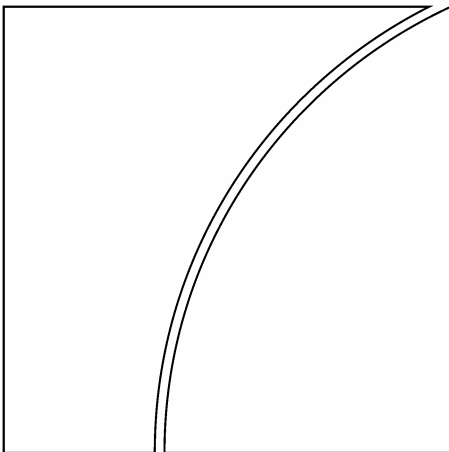




BANK FOR INTERNATIONAL SETTLEMENTS

Monetary and Economic
Department

OTC derivatives market activity in
the second half of 2004



May 2005

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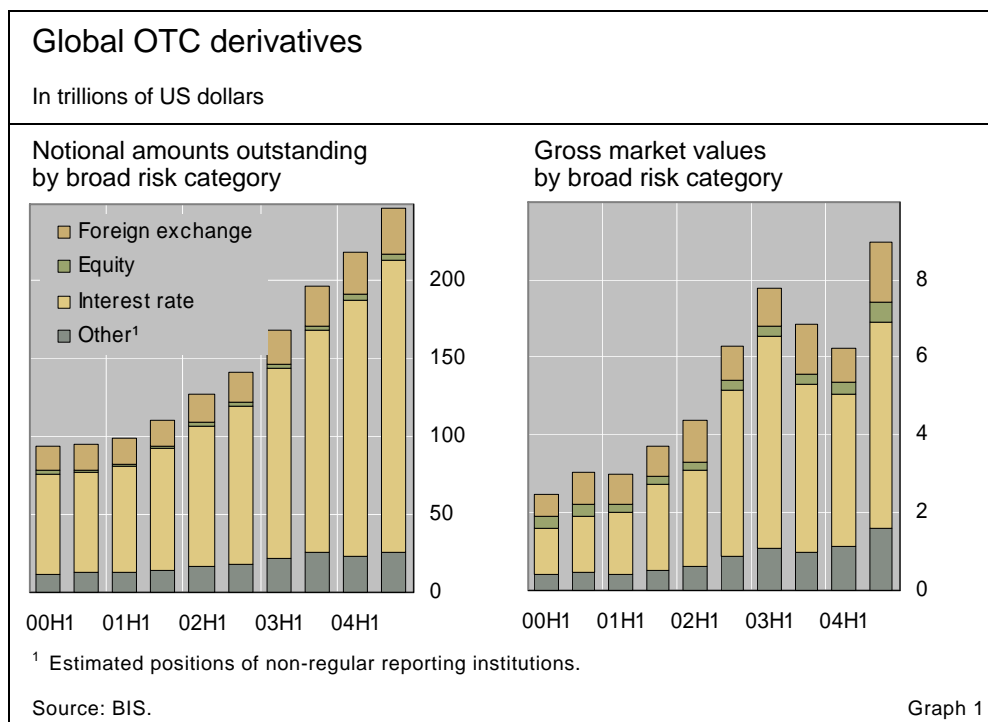
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I. Market developments in the second half of 2004

According to the data released by the BIS, positions in the global over-the-counter (OTC) derivatives market recorded a robust expansion in the second half of 2004. Overall amounts outstanding were up by 12.8%, to \$248 trillion at the end of December (Graph 1 and Table 1). The growth in the latter half of the year was slightly higher than in the first six months, when positions had grown by 11.6%. In sharp contrast to the trend that had emerged in the previous two surveys, gross market values rose noticeably, by 43%, to \$9.1 trillion as of end-December. Taking account of legally enforceable bilateral netting agreements does not lead to a lower rate of expansion in gross market values. However, thus calculated, gross market values increased only marginally as a ratio to overall notional amounts (to 0.8%).



1. Growth in notional amounts, especially in the interest rate segment

Growth in notional amounts outstanding derived mainly from increased activity in interest rate products, up by 13.8% to \$187 trillion. Within this segment of the global OTC market, activity was particularly buoyant for swaps, which grew by 15.5% to \$147 trillion. Notional amounts of interest rate options expanded by 13.6% (to \$27 trillion) while those of FRAs, activity in which had increased noticeably in the first half of the year, fell by 3% (to \$13 trillion).

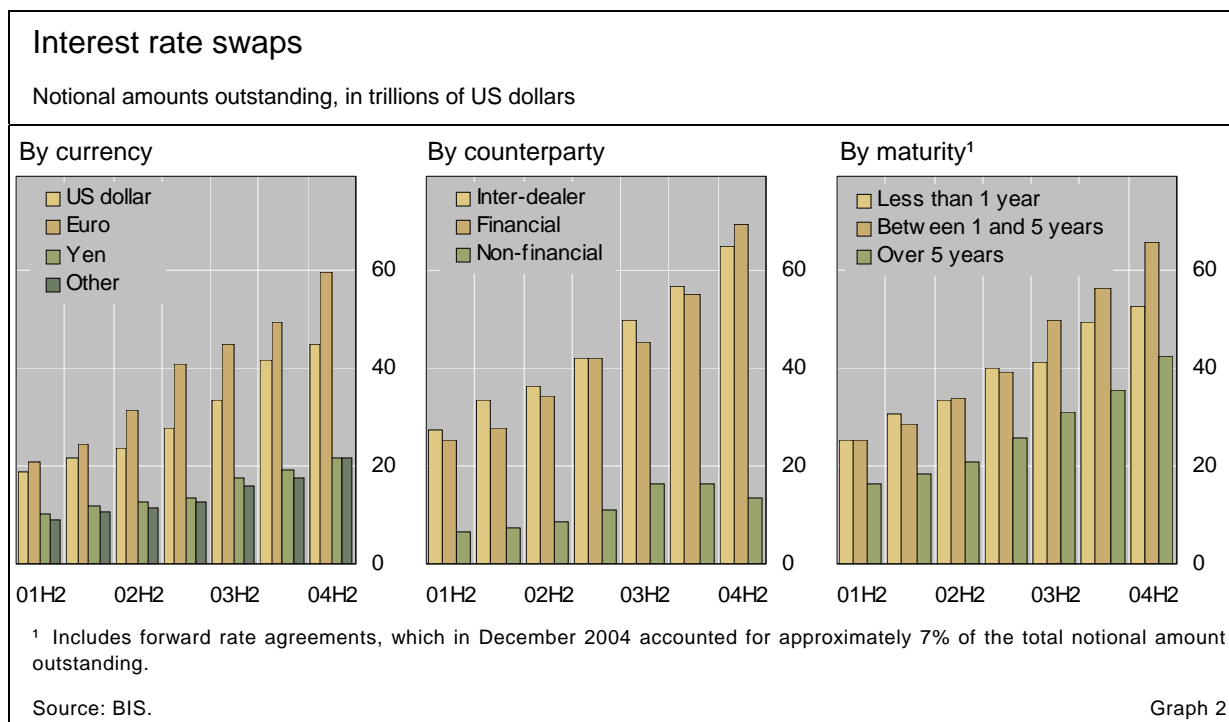
Business in OTC foreign exchange products expanded by 9.5%, to \$30 trillion. Growth in activity in this segment of the OTC market has been slowing since the second half of 2003. Notional amounts outstanding increased particularly for currency swaps, up by 16.8%, while for outright forwards and forex swaps it was equal to the average for the segment (9.5%); business was, on the other hand, rather subdued for currency options, up by only 1.2% after posting huge growth in 2003.

Outstanding amounts of equity-linked OTC derivatives contracted by 3%, to \$4.4 trillion, after having expanded continuously since the first half of 2002.

2. Business in the swap segment led by European contracts

Thanks to high increments in activity captured in the two most recent semiannual surveys, the interest rate swap segment accounted for nearly 80% of the overall OTC market at the end of December 2004 (\$147 trillion against \$187 trillion). In the second half of last year, the expansion in the interest rate

swap market was due mainly to euro- and sterling-denominated instruments, both up by 20% to \$59 trillion and \$12 trillion respectively. By contrast, activity in the dollar segment, previously the main source of growth of the swap market, rose by only 7.9%, to \$45 trillion, down from 25% in the first half of the year (Graph 2 and Table 3).



The slowdown in activity involving dollar-denominated swaps might be related to the remarkable fall in the implied volatility of US yields through the second half of 2004, which reduced hedging-related demand for such products. Also, it could be attributable to lower monetary policy uncertainty, which reflected the measured pace of Federal Reserve tightening. The pickup in activity in euro-denominated swaps, on the other hand, might have reflected the more negative outlook for European growth in the second half of the year. The lower growth prospects translated into more moderate expectations of future short-term rate increases (the determinant of the floating leg of the swap contract), as evidenced by a flattening of the European yield curve slope in the second half of 2004, which might have led market participants to rebalance previously open positions.

Yen swaps rose by 12%, to \$21 trillion. This increase, similar in size to that recorded in the first half of the year, represents a much lower expansion than the peak of the second half of 2003 (29%), when activity had been boosted by improved growth prospects for the Japanese economy. Subsequently, persisting deflation risks and lower growth expectations dampened position-taking in this segment of the interest rate market.

Growth in the notional amounts outstanding of interest rate derivatives occurred mainly among reporting dealers, up by 13%, and, as in the first half of 2004, between reporting dealers and other financial institutions, up by 23% (Graph 2). Position-taking by non-financial customers, mainly represented by firms, fell by 14%. Looking at maturities, growth in notional amounts was stronger for longer-term instruments (18% for instruments over five years and 16% for those between one and five years) than for shorter-term ones (9%). This stands in contrast to the previous period, when growth in notional amounts had been strongest for short-term instruments, up by 23%.

3. Foreign exchange contracts expand despite lacklustre activity in currency options

Notional amounts outstanding for foreign exchange contracts expanded by 9.5% over the period (Table 2). Growth was particularly low for currency options, up by only 1.2%. Over 2004 as a whole, these instruments expanded by 7%, a sharp slowdown from the increase recorded in 2003, despite the persistence of the dollar's fluctuations against major currencies (its 15% fall against the euro in

2003 being followed by a further 8% drop in 2004). Outright forwards and forex swaps grew by 9.5%, and business was particularly robust for currency swaps, up by 17%. In the second half of the year, activity in this segment of the foreign exchange product range was possibly boosted by a widening gap between interest rate expectations in the United States and those in the euro area. This development may have led economic agents to seek additional insurance against the larger expected differential. Activity was strongest between dealers and other financial institutions, up by 15%. Business with reporting dealers increased by 8%, down from the 25% rise recorded in the first half of the year. Amounts outstanding with non-financial customers returned to weak growth (3%) after falling by 4% in the previous period.

4. Sizeable increase in gross market values

Gross market values, which had been declining for two consecutive reporting periods, jumped significantly, by 43%, in the second half of 2004, to \$9 trillion (Table 3). Interest rate contracts, which represent the largest OTC segment, were up by 34%, to \$5.3 trillion. The increase was extremely small for dollar-related products, only 3%, to \$1.5 trillion, but amounted to 65% and 26% for euro- and sterling-related products, to \$2.9 trillion and \$237 billion respectively. The surge in gross market values was particularly strong for foreign exchange products, 80%, to \$1.6 trillion, and for equity-related products, 70%, to \$0.5 trillion. Compared to interest rate products, both segments are, however, smaller components of the overall derivatives market. Across all risk categories, the ratio of gross market values to notional amounts outstanding went up from 2.9% as of end-June 2004 to 3.7% as of year-end. Taking account of legally enforceable bilateral netting agreements does not bring down the expansion in gross market values. Nevertheless, gross market values – thus calculated – increased only marginally (from 0.7% to 0.8%) as a ratio to overall notional amounts.

5. Growth in OTC markets not matched on exchanges

The 12.8% rise in business in OTC markets went along with a drop in activity, –11.8%, on exchanges. The gap in the development of notional amounts outstanding between the two markets widened substantially between end-June 2003 and end-December 2004. In this period, amounts outstanding grew by 46% in OTC markets, against 22% on exchanges. Over the previous 18-month period, in contrast, both segments had grown by approximately the same amount, close to 55%.

6. Credit default swaps

With this release, the BIS is initiating the publication of statistics on the market for credit default swaps as part of the semiannual OTC derivatives statistics.¹ The data on credit default swaps are collected by central banks from major global dealers, in a similar way to those on other OTC derivatives. For end-2004 and end-June 2005, data on protection bought and sold will be provided with a counterparty and maturity breakdown similar to that used for other OTC derivatives for single- and multi-name contracts. From end-2005, data will be provided with a more detailed counterparty breakdown as well as breakdowns by rating category and sector for the contract underlyings as indicated in the table 4.

At the end of 2004, the notional amounts outstanding of credit default swaps were \$6.4 trillion, of which \$2.7 trillion were in contracts between reporting dealers.² For both protection bought and protection sold, over 80% of the outstanding contracts between reporting dealers and non-dealers were with non-reporting financial institutions. In terms of maturity of the outstanding contracts, more than 70% of single-name contracts had a maturity between one and five years, which is close to the corresponding number for multi-name contracts (60%).

¹ This initiative is in response to a request made by the Committee on the Global Financial System (CGFS).

² The total notional amount outstanding is calculated as the sum of contracts bought and sold minus half of the sum of the contracts bought and sold between reporting dealers.

The total gross market value of all outstanding contracts was \$134 billion, of which \$49 billion were contracts between reporting dealers.³ Dealers bought net protection from non-dealers amounting to \$178 billion, with \$149 billion being with non-reporting financial institutions. Of the \$149 billion, \$107 billion was accounted for by multi-name contracts.

7. Concentration measures

In addition to statistics on credit default swaps, this release marks the start of publication by the BIS of concentration measures for OTC derivatives markets, expressed by Herfindahl indices.⁴ Overall, in the second half of 2004, concentration in derivatives markets fell or increased slightly. Considering the interest rate segment, the largest OTC derivatives segment, concentration declined for both euro- and dollar-denominated FRA positions, while it either remained stable or increased slightly for interest rate swaps and options. Concentration also decreased in the foreign exchange and equity-related markets. The same trend was in evidence for Herfindahl indices regarding US dollar- and euro-denominated positions between main counterparty types.

³ The total gross market value of outstanding contracts is calculated as the market value of all contracts bought and sold minus half of the market value of the contracts bought and sold between reporting dealers.

⁴ See the discussion of these measures and methodological box in the press release *Triennial and semiannual surveys on positions in global over-the-counter (OTC) derivatives markets at end-June 2004. Concentration measures for OTC derivatives markets from December 1988 to June 2004, December 2004* (available at www.bis.org).

II. Statistical notes

1. Coverage

As of end-June 1998, the central banks of the G10 countries introduced the regular collection of statistics on derivatives markets through reporting by leading global dealers. The objective of the reporting exercise is to obtain reasonably comprehensive and internationally consistent information on the size and structure of over-the-counter (OTC) derivatives markets.

The semiannual OTC derivatives market statistics (Tables 1 to 3) provide data on notional amounts and gross market values outstanding of forwards, swaps and options of foreign exchange, interest rate, equity and commodity derivatives. All published figures are adjusted for double-counting resulting from positions between reporting institutions. Notional amounts outstanding are adjusted by halving positions vis-à-vis other reporting dealers. Gross market values are adjusted by adding the total gross positive market value of contracts to the gross negative market value of contracts with non-reporting counterparties only.

As of end-June 2004, the BIS started releasing statistics on concentration measures in the context of the semiannual OTC derivatives statistics. The central banks of the G10 countries provided the BIS with data back to June 1998, including concentration measures for foreign exchange, interest rate and equity-linked derivatives (Tables 5a to 5i).

In response to a request made by the Committee on the Global Financial System (CGFS), the BIS is also releasing the results at end-December 2004 of its semiannual statistics on credit default swaps (CDSs) (Table 4), which include notional amounts outstanding and gross market values for single- and multi-name instruments.

2. Definitions

Notional amounts outstanding: Nominal or notional amounts outstanding are defined as the gross nominal or notional value of all deals concluded and not yet settled on the reporting date. For contracts with *variable nominal or notional principal amounts*, the basis for reporting is the nominal or notional principal amounts at the time of reporting.

Nominal or notional amounts outstanding provide a measure of market size and a reference from which contractual payments are determined in derivatives markets. However, 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. Gross market values provide a more accurate measure of the scale of financial risk transfer taking place in derivatives markets.

Gross positive and negative market values: Gross market values are defined as the sums of the absolute values of all open contracts with either positive or negative replacement values evaluated at market prices prevailing on the reporting date. Thus, the gross positive market value of a dealer's outstanding contracts is the sum of the replacement values of all contracts that are in a current gain position to the reporter at current market prices (and therefore, if they were settled immediately, would represent claims on counterparties). The gross negative market value is the sum of the values of all contracts that have a negative value on the reporting date (ie those that are in a current loss position and therefore, if they were settled immediately, would represent liabilities of the dealer to its counterparties).

The term "gross" is used to indicate that contracts with positive and negative replacement values with the same counterparty are not netted. Nor are the sums of positive and negative contract values within a market risk category such as foreign exchange, interest rate contracts, equities and commodities set off against one another.

As stated above, gross market values supply information about the potential scale of market risk in derivatives transactions. Furthermore, gross market value at current market prices provides a measure of economic significance that is readily comparable across markets and products.

Current credit exposure and liabilities: Current credit exposure represents the gross value of contracts that have a positive market value after taking account of legally enforceable bilateral netting agreements. Liabilities arising from OTC derivatives contracts represent the gross value of contracts that have a negative market value taking account of legally enforceable bilateral netting agreements.

3. Data availability

The aggregate data from end-June 1998 onwards are available, with their main breakdowns, on the BIS website under <http://www.bis.org/statistics/derstats.htm>

4. Next publication dates

The next OTC derivatives statistics, covering the first half of 2005, will be released no later than 20 November 2005.

III. Statistical tables

Table 1
The global OTC derivatives market¹
 Amounts outstanding in billions of US dollars

	Notional amounts				Gross market values			
	End-Jun 2003	End-Dec 2003	End-Jun 2004	End-Dec 2004	End-Jun 2003	End-Dec 2003	End-Jun 2004	End-Dec 2004
GRAND TOTAL	169,658	197,167	220,058	248,288	7,896	6,987	6,395	9,133
A. Foreign exchange contracts	22,071	24,475	26,997	29,575	996	1,301	867	1,562
Outright forwards and forex swaps	12,332	12,387	13,926	15,242	476	607	308	643
Currency swaps	5,159	6,371	7,033	8,217	419	557	442	761
Options	4,580	5,717	6,038	6,115	101	136	116	158
B. Interest rate contracts²	121,799	141,991	164,626	187,340	5,459	4,328	3,951	5,306
FRAs	10,270	10,769	13,144	12,805	20	19	29	20
Swaps	94,583	111,209	127,570	147,366	5,004	3,918	3,562	4,793
Options	16,946	20,012	23,912	27,169	434	391	360	492
C. Equity-linked contracts	2,799	3,787	4,521	4,385	260	274	294	501
Forwards and swaps	488	601	691	759	67	57	63	81
Options	2,311	3,186	3,829	3,626	193	217	231	420
D. Commodity contracts³	1,040	1,406	1,270	1,439	100	128	166	170
Gold	304	344	318	369	12	39	45	32
Other	736	1,062	952	1,070	88	88	121	138
Forwards and swaps	458	420	503	554	...	...	...	...
Options	279	642	449	516	...	...	...	...
E. Other derivatives³	21,949	25,508	22,644	25,549	1,081	957	1,116	1,594
GROSS CREDIT EXPOSURE⁴	.	.	.	.	1,750	1,969	1,478	2,076
<i>Memo: Exchange-traded contracts⁵</i>	38,203	36,740	52,802	46,592	.	.	.	.

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 foreign exchange derivatives market^{1,2}

Amounts outstanding in billions of US dollars

	Notional amounts				Gross market values			
	End-Jun 2003	End-Dec 2003	End-Jun 2004	End-Dec 2004	End-Jun 2003	End-Dec 2003	End-Jun 2004	End-Dec 2004
Total contracts	22,071	24,475	26,997	29,575	996	1,301	867	1,562
With reporting dealers	7,954	8,660	10,796	11,664	284	395	247	485
With other financial institutions	8,948	9,450	10,113	11,640	427	535	352	665
With non-financial customers	5,168	6,365	6,088	6,271	286	370	267	412
Up to 1 year ³	17,543	18,840	21,252	23,115	...	...	...	...
Between 1 and 5 years ³	3,128	3,901	3,912	4,386	...	...	...	...
Over 5 years ³	1,399	1,734	1,834	2,073	...	...	...	...
US dollar	19,401	21,429	24,551	25,998	891	1,212	808	1,441
Euro	9,879	10,145	10,312	11,936	526	665	380	751
Japanese yen	4,907	5,500	6,516	7,083	165	217	178	257
Pound sterling	3,093	4,286	4,614	4,349	114	179	130	220
Swiss franc	1,244	1,333	1,344	1,461	42	56	37	60
Canadian dollar	991	1,019	968	1,172	57	58	35	71
Swedish krona	749	821	767	1,175	26	36	18	41
Other	3,878	4,419	4,922	5,975	172	179	147	282
<i>Memo: Exchange-traded contracts⁴</i>	<i>105</i>	<i>118</i>	<i>98</i>	<i>165</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 5 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-Jun 2003	End-Dec 2003	End-Jun 2004	End-Dec 2004	End-Jun 2003	End-Dec 2003	End-Jun 2004	End-Dec 2004
Total contracts	121,799	141,991	164,626	187,340	5,459	4,328	3,951	5,306
With reporting dealers	53,622	63,579	72,550	82,190	2,266	1,872	1,606	2,146
With other financial institutions	53,133	57,564	70,219	86,256	2,482	1,768	1,707	2,655
With non-financial customers	15,044	20,847	21,857	18,894	710	687	638	505
Up to 1 year ²	44,927	46,474	57,157	62,185	...	...	...	...
Between 1 and 5 years ²	46,646	58,914	66,093	76,444	...	...	...	...
Over 5 years ²	30,226	36,603	41,376	48,711	...	...	...	...
US dollar	40,110	46,178	57,827	59,724	2,286	1,734	1,464	1,508
Euro	50,000	55,793	63,006	75,443	2,178	1,730	1,774	2,920
Japanese yen	15,270	19,526	21,103	23,276	405	358	324	336
Pound sterling	8,322	9,884	11,867	15,166	315	228	188	237
Swiss franc	1,962	2,444	2,651	3,234	72	73	48	62
Canadian dollar	1,136	1,302	1,298	1,474	37	36	28	40
Swedish krona	1,136	1,520	1,645	2,212	36	33	28	47
Other	3,862	5,344	5,229	6,812	129	135	98	155
<i>Memo: Exchange-traded contracts³</i>	<i>35,481</i>	<i>33,917</i>	<i>49,385</i>	<i>42,769</i>	<i>.</i>	<i>.</i>	<i>.</i>	<i>.</i>

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

Table 4
Regular OTC derivatives statistics: credit default swaps
Nominal or notional principal amounts outstanding at end-December 2004
 In billions of US dollars

		Total		Maturity of 1 year or less ¹		Maturity over 1 year and up to 5 years ¹		Maturity over 5 years ¹		Gross positive market values	Gross negative market values
		Amounts outstanding bought	Amounts outstanding sold	Amounts outstanding bought	Amounts outstanding sold	Amounts outstanding bought	Amounts outstanding sold	Amounts outstanding bought	Amounts outstanding sold	Amounts outstanding bought	Amounts outstanding sold
All instruments	All counterparties	4,644	4,486	358	305	3,376	3,368	909	813	89	93
	Reporting dealers	2,733	2,755	172	174	2,079	2,106	482	475	49	48
	Other financial institutions	1,634	1,485	159	108	1,132	1,097	344	279	34	39
	Non-financial institutions	276	247	27	23	166	165	83	59	6	6
Single-name credit default swaps	All counterparties	3,725	3,691	311	275	2,806	2,861	608	556	75	80
	Reporting dealers	2,292	2,323	161	159	1,810	1,846	320	318	44	43
	Other financial institutions	1,234	1,191	128	99	870	889	236	203	27	33
	Non-financial institutions	200	177	22	17	126	125	51	35	4	5
Multi-name credit default swaps	All counterparties	918	795	47	31	570	507	301	257	14	13
	Reporting dealers	441	431	11	15	269	260	161	157	5	5
	Other financial institutions	401	294	31	10	262	208	107	76	8	6
	Non-financial institutions	76	70	5	6	39	40	32	24	2	2

The remaining contract maturity is determined by the difference between the reporting date and the expiry date of the contract and not by the date of execution of the deal

Table 5a

Herfindahl index for all OTC interest rate derivatives contracts

Currency	Contract type	Dec 98	Jun 99	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04
CAD	Forward rate agreements	810	923	1,373	1,418	1,452	1,347	1,812	1,556	1,818	1,530	1,522	1,965	1,855
	Interest rate swaps	647	737	800	856	876	874	1,044	1,044	1,047	1,041	1,039	1,048	1,050
	Options	962	1,438	1,340	1,458	1,791	1,621	1,702	1,682	2,112	2,161	2,226	2,313	2,830
CHF	Forward rate agreements	1,133	1,085	1,317	1,421	1,274	1,264	1,252	1,234	1,218	1,264	1,269	1,169	1,278
	Interest rate swaps	542	678	643	655	688	678	788	824	846	896	852	797	855
	Options	1,077	937	1,154	1,432	2,439	1,239	1,228	1,461	1,693	1,684	1,616	1,796	1,588
EUR	Forward rate agreements	–	834	937	851	1,107	936	740	556	571	539	639	670	610
	Interest rate swaps	–	572	522	511	500	486	524	478	492	481	478	473	477
	Options	–	525	578	530	565	559	584	561	546	608	591	675	668
GBP	Forward rate agreements	828	856	641	614	728	693	638	605	610	607	1095	930	933
	Interest rate swaps	406	433	444	429	448	438	476	489	515	544	565	594	581
	Options	628	828	686	677	662	648	727	648	615	643	666	747	1,483
JPY	Forward rate agreements	860	942	932	1,014	1,109	1,937	1,758	1,763	1,942	1,972	1,647	1,308	1,898
	Interest rate swaps	440	484	528	545	585	613	706	779	790	806	744	728	705
	Options	436	949	596	715	791	708	1217	1202	1624	1223	1065	978	775
SEK	Forward rate agreements	965	870	914	936	957	1,125	1,002	944	886	839	947	965	893
	Interest rate swaps	542	549	601	586	640	592	608	532	569	561	570	583	587
	Options	899	824	987	1,036	1,076	989	1,081	1,149	1,224	1,174	1,230	1,137	1,098
USD	Forward rate agreements	617	655	710	755	879	888	1,145	907	1,042	901	786	725	641
	Interest rate swaps	415	495	490	500	528	529	730	666	682	701	672	626	651
	Options	901	847	734	782	819	764	1,143	1,044	1,038	961	877	847	761

Table 5b

Herfindahl indices for all OTC foreign exchange derivatives contracts

Contract type	Dec 98	Jun 99	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04
Forwards, forex swaps and currency swaps	333	372	413	423	423	416	471	427	434	438	429	442	443
Options	504	525	544	507	528	546	564	518	503	498	605	560	611

Table 5c

Herfindahl indices for all OTC equity-linked derivatives contracts

Region	Contract type	Dec 98	Jun 99	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04
Europe	Forwards and swaps	869	715	787	618	750	693	733	770	762	768	698	611	637
	Options	659	639	613	657	779	891	880	952	791	985	1,013	1,195	721
Japan	Forwards and swaps	2,837	2,170	3,416	2,501	2,043	1,461	2,005	1,822	1,946	1,854	3,106	1,984	1,872
	Options	970	1,462	1,102	1,018	1,386	860	841	1,072	1,132	2,322	1,718	2,553	1,208
Latin America	Forwards and swaps	2,849	3,071	9,274	6,881	5,015	5,163	6,063	7,546	7,281	8,839	3,808	3,732	5,716
	Options	4,307	6,169	4,330	6,776	6,703	4,353	8,084	7,585	4,807	9,332	6,432	6,304	4,485
Other Asia	Forwards and swaps	1,313	3,506	3,606	5,119	1,663	1,470	5,294	6,086	1,677	3,197	2,233	2,010	1,282
	Options	1,271	1,388	2,341	1,586	1,600	1,187	1,447	1,550	1,675	1,894	5,464	5,435	1,662
United States	Forwards and swaps	1,111	1,215	1,895	1,088	1,132	1,048	1,070	1,174	1,037	964	1,040	855	844
	Options	759	1,042	1,275	749	759	663	751	890	665	793	1,031	836	976

Table 5d

Herfindahl index for all OTC interest rate derivatives contracts between reporters¹

Currency	Contract type	Dec 98	Jun 99	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04
CAD	Forward rate agreements	983	1,008	1,707	1,594	1,876	1,365	2,266	1,992	2,325	2,000	1,814	2,118	2,218
	Interest rate swaps	671	772	834	876	910	818	1,008	949	893	974	1,018	1,008	1,042
	Options	1,041	1,436	1,341	1,212	1,622	1,558	1,474	1,720	2,426	2,695	2,811	2,722	3,135
CHF	Forward rate agreements	1,194	1,176	1,480	1,505	1,256	1,211	1,270	1,262	1,594	1,606	1,475	1,348	1,401
	Interest rate swaps	530	776	701	724	708	705	822	854	890	835	833	800	814
	Options	1,458	1,044	1,371	1,495	1,186	1,350	1,041	1,220	1,441	1,487	1,347	1,691	1,649
EUR	Forward rate agreements	0	744	961	956	1,071	954	727	540	547	555	540	506	579
	Interest rate swaps	0	595	549	543	530	506	571	503	505	474	478	474	470
	Options	0	591	583	584	619	618	642	636	558	600	575	605	654
GBP	Forward rate agreements	862	982	736	666	788	769	697	647	648	576	746	1,012	939
	Interest rate swaps	400	408	456	427	468	458	490	497	550	522	547	723	692
	Options	678	1,145	928	886	795	826	828	786	685	670	661	721	857
JPY	Forward rate agreements	869	894	973	1,073	1,386	2,319	2,194	2,095	2,316	2,379	1,803	1,463	2,291
	Interest rate swaps	460	501	568	600	629	691	801	866	895	935	894	843	792
	Options	521	546	795	822	876	803	1,381	1,665	1,749	1,423	1,383	1,158	862
SEK	Forward rate agreements	897	819	862	964	939	1,279	979	962	938	970	1,211	1,125	997
	Interest rate swaps	591	563	617	607	662	601	623	530	570	569	602	651	660
	Options	876	786	859	969	900	857	898	1,143	1,148	1,101	1,232	1,111	1,143
USD	Forward rate agreements	631	692	757	932	894	934	1,046	1,070	1,440	1,142	978	791	626
	Interest rate swaps	421	537	508	533	562	577	784	719	757	757	751	678	710
	Options	896	873	822	858	931	832	1,111	1,239	1,144	991	899	820	773

¹ "Reporters" ("reporting dealers") are defined as those institutions whose head office is located in the G10 countries and which participate in the semiannual OTC derivatives market statistics; in addition, "reporting dealers" include all branches and subsidiaries of these entities worldwide; "reporters" will mainly be commercial and investment banks and securities houses, including their branches and subsidiaries and other entities which are active dealers.

Table 5e

Herfindahl indices for all OTC foreign exchange derivatives contracts between reporters

Contract type	Dec 98	Jun 99	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04
Forwards, forex swaps and currency swaps	342	385	425	437	430	411	464	444	452	478	463	499	491
Options	517	539	543	550	558	496	614	526	512	538	518	683	700

Table 5f

Herfindahl indices for all OTC equity-linked derivatives contracts between reporters

Region	Contract type	Dec 98	Jun 99	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04
Europe	Forwards and swaps	1,192	851	883	694	938	948	859	840	753	639	705	582	674
	Options	582	725	750	943	874	834	912	737	728	655	676	697	730
Japan	Forwards and swaps	4,424	4,756	2,539	3,610	5,209	2,844	2,541	3,220	2,435	2,225	2,789	1,275	2,772
	Options	1,081	1,403	1,316	1,288	1,758	908	924	1,137	968	2,433	1,698	1,127	1,399
Latin America	Forwards and swaps	4,350	6,230	8,613	4,116	5,115	10,000	10,000	6,242	4,863	5,556	6,932	3,851	3,284
	Options	2,127	3,206	6,936	7,398	3,433	3,613	4,273	4,772	8,724	3,090	7,515	5,133	4,587
Other Asia	Forwards and swaps	2,370	6,146	6,097	7,915	3,550	482	9,879	9,740	5,494	7,022	5,918	3,675	2,480
	Options	2,001	2,386	5,268	2,035	1,604	2,152	2,120	3,290	3,678	3,520	3,166	2,526	831
United States	Forwards and swaps	1,154	1,157	1,049	850	1,136	2,424	1,315	2,542	1,632	708	889	800	934
	Options	1,347	1,448	1,796	975	1,020	753	783	765	951	1,555	668	774	764

Table 5g

Herfindahl index for all OTC interest rate derivatives contracts between reporters and non-reporters

Currency	Contract type	Dec 98	Jun 99	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04
CAD	Forward rate agreements	885	1,026	1,613	1,567	1,412	2,114	2,003	1,681	1,991	1,681	2,079	2,092	1,635
	Interest rate swaps	786	885	982	1,050	1,050	1,167	1,495	1,568	1,631	1,374	1,366	1,423	1,309
	Options	1,047	1,500	1,589	1,963	2,065	1,917	2,111	1,996	2,451	2,174	2,269	2,448	2,817
CHF	Forward rate agreements	1,959	1,055	1,063	1,961	1,638	1,639	2,171	2,250	2,079	1,933	1,990	2,049	1,376
	Interest rate swaps	711	696	763	741	725	703	951	1,082	1,099	1,261	1,035	1,026	1,087
	Options	731	936	928	1,361	4,531	1,147	2,146	2,061	2,254	2,354	2,140	1,929	1,681
EUR	Forward rate agreements	–	1,415	999	1,294	1,449	1,032	1,040	831	931	814	1,209	1,295	839
	Interest rate swaps	–	645	597	557	513	515	540	529	559	563	551	565	557
	Options	–	567	973	615	541	543	578	499	607	707	684	861	824
GBP	Forward rate agreements	1,234	1,372	754	735	884	683	797	773	879	1,247	2,928	881	1,210
	Interest rate swaps	521	599	503	541	503	489	562	599	604	669	685	546	563
	Options	663	704	634	689	717	704	766	772	719	797	781	946	2,731
JPY	Forward rate agreements	1,709	3,035	3,055	3,153	2,502	3,915	4,132	4,983	3,782	2,431	2,105	1,692	1,304
	Interest rate swaps	501	578	592	571	632	575	625	717	739	767	762	807	780
	Options	466	2,701	688	729	759	656	1,009	946	1,402	911	802	1,008	1,069
SEK	Forward rate agreements	1,371	1,272	1,535	1,340	1,341	2,073	1,771	1,849	1,690	916	879	980	917
	Interest rate swaps	649	710	799	760	784	716	771	751	717	707	638	662	849
	Options	1,121	1,100	1,398	1,260	1,444	1,209	1,379	1,221	1,339	1,330	1,327	1,322	1,156
USD	Forward rate agreements	750	939	883	805	1,338	1,395	1,978	1,089	1,319	1,265	859	813	869
	Interest rate swaps	501	526	558	545	574	538	731	694	683	725	674	661	659
	Options	987	980	756	815	814	792	1,275	1,058	1,018	1,030	915	937	802

Table 5h

Herfindahl indices for all OTC foreign exchange derivatives contracts between reporters and non-reporters

Contract type	Dec 98	Jun 99	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04
Forwards, forex swaps and currency swaps	357	401	432	438	444	453	516	469	468	460	443	445	464
Options	640	596	646	566	576	646	675	638	603	592	995	670	656

Table 5i

Herfindahl indices for all OTC equity-linked derivatives contracts between reporters and non-reporters

Region	Contract type	Dec 98	Jun 99	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04
Europe	Forwards and swaps	1,187	802	900	706	841	733	831	824	947	984	857	879	765
	Options	1,254	892	945	743	1,312	1,962	1,541	2,235	1,327	1,788	1,863	2,227	849
Japan	Forwards and swaps	2,691	1,877	4,186	2,616	2,359	1,924	2,494	2,059	2,458	2,910	5,520	3,114	2,121
	Options	912	2,028	1,909	1,822	918	1,412	1,108	1,096	2,110	2,132	1,988	4,446	1,641
Latin America	Forwards and swaps	2,883	3,093	9,277	6,919	5,051	5,524	6,324	7,932	7,526	8,863	4,353	3,839	6,378
	Options	4,570	7,075	4,538	7,794	6,875	4,945	8,829	8,324	9,561	9,622	7,604	6,678	4,534
Other Asia	Forwards and swaps	1,487	3,134	2,677	3,734	1,645	1,817	1,676	2,256	2,088	1,273	1,485	1,536	1,209
	Options	1,357	1,680	1,527	1,346	1,702	1,143	1,352	1,059	2,443	2,454	6,074	6,013	2,269
United States	Forwards and swaps	1,260	1,304	2,277	1,290	1,228	1,321	1,288	1,390	1,229	1,265	1,419	1,276	1,180
	Options	941	1,450	1,774	884	1,023	851	955	1,212	812	809	1,457	1,063	1,279