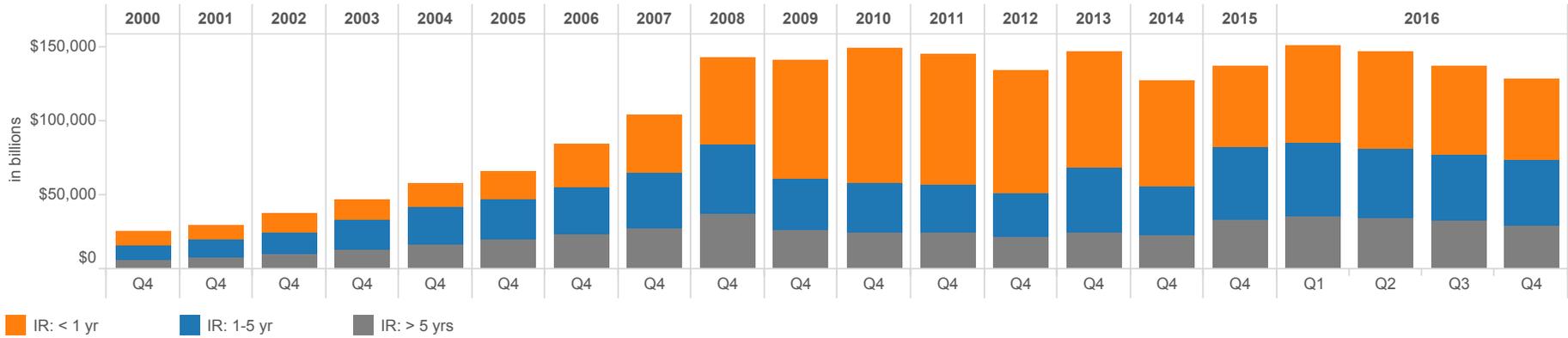
Trading Revenue to Gross Revenue (in percentage)*

	2011				2012				2013				2014				2015				2016			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4												
JPMorgan Chase Bank NA	15.64	10.84	14.82	4.33	10.24	-1.48	13.79	10.50	18.65	18.73	10.67	1.24	12.63	13.31	13.47	6.97	17.73	13.25	12.65	7.03	12.26	13.55	14.06	11.37
Bank of America NA	6.34	5.60	9.48	0.07	0.67	4.16	1.28	1.35	3.39	-5.97	2.14	-1.58	7.80	9.11	5.11	3.68	6.78	0.49	5.19	1.72	3.90	6.87	4.18	3.28
Citibank NA	9.44	11.11	14.79	1.18	10.95	5.36	5.74	3.94	7.45	11.71	6.39	7.20	8.51	7.43	5.48	4.78	9.17	8.41	6.54	6.30	7.19	9.41	6.47	10.97
Goldman Sachs	54.26	57.61	56.57	30.93	65.27	12.48	33.26	17.68	32.65	37.30	11.54	24.45	23.67	22.21	13.74	13.06	15.85	17.32	13.32	6.16	20.00	6.66	12.43	5.68
TOTAL	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4												
	11.67	10.32	14.16	2.36	8.70	2.78	7.86	5.72	10.42	9.56	6.72	2.77	10.06	10.45	8.53	5.35	11.68	7.62	8.41	5.03	8.37	10.15	8.56	8.54

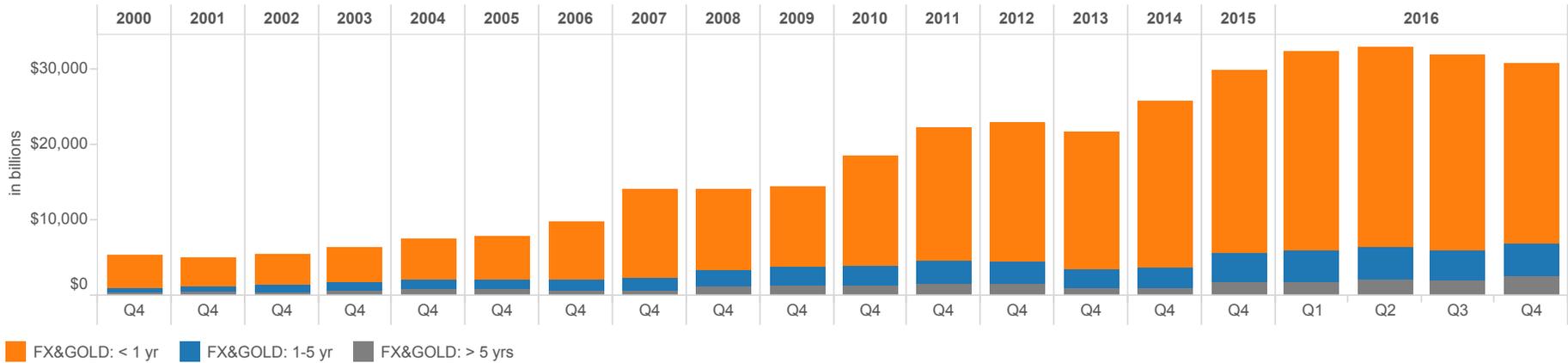
*The trading revenue figures are for cash and derivative activities. Revenue figures are quarterly, not year-to-date numbers.
 Note: Gross revenue equals interest income plus non-interest income.
 Source: Call reports

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

Interest Rate



FX & Gold



In billions of dollars

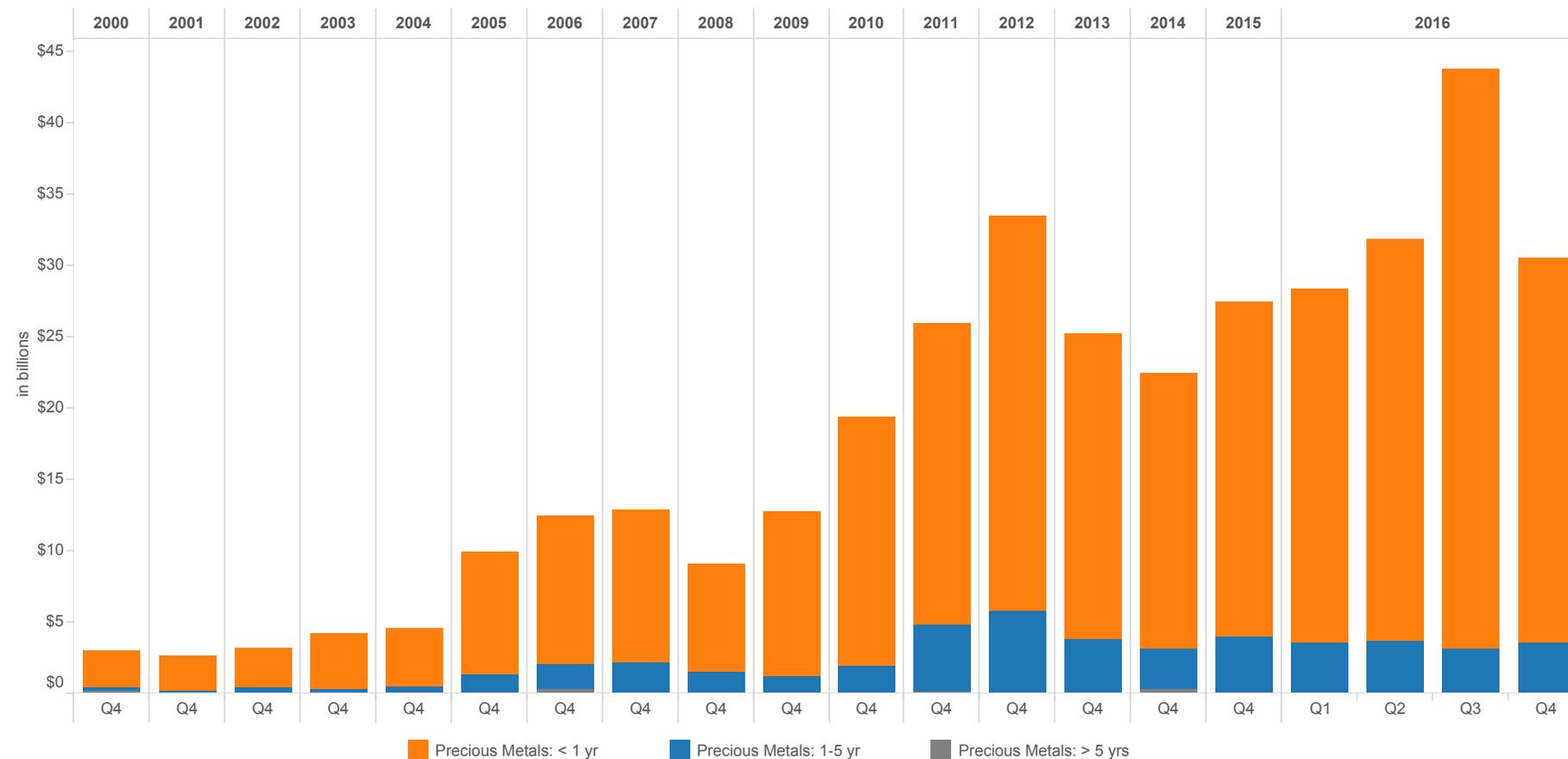
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q1	Q2	Q3	Q4
IR: < 1 yr	\$9,708	\$10,379	\$12,982	\$13,581	\$15,921	\$18,483	\$29,552	\$39,085	\$58,618	\$81,236	\$90,843	\$87,812	\$82,948	\$77,758	\$71,808	\$55,047	\$65,651	\$66,424	\$58,875	\$55,024
IR: 1-5 yr	9,925	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	49,407	50,715	47,002	45,383	43,262
IR: > 5 yrs	5,843	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	34,846	33,931	32,522	29,762
FX&GOLD: < 1 yr	4,397	3,816	4,078	4,510	5,384	5,728	7,730	11,660	10,640	10,490	14,629	17,632	18,386	18,372	22,145	24,130	26,232	26,623	25,798	23,910
FX&GOLD: 1-5 yr	626	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	4,082	4,112	4,096	4,453
FX&GOLD: > 5 yrs	361	499	439	582	762	689	594	622	1,082	1,347	1,290	1,503	1,480	1,029	969	1,648	1,819	2,150	1,901	2,420

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

Graph 12

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

Precious Metals



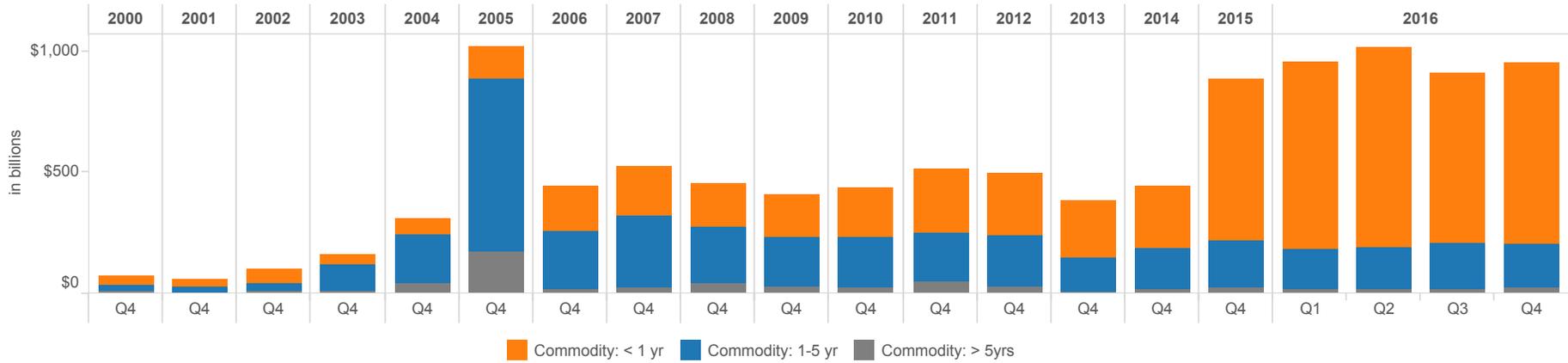
In billions of dollars

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q1	Q2	Q3	Q4						
Precious Metals: < 1 yr	2.51	2.44	2.72	3.87	4.04	8.59	10.35	10.72	7.55	11.55	17.47	21.12	27.68	21.41	19.29	23.51	24.88	28.19	40.59	26.99
Precious Metals: 1-5 yr	0.25	0.23	0.46	0.33	0.51	1.29	1.75	2.10	1.51	1.24	1.89	4.74	5.82	3.80	2.84	3.92	3.53	3.68	3.19	3.54
Precious Metals: > 5 yrs	0.16	0.00	0.00	0.00	0.00	0.06	0.33	0.01	0.00	0.00	0.03	0.10	0.03	0.00	0.29	0.07	0.01	0.02	0.00	0.02

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

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

Commodity



Equity



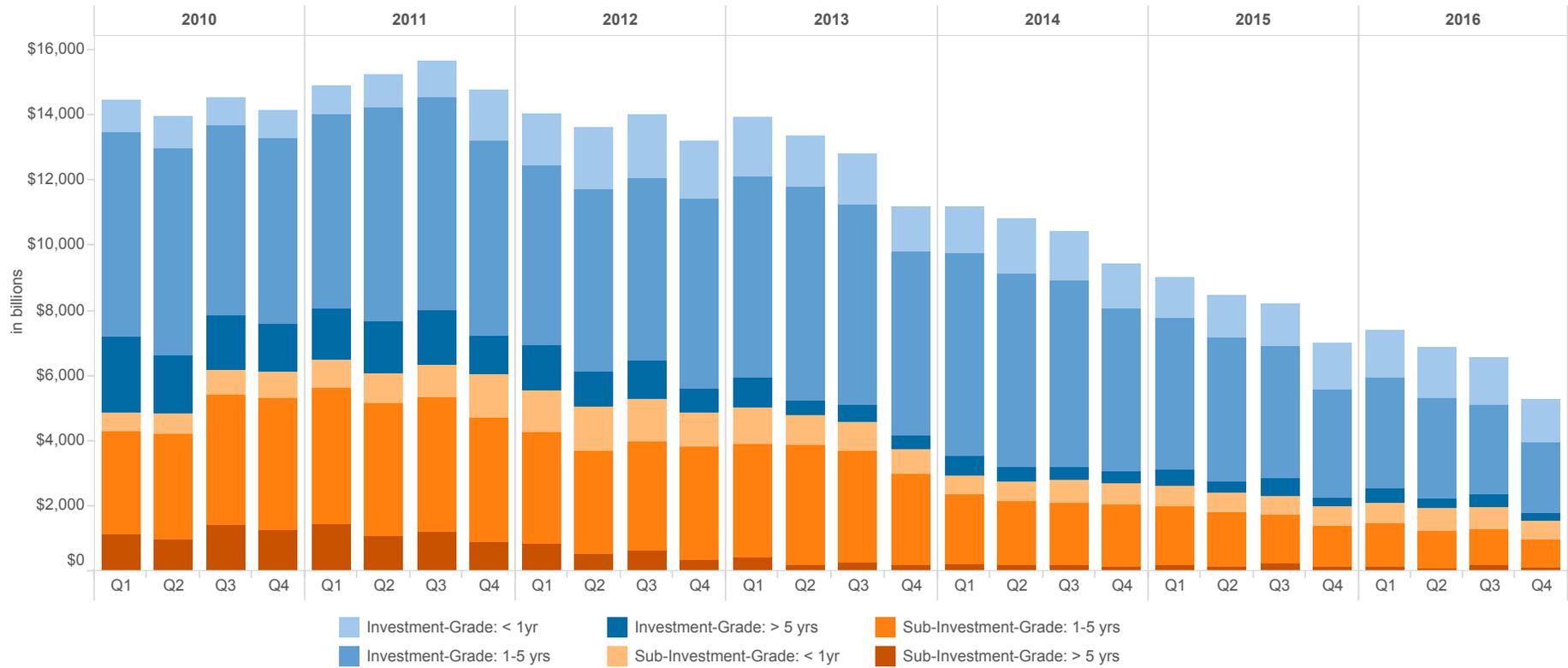
In billions of dollars

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q1	Q2	Q3	Q4
Commodity: < 1 yr	\$36	\$31	\$55	\$43	\$64	\$133	\$185	\$206	\$179	\$176	\$203	\$261	\$261	\$235	\$257	\$668	\$773	\$827	\$702	\$750
Commodity: 1-5 yr	27	25	35	103	205	707	235	297	233	198	209	209	208	144	164	197	166	173	193	179
Commodity: > 5yrs	11	2	9	14	40	175	20	25	43	33	25	46	28	6	20	22	17	20	15	23
Equity: < 1 yr	162	121	127	197	273	321	341	473	409	312	296	427	627	645	996	1,743	1,841	1,907	1,954	1,847
Equity: 1-5 yr	180	209	249	674	736	1,428	221	297	256	228	191	210	262	291	352	628	675	710	822	680
Equity: > 5 yrs	38	18	25	84	140	383	45	70	72	82	85	94	82	136	101	130	129	134	129	123

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

Graph 14

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



In billions of dollars

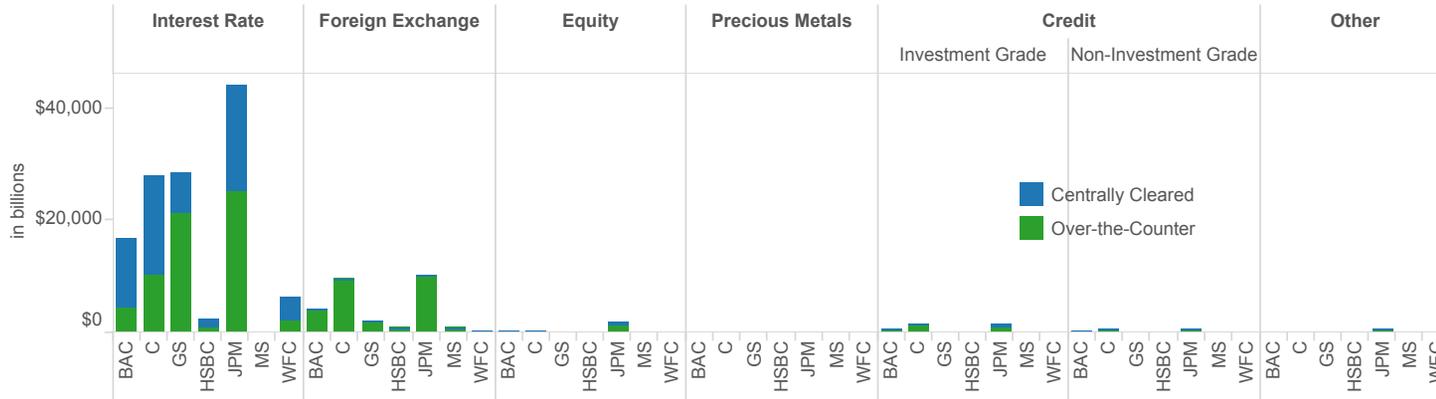
	2012				2013				2014				2015				2016			
	Q1	Q2	Q3	Q4																
Investment-Grade: < 1yr	\$1,607	\$1,921	\$1,943	\$1,757	\$1,790	\$1,550	\$1,548	\$1,384	\$1,414	\$1,707	\$1,478	\$1,375	\$1,256	\$1,292	\$1,270	\$1,380	\$1,471	\$1,549	\$1,451	\$1,348
Investment-Grade: 1-5 yrs	5,519	5,567	5,580	5,832	6,168	6,536	6,127	5,661	6,227	5,909	5,722	5,007	4,649	4,450	4,108	3,328	3,400	3,101	2,765	2,170
Investment-Grade: > 5 yrs	1,386	1,104	1,200	736	948	455	552	409	577	448	433	382	508	359	520	281	457	262	385	214
Total Investment Grade	\$8,513	\$8,592	\$8,723	\$8,326	\$8,906	\$8,541	\$8,228	\$7,455	\$8,218	\$8,064	\$7,633	\$6,764	\$6,413	\$6,101	\$5,898	\$4,990	\$5,328	\$4,911	\$4,601	\$3,732

	2012				2013				2014				2015				2016			
	Q1	Q2	Q3	Q4																
Sub-Investment-Grade: < 1yr	1,290	1,353	1,303	1,040	1,090	933	879	765	619	642	671	658	596	562	569	607	622	683	683	581
Sub-Investment-Grade: 1-5 yrs	3,413	3,139	3,349	3,473	3,491	3,656	3,424	2,792	2,127	1,960	1,948	1,887	1,813	1,673	1,518	1,271	1,313	1,159	1,122	869
Sub-Investment-Grade: > 5 yrs	835	541	623	352	414	197	262	179	200	160	157	140	194	152	213	119	155	101	157	111
Total Sub-Investment Grade	\$5,538	\$5,032	\$5,275	\$4,865	\$4,995	\$4,786	\$4,565	\$3,736	\$2,946	\$2,763	\$2,775	\$2,685	\$2,604	\$2,387	\$2,299	\$1,997	\$2,090	\$1,943	\$1,962	\$1,561

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

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



ALL BANKS



In billions of dollars

Bank Name	Interest Rate		Foreign Exchange		Equity		Precious Metals		Credit				Other	
	Centrally Cleared	Over-the-Counter	Investment Grade		Non-Investment Grade		Centrally Cleared	Over-the-Counter						
									Centrally Cleared	Over-the-Counter	Centrally Cleared	Over-the-Counter		
JPM	18,795	25,153	146	10,155	478	1,272	0	15	366	1,042	106	551	56	650
C	17,692	10,078	132	9,452	43	346	2	6	236	1,223	75	389	58	74
BAC	12,155	4,636	27	4,110	76	249	0	0	216	431	65	278	0	14
GS	7,307	21,214	0	1,998	0	41	0	0	0	82	0	71	0	3
HSBC	1,589	842	0	1,048	0	33	0	6	2	20	2	35	0	0
WFC	4,224	1,954	0	373	23	50	0	2	0	1	0	20	29	24
MS	0	1	6	1,034	0	0	0	0	0	7	0	2	0	0
Grand Total	61,763	63,878	311	28,170	620	1,992	2	29	819	2,806	249	1,345	142	766

Total Centrally Cleared	Over-the-Counter	Total Notional
19,947	38,838	58,785
18,238	21,568	39,806
12,539	9,719	22,257
7,307	23,409	30,716
1,593	1,983	3,576
4,277	2,424	6,701
6	1,044	1,050
63,906	98,985	162,891

ALL OTHER

1,162	1,246	1	2,300	0	38	0	0	0	10	0	9	1	43
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1,164	3,646	4,810
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TOTAL

62,925	65,124	312	30,470	621	2,030	2	29	819	2,816	249	1,354	142	809
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65,070	102,631	167,701
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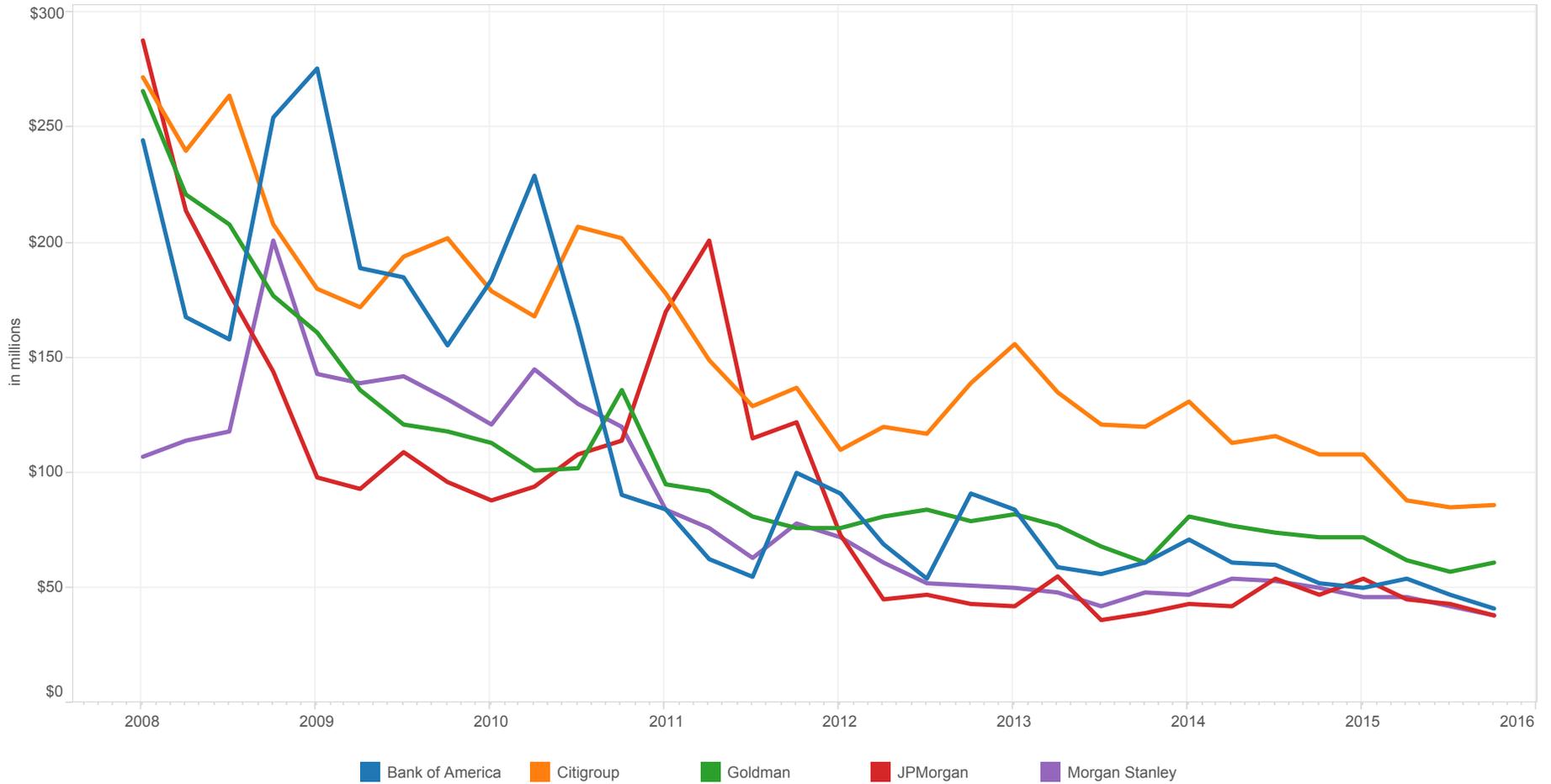
% of Total

Bank Name	Interest Rate		Foreign Exchange		Equity		Precious Metals		Credit				Other	
	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		
JPM	43%	57%	1%	99%	27%	73%	0%	100%	26%	74%	16%	84%	8%	92%
C	64%	36%	1%	99%	11%	89%	20%	80%	16%	84%	16%	84%	44%	56%
BAC	72%	28%	1%	99%	23%	77%			33%	67%	19%	81%	0%	100%
GS	26%	74%	0%	100%	0%	100%			0%	100%	0%	100%	0%	100%
HSBC	65%	35%	0%	100%	0%	100%	0%	100%	8%	92%	6%	94%	0%	100%
WFC	68%	32%	0%	100%	31%	69%	0%	100%	6%	94%	2%	98%	54%	46%
MS	0%	100%	1%	99%	0%	100%			0%	100%	0%	100%		

Total Centrally Cleared as a % of Total Notional	Total Over-the-Counter as a % of Total Notional
34%	66%
46%	54%
56%	44%
24%	76%
45%	55%
64%	36%
1%	99%

Source: Call reports, Schedule RC-R.

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



In millions of dollars

	2010				2011				2012				2013				2014				2015				2016			
	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	Q4
Bank of America	\$276	\$189	\$185	\$155	\$184	\$229	\$164	\$90	\$84	\$63	\$55	\$100	\$91	\$69	\$54	\$91	\$84	\$59	\$56	\$61	\$71	\$61	\$60	\$52	\$50	\$54	\$47	\$41
Citigroup	180	172	194	202	179	168	207	202	178	149	129	137	110	120	117	139	156	135	121	120	131	113	116	108	108	88	85	86
Goldman	161	136	121	118	113	101	102	136	95	92	81	76	76	81	84	79	82	77	68	61	81	77	74	72	72	62	57	61
JPMorgan	98	93	109	96	88	94	108	114	170	201	115	122	73	45	47	43	42	55	36	39	43	42	54	47	54	45	43	38
Morgan Stanley	143	139	142	132	121	145	130	120	84	76	63	78	72	61	52	51	50	48	42	48	47	54	53	50	46	46	42	38
Total	858	729	751	703	685	737	711	662	611	581	443	513	422	376	354	403	414	374	323	329	373	347	357	329	330	295	274	264

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

TABLE 1

**NOTIONAL AMOUNTS OF DERIVATIVE CONTRACTS
TOP 25 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES
DECEMBER 31, 2016, MILLIONS OF DOLLARS**

RANK	BANK NAME	STATE	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	OH	\$2,082,803	\$47,518,312	\$1,680,249	\$1,488,238	\$8,299,033	\$26,399,193	\$7,644,516	\$2,007,083	\$506,913
2	CITIBANK NATIONAL ASSN	SD	1,349,581	43,930,228	1,932,517	721,906	5,224,914	26,825,037	7,284,103	1,941,751	592,186
3	GOLDMAN SACHS BANK USA	NY	159,116	34,887,233	1,574,392	2,406,222	3,339,357	21,386,689	6,016,005	164,568	24,943
4	BANK OF AMERICA NA	NC	1,677,490	21,145,967	1,006,998	115,427	5,739,271	11,808,804	1,496,587	978,880	263,797
5	WELLS FARGO BANK NA	SD	1,727,235	7,193,589	130,415	144,573	1,457,835	4,651,333	777,433	32,000	5,055
6	HSBC NA	VA	197,206	4,094,037	290,363	16,369	620,068	2,747,624	294,585	125,028	34,565
7	STATE STREET BANK&TRUST CO	MA	239,203	1,438,107	13,455	0	1,392,541	4,389	27,721	0	28,843
8	MORGAN STANLEY BANK NA	UT	129,288	1,368,874	18,133	11,415	284,667	511,295	534,233	9,131	24,562
9	BANK OF NEW YORK MELLON	NY	257,576	844,245	14,936	52	454,919	339,969	34,209	160	41,642
10	PNC BANK NATIONAL ASSN	DE	356,000	411,814	39,792	0	27,475	284,230	53,591	6,725	1,380
11	SUNTRUST BANK	GA	200,558	289,429	20,224	19,884	24,418	141,749	78,240	4,914	74
12	NORTHERN TRUST CO	IL	123,548	279,757	0	0	263,845	14,806	1,106	0	11,677
13	U S BANK NATIONAL ASSN	OH	441,010	277,460	7,417	0	50,776	178,432	35,714	5,121	1,913
14	TD BANK NATIONAL ASSN	DE	269,031	178,885	0	0	7,027	170,845	425	588	3
15	MUFG UNION BANK NA	CA	115,553	157,597	3,195	0	77,673	68,614	8,106	10	462
16	CAPITAL ONE NATIONAL ASSN	VA	286,080	96,907	192	0	2,328	91,836	180	2,370	19
17	KEYBANK NATIONAL ASSN	OH	134,362	84,619	5,575	0	6,337	67,338	4,994	375	649
18	REGIONS BANK	AL	125,042	82,504	5,907	0	14,582	54,731	4,209	3,075	9
19	CITIZENS BANK NATIONAL ASSN	RI	116,940	72,662	0	0	9,473	54,505	6,200	2,484	58
20	FIFTH THIRD BANK	OH	139,776	69,341	390	157	5,620	49,598	10,776	2,799	275
21	BRANCH BANKING&TRUST CO	NC	214,433	61,493	377	0	9,717	42,828	8,570	0	39
22	BOKF NATIONAL ASSN	OK	32,160	46,343	319	430	40,423	3,333	1,836	2	29
23	COMPASS BANK	AL	83,640	41,272	104	0	1,544	31,357	8,267	0	56
24	CAPITAL ONE BANK USA NA	VA	113,153	39,434	0	0	8,780	30,654	0	0	86
25	HUNTINGTON NATIONAL BANK	OH	99,562	38,932	62	0	3,573	32,833	891	1,574	3
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$10,670,345	\$164,649,040	\$6,745,012	\$4,924,672	\$27,366,198	\$95,992,022	\$24,332,498	\$5,288,638	\$1,539,237
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,507,062	550,097	6,733	1,705	74,793	391,684	70,455	4,726	967
TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,177,408	165,199,138	6,751,745	4,926,377	27,440,991	96,383,707	24,402,953	5,293,365	1,540,204

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

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

Note: Numbers may not total due to rounding.

Source: Call reports, Schedule RC-L

TABLE 2

**NOTIONAL AMOUNTS OF DERIVATIVE CONTRACTS (HOLDING COMPANIES)
TOP 25 HOLDING COMPANIES IN DERIVATIVES
DECEMBER 31, 2016, MILLIONS OF DOLLARS**

RANK	HOLDING COMPANY	STATE	TOTAL ASSETS	TOTAL DERIVATIVES	FUTURES (EXCH TR)	OPTIONS (EXCH TR)	FORWARDS (OTC)	SWAPS (OTC)	OPTIONS (OTC)	CREDIT DERIVATIVES (OTC)	SPOT FX
1	CITIGROUP INC.	NY	\$1,792,077	\$47,092,584	\$2,576,892	\$4,200,083	\$6,349,136	\$25,140,908	\$7,063,672	\$1,761,893	\$578,110
2	JPMORGAN CHASE & CO.	NY	2,490,972	46,992,293	1,725,732	1,612,075	8,601,365	25,670,787	7,353,940	2,028,394	497,996
3	GOLDMAN SACHS GROUP, INC., THE	NY	860,185	41,227,878	2,035,639	3,236,735	6,046,664	20,837,741	7,646,754	1,424,345	156,401
4	BANK OF AMERICA CORPORATION	NC	2,189,266	33,132,582	1,401,384	655,303	7,523,127	19,044,241	3,243,674	1,264,853	213,346
5	MORGAN STANLEY	NY	814,949	28,569,553	2,420,394	1,743,289	2,615,779	15,660,913	5,224,851	904,327	23,406
6	WELLS FARGO & COMPANY	CA	1,930,115	7,098,952	137,195	168,592	1,491,542	4,496,808	773,886	30,929	5,047
7	HSBC NORTH AMERICA HOLDINGS INC.	NY	277,783	6,342,537	803,267	479,694	620,478	4,012,446	301,625	125,028	34,562
8	MIZUHO AMERICAS LLC	NY	39,181	4,755,217	13,461	5,348	275,777	4,364,651	91,900	4,080	1,008
9	STATE STREET CORPORATION	MA	242,709	1,445,832	13,455	0	1,392,541	12,114	27,721	0	28,843
10	CREDIT SUISSE HOLDINGS (USA), INC.	NY	214,111	989,443	44,059	12,223	800,371	82,166	5,027	45,598	0
11	BANK OF NEW YORK MELLON CORPORATION, THE	NY	333,469	853,379	16,101	2,375	483,185	317,349	34,209	160	41,568
12	BARCLAYS US LLC	NY	204,485	724,366	28,154	230,193	293,321	18,130	40,920	113,648	0
13	RBC USA HOLDCO CORPORATION	NY	141,917	503,632	142,145	147,194	155,419	57,681	783	409	117
14	PNC FINANCIAL SERVICES GROUP, INC., THE	PA	366,872	409,473	40,317	30,545	30,462	278,642	22,782	6,725	1,380
15	SUNTRUST BANKS, INC.	GA	205,214	286,555	20,277	19,884	24,418	139,702	77,240	5,034	74
16	U. S. BANCORP	MN	445,964	280,377	7,417	0	50,814	181,360	35,715	5,071	1,913
17	NORTHERN TRUST CORPORATION	IL	123,927	279,007	0	0	263,845	14,056	1,106	0	11,677
18	TD GROUP US HOLDINGS LLC	DE	343,933	259,571	50,234	16,300	8,852	183,076	425	685	3
19	MUFG AMERICAS HOLDINGS CORPORATION	NY	148,144	176,966	6,396	0	93,439	68,922	8,198	10	462
20	DB USA CORPORATION	NY	186,603	175,290	4,633	105,147	44,544	12,381	5,323	3,262	0
21	BNP PARIBAS USA, INC.	NY	132,500	147,881	37	8,837	113,629	22,695	2,682	0	11
22	CAPITAL ONE FINANCIAL CORPORATION	VA	357,158	144,055	192	0	11,263	130,049	180	2,370	105
23	KEYCORP	OH	136,826	88,287	5,575	0	6,337	69,991	6,024	360	649
24	REGIONS FINANCIAL CORPORATION	AL	126,194	81,404	5,907	0	14,582	53,631	4,209	3,075	9
25	CITIZENS FINANCIAL GROUP, INC.	RI	150,023	80,398	0	0	9,473	61,096	6,916	2,913	58
TOP 25 HOLDING COMPANIES WITH DERIVATIVES			\$14,254,577	\$222,137,511	\$11,498,864	\$12,673,816	\$37,320,364	\$120,931,534	\$31,979,763	\$7,733,170	\$1,596,745

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

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

Note: Numbers may not total due to rounding.

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

TABLE 3

**DISTRIBUTION OF DERIVATIVE CONTRACTS
TOP 25 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES
DECEMBER 31, 2016, MILLIONS OF DOLLARS**

RANK	BANK NAME	STATE	TOTAL ASSETS	TOTAL DERIVATIVES	PERCENT EXCH TRADED CONTRACTS	PERCENT OTC CONTRACTS	PERCENT INT RATE CONTRACTS	PERCENT FOREIGN EXCH CONTRACTS	PERCENT OTHER CONTRACTS	PERCENT CREDIT DERIVATIVES
					(%)	(%)	(%)	(%)	(%)	(%)
1	JPMORGAN CHASE BANK NA	OH	\$2,082,803	\$47,518,312	6.7	93.3	71.0	20.4	4.3	4.2
2	CITIBANK NATIONAL ASSN	SD	1,349,581	43,930,228	6.0	94.0	69.1	24.4	2.0	4.4
3	GOLDMAN SACHS BANK USA	NY	159,116	34,887,233	11.4	88.6	93.5	5.9	0.1	0.5
4	BANK OF AMERICA NA	NC	1,677,490	21,145,967	5.3	94.7	74.3	19.6	1.6	4.6
5	WELLS FARGO BANK NA	SD	1,727,235	7,193,589	3.8	96.2	91.3	5.3	2.9	0.4
6	HSBC NA	VA	197,206	4,094,037	7.5	92.5	68.5	26.2	2.3	3.1
7	STATE STREET BANK&TRUST CO	MA	239,203	1,438,107	0.9	99.1	1.1	97.0	1.9	0.0
8	MORGAN STANLEY BANK NA	UT	129,288	1,368,874	2.2	97.8	1.4	97.9	0.0	0.7
9	BANK OF NEW YORK MELLON	NY	257,576	844,245	1.8	98.2	41.0	58.9	0.1	0.0
10	PNC BANK NATIONAL ASSN	DE	356,000	411,814	9.7	90.3	93.4	3.9	1.1	1.6
11	SUNTRUST BANK	GA	200,558	289,429	13.9	86.1	75.3	2.3	20.7	1.7
12	NORTHERN TRUST CO	IL	123,548	279,757	0.0	100.0	4.9	95.0	0.1	0.0
13	U S BANK NATIONAL ASSN	OH	441,010	277,460	2.7	97.3	81.2	16.7	0.3	1.8
14	TD BANK NATIONAL ASSN	DE	269,031	178,885	0.0	100.0	93.9	5.8	0.0	0.3
15	MUFG UNION BANK NA	CA	115,553	157,597	2.0	98.0	93.2	3.5	3.3	0.0
16	CAPITAL ONE NATIONAL ASSN	VA	286,080	96,907	0.2	99.8	92.7	0.6	4.3	2.4
17	KEYBANK NATIONAL ASSN	OH	134,362	84,619	6.6	93.4	91.3	7.7	0.5	0.4
18	REGIONS BANK	AL	125,042	82,504	7.2	92.8	93.0	2.4	0.9	3.7
19	CITIZENS BANK NATIONAL ASSN	RI	116,940	72,662	0.0	100.0	85.6	11.0	0.0	3.4
20	FIFTH THIRD BANK	OH	139,776	69,341	0.8	99.2	75.4	15.7	4.9	4.0
21	BRANCH BANKING&TRUST CO	NC	214,433	61,493	0.6	99.4	99.0	1.0	0.0	0.0
22	BOKF NATIONAL ASSN	OK	32,160	46,343	1.6	98.4	93.3	2.5	4.2	0.0
23	COMPASS BANK	AL	83,640	41,272	0.3	99.7	93.0	3.1	3.9	0.0
24	CAPITAL ONE BANK USA NA	VA	113,153	39,434	0.0	100.0	77.7	22.3	0.0	0.0
25	HUNTINGTON NATIONAL BANK	OH	99,562	38,932	0.2	99.8	84.4	7.1	4.4	4.0
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$10,670,345	\$164,649,040	\$11,669,684	\$152,979,356	\$123,913,358	\$31,711,488	\$64	\$5,288,638
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,507,062	550,097	8,438	541,660	512,060	23,935	1,335	4,726
TOTAL FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,177,408	165,199,138	11,678,122	153,521,016	124,425,418	31,735,422	1,399	5,293,365
				(%)	(%)	(%)	(%)	(%)	(%)	(%)
TOP 25 COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES				99.7	7.1	92.6	75.0	19.2	0.0	3.2
OTHER COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES				0.3	0.0	0.3	0.3	0.0	0.0	0.0
TOTAL FOR COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES				100.0	7.1	92.9	75.3	19.2	0.0	3.2

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

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

Note: Numbers may not total due to rounding.

Source: Call reports, Schedule RC-L

TABLE 4

CREDIT EQUIVALENT EXPOSURES
TOP 25 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES
DECEMBER 31, 2016, MILLIONS OF DOLLARS

RANK	BANK NAME	STATE	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL RISK-BASED CAPITAL	BILATERALLY		TOTAL CREDIT		TOTAL CREDIT EXPOSURE TO CAPITAL (%)
						NETTED CURRENT CREDIT EXPOSURE	POTENTIAL FUTURE EXPOSURE	EXPOSURE FROM ALL CONTRACTS	TOTAL CREDIT EXPOSURE	
1	JPMORGAN CHASE BANK NA	OH	\$2,082,803	\$47,518,312	\$184,637	\$151,346	\$216,652	\$367,998	199	
2	CITIBANK NATIONAL ASSN	SD	1,349,581	43,930,228	138,638	81,331	172,844	254,175	183	
3	GOLDMAN SACHS BANK USA	NY	159,116	34,887,233	26,867	62,690	66,409	129,099	481	
4	BANK OF AMERICA NA	NC	1,677,490	21,145,967	163,471	42,307	65,988	108,295	66	
5	WELLS FARGO BANK NA	SD	1,727,235	7,193,589	155,281	17,847	34,125	51,972	33	
6	HSBC NA	VA	197,206	4,094,037	26,325	10,392	11,857	22,249	85	
7	STATE STREET BANK&TRUST CO	MA	239,203	1,438,107	17,061	8,228	8,803	17,031	100	
8	MORGAN STANLEY BANK NA	UT	129,288	1,368,874	14,858	1,990	3,617	5,607	38	
9	BANK OF NEW YORK MELLON	NY	257,576	844,245	19,397	5,407	4,675	10,082	52	
10	PNC BANK NATIONAL ASSN	DE	356,000	411,814	35,842	2,995	1,085	4,080	11	
11	SUNTRUST BANK	GA	200,558	289,429	21,276	1,158	3,514	4,672	22	
12	NORTHERN TRUST CO	IL	123,548	279,757	9,463	2,148	1,983	4,132	44	
13	U S BANK NATIONAL ASSN	OH	441,010	277,460	44,853	1,109	3,929	5,038	11	
14	TD BANK NATIONAL ASSN	DE	269,031	178,885	23,346	2,447	1,252	3,699	16	
15	MUFG UNION BANK NA	CA	115,553	157,597	14,560	948	376	1,324	9	
16	CAPITAL ONE NATIONAL ASSN	VA	286,080	96,907	23,117	826	1,176	2,002	9	
17	KEYBANK NATIONAL ASSN	OH	134,362	84,619	14,291	811	468	1,279	9	
18	REGIONS BANK	AL	125,042	82,504	14,311	403	823	1,226	9	
19	CITIZENS BANK NATIONAL ASSN	RI	116,940	72,662	13,443	681	507	1,187	9	
20	FIFTH THIRD BANK	OH	139,776	69,341	16,175	702	871	1,572	10	
21	BRANCH BANKING&TRUST CO	NC	214,433	61,493	23,289	747	612	1,359	6	
22	BOKF NATIONAL ASSN	OK	32,160	46,343	2,867	296	179	475	17	
23	COMPASS BANK	AL	83,640	41,272	9,020	329	311	641	7	
24	CAPITAL ONE BANK USA NA	VA	113,153	39,434	14,230	433	152	585	4	
25	HUNTINGTON NATIONAL BANK	OH	99,562	38,932	10,791	298	400	698	6	
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$10,670,345	\$164,649,040	\$1,037,410	\$397,869	\$602,608	\$1,000,478	96	
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,507,062	550,097	486,061	4,297	4,253	8,550	2	
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,177,408	165,199,138	1,523,471	402,166	606,861	1,009,028	66	

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

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

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

Note: Numbers may not total due to rounding.

Source: Call reports, Schedule RC-R.

TABLE 5

**NOTIONAL AMOUNTS OF DERIVATIVE CONTRACTS HELD FOR TRADING
TOP 4 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES
DECEMBER 31, 2016, MILLIONS OF DOLLARS**

RANK	BANK NAME	STATE	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL HELD FOR TRADING & MTM	% HELD FOR TRADING & MTM	TOTAL NOT FOR TRADING MTM	% NOT FOR TRADING MTM
1	JPMORGAN CHASE BANK NA	OH	\$2,082,803	\$45,511,229	\$45,182,590	99.3	\$328,639	0.7
2	CITIBANK NATIONAL ASSN	SD	1,349,581	41,988,477	41,896,701	99.8	91,776	0.2
3	GOLDMAN SACHS BANK USA	NY	159,116	34,722,665	34,687,214	99.9	35,451	0.1
4	BANK OF AMERICA NA	NC	1,677,490	20,167,087	19,151,285	95.0	1,015,802	5.0
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,268,990	\$142,389,458	\$140,917,790	99.0	\$1,471,668	1.0
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			9,908,418	17,516,315	15,940,456	91.0	1,575,860	9.0
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,177,408	159,905,773	156,858,246	98.1	3,047,528	1.9

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

Note: Numbers may not total due to rounding.

Source: Call reports, Schedule RC-L

TABLE 6

**GROSS FAIR VALUES OF DERIVATIVE CONTRACTS
TOP 4 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES
DECEMBER 31, 2016, MILLIONS OF DOLLARS**

RANK	BANK NAME	STATE	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	OH	\$2,082,803	\$47,518,312	\$926,976	\$897,777	\$4,393	\$4,554	\$29,149	\$28,336
2	CITIBANK NATIONAL ASSN	SD	1,349,581	43,930,228	601,419	594,842	1,199	1,083	26,990	27,336
3	GOLDMAN SACHS BANK USA	NY	159,116	34,887,233	703,583	670,085	311	78	3,212	2,806
4	BANK OF AMERICA NA	NC	1,677,490	21,145,967	290,656	286,816	28,957	32,231	14,356	13,756
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,268,990	\$147,481,740	\$2,522,634	\$2,449,520	\$34,860	\$37,946	\$73,707	\$72,234
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			9,908,418	17,717,398	213,519	215,466	17,514	13,747	2,429	2,313
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,177,408	165,199,138	2,736,153	2,664,986	52,374	51,693	76,136	74,547

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
DECEMBER 31, 2016, MILLIONS OF DOLLARS
NOTE: REVENUE FIGURES ARE FOR THE QUARTER (NOT YEAR-TO-DATE)

RANK	BANK NAME	STATE	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL TRADING REV FROM CASH & OFF BAL SHEET POSITIONS	TRADING REV FROM INT RATE POSITIONS	TRADING REV FROM FOREIGN EXCH POSITIONS	TRADING REV FROM EQUITY POSITIONS	TRADING REV FROM COMMOD & OTH POSITIONS	TRADING REV FROM CREDIT POSITIONS
1	JPMORGAN CHASE BANK NA	OH	\$2,082,803	\$47,518,312	\$2,316	\$528	\$684	\$432	\$168	\$504
2	CITIBANK NATIONAL ASSN	SD	1,349,581	43,930,228	1,721	1,137	563	22	96	(97)
3	GOLDMAN SACHS BANK USA	NY	159,116	34,887,233	70	(2,861)	2,845	45	0	41
4	BANK OF AMERICA NA	NC	1,677,490	21,145,967	576	(79)	376	115	52	112
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,268,990	\$147,481,740	\$4,683	(\$1,275)	\$4,468	\$614	\$316	\$560
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			9,908,418	17,717,398	1,302	(100)	1,473	(39)	(20)	(13)
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,177,408	165,199,138	5,985	(1,375)	5,941	575	296	547

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

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

Note: Numbers may not sum due to rounding.

Source: Call reports, Schedule RI

TABLE 8

**NOTIONAL AMOUNTS OF DERIVATIVE CONTRACTS BY CONTRACT TYPE AND MATURITY
TOP 4 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES
DECEMBER 31, 2016, MILLIONS OF DOLLARS**

RANK	BANK NAME	STATE	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	OH	\$2,082,803	\$47,518,312	\$21,047,904	\$13,468,692	\$9,431,472	\$43,948,068	\$7,411,618	\$1,881,621	\$1,008,451	\$10,301,690
2	CITIBANK NATIONAL ASSN	SD	1,349,581	43,930,228	11,600,744	10,074,411	6,094,958	27,770,113	8,033,239	1,078,869	472,048	9,584,156
3	GOLDMAN SACHS BANK USA	NY	159,116	34,887,233	10,187,291	10,178,970	8,154,807	28,521,068	712,712	671,462	613,422	1,997,596
4	BANK OF AMERICA NA	NC	1,677,490	21,145,967	8,208,264	5,334,490	3,248,549	16,791,303	3,406,229	524,422	206,225	4,136,876
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,268,990	\$147,481,740	\$51,044,203	\$39,056,563	\$26,929,786	\$117,030,552	\$19,563,798	\$4,156,374	\$2,300,146	\$26,020,318
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			9,908,418	17,717,398	3,979,509	4,205,867	2,832,173	11,017,548	4,345,833	296,415	119,973	4,762,221
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,177,408	165,199,138	55,023,712	43,262,430	29,761,959	128,048,100	23,909,631	4,452,789	2,420,119	30,782,539

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

Note: Numbers may not add due to rounding.

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

Source: Call reports, Schedule RC-R

TABLE 9

NOTIONAL AMOUNTS OF DERIVATIVE CONTRACTS BY CONTRACT TYPE & MATURITY
TOP 4 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES
DECEMBER 31, 2016, MILLIONS OF DOLLARS

RANK	BANK NAME	STATE	TOTAL ASSETS	TOTAL DERIVATIVES	PREC METALS MATURITY < 1 YR	PREC METALS MATURITY 1 - 5 YRS	PREC METALS MATURITY > 5 YRS	PREC METALS ALL MATURITIES
1	JPMORGAN CHASE BANK NA	OH	\$2,082,803	\$47,518,312	\$13,916	\$1,388	\$0	\$15,304
2	CITIBANK NATIONAL ASSN	SD	1,349,581	43,930,228	6,659	950	0	7,609
3	GOLDMAN SACHS BANK USA	NY	159,116	34,887,233	0	0	0	0
4	BANK OF AMERICA NA	NC	1,677,490	21,145,967	0	0	0	0
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,268,990	\$147,481,740	\$20,575	\$2,338	\$0	\$22,913
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			9,908,418	17,717,398	6,416	1,206	20	7,642
TOTAL FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,177,408	165,199,138	26,991	3,544	20	30,555
<p>Note: Figures above exclude any contracts not subject to risk-based capital requirements, such as FX contracts with an original maturity of 14 days or less, futures contracts, written options, and basis swaps. Therefore, the total notional amount of derivatives by maturity will not add to the total derivatives figure in this table.</p> <p>Note: Numbers may not total due to rounding.</p> <p>Source: Call reports, Schedule RC-R</p>								

TABLE 10

NOTIONAL AMOUNTS OF DERIVATIVE CONTRACTS BY CONTRACT TYPE AND MATURITY
TOP 4 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES
DECEMBER 31, 2016, MILLIONS OF DOLLARS

RANK	BANK NAME	STATE	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	OH	\$2,082,803	\$47,518,312	\$609,351	\$78,102	\$17,956	\$705,409	\$1,195,677	\$462,567	\$91,855	\$1,750,099
2	CITIBANK NATIONAL ASSN	SD	1,349,581	43,930,228	91,125	36,752	3,679	131,556	266,978	112,893	9,970	389,841
3	GOLDMAN SACHS BANK USA	NY	159,116	34,887,233	1,708	1,617	0	3,325	18,639	11,608	10,603	40,850
4	BANK OF AMERICA NA	NC	1,677,490	21,145,967	10,152	4,187	62	14,401	277,465	45,933	1,814	325,212
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,268,990	\$147,481,740	\$712,336	\$120,658	\$21,697	\$854,691	\$1,758,759	\$633,001	\$114,242	\$2,506,002
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			9,908,418	17,717,398	37,494	58,005	1,086	96,585	88,495	47,093	8,714	144,302
TOTAL FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,177,408	165,199,138	749,830	178,663	22,783	951,276	1,847,254	680,094	122,956	2,650,304

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

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

Note: Numbers may not total due to rounding.

Source: Call reports, Schedule RC-R

TABLE 11

**NOTIONAL AMOUNTS OF CREDIT DERIVATIVE CONTRACTS BY CONTRACT TYPE AND MATURITY
TOP 4 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES
DECEMBER 31, 2016, MILLIONS OF DOLLARS**

RANK	BANK NAME	STATE	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	OH	\$2,082,803	\$47,518,312	\$2,007,083	\$539,397	\$777,549	\$73,899	\$1,390,845	\$232,602	\$343,444	\$40,192	\$616,238
2	CITIBANK NATIONAL ASSN	SD	1,349,581	43,930,228	1,941,751	479,782	907,650	85,381	1,472,813	148,049	299,435	21,454	468,938
3	GOLDMAN SACHS BANK USA	NY	159,116	34,887,233	164,568	27,464	43,969	13,945	85,378	25,749	35,391	18,050	79,190
4	BANK OF AMERICA NA	NC	1,677,490	21,145,967	978,880	272,022	395,295	32,931	700,248	143,450	118,706	16,476	278,632
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,268,990	\$147,481,740	\$5,092,282	\$1,318,665	\$2,124,463	\$206,156	\$3,649,284	\$549,850	\$796,976	\$96,172	\$1,442,998
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			9,908,418	17,717,398	201,083	29,457	45,592	7,918	82,967	31,208	72,421	14,487	118,116
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,177,408	165,199,138	5,293,365	1,348,122	2,170,055	214,074	3,732,251	581,058	869,397	110,659	1,561,114

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

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

Note: Numbers may not total due to rounding.

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

TABLE 12

**DISTRIBUTION OF CREDIT DERIVATIVE CONTRACTS HELD FOR TRADING
TOP 25 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES
DECEMBER 31, 2016, MILLIONS OF DOLLARS**

RANK	BANK NAME	STATE	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL CREDIT DERIVATIVES	BOUGHT				SOLD					
						BOUGHT	SOLD	CREDIT DEFAULT SWAPS	TOTAL RETURN SWAPS	CREDIT OPTIONS	OTHER CREDIT DERIVATIVES	CREDIT DEFAULT SWAPS	TOTAL RETURN SWAPS	CREDIT OPTIONS	OTHER CREDIT DERIVATIVES
1	JPMORGAN CHASE BANK NA	OH	\$2,082,803	\$45,511,229	\$2,007,083	\$1,014,138	\$992,945	\$967,341	\$11,310	\$30,294	\$5,193	\$948,881	\$9,720	\$34,337	\$7
2	CITIBANK NATIONAL ASSN	SD	1,349,581	41,988,477	1,941,751	985,675	956,076	936,364	21,659	27,652	0	916,187	9,833	30,056	0
3	GOLDMAN SACHS BANK USA	NY	159,116	34,722,665	164,568	89,201	75,367	81,876	2,166	5,090	69	68,933	1,744	4,300	390
4	BANK OF AMERICA NA	NC	1,677,490	20,167,087	978,880	482,866	496,014	468,133	9,513	5,220	0	476,023	10,101	9,890	0
5	Wells Fargo Bank NA	SD	1,727,235	7,161,589	32,000	20,917	11,083	4,151	0	300	16,466	3,503	0	25	7,555
6	HSBC NA	VA	197,206	3,969,009	125,028	66,028	58,999	57,644	8,385	0	0	55,904	3,095	0	0
7	STATE STREET BANK&TRUST CO	MA	239,203	1,438,107	0	0	0	0	0	0	0	0	0	0	0
8	MORGAN STANLEY BANK NA	UT	129,288	1,359,743	9,131	9,131	0	9,131	0	0	0	0	0	0	0
9	BANK OF NEW YORK MELLON	NY	257,576	844,085	160	160	0	160	0	0	0	0	0	0	0
10	PNC BANK NATIONAL ASSN	DE	356,000	405,089	6,725	2,472	4,254	50	0	0	2,422	0	0	0	4,254
11	SUNTRUST BANK	GA	200,558	284,515	4,914	2,778	2,136	650	2,123	0	5	0	2,123	0	13
12	NORTHERN TRUST CO	IL	123,548	279,757	0	0	0	0	0	0	0	0	0	0	0
13	U S BANK NATIONAL ASSN	OH	441,010	272,339	5,121	1,447	3,674	75	0	0	1,372	50	0	0	3,624
14	TD BANK NATIONAL ASSN	DE	269,031	178,297	588	583	5	583	0	0	0	5	0	0	0
15	MUFG UNION BANK NA	CA	115,553	157,587	10	10	0	10	0	0	0	0	0	0	0
16	CAPITAL ONE NATIONAL ASSN	VA	286,080	94,537	2,370	792	1,578	0	0	0	792	0	0	0	1,578
17	KEYBANK NATIONAL ASSN	OH	134,362	84,244	375	263	112	263	0	0	0	19	93	0	0
18	REGIONS BANK	AL	125,042	79,429	3,075	772	2,303	38	0	0	734	30	0	0	2,273
19	CITIZENS BANK NATIONAL ASSN	RI	116,940	70,179	2,484	0	2,484	0	0	0	0	0	0	0	2,484
20	FIFTH THIRD BANK	OH	139,776	66,541	2,799	332	2,467	0	0	0	332	0	0	0	2,467
21	BRANCH BANKING&TRUST CO	NC	214,433	61,493	0	0	0	0	0	0	0	0	0	0	0
22	BOF NATIONAL ASSN	OK	32,160	46,341	2	1	1	1	0	0	0	1	0	0	0
23	COMPASS BANK	AL	83,640	41,272	0	0	0	0	0	0	0	0	0	0	0
24	CAPITAL ONE BANK USA NA	VA	113,153	39,434	0	0	0	0	0	0	0	0	0	0	0
25	HUNTINGTON NATIONAL BANK	OH	99,562	37,358	1,574	991	582	0	0	0	991	0	0	0	582
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$10,670,345	\$159,360,402	\$5,288,638	\$2,678,558	\$2,610,080	\$2,526,469	\$55,156	\$68,556	\$28,378	\$2,469,537	\$36,709	\$78,608	\$25,227
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,507,062	545,371	4,726	1,877	2,849	1	78	0	1,798	253	2	0	2,594
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			15,177,408	159,905,773	5,293,365	2,680,435	2,612,929	2,526,470	55,234	68,556	30,176	2,469,789	36,711	78,608	27,821
TOP 25 COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES					(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
OTHER COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES					99.9	50.6	49.3	47.7	1.0	1.3	0.5	46.7	0.7	1.5	0.5
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES					100.0	50.6	49.4	47.7	1.0	1.3	0.6	46.7	0.7	1.5	0.5

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

Note: Numbers may not total due to rounding.

Source: Call reports, Schedule RC-L