



Press release

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The global OTC derivatives market at end-June 2001 Second part of the triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity

The Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity on positions in the global over-the-counter (OTC) derivatives market shows that business expanded at a brisk pace in the three-year period ending in June 2001. According to preliminary data, the aggregate stock of contracts outstanding stood at nearly \$100 trillion at end-June 2001, 38% higher than three years ago. There was, however, a divergence in the evolution of the two largest market segments, with the stock of interest rate products growing by 58% and that of foreign exchange instruments contracting by 7%. Moreover, data on credit derivatives show a rapid expansion of that market segment since end-June 1998.

The remainder of this press release sets the triennial data collection framework within the context of the regular semiannual surveys of activity in OTC derivatives markets and presents the main results of the most recent triennial and semiannual surveys for the period ending in June 2001.

1. The triennial versus the semiannual surveys

In April this year 48 central banks and monetary authorities participated in the first part of the Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity. They collected data on turnover in traditional foreign exchange markets – spot, outright forwards and foreign exchange swaps – and in OTC currency and interest rate derivatives. The results of the first part of the triennial survey were released on 9 October.¹

Today the BIS is publishing the preliminary results of the second part of the survey, which covers the notional amounts outstanding and gross market values of foreign exchange, interest rate, equity, commodity and credit derivatives.² The data on contracts outstanding

¹ For a more detailed discussion see “Central bank survey of foreign exchange and derivatives market activity in April 2001: preliminary global data”, *BIS Press Release*, 9 October 2001.

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 gross market value is defined as the sum of the positive market value of all reporters' contracts and the absolute value of the negative market value of their contracts with non-reporters (as a proxy for the positive market

were collected on a consolidated basis at end-June 2001 from 38 central banks and monetary authorities.³

In order to minimise the reporting burden, the format of the second part of the survey corresponds to that of the regular semiannual surveys of positions in the global OTC derivatives market.⁴ The main difference between the two statistical exercises is that the triennial survey comprises a larger number of market participants, acting as a benchmark for the regular surveys. Once the total size of the market has been determined through the triennial survey, the results of the semiannual surveys are then grossed up to produce estimates of total market size for the current (end-June 2001) and intervening semiannual periods. This explains the discrepancy for the major market risk categories between the triennial numbers (in Table 1) and the semiannual data (in the following tables). The other main difference between the triennial and regular frameworks is that the triennial survey contains separate information on credit derivatives, a group of products that is not surveyed on a regular basis.

The BIS plans to publish the final global results on foreign exchange market turnover and on OTC derivatives market turnover and amounts outstanding in the first quarter of 2002.

2. Main results of the triennial survey

Data on positions in the global OTC derivatives market show that activity remained robust in the three-year period ending in June 2001. Relative to end-June 1998, the stock of contracts outstanding expanded by an average of 11% a year, to \$99.8 trillion. This amounted to slower growth than in the previous triennial survey, which had shown an average annual expansion of 15% in the period ending in June 1998.

Overall business in interest rate contracts, the largest segment of the OTC market, grew by 58% in the three-year period, to \$75.9 trillion, with the market for interest rate swaps being particularly buoyant. This represented a slowdown relative to the previous three-year period, when positions had increased by 81%. As discussed in the following section on the semiannual market statistics, the robustness of activity in the interest rate swap market reflects growing liquidity in a context of structural change in underlying government bond markets and in risk management practices.

The aggregate stock of foreign exchange products declined by 7% in the three-year period, to \$20.4 trillion. This was in marked contrast to the previous triennial survey, which had shown a sharp increase in positions. The contraction in foreign exchange contracts seems consistent with the results of the first part of the most recent triennial survey, which had shown lower turnover in the spot market for foreign exchange. The lower volume of turnover in that market has itself been related to a number of factors, including the introduction of the euro, the growing share of electronic broking in the spot interbank market and consolidation in the banking industry.⁵ The main exception to the downward trend in positions involving foreign exchange products was in the area of currency swaps (or cross-currency swaps) with a near doubling of positions over the three-year period.⁶

Meanwhile, equity-linked contracts expanded by 52%, to \$2 trillion, while commodity contracts grew by 33%, to \$674 billion. These market segments remain much smaller than those for interest rate and foreign exchange contracts.

³ In contrast to the statistics on turnover, which were collected on a locational basis.

⁴ The regular survey covers the worldwide consolidated OTC derivatives exposures of major banks and dealers in the Group of Ten countries.

⁵ See footnote 1.

⁶ Currency swaps commit two counterparties to several cash flows, which in most cases involve an initial exchange of principal and a final re-exchange of principal upon maturity of the contract, and in all cases several streams of interest payments. By contrast, foreign exchange swaps commit two counterparties to the exchange of two cash flows and involve the sale of one currency for another in the spot market with the simultaneous repurchase of the first currency in the forward market.

One of the notable developments of the most recent three-year period has been the rapid expansion of the market for credit derivatives.⁷ Positions in these instruments, which are not included in the semiannual survey of OTC derivatives markets, expanded from \$108 billion at end-June 1998 to \$693 billion at end-June 2001. Market participants noted that the market for credit derivatives is diversifying beyond transactions aimed at the restructuring of banks' balance sheets with the entry of new market participants such as insurance companies. Indeed, the most recent numbers show that reporting dealers accounted for only 31% of total positions, compared with 55% for non-reporting financial institutions and 14% for non-financial users (not shown in the tables). The market has also reportedly benefited from a widening in the range of instruments and from improvements in market infrastructure, such as the introduction of standardised documentation and the development of new rate of return indices. It should be noted that the size of the credit derivatives market remains fairly small, being barely larger than that for commodity contracts.⁸

Gross market values rose from \$2.6 trillion to \$3 trillion. However, the ratio of gross market values to notional amounts declined from 3.6% to 3.1%. Although this ratio has been fairly stable over time, it has varied considerably across individual market segments, ranging from less than 1% for forward rate agreements (FRAs) to almost 16% for non-gold commodity contracts. It should also be stressed, however, that gross market values exaggerate actual credit exposures, since they exclude netting and other risk reducing arrangements. Allowing for netting lowers the derivatives-related credit exposures of reporting institutions to \$1 trillion (see the entry for gross credit exposures in the attached tables).

3. Main results of the semiannual survey

Data from the BIS semiannual survey on positions in the global OTC derivatives market point to a slight rebound in market activity in the first half of 2001. The total estimated notional amount of outstanding OTC contracts stood at \$99.8 trillion at end-June 2001, a 5% increase over end-December 2000. The OTC market has expanded at a slower pace over the past year but some of its segments remain highly active.

In terms of broad risk categories, the stock of interest rate and foreign exchange contracts expanded by 4% and 8% respectively, while that of equity-linked contracts remained stable. A comparison of activity on OTC markets with that on exchange-traded markets shows a divergence in the pace of business on the two types of market in the first half of 2001. Open interest in interest rate and stock index contracts, the most active financial contracts traded on derivatives exchanges, increased by 39% and 28% respectively relative to end-December 2000. If sustained, such a rapid increase would represent a significant departure from previous patterns of activity since the growth of OTC business outpaced that on exchanges for much of the 1990s.

The market for interest rate products expanded by 4%, to \$67.5 trillion, in the first half of 2001. Three significant developments are worth highlighting in that market. First, activity was driven by a return to growth of the interest rate swaps market, by far the largest segment of the OTC market, with outstandings rising by 5%, to \$51.4 trillion. By contrast, business in FRAs and interest rate options continued to be subdued, barely increasing over the review period. Second, the market for interest rate products appears to be accommodating a widening range of financial market participants, as illustrated by the steady growth in positions held by non-reporting financial institutions since 1998. Such a growth pattern should be set against a context of weakening activity by reporting dealers

⁷ Credit derivative contracts enable market participants to transfer credit risk exposures. They take a variety of forms, including credit default and total return swaps.

⁸ There are a variety of sources of data on the market for credit derivatives, including the British Bankers Association, the International Swaps and Derivatives Association, government agencies and a number of trade publications. Coverage and data collection methodologies vary widely. While some of the sources collect data on a gross basis, others attempt to make adjustments for double-counting. The BIS numbers offer a global coverage and are adjusted for double-counting.

and lacklustre business involving non-financial customers.⁹ Third, instruments involving the US dollar are rapidly catching up with those involving the euro.

Activity in the US dollar-denominated swap market was particularly brisk in the first half of 2001, with the stock of contracts rising by 22%, to \$15.9 trillion. The US dollar swap market has grown at a rapid pace in recent years on the back of a shift in hedging and trading practices. The global financial market crisis that followed the default of Russia in August 1998 highlighted the risks inherent in the use of government bonds and related exchange-traded derivatives to hedge positions on non-government securities, leading market participants to seek alternative hedging and trading instruments, such as interest rate swaps. A reduction in the liquidity of US government debt following net debt repayments by the US Treasury has reinforced the shift to swaps. More recent influences, such as vigorous US monetary easing in the wake of a pronounced deceleration of economic growth, probably also fuelled hedging and position-taking in the dollar swap market.

The market for euro-denominated interest rate swaps returned to expansion following a notable contraction in the second half of 2000, with the outstanding stock of contracts rising by 7%, to \$17.6 trillion. Euro-denominated swaps expanded rapidly after the introduction of the single European currency, as swaps became a new benchmark for European fixed income markets. The slowdown in market growth since mid-2000 suggests that this stock adjustment process may be reaching completion.

The market for yen-denominated interest rate swaps followed a different path, with the stock of contracts declining by 12%, to \$9.7 trillion. This contraction probably reflects the view at the time that Japanese interest rates would evolve in a narrow range.

In the area of currency instruments, the value of contracts outstanding rose by 8%, to \$16.9 trillion. While the stock of outright forwards and forex swaps, the largest currency market segment, expanded by 4%, and that of currency options by 7%, that of cross-currency swaps grew by 20%. Cross-currency swaps have grown steadily since the BIS began its regular collection of data on the OTC market. Business has been fuelled by the large global volume of syndicated loans and securities issues arranged in recent periods.

Activity in the equity-linked sector remained stable at \$1.9 trillion, following rapid expansion in the previous reporting period. Business in commodity contracts, the smallest market segment, contracted by 11%, to \$0.6 trillion.

Estimated gross market values declined marginally, to \$3.0 trillion, following an unusually pronounced increase of 24% in the second half of 2000. The ratio of gross market values to notional amounts declined from 3.3% to 3.1%.

⁹ The weaker growth of inter-dealer exposures could reflect financial industry consolidation to the extent that mergers and acquisitions lead to a consolidation of bilateral transactions and consequently to a reduction in the outstanding stock of contracts.

Table 1

The global (OTC) derivatives market¹

Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity

Amounts outstanding in billions of US dollars

	Notional amounts		Gross market values	
	End-June 1998	End-June 2001	End-June 1998	End-June 2001
GRAND TOTAL	72,143	99,755	2,580	3,045
A. Foreign exchange contracts	22,055	20,434	982	967
Outright forwards and forex swaps	14,658	13,275	584	548
Currency swaps	2,324	4,302	255	339
Options	5,040	2,824	141	80
Other	33	33	2	0
B. Interest rate contracts²	48,124	75,890	1,354	1,748
FRAs	6,602	7,678	39	32
Swaps	32,942	57,232	1,186	1,531
Options	8,528	10,913	126	185
Other	52	66	2	0
C. Equity-linked contracts	1,341	2,039	201	220
Forwards and swaps	180	373	22	55
Options	1,161	1,666	180	164
D. Commodity contracts³	506	674	39	88
Gold	228	278	9	25
Other	278	396	30	63
Forwards and swaps	165	235	...	...
Options	113	162	...	...
E. Credit derivatives³	108	694	4	21
Forwards and swaps	73	536	...	...
Options	34	158	...	...
F. Other derivatives³	10	23	0	1
Forwards and swaps	4	21	...	...
Options	6	2	...	...
GROSS CREDIT EXPOSURE⁴	.	.	1,203	1,019
<i>Memorandum:</i>				
<i>Exchange-traded contracts⁵</i>	<i>14,792</i>	<i>19,464</i>	<i>.</i>	<i>.</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 absolute value of the gross negative market value of contracts with non-reporting counterparties.

² Single-currency contracts only. ³ Adjustments for double-counting partly estimated. ⁴ Gross market values after taking into account legally enforceable bilateral netting agreements. ⁵ Sources: FOW TRADEdata; Futures Industry Association; various futures and options exchanges.

Table 2
The global (OTC) derivatives market¹
Regular OTC derivatives statistics

Amounts outstanding in billions of US dollars

	Notional amounts				Gross market values			
	End-Dec 1999	End-Jun 2000	End-Dec 2000	End-Jun 2001	End-Dec 1999	End-Jun 2000	End-Dec 2000	End-Jun 2001
GRAND TOTAL	88,201	94,008	95,199	99,755	2,813	2,572	3,180	3,045
A. Foreign exchange contracts	14,344	15,494	15,666	16,910	662	578	849	773
Outright forwards and forex swaps	9,593	10,504	10,134	10,582	352	283	469	395
Currency swaps	2,444	2,605	3,194	3,832	250	239	313	314
Options	2,307	2,385	2,338	2,496	60	55	67	63
B. Interest rate contracts²	60,091	64,125	64,668	67,465	1,304	1,230	1,426	1,573
FRAs	6,775	6,771	6,423	6,537	12	13	12	15
Swaps	43,936	47,993	48,768	51,407	1,150	1,072	1,260	1404
Options	9,380	9,361	9,476	9,521	141	145	154	154
C. Equity-linked contracts	1,809	1,645	1,891	1,884	359	293	289	199
Forwards and swaps	283	340	335	329	71	62	61	49
Options	1,527	1,306	1,555	1,556	288	231	229	150
D. Commodity contracts³	548	584	662	590	59	80	133	83
Gold	243	261	218	203	23	19	17	21
Other	305	323	445	387	37	61	116	62
Forwards and swaps	163	168	248	229	...	...	...	...
Options	143	155	196	158	...	...	...	...
E. Other^{3,4}	11,408	12,159	12,313	12,906	428	392	485	417
GROSS CREDIT EXPOSURE⁵	.	.	.	.	1,023	937	1,080	1,019
<i>Memorandum:</i> <i>Exchange-traded contracts⁶</i>	<i>13,523</i>	<i>14,080</i>	<i>14,215</i>	<i>19,464</i>	<i>.</i>	<i>.</i>	<i>.</i>	<i>.</i>

¹ See footnote 1 to Table 1. ² See footnote 2 to Table 1. ³ See footnote 3 to Table 1. ⁴ For end-June 2001, data on credit and other derivatives and positions of non-regular reporters based on the triennial survey of foreign exchange and derivatives market activity at end-June 2001. For earlier periods estimates of credit and other derivatives and positions of non-regular reporters based on the triennial survey at end-June 1998. ⁵ See footnote 4 to Table 1. ⁶ See footnote 5 to Table 1.

Table 3

The global OTC foreign exchange derivatives market^{1,2}**Regular OTC derivatives statistics**

Amounts outstanding in billions of US dollars

	Notional amounts				Gross market values			
	End-Dec 1999	End-Jun 2000	End-Dec 2000	End-Jun 2001	End-Dec 1999	End-Jun 2000	End-Dec 2000	End-Jun 2001
Total contracts	14,344	15,494	15,666	16,910	662	578	849	773
with other reporting dealers	5,392	5,827	5,729	5,907	214	168	271	229
with other financial institutions	6,102	6,421	6,597	7,287	281	242	357	334
with non-financial customers	2,850	3,246	3,340	3,716	167	168	222	210
up to one year ³	12,140	13,178	12,888	13,012	...	...	...	...
between one and five years ³	1,539	1,623	1,902	2,833	...	...	...	...
over five years ³	666	693	876	1,065	...	...	...	...
US dollar	12,834	13,961	14,073	15,141	581	518	771	679
Euro	4,667	5,863	5,981	6,425	239	242	361	322
Japanese yen	4,236	4,344	4,254	4,254	262	157	274	217
Pound sterling	2,242	2,479	2,391	2,472	55	76	82	78
Swiss franc	880	906	848	829	39	34	42	39
Canadian dollar	647	605	623	675	28	22	25	25
Swedish krona	459	451	456	501	16	15	22	31
Other	2,723	2,380	2,704	3,523	104	91	123	155
<i>Memorandum:</i> <i>Exchange-traded contracts⁴</i>	59	51	96	66	.	.	.	.

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 5 to Table 1.

Table 4

The global OTC interest rate derivatives market¹

Regular OTC derivatives statistics

Amounts outstanding in billions of US dollars

	Notional amounts				Gross market values			
	End-Dec 1999	End-Jun 2000	End-Dec 2000	End-Jun 2001	End-Dec 1999	End-Jun 2000	End-Dec 2000	End-Jun 2001
Total contracts	60,091	64,125	64,668	67,465	1,304	1,230	1,426	1,573
with other reporting dealers	30,518	32,208	31,494	32,319	602	560	638	703
with other financial institutions	24,012	25,771	27,048	28,653	548	518	610	683
with non-financial customers	5,562	6,146	6,126	6,494	154	152	179	187
up to one year ²	24,874	25,809	24,107	25,605	...	...	...	...
between one and five years ²	23,179	24,406	25,923	26,308	...	...	...	...
over five years ²	12,038	13,910	14,638	15,553	...	...	...	...
US dollar	16,510	17,606	19,421	23,083	376	367	486	581
Euro	20,692	22,948	21,311	22,405	492	467	477	461
Japanese yen	12,391	12,763	13,107	11,278	232	207	232	313
Pound sterling	4,588	4,741	4,852	5,178	94	84	113	99
Swiss franc	1,414	1,409	1,356	1,167	19	22	20	18
Canadian dollar	825	846	840	785	15	14	15	15
Swedish krona	1,373	1,255	1,136	997	18	17	19	15
Other	2,298	2,558	2,644	2,572	58	52	65	71
<i>Memorandum:</i> <i>Exchange-traded contracts</i> ³	11,669	12,312	12,626	17,493	.	.	.	.

¹ See footnote 1 to Table 1. ² Residual maturity. ³ See footnote 5 to Table 1.