

———— FINANCIAL POLICY FORUM ————
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SPECIAL POLICY BRIEF 16

Global OTC Derivatives Markets

New Data on Derivatives Markets from BIS

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The Bank for International Settlements (BIS) has just released figures for the global over-the-counter (OTC) derivatives through the end of 2003. The data, from a publication entitled *Regular OTC Derivatives Markets Statistics*, shows that the size of these markets has reached nearly \$200 trillion (or more precisely \$197,177,000,000,000). There is an additional \$36.75 trillion in outstanding amounts (open interest) in exchange traded derivatives, bringing the total amounts outstanding in global derivatives markets to \$233.9 trillion.

This volume of OTC derivatives represents a 39.2% increase from the previous year. Of the major types of derivatives, equity linked derivatives grew fastest, with a growth rate of 64% in 2003. This compares to a 39.7% growth rate for interest rate derivatives, 32.6% for foreign exchange derivatives and 52.3% for commodity derivatives. Overall it was a year of rapid growth.

Equity derivatives comprise only 2% of the overall market, and commodity linked derivatives are another 0.7%. The lion's share of the market is in interest rate (72.0%) and foreign exchange rate derivatives (12.4%). The total outstanding amount of interest rate swaps was \$111.2 trillion at the end of 2003, with another \$10.8 trillion in forward rate agreements and \$20 trillion in interest rate options. Interest rate options were the fastest growing type of interest rate derivatives in 2003. The strong growth in interest rate derivatives reflects the volatility and policy uncertainty – especially in the first half of the year – surrounding U.S and EU interest rates.

Gross market value.

The gross market value of outstanding OTC derivatives contracts grew by 9.9% in 2003 to reach \$7 trillion. Although this is a relatively small increase in comparison to the growth in outstanding contracts (measured in notional value), the rise is due to the sharp up and down movements during 2003. Interest rates first fell and then rebounded sharply, and this swing caused gross market values to shoot up by record amounts by

mid-year. The market reversals then reduced these gains and losses by year's end, leaving the figures changed by less than 1.5% in comparison to the year end of 2002. In the foreign exchange derivatives markets, where exchange rates have moved more consistently in one direction, the gross market value of foreign exchange derivatives rose by 47.7% in 2003.

After netting, this \$7 trillion in gross market value amounts to \$2 trillion in credit exposure for the reporting derivatives dealers. This amounts to a 31.4% increase in credit exposure for 2003.

Measured as a percentage of notional value, the gross market value to notional value reached a high in mid-2003 when record low interest rates pushed the ratio to 4.7% -- up from 3.55 in 2002.

The BIS defines this as the sum of the fair market values (positive or negative) of all open derivatives contracts. In other words, it is how much a firm has gained or lost on its book of derivatives contracts. The gross positive market value measures the gross credit risk if the "other side" or counterparty were to fail to perform on the contract. For example, if dealer A has a derivatives contract with another financial firm B that has moved into the money by \$10 million, then A has \$10 million in credit risk that B will go bankrupt or otherwise fail to perform on the derivative contract. Alternatively, A has a derivative with a gross market value of \$10 million.

Credit risk is usually measured by netting the various positive and negative valued contracts between two parties. Thus, a \$10 million gain on one derivative is netted down by a \$8 million loss on another contract so that the (net) credit exposure from B to A is \$2 million. Netting arrangements that are part of most OTC derivatives contracts are thought to be legally binding, and the calculations of credit exposure by netting gross market values assumes that netting will occur with certainty.

Background on the data.

The data is compiled by central banks for the G10 countries. They collect the information from reporting OTC derivatives dealers and then adjust the figures for any double counting (since a large portion of derivatives trading is between dealers, i.e. the interdealer market) and any derivatives within a corporation are excluded (e.g. those between affiliates are not counted). There are currently 61 major reporting dealers that make up the survey.

The Bank for International Settlements (BIS) also publishes the *Quarterly Review: International Banking and Financial Market Developments* (latest was March 8, 2004) which contains the latest worldwide figures for exchange traded derivatives for 2003.

Information from these data releases has been, in part, entered into spreadsheets available on the Derivatives Study Center website:

<http://www.financialpolicy.org/dscdata.htm>

The original BIS data is available at:

<http://www.bis.org/publ/regpubl.htm>