

## **Quarterly Derivatives Fact Sheet -- Fourth Quarter 1996**

### **General**

The notional amount of derivatives in commercial bank portfolios increased by \$217 billion in the fourth quarter to \$20 trillion. During the fourth quarter of 1996, the notional amount of interest rate contracts rose by \$169 billion, to \$13.4 trillion. Foreign exchange contracts increased by \$31 billion, to \$6.24 trillion (this figure excludes spot foreign exchange contracts, which decreased by \$305 billion to \$262 billion). Commodity and equity contracts rose by \$16 billion, to \$366 billion. The number of commercial banks holding derivatives decreased by 18 in the fourth quarter to 483. Relative to year-end 1995, the total notional amount of derivative contracts increased by more than 18 percent.

Approximately 67 percent of the notional amount of derivative positions was comprised of interest rate contracts with an additional 31 percent represented by foreign exchange contracts. Commodity and equity contracts accounted for only 2 percent of the total notional amount. The composition of contract types remains relatively unchanged since 1991.

Off-balance sheet derivatives continue to be concentrated in the largest banks. Eight commercial banks account for 94 percent of the total notional amount of derivatives in the banking system, with 98 percent accounted for by the top 25 banks.

Over-the-counter (OTC) and exchange-traded contracts comprised 87 percent and 13 percent, respectively, of the notional holdings as of fourth quarter, that proportion has remained virtually the same since the first quarter of 1996. OTC contracts tend to be more popular with banks and bank customers because they can be tailored to meet firm-specific risk management needs. However, OTC contracts tend to be less liquid than exchange-traded contracts, which are standardized and fungible.

The notional amounts of short-term (i.e., with remaining maturities of less than one year) contracts are up \$650 billion from the third quarter, to \$9.3 trillion. Contracts with remaining maturities of one to five years decreased by \$707 billion, to \$3.7 trillion, and long-term (i.e., with maturities of five or more years) contracts increased by \$129 billion, to \$1.3 trillion.

### **Risk**

Notional amounts are helpful in measuring the level and trends of derivatives activity. However, these amounts may be 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 exposures) while other data will be more useful over time in evaluating trends (e.g., trading revenue and contractual maturity data).

In addition to the Call Report changes, the risk-based capital guidelines were amended as of the second quarter of 1995 to (1) revise and expand the set of conversion factors used to calculate the potential future credit exposure of derivative contracts, and (2) 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 higher conversion factors. Different 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 Table 4, reflect those new factors. However, that 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 either 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 available Call Report information does not reflect the impact of netting on future credit exposure, the total credit exposures reported here are most likely overstated. If a bank has a legally valid bilateral netting arrangement, potential future credit exposure could be decreased.

The fourth quarter realized a \$13 billion increase in total credit exposure from off-balance sheet contracts, to \$252 billion. Relative to risk-based capital, total credit exposures for the top eight banks remained at 236.9 percent of aggregated capital in the fourth quarter. The increase in the dollar amount of total credit exposure appears to be largely a result of changes in market rates over the fourth quarter. Credit exposure would have been significantly higher without the benefit of bilateral netting agreements. The extent of the benefit can be seen by comparing gross positive fair values 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 \$3 million, or 0.001 percent of total credit exposure from derivatives contracts. As of the fourth quarter 1996, banks with derivative contracts reported \$37 million in credit losses from off-balance sheet derivatives. This number represents the year-to-date charge-offs incurred from off-balance sheet contracts. These figures reflect both the current healthy economic environment and the relatively high credit quality of counterparties and end-users with whom banks presently engage in derivatives transactions, as well as the increased use of collateral.

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 for risk management purposes. The banks with the 25 largest derivatives portfolios hold 93.7 percent of the contracts for trading purposes, primarily customer service transactions, while the remaining 6.3 percent are held for their own risk management needs. The trading contracts of these banks represent 91.8 percent of all notional values in the commercial banking system.

Banks below the top 25, which use derivatives primarily for risk management transactions, hold 72.3 percent of their contracts for purposes other than trading.

The gross negative and gross positive fair values of derivatives portfolios are relatively balanced; 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, for derivative contracts held for trading purposes, the eight largest banks have \$244 billion in gross positive fair values and \$245 billion in gross negative fair values. Note that while gross fair value data are very useful in depicting more meaningful market risk exposure, users must be cautioned that these figures do *not* include the results of cash positions in trading portfolios. Similarly, the data are reported on a legal entity basis and consequently do not reflect the effects of positions in portfolios of affiliates.

End-user positions, or derivatives held for risk management purposes, have aggregate gross positive fair values of \$10.6 billion, while the gross negative fair value of these contracts aggregated to \$9.1 billion. Readers must be cautioned, however, that these figures are only useful in the context of a more complete analysis of each bank's asset/liability structure and management process. For example, these figures do not reflect the impact of off-setting positions on the balance sheet.

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

The number of banks reporting either structured notes or high-risk mortgage securities remain largely confined to banks with total assets less than \$1 billion. The number of banks reporting high-risk mortgage securities decreased by 16 to 489 in the fourth quarter. The fourth quarter aggregated numbers indicate that book values exceeded market values (fair values) by \$24 million for high risk mortgage securities, a \$37 million improvement from the third quarter, stemming from the decline in market interest rates in the fourth quarter. The average book value of holdings for these banks relative to total assets for the fourth quarter of 1996 remained at 1.2 percent. Average depreciation to capital was 0.52 percent, an improvement over third quarter's 0.76 percent. Overall, banks continue to reduce the amount of holdings in high risk mortgage securities; the total aggregate book value of holdings decreased roughly 44 percent from fourth quarter 1996 relative to the fourth quarter of 1995.

The number of banks reporting structured notes on their books decreased in the fourth quarter by 235, to 3,457. Book values exceeded market values by \$94 million for structured notes, a \$111 million improvement from the third quarter, due to the decline in interest rates over the fourth quarter. For banks with structured notes, the average book value of holdings to total assets declined slightly to 2.0 percent, compared to 2.2 percent in the third quarter, while average depreciation to capital declined to 0.39 percent, compared to 0.58 percent in the third quarter. Banks have reduced the book value of holdings of structured notes by more than 34 percent, relative to year-end 1995.

### **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 derivatives used in non-trading activities. Note that the revenue data reported in Table 7 reflect figures for the fourth quarter alone; they are not annualized.

Relative to the third quarter of 1996, commercial banks reporting derivatives contracts in the fourth quarter of 1996 show an aggregate increase in trading revenues from cash and derivatives activities of \$132 million, or 7.6 percent. The revenue figures reported for trading activities in the fourth quarter indicate that the banks with derivatives realized approximately \$1.87 billion in the quarter from cash and off-balance sheet derivative positions, with the top eight banks accounting for 81 percent of these trading revenues. In the fourth quarter, revenues from interest rate positions did not change, generating \$990 million, while revenues from foreign exchange positions increased \$253 million, to \$767 million. Revenue from other trading positions, including equities and commodities positions, fell \$121 million, generating \$109 million in revenues, with approximately 90% of that amount in the top eight banks. Relative to year-end 1995, total year-to-date trading revenues from cash and derivatives positions have increased 23 percent, to \$7.5 billion.

Derivatives held for purposes other than trading did not have a significant impact on either net interest income or non-interest income in the third quarter. Non-traded derivatives contributed \$180 million, or 0.2 percent to the gross revenues of banks with derivative contracts in the fourth quarter. These figures reflect a decrease of \$146 million from the third quarter, due in part to the decrease in the overall level of interest rates over the fourth quarter. 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.