CME Group

Derivatives Market Landscape

Fall 2013

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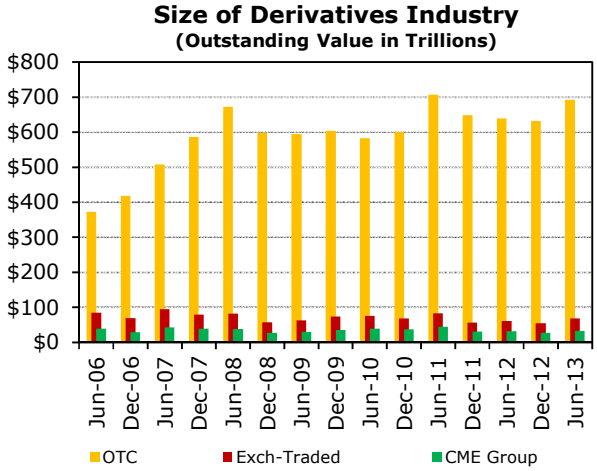
The Bank for International Settlements (BIS) publishes information regarding the total outstanding value of over-the-counter (OTC) and exchange-traded derivatives positions on a semi-annual basis.

BIS's November 2013 release, covering data through June 2013, suggests that the overall size of the derivatives industry, including OTC and exchange traded products, had increased substantially during the first half of 2013. The industry has surpassed the interim peak of June 2008 but remains a notch below the June 2011 peak.

The notional value of CME Group open interest likewise experienced significant gains in the first half of 2013.

Outstanding Values

Outstanding notional values in the OTC market advanced sharply from $632.6 trillion in December 2012 to $692.9 trillion by June 2013. This represents a 9.5% advanced over the six month but remains 2.0% below the June 2011 peak of $706.9 trillion.



Source: Bank for International Settlements and CME Research

The notional value outstanding for the global exchange-traded derivatives industry, *e.g.,* organized futures exchanges, including futures and option markets, increased from $54.4 trillion in December 2012 to $68.3 trillion by June 2013, representing a 25.4% advance over the six-month period. Still, the exchange-traded derivatives industry remains some 17.6% below a peak of $82.8 trillion achieved in June 2011 and 28.2% below the all-time high of $95.1 trillion established in June 2007.

The notional value outstanding for CME Group markets rallied to $32.4 in June 2013 from $27.0 trillion in December 2012, representing a 20% increase over the six-month period. This figure remains 27.0% below the all-time high of $44.4 trillion in June 2011; and,24.1% below a peak of $42.7 trillion established in June 2007. [1]

Please refer to Table 1 in our Appendix for more complete information regarding these markets, including statistics broken down by market segment in detail.

These statistics must be explained against the backdrop of economic events over past years. In particular, the economic and regulatory impact of the subprime mortgage crisis, peaking in 2008, has colored the markets tremendously.

Derivatives activity was initially constrained by deleveraging and general cautiousness on the part of the customer base. Activity was further limited to the extent that Fed zero interest rate policies ("ZIRP") have caused rates to remain at historic lows for some years now. But recent economic growth has generated speculation that the Fed may taper its easy money policies in coming months.

The crisis also resulted in the passage of the Dodd-Frank financial reform bill of 2010. A major plank of the legislation is a mandate to clear standardized OTC derivatives. This mandate went into effect during the first half of 2013 and has bolstered confidence in OTC derivatives. This confidence is reflected in the growth of the interest rate swap (IRS) market to $425.6 trillion in outstanding notional value as of June 2013, approaching the all-time high of $441.2 trillion established in June 2011.

[1] Note that the notional value of exchanged traded derivatives tends to advance on a seasonal basis mid-year relative to year-end when open positions are often squared or offset for bookkeeping purposes.

Misleading Statistics

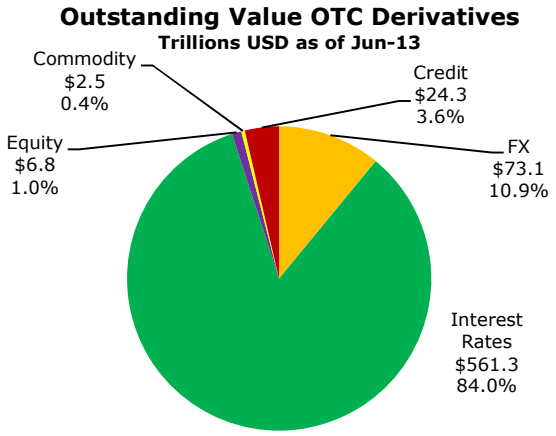
We hastily add a note of caution to any comparison of the notional values of OTC vs. exchange traded derivatives. In particular, discrepant accounting practices between the two marketplaces may render such comparisons potentially misleading.

Consider the fact that when futures are bought and then sold, they are offset, resulting in a reduction in open interest. But both long and short sides of an offsetting OTC derivatives transaction are typically carried on the books until expiration, often for years even when they offset economically, resulting in inflated OTC notional values.

If OTC derivatives were offset like futures, anecdotal evidence suggests that reported exposures may be reduced 75%-95%.

Some OTC positions may, however, be offset through "tear-up" or "compression" services. However, the BIS data does not address the magnitude of this activity.

Paradoxically, the liquidation (in an economic sense) of OTC positions can even result in advancing outstanding notional values as offsetting positions are established. But it is impossible accurately to assess this effect based on the BIS data.

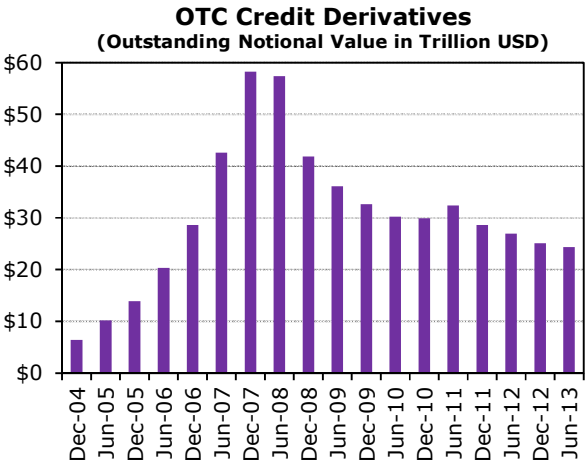


Source: Bank for International Settlements

Many feel that a more accurate comparison between OTC and exchange traded derivatives may be found by examining the notional value of volume or "turnover" per OTC vernacular. That comparison may be made by reference to the BIS Triennial Survey. Note that exchange traded derivatives compare very favorably to OTC derivatives in this regard.

Market Mix

Interest rate related instruments continue to account for the lion's share of OTC derivative positions established but not yet terminated. Interest rate related products now account for $561.3 trillion or 84.09% of the $692.9 trillion industry. FX and credit derivatives were valued at $73.1 trillion and $24.3 trillion or 10.9% and 3.6% of OTC notional value outstanding, respectively. Equity-linked and commodity derivatives brought up the rear with market shares of 1.0% and 0.4%, respectively. [2]



Source: Bank for International Settlements (BIS)

The credit derivatives market continues to retreat at the swiftest pace of all OTC sectors. In the mid-2000s, credit derivatives represented the fastest growing segment of the OTC derivatives industry. But this sector has most keenly felt the fallout of the subprime crisis. The outstanding notional value of credit derivatives had declined to $24.3 trillion by December 2012. This is 58.2% off the peak of $58.2 trillion observed in December 2007.

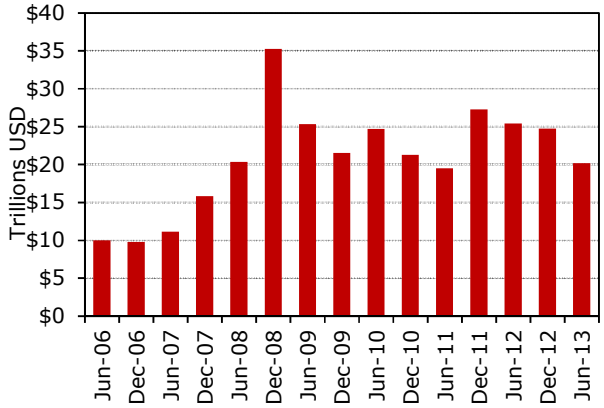
[2] BIS further recognizes a substantial "unallocated" portion of the derivatives which is not reflected in our graphics or market share calculations.

Value at Risk

While it is interesting to examine statistics regarding the overall value of the OTC derivatives industry, we caution that "notional values" are just that - they do not necessarily reflect value at risk. However, BIS does release statistics depicting the "gross market value" of OTC derivatives.

Gross market value represents the sums of the absolute values of all open contracts with either positive or negative replacement values evaluated at market prices. One may think of gross market value as representative of the mark-to-market (MTM) or potential liquidation value of OTC derivative positions.

OTC Gross Market Values



Source: Bank for International Settlements

Note that gross market values in the OTC derivatives markets were reported at $20.2 trillion as of June 2013 and off 18.5% from the $24.7 trillion reported in December 2012. Current gross market value is some 42.8% below the peak of $35.3 trillion recorded in December 2008. Gross market values may be referenced in some detail in Table 2 of our Appendix.

Comparing Value at Risk

There are no available statistics in the exchange-traded derivatives markets that are comparable to gross market values as calculated in the OTC markets. That is because exchange traded derivatives, *i.e.,* futures markets, are commonly marked-to-market on a daily basis. As such, traders pay any losses and collect any profits on a daily basis.

Thus, there are no "unrealized profits or losses" in the futures markets. Of course, if an OTC market participant should default after accruing an unrealized obligation to the counterparty to a transaction, that counterparty may be unable to collect on all or part of that obligation. This is a classic example of counterparty credit risk. In essence, Gross Market Value represents the "Replacement Cost" associated with re-establishing an OTC derivatives position subsequent to a counterparty default.

Actually, one might examine the original performance bond or "margin" on deposit at futures clearing houses to assess the magnitude of risk that are represented in the exchange-traded derivatives markets. Performance bonds are typically calibrated by clearing houses to cover one day's close-to-close price movement with a high degree of confidence.

While such information is certainly of interest, it does not provide a direct comparison vs. the gross market values of OTC derivatives, noting that these gross market values may accumulate over extended periods of time.

Table 1: Outstanding Notional Value of Derivatives Markets
(Billions USD)

	Jun-09	Dec-09	Jun-10	Dec-10	Jun-11	Dec-11	Jun-12	Dec-12	Jun-13
Over-the-Counter Derivatives									
Total contracts	**$594,553**	**$603,900**	**$582,685**	**$601,046**	**$706,884**	**$647,811**	**$639,396**	**$632,579**	**$692,908**
FX contracts	**$48,732**	**$49,181**	**$53,153**	**$57,796**	**$64,698**	**$63,381**	**$66,672**	**$67,358**	**$73,121**
Forwards and forex swaps	$23,105	$23,129	$25,624	$28,433	$31,113	$30,526	$31,395	$31,718	$34,421
Currency swaps	$15,072	$16,509	$16,360	$19,271	$22,228	$22,791	$24,156	$25,420	$24,654
Options	$10,555	$9,543	$11,170	$10,092	$11,358	$10,065	$11,122	$10,220	$14,046
Interest rate contracts	**$437,228**	**$449,875**	**$451,831**	**$465,260**	**$553,240**	**$504,117**	**$494,427**	**$489,703**	**$561,299**
Forward rate agreements	$46,812	$51,779	$56,242	$51,587	$55,747	$50,596	$64,711	$71,353	$86,334
Interest rate swaps	$341,903	$349,288	$347,508	$364,377	$441,201	$402,611	$379,401	$369,999	$425,569
Options	$48,513	$48,808	$48,081	$49,295	$56,291	$50,911	$50,314	$48,351	$49,396
Equity-linked contracts	**$6,584**	**$5,937**	**$6,260**	**$5,635**	**$6,841**	**$5,982**	**$6,313**	**$6,251**	**$6,821**
Forwards and swaps	$1,678	$1,652	$1,754	$1,828	$2,029	$1,738	$1,880	$2,045	$2,321
Options	$4,906	$4,285	$4,506	$3,807	$4,813	$4,244	$4,434	$4,207	$4,501
Commodity contracts	**$3,619**	**$2,944**	**$2,852**	**$2,922**	**$3,197**	**$3,091**	**$2,994**	**$2,587**	**$2,458**
Gold	$425	$423	$417	$397	$468	$521	$523	$486	$461
Other commodities	$3,194	$2,521	$2,434	$2,525	$2,729	$2,570	$2,471	$2,101	$1,997
Forwards and swaps	$1,715	$1,675	$1,551	$1,781	$1,846	$1,745	$1,659	$1,363	$1,327
Options	$1,479	$846	$883	$744	$883	$824	$812	$739	$670
Credit default swaps	**$36,098**	**$32,693**	**$30,261**	**$29,898**	**$32,409**	**$28,626**	**$26,931**	**$25,069**	**$24,349**
Single-name instruments	$24,165	$21,917	$18,494	$18,145	$18,105	$16,865	$15,566	$14,309	$13,135
Multi-name instruments	$11,933	$10,776	$11,767	$11,753	$14,305	$11,761	$11,364	$10,760	$11,214
of which index products	-	-	$7,500	$7,476	$12,473	$10,514	$9,731	$9,663	$10,170
Unallocated	**$62,291**	**$63,270**	**$38,329**	**$39,536**	**$46,498**	**$42,613**	**$42,059**	**$41,611**	**$24,860**
Exchange Traded Derivatives									
All Exchange-Traded	**$63,256**	**$73,118**	**$75,418**	**$67,947**	**$82,844**	**$56,563**	**$61,466**	**$54,434**	**$68,264**
Interest rate	$57,733	$67,056	$69,551	$61,943	$76,039	$53,298	$55,580	$48,551	$62,177
Currency	$225	$292	$347	$314	$389	$308	$326	$336	$341
Equity index	$5,299	$5,769	$5,520	$5,689	$6,416	$2,956	$5,560	$5,547	$5,746
CME Group Contracts	**$30,250**	**$34,908**	**$38,850**	**$36,755**	**$44,392**	**$31,007**	**$31,780**	**$26,969**	**$32,400**

Source: Bank for International Settlements (BIS)

Table 2: Gross Market Value of OTC Derivatives
(Billions USD)

	Jun-09	Dec-09	Jun-10	Dec-10	Jun-11	Dec-11	Jun-12	Dec-12	Jun-13
Total contracts	**$25,298**	**$21,542**	**$24,697**	**$21,296**	**$19,518**	**$27,307**	**$25,417**	**$24,740**	**$20,158**
Foreign exchange contracts	**$2,470**	**$2,070**	**$2,544**	**$2,482**	**$2,336**	$2,582	$2,240	$2,304	$2,424
Forwards and forex swaps	$870	$683	$930	$886	$777	$919	$771	$803	$953
Currency swaps	$1,211	$1,043	$1,201	$1,235	$1,227	$1,318	$1,184	$1,247	$1,131
Options	$389	$344	$413	$362	$332	$345	$285	$254	$339
Interest rate contracts	**$15,478**	**$14,020**	**$17,533**	**$14,746**	**$13,244**	**$20,001**	**$19,113**	**$18,833**	**$15,155**
Forward rate agreements	$130	$80	$81	$206	$60	$67	$51	$47	$168
Interest rate swaps	$13,934	$12,576	$15,951	$13,139	$11,864	$18,046	$17,214	$17,080	$13,663
Options	$1,414	$1,364	$1,501	$1,401	$1,319	$1,888	$1,848	$1,706	$1,325
Equity-linked contracts	**$879**	**$708**	**$706**	**$648**	**$708**	**$679**	**$645**	**$605**	**$693**
Forwards and swaps	$225	$176	$189	$167	$176	$156	$147	$157	$206
Options	$654	$532	$518	$480	$532	$523	$497	$448	$487
Commodity contracts	**$682**	**$545**	**$458**	**$526**	**$471**	$481	$390	$358	$386
Gold	$43	$48	$45	$47	$50	$75	$61	$53	$80
Other commodities	$638	$497	$413	$479	$421	$405	$328	$306	$306
Credit default swaps	**$2,973**	**$1,801**	**$1,666**	**$1,351**	**$1,345**	**$1,586**	**$1,187**	**$848**	**$725**
Single-name instruments	$1,950	$1,243	$993	$884	$854	$958	$715	$527	$430
Multi-name instruments	$1,023	$558	$673	$466	$490	$628	$472	$321	$295
Unallocated	$2,816	$2,398	$1,789	$1,543	$1,414	$1,978	$1,842	$1,792	$775
Memorandum Item									
Gross Credit Exposure	**$3,744**	**$3,521**	**$3,581**	**$3,480**	**$2,971**	**$3,939**	**$3,691**	**$3,609**	**$3,900**

Source: Bank for International Settlements (BIS)