



Press release

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Rapid expansion of OTC derivatives market in the second half of 2001

Data released today by the BIS on positions in the global over-the-counter (OTC) derivatives market at the end of December 2001 point to a sizeable increase of activity in the second half of last year.¹ The total estimated notional amount of outstanding OTC contracts stood at \$111 trillion at end-December 2001, an 11% increase over end-June 2001.² This compares with a 5% increase in the previous half-year period. Gross market values grew by 24% to \$3.8 trillion.³

Growth driven by interest rate instruments

Growth was driven by interest rate instruments, the largest of the broad market risk categories, with outstanding contracts rising by 15%. Activity was equally buoyant in all three main groups of interest rate products, namely forward rate agreements (FRAs), interest rate swaps and interest rate options. By contrast, business in foreign exchange contracts, the second largest broad market risk category, declined by 1%. Activity in equity-linked contracts was also subdued, with a similar percentage decline in amounts outstanding.⁴

Buoyancy of dollar and euro interest rate swap markets

Business in interest rate products was brisk in the second half of 2001, with a 15% rise in outstanding contracts to \$78 trillion. This buoyancy was evident in all market segments but the most significant increase in absolute terms took place in the interest rate swap market.

¹ The statistics cover the worldwide consolidated OTC derivatives exposures of major banks and dealers in the G10 countries.

² The notional amount, which is generally used as a reference to calculate cash flows under individual contracts, provides a comparison of market size between related cash and derivatives markets. The numbers are adjusted for double-counting resulting from positions between reporting institutions.

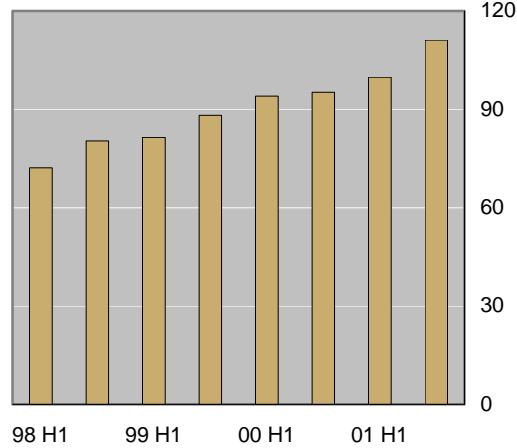
³ The gross market value is defined as the sum of the positive market value of all reporters' contracts and the negative market value of their contracts with non-reporters (as a proxy for the positive market value of non-reporters' positions). It measures the replacement cost of all outstanding contracts had they been settled on 31 December 2001. The numbers are adjusted for double-counting resulting from positions between reporting institutions.

⁴ Credit derivatives are not covered in the regular BIS survey of OTC derivatives market activity.

OTC derivatives contracts

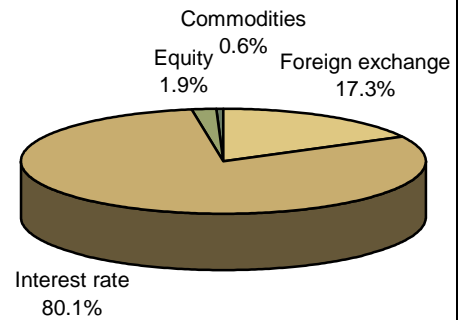
Global amounts outstanding, in trillions of US dollars

Evolution since 1998



Source: BIS.

Product breakdown at end-2001



Graph 1

With \$59 trillion in outstanding contracts, interest rate swaps remain by far the largest single group of products in the OTC market.

The US dollar and euro swap markets grew particularly rapidly. Dollar-denominated swaps expanded by 19% to \$19 trillion. That market segment has grown at a steady and robust pace in recent years on the back of a shift in hedging and trading practices.⁵

The rapid increase in dollar-denominated swap contracts in the latter half of last year suggests that trading in dollar-denominated derivatives has been sufficiently buoyant to offset the possible contractionary impact of market consolidation. Vigorous monetary easing by the United States, in the wake of a pronounced deceleration of US economic growth and the terrorist attacks of 11 September 2001, probably fuelled hedging and position-taking activity in dollar-denominated derivatives. Moreover, the range of participants active in US derivatives markets appears to have broadened in recent periods to include, for example, mortgage banks and investors in mortgage-backed securities (MBSs). As long-term interest rates declined sharply between June and early November, such market participants were reported to have turned in increasing numbers to the swap and swaption markets in order to hedge the prepayment risk of their holdings of MBSs.⁶

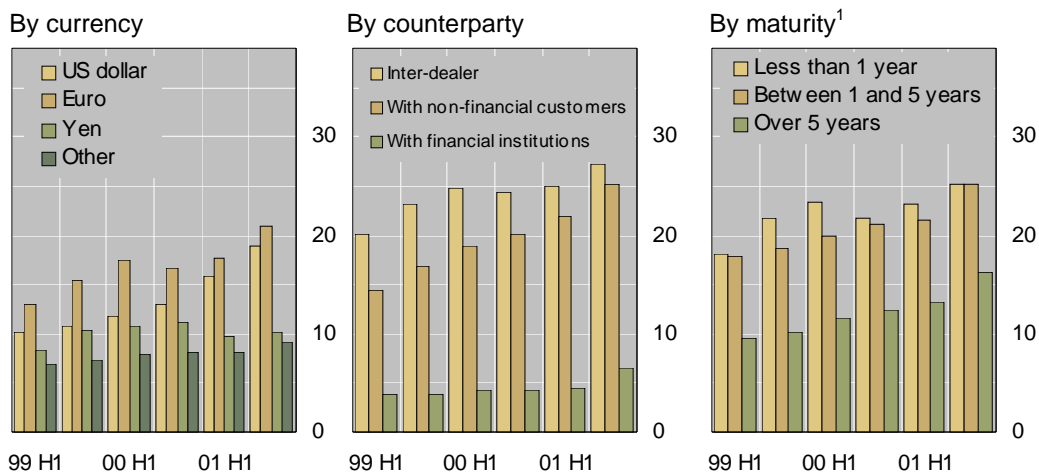
Euro-denominated contracts returned to rapid growth following a slowdown in the previous two half-years. Here again, interest rate swaps provided much of the impetus behind market expansion, with the stock of euro-denominated contracts rising by 18% to \$21 trillion. The market for euro-denominated swaps has developed at an uneven pace in recent years, accounting for much of the variability in the expansion of the OTC market.

⁵ The factors underlying this long-term shift have been discussed in earlier BIS press releases on the global OTC market (including those issued on 16 May 2001 and 19 December 2001) and recent issues of the *BIS Quarterly Review*.

⁶ Investors in MBSs face significant prepayment (or convexity) risks since the holders of the underlying mortgages enjoy certain prepayment privileges, such as the ability to refinance their mortgages on more favourable terms when long-term interest rates decline. Such early repayments in turn lead issuers to call MBSs as the underlying pool of mortgages shrinks. In order to protect themselves from a shortening of their portfolios' duration and from a loss of interest income, holders of MBSs can purchase receiver (or call) swaptions enabling them to receive fixed rate payments on pre-agreed terms if their securities are called.

Interest rate swaps

Notional amounts outstanding, in trillions of US dollars



¹ Includes forward rate agreements, which account for approximately 15% of the total notional amount outstanding.

Source: BIS.

Graph 2

The stock of euro-denominated swaps grew rapidly in the wake of the introduction of the single European currency, as such instruments became new benchmarks for European fixed income markets. However, this growth slowed considerably in 2000. Various factors may have accounted for this development, including belated efforts by banks to clean up their euro legacy currency portfolios.⁷ The slowdown may also have reflected the completion of a stock adjustment process to the new integrated euro zone market. The resumption of growth in the second half of 2001 could thus represent a return to more “normal” market activity.

By contrast, the market for yen-denominated interest rate swaps expanded at a much slower pace, with the stock of contracts rising by 4% to \$10 trillion. The weakness of overall economic conditions in Japan probably led market participants to believe that Japanese interest rates would evolve in a narrow range in the foreseeable future.

OTC business remains less active than that on exchanges in 2001

In spite of the recovery observed in OTC markets in 2001, business in such markets remained somewhat subdued compared with that conducted on derivatives exchanges over the same period.⁸ The stock of OTC contracts expanded by 11% in the second half of 2001, while open positions in exchange-traded contracts grew by 21%. In the previous half-yearly period, the stock of OTC contracts had only increased by 5%, while that of exchange-traded contracts had risen by nearly 40%. If sustained, such a rapid rise in exchange-traded activity would represent a significant departure from previous patterns, since the growth of OTC business outpaced that on exchanges during the previous decade.

⁷ The transition to the euro allowed market participants to apply netting rules across contracts originally established in legacy currencies.

⁸ It should be noted, however, that activity in the two types of markets cannot be directly compared owing to inherent differences in the characteristics and uses of products. In exchange-traded derivatives markets, the reversal of an initial position leads to a decline in notional stocks because of the offsetting of contracts through a central counterparty. In OTC derivatives markets, activity tends to involve the writing of new positions, which leads to a build-up of notional amounts outstanding.

Sharp rise in gross market values

Estimated gross market values increased by 24% to \$3.8 trillion, following a slight contraction in the first half of 2001.⁹ At the same time, the ratio of gross market values to notional amounts rose from 3.1% to 3.4%.

However, it should be noted that data on gross market values tend to overstate the actual credit exposures faced by counterparties because they do not take into account the availability of legally enforceable bilateral netting arrangements and other risk reduction measures. Allowing for netting significantly lowers the derivatives-related credit exposures of reporting institutions to \$1.2 trillion in the most recent half-year (see the entry for gross credit exposure in the attached tables).

⁹ While notional amounts provide a reference from which contractual payments are determined in derivatives markets, such amounts are generally not those truly at risk. The amounts at risk in derivatives contracts are a function of the price level and/or volatility of the financial reference index used in the determination of contract payments, the duration and liquidity of contracts and the creditworthiness of counterparties. They are also a function of whether an exchange of notional principal takes place between counterparties. Data on gross market values provide a more accurate measure of the scale of financial risk transfer taking place in derivatives markets.

Table 1
The global OTC derivatives market¹

Amounts outstanding in billions of US dollars

	Notional amounts				Gross market values			
	End June 2000	End Dec 2000	End June 2001	End Dec 2001	End June 2000	End Dec 2000	End June 2001	End Dec 2001
GRAND TOTAL	94,008	95,199	99,755	111,115	2,572	3,180	3,045	3,788
Foreign exchange contracts	15,494	15,666	16,910	16,748	578	849	773	779
Outright forwards and forex swaps	10,504	10,134	10,582	10,336	283	469	395	374
Currency swaps	2,605	3,194	3,832	3,942	239	313	314	335
Options	2,385	2,338	2,496	2,470	55	67	63	70
Interest rate contracts²	64,125	64,668	67,465	77,513	1,230	1,426	1,573	2,210
FRAs	6,771	6,423	6,537	7,737	13	12	15	19
Swaps	47,993	48,768	51,407	58,897	1,072	1,260	1,404	1,969
Options	9,361	9,476	9,521	10,879	145	154	154	222
Equity-linked contracts	1,645	1,891	1,884	1,881	293	289	199	205
Forwards and swaps	340	335	329	320	62	61	49	58
Options	1,306	1,555	1,556	1,561	231	229	150	147
Commodity contracts³	584	662	590	598	80	133	83	75
Gold	261	218	203	231	19	17	21	20
Other	323	445	387	367	61	116	62	55
Forwards and swaps	168	248	229	217	...	...	...	...
Options	155	196	158	150	...	...	...	...
Other⁴	12,159	12,313	12,906	14,375	392	483	417	519
Gross credit exposure⁵					937	1,080	1,019	1,171
<i>Memorandum item:</i>								
<i>Exchange-traded contracts⁶</i>	<i>13,918</i>	<i>14,215</i>	<i>19,464</i>	<i>23,540</i>				

¹ All figures are adjusted for double-counting. Notional amounts outstanding have been adjusted by halving positions vis-à-vis other reporting dealers. Gross market values have been calculated as the sum of the total gross positive market value of contracts and the gross negative market value of contracts with non-reporting counterparties. ² Single-currency contracts only. ³ Adjustments for double-counting estimated. ⁴ Estimated positions of non-regular reporting institutions. ⁵ Gross market values after taking into account legally enforceable bilateral netting agreements. ⁶ Sources: FOW TRADEdata; Futures Industry Association; various futures and options exchanges.

Table 2
The global OTC foreign exchange derivatives market^{1,2}

Amounts outstanding in billions of US dollars

	Notional amounts				Gross market values			
	End June 2000	End Dec 2000	End June 2001	End Dec 2001	End June 2000	End Dec 2000	End June 2001	End Dec 2001
TOTAL CONTRACTS	15,494	15,666	16,910	16,748	578	849	773	779
With reporting dealers	5,827	5,729	5,907	5,912	168	271	229	237
With other financial institutions	6,421	6,597	7,287	6,755	242	357	334	319
With non-financial customers	3,246	3,340	3,716	4,081	168	222	210	224
Up to one year ³	13,178	12,888	13,012	13,427	...	...	...	...
Between one and five years ³	1,623	1,902	2,833	2,340	...	...	...	...
Over five years ³	693	876	1,065	981	...	...	...	...
US dollar	13,961	14,073	15,141	15,410	518	771	679	704
Euro	5,863	5,981	6,425	6,368	242	361	322	266
Japanese yen	4,344	4,254	4,254	4,178	157	274	217	313
Pound sterling	2,479	2,391	2,472	2,315	76	82	78	69
Swiss franc	906	848	829	800	34	42	39	28
Canadian dollar	605	623	675	593	22	25	25	25
Swedish krona	451	456	501	551	15	22	31	18
Other	2,380	2,704	3,523	3,281	91	123	155	137
<i>Memorandum item: Exchange-traded contracts⁴</i>	<i>51</i>	<i>96</i>	<i>66</i>	<i>88</i>	<i>...</i>	<i>...</i>	<i>...</i>	<i>...</i>

¹ See footnote 1 to Table 1. ² Counting both currency sides of every foreign exchange transaction means that the currency breakdown sums to 200% of the aggregate. ³ Residual maturity. ⁴ See footnote 6 to Table 1.

Table 3
The global OTC interest rate derivatives market¹

Amounts outstanding in billions of US dollars

	Notional amounts				Gross market values			
	End June 2000	End Dec 2000	End June 2001	End Dec 2001	End June 2000	End Dec 2000	End June 2001	End Dec 2001
TOTAL CONTRACTS	64,125	64,668	67,465	77,513	1,230	1,426	1,573	2,210
With reporting dealers	32,208	31,494	32,319	35,428	560	638	703	912
With other financial institutions	25,771	27,048	28,653	32,505	518	610	683	945
With non-financial customers	6,146	6,126	6,494	9,580	152	179	187	353
Up to one year ²	25,809	24,107	25,605	27,879	...	...	...	...
Between one and five years ²	24,406	25,923	26,308	30,542	...	...	...	...
Over five years ²	13,910	14,638	15,553	19,092	...	...	...	...
US dollar	17,606	19,421	23,083	27,422	367	486	581	952
Euro	22,948	21,311	22,405	26,185	467	477	461	677
Japanese yen	12,763	13,107	11,278	11,799	207	232	313	304
Pound sterling	4,741	4,852	5,178	6,215	84	113	99	148
Swiss franc	1,409	1,356	1,167	1,362	22	20	18	21
Canadian dollar	846	840	785	781	14	15	15	29
Swedish krona	1,255	1,136	997	1,057	17	19	15	16
Other	2,558	2,644	2,572	2,692	52	65	71	63
<i>Memorandum item: Exchange-traded contracts³</i>	12,313	12,626	17,493	21,614	...	...	...	...

¹ See footnote 1 to Table 1. ² Residual maturity. ³ See footnote 6 to Table 1.