

Quarterly Report on Bank Trading and Derivatives Activities

Third Quarter 2022

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 1,211 insured U.S. national and state commercial banks and savings associations reported trading and derivatives activities at the end of the third quarter of 2022.¹ A small group of large financial institutions continues to dominate trading and derivatives activity in the U.S. commercial banking system. During the third quarter of 2022, four large commercial banks represented 88.6 percent of the total banking industry notional amounts and 64.1 percent of industry net current credit exposure (NCCE).

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.

OCC activities also include assessing London Interbank Offered Rate (LIBOR) exposures in supervised banks and their progress toward an orderly transition away from LIBOR. The OCC and the other federal financial institution regulatory agencies issued a joint statement in October 2021 to emphasize the expectation that supervised institutions with LIBOR exposure continue to progress toward an orderly transition away from LIBOR. (Refer to OCC Bulletin 2021-48, "LIBOR Transition: Joint Statement on Managing the LIBOR Transition.") Given LIBOR's cessation, the agencies have stated that entering into new contracts, including derivatives, that use LIBOR as a reference rate after December 31, 2021, would create safety and soundness risks, including litigation, operational, and consumer protection risks. In addition, in OCC Bulletin 2021-46, "LIBOR Transition: Updated Self-Assessment Tool for Banks," the OCC provides a tool for banks to evaluate their preparedness for the LIBOR cessation.

This is the 108th 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 QuarterlyDerivatives@occ.treas.gov.

¹ Institutions with total assets of less than \$5 billion have the option to file the Federal Financial Institutions Examination Council (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 25 in the appendix.

Executive Summary

- Insured U.S. commercial banks and savings associations (collectively, banks) reported trading revenue of \$12.7 billion in the third quarter of 2022, \$2.4 billion more (22.9 percent) than in the previous quarter and \$5.8 billion more (84.1 percent) than a year earlier (see table 1).
- Credit exposure from derivatives increased in the third quarter of 2022 compared with the second quarter of 2022. NCCE increased \$66.0 billion, or 20.3 percent, to \$390.0 billion (see table 5).
- Derivative notional amounts increased in the third quarter of 2022 by \$231.0 billion, or 0.1 percent, to \$195.1 trillion (see table 10).
- Derivative contracts remained concentrated in interest rate products, which totaled \$142.0 trillion or 72.8 percent of total derivative notional amounts (see table 10).

Revenue

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

Insured U.S. commercial banks and savings associations reported \$12.7 billion in trading revenue in the third quarter of 2022, \$2.4 billion more (22.9 percent) than in the previous quarter and \$5.8 billion more (84.1 percent) than a year earlier (see table 1). The quarter-over-quarter increase in trading revenue was primarily due to increases in revenue from foreign exchange, equity, and credit trading instruments. For a historical view of quarterly bank trading revenue by instrument, see figure 15a in the appendix.

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

Trading instruments	3Q 2022	2Q 2022	Q/Q Change	Q/Q % Change	3Q 2021	Y/Y Change	Y/Y % Change
Interest Rate	-\$1,201	\$874	-\$2,074	-237.4%	-\$330	-\$871	-264.4%
Foreign Exchange	\$8,153	\$6,363	\$1,791	28.1%	\$3,998	\$4,155	103.9%
Equity	\$3,314	\$774	\$2,541	328.5%	\$1,729	\$1,585	91.6%
Commodity & Other	\$774	\$1,029	-\$255	-24.8%	\$531	\$244	45.9%
Credit	\$1,678	\$1,310	\$368	28.0%	\$979	\$699	71.3%
Total Trading Revenue	\$12,719	\$10,349	\$2,369	22.9%	\$6,908	\$5,811	84.1%

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 \$17.4 billion in the third quarter of 2022 was \$7.1 billion more (69.5 percent) than in the previous quarter. The quarter-over-quarter increase in trading revenue was primarily due to increases in revenue from interest rate, foreign exchange, and equity trading

instruments. Year-over-year holding company trading revenue increased by \$3.0 billion (21.3 percent). For a historical view of quarterly holding company trading revenue by instrument, see figure 15b in the appendix.

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

Trading instruments	3Q 2022	2Q 2022	Q/Q Change	Q/Q % Change	3Q 2021	Y/Y Change	Y/Y % Change
Interest Rate	-\$2,013	-\$2,380	\$367	15.4%	-\$1,182	-\$830	-70.2%
Foreign Exchange	\$11,899	\$10,574	\$1,326	12.5%	\$5,144	\$6,756	131.3%
Equity	\$4,669	-\$1,063	\$5,733	539.1%	\$6,835	-\$2,166	-31.7%
Commodity & Other	\$2,523	\$2,709	-\$186	-6.9%	\$1,978	\$545	27.5%
Credit	\$284	\$402	-\$119	-29.5%	\$1,543	-\$1,260	-81.6%
Total BHC Trading Revenue	\$17,363	\$10,242	\$7,121	69.5%	\$14,318	\$3,045	21.3%

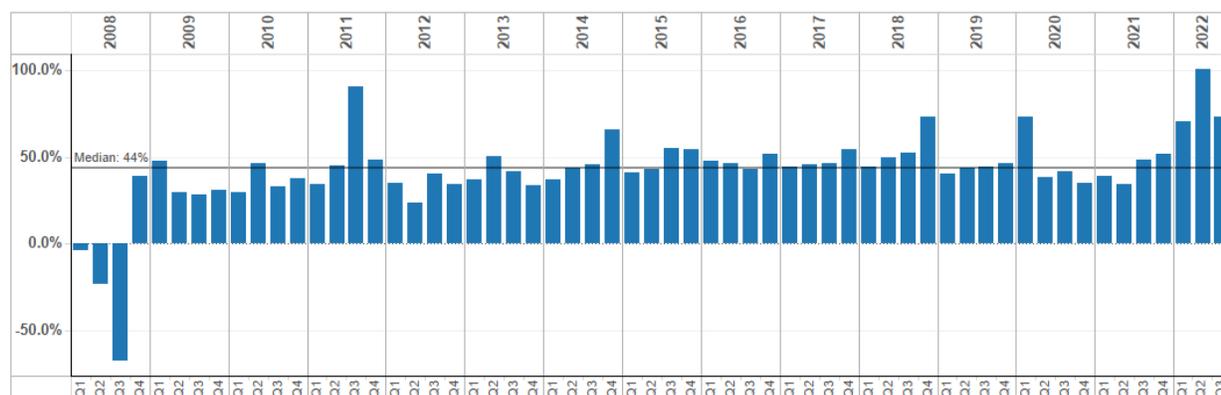
Source: Consolidated Financial Statements for Holding Companies—FR Y-9C, Schedule HI

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

Before the 2008 financial crisis, trading revenue at banks typically ranged from 60 percent to 80 percent of consolidated BHC trading revenue. Since the 2008 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 decreased and is typically between 30 percent and 50 percent. This decline reflects the significant amount of trading activity by the former investment banks that, while included in BHC results, remains outside insured commercial banks. More generally, insured U.S. commercial banks and savings associations have more limited legal authorities than their holding companies, particularly in the trading of commodity and equity products.

In the third quarter of 2022 banks generated 73.3 percent of consolidated holding company trading revenue, a decrease from 101.0 percent in the previous quarter (see figure 1).

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



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

Counterparty Credit Risk

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

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

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

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

GPFV increased by \$523 billion (22.2 percent) in the third quarter of 2022 to \$2.9 trillion, primarily driven by a \$270.0 billion (21.4 percent) increase in receivables from interest rate and a \$261 billion (34.9 percent) increase in FX contracts (see table 3a). GNFV increased \$515.0 billion (23.1 percent) to \$2.7 trillion during the quarter, driven by a \$270.0 billion (22.7 percent) increase in payables on interest rate and \$257 billion (34.9 percent) increase in FX contracts (see table 3b).

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

Trading instruments	3Q 2022	2Q 2022	Q/Q Change	Q/Q % Change	3Q 2021	Y/Y Change	Y/Y % Change
Interest rate	\$1,534	\$1,264	\$270	21.4%	\$1,313	\$220	16.8%
FX	\$1,007	\$746	\$261	34.9%	\$476	\$531	111.5%
Equity	\$187	\$166	\$21	12.8%	\$173	\$14	7.9%
Commodity & Other	\$109	\$138	-\$28	-20.6%	\$102	\$7	7.3%
Credit	\$43	\$44	-\$1	-2.3%	\$38	\$5	12.2%
GPFV	\$2,880	\$2,357	\$523	22.2%	\$2,103	\$777	37.0%

Source: Call reports, Schedule RC-L

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

Trading instruments	3Q 2022	2Q 2022	Q/Q Change	Q/Q % Change	3Q 2021	Y/Y Change	Y/Y % Change
Interest rate	\$1,456	\$1,186	\$270	22.7%	\$1,250	\$206	16.5%
FX	\$992	\$735	\$257	34.9%	\$465	\$527	113.4%
Equity	\$170	\$154	\$17	10.8%	\$184	-\$14	-7.5%
Commodity & Other	\$90	\$115	-\$25	-21.5%	\$87	\$4	4.2%
Credit	\$36	\$40	-\$4	-9.1%	\$41	-\$5	-11.8%
GNFV	\$2,744	\$2,229	\$515	23.1%	\$2,026	\$719	35.5%

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	GPFV
Contracts with negative value to Bank A	4	-\$350	GNFV
Total contracts	10	\$150	NCCE to Bank A from Counterparty B

Most 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 increased by \$66.0 billion (20.3 percent) to \$390.0 billion in the third quarter of 2022 (see table 5).² Legally enforceable

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.

netting agreements allowed banks to reduce GPFV exposures by 86.4 percent (\$2.5 trillion) in the third quarter of 2022.

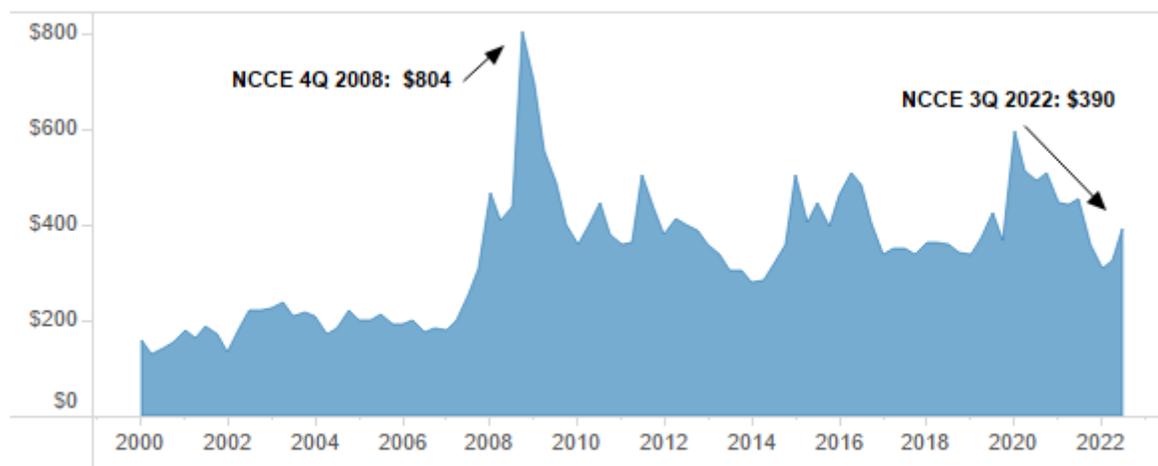
Table 5: Net Current Credit Exposure, in Billions of Dollars

Netting benefit ratio	3Q 2022	2Q 2022	Q/Q Change	Q/Q % Change
GPFV	\$2,880	\$2,357	\$523	22.2%
NCCE RC-R	\$390	\$324	\$66	20.3%
Netting benefit RC-R	\$2,489	\$2,033	\$457	22.5%
Netting benefit % RC-R	86.4%	86.2%		0.2%

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

NCCE peaked at \$804.0 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 decline in NCCE since 2008 has largely resulted from declines in the GPFV of interest rate and credit contracts. After a large increase in NCCE during the first quarter of 2020 as markets responded to the financial impact of the COVID-19 global pandemic, NCCE ended the third quarter of 2022 lower at \$390.0 billion as more normal market activity resumed.

Figure 2: Net Current Credit Exposure (NCCE), 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 (34.7 percent) and in corporations and other counterparties (60.2 percent) (see table 6). The combined exposure to hedge funds and sovereign governments was small (5.0 percent in total).

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

Quarter	Banks and securities firms	Hedge funds	Sovereign governments	Corporate and all other counterparties
3Q 2022	34.7%	2.1%	2.9%	60.2%
2Q 2022	34.1%	2.3%	3.5%	60.2%
1Q 2022	35.7%	2.1%	5.0%	57.2%
4Q 2021	37.9%	2.0%	7.4%	52.6%
4Q 2020	39.1%	2.2%	8.3%	50.4%
4Q 2019	44.2%	2.5%	9.2%	44.1%
4Q 2018	41.7%	5.0%	10.0%	43.2%
4Q 2017	41.7%	3.1%	7.9%	47.3%

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 89.1 percent of their total NCCE at the end of the third quarter of 2022, down from 93.2 percent in the second quarter of 2022 (see table 7). Collateral held against hedge fund exposures decreased in the third quarter to 394.8 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.

Table 7: Ratio of Fair Value (FV) Collateral to Net Current Credit Exposure

Quarter	FV banks and securities firms	FV hedge funds	FV sovereign governments	FV corporate and all other counterparties	FV/NCCE %
3Q 2022	105.3%	394.8%	72.3%	70.0%	89.1%
2Q 2022	114.1%	436.3%	71.1%	69.6%	93.2%
1Q 2022	119.5%	535.4%	76.7%	68.5%	97.1%
4Q 2021	128.6%	687.6%	69.3%	76.0%	108.0%
4Q 2020	110.6%	467.6%	52.1%	59.5%	87.8%
4Q 2019	130.0%	485.9%	48.3%	91.8%	114.5%
4Q 2018	128.9%	308.0%	47.1%	91.8%	113.7%
4Q 2017	124.4%	495.5%	25.1%	89.8%	111.5%
4Q 2016	119.1%	491.5%	34.2%	67.0%	98.5%

Source: Call reports, Schedule RC-L

The majority of collateral held by banks against NCCE is very liquid with 70.3 percent held in cash (both U.S. dollar and other currencies) and an additional 7.1 percent held in U.S. Treasuries and U.S. 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

Quarter	Cash U.S. \$	Cash other currencies	U.S. Treasury securities	U.S. government agency	Corp bonds	Equity securities	All other collateral
3Q 2022	53.2%	17.1%	6.8%	0.3%	3.0%	4.5%	15.0%
2Q 2022	50.9%	17.8%	6.8%	0.5%	2.7%	5.5%	15.7%
1Q 2022	46.3%	20.4%	7.0%	0.6%	2.4%	6.3%	16.9%
4Q 2021	39.3%	24.5%	8.1%	0.9%	1.6%	8.2%	17.3%
4Q 2020	39.5%	28.6%	7.8%	1.7%	1.1%	7.2%	14.1%
4Q 2019	34.4%	24.5%	11.6%	1.7%	2.3%	7.6%	17.7%
4Q 2018	37.2%	23.3%	10.8%	2.2%	2.1%	7.1%	17.2%
4Q 2017	37.6%	25.5%	10.3%	1.9%	2.5%	5.7%	16.5%

Source: Call reports, Schedule RC-L

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 Federal Financial Institutions Examination Council (FFIEC) Form 102. The VaR measurement is calculated daily 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. Figure 22 in the appendix illustrates the historical trend in VaR measurements for these institutions.

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

Value at Risk	JPMorgan Chase Bank NA	Citibank NA	Bank of America NA	Goldman Sachs Bank USA
3Q 2022 Average 60-Day VaR	\$196	\$142	\$124	\$459
2Q 2022 Average 60-Day VaR	\$261	\$143	\$122	\$421
Q/Q Change	-\$65	-\$1	\$2	\$38
3Q 2022 Total Risk-Based Capital	\$282,192	\$165,171	\$198,008	\$53,306

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

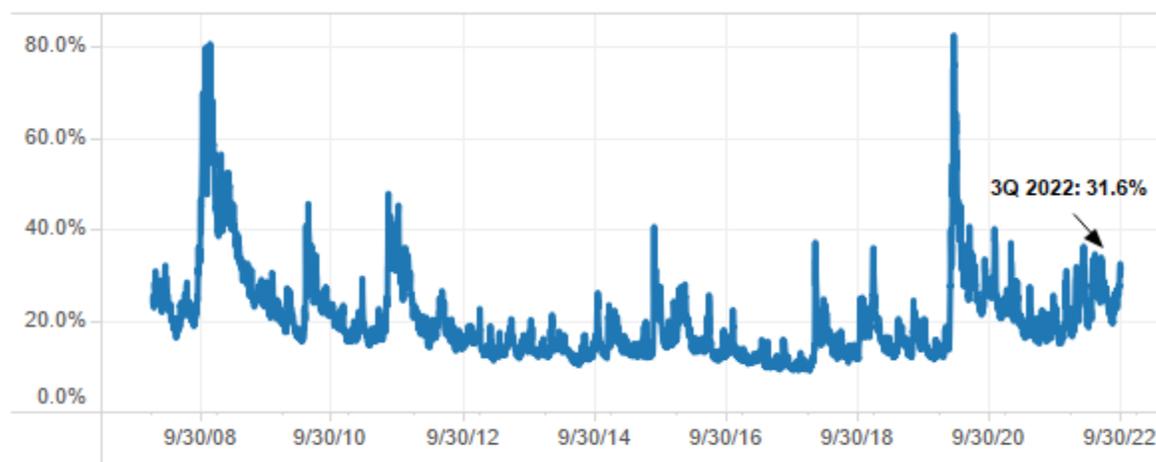
Value at Risk capital requirement	JPMorgan Chase Bank NA	Citibank NA	Bank of America NA	Goldman Sachs Bank USA
3Q 2022 VaR Capital Requirement	\$784	\$425	\$435	\$1,378
2Q 2022 VaR Capital Requirement	\$1,043	\$428	\$416	\$1,262
Q/Q Change	-\$259	-\$3	\$19	\$116
3Q 2022 Total Risk-Based Capital	\$282,192	\$165,171	\$198,008	\$53,306

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. Higher volatility as represented by the VIX is associated with increased equity trading volume, which drives increased bank and holding company equity trading revenue. The figure illustrates that there was an extended period of low volatility following the end of the 2008 financial crisis that continued until late in the first quarter of 2020. In mid-March 2020 volatility spiked as financial markets reacted to fears over the potential impact of the COVID-19 global pandemic. The VIX exceeded its previous high from the 2008 financial crisis before settling back to a more normal level of 31.6 percent at the end of the third quarter of 2022.

Figure 3: Volatility Index (VIX)



Source: Bloomberg

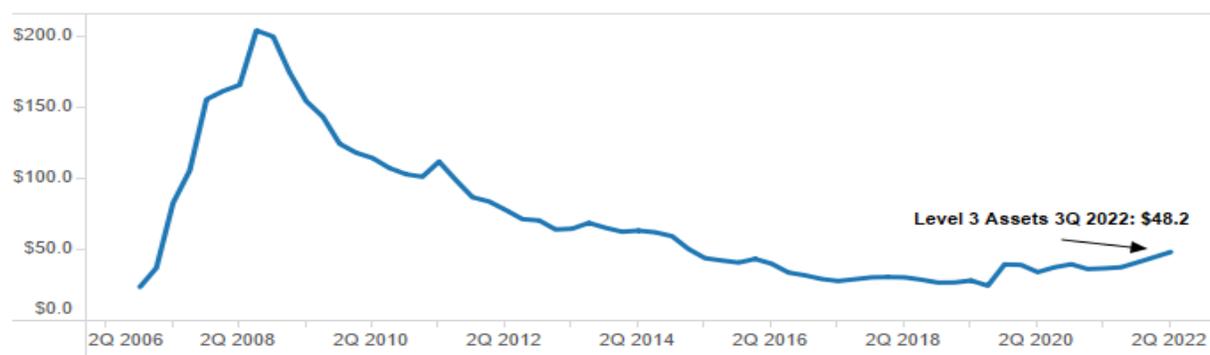
Level 3 Trading Assets

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,

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

major dealers have reduced the volume of level 3 trading assets. Because the model inputs that determine the fair value of these exposures are not derived from observable market transactions, banks use their own model assumptions in determining their fair values. Level 3 trading assets peaked at \$204.1 billion at the end of 2008 (see figure 4). At the end of the third quarter of 2022, banks held \$48.2 billion of level 3 trading assets, up 8.2 percent from the previous quarter and 31.3 percent higher than a year ago. Level 3 trading assets are \$155.9 billion (76.4 percent) lower than the peak level from 2008.

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



Source: Call reports, Schedule RC-Q

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 total notional amount of derivative contracts held by banks in the third quarter increased by \$231.0 billion (0.1 percent) to \$195.1 trillion from the previous quarter (see table 10). The increase in the notional amount of derivative contracts by underlying risk exposure was primarily driven by an increase in foreign exchange contracts and credit derivative contracts. Interest rate notional amounts continued to represent the majority of banks' derivative holdings at \$142.0 trillion, or 72.8 percent of total derivatives (see table 10).

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

Trading instrument	3Q 2022	2Q 2022	Q/Q Change	Q/Q % Change	3Q 2021	Y/Y Change	Y/Y % Change
Interest rate	\$141,968	\$142,860	-\$893	-0.6%	\$131,771	\$10,197	7.7%
FX	\$42,709	\$41,915	\$794	1.9%	\$42,504	\$205	0.5%
Equity	\$4,410	\$4,331	\$79	1.8%	\$4,649	-\$240	-5.2%
Commodity & Other	\$1,607	\$1,779	-\$173	-9.7%	\$1,703	-\$97	-5.7%
Credit derivatives	\$4,390	\$3,966	\$424	10.7%	\$3,852	\$538	14.0%
Total notional	\$195,083	\$194,851	\$231	0.1%	\$184,480	\$10,603	5.7%

Source: Call reports, Schedule RC-L

The increase in the total notional amount of derivative contracts by contract type was primarily driven by an increase in options and credit derivatives contracts (see table 11). Swaps contracts remained the leading derivatives contract type at 62.1 percent of all notional amounts.

The four banks with the most derivative activity hold 88.6 percent of all bank derivatives, while the largest 25 banks account for nearly 100 percent of all contracts (see tables 15 and 17 and figure 10 in the appendix for more information).

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

Trading instrument	3Q 2022	2Q 2022	Q/Q Change	Q/Q % Change	3Q 2021	Y/Y Change	Y/Y % Change
Futures & forwards	\$31,662	\$32,045	-\$383	-1.2%	\$35,311	-\$3,649	-10.3%
Swaps	\$121,132	\$121,285	-\$153	-0.1%	\$111,083	\$10,048	9.0%
Options	\$37,899	\$37,555	\$344	0.9%	\$34,233	\$3,666	10.7%
Credit derivatives	\$4,390	\$3,966	\$424	10.7%	\$3,852	\$538	14.0%
Total notional	\$195,083	\$194,851	\$231	0.1%	\$184,480	\$10,603	5.7%

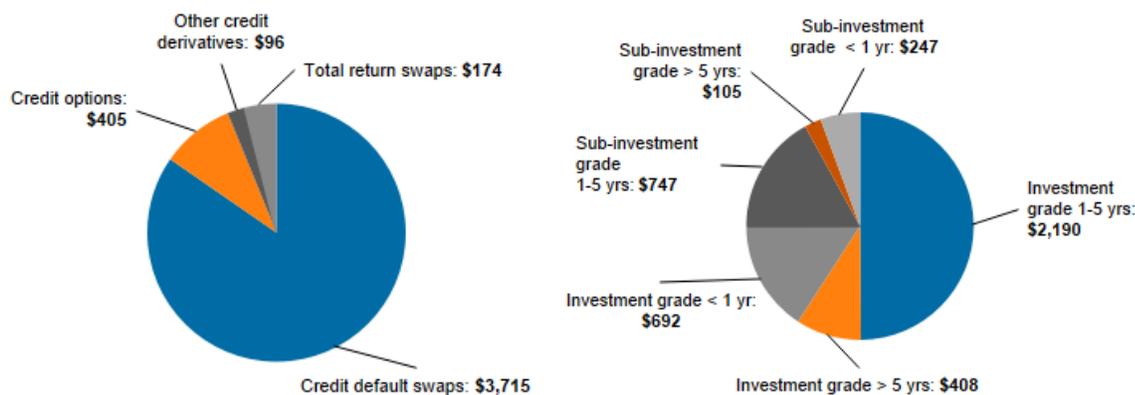
Source: Call reports, Schedule RC-L

Credit Derivatives

The notional amounts of credit derivatives increased \$424.0 billion (10.7 percent) to \$4.4 trillion in the third quarter of 2022 (see table 11). As shown in the chart on the left of figure 5, credit default swaps are the dominant product, at \$3.7 trillion (84.6 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 \$2.1 trillion or 49.9 percent of all credit derivative notional amounts. Contracts of all tenors that reference investment-grade entities are \$3.3 trillion or 75.0 percent of the market (see the chart on the right in figure 5).

Figure 5: Credit Derivative Composition, in Billions of Dollars



Source: Call reports, Schedule RC-L

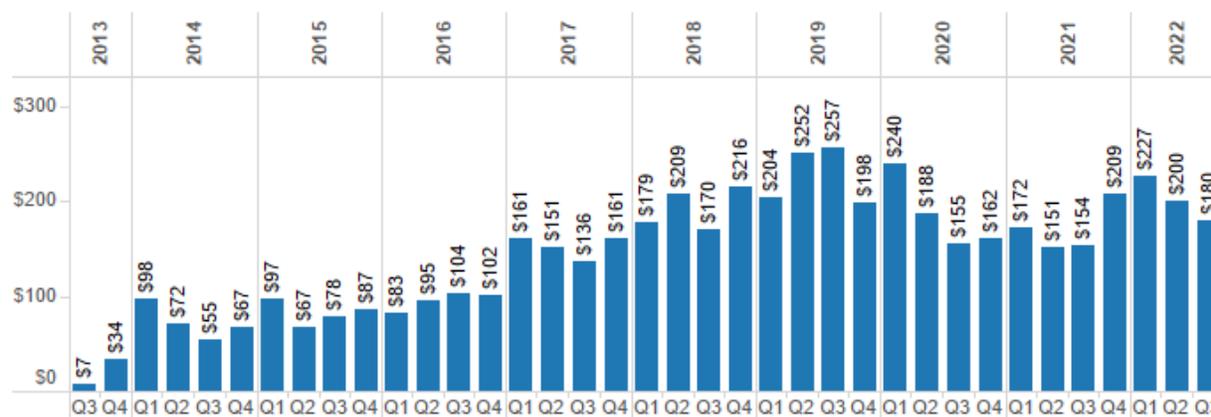
The notional amount for the 98 banks that net sold credit protection (i.e., assumed credit risk) was \$2.1 trillion, up \$208.9 billion (11.0 percent) from the second quarter of 2022 (see table 24 in the appendix). The notional amount for the 76 banks that net purchased credit protection (i.e., hedged credit risk) was \$2.3 trillion, \$215.1 billion higher (10.4 percent) than in the second quarter of 2022 (see table 24 in the appendix).

Compression Activity

Notional amounts of banks' derivative contracts have generally declined since 2013 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 decreased in the third quarter of 2022, as shown in figure 6.

Figure 6: Quarterly Compression Activity, in Trillions of Dollars



Source: LCH Group

Centrally Cleared Derivative Contracts

In the first quarter of 2015 banks began reporting their volumes of cleared and uncleared derivative transactions, as well as risk weights for counterparties in each of these categories. In the third quarter of 2022, 41.7 percent of banks' derivative holdings were centrally cleared (see table 12). From a market factor perspective, 54.3 percent of interest rate derivative contracts' notional amounts outstanding were centrally cleared, while very little of the FX derivative market was centrally cleared. The bank-held credit derivative market remained largely uncleared, as 30.6 percent of credit derivative transactions were centrally cleared during the third quarter of 2022.

Centrally cleared derivative transactions were heavily concentrated at qualifying central counterparties, with 84.9 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

Quarter	Interest rate	FX	Equity	Precious metals	Credit	Other	Total
3Q 2022	54.3%	3.0%	23.9%	6.6%	30.6%	12.9%	41.7%
2Q 2022	55.9%	3.2%	24.8%	5.9%	25.4%	12.3%	43.1%
1Q 2022	56.1%	2.9%	24.3%	6.4%	33.8%	12.4%	43.4%
4Q 2021	51.8%	2.0%	20.6%	3.1%	29.2%	12.3%	39.4%
3Q 2021	50.5%	2.1%	21.4%	2.6%	35.3%	13.2%	39.0%
2Q 2021	50.7%	2.0%	22.1%	3.3%	35.3%	14.1%	39.5%
1Q2021	48.6%	2.0%	24.3%	2.9%	39.3%	12.3%	38.2%
4Q 2020	45.3%	1.9%	24.3%	2.1%	36.8%	12.4%	35.0%
3Q 2020	49.2%	1.9%	24.9%	2.8%	39.2%	12.9%	38.9%
2Q 2020	50.7%	1.9%	25.7%	2.0%	36.0%	12.0%	40.3%
1Q 2020	52.9%	2.0%	26.5%	2.1%	34.4%	11.8%	42.3%

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 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.

Qualifying central counterparties (QCCP): QCCPs are defined in 12 CFR 3.2 as a CCP either 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 that meets a series of standards. See 12 CFR 3.2 for a 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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Table 13: Notional Amounts of Derivative Contracts

Top 25 Commercial Banks, Savings Associations and Trust Companies in Derivatives, in Millions of Dollars, September 30, 2022

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	\$3,308,575	\$54,304,061	\$1,082,435	\$1,095,480	\$10,191,981	\$32,885,146	\$7,744,782	\$1,304,237	\$1,083,148
2	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	513,905	50,966,723	1,330,001	2,666,000	4,626,895	28,963,273	12,756,933	623,621	828,226
3	CITIBANK NATIONAL ASSN	E57ODZWZ7F32TWEFA76	1,714,474	45,968,848	650,777	490,532	4,292,058	32,509,498	6,317,141	1,708,842	593,481
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	2,407,902	21,597,071	263,156	211,870	3,850,597	13,444,743	3,286,069	540,636	490,760
5	WELLS FARGO BANK NA	KB1H1DSPRFMYMCFXT09	1,712,442	12,162,668	523,282	472,763	973,648	7,984,059	2,094,880	114,036	28,849
6	STATE STREET BANK&TRUST CO	571474TGEMMWANRLN572	300,010	2,069,680	3,393	0	1,999,025	33,784	33,478	0	63,122
7	HSBC NA	1IE8VN30JCEQV1H4R804	166,765	1,465,693	33,794	6,570	499,336	821,879	89,931	14,183	50,866
8	BANK OF NEW YORK MELLON	HPFHU0OQ28E4N0NFVK49	344,654	1,063,986	36,861	38	253,677	747,766	25,369	275	110,307
9	U S BANK NATIONAL ASSN	6BYL5QZYBDK8S7L73M02	591,211	850,157	6,024	0	91,568	526,916	216,582	9,067	3,105
10	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	553,395	580,853	7,698	13,875	26,285	476,793	43,972	12,230	1,524
11	WESTERN ALLIANCE BANK		69,085	377,503	352,787	0	20,160	2,638	1,918	0	0
12	TD BANK NATIONAL ASSN	03D0JEWDFUS0SEEKG89	394,332	358,334	0	0	2,425	355,868	41	0	0
13	TRUIST BANK	JJKC32MCHWDI71265Z06	534,185	324,271	6,552	26,684	21,023	201,708	59,918	8,386	597
14	NORTHERN TRUST CO	6PTKHDJ8HDF78PFWH30	159,357	294,497	0	0	274,728	19,279	490	0	20,323
15	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	224,480	268,544	1,181	0	11,706	233,657	19,314	2,686	95
16	MUFG UNION BANK NA	OX3PU53ZLPQKJ4700D47	124,556	207,177	1,689	0	19,472	180,148	5,867	1	398
17	REGIONS BANK	EQTWLK1G7ODGC2MGLV11	156,809	172,784	947	0	2,359	132,994	30,426	6,058	20
18	FIFTH THIRD BANK NA	QFROUN1UWUYU0DVIWD51	204,285	171,662	1,797	308	8,062	111,564	45,001	4,929	457
19	CAPITAL ONE NATIONAL ASSN	207ALC1P1YM0OVDV0K75	391,805	163,854	28,602	0	5,726	122,319	701	6,507	315
20	KEYBANK NATIONAL ASSN	HUX2X73FUCYHUVH1BK78	187,717	140,866	970	0	7,812	118,445	13,523	116	651
21	MORGAN STANLEY BANK NA	G1MLHIS0N32I3QPILB75	190,521	123,935	0	0	18,742	81,695	10,941	12,557	1,216
22	HUNTINGTON NATIONAL BANK	2WHM8VNJH63UN14OL754	179,434	91,319	527	0	5,924	78,394	2,507	3,968	69
23	UBS BANK USA		117,317	74,628	0	0	0	74,628	0	0	0
24	MANUFACTURERS&TRADERS TR CO	WWB2V0FCW3A0EE3ZJN75	197,679	71,917	0	0	2,812	66,696	2,409	0	131
25	COMERICA BANK		84,240	70,198	0	0	2,589	56,116	10,000	1,493	326
	Top 25 Commercial Banks, SAs & TCs With Derivatives		\$14,829,133	\$193,941,227	\$4,332,472	\$4,984,121	\$27,208,609	\$120,230,005	\$32,812,192	\$4,373,828	\$3,277,986
	Other Commercial Banks, SAs & TCs With Derivatives		6,282,253	1,141,391	6,471	3,672	114,729	901,841	98,721	15,956	2,296
	Total All Commercial Banks, SAs & TCs With Derivatives		21,111,386	195,082,617	4,338,943	4,987,793	27,323,338	121,131,846	32,910,913	4,389,784	3,280,281

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

Source: Call reports, Schedule RC-L

Table 14: Notional Amounts of Derivative Contracts (Holding Companies)

Top 25 Holding Companies in Derivatives, in Millions of Dollars, September 30, 2022

Rank	Holding Company	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 & CO.	8I5DZWKVSI11NUHU748	\$3,773,884	\$53,737,164	\$1,116,819	\$1,680,610	\$10,597,955	\$31,597,661	\$7,437,308	\$1,306,811	\$1,064,706
2	CITIGROUP INC.	6SHGI4ZSSLCXXQSBB395	2,381,064	47,144,341	815,084	3,232,658	5,286,453	30,725,067	5,725,022	1,360,057	588,532
3	GOLDMAN SACHS GROUP, INC., THE	784F5XWPLTWKTBV3E584	1,555,994	41,762,504	1,838,454	3,939,638	4,434,566	21,051,100	9,320,225	1,178,521	315,211
4	BANK OF AMERICA CORPORATION	9DJT3UXIJIZJI4WXO774	3,072,953	38,318,384	768,126	1,315,640	6,735,796	24,230,968	4,349,543	918,311	396,070
5	MORGAN STANLEY	IGJSJL3JD5P30I6NJZ34	1,160,029	34,070,855	1,034,711	1,342,646	3,755,688	20,575,416	6,658,223	704,171	130,817
6	WELLS FARGO & COMPANY	PBLD0EJDB5FWOLXP3B76	1,877,745	12,376,764	532,026	530,318	1,316,575	7,808,056	2,092,556	97,233	28,831
7	SMBC AMERICAS HOLDINGS, INC.		34,654	10,244,131	1,330,800	2,576,860	148,654	4,822,481	1,363,336	2,000	349
8	MIZUHO AMERICAS LLC		58,043	8,510,590	26,846	18,440	122,539	8,133,218	199,979	9,568	5,042
9	HSBC NORTH AMERICA HOLDINGS INC.	213800JCL1FHBQK3M654	231,095	5,308,279	708,142	1,715,056	499,957	2,274,477	96,464	14,183	50,862
10	STATE STREET CORPORATION	549300ZFEJ2IP5VME73	303,568	2,061,380	3,393	0	1,999,025	25,484	33,478	0	63,122
11	BANK OF NEW YORK MELLON CORPORATION, THE	WFLLPEPC7FZXENRZV188	427,953	1,048,352	37,566	41	263,792	721,309	25,369	275	110,338
12	U.S. BANCORP	N1GZ7BBF3NP8GI976H15	600,973	864,838	6,024	0	90,855	542,310	216,581	9,068	3,105
13	RBC US GROUP HOLDINGS LLC		163,738	734,642	299,289	163,699	12,441	258,028	329	856	209
14	BARCLAYS US LLC	213800H14XVWV87OI72	179,481	716,457	11,461	402,668	257,745	43,783	0	800	89
15	PNC FINANCIAL SERVICES GROUP, INC., THE	CFGNEKW0P8842LEUIA51	559,496	572,529	7,916	13,875	28,379	466,082	43,972	12,305	1,524
16	TD GROUP US HOLDINGS LLC	549300ARWZ5E3L64UH29	513,101	405,776	20,654	410	14,069	370,405	237	0	0
17	WESTERN ALLIANCE BANCORPORATION	5493003VJXZ5JXT9S762	69,165	377,503	352,787	0	20,160	2,638	1,918	0	0
18	TRUIST FINANCIAL CORPORATION	549300DRQJ75D2JP341	548,438	335,473	6,552	26,684	23,407	210,406	59,918	8,506	597
19	NORTHERN TRUST CORPORATION	549300GLF98S992BC502	159,840	291,747	0	0	274,728	16,529	490	0	20,323
20	CITIZENS FINANCIAL GROUP, INC.	2138004JDDA4ZQUPFW65	225,139	268,544	1,181	0	11,706	233,657	19,314	2,686	95
21	CAPITAL ONE FINANCIAL CORPORATION	ZUE8T73ROZOF6FLBAR73	444,232	248,960	28,602	0	11,807	201,344	701	6,507	315
22	MUFG AMERICAS HOLDINGS CORPORATION		151,875	218,861	2,970	91	29,286	180,148	6,342	26	398
23	CREDIT SUISSE HOLDINGS (USA), INC.	549300YHT5NGRKJD1R94	79,240	186,122	5,051	897	86,009	23,202	14,243	56,720	127
24	FIFTH THIRD BANCORP	THRNG6BD57P9QWTQLG42	205,463	174,867	1,797	308	8,062	114,769	45,001	4,929	457
25	REGIONS FINANCIAL CORPORATION		157,943	171,384	947	0	2,359	131,594	30,426	6,058	20
	Top 25 Holding Companies with Derivatives		\$18,935,104	\$260,150,447	\$8,957,197	\$16,960,540	\$36,032,013	\$154,760,131	\$37,740,974	\$5,699,591	\$2,781,140

Note: Currently, the Y-9 report does not differentiate credit derivatives by contract type. Credit derivatives have been included in the sum of total derivatives. Before to the first quarter of 2005, total derivatives included spot FX. Beginning in that quarter, spot FX has been reported separately.

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

Table 15: Distribution of Derivative Contracts

Top 25 Commercial Banks, Savings Associations and Trust Companies in Derivatives, in Millions of Dollars, September 30, 2022

Rank	Bank Name	Legal Entity Identifier	Total Assets	Total Derivatives	Percent Exchange Traded Contracts	Percent OTC Contracts	Percent Interest Rate Contracts	Percent Foreign Exchange Contracts	Percent Equity Contracts	Percent Other Contracts	Percent Credit Derivatives
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$3,308,575	\$54,304,061	4.0	96.0	68.0	24.7	3.5	1.4	2.4
2	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	513,905	50,966,723	7.8	92.2	85.9	12.4	0.4	0.1	1.2
3	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,714,474	45,968,848	2.5	97.5	66.7	26.2	2.6	0.8	3.7
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	2,407,902	21,597,071	2.2	97.8	69.7	24.0	3.4	0.5	2.5
5	WELLS FARGO BANK NA	KB1H1DSPRFMYMCUFXT09	1,712,442	12,162,668	8.2	91.8	85.4	10.1	2.6	0.9	0.9
6	STATE STREET BANK&TRUST CO	571474TGEMMWANRLN572	300,010	2,069,680	0.2	99.8	1.7	96.8	0.0	1.5	0.0
7	HSBC NA	11E8VN30JCEQV1H4R804	166,765	1,465,693	2.8	97.2	14.9	79.0	1.3	3.8	1.0
8	BANK OF NEW YORK MELLON	HPFHU0OQ28E4N0NFVK49	344,654	1,063,986	3.5	96.5	27.0	72.6	0.4	0.0	0.0
9	U S BANK NATIONAL ASSN	6BYL5QZYBDK8S7L73M02	591,211	850,157	0.7	99.3	87.2	11.5	0.0	0.2	1.1
10	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	553,395	580,853	3.7	96.3	90.7	3.9	1.0	2.3	2.1
11	WESTERN ALLIANCE BANK		69,085	377,503	93.5	6.5	100.0	0.0	0.0	0.0	0.0
12	TD BANK NATIONAL ASSN	03D0JEWDFUS0SEEKG89	394,332	358,334	0.0	100.0	98.9	1.1	0.0	0.0	0.0
13	TRUIST BANK	JJKC32MCHWDI71265Z06	534,185	324,271	10.2	89.8	78.3	5.6	11.6	1.9	2.6
14	NORTHERN TRUST CO	6PTKHDJ8HDUF78PFWH30	159,357	294,497	0.0	100.0	6.5	93.3	0.2	0.0	0.0
15	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	224,480	268,544	0.4	99.6	88.0	10.6	0.0	0.4	1.0
16	MUFG UNION BANK NA	OX3PU53ZLPQKJ4700D47	124,556	207,177	0.8	99.2	89.2	10.7	0.1	0.0	0.0
17	REGIONS BANK	EQTWLK1G7ODGC2MGLV11	156,809	172,784	0.5	99.5	93.3	1.0	0.0	2.1	3.5
18	FIFTH THIRD BANK NA	QFROUN1UWUYU0DVIWD51	204,285	171,662	1.2	98.8	71.4	15.1	1.7	9.0	2.9
19	CAPITAL ONE NATIONAL ASSN	207ALC1P1YMOOVDV0K75	391,805	163,854	17.5	82.5	84.1	2.8	0.0	9.2	4.0
20	KEYBANK NATIONAL ASSN	HUX2X73FUCYHUVH1BK78	187,717	140,866	0.7	99.3	81.9	6.0	0.0	12.1	0.1
21	MORGAN STANLEY BANK NA	G1MLHIS0N32I3QPILB75	190,521	123,935	0.0	100.0	40.6	27.0	22.4	0.0	10.1
22	HUNTINGTON NATIONAL BANK	2WHM8VNJH63UN14OL754	179,434	91,319	0.6	99.4	88.9	5.1	0.5	1.1	4.3
23	UBS BANK USA		117,317	74,628	0.0	100.0	100.0	0.0	0.0	0.0	0.0
24	MANUFACTURERS&TRADERS TR CO	WWB2V0FCW3A0EE3ZJN75	197,679	71,917	0.0	100.0	97.8	2.2	0.0	0.0	0.0
25	COMERICA BANK		84,240	70,198	0.0	100.0	73.2	3.7	0.0	21.0	2.1
	Top 25 Commercial Banks, SAs & TCs With Derivatives		\$14,829,133	\$193,941,227	\$9,316,592	\$184,624,635	\$140,938,326	\$42,637,307	\$4,406,819	\$1,584,946	\$4,373,828
	Other Commercial Banks, SAs & TCs With Derivatives		6,282,253	1,141,391	10,143	1,131,247	1,029,460	71,339	2,814	21,821	15,956
	Total All Commercial Banks, SAs & TCs With Derivatives		21,111,386	195,082,617	9,326,736	185,755,882	141,967,786	42,708,646	4,409,633	1,606,767	4,389,784
	Top 25 Commercial Banks, SAs & TCs With Derivatives: Percentage of Total			99.4	4.8	94.6	72.2	21.9	2.3	0.8	2.2
	Other Commercial Banks, SAs & TCs With Derivatives: Percentage of Total			0.6	0.0	0.6	0.5	0.0	0.0	0.0	0.0
	Total All Commercial Banks, SAs & TCs With Derivatives: Percentage of Total			100.0	4.8	95.2	72.8	21.9	2.3	0.8	2.3

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. "FX" does not include spot FX. "Other" is defined as the sum of commodity and equity contracts.

Source: Call reports, Schedule RC-L

Table 16: Credit Equivalent Exposures

Top 25 Commercial Banks, Savings Associations and Trust Companies in Derivatives, in Millions of Dollars, September 30, 2022

Rank	Bank Name	Legal Entity Identifier	Total Assets	Total Derivatives	Total Risk-Based Capital	Bilaterally Netted Current Credit Exposure	Potential Future Exposure	Total Credit Exposure From All Contracts	Percent of Total Credit Exposure To Capital
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$3,308,575	\$54,304,061	\$282,192	\$114,992	\$253,116	\$368,108	130
2	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	513,905	50,966,723	53,306	16,778	48,043	64,821	122
3	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,714,474	45,968,848	165,171	66,870	162,424	229,294	139
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	2,407,902	21,597,071	198,008	51,456	56,694	108,150	55
5	WELLS FARGO BANK NA	KB1H1DSPRFMYMCUFXT09	1,712,442	12,162,668	160,488	54,068	15,179	69,247	43
6	STATE STREET BANK&TRUST CO	571474TGEMMWANRLN572	300,010	2,069,680	19,343	10,673	15,631	26,304	136
7	HSBC NA	1IE8VN30JCEQV1H4R804	166,765	1,465,693	21,915	9,495	1,811	11,306	52
8	BANK OF NEW YORK MELLON	HPFHU00Q28E4N0NFVK49	344,654	1,063,986	19,462	10,977	8,315	19,292	99
9	U S BANK NATIONAL ASSN	6BYL5QZYBDK8S7L73M02	591,211	850,157	54,742	7,434	4,412	11,846	22
10	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	553,395	580,853	49,488	5,529	-542	4,987	10
11	WESTERN ALLIANCE BANK		69,085	377,503	5,936	79	12	91	2
12	TD BANK NATIONAL ASSN	03D0JEWFDUFUS0SEEKG89	394,332	358,334	39,182	380	56	436	1
13	TRUIST BANK	JJKC32MCHWDI71265Z06	534,185	324,271	46,456	994	2,062	3,056	7
14	NORTHERN TRUST CO	6PTKHDJ8HDF78PFWH30	159,357	294,497	10,570	4,967	2,531	7,498	71
15	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	224,480	268,544	23,285	1,056	1,609	2,664	11
16	MUFG UNION BANK NA	OX3PU53ZLPQKJ4700D47	124,556	207,177	16,770	1,251	-624	627	4
17	REGIONS BANK	EQTWLK1G7ODGC2MGLV11	156,809	172,784	14,845	563	705	1,268	9
18	FIFTH THIRD BANK NA	QFROUN1UWUYU0DVIWD51	204,285	171,662	20,559	2,560	2,663	5,223	25
19	CAPITAL ONE NATIONAL ASSN	207ALC1P1YM0OVDV0K75	391,805	163,854	31,434	5,298	5,243	10,541	34
20	KEYBANK NATIONAL ASSN	HUX2X73FUCYHUVH1BK78	187,717	140,866	19,269	1,606	1,632	3,237	17
21	MORGAN STANLEY BANK NA	G1MLHISON32I3QPILB75	190,521	123,935	19,335	154	3,881	4,035	21
22	HUNTINGTON NATIONAL BANK	2WHM8VNH63UN14OL754	179,434	91,319	17,501	2,597	987	3,584	20
23	UBS BANK USA		117,317	74,628	10,059	0	273	273	3
24	MANUFACTURERS&TRADERS TR CO	WWB2V0FCW3A0EE3ZJN75	197,679	71,917	18,617	97	249	347	2
25	COMERICA BANK		84,240	70,198	8,950	698	1,361	2,059	23
	Top 25 Commercial Banks, SAs & TCs With Derivatives		\$14,829,133	\$193,941,227	\$1,326,883	\$370,572	\$587,723	\$958,295	72
	Other Commercial Banks, SAs & TCs With Derivatives		6,282,253	1,141,391	632,898	19,833	11,516	31,349	5
	Total All Commercial Banks, SAs & TCs With Derivatives		21,111,386	195,082,617	1,959,781	390,404	599,239	989,643	50

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. The total credit exposure to capital ratio is calculated using risk-based capital (tier 1 plus tier 2 capital). Currently, the call report does not differentiate credit derivatives by contract type. Credit derivatives have been included in the sum of total derivatives here.

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

Table 17: Notional Amounts of Derivative Contracts Held for Trading

Top Four Commercial Banks, Savings Associations and Trust Companies in Derivatives, in Millions of Dollars, September 30, 2022

Rank	Bank Name	Legal Entity Identifier	Total Assets	Total Derivatives	Total Held for Trading & MTM	Percent Held for Trading & MTM	Total Not Held For Trading & MTM	Percent Not Held for Trading & MTM
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$3,308,575	\$54,304,061	\$52,580,549	99.2	\$419,275	0.8
2	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	513,905	50,966,723	50,308,599	99.9	34,503	0.1
3	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,714,474	45,968,848	44,124,842	99.7	135,164	0.3
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	2,407,902	21,597,071	19,430,441	92.3	1,625,994	7.7
	Top Four Commercial Banks, SAs & TCs With Derivatives		\$7,944,856	\$172,836,703	\$166,444,431	98.7	\$2,214,936	1.3
	Other Commercial Banks, SAs & TCs With Derivatives		13,166,530	22,245,914	19,271,915	87.5	2,761,551	12.5
	Total All Commercial Banks, SAs & TCs With Derivatives		21,111,386	195,082,617	185,716,346	97.4	4,976,487	2.6

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

Source: Call reports, Schedule RC-L

Table 18: Gross Fair Values of Derivative Contracts

Top Four Commercial Banks, Savings Associations and Trust Companies in Derivatives, in Millions of Dollars, September 30, 2022

Rank	Bank Name	Legal Entity Identifier	Total Assets	Total Derivatives	Trading Gross Positive Fair Value*	Trading Gross Negative Fair Value**	Not For Trading Gross Positive Fair Value*	Not For Trading Gross Negative Fair Value**	Credit Derivatives Gross Positive Fair Value	Credit Derivatives Gross Negative Fair Value**
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$3,308,575	\$54,304,061	\$828,549	\$788,956	\$5,934	\$3,658	\$13,192	\$11,222
2	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	513,905	50,966,723	820,894	805,005	339	91	6,234	6,450
3	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,714,474	45,968,848	598,515	572,348	5,888	4,382	12,253	11,587
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	2,407,902	21,597,071	227,143	194,996	72,365	68,696	5,333	4,295
	Top Four Commercial Banks, SAs & TCs With Derivatives		\$7,944,856	\$172,836,703	\$2,475,101	\$2,361,305	\$84,526	\$76,827	\$37,012	\$33,554
	Other Commercial Banks, SAs & TCs With Derivatives		13,166,530	22,245,914	231,620	232,119	45,593	37,951	5,680	2,349
	Total All Commercial Banks, SAs & TCs With Derivatives		21,111,386	195,082,617	2,706,721	2,593,424	130,119	114,778	42,692	35,903

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.

*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 19: Trading Revenues From Cash Instruments and Derivatives

Top Four Commercial Banks, Savings Associations and Trust Companies in Derivatives, in Millions of Dollars: Revenue Figures are for the Quarter (Not Year-to-Date), September 30, 2022

Rank	Bank Name	Legal Entity Identifier	Total Assets	Total Derivatives	Total Trading Revenues From Cash & Off-Balance Sheet Positions	Trading Revenue From Interest Rate Positions	Trading Revenue From Foreign Exchange Positions	Trading Revenue From Equity Positions	Trading Revenue From Commodity & Other Positions	Trading Revenue From Credit Positions
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$3,308,575	\$54,304,061	5,118	809	1,372	1,840	503	594
2	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	513,905	50,966,723	997	-2,733	2,899	163	25	643
3	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,714,474	45,968,848	2,177	394	1,377	397	71	-62
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	2,407,902	21,597,071	2,312	338	1,144	711	64	55
	Top Four Commercial Banks, SAs & TCs With Derivatives		\$7,944,856	\$172,836,703	10,604	-1,192	6,792	3,111	663	1,230
	Other Commercial Banks, SAs & TCs With Derivatives		13,166,530	22,245,914	2,115	-9	1,361	203	111	448
	Total All Commercial Banks, SAs & TCs With Derivatives		21,111,386	195,082,617	12,719	-1,201	8,153	3,314	774	1,678

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

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

Table 20: Notional Amounts of Derivative Contracts by Contract Type and Maturity (Interest Rate and Foreign Exchange Rate)

Top Four Commercial Banks, Savings Associations and Trust Companies in Derivatives, in Millions of Dollars, September 30, 2022

Rank	Bank Name	Legal Entity Identifier	Total Assets	Total Derivatives	Interest Rate Maturity < 1 Year	Interest Rate Maturity 1-5 Years	Interest Rate Maturity > 5 Years	Interest Rate: All Maturities	Foreign Exchange Rate Maturity < 1 Year	Foreign Exchange Rate Maturity 1-5 Years	Foreign Exchange Rate Maturity > 5 Years	Foreign Exchange Rate: All Maturities
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$3,308,575	\$54,304,061	\$36,187,481	\$6,761,850	\$5,105,186	\$48,054,517	\$10,157,596	\$2,261,332	\$1,062,873	\$13,481,801
2	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	513,905	50,966,723	20,618,913	8,141,889	7,369,409	36,130,211	4,444,973	958,557	641,189	6,044,719
3	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,714,474	45,968,848	22,455,042	3,601,109	2,642,149	28,698,300	10,289,409	577,405	206,634	11,073,448
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	2,407,902	21,597,071	6,721,211	4,975,556	3,717,021	15,413,788	4,323,106	429,349	270,850	5,023,305
	Top Four Commercial Banks, SAs & TCs With Derivatives		\$7,944,856	\$172,836,703	\$85,982,647	\$23,480,404	\$18,833,765	\$128,296,816	\$29,215,084	\$4,226,643	\$2,181,546	\$35,623,273
	Other Commercial Banks, SAs & TCs With Derivatives		13,166,530	22,245,914	11,494,013	2,605,735	1,086,130	15,185,878	5,538,754	255,040	45,297	5,839,091
	Total All Commercial Banks, SAs & TCs With Derivatives		21,111,386	195,082,617	97,476,660	26,086,139	19,919,895	143,482,694	34,753,838	4,481,683	2,226,843	41,462,364

Note: Beginning January 1, 2022, the largest banks are required to calculate their derivative exposure amount for regulatory capital purposes using the Standardized Approach for Counterparty Credit Risk (SA-CCR). Refer to the call report instructions and OCC Bulletin 2020-7, "Standardized Approach for Counterparty Credit Risk: Final Rule," for additional information on the SA-CCR exposure calculation.

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

Table 21: Notional Amounts of Derivative Contracts by Contract Type and Maturity (Precious Metals)

Top Four Commercial Banks, Savings Associations and Trust Companies in Derivatives, in Millions of Dollars, September 30, 2022

Rank	Bank Name	Legal Entity Identifier	Total Assets	Total Derivatives	Precious Metals Maturity < 1 Year	Precious Metals Maturity 1-5 Years	Precious Metals Maturity > 5 Years	Precious Metals: All Maturities
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$3,308,575	\$54,304,061	\$196,829	\$16,407	\$6	\$213,242
2	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	513,905	50,966,723	1,713	305	0	2,018
3	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,714,474	45,968,848	98,527	3,714	0	102,241
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	2,407,902	21,597,071	62,826	1,439	0	64,265
	Top Four Commercial Banks, SAs & TCs With Derivatives		\$7,944,856	\$172,836,703	\$359,895	\$21,865	\$6	\$381,766
	Other Commercial Banks, SAs & TCs With Derivatives		13,166,530	22,245,914	11,723	687	0	12,410
	Total All Commercial Banks, SAs & TCs With Derivatives		21,111,386	195,082,617	371,618	22,552	6	394,176

Note: Beginning January 1, 2022, the largest banks are required to calculate their derivative exposure amount for regulatory capital purposes using the Standardized Approach for Counterparty Credit Risk (SA-CCR). Under SA-CCR gold derivatives are considered precious metals derivative contracts rather than an exchange rate derivative contract resulting in an increase in reported precious metals derivative contracts compared to prior quarters. Refer to the call report instructions and OCC Bulletin 2020-7, "Standardized Approach for Counterparty Credit Risk: Final Rule," for additional information on the SA-CCR exposure calculation.

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

Table 22: Notional Amounts of Derivative Contracts by Contract Type and Maturity (Other Commodity and Equity)

Top Four Commercial Banks, Savings Associations and Trust Companies in Derivatives, in Millions of Dollars, September 30, 2022

Rank	Bank Name	Legal Entity Identifier	Total Assets	Total Derivatives	Other Commodity Maturity < 1 Year	Other Commodity Maturity 1-5 Years	Other Commodity Maturity > 5 Years	Other Commodity: All Maturities	Equity Maturity < 1 Year	Equity Maturity 1-5 Years	Equity Maturity > 5 Years	Equity: All Maturities
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$3,308,575	\$54,304,061	\$869,687	\$136,188	\$5,319	\$1,011,194	\$2,696,086	\$579,163	\$81,790	\$3,357,039
2	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	513,905	50,966,723	29,743	17,516	439	47,698	170,344	44,157	16,529	231,030
3	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,714,474	45,968,848	126,629	54,140	951	181,720	571,792	145,716	8,068	725,576
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	2,407,902	21,597,071	26,423	8,411	358	35,192	546,720	200,001	24,916	771,637
	Top Four Commercial Banks, SAs & TCs With Derivatives		\$7,944,856	\$172,836,703	\$1,052,482	\$216,255	\$7,067	\$1,275,804	\$3,984,942	\$969,037	\$131,303	\$5,085,282
	Other Commercial Banks, SAs & TCs With Derivatives		13,166,530	22,245,914	125,243	119,922	129	245,294	330,412	88,785	9,182	428,380
	Total All Commercial Banks, SAs & TCs With Derivatives		21,111,386	195,082,617	1,177,725	336,177	7,196	1,521,098	4,315,354	1,057,822	140,485	5,513,662

Note: Beginning January 1, 2022, the largest banks are required to calculate their derivative exposure amount for regulatory capital purposes using the Standardized Approach for Counterparty Credit Risk (SA-CCR). Refer to the call report instructions and OCC Bulletin 2020-7, "Standardized Approach for Counterparty Credit Risk: Final Rule," for additional information on the SA-CCR exposure calculation.

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

Table 23: Notional Amounts of Credit Derivative Contracts by Contract Type and Maturity (Investment Grade and Sub-Investment Grade)

Top Four Commercial Banks, Savings Associations and Trust Companies in Derivatives, in Millions of Dollars, September 30, 2022

Rank	Bank Name	Legal Entity Identifier	Total Assets	Total Derivatives	Total Credit Derivatives	Investment Grade Maturity <1 Year	Investment Grade Maturity 1-5 Years	Investment Grade Maturity >5 Years	Investment Grade All Maturities	Sub-Investment Grade Maturity <1 Year	Sub-Investment Grade Maturity 1-5 Years	Sub-Investment Grade Maturity >5 Years	Sub-Investment Grade All Maturities
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$3,308,575	\$54,304,061	\$1,304,237	\$227,438	\$620,600	\$156,255	\$1,004,293	\$67,636	\$196,500	\$35,808	\$299,944
2	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	513,905	50,966,723	623,621	53,127	279,846	65,096	398,069	29,365	172,730	23,457	225,552
3	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32TWEFA76	1,714,474	45,968,848	1,708,842	218,470	1,008,358	118,562	1,345,390	83,018	259,628	20,806	363,452
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	2,407,902	21,597,071	540,636	136,781	209,392	50,977	397,150	56,013	77,360	10,113	143,486
	Top Four Commercial Banks, SAs & TCs With Derivatives		\$7,944,856	\$172,836,703	\$4,177,336	\$635,816	\$2,118,196	\$390,890	\$3,144,902	\$236,032	\$706,218	\$90,184	\$1,032,434
	Other Commercial Banks, SAs & TCs With Derivatives		13,166,530	22,245,914	212,448	56,530	71,905	17,580	146,015	10,865	41,132	14,436	66,433
	Total All Commercial Banks, SAs & TCs With Derivatives		21,111,386	195,082,617	4,389,784	692,346	2,190,101	408,470	3,290,917	246,897	747,350	104,620	1,098,867

Source: Call reports, Schedule RC-L

Table 24: Distribution of Credit Derivative Contracts Held for Trading

Top 25 Commercial Banks, Savings Associations and Trust Companies in Derivatives, in Millions of Dollars, September 30, 2022

Rank	Bank Name	Legal Entity Identifier	Total Assets	Total Derivatives	Total Credit Derivatives	Total Credit Derivatives Purchased	Total Credit Derivatives Sold	Purchased Credit Default Swaps	Purchased Total Return Swaps	Purchased Credit Options	Purchased Other Credit Derivatives	Sold Credit Default Swaps	Sold Total Return Swaps	Sold Credit Options	Sold Other Credit Derivatives
1	JPMORGAN CHASE BANK NA	7H6GLXDRUGQFU57RNE97	\$3,308,575	\$54,304,061	\$1,304,237	\$673,786	\$630,451	\$568,289	\$27,037	\$73,178	\$5,282	\$553,943	\$12,398	\$64,103	\$7
2	GOLDMAN SACHS BANK USA	KD3XUN7C6T14HNAYLU02	513,905	50,966,723	623,621	337,353	286,268	317,471	1,862	17,422	598	270,733	1,862	13,575	98
3	CITIBANK NATIONAL ASSN	E57ODZWZ7FF32WEFA76	1,714,474	45,968,848	1,708,842	868,724	840,118	806,451	14,371	47,902	0	767,133	9,064	63,921	0
4	BANK OF AMERICA NA	B4TYDEB6GKMZO031MB27	2,407,902	21,597,071	540,636	279,551	261,085	199,506	15,665	64,380	0	182,299	19,569	59,217	0
5	WELLS FARGO BANK NA	KB1H1DSPRFMYMCFXT09	1,712,442	12,162,668	114,036	68,281	45,755	12,046	39,494	0	16,741	9,848	25,392	0	10,515
6	STATE STREET BANK&TRUST CO	571474TGEMMWANRLN572	300,010	2,069,680	0	0	0	0	0	0	0	0	0	0	0
7	HSBC NA	1IE8VN30JCEQV1H4R804	166,765	1,465,693	14,183	10,781	3,402	5,603	5,178	0	0	3,402	0	0	0
8	BANK OF NEW YORK MELLON	HPFHU0OQ28E4N0NFVK49	344,654	1,063,986	275	275	0	275	0	0	0	0	0	0	0
9	U.S. BANK NATIONAL ASSN	6BYL5QZYBDK8S7L73M02	591,211	850,157	9,067	2,166	6,902	91	0	0	2,075	366	0	0	6,536
10	PNC BANK NATIONAL ASSN	AD6GFRVSDT01YPT1CS68	553,395	580,853	12,230	4,871	7,359	400	0	0	4,471	0	0	0	7,359
11	WESTERN ALLIANCE BANK		69,085	377,503	0	0	0	0	0	0	0	0	0	0	0
12	TD BANK NATIONAL ASSN	03D0JEWFDUS0SEEKG89	394,332	358,334	0	0	0	0	0	0	0	0	0	0	0
13	TRUIST BANK	JJKC32MCHWDI71265Z06	534,185	324,271	8,386	3,258	5,128	519	1,525	0	1,214	0	0	0	5,128
14	NORTHERN TRUST CO	6PTKHDJ8HDUF78PFWH30	159,357	294,497	0	0	0	0	0	0	0	0	0	0	0
15	CITIZENS BANK NATIONAL ASSN	DRMSV1Q0EKMEXLAU1P80	224,480	268,544	2,686	0	2,686	0	0	0	0	0	0	0	2,686
16	MUFG UNION BANK NA	OX3PU53ZLPQKJ4700D47	124,556	207,177	1	1	0	1	0	0	0	0	0	0	0
17	REGIONS BANK	EQTWLK1G7ODGC2MGLV11	156,809	172,784	6,058	2,474	3,584	0	0	0	2,474	0	0	0	3,584
18	FIFTH THIRD BANK NA	QFROUN1UWUYUODVIVD51	204,285	171,662	4,929	1,277	3,653	0	0	0	1,277	0	0	0	3,653
19	CAPITAL ONE NATIONAL ASSN	207ALC1P1YM0OVDV0K75	391,805	163,854	6,507	3,547	2,960	0	0	0	3,547	0	0	0	2,960
20	KEYBANK NATIONAL ASSN	HUX2X73FUCYUHVH1BK78	187,717	140,866	116	24	93	24	0	0	0	0	93	0	0
21	MORGAN STANLEY BANK NA	G1MLHIS0N32I3QPILB75	190,521	123,935	12,557	11,882	675	10,978	0	904	0	675	0	0	0
22	HUNTINGTON NATIONAL BANK	2WHM8VNHJ63UN14OL754	179,434	91,319	3,968	2,355	1,613	0	0	0	2,355	0	0	0	1,613
23	UBS BANK USA		117,317	74,628	0	0	0	0	0	0	0	0	0	0	0
24	MANUFACTURERS&TRADERS TR CO	WWWB2V0FCW3A0EE3ZJN75	197,679	71,917	0	0	0	0	0	0	0	0	0	0	0
25	COMERICA BANK		84,240	70,198	1,493	599	894	599	0	0	0	894	0	0	0
	Top 25 Commercial Banks, SAs & TCs With Derivatives		\$14,829,133	\$193,941,227	\$4,373,828	\$2,271,203	\$2,102,625	\$1,922,252	\$105,132	\$203,786	\$40,033	\$1,789,293	\$68,378	\$200,816	\$44,138
	Other Commercial Banks, SAs & TCs With Derivatives		6,282,253	1,141,391	15,956	5,356	10,600	1,378	0	0	3,978	2,397	24	0	8,178
	Total All Commercial Banks, SAs & TCs With Derivatives		21,111,386	195,082,617	4,389,784	2,276,559	2,113,225	1,923,630	105,132	203,786	44,011	1,791,691	68,402	200,816	52,316
	Top 25 Commercial Banks, SAs & TCs With Derivatives: Percentage of Total				99.6	51.7	47.9	43.8	2.4	4.6	0.9	40.8	1.6	4.6	1.0
	Other Commercial Banks, SAs & TCs With Derivatives: Percentage of Total				0.4	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.2
	Total All Commercial Banks, SAs & TCs With Derivatives: Percentage of Total				100.0	51.9	48.1	43.8	2.4	4.6	1.0	40.8	1.6	4.6	1.2

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

Source: Call reports, Schedule RC-L

Table 25: Derivatives Data Reported by FFIEC 051 Filers*

Commercial Banks, Savings Associations and Trust Companies in Derivatives, in Millions of Dollars, September 30, 2022

FFIEC 051 Call Report Schedule SU

Gross Notional Amount of Derivatives	3Q22	2Q22	1Q22	4Q21	3Q21	2Q21	1Q21	4Q20	3Q20	2Q20	1Q20	4Q19
<i>Total gross notional amount of interest rate derivatives held for trading</i>	\$4,915	\$4,953	\$4,994	\$5,011	\$5,301	\$5,189	\$5,391	\$5,819	\$6,236	\$5,183	\$4,476	\$2,293
<i>Total gross notional amount of all other derivatives held for trading</i>	\$42	\$35	\$39	\$44	\$14	\$173	\$20	\$19	\$53	\$34	\$48	\$33
<i>Total gross notional amount of interest rate derivatives not held for trading</i>	\$16,786	\$19,499	\$21,308	\$22,545	\$29,991	\$31,949	\$38,839	\$52,867	\$57,459	\$52,779	\$37,572	\$20,044
<i>Total gross notional amount of all other derivatives not held for trading</i>	\$1,037	\$1,142	\$1,007	\$1,314	\$1,461	\$1,350	\$1,269	\$1,137	\$1,202	\$1,302	\$1,171	\$631

FFIEC 051 Call Report Schedule RC-R**

Notional principal amounts of over-the-counter derivative contracts covered by the regulatory capital rules	3Q22	2Q22	1Q22	4Q21	3Q21	2Q21	1Q21	4Q20	3Q20	2Q20	1Q20	4Q19
<i>Interest rate</i>	Data Not Reported	\$13,714	Data Not Reported	\$14,005	Data Not Reported	\$17,688	Data Not Reported	\$22,947	Data Not Reported	\$33,122	Data Not Reported	\$12,478
<i>Foreign exchange rate</i>		\$4		\$4		\$3		\$84		\$19		\$18
<i>Credit (investment grade reference asset)</i>		\$265		\$230		\$196		\$217		\$199		\$166
<i>Credit (non-investment grade reference asset)</i>		\$135		\$168		\$154		\$143		\$138		\$61
<i>Equity</i>		\$0		\$0		\$0		\$0		\$0		\$0
<i>Precious metals</i>		\$0		\$4		\$1		\$0		\$0		\$0
<i>Other</i>		\$0		\$0		\$1		\$20		\$25		\$9

Notional principal amounts of centrally cleared derivative contracts covered by the regulatory capital rules	3Q22	2Q22	1Q22	4Q21	3Q21	2Q21	1Q21	4Q20	3Q20	2Q20	1Q20	4Q19
<i>Interest rate</i>	Data Not Reported	\$108	Data Not Reported	\$21	Data Not Reported	\$193	Data Not Reported	\$250	Data Not Reported	\$299	Data Not Reported	\$96
<i>Foreign exchange rate</i>		\$0		\$0		\$0		\$0		\$0		\$0
<i>Credit (investment grade reference asset)</i>		\$0		\$0		\$0		\$0		\$0		\$0
<i>Credit (non-investment grade reference asset)</i>		\$0		\$0		\$0		\$0		\$0		\$0
<i>Equity</i>		\$0		\$0		\$0		\$0		\$0		\$0
<i>Precious metals</i>		\$0		\$0		\$0		\$0		\$0		\$0
<i>Other</i>		\$0		\$0		\$0		\$0		\$0		\$0

Current Credit Exposure	3Q22	2Q22	1Q22	4Q21	3Q21	2Q21	1Q21	4Q20	3Q20	2Q20	1Q20	4Q19
Current credit exposure across all derivative contracts covered by the regulatory capital rules	Data Not Reported	\$363	Data Not Reported	\$233	Data Not Reported	\$287	Data Not Reported	\$449	Data Not Reported	\$504	Data Not Reported	\$140

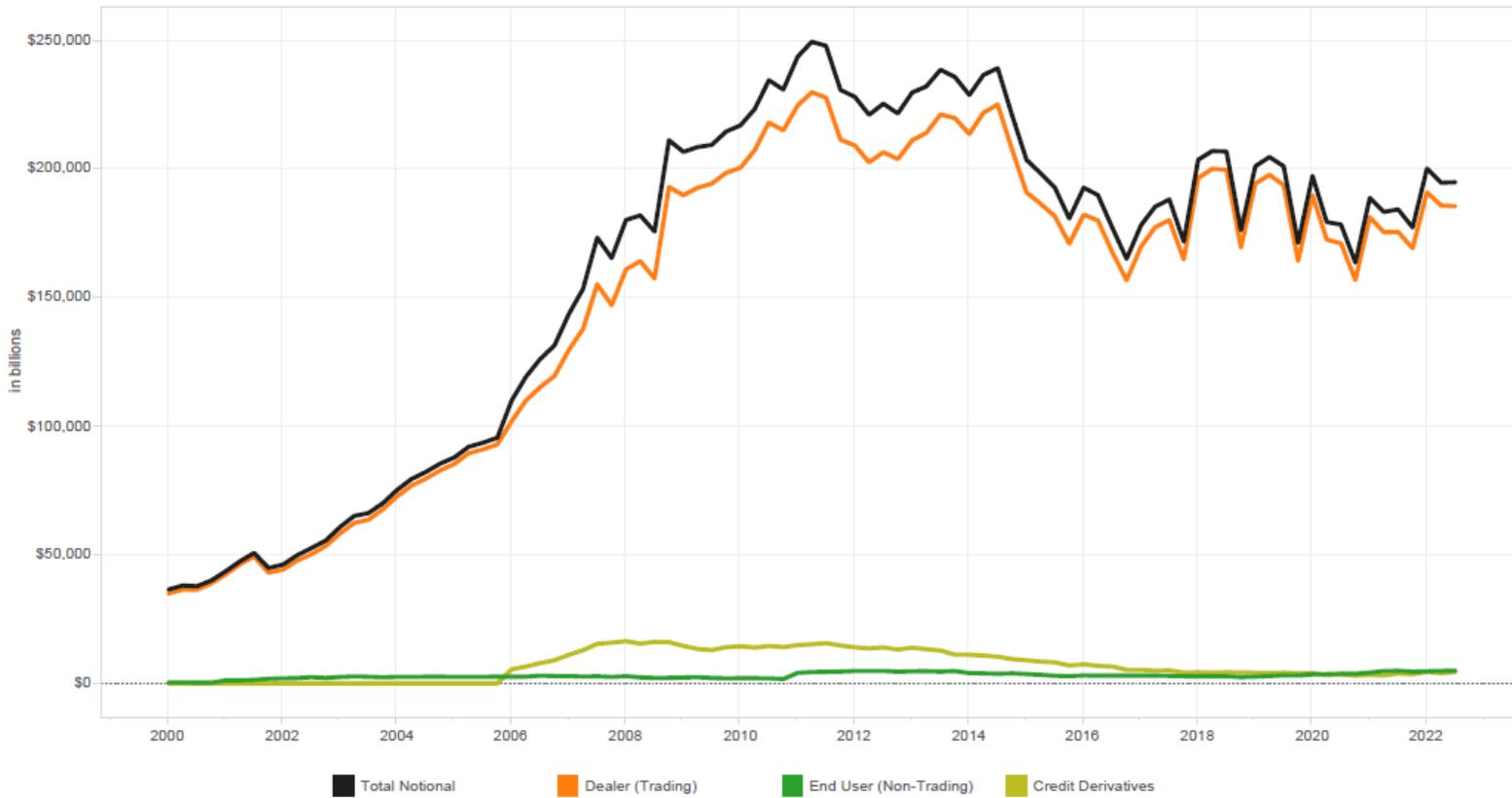
*Beginning September 30, 2019, the eligibility to file the FFIEC 051 Call Report expanded from banks with total assets less than \$1 billion to include banks with less than \$5 billion in total assets.

**Beginning September 30, 2019, banks filing the FFIEC 051 Call Report complete this information from schedule RC-R in the June and December reports only.

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

Figure 7: Derivative Notional Amounts by Type

Insured U.S. Commercial Banks and Savings Associations



In billions of dollars

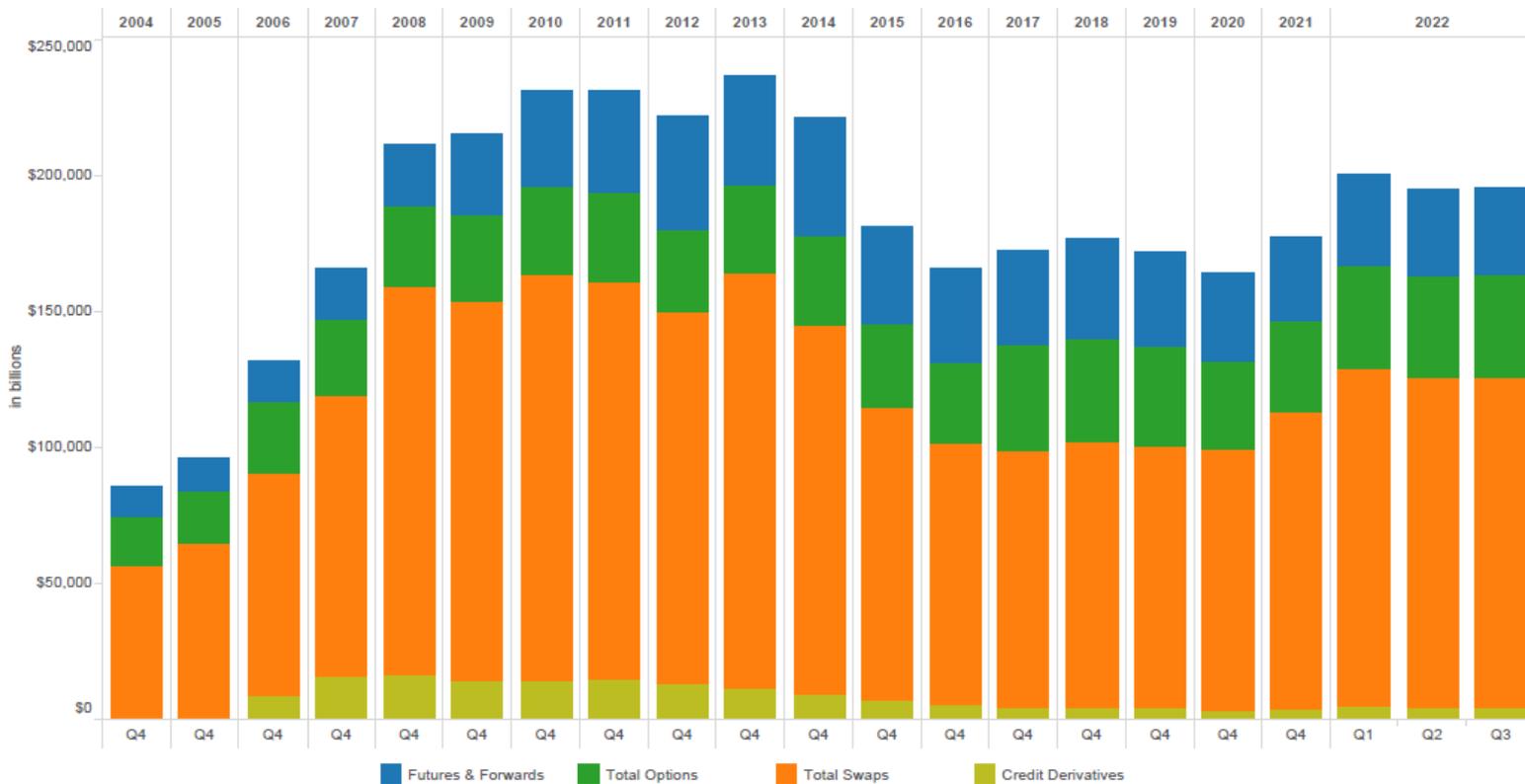
	2019				2020				2021				2022		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Total Notional	\$201,283	\$204,876	\$201,258	\$171,465	\$197,504	\$179,573	\$178,579	\$163,799	\$188,990	\$183,501	\$184,480	\$177,464	\$200,354	\$194,851	\$195,083
Dealer (Trading)	194,518	197,950	193,912	164,441	189,095	172,723	171,242	158,997	181,421	175,807	175,095	169,361	191,121	186,017	185,718
End User (Non-Trading)	2,820	2,852	3,183	3,079	3,522	3,595	3,757	3,788	4,211	4,791	4,933	4,562	4,729	4,809	4,976
Credit Derivatives	4,145	4,074	4,183	3,945	3,986	3,255	3,581	3,034	3,359	3,104	3,852	3,540	4,504	3,986	4,390

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, Schedule RC-L

Figure 8: Derivative Contracts by Product*

Insured U.S. Commercial Banks and Savings Associations



In billions of dollars

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022		
	Q4	Q1	Q2	Q3															
Futures & Forwards	\$14,882	\$18,867	\$22,529	\$29,652	\$35,539	\$37,469	\$41,621	\$40,027	\$43,380	\$35,691	\$34,201	\$34,162	\$36,145	\$34,789	\$32,350	\$31,180	\$33,523	\$32,045	\$31,662
Total Options	26,277	27,727	29,747	31,884	32,078	32,505	30,375	32,305	33,081	30,889	29,373	38,841	38,009	36,117	31,991	33,453	37,930	37,555	37,899
Total Swaps	81,340	103,102	143,111	139,138	149,331	146,266	136,608	152,469	135,169	107,392	96,384	94,784	97,930	96,614	96,423	109,290	124,397	121,285	121,132
Credit Derivatives	9,020	15,863	16,029	14,112	14,151	14,759	13,190	11,191	9,449	6,986	5,293	4,186	4,270	3,945	3,034	3,540	4,504	3,968	4,390
Total Notional	131,519	165,559	211,418	214,786	231,099	230,998	221,794	235,992	221,078	180,959	165,252	171,974	176,354	171,465	163,799	177,464	200,354	194,851	195,083

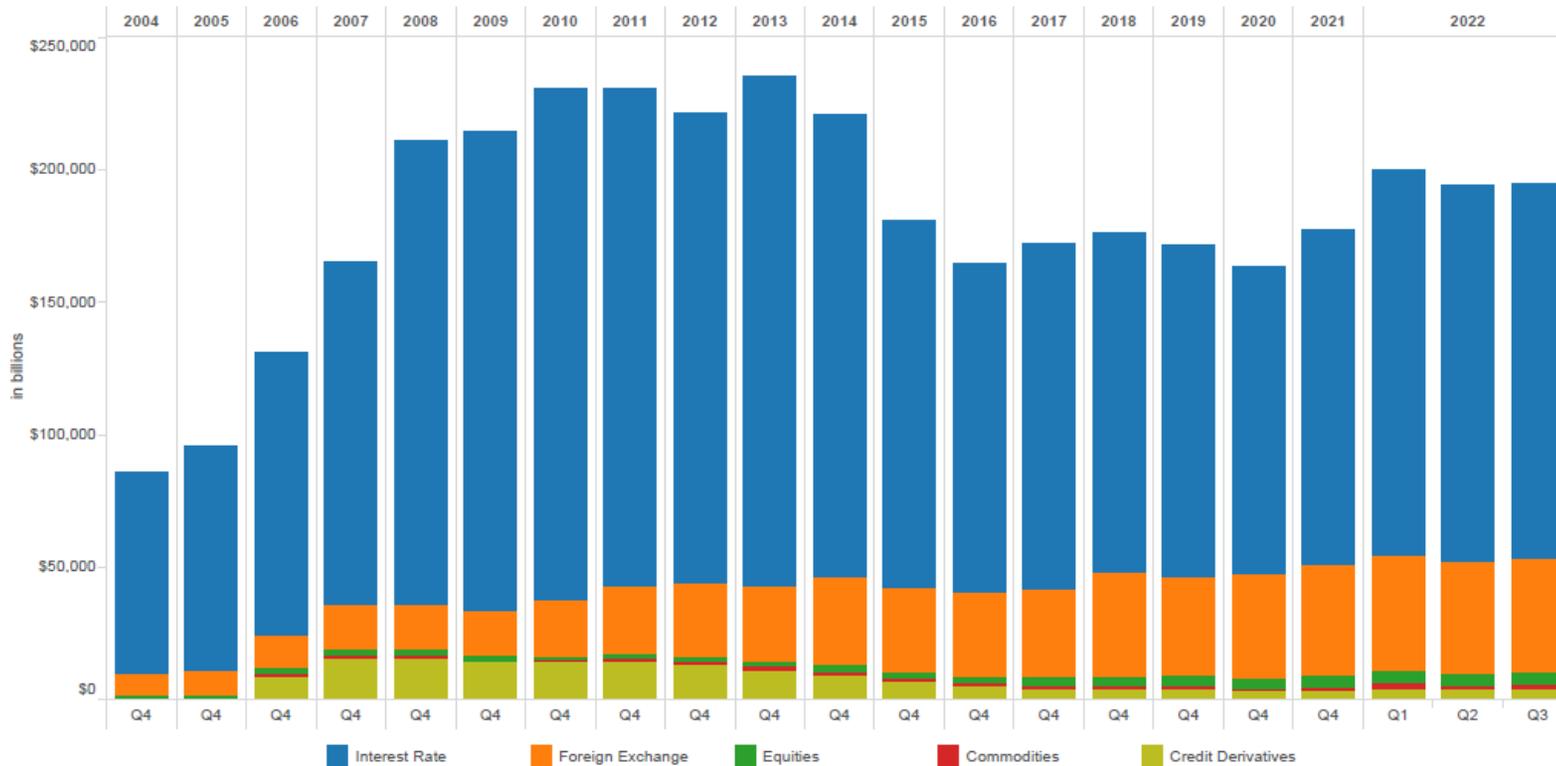
*Notional amount of total: futures, exchange-traded options, over the counter options, forwards and swaps.

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

Source: Call reports, Schedule RC-L

Figure 9: Derivative Contracts by Type*

Insured U.S. Commercial Banks and Savings Associations



In billions of dollars

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022		
	Q4	Q1	Q2	Q3														
Interest Rate	\$129,491	\$175,895	\$181,454	\$193,399	\$187,866	\$177,650	\$193,084	\$174,687	\$138,369	\$124,488	\$130,417	\$128,175	\$125,065	\$116,000	\$126,236	\$145,875	\$142,880	\$141,988
Foreign Exchange	16,614	16,224	16,555	20,090	25,436	27,587	28,480	33,183	32,100	31,737	32,903	39,220	37,170	39,596	41,847	43,580	41,915	42,709
Equities	2,524	2,207	1,685	1,364	1,606	1,970	2,028	2,537	2,395	2,475	3,080	3,374	3,796	3,775	4,256	4,489	4,331	4,410
Commodities	1,067	1,061	979	1,195	1,330	1,397	1,209	1,222	1,108	1,257	1,388	1,315	1,488	1,395	1,584	1,906	1,779	1,607
Credit Derivatives	15,863	16,029	14,112	14,151	14,759	13,190	11,191	9,449	6,986	5,293	4,186	4,270	3,945	3,034	3,540	4,504	3,966	4,390
Total Notional	165,559	211,416	214,786	231,099	230,998	221,794	235,992	221,078	180,959	165,252	171,974	176,354	171,465	183,799	177,464	200,354	194,851	195,083

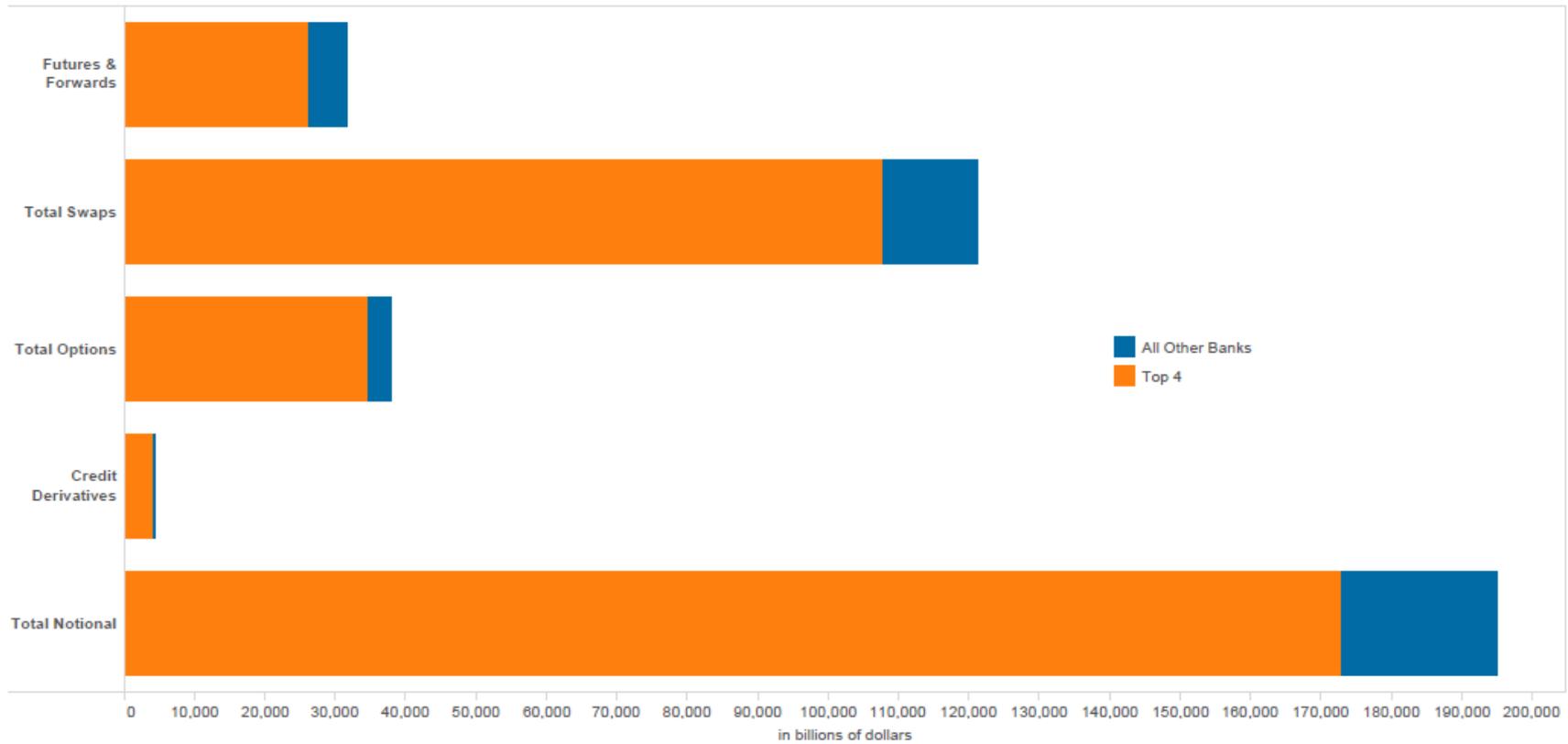
*Notional amount of total: futures, exchange traded options, over the counter options, forwards, and swaps.

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, Schedule RC-L

Figure 10: 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	\$26,288	\$5,374	\$31,662
Total Swaps	107,803	13,329	121,132
Total Options	34,589	3,330	37,899
Credit Derivatives	4,177	212	4,390
Total Notional	172,837	22,246	195,083

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

Source: Call reports, Schedule RC-L

Figure 11: Credit Exposure to Risk-Based Capital (in Percentage)

Top Four Insured U.S. Commercial Banks and Savings Associations by Derivative Holdings



	2015				2016				2017				2018				2019				2020				2021				2022		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3																								
JPMorgan Chase Bank NA	229	228	219	209	225	221	216	199	201	193	195	179	197	184	190	167	173	150	163	153	181	165	188	163	159	155	158	143	147	133	130
Bank of America NA	100	95	91	85	81	77	68	66	66	64	59	57	62	61	62	57	58	58	59	56	68	59	54	54	53	57	53	49	52	54	55
Citibank NA	187	184	181	166	180	181	188	183	186	184	171	140	146	139	144	132	130	132	134	126	140	125	137	133	145	150	170	153	147	136	139
Goldman Sachs	547	563	530	518	482	467	433	481	472	484	433	420	389	384	371	354	366	372	372	344	319	299	304	314	316	285	286	149	113	117	122
TOTAL	Q1	Q2	Q3	Q4	Q1	Q2	Q3																								
	238	242	232	223	226	222	217	220	220	218	205	191	195	187	188	173	178	169	176	164	174	180	165	164	165	158	168	136	133	121	122

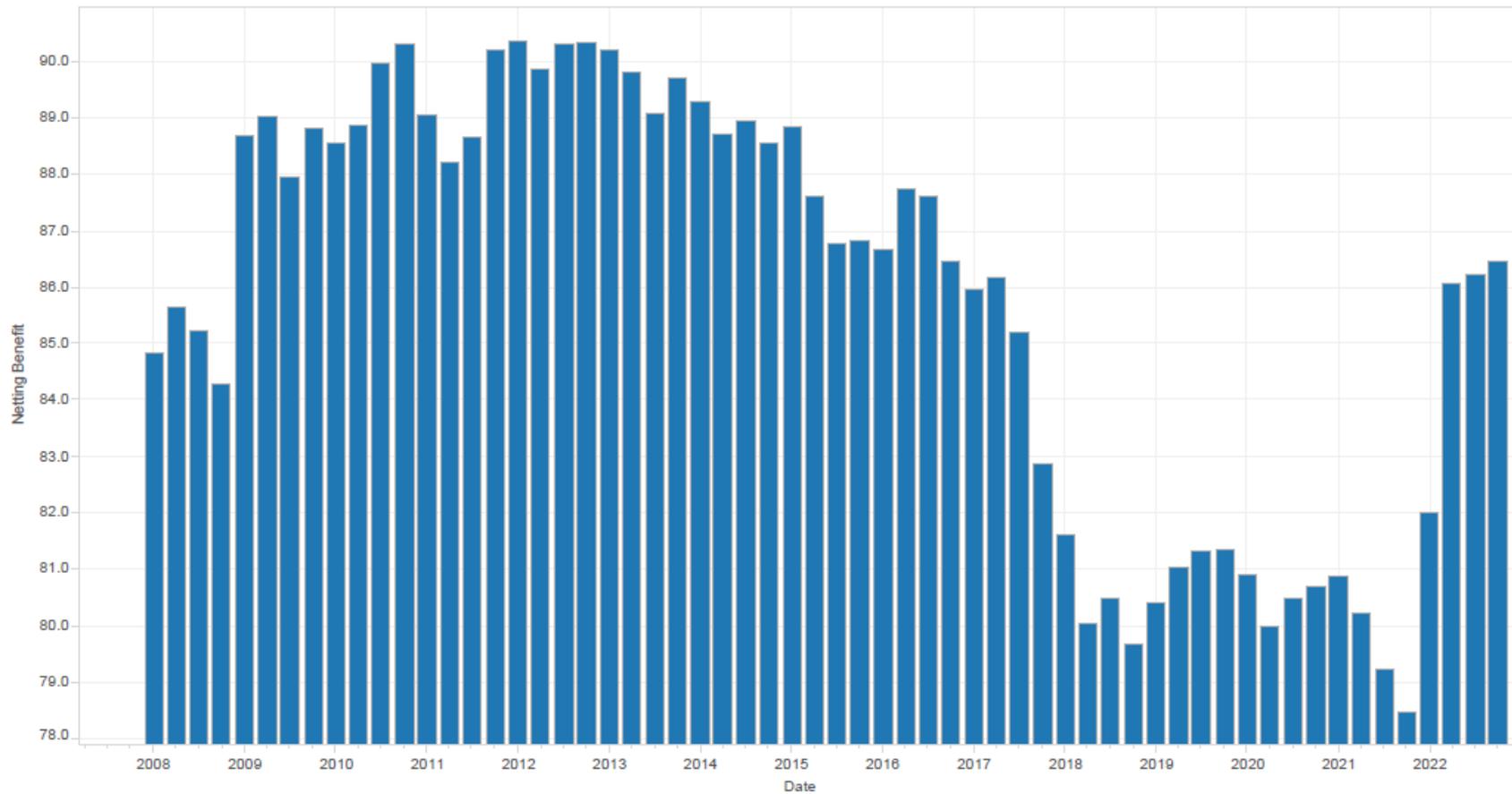
Note: Beginning January 1, 2022, the largest banks are required to calculate their derivative exposure amount for regulatory capital purposes using the Standardized Approach for Counterparty Credit Risk (SA-CCR). Refer to the call report instructions and OCC Bulletin 2020-7, "Standardized Approach for Counterparty Credit Risk: Final Rule," for additional information on the SA-CCR exposure calculation.

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, Schedule RC-R

Figure 12: 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

2014				2015				2016				2017				2018				2019				2020				2021				2022		
Q1	Q2	Q3	Q4	Q1	Q2	Q3																												
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	81.0	81.3	81.4	80.9	80.0	80.5	80.7	80.9	80.2	79.2	78.5	82.0	86.1	86.2	86.4

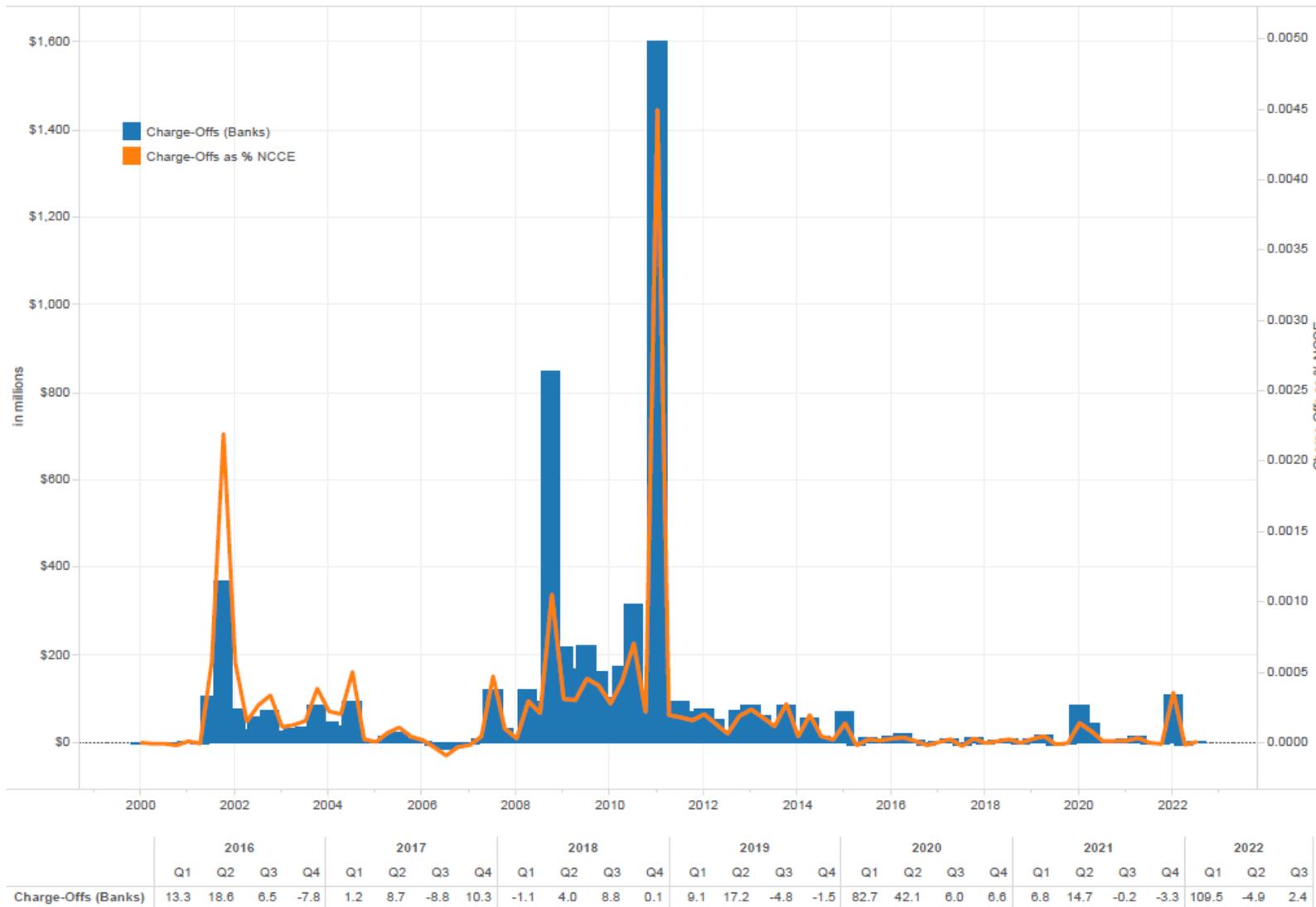
*The netting benefit is defined as the Gross Positive Fair Value (GPFV) from call report Schedule RC-L minus the Net Current Credit Exposure from call report Schedule RC-R divided by the GPFV.

Note: Beginning January 1, 2022, the largest banks are required to calculate their derivative exposure amount for regulatory capital purposes using the Standardized Approach for Counterparty Credit Risk (SA-CCR). Refer to the call report instructions and OCC Bulletin 2020-7, "Standardized Approach for Counterparty Credit Risk: Final Rule," for additional information on the SA-CCR exposure calculation.

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

Figure 13: Quarterly Charge-Offs/(Recoveries) From Derivatives—Bank

Insured U.S. Commercial Banks and Savings Associations With Derivatives

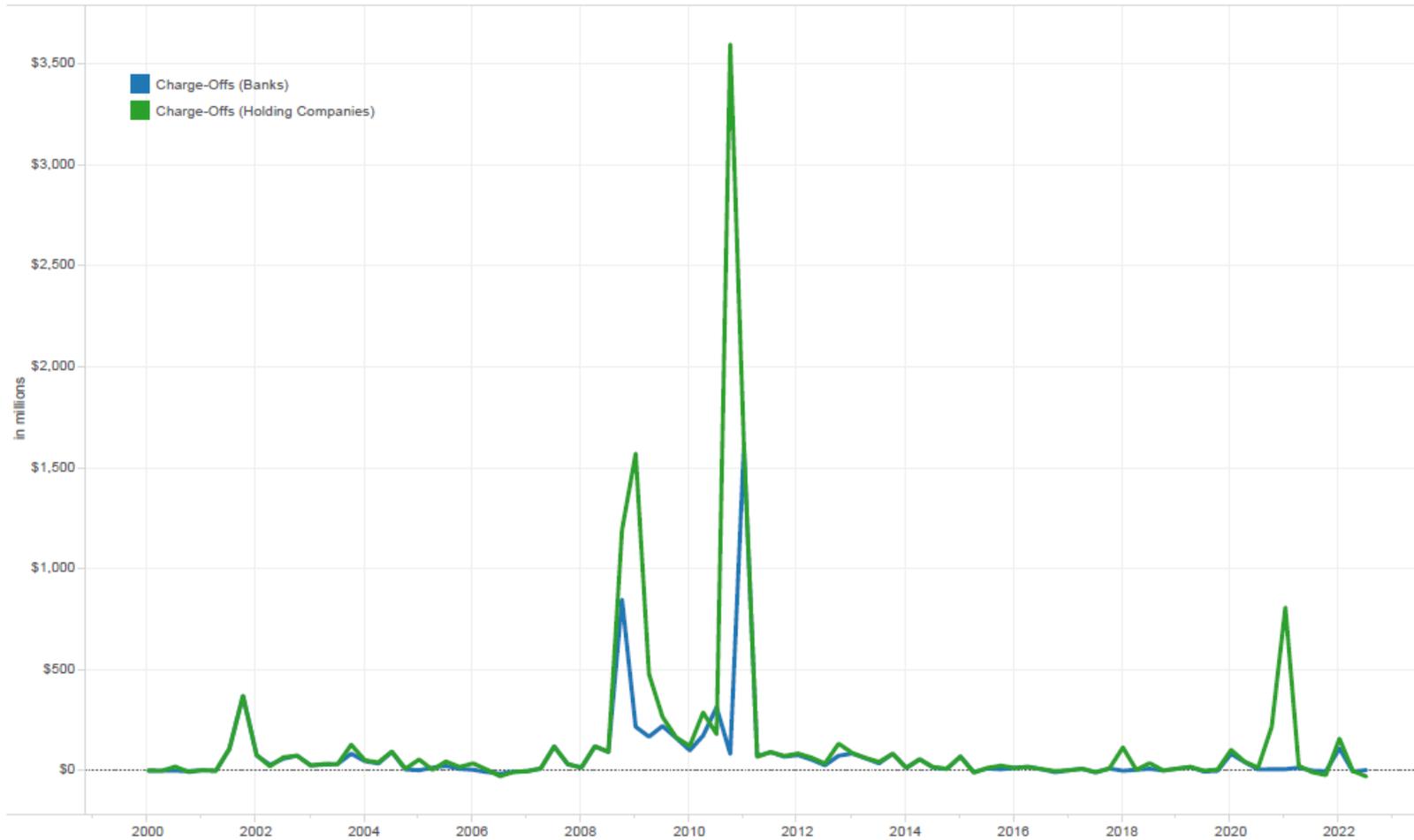


Note: The figures are for each quarter alone, not year-to-date.

Source: Call reports Schedule RI, NCAE: Pre 2009 Q2 (RC-R); 2009 Q2 - 2014 Q4 (RC-L); 2015 Q1 onward (RC-R)

Figure 14: Quarterly Charge-Offs/(Recoveries) From Derivatives—Holding Company

Insured U.S. Commercial Banks and Savings Associations With Derivatives Compared With Holding Companies



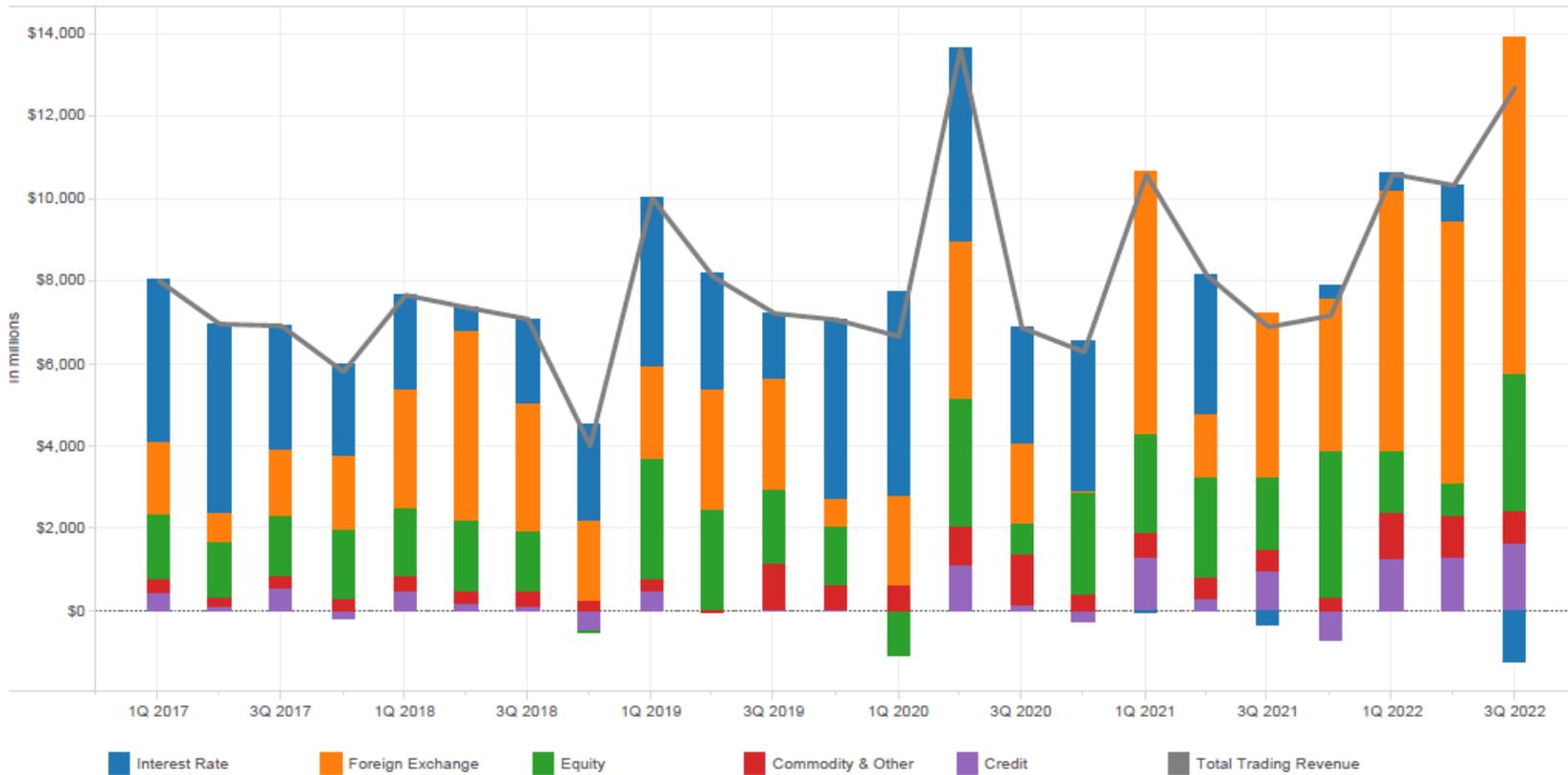
	2017				2018				2019				2020				2021				2022		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Charge-Offs (Banks)	1.2	8.7	-8.8	10.3	-1.1	4.0	8.8	0.1	9.1	17.2	-4.8	-1.5	82.7	42.1	6.0	6.6	6.8	14.7	-0.2	-3.3	109.5	-4.9	2.4
Charge-Offs (Holding Companies)	1.4	8.9	-8.3	9.8	114.5	3.5	36.6	0.1	9.5	17.9	-0.3	4.1	102.1	44.2	14.6	218.3	807.7	23.7	-8.2	-22.5	158.0	-1.8	-29.4

Note: The figures are for each quarter alone, not year-to-date.

Source: Call reports, Schedule RI and Y-9, Schedule HI

Figure 15a: Quarterly Trading Revenue (Cash and Derivative Positions)*—Bank

Insured U.S. Commercial Banks and Savings Associations



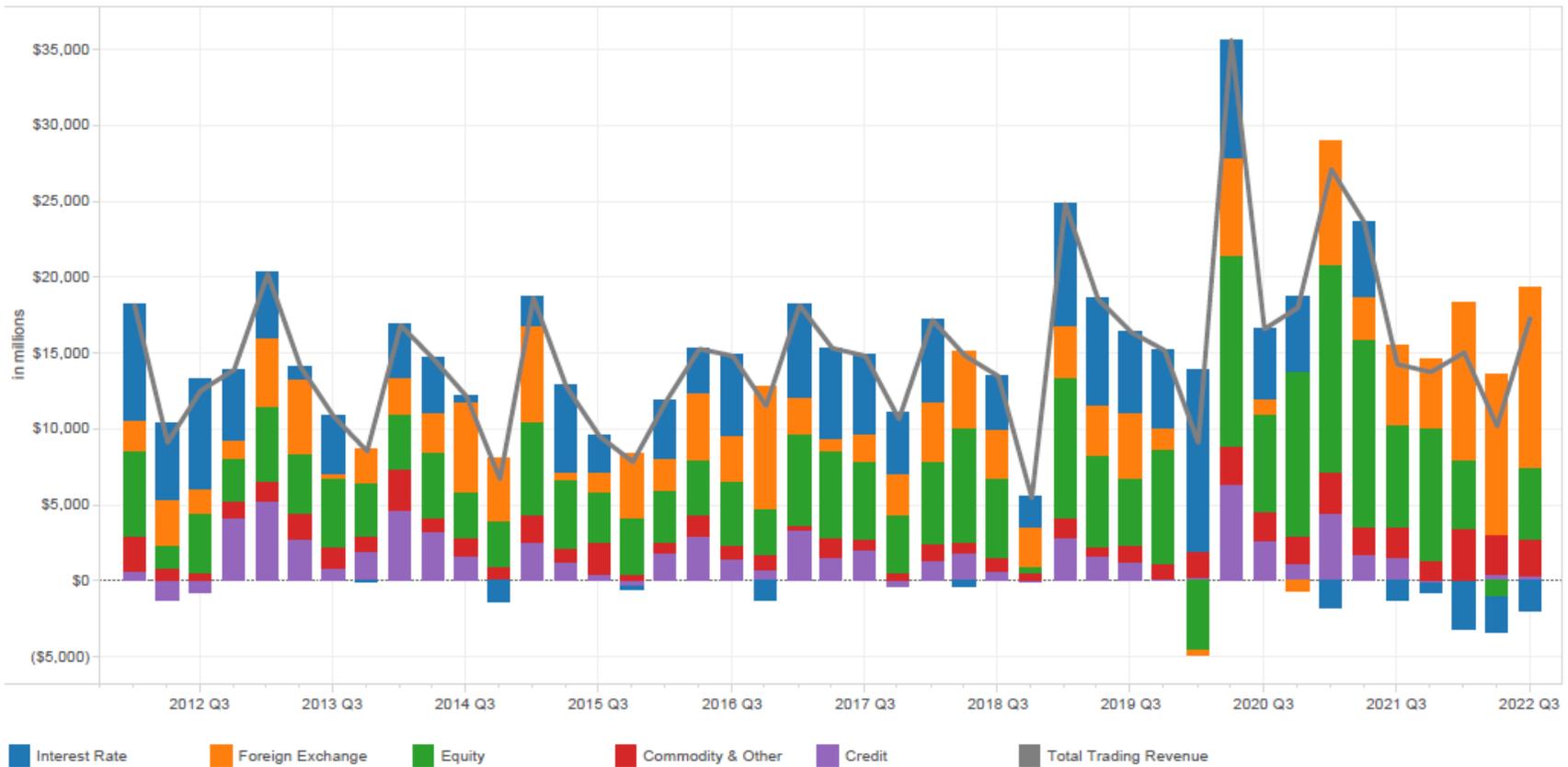
in millions of dollars

	2018				2019				2020				2021				2022		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Interest Rate	\$2,317	\$587	\$2,020	\$2,305	\$4,078	\$2,780	\$1,567	\$4,361	\$4,942	\$4,634	\$2,821	\$3,616	(\$42)	\$3,369	(\$329)	\$273	\$403	\$874	(\$1,201)
Foreign Exchange	2,861	4,569	3,149	1,971	2,254	2,900	2,718	662	2,167	3,841	1,942	18	6,343	1,546	3,998	3,747	6,341	6,363	8,153
Equity	1,624	1,727	1,444	-43	2,895	2,464	1,805	1,427	-1,040	3,139	750	2,480	2,388	2,384	1,729	3,534	1,458	773	3,314
Commodity & Other	395	286	349	274	323	-43	1,109	600	646	905	1,226	434	622	549	531	347	1,161	1,029	774
Credit	487	215	141	-476	485	30	43	34	-34	1,129	154	-243	1,300	312	979	-714	1,259	1,310	1,678
Total Trading Revenue	7,684	7,384	7,103	4,030	10,035	8,131	7,242	7,083	6,681	13,648	6,893	6,305	10,611	8,161	6,908	7,187	10,622	10,349	12,719

*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, Schedule RI

Figure 15b: Quarterly Trading Revenue (Cash and Derivative Positions)*—Holding Company



In millions of dollars

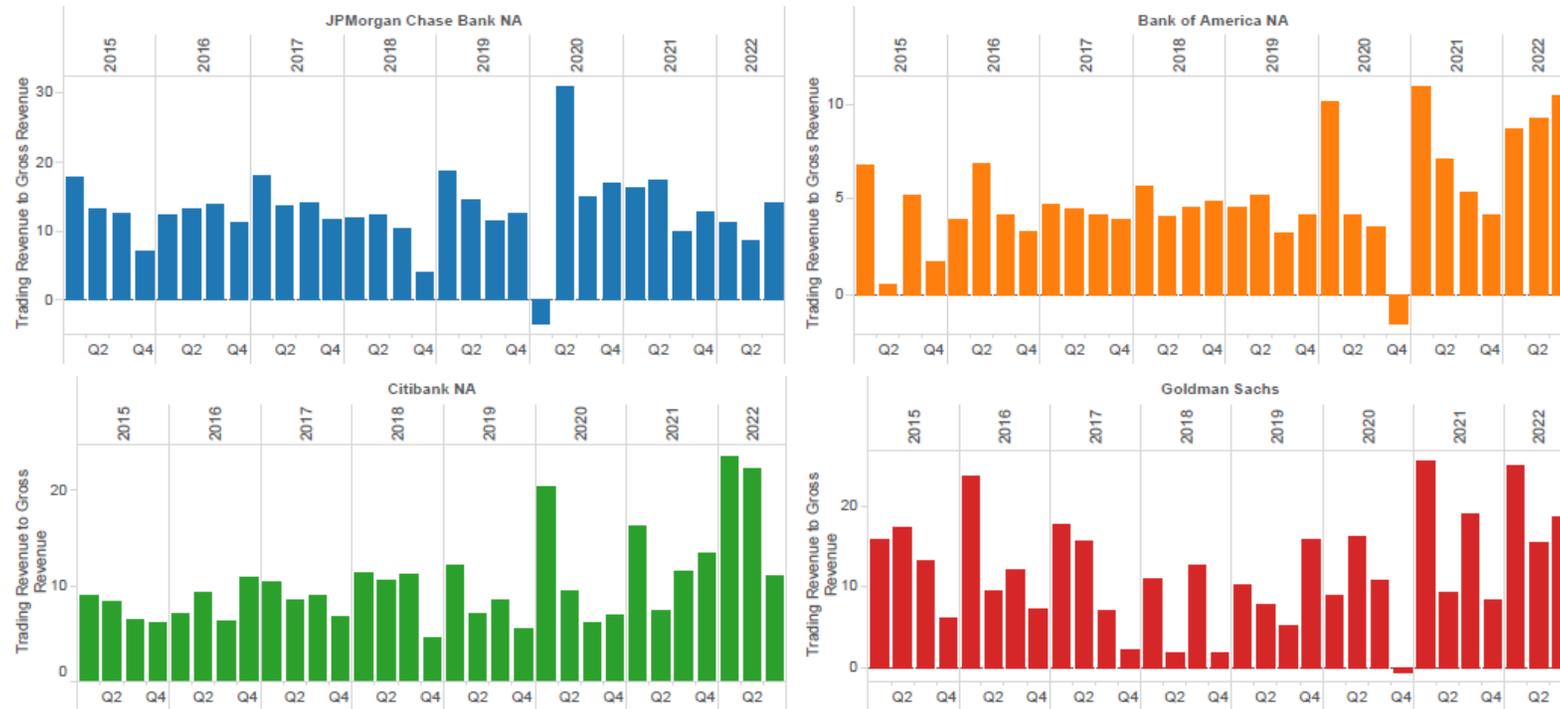
	2018				2019				2020				2021				2022		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Interest Rate	\$5,361	(\$336)	\$3,550	\$1,997	\$8,050	\$6,973	\$5,377	\$5,075	\$12,036	\$7,801	\$4,582	\$4,867	(\$1,792)	\$4,968	(\$1,182)	(\$572)	(\$3,137)	(\$2,380)	(\$2,013)
Foreign Exchange	3,900	5,133	3,222	2,530	3,396	3,351	4,241	1,463	-302	6,374	1,037	-628	8,051	2,732	5,144	4,496	10,267	10,574	11,899
Equity	5,431	7,445	5,222	502	9,215	6,083	4,548	7,546	-4,499	12,604	6,424	10,826	13,698	12,409	6,835	8,745	4,546	-1,063	4,669
Commodity & Other	1,177	779	874	508	1,298	512	1,045	981	1,664	2,486	1,912	1,804	2,665	1,802	1,978	1,340	3,498	2,709	2,523
Credit	1,359	1,848	666	-25	2,903	1,684	1,226	159	257	6,404	2,681	1,181	4,531	1,760	1,543	-203	-92	402	284
Total Trading Revenue	17,229	14,870	13,534	5,513	24,862	18,604	16,437	15,223	9,157	35,669	16,637	18,049	27,152	23,671	14,318	13,805	15,083	10,242	17,363

*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, Schedule HI

Figure 16: Quarterly Trading Revenue (Cash and Derivative Positions) as a Percentage of Gross Revenue (in Percentage)*

Top Four Insured U.S. Commercial Banks and Savings Associations by Derivative Holdings



Trading Revenue to Gross Revenue*

	2016				2017				2018				2019				2020				2021				2022		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
JPMorgan Chase Bank NA	12.26	13.34	13.83	11.17	17.98	13.66	14.01	11.52	11.90	12.19	10.26	3.92	18.57	14.57	11.30	12.62	-3.33	30.88	14.83	16.96	16.12	17.50	9.88	12.79	11.21	8.78	14.06
Bank of America NA	3.90	6.87	4.18	3.28	4.70	4.49	4.09	3.87	5.62	4.04	4.54	4.90	4.60	5.14	3.20	4.09	10.13	4.14	3.55	-1.52	10.89	7.10	5.33	4.08	8.74	9.23	10.45
Citibank NA	7.19	9.41	6.47	10.97	10.47	8.50	9.12	6.94	11.33	10.69	11.26	4.66	12.32	7.23	8.48	5.56	20.50	9.63	6.27	7.08	16.24	7.42	11.57	13.44	23.64	22.30	11.05
Goldman Sachs	23.78	9.54	12.16	7.22	17.71	15.66	7.10	2.15	10.85	1.84	12.77	1.86	10.31	7.78	4.98	15.90	8.98	16.21	10.68	-0.56	25.61	9.27	19.13	8.19	24.97	15.46	18.52
TOTAL																											
	8.45	10.14	8.51	8.51	11.68	9.32	9.39	7.55	9.77	8.95	8.82	4.36	12.43	9.60	8.01	8.61	7.44	18.00	9.49	8.91	15.11	12.03	9.51	10.40	14.36	12.69	12.68

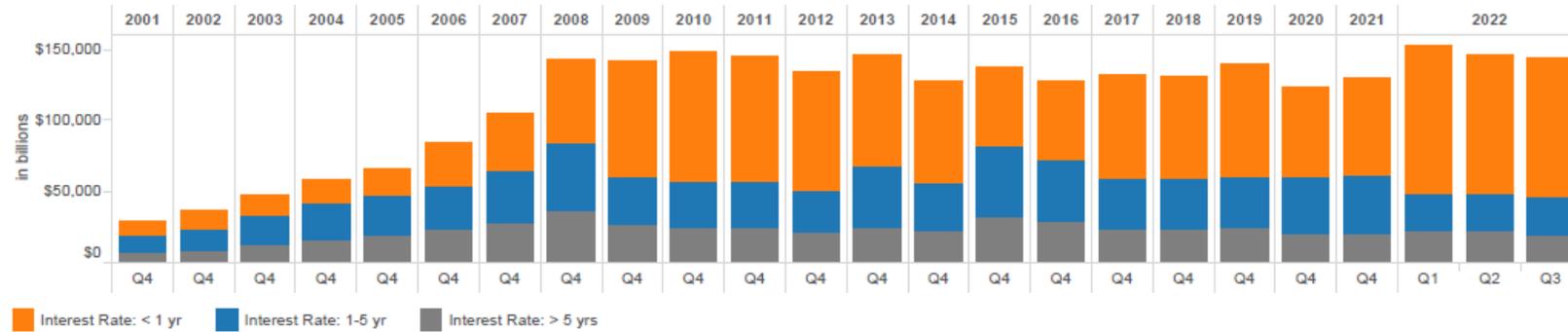
*The trading revenue figures are for cash and derivative activities. Revenue figures are quarterly, not year-to-date numbers. Note: Gross revenue equals interest income plus non-interest income.

Source: Call reports, Schedule RI

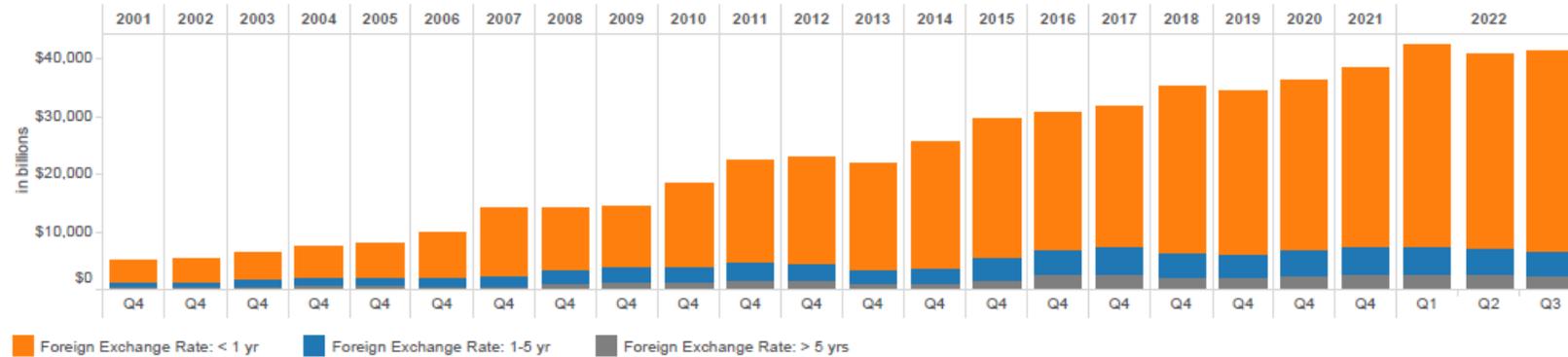
Figure 17: Notional Amounts of Interest Rate and Foreign Exchange Rate Contracts by Maturity

Insured U.S. Commercial Banks and Savings Associations

Interest Rate



Foreign Exchange Rate



In billions of dollars

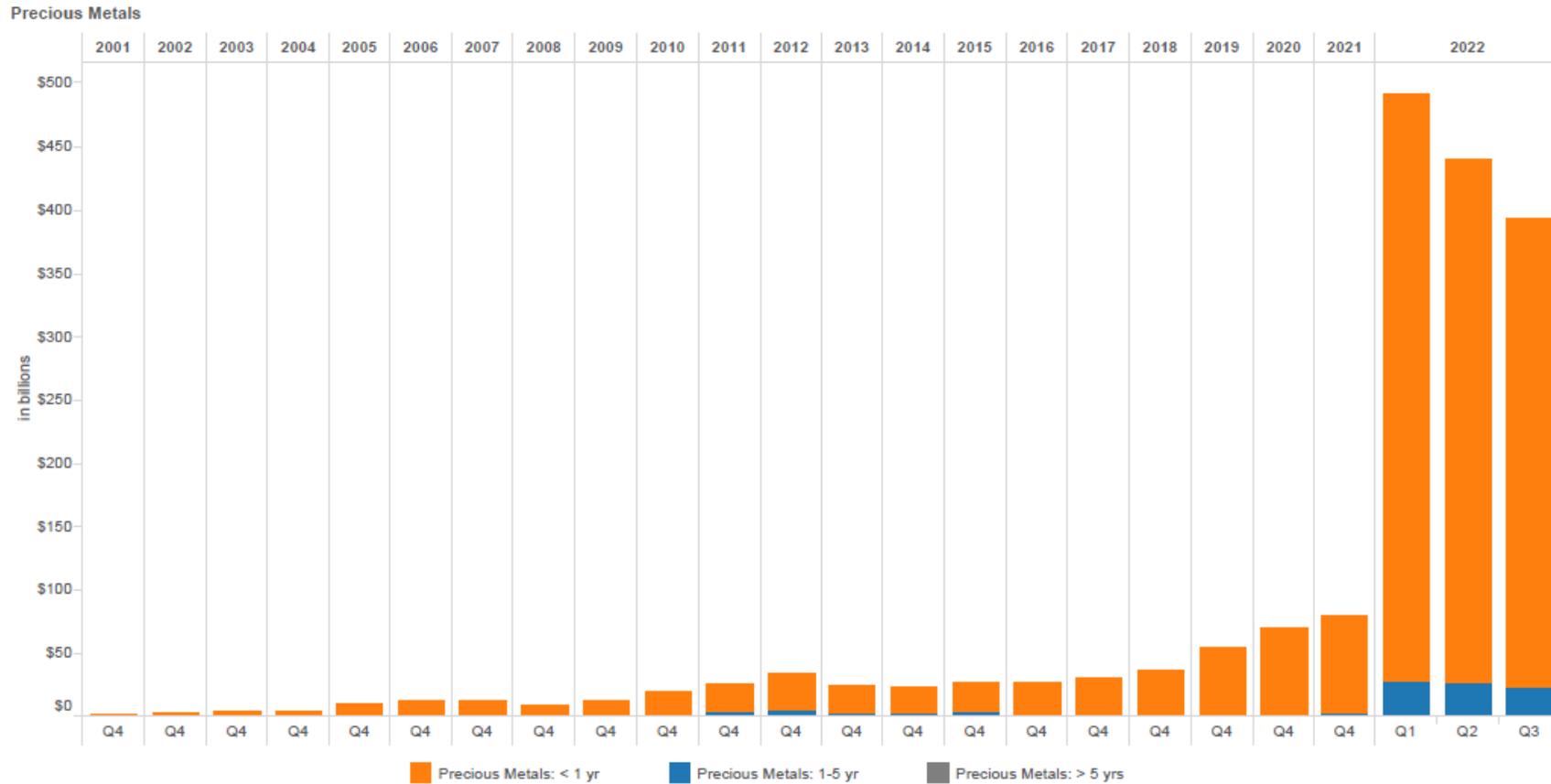
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022		
	Q4	Q1	Q2	Q3												
Interest Rate: < 1 yr	\$81,236	\$90,843	\$87,812	\$82,948	\$77,758	\$71,808	\$55,054	\$55,061	\$72,589	\$71,492	\$79,132	\$62,444	\$68,044	\$102,946	\$96,869	\$97,477
Interest Rate: 1-5 yr	33,970	33,497	32,750	30,191	44,157	33,727	49,406	43,261	36,154	36,681	35,854	39,198	41,244	26,323	26,250	26,086
Interest Rate: > 5 yrs	26,374	24,307	24,168	21,175	24,630	22,214	32,981	29,762	23,565	23,244	24,259	20,838	20,464	23,004	22,973	19,920
Foreign Exchange Rate: < 1 yr	10,490	14,629	17,632	18,386	18,372	22,145	24,130	23,912	24,380	28,891	28,241	29,434	30,954	34,852	33,883	34,754
Foreign Exchange Rate: 1-5 yr	2,473	2,462	3,117	2,910	2,341	2,587	3,986	4,454	4,805	4,219	4,052	4,404	4,864	4,822	4,546	4,482
Foreign Exchange Rate: > 5 yrs	1,347	1,290	1,503	1,480	1,029	969	1,648	2,420	2,525	2,096	2,146	2,402	2,552	2,618	2,476	2,227

Note: Beginning January 1, 2022, the largest banks are required to calculate their derivative exposure amount for regulatory capital purposes using the Standardized Approach for Counterparty Credit Risk (SA-CCR). Refer to the call report instructions and OCC Bulletin 2020-7, "Standardized Approach for Counterparty Credit Risk: Final Rule," for additional information on the SA-CCR exposure calculation.

Source: Call reports, Schedule RC-R

Figure 18: Notional Amounts of Precious Metal Contracts by Maturity

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	2019	2020	2021	2022		
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q1	Q2	Q3
Precious Metals: < 1 yr	\$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	\$33.62	\$52.58	\$67.80	\$75.78	\$463.17	\$413.25	\$371.62
Precious Metals: 1-5 yr	1.3	1.7	2.1	1.5	1.2	1.9	4.7	5.8	3.8	2.8	3.9	2.5	2.4	2.3	2.1	2.5	3.5	28.4	26.8	22.6
Precious Metals: > 5 yrs	0.1	0.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.0

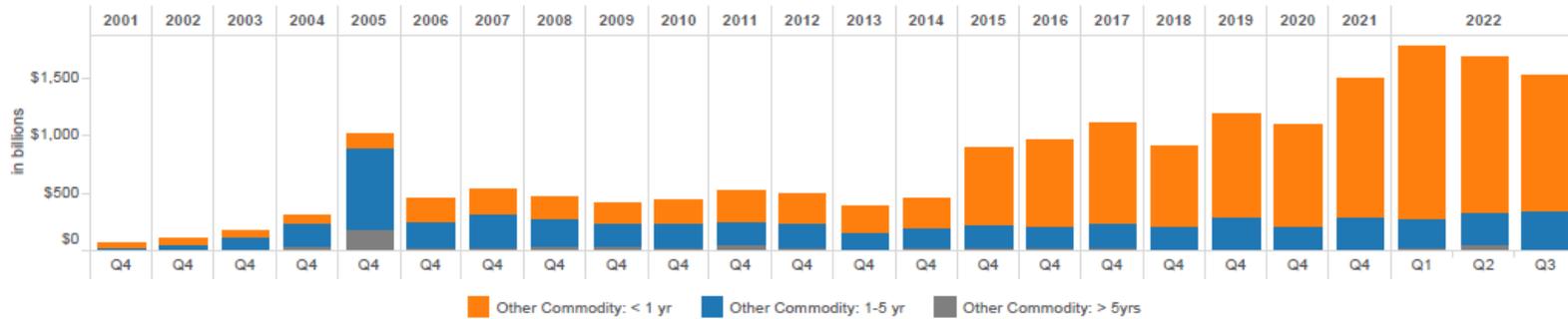
Note: Beginning January 1, 2022, the largest banks are required to calculate their derivative exposure amount for regulatory capital purposes using the Standardized Approach for Counterparty Credit Risk (SA-CCR). Under SA-CCR gold derivatives are considered precious metals derivative contracts rather than an exchange rate derivative contract resulting in an increase in reported precious metals derivative contracts compared to prior quarters. Refer to the call report instructions and OCC Bulletin 2020-7, "Standardized Approach for Counterparty Credit Risk: Final Rule," for additional information on the SA-CCR exposure calculation.

Source: Call reports, Schedule RC-R

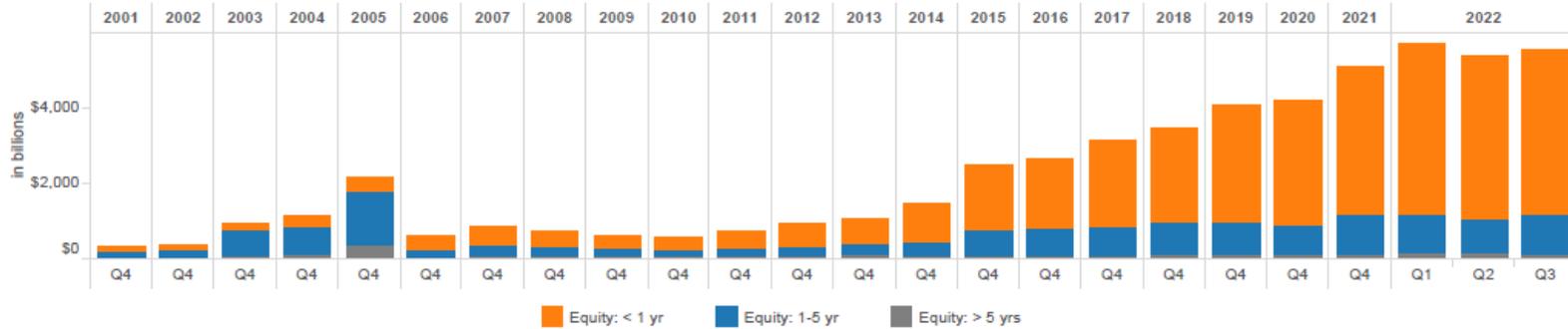
Figure 19: Notional Amounts of Other Commodity and Equity Contracts by Maturity

Insured U.S. Commercial Banks and Savings Associations

Other Commodity



Equity



In billions of dollars

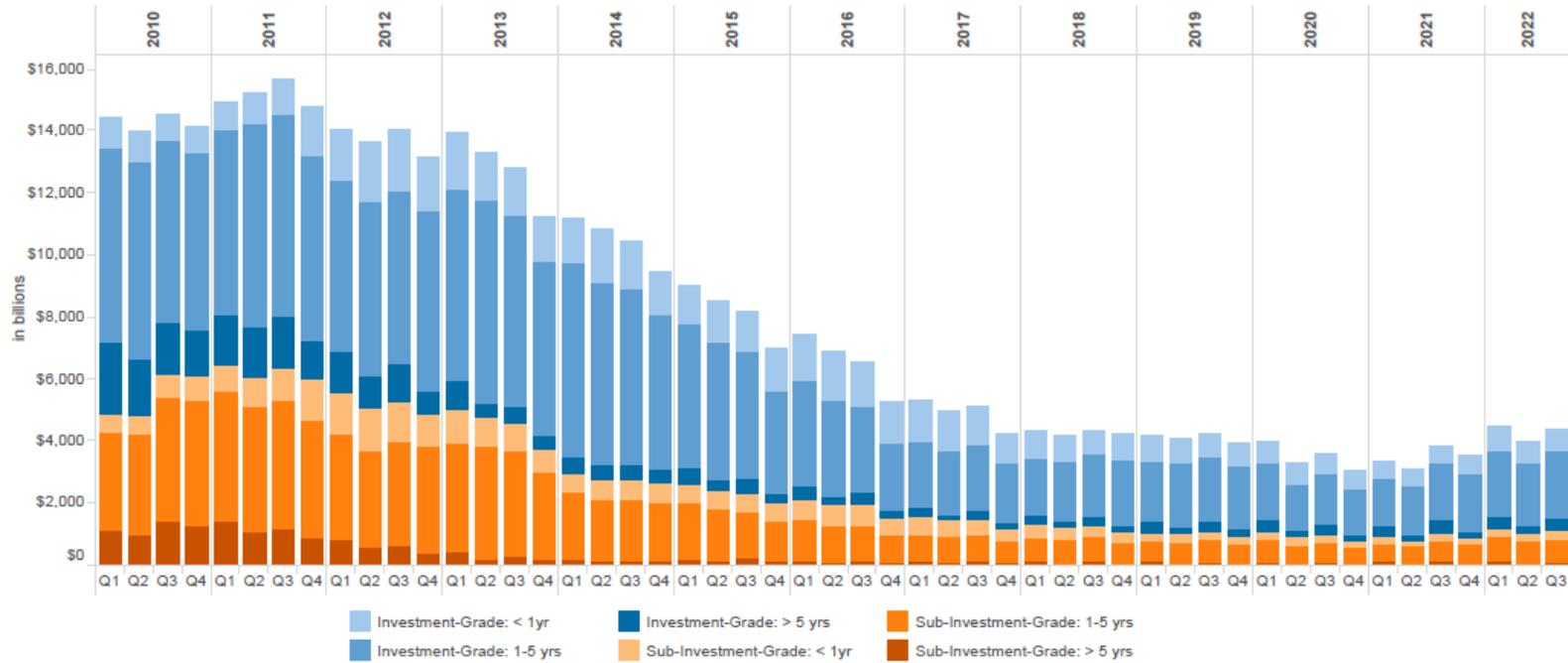
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022		
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q1	Q2	Q3
Other Commodity: < 1 yr	\$64	\$133	\$185	\$206	\$179	\$176	\$203	\$261	\$261	\$235	\$257	\$668	\$750	\$883	\$688	\$884	\$879	\$1,216	\$1,496	\$1,354	\$1,178
Other Commodity: 1-5 yr	205	707	235	297	233	198	209	209	208	144	164	197	179	202	198	286	198	279	250	282	336
Other Commodity: > 5 yrs	40	175	20	25	43	33	25	46	28	6	20	22	23	25	9	10	9	7	31	45	7
Equity: < 1 yr	273	321	341	473	409	312	296	427	627	645	996	1,743	1,842	2,296	2,449	3,084	3,287	3,881	4,491	4,272	4,315
Equity: 1-5 yr	736	1,428	221	297	256	228	191	210	262	291	352	628	677	733	864	844	771	1,055	1,001	911	1,058
Equity: > 5 yrs	140	383	45	70	72	82	85	94	82	136	101	130	123	113	139	136	139	145	175	174	140

Note: Beginning January 1, 2022, the largest banks are required to calculate their derivative exposure amount for regulatory capital purposes using the Standardized Approach for Counterparty Credit Risk (SA-CCR). Refer to the call report instructions and OCC Bulletin 2020-7, "Standardized Approach for Counterparty Credit Risk: Final Rule," for additional information on the SA-CCR exposure calculation.

Source: Call reports, Schedule RC-R

Figure 20: Notional Amounts of Credit Derivative Contracts by Credit Quality and Maturity

Insured U.S. Commercial Banks and Savings Associations



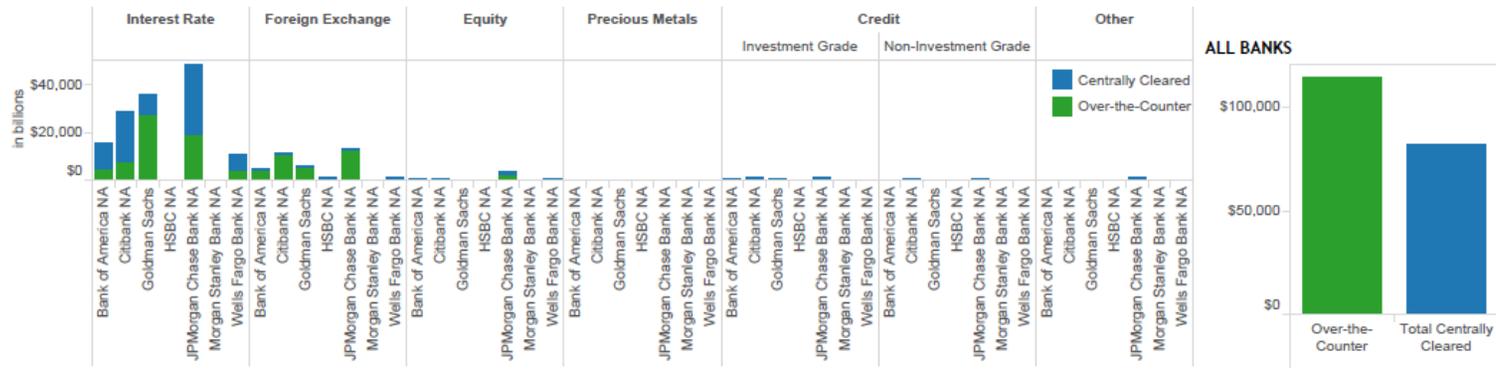
In billions of dollars

	2018				2019				2020				2021				2022		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3												
Investment-Grade: < 1 yr	\$880	\$805	\$784	\$837	\$783	\$758	\$875	\$781	\$726	\$619	\$648	\$554	\$546	\$539	\$565	\$601	\$795	\$642	\$692
Investment-Grade: 1-5 yrs	1,839	1,995	1,988	2,173	1,976	2,083	2,084	2,018	1,799	1,523	1,637	1,521	1,545	1,589	1,846	1,864	2,109	2,076	2,190
Investment-Grade: > 5 yrs	331	184	338	204	367	189	330	198	367	171	336	160	332	160	418	187	449	198	408
Total Investment Grade	\$3,050	\$2,984	\$3,089	\$3,214	\$3,106	\$3,030	\$3,089	\$2,907	\$2,891	\$2,313	\$2,622	\$2,235	\$2,423	\$2,289	\$2,829	\$2,651	\$3,352	\$2,916	\$3,291
	2018				2019				2020				2021				2022		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3												
Sub-Investment-Grade: < 1 yr	\$400	\$335	\$318	\$304	\$259	\$283	\$275	\$268	\$247	\$278	\$233	\$218	\$245	\$215	\$244	\$208	\$225	\$248	\$247
Sub-Investment-Grade: 1-5 yrs	763	791	801	891	861	701	708	824	743	608	618	533	570	551	654	632	777	751	747
Sub-Investment-Grade: > 5 yrs	133	89	133	81	119	80	111	56	105	56	108	48	119	49	125	49	150	51	105
Total Sub-Investment Grade	\$1,296	\$1,195	\$1,252	\$1,056	\$1,039	\$1,044	\$1,093	\$947	\$1,095	\$942	\$959	\$799	\$935	\$815	\$1,023	\$889	\$1,152	\$1,049	\$1,099

Source: Call reports, Schedule RC-L

Figure 21: Notional Amounts of Over-the-Counter and Centrally Cleared Derivative Contracts

Insured U.S. Commercial Banks and Savings Associations



In billions of dollars

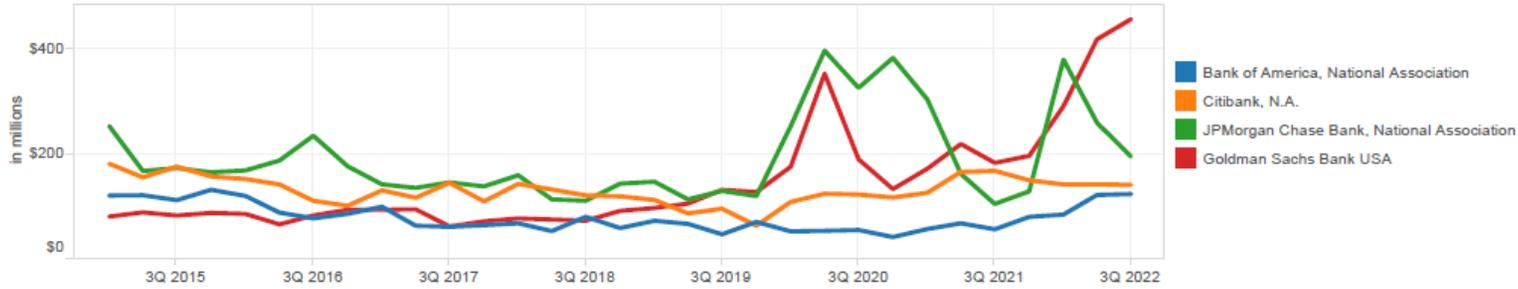
Bank Name	Interest Rate		Foreign Exchange		Equity		Precious Metals		Credit				Other		Total Centrally Cleared	Over-the-Counter	Total Notional
	Centrally Cleared	Over-the-Counter	Investment Grade	Over-the-Counter	Non-Investment Grade	Centrally Cleared	Over-the-Counter										
JPMorgan Chase Bank NA	28,409	19,846	598	12,883	998	2,359	0	213	538	405	207	198	82	929	30,832	36,631	67,463
Citibank NA	21,193	7,505	338	10,738	18	708	21	81	243	1,075	77	282	87	95	21,977	20,481	42,458
Bank of America NA	10,572	4,842	135	4,889	162	609	5	59	162	246	39	103	0	35	11,074	10,784	21,858
Goldman Sachs	8,335	27,795	113	5,831	9	222	0	2	39	363	7	200	0	48	8,504	34,561	43,065
HSBC NA	104	80	42	1,155	0	16	0	8	0	6	1	1	0	0	147	1,266	1,414
Wells Fargo Bank NA	6,286	4,082	1	1,232	130	231	0	4	2	24	1	22	10	115	6,430	5,711	12,141
Morgan Stanley Bank NA	0	45	0	31	0	24	0	0	0	9	0	3	0	0	0	112	112
Grand Total	74,899	63,994	1,227	36,857	1,318	4,168	26	368	984	2,129	331	808	179	1,222	78,964	109,546	188,511
ALL OTHER	2,989	1,600	16	3,362	0	28	0	0	1	27	0	26	17	102	3,024	5,146	8,170
TOTAL	77,888	65,594	1,243	40,219	1,318	4,196	26	368	985	2,156	332	834	197	1,324	81,989	114,692	196,681

% 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	Over-the-Counter	Non-Investment Grade	Centrally Cleared	Over-the-Counter									
JPMorgan Chase Bank NA	59%	41%	4%	96%	30%	70%	0%	100%	57%	43%	51%	49%	8%	92%	46%	54%
Citibank NA	74%	26%	3%	97%	2%	98%	21%	79%	18%	82%	21%	79%	48%	52%	52%	48%
Bank of America NA	69%	31%	3%	97%	21%	79%	7%	93%	40%	60%	27%	73%	0%	100%	51%	49%
Goldman Sachs	23%	77%	2%	98%	4%	96%	0%	100%	10%	90%	4%	96%	0%	100%	20%	80%
HSBC NA	57%	43%	4%	96%	0%	100%	0%	100%	1%	99%	37%	63%	0%	100%	10%	90%
Wells Fargo Bank NA	61%	39%	0%	100%	36%	64%	0%	100%	8%	92%	3%	97%	8%	92%	53%	47%
Morgan Stanley Bank NA	0%	100%	0%	100%	0%	100%			0%	100%	0%	100%	0%	100%	0%	100%

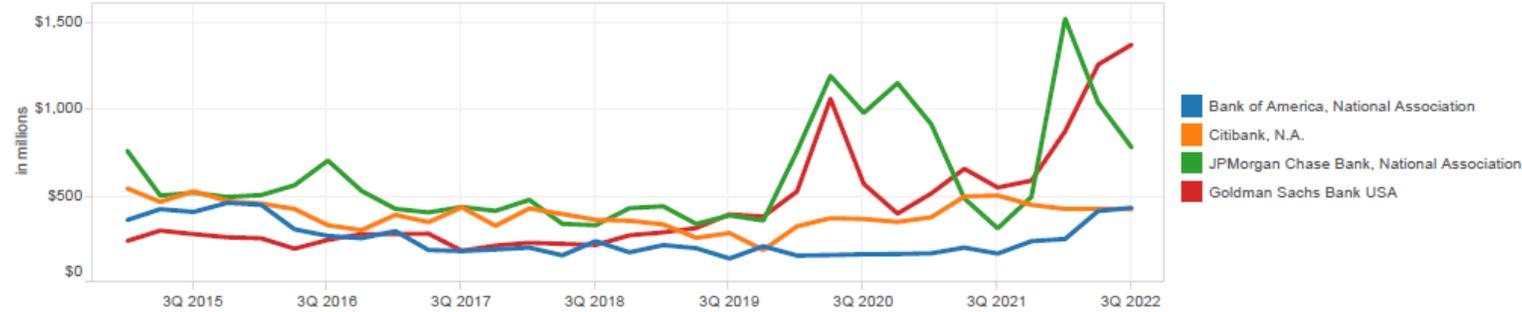
Source: Call reports, Schedule RC-R

Figure 22: Average 60-Day Value-at-Risk



	2017				2018				2019				2020				2021				2022		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Bank of America, National Association	\$100	\$83	\$61	\$64	\$68	\$53	\$81	\$59	\$73	\$67	\$47	\$71	\$53	\$54	\$55	\$42	\$57	\$68	\$57	\$80	\$85	\$122	\$124
Citibank, N.A.	131	117	146	110	144	133	122	120	113	87	96	64	109	125	123	118	127	167	169	151	143	143	142
JPMorgan Chase Bank, National Association	143	136	146	139	160	114	111	144	148	114	130	120	254	399	328	385	306	163	105	129	382	261	196
Goldman Sachs Bank USA	94	95	62	72	77	75	73	92	97	106	132	128	176	355	191	134	173	220	184	197	293	421	459

VaR Capital Requirement



	2017				2018				2019				2020				2021				2022		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3																
Bank of America, National Association	\$299	\$190	\$184	\$193	\$204	\$160	\$242	\$177	\$219	\$201	\$141	\$212	\$158	\$161	\$166	\$167	\$171	\$204	\$170	\$241	\$254	\$416	\$435
Citibank, N.A.	394	351	437	330	431	399	365	359	338	261	288	191	327	374	370	353	380	500	506	452	428	428	425
JPMorgan Chase Bank, National Association	428	408	439	416	480	342	334	432	443	341	390	361	762	1,197	983	1,155	917	489	315	498	1,528	1,043	784
Goldman Sachs Bank USA	282	285	186	216	232	226	220	275	292	317	397	384	529	1,065	572	401	518	660	552	592	878	1,262	1,378

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