

Quarterly Report on Bank Trading and Derivatives Activities

Fourth Quarter 2018

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

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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 and savings associations; reports filed by U.S. financial holding companies; and other published data. A total of 1,307¹ insured U.S. commercial banks and savings associations reported trading and derivatives activities at the end of the fourth 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 fourth quarter of 2018, four large commercial banks represented 87.3 percent of the total banking industry notional amounts and 85.2 percent of industry net current credit exposure (NCCE) (see tables 1 and 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 93rd edition of the OCC's *Quarterly Report on Bank Trading and Derivatives Activities*. The first report was published in 1995. Please send any comments or feedback on the structure and content of this report to the OCC by email: QuarterlyDerivatives@occ.treas.gov.

Executive Summary

- Insured U.S. commercial banks and savings associations (collectively, banks) reported trading revenue of \$4.2 billion in the fourth quarter of 2018, \$2.9 billion less (41.0 percent) than in the previous quarter and \$1.7 billion less (28.5 percent) than a year earlier (see table 1).
- Credit exposure from derivatives decreased in the fourth quarter of 2018 compared with the third quarter of 2018. NCCE decreased \$16.0 billion, or 4.5 percent, to \$341 billion (see table 5).
- Derivative notional amounts decreased in the fourth quarter of 2018 by \$30.6 billion, or 14.8 percent, to \$176.4 trillion (see table 10).
- Derivative contracts remained concentrated in interest rate products, which totaled \$128.2 trillion or 72.7 percent of total derivative notional amounts (see table 10).

¹ 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.

Revenue

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

Insured U.S. commercial banks and savings associations reported \$4.2 billion in trading revenue in the fourth quarter of 2018, \$2.9 billion less (41.0 percent) than in the previous quarter and \$1.7 billion less (28.5 percent) than a year earlier (see table 1). The quarter-over-quarter decrease in trading revenue was across all instrument categories with the largest decrease due to equity trading. 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

	4Q 2018	3Q 2018	Q/Q change	Q/Q % change	4Q 2017	Y/Y change	Y/Y % change
Interest rate and foreign exchange	\$4,411	\$5,129	-\$718	-14.0%	\$4,030	\$380	9.4%
Equity	-\$43	\$1,444	-\$1,487	-103.0%	\$1,649	-\$1,692	-102.6%
Commodity and other	\$274	\$346	-\$72	-20.9%	\$324	-\$50	-15.3%
Credit	-\$476	\$141	-\$616	-438.1%	-\$178	-\$297	166.6%
Total bank trading revenue	\$4,165	\$7,059	-\$2,894	-41.0%	\$5,824	-\$1,659	-28.5%

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 \$5.7 billion in the fourth quarter of 2018 was \$8.0 billion (58.3 percent) lower than in the previous quarter. The quarter-over-quarter decrease in trading revenue was across all instrument categories with the largest decrease due to equity trading. Year-over-year holding company trading revenue decreased by \$5.0 billion (46.8 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

	4Q 2018	3Q 2018	Q/Q change	Q/Q % change	4Q 2017	Y/Y change	Y/Y % change
Interest rate and foreign exchange	\$4,910	\$6,728	-\$1,818	-27.0%	\$6,595	-\$1,685	-25.5%
Equity	\$441	\$5,284	-\$4,843	-91.7%	\$3,867	-\$3,426	-88.6%
Commodity and other	\$525	\$858	-\$333	-38.8%	\$568	-\$43	-7.6%
Credit	-\$174	\$814	-\$988	-121.4%	-\$310	\$136	-43.9%
Total HC trading revenue	\$5,702	\$13,685	-\$7,983	-58.3%	\$10,721	-\$5,019	-46.8%

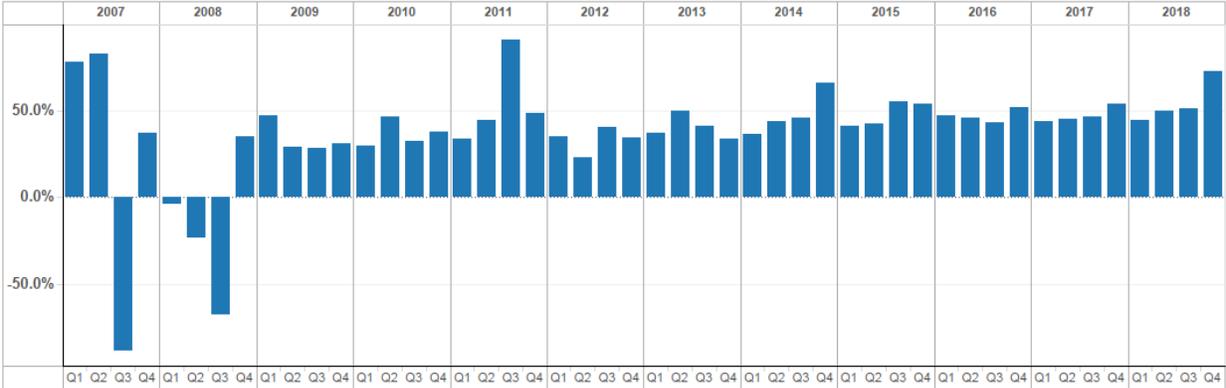
Source: Consolidated Financial Statements for Holding Companies—FR Y-9C, Schedule HI

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 fourth quarter of 2018, banks generated 73.1 percent of consolidated holding company trading revenue, up from 51.6 percent in the previous quarter (see figure 1). The increase in the percentage of trading revenue by banks is due to the larger decline in trading revenue for the consolidated holding company.

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 \$15 billion (0.9 percent) in the fourth quarter of 2018 to \$1.7 trillion, driven by a \$33 billion (6.0 percent) and a \$12 billion (21.7 percent) decrease in receivables from foreign exchange (FX) and credit contracts, respectively (see table 3). GNFV increased \$6 billion (0.3 percent) to \$1.7 trillion during the quarter, driven by a \$44 billion (4.8 percent) increase in payables on interest rate contracts.

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

	4Q 2018	3Q 2018	Q/Q change	Q/Q % change	4Q 2017	Y/Y change	Y/Y % change
Interest rate	\$1,007	\$970	\$38	3.9%	\$1,173	-\$166	-14.1%
Foreign exchange	\$511	\$544	-\$33	-6.0%	\$441	\$70	16.0%
Equity	\$132	\$132	\$0	-0.2%	\$108	\$25	22.8%
Commodities	\$44	\$52	-\$8	-15.1%	\$53	-\$8	-16.0%
Credit	\$43	\$55	-\$12	-21.7%	\$59	-\$15	-26.3%
Gross positive fair value	\$1,738	\$1,753	-\$15	-0.9%	\$1,833	-\$95	-5.2%

	4Q 2018	3Q 2018	Q/Q change	Q/Q % change	4Q 2017	Y/Y change	Y/Y % change
Interest rate	\$960	\$916	\$44	4.8%	\$1,124	-\$164	-14.6%
Foreign exchange	\$500	\$518	-\$18	-3.5%	\$430	\$69	16.1%
Equity	\$126	\$130	-\$5	-3.6%	\$115	\$11	9.2%
Commodities	\$46	\$49	-\$3	-6.2%	\$54	-\$7	-13.8%
Credit	\$43	\$56	-\$13	-22.4%	\$60	-\$17	-27.7%
Gross negative fair value	\$1,675	\$1,669	\$6	0.3%	\$1,783	-\$108	-6.1%

Source: Call reports, Schedule RC-L

A legally enforceable netting agreement between a bank and a counterparty creates a single legal obligation for all transactions (called a "netting set") under the agreement. Therefore, when banks have such agreements with their counterparties, contracts with negative values (an amount

a bank would pay to its counterparty) can offset contracts with positive values (an amount owed by the counterparty to the bank), leaving an NCCE as shown in table 4.

Table 4: Netting Contract Examples

Bank A portfolio with Counterparty B	Number of contracts	Value of contracts	Credit measure/metric
Contracts with positive value to Bank A	6	\$500	Gross positive fair value
Contracts with negative value to Bank A	4	-\$350	Gross negative fair value
Total contracts	10	\$150	NCCE to Bank A from Counterparty B

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

NCCE is the primary metric the OCC uses to evaluate credit risk in bank derivative activities. NCCE for insured U.S. commercial banks and savings associations decreased by \$16 billion (4.5 percent) to \$341 billion in the fourth quarter of 2018 (see table 5).² Legally enforceable netting agreements allowed banks to reduce GPFV exposures by 80.4 percent (\$1.4 trillion) in the fourth quarter of 2018.

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

	4Q 2018	3Q 2018	Q/Q change	Q/Q % change
Gross positive fair value	\$1,738	\$1,753	-\$15	-0.9%
NCCE RC-R	\$341	\$357	-\$16	-4.5%
Netting benefit RC-R	\$1,397	\$1,397	\$1	0.1%
Netting benefit % RC-R	80.4%	79.7%		-0.7%

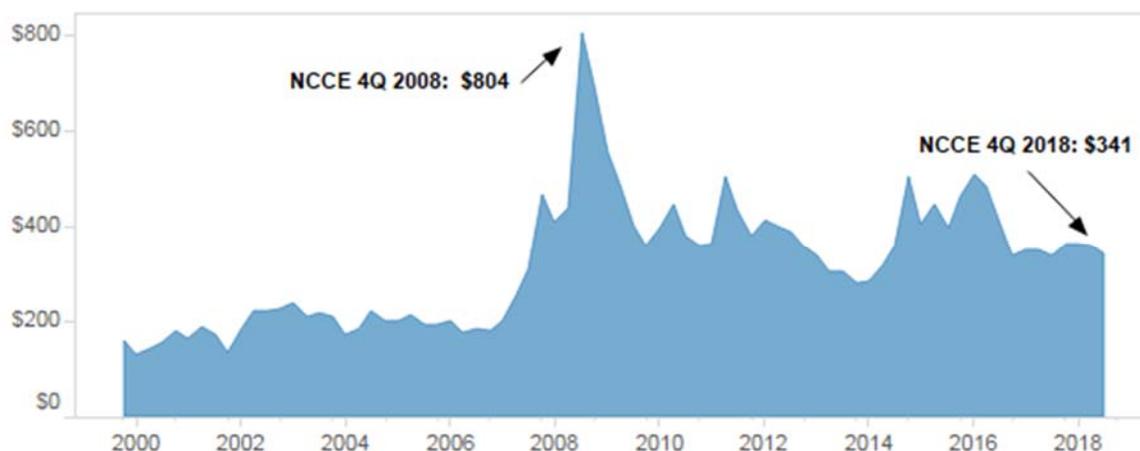
Source: Call reports, Schedules RC-L and RC-R

NCCE peaked at \$804 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

² 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.

since 2008 has largely resulted from declines in the GPFV of interest rate and credit contracts. GPFV from interest rate contracts has fallen from \$5.1 trillion at the end of 2008 to \$1.0 trillion at the end of the fourth quarter of 2018. On December 31, 2018, exposure from credit contracts was \$43.3 billion, which is \$1.0 trillion lower (96.1 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

The bulk of NCCE in the financial system is concentrated in banks and securities firms (41.7 percent) and in corporations and other counterparties (43.2 percent) (see table 6). The combined exposure to hedge funds and sovereign governments was small (15.0 percent in total).

Table 6: NCCE by Counterparty Type as a Percentage of Total NCCE

	Banks and securities firms	Hedge funds	Sovereign governments	Corp and all other counterparties
4Q 2018	41.7%	5.0%	10.0%	43.2%
3Q 2018	41.3%	4.2%	8.9%	45.6%
2Q 2018	39.8%	4.7%	9.6%	45.9%
1Q 2018	39.7%	5.4%	7.5%	47.4%
4Q 2017	41.7%	3.1%	7.9%	47.3%
4Q 2016	48.5%	2.0%	6.5%	43.0%
4Q 2015	53.3%	2.1%	6.0%	38.5%

Source: Call reports, 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 113.7 percent of their total NCCE at the end of the fourth quarter of 2018, up from 108.0 percent in the third quarter of 2018 (see table 7). Collateral held against hedge fund exposures decreased in the fourth quarter. Coverage remains very high at 308.0 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 and securities firms	FV hedge funds	FV sovereign governments	FV corporate and all other counterparties	FV/NCCE %
4Q 2018	128.8%	308.0%	47.1%	91.9%	113.7%
3Q 2018	118.4%	373.3%	46.2%	86.4%	108.0%
2Q 2018	129.8%	340.3%	42.0%	85.2%	110.8%
1Q 2018	124.6%	336.8%	23.3%	89.7%	111.9%
4Q 2017	124.4%	495.5%	25.1%	89.8%	111.4%
4Q 2016	119.0%	491.5%	34.2%	67.1%	98.5%
4Q 2015	101.6%	435.5%	15.6%	66.2%	89.6%

Source: Call reports, Schedule RC-L

The majority of collateral held by banks against NCCE is very liquid with 60.5 percent held in cash (both U.S. dollar and non-dollar) and an additional 13.0 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. \$	Cash other currencies	U.S. Treasury securities	U.S. government agency	Corp bonds	Equity securities	All other collateral
4Q 2018	37.2%	23.3%	10.8%	2.2%	2.1%	7.1%	17.2%
3Q 2018	37.5%	23.1%	10.1%	2.1%	2.0%	8.4%	16.8%
2Q 2018	38.3%	24.8%	9.9%	1.9%	1.9%	7.3%	15.9%
1Q 2018	37.7%	25.4%	10.5%	1.8%	2.1%	8.5%	14.0%
4Q 2017	37.6%	25.5%	10.3%	1.9%	2.5%	5.7%	16.4%
4Q 2016	40.1%	31.5%	8.1%	1.7%	1.6%	5.0%	12.0%
4Q 2015	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 increased in the fourth quarter of 2018, as banks reported net charge-offs of \$0.13 million, compared with net charge-offs of \$8.7 million in the third quarter of 2018 (see graph 7 in the appendix). The number of banks reporting charge-offs increased from 10 to 11 banks. Net charge-offs in the fourth quarter of 2018 represented 0.004 percent of the NCCE from derivative contracts. For comparison purposes, commercial and industrial (C&I) loan net charge-offs increased \$406.1 million, or 33.2 percent, to \$1.6 billion during the quarter and were 0.07 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 value-at-risk (VaR) to quantify the maximum expected loss over a specified time period and at a certain confidence level under relevant market conditions. Banks subject to the market risk capital rule, 12 CFR 3, subpart F, are required to report their VaR-based measures quarterly on Form FFIEC 102. The VaR measurement is calculated on a daily basis using a one-tail, 99 percent confidence level, and a holding period equivalent to a 10-business-day movement in underlying risk factors, such as rates, spreads and prices. Tables 9a and 9b show the quarter-over-quarter change in VaR, as well as the VaR-based capital charge, for banks most active in trading and derivatives activity. As shown in table 9a, market risk in trading operations, as measured by VaR, is a small proportion of their risk-based capital. Graph 16 in the appendix illustrates the historical trend in VaR measurements for these institutions.

Table 9a: Value-at-Risk, in Millions of Dollars

	JPMorgan Chase Bank, NA	Citibank, NA	Bank of America, NA	Goldman Sachs Bank USA
4Q 2018 average 60-day VaR	\$144	\$120	\$59	\$92
3Q 2018 average 60-day VaR	\$111	\$122	\$81	\$73
Q/Q change	\$33	-\$2	-\$22	\$19
4Q 2018 total risk-based capital	\$198,494	\$155,280	\$161,760	\$32,536

Source: Market Risk Regulatory Report for Institutions Subject to the Market Risk Capital Rule—FFIEC 102

Table 9b: Value-at-Risk Capital Requirement, in Millions of Dollars

	JPMorgan Chase Bank, NA	Citibank, NA	Bank of America, NA	Goldman Sachs Bank USA
4Q 2018 VaR capital requirement	\$432	\$359	\$177	\$275
3Q 2018 VaR capital requirement	\$334	\$365	\$242	\$220
Q/Q change	\$99	-\$6	-\$65	\$56
4Q 2018 total risk-based capital	\$198,494	\$155,280	\$161,760	\$32,536

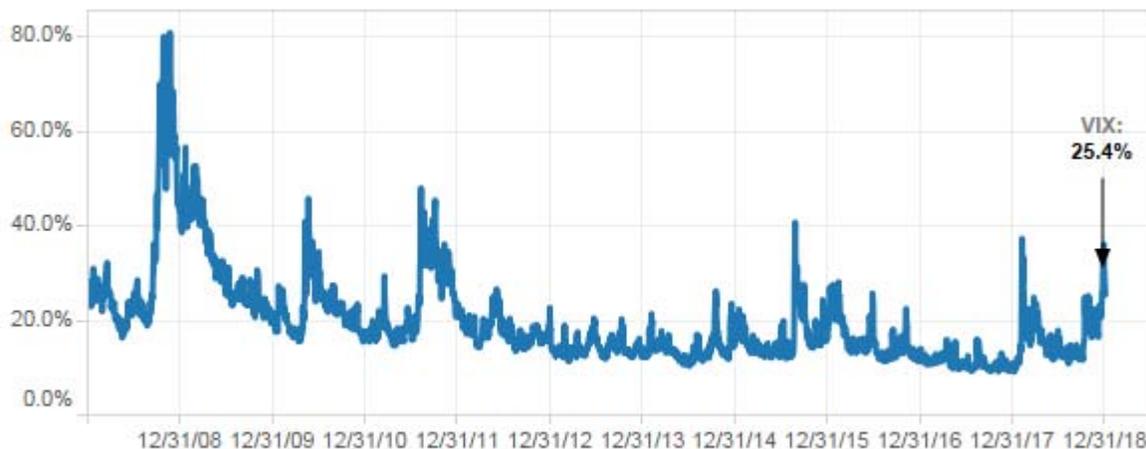
Source: Market Risk Regulatory Report for Institutions Subject to the Market Risk Capital Rule—FFIEC 102

Volatility Index

Figure 3 shows the VIX, a volatility index,³ 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.

³ VIX is the trademarked ticker symbol for the Chicago Board Options Exchange SPX Volatility Index.

Figure 3: Volatility Index (VIX)

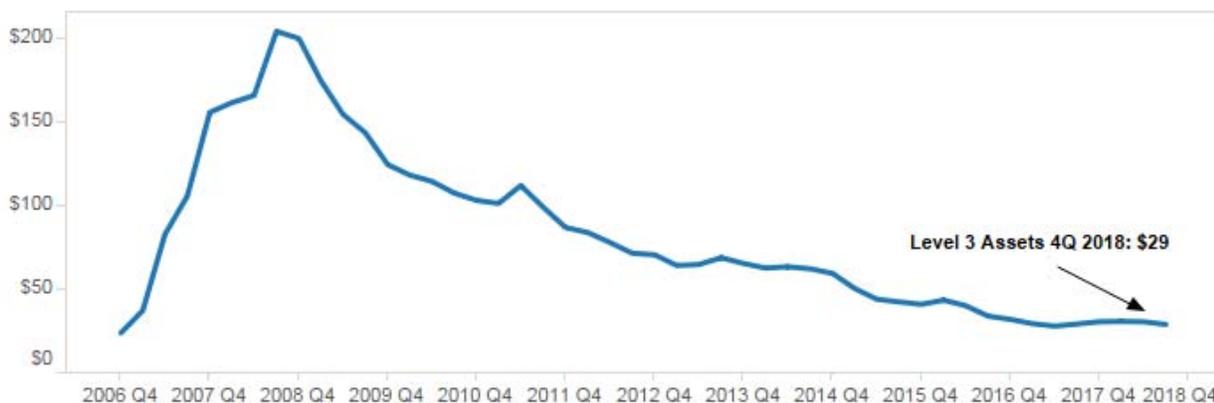


Source: Bloomberg

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 2018, banks held \$29 billion of level 3 trading assets, down 5.4 percent from the previous quarter, and 1.1 percent lower than a year ago. Level 3 assets are \$175.3 billion (85.9 percent) lower than the peak level from 2008.

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



Source: Call reports, Schedule RC-Q

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 fourth quarter decreased by \$30.6 trillion (14.8 percent) to \$176.4 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 \$28.6 trillion decrease in interest rate notional amounts. Interest rate notional amounts continued to represent the majority of banks' derivative holdings at \$128.2 trillion, or 72.7 percent of total derivatives (see table 10).

The decrease in the notional amount of derivative contracts by contract type was driven by a decrease in futures and forwards, and swap and options contracts (see table 11). Swap contracts remained the leading derivatives contract type at 55.5 percent of all notional amounts.

The four banks with the most derivative activity hold 87.3 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

	4Q 2018	3Q 2018	Q/Q change	Q/Q % change	4Q 2017	Y/Y change	Y/Y % change
Interest rate	\$128,166	\$156,773	-\$28,608	-18.2%	\$130,417	-\$2,251	-1.7%
Foreign exchange	\$39,221	\$40,710	-\$1,489	-3.7%	\$32,903	\$6,318	19.2%
Equity	\$3,374	\$3,645	-\$270	-7.4%	\$3,080	\$295	9.6%
Commodity	\$1,315	\$1,511	-\$196	-13.0%	\$1,373	-\$58	-4.2%
Credit derivatives	\$4,277	\$4,342	-\$65	-1.5%	\$4,186	\$91	2.2%
Total notional	\$176,353	\$206,980	-\$30,627	-14.8%	\$171,958	\$4,395	2.6%

Source: Call reports, Schedule RC-L

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

	4Q 2018	3Q 2018	Q/Q change	Q/Q % change	4Q 2017	Y/Y change	Y/Y % change
Futures and forwards	\$36,144	\$47,051	-\$10,907	-23.2%	\$34,407	\$1,737	5.0%
Swaps	\$97,923	\$104,786	-\$6,863	-6.5%	\$94,524	\$3,399	3.6%
Options	\$38,009	\$50,801	-\$12,792	-25.2%	\$38,841	-\$832	-2.1%
Credit derivatives	\$4,277	\$4,342	-\$65	-1.5%	\$4,186	\$91	2.2%
Total notional	\$176,353	\$206,980	-\$30,627	-14.8%	\$171,958	\$4,395	2.6%

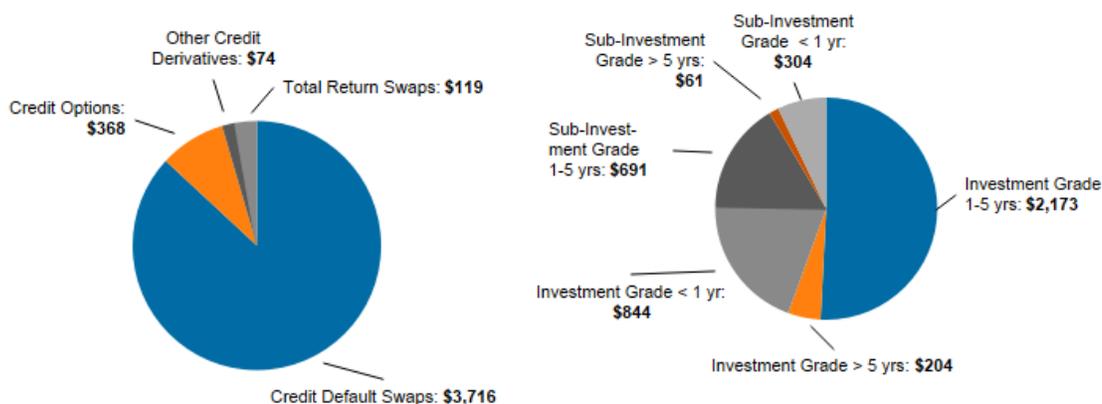
Source: Call reports, Schedule RC-L

Credit Derivatives

The notional amounts of credit derivatives decreased \$65 billion (1.5 percent), to \$4.3 trillion, in the fourth quarter of 2018 (see table 10). Contracts referencing investment-grade firms increased \$132.0 billion and contracts referencing sub-investment-grade firms decreased \$196.0 billion in the fourth 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 \$3.7 trillion (86.9 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 50.8 percent of all credit derivative notional amounts. Contracts of all tenors that reference investment-grade entities are 75.3 percent of the market (see chart on right in figure 5).

Figure 5: 4Q 2018 Credit Derivative Composition, in Billions of Dollars



Source: Call reports, Schedule RC-L

The notional amount for the 80 banks that net sold credit protection (i.e., assumed credit risk) was \$1.8 trillion, down \$85.4 billion (4.5 percent) from the third quarter of 2018 (see table 12 in the appendix). The notional amount for the 65 banks that net purchased credit protection (i.e., hedged credit risk) was \$1.9 trillion, \$78.8 billion lower (4.0 percent) than in the third 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 fourth quarter of 2018, as shown in figure 6.

Figure 6: Quarterly Compression Activity, in Trillions of Dollars



Source: LCH Clearent

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 fourth quarter of 2018, 39.8 percent of banks' derivative holdings were centrally cleared (see table 12). From a market factor perspective, 51.0 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 29.3 percent of credit derivative transactions were centrally cleared during the fourth 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
4Q 2018	51.0%	1.2%	25.7%	8.0%	29.3%	17.5%	39.8%
3Q 2018	50.5%	1.2%	27.6%	9.9%	30.8%	16.9%	40.7%
2Q 2018	51.5%	1.6%	26.8%	9.5%	28.9%	17.3%	41.0%
1Q 2018	49.6%	1.5%	27.9%	8.5%	28.9%	14.9%	39.8%
4Q 2017	47.8%	1.0%	25.7%	7.8%	25.8%	15.0%	38.0%
4Q 2016	49.1%	1.0%	23.5%	5.6%	20.4%	15.0%	38.8%
4Q 2015	46.2%	0.5%	20.0%	3.7%	16.8%	14.0%	36.9%

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.

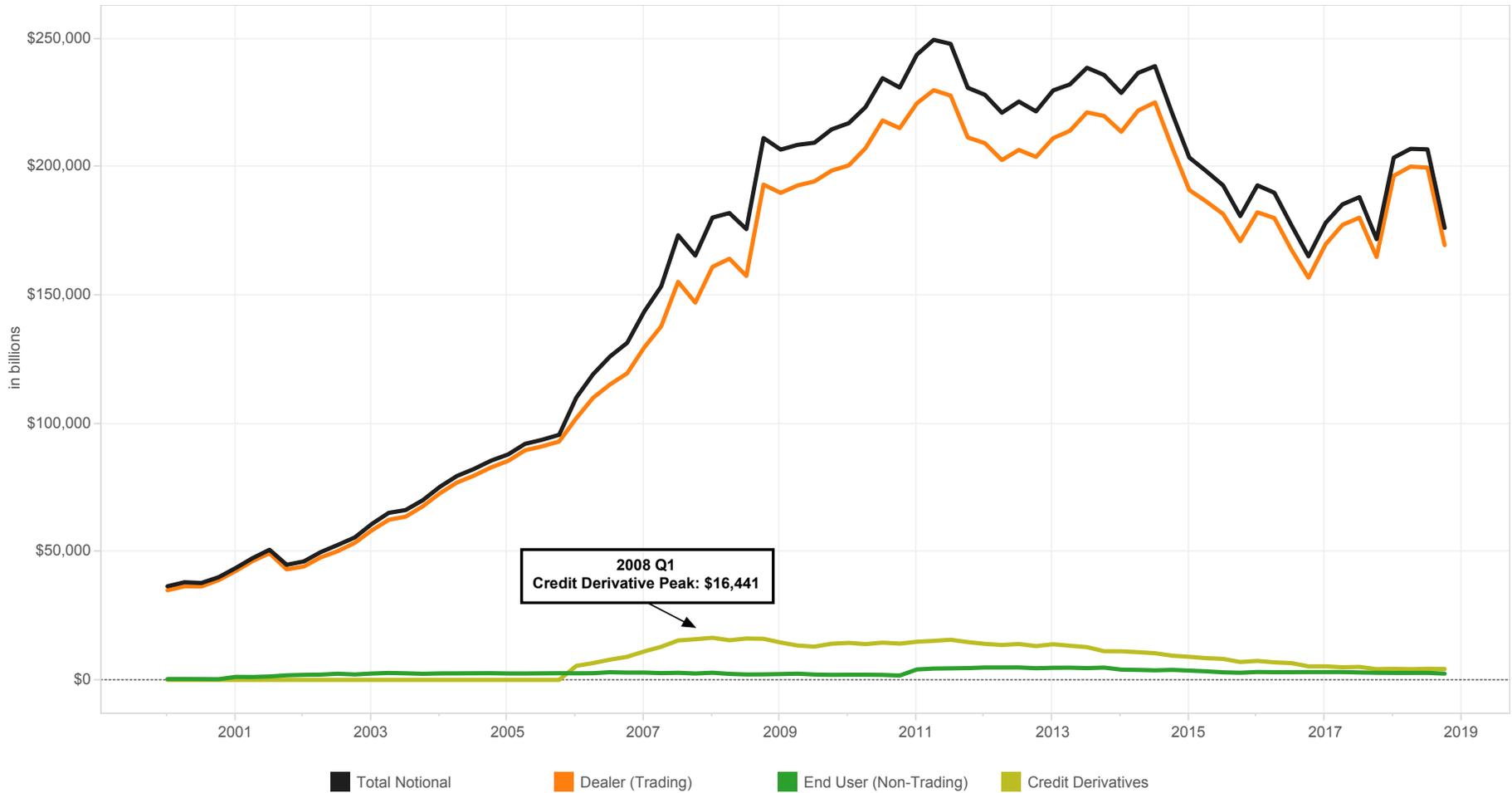
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Graph 1
Derivative Notional Amounts by Type
Insured U.S. Commercial Banks and Savings Associations

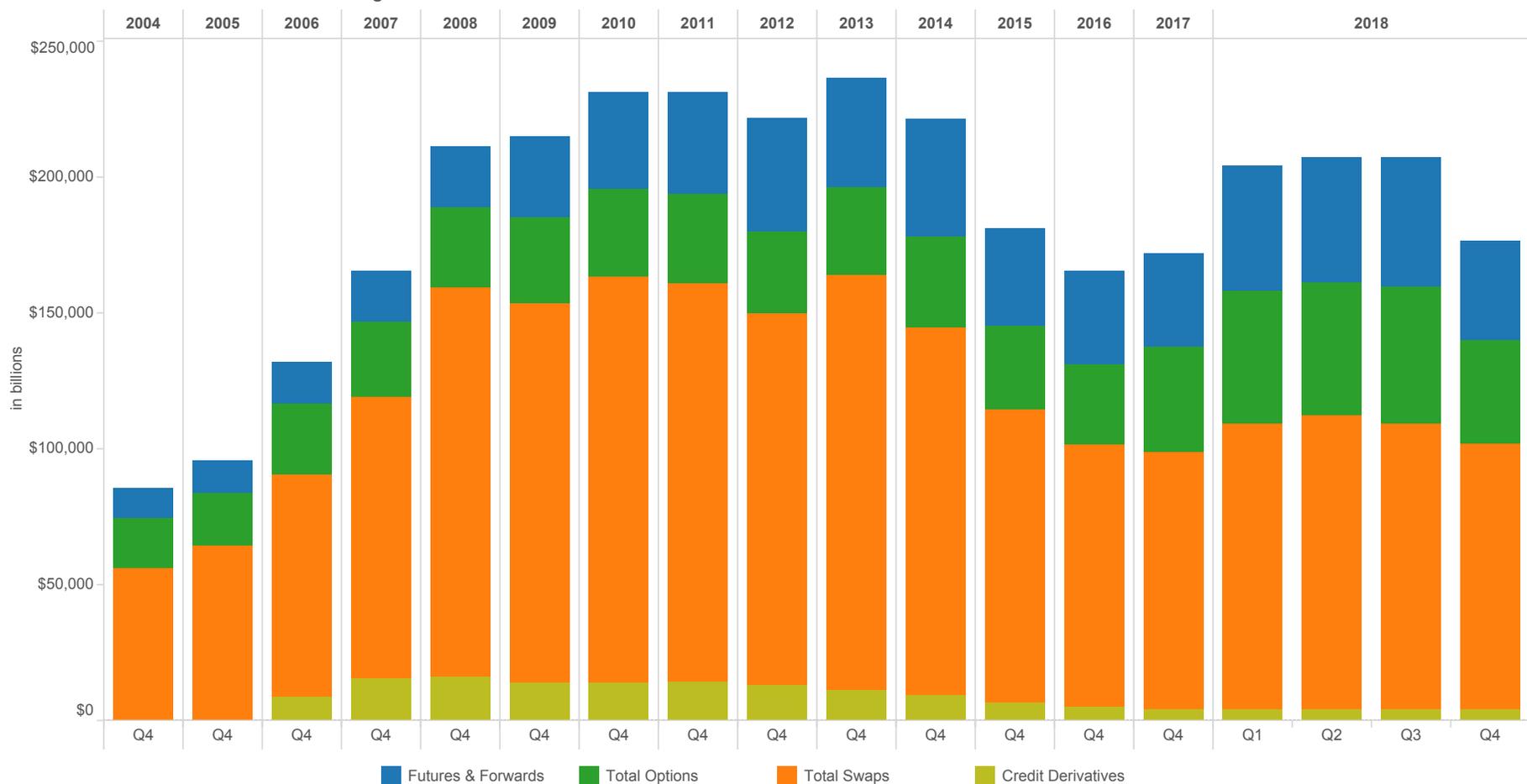


In billions of dollars

	2015				2016				2017				2018			
	Q1	Q2	Q3	Q4												
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	\$176,353
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	169,629
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	2,447
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	4,277

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

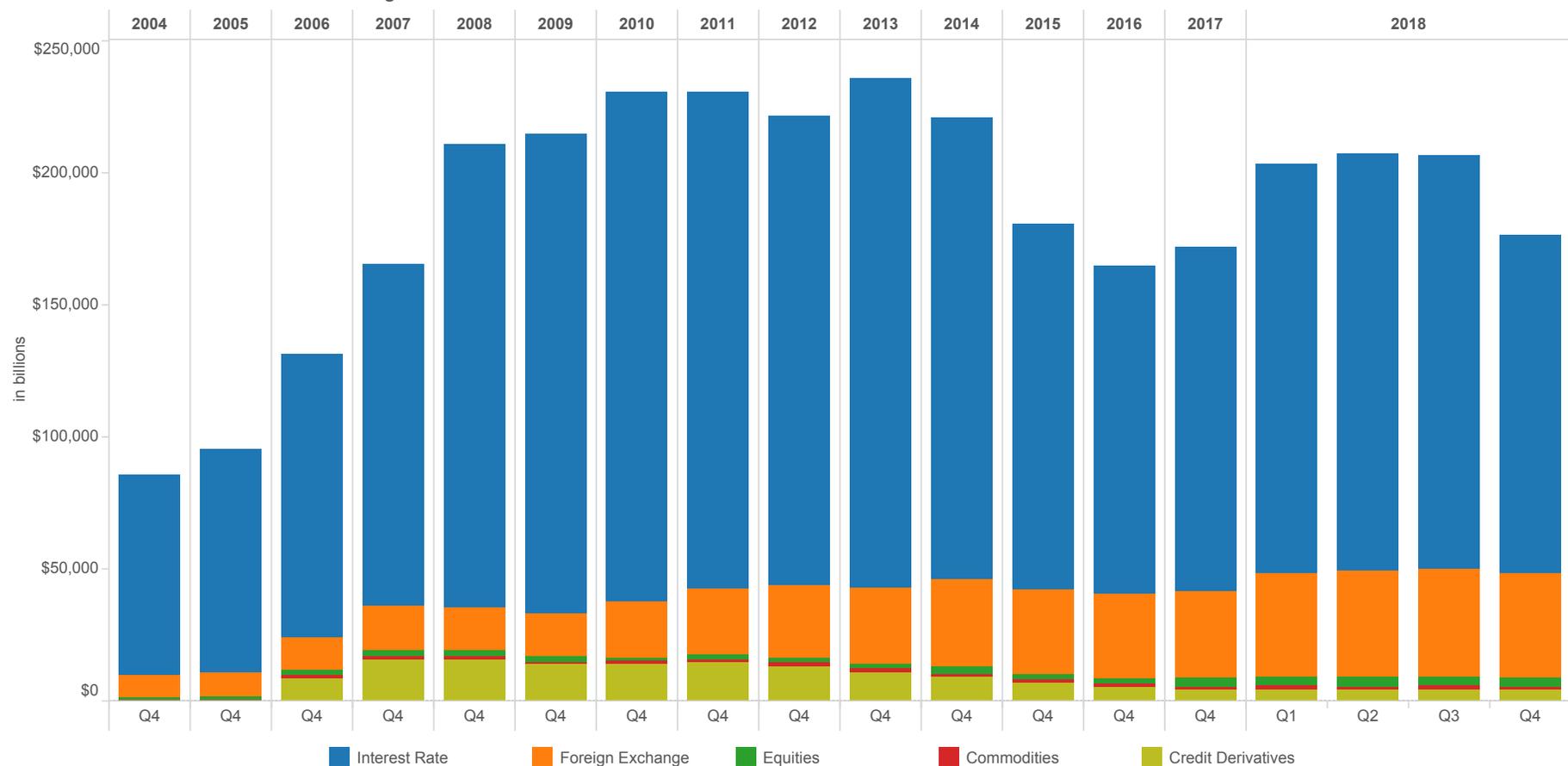
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
	Q4	Q1	Q2	Q3	Q4													
Futures & Forwards	\$11,370	\$12,057	\$14,882	\$18,867	\$22,529	\$29,652	\$35,539	\$37,469	\$41,621	\$40,027	\$43,380	\$35,691	\$34,201	\$34,407	\$45,498	\$46,024	\$47,051	\$36,144
Total Options	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	38,009
Total Swaps	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	97,923
Credit Derivatives	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	4,277
Total Notional	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	176,353

*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

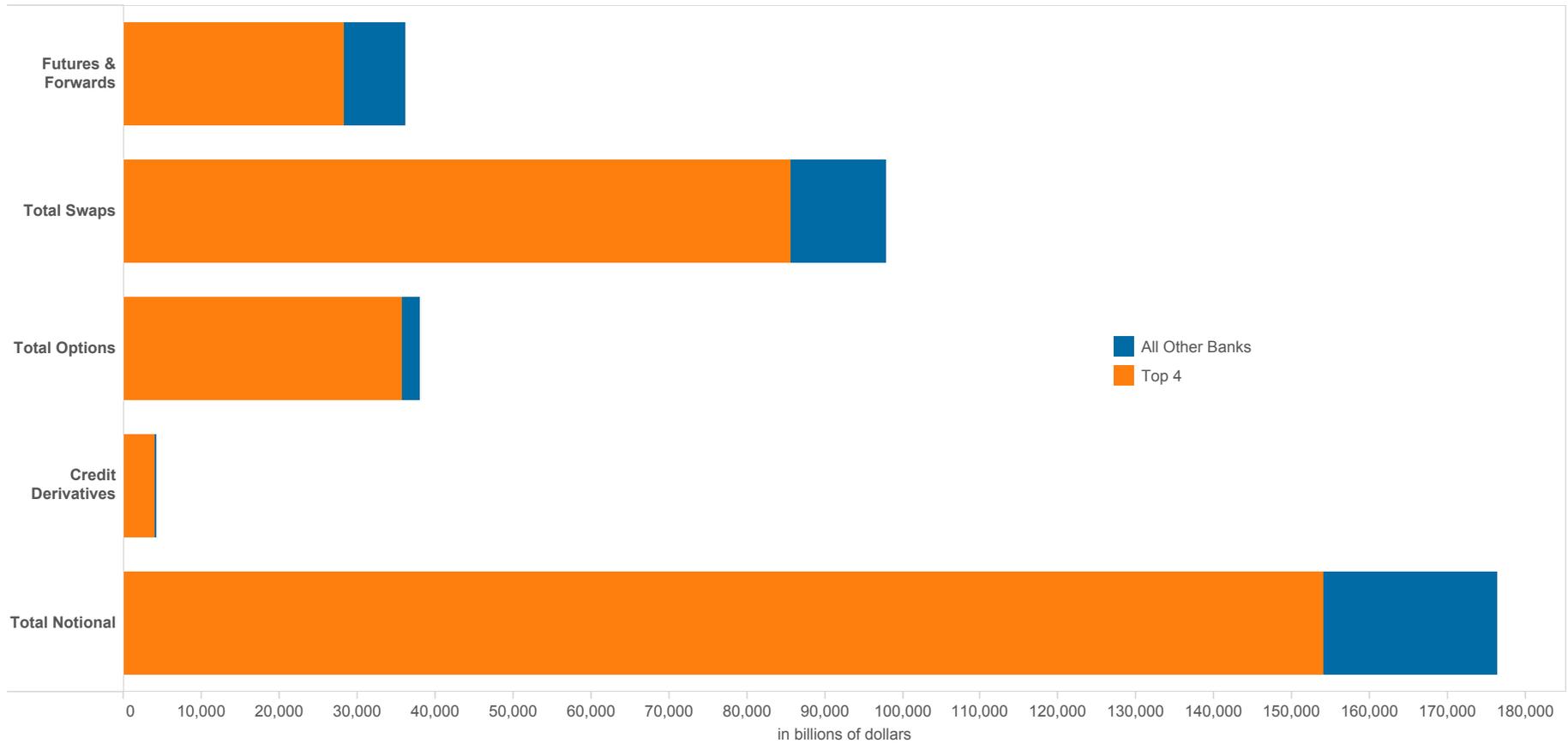


In billions of dollars

	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	Q1	Q2	Q3	Q4
Interest Rate	\$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	\$128,166
Foreign Exchange	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	39,221
Equities	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	3,374
Commodities	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	1,315
Credit Derivatives	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	4,277
Total Notional	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	176,353

*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	\$28,421	\$7,722	\$36,144
Total Swaps	85,670	12,254	97,923
Total Options	35,827	2,182	38,009
Credit Derivatives	4,084	193	4,277
Total Notional	154,001	22,351	176,353

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

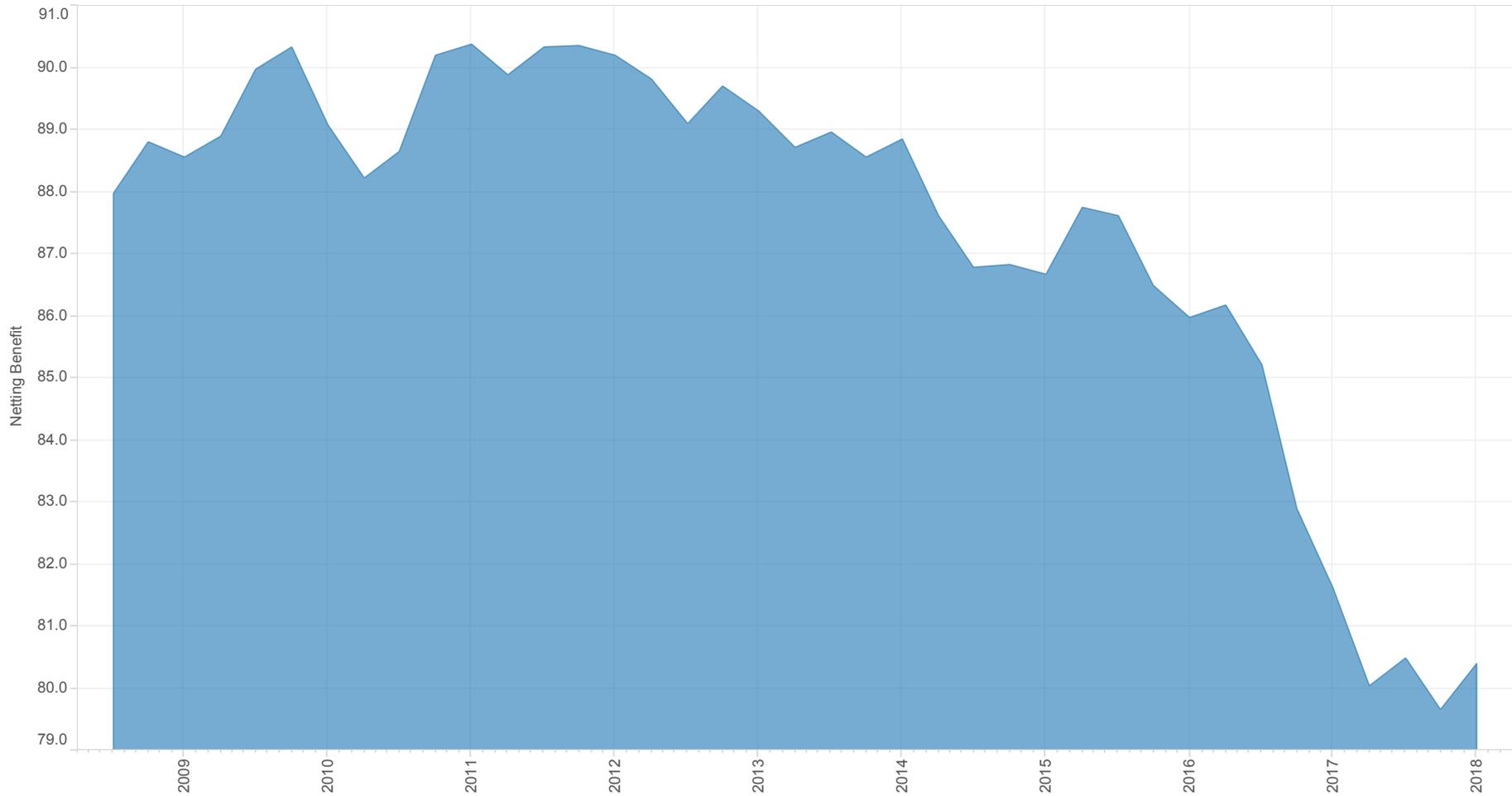
Graph 5
Credit Exposure to Risk-Based Capital (in Percentage)
Top 4 Insured U.S. Commercial Banks and Savings Associations by Derivative Holdings



	2013				2014				2015				2016				2017				2018							
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																				
JPMorgan Chase Bank NA	219	216	205	183	183	189	181	177	229	228	219	209	225	221	216	199	201	193	195	179	197	184	190	167				
Bank of America NA	129	125	121	117	109	107	107	93	100	95	91	85	81	77	68	66	66	64	59	57	62	61	62	57				
Citibank NA	165	164	161	148	147	156	190	173	187	184	181	166	180	181	188	183	186	184	171	140	146	139	144	132				
Goldman Sachs	703	693	719	741	689	620	539	516	547	563	530	516	482	467	433	481	472	484	433	420	389	384	371	354				
TOTAL	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																				
	261	258	262	262	248	240	224	211	238	242	232	223	226	222	217	220	220	218	205	191	195	187	188	173				

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 (in Percentage)
Insured U.S. Commercial Banks and Savings Associations by Derivative Holdings

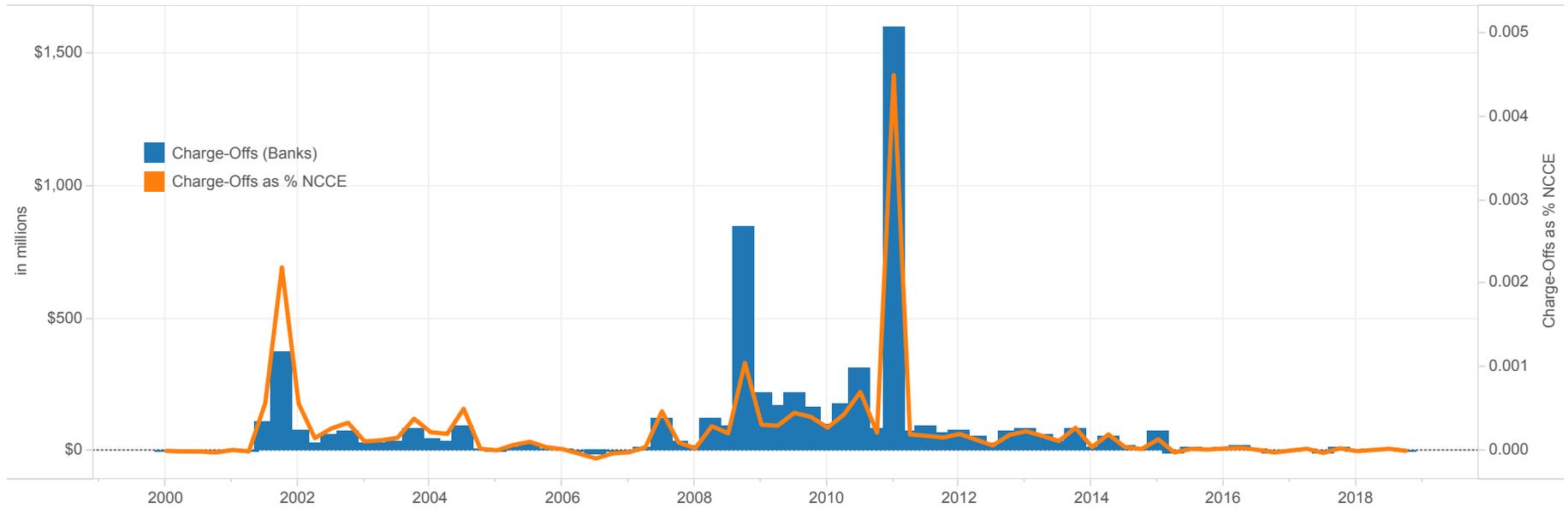


Netting Benefit

2010				2011				2012				2013				2014				2015				2016				2017				2018			
Q1	Q2	Q3	Q4																																
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	80.4

*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

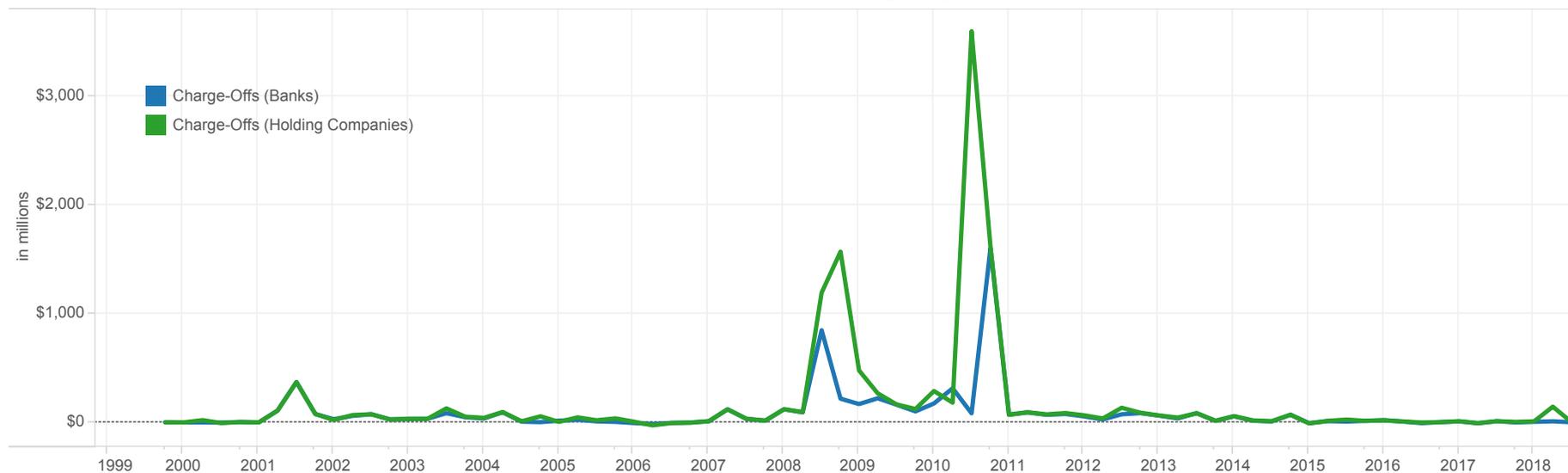
	2000				2001				2002				2003			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Charge-Offs (Banks)	0.0	-1.0	-1.0	-3.0	2.0	-1.0	107.3	370.0	75.8	28.2	59.0	73.7	25.3	29.9	32.3	83.7
	2004				2005				2006				2007			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Charge-Offs (Banks)	46.7	34.9	92.2	5.4	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	Q4				
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	0.13				

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

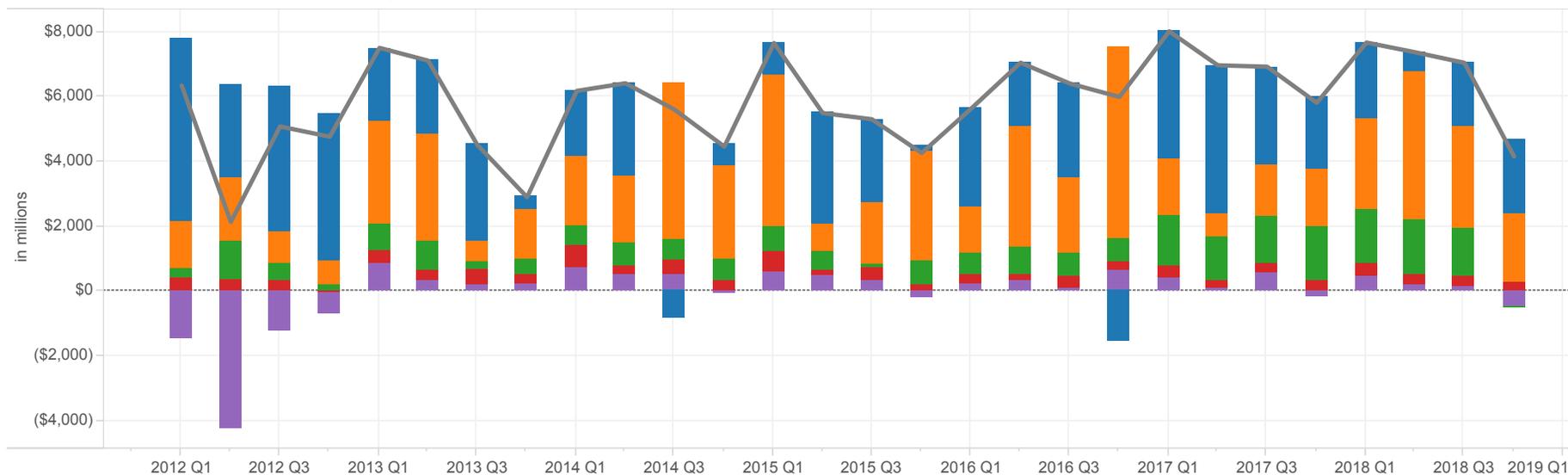


In millions of dollars

	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	Q4				
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	0.1				
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	0.1				

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

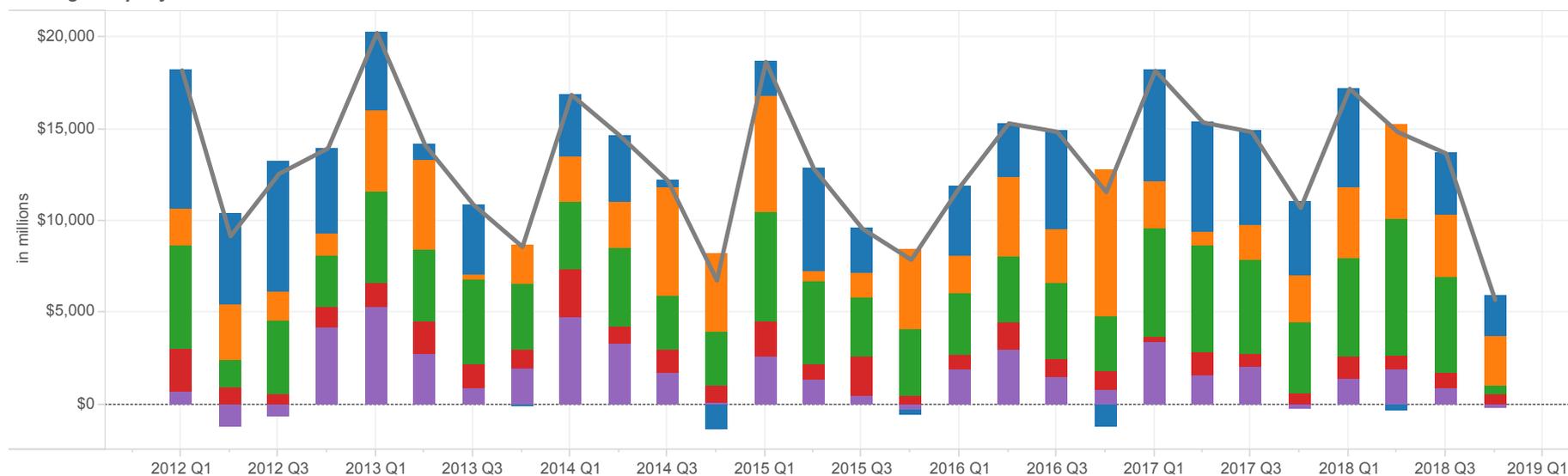
	4Q 2018	Past 8 Quarter Average	Past 8 Quarter High	Past 8 Quarter Low	Since 2000 Average	Max Since 2000	Min Since 2000
Interest Rate	2,305	2,155	4,586	-5,282	1,744	9,291	-1,547
Foreign Exchange	2,105	2,718	5,941	-1,069	1,943	5,941	697
Equity	-43	1,277	1,727	-1,059	640	1,830	-43
Commodity & Other	274	307	395	-307	237	789	211
Credit	-476	218	634	-10,237	-162	2,727	-476
Total Trading Revenue	4,165	6,675	8,031	-10,580	4,403	10,217	4,165

In millions of dollars

	2015				2016				2017				2018			
	Q1	Q2	Q3	Q4												
Interest Rate	\$958	\$3,406	\$2,578	\$154	\$3,023	\$1,973	\$2,920	(\$1,547)	\$3,917	\$4,586	\$3,011	\$2,220	\$2,317	\$587	\$1,998	\$2,305
Foreign Exchange	4,703	855	1,931	3,401	1,424	3,719	2,294	5,941	1,743	697	1,608	1,811	2,861	4,569	3,130	2,105
Equity	797	587	49	742	668	867	734	681	1,595	1,359	1,454	1,649	1,624	1,727	1,444	-43
Commodity & Other	587	129	402	198	271	161	353	296	330	211	300	324	395	286	346	274
Credit	624	530	357	-222	263	342	118	634	447	128	566	-178	487	215	141	-476
Total Trading Revenue	7,669	5,507	5,316	4,273	5,650	7,062	6,420	6,006	8,031	6,981	6,940	5,824	7,684	7,384	7,059	4,165

*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



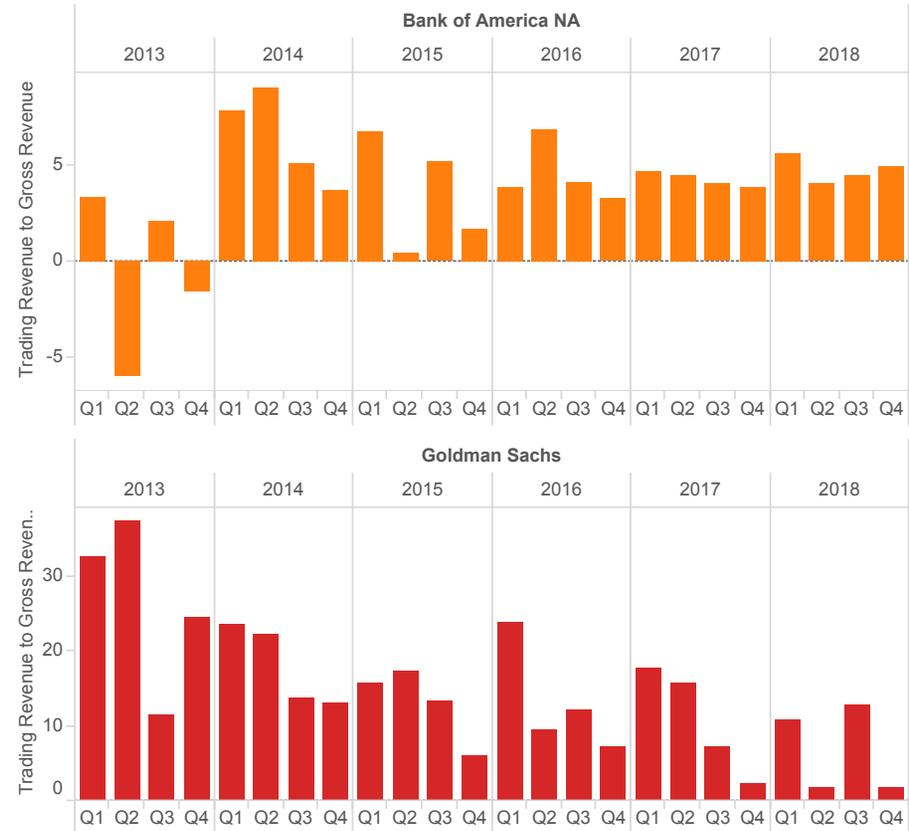
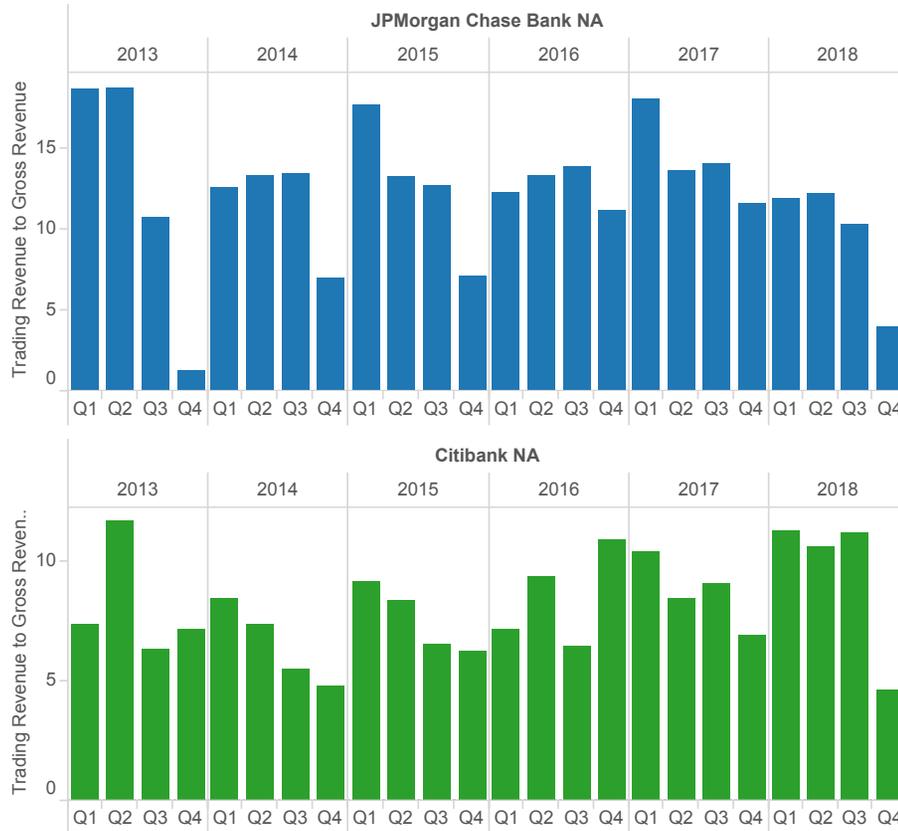
- Interest Rate
- Foreign Exchange
- Equity
- Commodity & Other
- Credit
- Total Trading Revenue

In millions of dollars

	2015				2016				2017				2018			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Interest Rate	\$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	\$2,171
Foreign Exchange	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	2,739
Equity	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	441
Commodity & Other	1,833	871	2,146	412	738	1,491	969	1,003	299	1,317	769	568	1,177	779	858	525
Credit	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	-174
Total Trading Revenue	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	5,702

*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



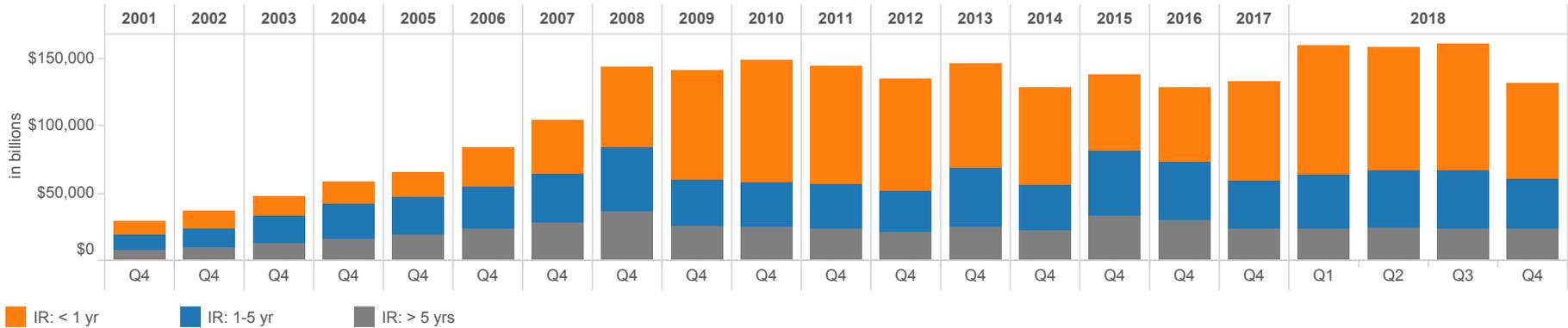
Trading Revenue to Gross Revenue*

	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
JPMorgan Chase Bank NA	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	11.90	12.19	10.26	3.92
Bank of America NA	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	4.90
Citibank NA	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	4.66
Goldman Sachs	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	1.86
TOTAL	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	9.77	8.95	8.82	4.36

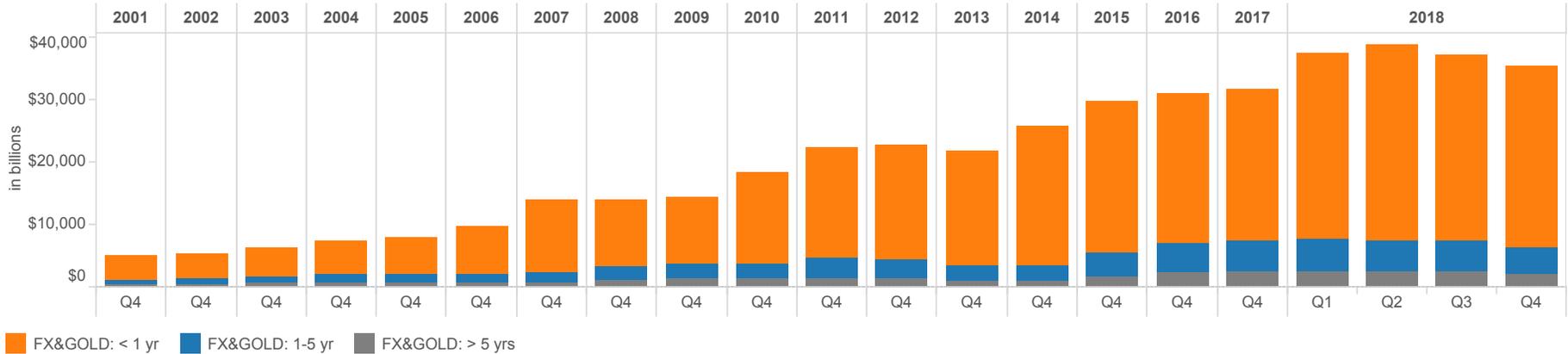
*The trading revenue figures are for cash and derivative activities. Revenue figures are quarterly, not year-to-date numbers.
 Note: Gross revenue equals interest income plus non-interest income.
 Source: Call reports

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



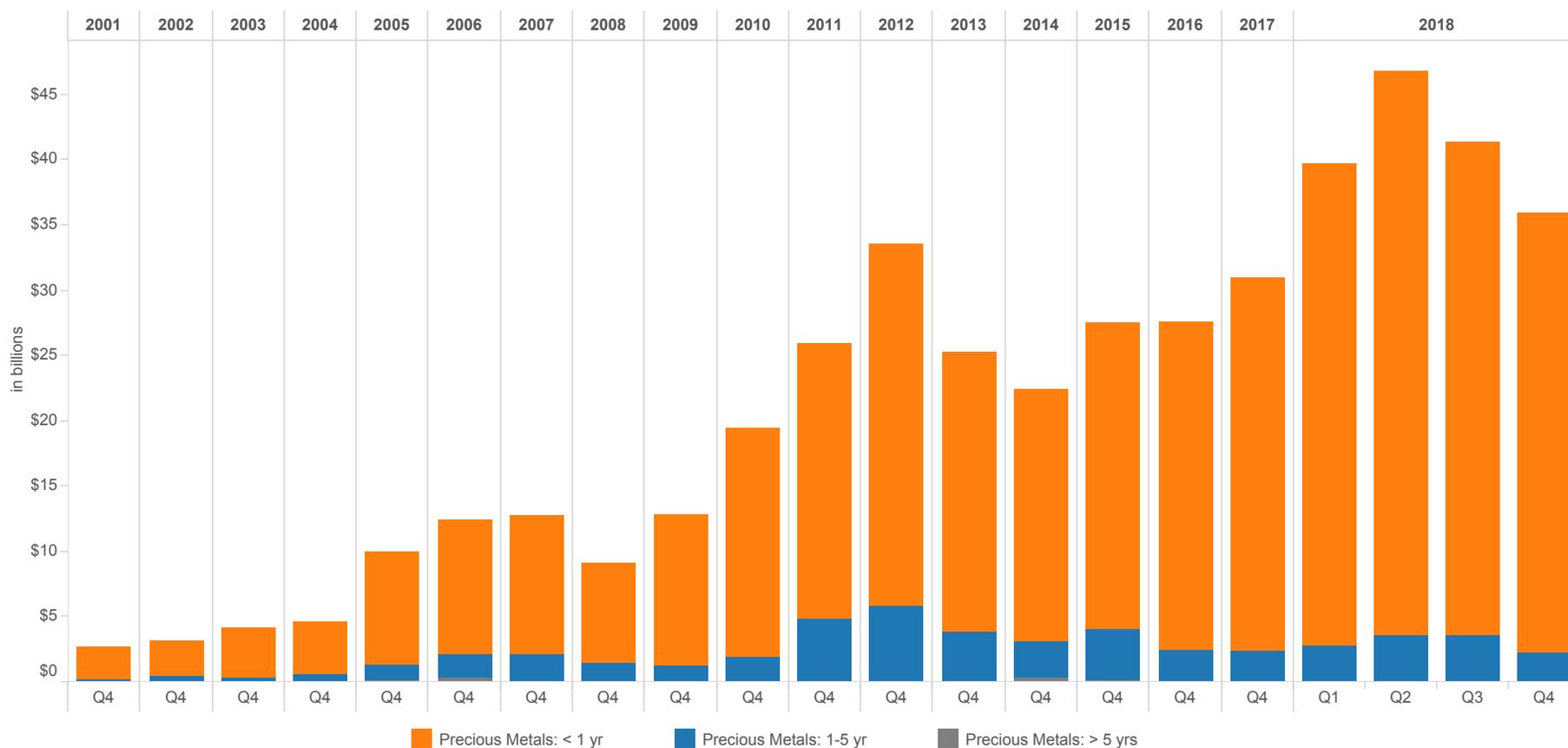
In billions of dollars

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
	Q4	Q1	Q2	Q3	Q4															
IR: < 1 yr	\$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	\$71,491
IR: 1-5 yr	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	36,680
IR: > 5 yrs	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	23,244
FX&GOLD: < 1 yr	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	28,892
FX&GOLD: 1-5 yr	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	4,219
FX&GOLD: > 5 yrs	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	2,096

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



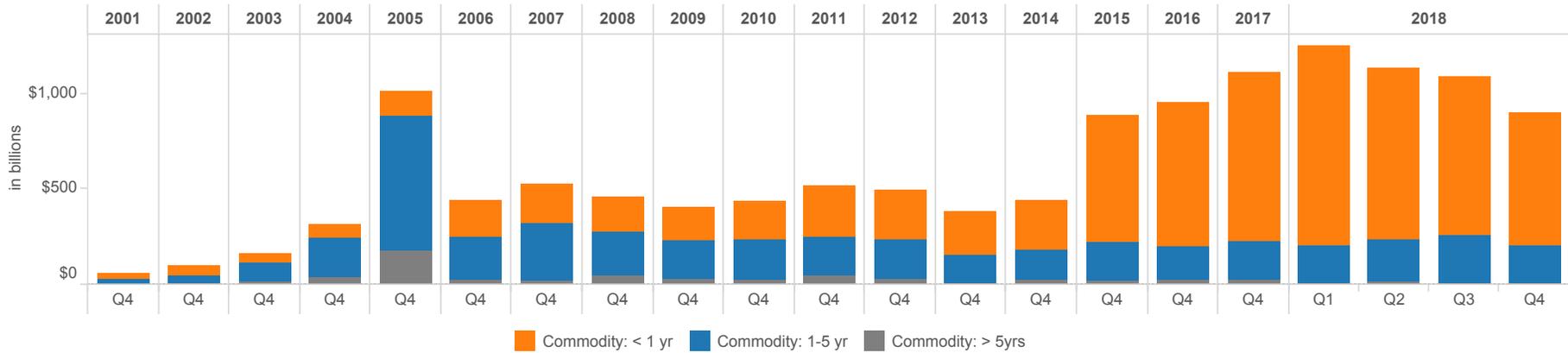
In billions of dollars

	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	Q1	Q2	Q3	Q4
Precious Metals: < 1 yr	\$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	\$33.62
Precious Metals: 1-5 yr	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	2.25
Precious Metals: > 5 yrs	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	0.01

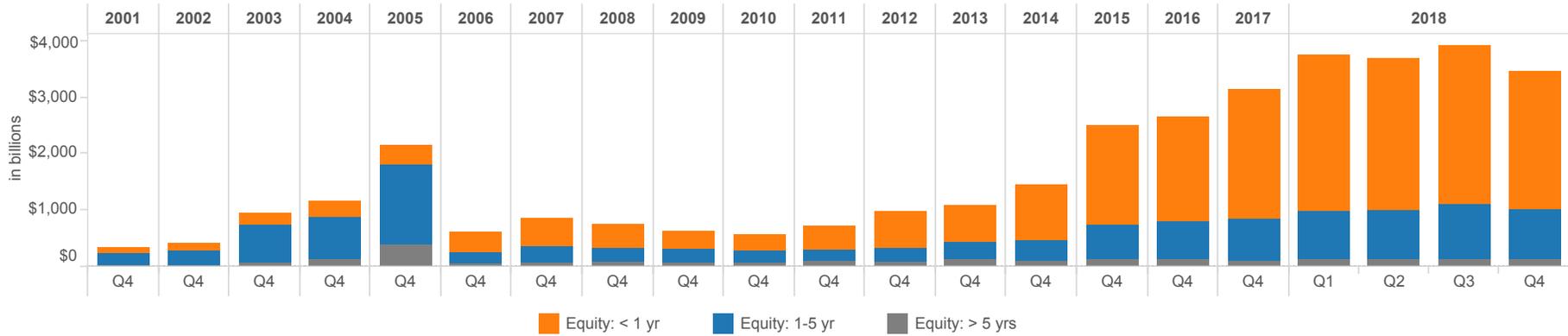
Note: Figures exclude FX contracts with an original maturity of 14 days or less, written options, basis swaps, and any other contracts not subject to risk-based capital requirements.
 Source: Call reports

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

Commodity



Equity

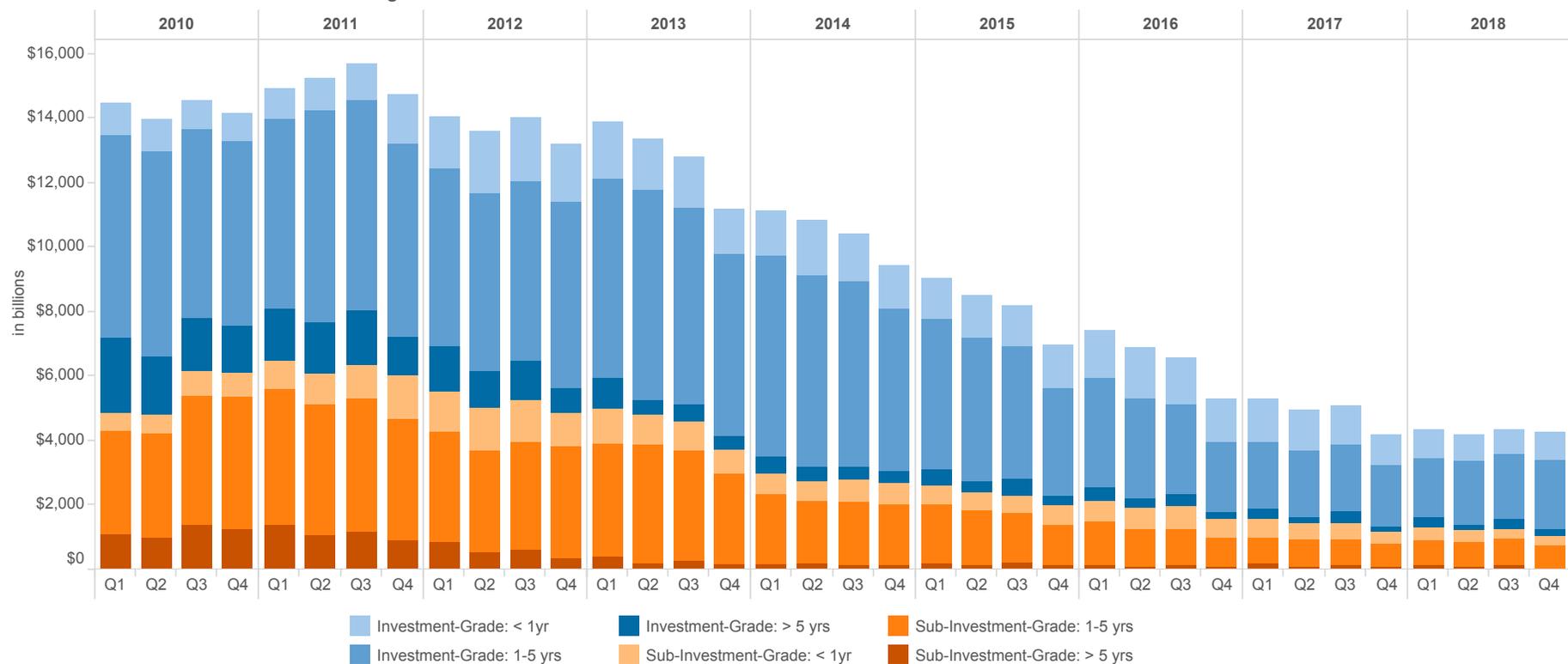


In billions of dollars

	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	Q1	Q2	Q3	Q4
Commodity: < 1 yr	\$55	\$43	\$64	\$133	\$185	\$206	\$179	\$176	\$203	\$261	\$261	\$235	\$257	\$668	\$750	\$883	\$1,043	\$898	\$832	\$688
Commodity: 1-5 yr	35	103	205	707	235	297	233	198	209	209	208	144	164	197	179	202	193	219	250	198
Commodity: > 5yrs	9	14	40	175	20	25	43	33	25	46	28	6	20	22	23	25	11	14	11	9
Equity: < 1 yr	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	2,449
Equity: 1-5 yr	249	674	736	1,428	221	297	256	228	191	210	262	291	352	628	677	733	843	868	963	864
Equity: > 5 yrs	25	84	140	383	45	70	72	82	85	94	82	136	101	130	123	113	139	124	136	139

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

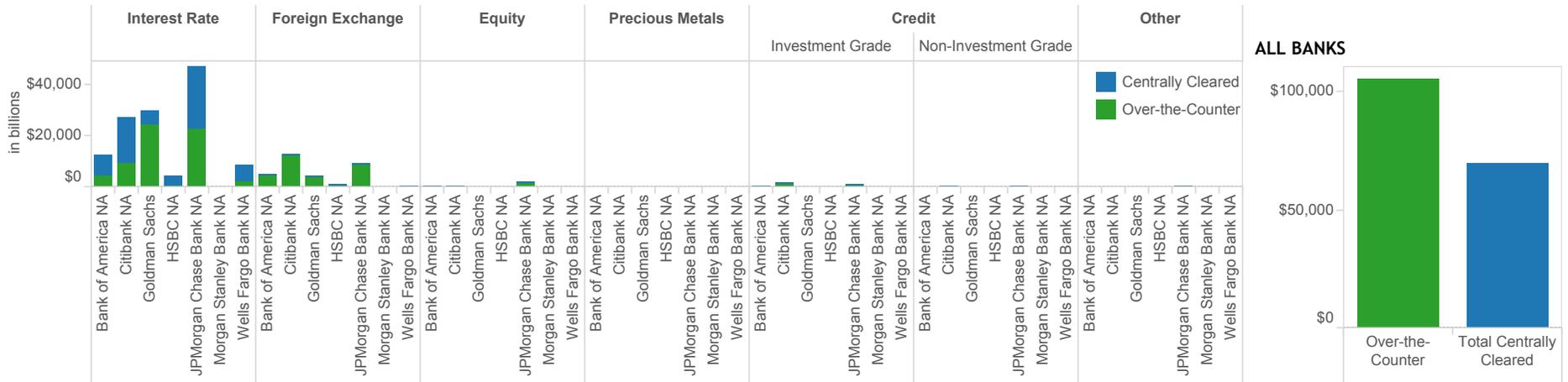


In billions of dollars

	2014				2015				2016				2017				2018			
	Q1	Q2	Q3	Q4																
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	\$844
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	2,173
Investment-Grade: > 5 yrs	577	448	433	382	508	359	520	281	457	262	385	214	309	195	345	186	331	184	338	204
Total Investment Grade	\$8,218	\$8,064	\$7,633	\$6,764	\$6,413	\$6,101	\$5,898	\$4,990	\$5,328	\$4,911	\$4,601	\$3,732	\$3,724	\$3,502	\$3,647	\$3,016	\$3,050	\$2,984	\$3,089	\$3,221
	2014				2015				2016				2017				2018			
	Q1	Q2	Q3	Q4																
Sub-Investment-Grade: < 1yr	\$619	\$642	\$671	\$658	\$596	\$562	\$569	\$607	\$622	\$683	\$683	\$581	\$582	\$509	\$480	\$375	\$400	\$335	\$318	\$304
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	691
Sub-Investment-Grade: > 5 yrs	200	160	157	140	194	152	213	119	155	101	157	111	159	93	149	77	133	69	133	61
Total Sub-Investment Grade	\$2,946	\$2,763	\$2,775	\$2,685	\$2,604	\$2,387	\$2,299	\$1,997	\$2,090	\$1,943	\$1,962	\$1,561	\$1,579	\$1,432	\$1,443	\$1,170	\$1,296	\$1,195	\$1,252	\$1,056

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
4Q 2018 Notional Amounts of Over-the-Counter and Centrally Cleared Derivative Contracts
Insured U.S. Commercial Banks and Savings Associations



In billions of dollars

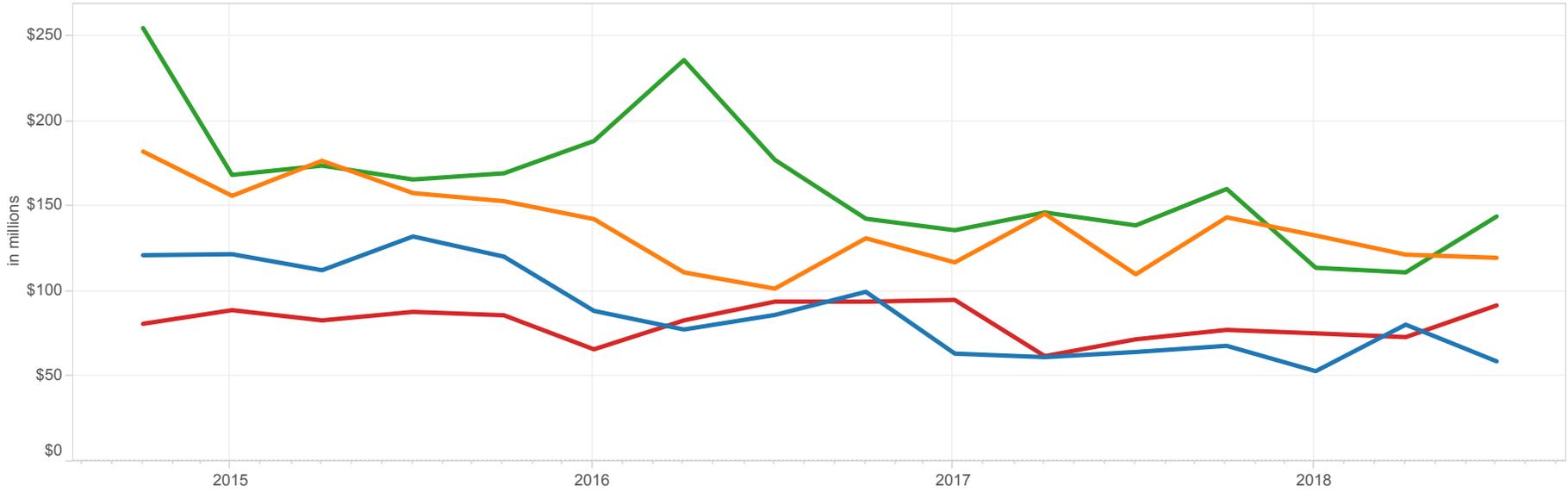
Bank Name	Interest Rate		Foreign Exchange		Equity		Precious Metals		Credit				Other		Total Centrally Cleared	Over-the-Counter	Total Notional
	Centrally Cleared	Over-the-Counter	Investment Grade		Non-Investment Grade		Centrally Cleared	Over-the-Counter									
									Centrally Cleared	Over-the-Counter	Centrally Cleared	Over-the-Counter					
JPMorgan Chase Bank NA	23,791	22,857	72	9,081	694	1,518	0	16	539	566	152	264	62	534	25,311	34,836	60,146
Citibank NA	17,790	9,276	231	12,826	41	480	3	9	257	1,202	63	291	71	96	18,456	24,180	42,636
Bank of America NA	7,961	4,465	57	4,554	117	351	0	0	165	234	53	147	0	22	8,353	9,773	18,126
Goldman Sachs	5,594	23,999	36	4,114	0	26	0	0	0	96	0	81	0	5	5,630	28,320	33,950
HSBC NA	3,498	604	23	1,105	0	69	0	7	3	22	4	20	0	1	3,528	1,828	5,357
Wells Fargo Bank NA	6,712	2,085	0	426	35	94	0	1	0	1	1	19	23	27	6,770	2,655	9,425
Morgan Stanley Bank NA	0	4	0	47	0	0	0	0	0	7	0	2	0	0	0	61	61
Grand Total	65,347	63,291	419	32,154	888	2,539	3	33	965	2,128	272	823	156	685	68,048	101,652	169,700
ALL OTHER	1,660	1,118	0	2,634	0	25	0	0	0	11	0	19	0	54	1,661	3,862	5,523
TOTAL	67,007	64,409	419	34,788	888	2,564	3	33	965	2,139	272	843	156	738	69,709	105,514	175,223

% of Total

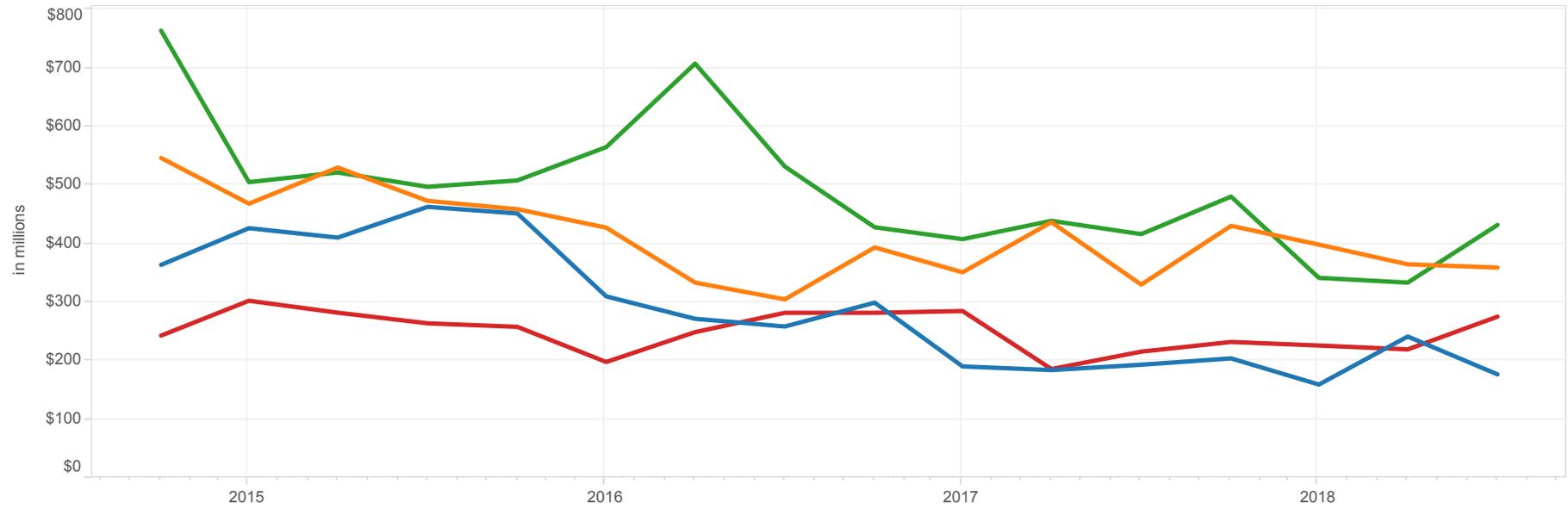
Bank Name	Interest Rate		Foreign Exchange		Equity		Precious Metals		Credit				Other		Total Centrally Cleared as a % of Total Notional	Total Over-the-Counter as a % of Total Notional
	Centrally Cleared	Over-the-Counter	Investment Grade		Non-Investment Grade		Centrally Cleared	Over-the-Counter								
									Centrally Cleared	Over-the-Counter	Centrally Cleared	Over-the-Counter				
JPMorgan Chase Bank NA	51%	49%	1%	99%	31%	69%	0%	100%	49%	51%	37%	63%	10%	90%	42%	58%
Citibank NA	66%	34%	2%	98%	8%	92%	25%	75%	18%	82%	18%	82%	43%	57%	43%	57%
Bank of America NA	64%	36%	1%	99%	25%	75%			41%	59%	26%	74%	0%	100%	46%	54%
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%	12%	88%	17%	83%	0%	100%	66%	34%
Wells Fargo Bank NA	76%	24%	0%	100%	27%	73%	0%	100%	8%	92%	3%	97%	45%	55%	72%	28%
Morgan Stanley Bank NA	2%	98%	0%	100%	0%	100%			0%	100%	0%	100%			0%	100%

Source: Call reports, Schedule RC-R

Graph 16
Average 60 Day VaR



VaR Capital Requirement



■ Bank of America, National Association
 ■ Citibank, N.A.
 ■ JPMorgan Chase Bank, National Association
 ■ Goldman Sachs Bank USA

Source: Market Risk Regulatory Report for Institutions Subject to the Market Risk Capital Rule—FFIEC 102

TABLE 1

**NOTIONAL AMOUNTS OF DERIVATIVE CONTRACTS
TOP 25 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES
DECEMBER 31, 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	\$2,218,960	\$48,235,519	\$1,047,517	\$2,308,770	\$7,838,942	\$26,539,874	\$9,027,771	\$1,472,645	\$432,744
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWFA76	1,406,717	47,766,743	1,008,535	644,088	7,263,277	28,006,632	9,006,498	1,837,713	666,997
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	191,517	40,259,376	1,542,697	2,537,992	4,895,708	21,258,294	9,834,049	190,636	185,884
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,782,639	17,739,859	325,301	122,983	4,499,520	9,864,776	2,344,389	582,890	288,859
5	WELLS FARGO BANK NA	KB1H1DSPRFMYMCUFXT09	1,689,351	10,141,218	182,931	164,285	3,149,531	5,364,372	1,245,911	34,188	6,678
6	HSBC NA	11E8VN30JCEQV1H4R804	169,812	5,514,326	102,265	3,965	1,058,433	3,920,287	332,077	97,299	31,084
7	STATE STREET BANK&TRUST CO	571474TGEMMWANRLN572	242,038	2,235,787	2,396	0	2,186,440	19,163	27,788	0	54,446
8	BANK OF NEW YORK MELLON	HPFHU00O28E4NONFVK49	286,411	1,074,484	30,474	42	273,999	747,649	22,170	150	48,342
9	U S BANK NATIONAL ASSN	6BYL5QZYBDK8S7L73M02	459,477	425,362	17,250	375	56,064	248,333	96,099	7,241	664
10	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	370,501	396,962	11,524	1,700	18,837	326,894	29,465	8,542	842
11	NORTHERN TRUST CO	6PTKHDJ8HDUF78PFWH30	131,696	296,748	0	0	276,461	19,404	883	0	5,996
12	SUNTRUST BANK	IYDOJBGJWY9T8XKCSX06	209,720	237,255	2,335	11,883	19,117	149,759	49,274	4,887	134
13	TD BANK NATIONAL ASSN	03D0JEWFFUSOSEEK89	302,669	200,061	0	0	1,769	197,709	352	231	0
14	MUFG UNION BANK NA	OX3PU53ZLPQKJ4700D47	130,783	188,840	2,540	0	107,911	73,231	5,057	101	227
15	CAPITAL ONE NATIONAL ASSN	207ALC1P1YM0OVDV0K75	304,658	156,946	293	0	2,751	148,750	562	4,590	78
16	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	129,427	128,913	2,720	0	7,332	100,795	15,436	2,630	130
17	FIFTH THIRD BANK	QFROUN1UWUYUODV1WD51	144,453	102,404	972	85	6,325	68,687	21,629	4,706	481
18	KEYBANK NATIONAL ASSN	HUX2X73FCYHUVH1BK78	137,977	97,111	1,564	0	5,446	78,069	11,824	208	497
19	REGIONS BANK	EQTWLK1G7ODGC2MGLV11	124,717	89,994	1,104	20	8,091	64,883	11,175	4,721	25
20	MORGAN STANLEY BANK NA	G1MLHISON32I3QPILB75	149,817	81,529	78	0	28,252	29,357	15,612	8,230	1,659
21	MANUFACTURERS&TRADERS TR CO	WWB2V0FCW3A0EE3ZJN75	119,636	65,045	0	0	2,077	43,605	19,364	0	92
22	BOF NATIONAL ASSN	FU7RSW4CQOY98A2O7J66	34,104	63,330	774	221	55,863	4,760	1,711	0	0
23	BRANCH BANKING&TRUST CO	JJKC32MCHWDI71265Z06	219,071	58,199	154	0	4,542	44,547	8,510	446	32
24	COMPASS BANK	C90VT034M03BN29IRA40	90,057	44,950	3,223	0	1,629	29,979	9,725	394	0
25	HUNTINGTON NATIONAL BANK		108,672	36,705	124	0	3,014	30,570	739	2,260	5
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$11,154,879	\$175,637,666	\$4,286,770	\$5,796,410	\$31,771,330	\$97,380,378	\$32,138,071	\$4,264,706	\$1,725,897
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,923,511	715,213	6,048	582	79,651	542,958	73,735	12,240	1,248
TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			16,078,390	176,352,879	4,292,818	5,796,991	31,850,980	97,923,336	32,211,806	4,276,947	1,727,145

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
DECEMBER 31, 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.	8I5DZWZKVSZ11NUHU748	\$2,622,532	\$47,816,176	\$1,076,761	\$2,525,755	\$8,191,008	\$25,790,851	\$8,731,030	\$1,500,771	\$422,071
2	CITIGROUP INC.	6SHG14ZSSLCXQSB395	1,917,383	46,765,165	1,136,068	1,832,876	8,098,670	25,504,346	8,672,616	1,520,589	660,314
3	GOLDMAN SACHS GROUP, INC., THE	784F5XWPLTWKTBV3E584	931,798	42,284,343	2,634,212	3,400,221	5,585,664	18,693,753	10,813,345	1,157,148	207,131
4	MORGAN STANLEY	IGJSJL3JD5P3016NJZ34	853,531	31,933,423	1,421,919	1,652,234	3,437,357	16,101,749	8,841,997	478,167	45,346
5	BANK OF AMERICA CORPORATION	9DJT3UXIJZJ14WXO774	2,354,980	31,676,911	1,128,101	959,065	6,724,170	17,979,429	3,934,334	951,812	231,954
6	WELLS FARGO & COMPANY	PBLD0EJDB5FWOLXP3B76	1,895,883	10,256,261	190,551	181,642	3,393,416	5,215,489	1,242,442	32,721	6,669
7	HSBC NORTH AMERICA HOLDINGS INC.	213800JCL1FHBQK3M654	277,820	7,972,376	277,085	446,046	1,059,002	5,752,872	340,073	97,299	31,084
8	MIZUHO AMERICAS LLC		40,765	6,250,916	13,253	915	289,661	5,894,498	51,779	810	6,669
9	STATE STREET CORPORATION	549300ZFEJ2IP5VME73	244,626	2,228,565	2,396	0	2,186,440	11,941	27,788	0	54,446
10	BANK OF NEW YORK MELLON CORPORATION, THE	WFLLPEPC7FZXENRZV188	363,012	1,075,298	31,195	77	290,989	730,716	22,171	150	48,263
11	RBC US GROUP HOLDINGS LLC		130,854	681,430	202,196	319,921	6,398	152,123	472	320	114
12	BARCLAYS US LLC	213800H14XWVOV87O172	155,686	643,565	31,002	335,951	192,147	25,711	0	58,754	61
13	U.S. BANCORP	N1GZ7BBF3NP8GI976H15	467,374	424,733	17,250	375	54,927	248,841	96,099	7,241	664
14	PNC FINANCIAL SERVICES GROUP, INC., THE	CFGNEKWOP8842LEUIA51	382,335	393,620	11,572	1,700	21,396	320,945	29,465	8,542	842
15	CREDIT SUISSE HOLDINGS (USA), INC.		122,034	383,349	4,981	10,054	240,020	65,853	6,508	55,932	0
16	TD GROUP US HOLDINGS LLC	549300ARWZ5E3L64UH29	389,749	322,507	92,070	10,530	14,020	205,304	352	231	0
17	NORTHERN TRUST CORPORATION	549300GLF98S992BC502	132,213	295,498	0	0	276,461	18,154	883	0	5,996
18	SUNTRUST BANKS, INC.	7E1PDLW1JL6TS0BS1G03	215,742	233,052	2,335	11,883	19,117	146,792	48,039	4,887	134
19	CAPITAL ONE FINANCIAL CORPORATION	ZUE8T73ROZOF6FLBAR73	372,538	212,427	293	0	11,144	195,838	562	4,590	78
20	MUFG AMERICAS HOLDINGS CORPORATION		168,100	200,867	4,845	469	116,990	73,405	5,057	101	227
21	DB USA CORPORATION	529900RO45LRDMWLR157	123,380	148,905	10,888	105,904	9,369	16,868	0	5,876	0
22	CITIZENS FINANCIAL GROUP, INC.	2138004JDDA4ZQUUPW65	161,005	145,586	2,720	0	7,332	112,010	20,485	3,039	130
23	BNP PARIBAS USA, INC.		119,714	139,226	61	100	118,504	18,636	1,926	0	14
24	FIFTH THIRD BANCORP	THRNG6BD57P9QWTQLG42	146,069	103,109	972	85	6,325	69,392	21,629	4,706	481
25	KEYCORP	RKPI3RZGV1V1FJTH5T61	140,038	102,646	1,564	0	6,498	81,221	13,156	207	497
TOP 25 HOLDING COMPANIES WITH DERIVATIVES			\$14,729,160	\$232,689,954	\$8,294,290	\$11,795,804	\$40,357,023	\$123,426,737	\$42,922,208	\$5,893,891	\$1,723,186

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

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
DECEMBER 31, 2018, MILLIONS OF DOLLARS

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	TOTAL ASSETS	TOTAL DERIVATIVES	PERCENT EXCH TRADED	PERCENT OTC	PERCENT INT RATE	PERCENT FOREIGN EXCH	PERCENT EQUITY	PERCENT OTHER	PERCENT CREDIT
					CONTRACTS	CONTRACTS	CONTRACTS	CONTRACTS	CONTRACTS	CONTRACTS	CONTRACTS
					(%)	(%)	(%)	(%)	(%)	(%)	(%)
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGOFU57RNE97	\$2,218,960	\$48,235,519	7.0	93.0	69.7	22.2	3.4	1.6	3.1
2	CITIBANK NATIONAL ASSN	E570DZWZ7FF32TWEFA76	1,406,717	47,766,743	3.5	96.5	63.1	30.5	1.9	0.7	3.8
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	191,517	40,259,376	10.1	89.9	88.8	10.6	0.1	0.0	0.5
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,782,639	17,739,859	2.5	97.5	68.0	26.0	2.7	0.1	3.3
5	WELLS FARGO BANK NA	KB1H1DSPRFMYMCFXT09	1,689,351	10,141,218	3.4	96.6	92.5	4.4	2.2	0.6	0.3
6	HSBC NA	11E8VN3OJCEQV1H4R804	169,812	5,514,326	1.9	98.1	76.2	20.2	1.3	0.6	1.8
7	STATE STREET BANK&TRUST CO	571474TGEMMWANRLN572	242,038	2,235,787	0.1	99.9	0.9	97.9	0.0	1.2	0.0
8	BANK OF NEW YORK MELLON	HPFHU00Q28E4N0NFVK49	286,411	1,074,484	2.8	97.2	26.4	73.5	0.1	0.0	0.0
9	U S BANK NATIONAL ASSN	6BYL5QZYBDK8S7L73M02	459,477	425,362	4.1	95.9	84.1	13.8	0.0	0.3	1.7
10	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	370,501	396,962	3.3	96.7	90.5	4.6	1.1	1.6	2.2
11	NORTHERN TRUST CO	6PTKHDJ8HDUF78PFWH30	131,696	296,748	0.0	100.0	4.8	95.1	0.2	0.0	0.0
12	SUNTRUST BANK	IYDOJBGJWY9T8XKCSX06	209,720	237,255	6.0	94.0	78.3	4.1	14.6	0.9	2.1
13	TD BANK NATIONAL ASSN	03DOJEWFDUFUSOEEKG89	302,669	200,061	0.0	100.0	97.8	2.1	0.0	0.0	0.1
14	MUFG UNION BANK NA	OX3PU53ZLPQKJ4700D47	130,783	188,840	1.3	98.7	95.2	4.4	0.2	0.2	0.1
15	CAPITAL ONE NATIONAL ASSN	207ALC1P1YM00VDVOK75	304,658	156,946	0.2	99.8	89.5	0.9	0.0	6.6	2.9
16	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	129,427	128,913	2.1	97.9	90.3	7.7	0.0	0.0	2.0
17	FIFTH THIRD BANK	QFROUN1UWUYUODVIWDS1	144,453	102,404	1.0	99.0	74.4	12.6	2.1	6.4	4.6
18	KEYBANK NATIONAL ASSN	HUX2X73FUCYHUVH1BK78	137,977	97,111	1.6	98.4	91.9	7.2	0.0	0.7	0.2
19	REGIONS BANK	EQTWLK1G7ODGC2MGLV11	124,717	89,994	1.2	98.8	91.9	1.6	0.0	1.2	5.2
20	MORGAN STANLEY BANK NA	G1MLHISON3213QPILB75	149,817	81,529	0.1	99.9	11.1	78.2	0.6	0.0	10.1
21	MANUFACTURERS&TRADERS TR CO	WWB2V0FCW3A0EE3ZJN75	119,636	65,045	0.0	100.0	99.0	1.0	0.0	0.0	0.0
22	BOKF NATIONAL ASSN	FU7RSW4CQQY98A2O7J66	34,104	63,330	1.6	98.4	94.5	0.6	0.3	4.7	0.0
23	BRANCH BANKING&TRUST CO	JJKC32MCHWDI71265Z06	219,071	58,199	0.3	99.7	98.4	0.9	0.0	0.0	0.8
24	COMPASS BANK	C90VT034M03BN29IRA40	90,057	44,950	7.2	92.8	93.6	3.4	2.1	0.0	0.9
25	HUNTINGTON NATIONAL BANK		108,672	36,705	0.3	99.7	77.0	6.0	0.8	10.1	6.2
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$11,154,879	\$175,637,666	\$10,083,180	\$165,554,486	\$127,511,618	\$39,180,656	\$3,371,180	\$1,309,506	\$4,264,706
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,923,511	715,213	6,629	708,583	654,322	40,402	3,183	5,065	12,240
TOTAL FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			16,078,390	176,352,879	10,089,809	166,263,069	128,165,940	39,221,057	3,374,363	1,314,571	4,276,947
					(%)	(%)	(%)	(%)	(%)	(%)	(%)
TOP 25 COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES					99.6	5.7	93.9	72.3	22.2	1.9	0.7
OTHER COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES					0.4	0.0	0.4	0.4	0.0	0.0	0.0
TOTAL FOR COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES					100.0	5.7	94.3	72.7	22.2	1.9	0.7

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

Note: "FX" does not include spot FX.

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

Note: Numbers may not 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
DECEMBER 31, 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 FROM ALL CONTRACTS		TOTAL CREDIT EXPOSURE TO CAPITAL (%)
						CREDIT EXPOSURE	POTENTIAL FUTURE EXPOSURE	CREDIT EXPOSURE	TOTAL CREDIT EXPOSURE	
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$2,218,960	\$48,235,519	\$198,494	\$128,982	\$203,147	\$332,129	167	
2	CITIBANK NATIONAL ASSN	E570DZWZ7FF32TWEFA76	1,406,717	47,766,743	155,280	64,954	139,750	204,704	132	
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNPYLU02	191,517	40,259,376	32,536	52,107	63,075	115,182	354	
4	BANK OF AMERICA NA	B4TYDEB6GKMZ0031MB27	1,782,639	17,739,859	161,760	44,250	48,627	92,877	57	
5	WELLS FARGO BANK NA	KB1H1DSPRFMYMCUFXT09	1,689,351	10,141,218	163,379	13,959	28,437	42,396	26	
6	HSBC NA	11E8VN30JCEQV1H4R804	169,812	5,514,326	25,293	8,364	16,068	24,432	97	
7	STATE STREET BANK&TRUST CO	571474TGEMMWANRLN572	242,038	2,235,787	17,800	6,182	8,572	14,755	83	
8	BANK OF NEW YORK MELLON	HPFHU00Q28E4N0NFVK49	286,411	1,074,484	19,630	4,567	5,708	10,275	52	
9	U S BANK NATIONAL ASSN	6BYL5QZYBDK8S7L73M02	459,477	425,362	45,960	1,615	5,061	6,675	15	
10	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	370,501	396,962	36,510	3,427	-76	3,351	9	
11	NORTHERN TRUST CO	6PTKHDJ8HDUF78PFWH30	131,696	296,748	9,871	1,348	2,297	3,644	37	
12	SUNTRUST BANK	IYDOJBGJWY9T8XKCSX06	209,720	237,255	22,564	1,022	2,640	3,662	16	
13	TD BANK NATIONAL ASSN	03DOJEWDFUS0SEEKG89	302,669	200,061	27,330	435	953	1,388	5	
14	MUFG UNION BANK NA	OX3PU53ZLPQKJ4700D47	130,783	188,840	13,905	638	201	838	6	
15	CAPITAL ONE NATIONAL ASSN	207ALC1P1YM00VDV0K75	304,658	156,946	27,912	1,217	2,951	4,169	15	
16	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	129,427	128,913	14,253	405	883	1,288	9	
17	FIFTH THIRD BANK	QFROUN1UWUYU0DVIWD51	144,453	102,404	16,427	780	1,699	2,479	15	
18	KEYBANK NATIONAL ASSN	HUX2X73FUCYHUVH1BK78	137,977	97,111	15,432	516	439	955	6	
19	REGIONS BANK	EQTWLK1G7ODGC2MGLV11	124,717	89,994	13,494	300	434	733	5	
20	MORGAN STANLEY BANK NA	G1MLHISON32I3QPILB75	149,817	81,529	15,484	156	1,985	2,141	14	
21	MANUFACTURERS&TRADERS TR CO	WWB2V0FCW3A0EE3ZJN75	119,636	65,045	12,475	139	220	358	3	
22	BOKF NATIONAL ASSN	FU7RSW4CQQY98A207J66	34,104	63,330	3,103	5	12	17	1	
23	BRANCH BANKING&TRUST CO	JJKC32MCHWDI71265Z06	219,071	58,199	23,048	216	213	429	2	
24	COMPASS BANK	C90VT034M03BN29IRA40	90,057	44,950	9,440	191	185	376	4	
25	HUNTINGTON NATIONAL BANK		108,672	36,705	11,504	482	802	1,284	11	
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$11,154,879	\$175,637,666	\$1,092,885	\$336,257	\$534,281	\$870,537	80	
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,923,511	715,213	540,099	4,391	5,296	9,687	2	
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			16,078,390	176,352,879	1,632,983	340,647	539,577	880,224	54	

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
DECEMBER 31, 2018, MILLIONS OF DOLLARS**

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	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	7H6GLXDRUGQFU57RNE97	\$2,218,960	\$48,235,519	\$46,506,955	99.5	\$255,919	0.5
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,406,717	47,766,743	45,835,975	99.8	93,055	0.2
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	191,517	40,259,376	40,049,315	100.0	19,425	0.0
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,782,639	17,739,859	16,619,744	96.9	537,225	3.1
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,599,833	\$154,001,497	\$149,011,989	99.4	\$905,624	0.6
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			10,478,557	22,351,382	20,616,576	93.0	1,541,743	7.0
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			16,078,390	176,352,879	169,628,565	98.6	2,447,367	1.4
<p>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</p> <p>Note: Numbers may not add up to total due to rounding.</p> <p>Source: Call reports, Schedule RC-L</p>								

TABLE 6

**GROSS FAIR VALUES OF DERIVATIVE CONTRACTS
TOP 4 COMMERCIAL BANKS, SAVINGS ASSOCIATIONS AND TRUST COMPANIES IN DERIVATIVES
DECEMBER 31, 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	\$2,218,960	\$48,235,519	\$540,483	\$512,898	\$1,833	\$1,467	\$18,871	\$19,018
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,406,717	47,766,743	398,383	387,653	1,051	841	14,075	13,771
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	191,517	40,259,376	460,583	453,600	241	191	3,170	3,295
4	BANK OF AMERICA NA	B4TYDEB6GKMZ0031MB27	1,782,639	17,739,859	164,310	146,012	11,761	16,715	5,589	5,714
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,599,833	\$154,001,497	\$1,563,759	\$1,500,163	\$14,886	\$19,214	\$41,705	\$41,798
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			10,478,557	22,351,382	106,226	105,598	9,707	6,546	1,599	1,665
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			16,078,390	176,352,879	1,669,985	1,605,761	24,593	25,760	43,304	43,463

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, 2018, MILLIONS OF DOLLARS
NOTE: REVENUE FIGURES ARE FOR THE QUARTER (NOT YEAR-TO-DATE)

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	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	7H6GLXDRUGOFU57RNE97	\$2,218,960	\$48,235,519	\$1,011	\$895	\$594	(\$644)	\$70	\$96
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32WEFA76	1,406,717	47,766,743	820	611	234	198	(72)	(151)
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	191,517	40,259,376	44	237	333	(119)	0	(407)
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,782,639	17,739,859	1,063	192	309	470	124	(32)
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,599,833	\$154,001,497	\$2,938	\$1,935	\$1,470	(\$95)	\$122	(\$494)
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			10,478,557	22,351,382	1,227	370	635	52	152	18
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			16,078,390	176,352,879	4,165	2,305	2,105	(43)	274	(476)

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
DECEMBER 31, 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	7H6GLXDRUGOFU57RNE97	\$2,218,960	\$48,235,519	\$21,667,214	\$16,181,690	\$8,799,606	\$46,648,510	\$6,112,604	\$2,049,099	\$990,486	\$9,152,189
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,406,717	47,766,743	19,957,115	4,059,563	3,049,120	27,065,798	12,048,356	751,533	257,356	13,057,245
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAVLU02	191,517	40,259,376	17,312,256	6,539,234	5,741,781	29,593,271	2,993,874	622,585	533,783	4,150,242
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,782,639	17,739,859	5,228,651	4,612,449	2,584,962	12,426,062	3,926,242	503,136	182,041	4,611,419
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,599,833	\$154,001,497	\$64,165,236	\$31,392,936	\$20,175,469	\$115,733,641	\$25,081,076	\$3,926,353	\$1,963,666	\$30,971,095
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			10,478,557	22,351,382	7,325,858	5,287,475	3,068,949	15,682,282	3,810,743	292,329	132,296	4,235,368
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			16,078,390	176,352,879	71,491,094	36,680,411	23,244,418	131,415,923	28,891,819	4,218,682	2,095,962	35,206,463

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
DECEMBER 31, 2018, MILLIONS OF DOLLARS**

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	TOTAL ASSETS	TOTAL DERIVATIVES	PREC METALS MATURITY < 1 YR	PREC METALS MATURITY 1 - 5 YRS	PREC METALS MATURITY > 5 YRS	PREC METALS ALL MATURITIES
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGOFU57RNE97	\$2,218,960	\$48,235,519	\$14,765	\$764	\$0	\$15,529
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,406,717	47,766,743	11,129	501	0	11,630
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	191,517	40,259,376	0	0	0	0
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,782,639	17,739,859	0	0	0	0
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,599,833	\$154,001,497	\$25,894	\$1,265	\$0	\$27,159
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			10,478,557	22,351,382	7,726	988	8	8,722
TOTAL FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			16,078,390	176,352,879	33,620	2,253	8	35,881
<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 DERIVATIVE!
DECEMBER 31, 2018, MILLIONS OF DOLLARS**

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	TOTAL		OTHER COMM	OTHER COMM	OTHER COMM	OTHER COMM	EQUITY	EQUITY	EQUITY	EQUITY
			ASSETS	DERIVATIVES	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	\$2,218,960	\$48,235,519	\$511,880	\$79,903	\$4,509	\$596,292	\$1,548,464	\$566,511	\$97,336	\$2,212,311
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWFA76	1,406,717	47,766,743	117,978	45,744	3,751	167,473	379,923	118,520	22,073	520,516
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	191,517	40,259,376	3,037	1,482	40	4,559	11,324	12,253	2,042	25,619
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,782,639	17,739,859	16,208	5,604	16	21,828	379,624	86,235	2,512	468,371
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,599,833	\$154,001,497	\$649,103	\$132,733	\$8,316	\$790,152	\$2,319,335	\$783,519	\$123,963	\$3,226,817
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			10,478,557	22,351,382	38,913	65,033	785	104,731	129,372	80,274	15,195	224,841
TOTAL FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			16,078,390	176,352,879	688,016	197,766	9,101	894,883	2,448,707	863,793	139,158	3,451,658

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
DECEMBER 31, 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	\$2,218,960	\$48,235,519	\$1,472,645	\$234,338	\$806,885	\$74,328	\$1,115,551	\$98,843	\$243,093	\$15,158	\$357,094
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWFA76	1,406,717	47,766,743	1,837,713	382,976	1,025,226	73,234	1,481,436	105,273	243,885	7,119	356,277
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	191,517	40,259,376	190,636	35,235	51,601	18,487	105,323	16,024	56,310	12,979	85,313
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,782,639	17,739,859	582,890	175,442	223,417	27,253	426,112	69,574	76,979	10,225	156,778
TOP 4 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$5,599,833	\$154,001,497	\$4,083,884	\$827,991	\$2,107,129	\$193,302	\$3,128,422	\$289,714	\$620,267	\$45,481	\$955,462
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			10,478,557	22,351,382	193,063	15,895	66,142	10,900	92,937	14,139	70,710	15,276	100,125
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			16,078,390	176,352,879	4,276,947	843,886	2,173,271	204,202	3,221,359	303,853	690,977	60,757	1,055,587

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
DECEMBER 31, 2018, MILLIONS OF DOLLARS**

RANK	BANK NAME	LEGAL ENTITY IDENTIFIER	TOTAL ASSETS	TOTAL DERIVATIVES	TOTAL CREDIT DERIVATIVES	TOTAL CREDIT DERIVATIVES				PURCHASED				SOLD			
						PURCHASED	SOLD	CREDIT DEFAULT SWAPS	TOTAL RETURN SWAPS	CREDIT OPTIONS	OTHER CREDIT DERIVATIVES	CREDIT DEFAULT SWAPS	TOTAL RETURN SWAPS	CREDIT OPTIONS	OTHER CREDIT DERIVATIVES		
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$2,218,960	\$46,762,874	\$1,472,645	\$748,048	\$724,597	\$693,473	\$23,352	\$27,684	\$3,539	\$680,488	\$12,500	\$31,583	\$26		
2	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,406,717	45,929,030	1,837,713	949,866	887,847	835,865	19,847	94,154	0	796,609	10,129	81,109	0		
3	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	191,517	40,068,740	190,636	103,437	87,199	90,048	2,739	10,603	47	66,951	9,803	10,341	104		
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	1,782,639	17,156,969	582,890	294,521	288,369	228,256	8,999	57,266	0	218,082	14,998	55,289	0		
5	WELLS FARGO BANK NA	KB1H1DSPRFMYMCFXT09	1,689,351	10,107,030	34,188	21,599	12,589	3,538	0	0	18,061	2,778	0	0	9,811		
6	HSBC NA	1E8VN30JCEQV1H4R804	169,812	5,417,027	97,299	51,914	45,384	45,765	6,150	0	0	43,847	1,537	0	0		
7	STATE STREET BANK&TRUST CO	5714747GEMMWANRLN572	242,038	2,235,787	0	0	0	0	0	0	0	0	0	0	0		
8	BANK OF NEW YORK MELLON	HPFHU00Q28E4NONFVK49	286,411	1,074,334	150	150	0	150	0	0	0	0	0	0	0		
9	U S BANK NATIONAL ASSN	6BYL5QZYBDK857L73M02	459,477	418,121	7,241	2,318	4,923	0	0	0	2,318	0	0	0	4,923		
10	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	370,501	388,420	8,542	2,506	6,036	15	0	0	2,491	0	0	0	6,036		
11	NORTHERN TRUST CO	6PTKHJ8HDUF78PFVH30	131,696	296,748	0	0	0	0	0	0	0	0	0	0	0		
12	SUNTRUST BANK	IYDOJBGJWY9T8KCCSX06	209,720	232,368	4,887	2,845	2,042	830	2,009	0	6	0	2,009	0	33		
13	TD BANK NATIONAL ASSN	03D0JEWDFUSOSEEG89	302,669	199,831	231	0	0	231	0	0	0	0	0	0	0		
14	MUFG UNION BANK NA	OX3PU53ZLPQKJ4700D47	130,783	188,739	101	101	0	101	0	0	0	0	0	0	0		
15	CAPITAL ONE NATIONAL ASSN	207ALC1P1YMOOVDVOK75	304,658	152,356	4,590	1,896	2,694	0	0	0	1,896	0	0	0	2,694		
16	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	129,427	126,283	2,630	0	2,630	0	0	0	0	0	0	0	2,630		
17	FIFTH THIRD BANK	QFROUN1UWUYU0DV1WD51	144,453	97,698	4,706	704	4,003	0	0	0	704	0	0	0	4,003		
18	KEYBANK NATIONAL ASSN	HUX2X73FUCYHUHVH1BK78	137,977	96,903	208	92	116	92	0	0	0	23	93	0	0		
19	REGIONS BANK	EQTWLK1G7ODGC2MGLV11	124,717	85,273	4,721	1,487	3,234	43	0	0	1,444	43	0	0	3,191		
20	MORGAN STANLEY BANK NA	G1MLHISON3213OPILB75	149,817	73,299	8,230	8,170	60	8,170	0	0	0	60	0	0	0		
21	MANUFACTURERS&TRADERS TR CO	VWVB2V0FCW3A0EE3ZJN75	119,636	65,045	0	0	0	0	0	0	0	0	0	0	0		
22	BOF NATIONAL ASSN	FU7RSW4CQQY98A2O7J66	34,104	63,329	0	0	0	0	0	0	0	0	0	0	0		
23	BRANCH BANKING&TRUST CO	JKC32MCHWDI71265Z06	219,071	57,753	446	84	362	0	0	0	84	0	0	0	362		
24	COMPASS BANK	C90VT034M03BN29IRA40	90,057	44,557	394	8	386	8	0	0	0	386	0	0	0		
25	HUNTINGTON NATIONAL BANK		108,672	34,446	2,260	1,498	761	0	0	0	1,498	0	0	0	761		
TOP 25 COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			\$11,154,879	\$171,372,960	\$4,264,706	\$2,191,475	\$2,073,232	\$1,906,584	\$63,096	\$189,707	\$32,088	\$1,809,267	\$51,070	\$178,322	\$34,573		
OTHER COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			4,923,511	702,972	12,240	7,414	4,827	30	4,706	0	2,678	508	2	0	4,316		
TOTAL AMOUNT FOR COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES			16,078,390	172,075,932	4,276,947	2,198,888	2,078,058	1,906,613	67,802	189,707	34,766	1,809,775	51,071	178,322	38,890		
					(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)			
TOP 25 COMMERCIAL BANKS, SAs & TCs: % OF TOTAL COMMERCIAL BANKS, SAs & TCs WITH DERIVATIVES					99.7	51.2	48.5	44.6	1.5	4.4	0.8	42.3	1.2	4.2	0.8		
OTHER 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	51.4	48.6	44.6	1.6	4.4	0.8	42.3	1.2	4.2	0.9		

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
DECEMBER 31, 2018, MILLIONS OF DOLLARS

Call Report Schedule SU	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17
A. Gross Notional Amount of Derivatives								
Total gross notional amount of interest rate derivatives held for trading	\$626	\$751	\$736	\$684	\$542	\$729	\$749	\$655
Total gross notional amount of all other derivatives held for trading	\$2	\$2	\$5	\$7	\$5	\$5	\$6	\$2
Total gross notional amount of interest rate derivatives not held for trading	\$8,433	\$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	\$160	\$2,752	\$3,126	\$530	\$86	\$89	\$89	\$80

Call Report Schedule RC-R	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17
A. Notional principal amounts of over-the-counter derivative contracts covered by the regulatory capital rules								
a. Interest rate	\$4,159	\$4,459	\$4,584	\$4,471	\$3,847	\$4,657	\$5,024	\$4,758
b. Foreign exchange rate and gold	\$3	\$4	\$5	\$429	\$0	\$0	\$0	\$0
c. Credit (investment grade reference asset)	\$35	\$17	\$14	\$14	\$13	\$14	\$8	\$4
d. Credit (non-investment grade reference asset)	\$12	\$12	\$12	\$11	\$11	\$11	\$11	\$11
e. Equity	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
g. Other	\$5	\$5	\$5	\$5	\$5	\$5	\$5	\$5
f. Precious metals (except gold)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B. Notional principal amounts of centrally cleared derivative contracts covered by the regulatory capital rules								
a. Interest rate	\$1,937	\$2,731	\$3,169	\$129	\$249	\$343	\$178	\$158
b. Foreign exchange rate and gold	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
c. Credit (investment grade reference asset)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4
d. Credit (non-investment grade reference asset)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
e. Equity	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
f. Precious metals (except gold)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
g. Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C. Current credit exposure across all derivative contracts covered by the regulatory capital rules	\$49	\$78	\$126	\$64	\$44	\$57	\$49	\$39

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