

## **Quarterly Derivatives Fact Sheet**

### **General**

The notional amount of derivatives in commercial bank portfolios decreased by \$778 billion in the fourth quarter to \$16.86 trillion. (This figure excludes spot foreign exchange contracts, which decreased by \$299 billion to \$305 billion as of December 31, 1995.) Although notional amounts have increased steadily over the last few years, this quarter's slight decline is consistent with a pattern of stabilizing or declining notional amounts that have been present in previous fourth quarter numbers.

During the fourth quarter, the notional amount of interest rate contracts fell by \$234 billion, to \$11.10 trillion. Foreign exchange contracts fell by \$555 billion, to \$5.39 trillion, while commodity and equity contracts grew by \$12 billion, to \$378 billion. The number of commercial banks holding derivatives decreased by 37 in the fourth quarter to 558.

Off-balance sheet derivatives are concentrated in the largest banks. Nine commercial banks account for 94 percent of the total notional amount of derivatives in the banking system, with 9 percent accounted for by the top 25 banks (these figures include spot foreign exchange). For the years 1991 through 1994, the concentration of derivatives in the top nine banks was 86 percent, 91 percent, 91 percent, and 92 percent respectively.

Approximately 66 percent of the notional amount of derivative positions were comprised of interest rate contracts with an additional 32 percent represented by foreign exchange contracts. Commodity and equity contracts were only 2 percent of the total notional amount. The composition of contract types remains relatively unchanged since 1991.

Over-the-counter (OTC) and exchange-traded contracts comprised 86 percent and 14 percent, respectively, of the notional holdings as of fourth quarter, which is virtually the same as third quarter. OTC contracts tend to be more popular with banks and bank customers due to the flexibility in tailoring them to meet risk management needs. However, OTC contracts tend to be less liquid than exchange-traded contracts, which are standardized and fungible.

The notional values of short-term contracts (i.e., with remaining maturities of less than one year) are down \$829 billion, or 9.1 percent from third quarter, to \$8.27 trillion. Medium-term contracts (i.e., remaining maturities of one to five years) increased by \$53 billion, or 1.5 percent, to \$3.59 trillion, and long-term contracts (i.e., maturities of five or more years) increased by \$62 billion, or 7.6 percent, to \$876 billion.

### **Risk**

Notional amounts are helpful in measuring the level and trends of derivatives activity. However, these amounts are a misleading indicator of risk exposure. Beginning in the

first quarter of 1995, the Call Report provided data that improve disclosure and understanding of the relative riskiness of bank activities involving derivatives. Some of the data provide immediate information (e.g., fair values and credit risk positions) while other data will be more useful over time in evaluating trends (e.g., revenue and maturity data).

In addition to the Call Report changes, the risk-based capital guidelines were amended as of the fourth quarter (1) to revise and expand the set of conversion factors used to calculate the potential future credit exposure of derivative contracts, and (2) to recognize the effect that qualifying bilateral netting arrangements will have on the potential future credit exposure for derivative contracts.

Contracts with the longest maturities (i.e., over five years) are now subject to new, higher conversion factors. New conversion factors were also established that specifically apply to derivative contracts related to equities, precious metals, and other commodity contracts. The credit exposure calculations in the attached table reflect those new factors. However, the attached table does not reflect the effects of bilateral netting on potential future credit exposures.

Under the new risk-based capital guidelines, banks have the option of calculating their netted potential future credit exposure on a counterparty basis or approximating their netted potential future credit exposure on an aggregate basis (so long as the method chosen is used consistently and is subject to examiner review). Since this choice is left up to the bank, the attached table reflects only available Call Report information. Thus, the total credit exposures reported here represent upper bounds. If a bank has a legally valid bilateral netting arrangement, potential future credit exposure could be decreased.

The fourth quarter saw a \$12 billion decrease in total credit exposure from off-balance sheet contracts to \$228 billion. Relative to risk-based capital, total credit exposures for the top nine banks averaged 250.3 percent of capital compared to 272.9 percent at the end of the third quarter. This decrease in exposure is largely the result of declines in both U.S. interest rates and in various market volatilities, as well as the recognition of continuing benefits from bilateral netting. Credit exposure would have been significantly higher without the benefit of bilateral agreements. The extent of the benefit can be seen by comparing the positive replacement cost from Table 6 to the bilaterally-netted current exposures shown on Table 4.

Non-performing contracts remained at nominal levels. For all banks, the book value of contracts past due 30 days or more aggregated only \$18 million or .0001 percent of total current exposure from all derivatives contracts. These figures reflect both the current healthy economic environment and the relatively high credit quality of counterparties and end-users with whom banks currently engage in derivatives transactions.

The Call Report data reflect the significant differences in customer bases and business strategies among the banks. The preponderance of trading activities, including both customer transactions and proprietary positions, is confined to the very largest banks.

Smaller banks tend to limit their use of derivatives to risk management transactions. The banks with the 25 largest derivatives portfolios hold 94.1 percent of the contracts for trading purposes, primarily customer service transactions, while the remaining 5.9 percent are held for their own risk management needs. The trading contracts of these banks represent 91.4 percent of all notional values in the commercial banking system. Banks below the top 25, which use derivatives primarily for risk management transactions, hold 71.68 percent of their contracts for purposes other than trading.

The gross negative and gross positive fair values of derivatives portfolios show that banks are maintaining relatively balanced books; that is, the value of positions in which the bank has a gain is not significantly different from the value of those positions with a loss. In fact, the nine largest banks have \$219.1 billion in positive fair values and \$219.2 billion in negative fair values. These figures represent a slight decline from third quarter.

The decline in positive fair values corresponds to the reduction in credit risk mentioned above, while the decline in negative fair values means that banks owe their counterparties less. Note that while gross fair value data are very useful in depicting more meaningful market risk data, users must be cautioned that these figures do not include the results of cash positions in the trading portfolio. Similarly, the data are reported on a legal entity basis and consequently do not reflect effects of positions in portfolios of affiliates, and may result in double counting bank and non-bank affiliate positions.

End-user positions, or derivatives held for risk management purposes, have aggregate gross positive fair values of \$14.4 billion, while the gross negative fair value of these contracts aggregated to \$10.1 billion. Readers must be cautioned, however, that these results are only useful in the context of a more complete analysis of each bank's asset/liability structure and management process.

### **High-risk Mortgage Securities and Structured Notes**

The banks reporting either structured notes or high-risk mortgage securities were largely banks with total assets under \$1 billion. The fourth quarter aggregated numbers indicated that market values (fair values) exceeded book values by \$54 million for high-risk mortgage securities, a \$93 million improvement from the third quarter. Market values were below book values by \$146 million for structured notes, a \$175 million improvement from the third quarter.

This overall appreciation from third to fourth quarter stems from the decline in interest rates in the fourth quarter. Additionally, the decline in interest rates resulted in higher mortgage prepayments and resulting maturity of some issues, thus reducing the aggregated book value of high-risk mortgage securities from third to fourth quarter. For all banks with high-risk mortgage securities, the book value of holdings averaged 1.4 percent of total assets, compared to 1.5 percent in the third quarter. Average depreciation to capital declined to .33 percent, from .62 percent in the third quarter.

The numbers indicate that for banks with structured notes, the book value of holdings to total assets averaged 2.8 percent, compared to 3.1 percent in the third quarter, while average depreciation to capital declined to .52 percent, from .77 percent in the third quarter.

The number of banks reporting high-risk mortgage securities decreased by 36, to 569 in the fourth quarter. The number of banks reporting structured notes on their books decreased in the fourth quarter by 110 to 4,273.

## **Revenues**

The Call Report data include revenue information regarding cash and derivative trading activities. The data also show the impact on net interest income and non-interest income from non-trading activities. Note that the revenue data reported in Table 7 reflect figures for the fourth quarter alone, and do not reflect year-to-date data.

Relative to the third quarter, the fourth quarter resulted in a decrease in trading revenues from cash and derivatives activities of \$377 million, totaling \$1.6 billion in the fourth quarter, with the top nine banks accounting for 84 percent of that amount. Year-to-date trading revenue for 1995 from cash and off-balance sheet positions was \$6.14 billion. In the quarter, revenues from interest rate contracts fell \$85 million to \$879 million, while revenues from foreign exchange contracts decreased \$169 million, to \$592 million. Revenue from other trading contracts, including equities and commodities contracts, fell \$122 million, generating \$95 million in revenues, with virtually all of that amount in the top nine banks.

Derivatives held for purposes other than trading did not have a significant impact on either net interest income or non-interest income in the fourth quarter. Non-traded derivatives contributed \$509 million, or .69 percent to the \$73.8 billion in gross revenues of banks with derivative contracts in the fourth quarter. These figures reflect a decline of \$268 million from the third quarter (third quarter contributed \$777 million to gross revenues). Readers must be cautioned that these results are only useful in the context of a more complete analysis of each bank's asset/liability structure and management process.

This is the last section of the fact sheet.