

———— FINANCIAL POLICY FORUM ————
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SPECIAL POLICY BRIEF 15

Developing Countries Lead Growth in Global Derivatives Markets

New Data on Derivatives Markets from BIS, FIA and ISDA

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Despite a decline in the fourth quarter, worldwide trading volume in futures and options on derivatives exchanges rose sharply in 2003 to \$874 trillion – by comparison the US gross domestic product was \$11 trillion for 2003. Measured by notional value, turnover in futures contracts rose 24.6%, that for options rose 30.2% and the combined figure for futures and options showed an annual increase in trading volume of 26.2%.

The hottest market was the options contract on the Kospi equity index traded on the Korean Stock Exchange; its trading volume rose by 50% last year. Other fast growing markets include China's Dalian Commodities Exchange where a very large volume of soy bean futures is traded, and the Brazilian Bovespa where equity index futures and options are traded. The Brazilian Bovespa, Mexico's Derivatives Exchange (Mexder) and China's Dalian Commodities Exchange made the list of the largest 10 derivatives exchanges around the world – while the exchange in Korean is ranked 11th.

Credit derivatives traded in the OTC market grew by 29% in 2003 to reach an outstanding amount, measured in notional value, of \$3.58 trillion. This sum is equivalent to 67% of all debt held by U.S. commercial banks. The amount of outstanding equity derivatives traded in the OTC market reached \$3.44 trillion compared to the \$3.26 trillion in equity securities held in US mutual funds, closed-end funds and exchange traded funds combined.

The data for this Special Policy Brief, which is discussed more thoroughly below, comes from three recent sources. The Bank for International Settlements (BIS) released their *Quarterly Review: International Banking and Financial Market Developments* (March 8, 2004) which contains the latest worldwide figures for exchange traded derivatives for 2003 (their figures for 2003 in the OTC market will not appear for

another three months). In addition, the Futures Industry Association (www.fiafi.org) released its annual trading volume survey, and the International Swaps and Derivatives Association (www.isda.org) released its semi-annual survey of its members that covers up to the end of 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>

BANK for INTERNATIONAL SETTLEMENTS

The BIS *Quarterly Review* reports that the outstanding amount (also known as open interest) of futures contracts traded on organized exchanges rose in the fourth quarter of 2003 by 1.1%, while that for options fell by 11.4%. Despite the fourth quarter performance, the annual change from the end of 2002 shows that outstanding futures open interest rose 32.8% and that for options rose 70.8%. The total open interest in futures and options also declined for the fourth quarter but reached \$36.75 trillion which amounts to a 54.3% increase for all of 2003.

Open interest in interest rate options showed the fastest rate of growth. It now totals \$20.8 trillion – a much larger share of open interest in the market than interest rate futures.

Trading volume in the fourth quarter declined for both futures (-4.7%) and options (-19.7%). The quarterly decreases were most likely explained by the extraordinary growth in the second quarter of 2003 (see Special Policy Briefs 9 and 10 at www.financialpolicy.org/dscbriefs.htm). Measured on a year-over-year or annual basis, trading volume in both futures and options showed strong growth. Futures trading grew 27.7% during the year and that for interest rate futures rose 27.4% and that for currency futures rose 79.3%. Trading volume in options grew at a more modest 8.9% rate except for currency options that grew at a 44.6% rate.

Geographically, North America remains the largest single market although Europe is growing much more rapidly.

Unfortunately there is not, at present, comparable data for the OTC market in 2003. The BIS still has not updated their figures on the global OTC market since the Financial Policy Forum analyzed those figures in Special Policy Brief 10 (<http://www.financialpolicy.org/fpfsfb10.htm>)

The original BIS data is available at:

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

FUTURES INDUSTRY ASSOCIATION – Annual Survey

The Futures Industry Association survey found that futures trading volume worldwide rose by 27.8% in 2003 to a total of 2.97 billion contracts. U.S. volume rose 22.5% and that in the rest of the world rose by 30.8%. Options trading volume rose 32.1%, and again the growth rate abroad far outstripped that in the U.S. Combined, the trading volume in futures and options rose 30.5% for 2003 to reach 8.11 billion contracts.

The FIA survey ranks individual derivatives contracts by trading volume (measured by the number of contracts and not the notional value). By far the largest is the option on the Kospi 200 equity index. There were 2,837 million of these contracts traded on the Korean Stock Exchange in 2003, and the second greatest trading volume was for the Euro-bund futures, traded on Eurex, with 244 million contracts traded. The former king of the hill, the 30-year U.S. Treasury bond futures traded on the Chicago Board of Trade is now ranked 15th, while the CBOT's 10-year and 5-year Treasury Note contracts are 7th and 12th. In addition to the Kospi 200 option, emerging market derivatives in the top 10 also included the Mexican Merder's TIE 28 futures contract (ranked 4th).

Amongst the largest declines in contract trading were the venerable S&P500 futures (some volume has moved to the e-mini electronically traded version), the NYMEX gas futures contract (whose volume had swollen following Enron's collapse), and Eurodollar options at the CME (although still trading over 100 million contracts).

The FIA survey also ranks derivatives exchanges around the world. Measured by the number of futures contracts traded, the largest futures exchange is now Eurex followed by the Chicago Mercantile Exchange and the Chicago Board of Trade. There are now three changes from developing countries amongst the top ten: Mexico's Merder is 5th, Brazilian BM&F is ranked 6th, and China's Dalian is ranked 9th. Other futures exchange from developing countries include the Korean Stock Exchange (11th), Shanghai Futures Exchange (13th), National Stock Exchange of India (14th) and South Africa's JSE Securities Exchange (23rd).

Rankings for combined futures and options trading volume also shows the presence of developing countries. The world's largest is Korean – almost all the volume is in the Kopsi 200 index option. Second place is held by Eurex, then Euronext, CME, then the CBOT and after that the Chicago Board Options Exchange. The Korean Stock Exchange is also the fastest growing in 2003 at a 50% annual of growth.

The FIA survey focuses on the number of contracts traded on derivatives exchanges; this focus can be partially explained by the fact that their members' income depends on trading commissions and other transactions related income. The FIA data is available at: <http://www.fiafi.org>

ISDA Survey

The semi-annual survey by the International Swaps and Derivatives Association of their members – ranging from 100 to 120 firms – shows that global volume in OTC derivatives in interest rates, currencies, equities and credit derivatives totaled \$149.34 trillion for 2003. These figures serve as a good preliminary indication of what the BIS will report when they put together their data from regulatory agencies around the world in their next *Quarterly Review*. Comparing the two surveys for the period ending June 30, 2003, the ISDA estimate for interest rate and foreign currency derivatives was \$124 trillion and the BIS estimated \$127 trillion. The ISDA survey was based on 120 firms reporting on interest rate swaps, options and currency swaps, 100 firms reported on credit derivatives and 106 reported on equity derivatives.

The ISDA survey also reported that credit derivatives outstanding reached \$3.58 trillion. This far exceeds the figure of \$1.7 trillion from the Fitch survey from just three months before in September of 2003. Some discrepancy can be traced to measurement methods. ISDA includes "credit default swaps, baskets and portfolio transactions." This is likely to be a larger universe than Fitch which does not include such instruments as cash CDOs (collateral debt obligations).

ISDA also reported that outstanding amounts of equity derivatives reached \$3.44 trillion after growing 21% in 2003. This compares to \$2.78 trillion six months ago and \$2.8 trillion in BIS report for mid-year 2003.