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IN FOCUS

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Derivatives Trading in U.S. Banking

Overview

Bank derivative holdings are highly concentrated among large banks, with large banks holding 97.9% of the notional amounts of bank derivative holdings. This level of concentration holds across all asset classes of derivatives. A September 2024 Office of the Comptroller of the Currency report noted that the four banks with the most derivative activity hold 88% of all bank derivatives. Since the financial crisis of 2008, regulators and academics have grappled with whether, and to what extent, a concentration of derivatives trading within large banks contributes to systemic risk. The concern about "too big to fail" banks has also translated into concern over "too interconnected to fail" banks—wherein banks may also be systemically important because of their prominence in financial activities, such as derivatives trading. Separately, in 2023, a series of regional bank failures (involving Silicon Valley Bank, First Republic Bank, and Signature Bank) raised questions over whether banks—especially medium-size ones—sufficiently used derivatives to hedge the interest rate risk that contributed to the 2023 bank failures. This episode raised a different concern—that the failure to use derivatives to hedge rate risk by the failed banks had contributed to systemic risk.

Background

Derivatives are financial instruments that derive their value from the price of an underlying asset or index. Broadly, there are three types of derivatives: futures, swaps, and options. Swaps may be traded bilaterally, often between two financial entities or through a regulated clearinghouse. Futures and options are traded on regulated exchanges and cleared through clearinghouses. Derivatives markets are highly interconnected with the financial system. Major swap dealers are often affiliates of large banks. Some argue that, as a result, the failure of a swap dealer or the dealer's client could impact its trading counterparties and potentially spread losses through the financial system.

High concentration of derivatives activity among a few large banks can also mean that severe price dislocations—such as the sharp spikes in wheat and natural gas prices following the 2022 Russian invasion of Ukraine—could drain liquidity from the financial system, by leading to sudden large calls for margin to cover accumulating losses. In 2022, for example, the combination of high concentration of derivatives activity and strong interlinkages among such financial firms amid market volatility highlighted financial system vulnerabilities.

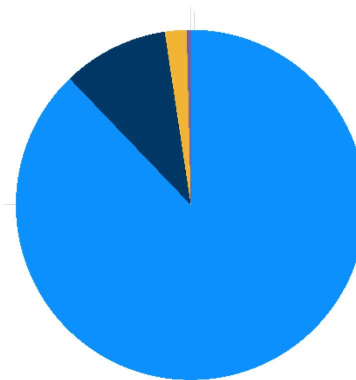
Concentration of Derivatives Holdings

Every quarter, U.S. banks are required to file Consolidated Reports of Condition and Income, known as call reports, with their primary regulators. A call report describes the bank's financial state and includes an accounting of the derivative contracts to which the bank is party. This accounting includes the underlying assets or benchmarks for the derivatives, the type of derivatives being used (e.g., future, option, swap), and whether the derivatives are exchange-traded. By analyzing the data from all 4,594 call reports filed on June 30, 2024, CRS has identified several characteristics of bank derivative activities.

Quantities of derivatives can be expressed either in terms of fair value—meaning the market value of the contracts—or in terms of notional amount—meaning the total value of the underlying assets in a contract. A notional amount is typically much larger than the fair value of a contract. The total notional value of a bank's derivatives can be greater than its assets.

Figure 1. Bank Derivative Holdings Are Highly Concentrated Among the Largest Banks

Category: Top Four | All Other Large | Medium | Small



Source: CRS analysis of Federal Financial Institutions Examination Council (FFIEC) bulk call report data from June 30, 2024.

Notes: The top four holders of bank derivatives are, in descending order, JPMorgan, Goldman Sachs, Citibank, and Bank of America. Small bank derivative holdings are 0.10% of overall holdings.

For the purposes of this report, large banks are those with more than $250 billion in total assets, medium banks are those with between $5 billion and $250 billion, and small banks are those with less than $5 billion.

Table 1. Large Banks Hold More Derivatives Relative to the Size of Their Assets

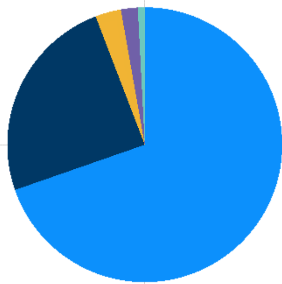
Bank Size Category	Share of Total Bank Assets	Share of Total Notional Derivative Amounts
Large	57.7%	97.9%

Bank Size Category	Share of Total Bank Assets	Share of Total Notional Derivative Amounts
Medium	31.2%	2.0%
Small	11.1%	0.1%

Source: CRS analysis of FFIEC bulk call report data from June 30, 2024.

While large banks do hold a considerable portion of total bank assets (57.7%), they hold a much larger portion of total notional derivative amounts (97.9%).

Figure 2. Interest Rate Contracts Are the Most Commonly Held Type of Derivative by Banks



Source: CRS analysis of FFIEC bulk call report data from June 30, 2024.

Interest rate contracts are the most common class of derivative held by banks, making up 69.7% of the total notional amount. Nonetheless, a 2024 study found that, for large and medium banks, their swaps positions were not economically significant in hedging interest rate risk for bank assets—such as securities and loans—that suffered losses from the Federal Reserve's rate tightening. This was because the banks' large notional positions largely offset one another. Foreign exchange contracts are the next most common at 24.5%, followed by equity derivatives at 3.0%, credit derivatives at 2.0%, and commodity contracts at 0.8%.

Large, Medium, and Small Institutions

Examining derivatives holdings by size category and derivative class shows how different sizes of banks hold different portfolios of derivatives:

Table 2.a. Interest Rate Contracts Dominate Across All Size Categories

Bank Size Category	Interest Rate Contracts	Foreign Exchange Contracts	Equity Derivatives
Large	69.9%	24.3%	3.1%
Medium	55.9%	37.7%	1.8%
Small	98.9%	0.04%	0.02%

Source: CRS analysis of FFIEC bulk call report data from June 30, 2024.

Table 3.b. Commodity Contracts Make Up a Larger Percentage of Medium Bank Holdings

Bank Size Category	Commodity Contracts	Credit Derivatives
Large	0.8%	2.0%
Medium	2.2%	2.4%
Small	0.1%	1.0%

Source: CRS analysis of FFIEC bulk call report data from June 30, 2024.

While interest rate contracts remain the most common derivative class across all size categories, they are particularly dominant among small banks, which have almost all of their derivative holdings (98.9%) in interest rate contracts. Foreign exchange contracts make up the majority of the rest for both large and medium banks (24.3% and 37.7%, respectively), while they are practically unused by small banks. Equity derivatives are a small portion of large and medium banks' derivative holdings (3.1% and 1.8%, respectively), and small banks are again largely uninvolved. Commodity contracts are also a small portion of bank derivative holdings but make up a notably larger portion of medium banks' derivative holdings (2.2%) than those of large or small banks' (0.8% and 0.1%, respectively).

Issues for Congress

Congress, through its role as overseer of the prudential regulators, grapples with issues such as systemic risk and bank activities. For example, in September 2023 prudential regulators proposed a regulatory capital rule ("Basel Endgame") that would impact capital requirements related to large banks' derivatives activities—along with other changes—which sparked congressional debate. In September 2024, Federal Reserve Vice Chair Michael Barr announced recommended changes to the proposal, including changes for capital supporting certain derivatives activities, that would require a smaller increase in the amount of capital held by banks. Though congressional perspectives have sharply varied, the questions of whether and how much high concentration and interconnectedness of derivatives trading among the largest banks contributes to systemic risk continue to spur regulatory and congressional debate.

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