



Yale SCHOOL OF MANAGEMENT
Program on Financial Stability

EliScholar – A Digital Platform for Scholarly Publishing at Yale

YPFS Resource Library

11-1-2009

OTC Derivatives Market Activity in the First Half of 2009

Karsten von Kleist

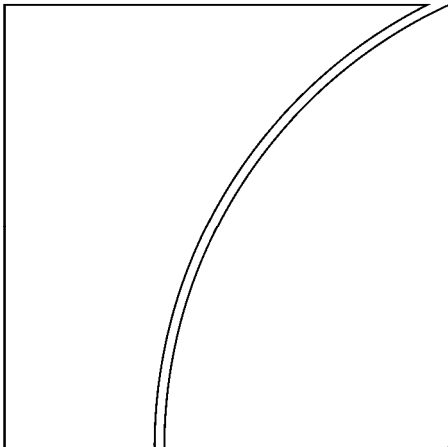
Carlos Mallo

<https://elischolar.library.yale.edu/ypfs-documents/123>

This resource is brought to you for free and open access by the Yale Program on Financial Stability and [EliScholar](#), a digital platform for scholarly publishing provided by Yale University Library. For more information, please contact ypfs@yale.edu.



BANK FOR INTERNATIONAL SETTLEMENTS



OTC derivatives market activity in the first half of 2009

Monetary and Economic Department

November 2009

Queries concerning this release should be addressed to the authors listed below:

Section I:	Karsten von Kleist	tel: +41 61 280 8408	e-mail: karsten.von-kleist@bis.org
Sections II & III:	Carlos Mallo	tel: +41 61 280 8256	e-mail: carlos.mallo@bis.org

Bank for International Settlements
Monetary and Economic Department
CH-4002 Basel, Switzerland

Fax: +41 61 280 9100 and +41 61 280 8100

This publication is available on the BIS website only (www.bis.org).

© *Bank for International Settlements 2009. All rights reserved. Brief excerpts may be reproduced or translated provided the source is cited.*

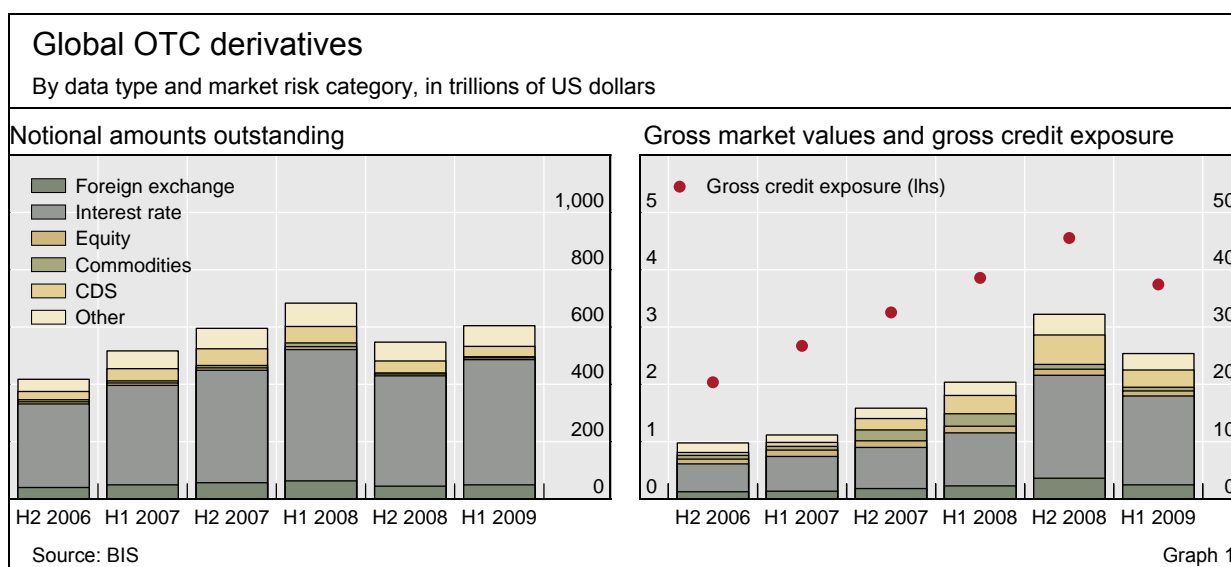
Contents

I.	OTC market developments in the first half of 2009	1
II.	Statistical notes	3
	1. Coverage	3
	2. Definitions	3
	2.1 Types of data collected	3
	2.2 Instrument types	4
	2.3 Specific definitions for credit default swaps	4
	3. Data availability and next publication date	4
III.	Statistical tables and annex on revisions.....	5

I. OTC market developments in the first half of 2009

Data for the first half of 2009 are provisional. Final data, with a detailed analysis of the recent trends, will be published in the forthcoming *BIS Quarterly Review*, to be released on 7 December 2009.

Notional amounts of all types of OTC contracts rebounded somewhat to stand at \$605 trillion at the end of June 2009, 10% above the level six months before (Graph 1, left-hand panel).¹ In contrast, gross market values² decreased by 21% to \$25 trillion (Graph 1, right-hand panel). Similarly, gross credit exposures³ fell by 18% from an end-2008 peak of \$4.5 trillion to \$3.7 trillion. Meanwhile, notional amounts of CDS contracts continued to decline, albeit at a slower pace than in the second half of 2008, and CDS gross market values shrank by 42%, following an increase of 60% during the previous six-month period.



- *OTC interest rate derivatives.* Notional amounts recovered to stand at \$437 trillion at the end of June 2009, 13% above the level six months earlier (Graph 2, left-hand and centre panels; Table 3). The increase was concentrated in maturities greater than five years. Gross market values fell by 14% to \$15 trillion, with swaps accounting for most of the decrease. Outstanding volumes of option contracts grew

¹ Substantial revisions resulted in notional amounts outstanding at end-December 2008 being revised down by almost 8%. Gross market values were revised down 5%, while gross credit exposures were revised down 9% (see Annex 1 for details by risk category).

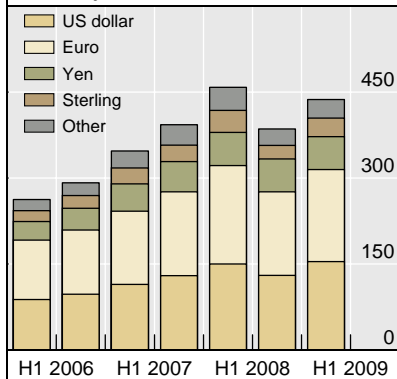
² Gross market values, which measure the cost of replacing all existing contracts, provide a measure of market risk.

³ Gross credit exposures take into account legally enforceable bilateral netting agreements. Excluding CDS contracts for all countries except the United States.

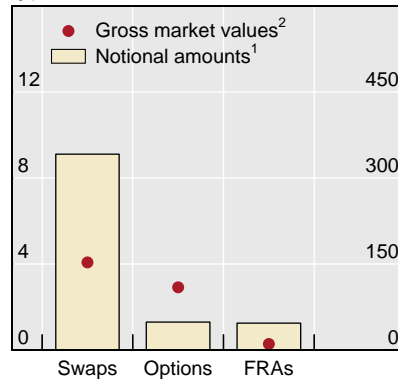
Global OTC derivatives

In trillions of US dollars and in per cent

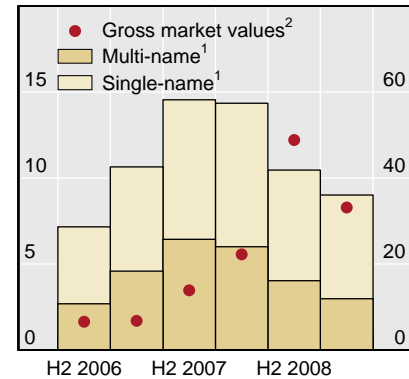
Interest rate derivatives by currency¹



Interest rate derivatives by data type and instrument



Credit default swaps, by data type and instrument



¹ Notional amounts outstanding (rhs). ² As a percentage of the notional amount outstanding.

Source: BIS.

Graph 2

18% to \$49 trillion, but gross market values declined 2%. The amounts of outstanding forward rate agreements (FRAs) went up 34% to \$47 trillion, while gross market values declined 7% to \$130 billion.

- **FX derivatives.** Increased market activity was reflected in a 10% rebound to \$49 trillion in notional amounts of foreign exchange derivatives outstanding. However, gross market values declined by 31%, partly reversing the 59% increase in the second half of 2008 (Table 2).
- **Equity derivatives.** In the first half of 2009, notional amounts of equity derivatives rose by 7% to \$6.6 trillion, while market values remained 16% below the level of end-year 2008.
- **Commodity derivatives.** Amounts outstanding of commodity derivatives stabilised in June 2009 at \$3.7 trillion, after a 71% drop in the second half of 2008. While gold contracts recovered 28%, to stand at \$0.4 trillion outstanding at the end of June 2009, other commodity derivatives continued to slide, falling 5% to \$3.3 trillion. Gross market values of commodity contracts declined further (by 17%).
- **Credit default swaps.** Notional amounts outstanding of CDS contracts continued to shrink (by 14%, after a 27% reduction in the second half of 2008), to \$36 trillion at the end of June 2009 (Graph 2, right-hand panel; Table 4). The gross market value of CDS contracts declined by 42%, due to declines in inter-dealer business and contracts with other financial institutions.
- **Concentration.** According to the Herfindahl indices calculated on the basis of responses from individual dealers, concentration increased slightly in some market segments in the first half of 2009. Interest rate derivatives in US dollars and sterling saw a slight increase in concentration across all contract types, albeit from comparatively low levels (Table 6a). In the case of sterling contracts, the increase in concentration was more noticeable for inter-dealer contracts (Table 6d).

II. Statistical notes

1. Coverage

As of end-June 1998, the central banks of the G10 countries introduced reporting by leading global dealers as a regular feature in the collection of statistics on derivatives markets. The objective of this 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 for forwards, swaps and options of foreign exchange, interest rate, equity, commodity and credit 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 absolute value of the gross of the negative market value of contracts with non-reporting counterparties only.

As of end-June 2004, the BIS began 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 6a to 6i).

In response to a request from the Committee on the Global Financial System (CGFS), as of end-December 2004 the BIS began releasing semiannual statistics on credit default swaps (CDS) (Tables 4 and 5). These include notional amounts outstanding and gross market values for single- and multi-name instruments. As of December 2005, additional information by counterparty, sector and rating has been made available.

2. Definitions

2.1 *Types of data collected*

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 contracts, 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.

Herfindahl index: The Herfindahl index represents a measure of market concentration and is defined as the sum of the squares of the market shares of each individual institution. It ranges from 0 to 10,000. The more concentrated the market, the higher the measure becomes. If the market is fully concentrated (only one institution), the measure will have the (maximum) value of 10,000.

2.2 Instrument types

Forward contracts: Forward contracts represent agreements for delayed delivery of financial instruments or commodities in which the buyer agrees to purchase and the seller agrees to deliver, at a specified future date, a specified instrument or commodity at a specified price or yield. Forward contracts are generally not traded on organised exchanges and their contractual terms are not standardised. The reporting exercise also includes transactions where only the difference between the contracted forward outright rate and the prevailing spot rate is settled at maturity, such as non-deliverable forwards (ie forwards which do not require physical delivery of a non-convertible currency) and other contracts for differences.

Swaps: Swaps are transactions in which two parties agree to exchange payment streams based on a specified notional amount for a specified period. Forward-starting swap contracts are reported as swaps.

Options: Option contracts convey either the right or the obligation, depending upon whether the reporting institution is the purchaser or the writer, respectively, to buy or sell a financial instrument or commodity at a specified price up to a specified future date.

2.3 Specific definitions for credit default swaps

Single-name CDS: A credit derivative where the reference entity is a single name.

Multi-name CDS: A contract where the reference entity is more than one name, as in portfolio or basket CDS or CDS indices. A basket CDS is a CDS where the credit event is the default of some combination of the credits in a specified basket of credits.

3. Data availability and next publication date

Detailed tables on OTC derivatives and concentration measures from end-June 1998 are available, with their main breakdowns, under www.bis.org/statistics/derstats.htm on the BIS website.

These published data may be subject to revisions. In most cases such revisions are likely to be minor. Should significant revisions occur, users will be informed of the revisions on the BIS website.

The next OTC derivatives statistics, covering the second half of 2009, will be released no later than 10 May 2010.

III. Statistical tables and annex on revisions

Table 1
Global OTC derivatives market¹
 Amounts outstanding, in billions of US dollars

	Notional amounts outstanding				Gross market value			
	H2 2007	H1 2008	H2 2008	H1 2009	H2 2007	H1 2008	H2 2008	H1 2009
GRAND TOTAL	595,738	683,814	547,371	604,622	15,834	20,375	32,244	25,372
A. Foreign exchange contracts	56,238	62,983	44,200	48,775	1,807	2,262	3,591	2,470
Outright forwards and forex swaps	29,144	31,966	21,266	23,107	675	802	1,615	870
Currency swaps	14,347	16,307	13,322	15,072	817	1,071	1,421	1,211
Options	12,748	14,710	9,612	10,596	315	388	555	389
<i>Memo: Exchange-traded contracts²</i>	291	367	225	240	...	...	...	...
B. Interest rate contracts³	393,138	458,304	385,896	437,198	7,177	9,263	18,011	15,478
FRAs	26,599	39,370	35,002	46,798	41	88	140	130
Swaps	309,588	356,772	309,760	341,886	6,183	8,056	16,436	13,934
Options	56,951	62,162	41,134	48,513	953	1,120	1,435	1,414
<i>Memo: Exchange-traded contracts²</i>	71,051	73,779	52,711	57,732	...	...	...	...
C. Equity-linked contracts	8,469	10,177	6,159	6,619	1,142	1,146	1,051	879
Forwards and swaps	2,233	2,657	1,553	1,709	239	283	323	225
Options	6,236	7,521	4,607	4,910	903	863	728	654
<i>Memo: Exchange-traded contracts²</i>	7,735	7,860	4,928	5,477	...	...	...	...
D. Commodity contracts⁴	8,455	13,229	3,820	3,729	1,898	2,209	829	689
Gold	595	649	332	425	70	68	55	43
Other	7,861	12,580	3,489	3,304	1,829	2,141	774	646
Forwards and swaps	5,085	7,561	1,995	1,772	...	...	...	...
Options	2,776	5,019	1,493	1,533	...	...	...	...
E. Credit default swaps⁵	58,244	57,403	41,883	36,046	2,020	3,192	5,116	2,987
Single-name instruments	32,486	33,412	25,740	24,112	1,158	1,901	3,263	1,953
Multi-name instruments	25,757	23,991	16,143	11,934	862	1,291	1,854	1,034
F. Unallocated⁶	71,194	81,719	65,413	72,255	1,790	2,303	3,645	2,868
GROSS CREDIT EXPOSURE⁷	...	...	...	...	3,256	3,859	4,555	3,744
<i>Memo: Exchange-traded contracts^{2,8}</i>	79,078	82,006	57,864	63,449	...	...	...	...

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 Sources: FOW TRADEdata; Futures Industry Association; various futures and options exchanges. ³ Single currency contracts only. ⁴ Adjustments for double-counting partly estimated. ⁵ See Tables 4 and 5. ⁶ Includes foreign exchange, interest rate, equity, commodity and credit derivatives of non-reporting institutions, based on the latest Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity, in 2007. ⁷ Gross market values after taking into account legally enforceable bilateral netting agreements. Excludes CDS contracts for all countries except the United States. ⁸ Excludes commodity contracts.

Table 2

Global OTC foreign exchange derivatives market^{1, 2}

Amounts outstanding, in billions of US dollars

	Notional amounts outstanding				Gross market values			
	H2 2007	H1 2008	H2 2008	H1 2009	H2 2007	H1 2008	H2 2008	H1 2009
Total contracts	56,238	62,983	44,200	48,775	1,807	2,262	3,591	2,470
With reporting dealers	21,334	24,845	18,810	18,891	594	782	1,459	892
With other financial institutions	24,357	26,775	17,223	21,441	806	995	1,424	1,066
With non-financial customers	10,548	11,362	8,166	8,442	407	484	708	512
Up to 1 year ³	40,316	43,639	31,076	30,302	...	...	...	...
Between 1 and 5 years ³	8,553	10,701	9,049	9,698	...	...	...	...
Over 5 years ³	7,370	8,643	4,075	8,775	...	...	...	...
US dollar	46,947	52,152	37,516	40,737	1,471	1,838	2,846	1,961
Euro	21,806	25,963	18,583	20,653	790	1,010	1,409	1,032
Yen	12,857	13,616	11,292	11,438	371	433	884	531
Sterling	7,979	8,377	4,732	6,213	260	280	633	435
Swiss franc	3,662	3,964	3,034	3,072	91	119	194	103
Canadian dollar	2,404	2,226	1,568	1,735	134	93	123	95
Swedish krona	1,525	1,589	1,178	1,255	29	30	88	54
Other	15,297	18,078	10,495	12,447	470	721	1,007	729
<i>Memo: Exchange-traded contracts⁴</i>	<i>291</i>	<i>367</i>	<i>225</i>	<i>240</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 2 to Table 1.

Table 3

Global OTC interest rate derivatives market¹

Amounts outstanding, in billions of US dollars

	Notional amounts outstanding				Gross market values			
	H2 2007	H1 2008	H2 2008	H1 2009	H2 2007	H1 2008	H2 2008	H1 2009
Total contracts	393,138	458,304	385,896	437,198	7,177	9,263	18,011	15,478
With reporting dealers	157,245	188,982	160,261	148,150	2,774	3,554	6,889	4,759
With other financial institutions	193,107	223,023	187,885	250,069	3,786	4,965	10,051	9,928
With non-financial customers	42,786	46,299	37,749	38,979	617	745	1,071	790
Up to 1 year ²	127,601	153,181	152,060	159,143	...	...	...	...
Between 1 and 5 years ²	134,713	150,096	124,731	128,301	...	...	...	...
Over 5 years ²	130,824	155,028	109,104	149,754	...	...	...	...
US dollar	129,756	149,813	129,898	154,167	3,219	3,601	9,911	6,473
Euro	146,082	171,877	146,085	160,646	2,688	3,910	5,128	6,255
Yen	53,099	58,056	57,425	57,451	401	380	847	800
Sterling	28,390	38,619	23,532	32,591	430	684	1,161	1,117
Swiss franc	4,101	5,253	4,940	4,713	42	71	115	121
Canadian dollar	3,014	3,286	2,631	3,227	37	60	181	141
Swedish krona	5,176	6,454	4,503	5,294	43	73	114	118
Other	23,520	24,946	16,883	19,108	317	484	555	453
<i>Memo: Exchange-traded contracts³</i>	<i>71,051</i>	<i>73,779</i>	<i>52,711</i>	<i>57,732</i>	...	...	...	...

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

Table 4

Credit default swap market¹

Amounts outstanding, in billions of US dollars

	Notional amounts outstanding									Gross market values		
	H1 2008			H2 2008			H1 2009			H1 2008	H2 2008	H1 2009
	Bought	Sold	Total	Bought	Sold	Total	Bought	Sold	Total			
Total contracts	45,946	44,618	57,403	33,879	33,038	41,883	27,995	27,235	36,046	3,192	5,116	2,987
With reporting dealers	33,402	32,921	33,161	25,046	25,024	25,035	19,237	19,131	19,184	1,687	2,938	1,476
With other financial institutions	12,010	11,287	23,297	8,527	7,827	16,353	7,942	7,405	15,347	1,441	2,085	1,332
Banks and securities firms	6,985	6,698	13,683	5,841	5,505	11,346	5,618	5,455	11,073	740	1,333	858
Insurance firms	279	119	398	284	115	399	268	118	386	26	54	49
Other	4,746	4,469	9,216	2,401	2,207	4,608	2,056	1,832	3,888	675	698	425
With non-financial customers	534	410	944	307	188	495	816	699	1,516	65	93	179
Up to 1 year	3,327	3,092	3,968	2,438	2,340	2,978	3,024	2,917	3,839	...	...	...
Between 1 and 5 years	29,538	29,145	36,923	21,475	21,122	26,725	17,950	17,685	23,200	...	...	...
Over 5 years	13,081	12,381	16,511	9,966	9,576	12,180	7,022	6,632	9,007	...	...	...
Single-name credit default swaps ²	26,704	25,875	33,412	21,079	20,480	25,740	19,057	18,604	24,112	1,901	3,263	1,953
Multi-name credit default swaps	19,243	18,743	23,991	12,800	12,558	16,143	8,938	8,631	11,934	1,291	1,854	1,034

¹ Data on total CDS and gross market values are shown on a net basis. Data on CDS bought and sold are shown on a gross basis, ie not adjusted for inter-dealer double-counting. ² See Table 5.

Table 5
Credit default swap market¹
Single-name instruments
 Amounts outstanding, in billions of US dollars

	Notional amounts outstanding									Gross market values		
	H1 2008			H2 2008			H1 2009			H1 2008	H2 2008	H1 2009
	Bought	Sold	Total	Bought	Sold	Total	Bought	Sold	Total			
Total contracts	26,704	25,875	33,412	21,079	20,480	25,740	19,057	18,604	24,112	1,901	3,263	1,953
With reporting dealers	19,232	19,100	19,166	15,887	15,751	15,819	13,623	13,476	13,549	968	1,898	997
With other financial institutions	7,057	6,589	13,646	4,996	4,612	9,608	4,966	4,748	9,713	897	1,307	851
Banks and securities firms	4,070	3,745	7,814	3,328	3,031	6,359	3,649	3,475	7,124	454	811	555
Insurance firms	146	96	242	185	89	274	143	97	240	18	40	33
Other	2,841	2,749	5,590	1,483	1,492	2,976	1,173	1,176	2,349	425	456	262
With non-financial customers	415	185	600	196	117	313	469	381	850	36	58	106
Up to 1 year	2,294	2,150	2,786	1,866	1,794	2,277	2,056	2,014	2,601	...	...	...
Between 1 and 5 years	17,511	17,275	21,812	13,286	12,973	16,272	12,522	12,343	15,868	...	...	...
Over 5 years	6,899	6,450	8,814	5,926	5,713	7,191	4,479	4,248	5,644	...	...	...
Sovereigns	1,659	1,641	2,177	1,277	1,282	1,651	1,325	1,314	1,761	...	...	...
Non-sovereigns	25,044	24,234	31,235	19,802	19,198	24,089	17,733	17,290	22,351	...	...	...
Investment grade (AAA—BBB)	17,380	17,218	22,155	13,736	13,636	16,967	12,585	12,400	16,082	...	...	...
BB and below	5,535	5,343	6,756	4,672	4,100	5,492	3,986	3,975	5,152	...	...	...
Non-rated	3,789	3,314	4,501	2,671	2,744	3,281	2,486	2,229	2,878	...	...	...

¹ Data on total CDS and gross market values are shown on a net basis. Data on CDS bought and sold are shown on a gross basis, ie not adjusted for inter-dealer double-counting.

Table 6a
Herfindahl indices for all OTC interest rate derivatives contracts

	Canadian dollar			Swiss franc			Euro			Sterling			Japanese yen			Swedish krona			US dollar		
	FRAs ¹	IRS ²	Opts. ³	FRAs ¹	IRS ²	Opts. ³	FRAs ¹	IRS ²	Opts. ³	FRAs ¹	IRS ²	Opts. ³	FRAs ¹	IRS ²	Opts. ³	FRAs ¹	IRS ²	Opts. ³	FRAs ¹	IRS ²	Opts. ³
Jun 1998	824	681	999	1,053	504	953	...	...	...	713	419	723	779	440	500	1,160	539	975	521	393	869
Dec 1998	810	647	962	1,133	542	1,077	...	...	...	828	406	628	860	440	436	965	542	899	617	415	901
Jun 1999	923	737	1,438	1,085	678	937	834	572	525	856	433	828	942	484	949	870	549	824	655	495	847
Dec 1999	1,373	800	1,340	1,317	643	1,154	937	522	578	641	444	686	932	528	596	914	601	987	710	490	734
Jun 2000	1,418	856	1,458	1,421	655	1,432	851	511	530	614	429	677	1,014	545	715	936	586	1,036	755	500	782
Dec 2000	1,452	876	1,791	1,274	688	2,439	1,107	500	565	728	448	662	1,109	585	791	957	640	1,076	879	528	819
Jun 2001	1,347	874	1,621	1,264	678	1,239	936	486	559	693	438	648	1,937	613	708	1,125	592	989	888	529	764
Dec 2001	1,812	1,044	1,702	1,252	788	1,228	740	524	584	638	476	727	1,758	706	1,217	1,002	608	1,081	1,145	730	1,143
Jun 2002	1,556	1,044	1,682	1,234	824	1,461	556	478	561	605	489	648	1,763	779	1,202	944	532	1,149	907	666	1,044
Dec 2002	1,818	1,047	2,112	1,218	846	1,693	571	492	546	610	515	615	1,942	790	1,624	886	569	1,224	1,042	682	1,038
Jun 2003	1,530	1,041	2,161	1,264	896	1,684	539	481	608	607	544	643	1,972	806	1,223	839	561	1,174	901	701	961
Dec 2003	1,522	1,039	2,226	1,269	852	1,616	639	478	591	1,095	565	666	1,647	744	1,065	947	570	1,230	786	672	877
Jun 2004	1,965	1,048	2,313	1,169	797	1,796	670	473	675	930	594	747	1,308	728	978	965	583	1,137	725	626	847
Dec 2004	1,855	1,051	2,830	1,278	851	1,583	611	472	668	933	574	1,480	1,898	699	776	892	587	1,084	641	667	760
Jun 2005	1,659	1,000	2,955	1,158	936	1,508	631	479	567	855	614	1,288	2,565	664	781	811	564	1,077	652	650	756
Dec 2005	1,649	1,017	3,052	1,630	1,015	1,584	667	484	539	1,210	661	905	3,025	635	793	767	571	1,259	690	691	762
Jun 2006	1,670	1,018	2,703	1,698	1,080	1,398	690	503	534	1,083	707	958	3,280	613	824	847	586	1,431	788	678	816
Dec 2006	1,499	1,020	2,952	1,919	1,149	1,205	783	561	569	1,024	692	916	3,468	620	768	1,068	594	1,638	917	679	830
Jun 2007	1,234	1,038	2,604	2,043	1,150	1,045	812	623	604	1,120	736	806	2,569	675	799	1,096	628	1,945	850	686	865
Dec 2007	1,122	985	2,962	2,032	1,162	948	709	596	596	1,066	765	777	2,302	673	745	1,242	660	2,337	967	698	982
Jun 2008	1,400	1,001	3,253	1,712	1,336	899	648	562	594	1,055	830	824	1,981	660	938	1,152	677	1,904	880	729	1,020
Dec 2008	1,162	1,100	2,973	1,881	1,355	979	557	611	683	1,185	807	789	2,912	732	927	1,251	749	1,476	945	807	817
Jun 2009	1,240	1,245	2,544	1,672	1,351	852	581	657	607	1,194	921	950	2,176	777	865	1,055	751	1,540	996	949	936

¹ Forward rate agreements. ² Interest rate swaps. ³ Interest rate options.

Table 6b
**Herfindahl indices for all OTC foreign
exchange derivatives contracts**

	Forwards, forex swaps and currency swaps	Options
Jun 1998	302	519
Dec 1998	333	504
Jun 1999	372	525
Dec 1999	413	544
Jun 2000	423	507
Dec 2000	423	528
Jun 2001	416	546
Dec 2001	471	564
Jun 2002	427	518
Dec 2002	434	503
Jun 2003	438	498
Dec 2003	429	605
Jun 2004	442	560
Dec 2004	448	611
Jun 2005	440	591
Dec 2005	464	624
Jun 2006	475	606
Dec 2006	481	567
Jun 2007	486	558
Dec 2007	497	570
Jun 2008	496	636
Dec 2008	529	630
Jun 2009	556	635

Table 6c

Herfindahl indices for all OTC equity-linked derivatives contracts

	Europe		Japan		Latin America		Other Asia		United States	
	Forwards and swaps	Options	Forwards and swaps	Options	Forwards and swaps	Options	Forwards and swaps	Options	Forwards and swaps	Options
Jun 1998	909	627	2,655	1,074	5,484	3,545	1,232	1,447	1,086	1,362
Dec 1998	869	659	2,837	970	2,849	4,307	1,313	1,271	1,111	759
Jun 1999	715	639	2,170	1,462	3,071	6,169	3,506	1,388	1,215	1,042
Dec 1999	787	613	3,416	1,102	9,274	4,330	3,606	2,341	1,895	1,275
Jun 2000	618	657	2,501	1,018	6,881	6,776	5,119	1,586	1,088	749
Dec 2000	750	779	2,043	1,386	5,015	6,703	1,663	1,600	1,132	759
Jun 2001	693	891	1,461	860	5,163	4,353	1,631	1,188	1,048	663
Dec 2001	733	880	2,005	841	6,063	8,084	5,294	1,447	1,070	751
Jun 2002	770	952	1,822	1,072	7,546	7,585	6,086	1,550	1,174	890
Dec 2002	762	791	1,946	1,132	7,281	4,807	1,677	1,675	1,037	665
Jun 2003	768	985	1,854	2,322	8,839	9,332	3,197	1,894	964	793
Dec 2003	698	1,013	3,106	1,718	3,808	6,432	2,233	5,464	1,040	1,031
Jun 2004	611	1,195	1,984	2,553	3,732	6,304	2,010	5,435	855	836
Dec 2004	635	710	1,779	1,185	5,694	4,485	1,339	1,739	843	943
Jun 2005	597	661	2,064	898	6,953	4,427	1,355	1,177	722	725
Dec 2005	650	614	2,347	3,973	7,039	5,790	1,334	5,566	947	787
Jun 2006	613	690	1,408	3,409	6,704	3,918	1,294	5,537	946	1,385
Dec 2006	687	775	1,278	3,158	7,199	3,902	1,066	5,615	1,487	751
Jun 2007	782	716	1,168	2,333	7,876	3,735	1,343	1,098	1,057	804
Dec 2007	732	668	1,423	1,310	7,420	4,414	1,350	2,881	803	755
Jun 2008	707	706	1,044	989	5,979	6,290	1,180	1,249	847	741
Dec 2008	779	927	1,236	1,339	4,570	4,938	1,099	1,024	824	1,007
Jun 2009	891	981	977	1,513	4,687	6,181	947	1,105	755	1,138

Table 6d

Herfindahl indices for OTC interest rate derivatives contracts between reporters¹

	Canadian dollar			Swiss franc			Euro			Sterling			Japanese yen			Swedish krona			US dollar		
	FRAs ²	IRS ³	Opts. ⁴	FRAs ²	IRS ³	Opts. ⁴	FRAs ²	IRS ³	Opts. ⁴	FRAs ²	IRS ³	Opts. ⁴	FRAs ²	IRS ³	Opts. ⁴	FRAs ²	IRS ³	Opts. ⁴	FRAs ²	IRS ³	Opts. ⁴
Jun 1998	972	740	1,193	1,231	551	1,110	...	...	...	673	414	866	832	494	489	1,021	610	816	653	454	722
Dec 1998	983	671	1,041	1,194	530	1,458	...	...	...	862	400	678	869	460	521	897	591	876	631	421	896
Jun 1999	1,008	772	1,436	1,176	776	1,044	744	595	591	982	408	1,145	894	501	546	819	563	786	692	537	873
Dec 1999	1,707	834	1,341	1,480	701	1,371	961	549	583	736	456	928	973	568	795	862	617	859	757	508	822
Jun 2000	1,594	876	1,212	1,505	724	1,495	956	543	584	666	427	886	1,073	600	822	964	607	969	932	533	858
Dec 2000	1,876	910	1,622	1,256	708	1,186	1,071	530	619	788	468	795	1,386	629	876	939	662	900	894	562	931
Jun 2001	1,365	818	1,558	1,211	705	1,350	954	506	618	769	458	826	2,319	691	803	1,279	601	857	934	577	832
Dec 2001	2,266	1,008	1,474	1,270	822	1,041	727	571	642	697	490	828	2,194	801	1,381	979	623	898	1,046	784	1,111
Jun 2002	1,992	949	1,720	1,262	854	1,220	540	503	636	647	497	786	2,095	866	1,665	962	530	1,143	1,070	719	1,239
Dec 2002	2,325	893	2,426	1,594	890	1,441	547	505	558	648	550	685	2,316	895	1,749	938	570	1,148	1,440	757	1,144
Jun 2003	2,000	974	2,695	1,606	835	1,487	555	474	600	576	522	670	2,379	935	1,423	970	569	1,101	1,142	757	991
Dec 2003	1,814	1,018	2,811	1,475	833	1,347	540	478	575	746	547	661	1,803	894	1,383	1,211	602	1,232	978	751	899
Jun 2004	2,118	1,008	2,722	1,348	800	1,691	506	474	605	1,012	723	721	1,463	843	1,158	1,125	651	1,111	791	678	820
Dec 2004	2,218	1,045	3,135	1,401	815	1,634	576	470	649	939	691	845	2,291	792	855	996	664	1,098	625	716	770
Jun 2005	1,815	938	2,333	1,244	932	1,223	661	483	556	977	695	842	3,163	749	871	902	641	1,036	604	682	783
Dec 2005	1,979	978	2,659	1,710	1,043	1,214	679	496	547	1,180	751	870	3,447	706	903	769	650	1,265	703	729	807
Jun 2006	1,698	996	2,686	1,813	1,169	1,296	707	515	557	1,090	756	908	3,841	661	881	771	658	1,830	782	695	979
Dec 2006	1,687	1,007	2,738	2,321	1,229	1,034	819	514	577	1,024	702	890	3,662	646	842	892	654	1,350	884	683	880
Jun 2007	1,321	993	2,437	2,086	1,217	901	700	512	616	936	729	801	2,354	705	972	918	676	1,504	825	672	889
Dec 2007	1,088	945	2,578	2,183	1,176	935	637	542	669	1,003	799	832	2,853	731	814	1,131	744	2,278	916	694	767
Jun 2008	1,322	988	2,719	1,868	1,470	844	642	566	665	1,177	944	813	2,279	748	1,063	1,193	785	1,721	952	764	925
Dec 2008	1,123	1,027	2,918	2,029	1,406	943	558	586	732	1,268	986	841	2,642	732	1,021	1,223	871	1,332	963	805	1,001
Jun 2009	1,256	1,109	3,202	2,026	1,483	1,097	609	590	670	1,396	1,131	929	2,359	678	947	1,142	974	1,193	1,041	811	998

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; reporting dealers will mainly be commercial and investment banks and securities houses, including their branches and subsidiaries and other entities which are active dealers. ² Forward rate agreements. ³ Interest rate swaps. ⁴ Interest rate options.

Table 6e
Herfindahl indices for OTC foreign exchange derivatives contracts between reporters¹

Period	Forwards, forex swaps and currency swaps	Options
Jun 1998	323	527
Dec 1998	342	517
Jun 1999	385	539
Dec 1999	425	543
Jun 2000	437	550
Dec 2000	430	558
Jun 2001	411	496
Dec 2001	464	614
Jun 2002	444	526
Dec 2002	452	512
Jun 2003	478	538
Dec 2003	463	518
Jun 2004	499	683
Dec 2004	491	700
Jun 2005	493	635
Dec 2005	534	705
Jun 2006	532	656
Dec 2006	523	603
Jun 2007	516	588
Dec 2007	544	634
Jun 2008	557	761
Dec 2008	566	671
Jun 2009	647	757

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; reporting dealers will mainly be commercial and investment banks and securities houses, including their branches and subsidiaries and other entities which are active dealers.

Table 6f

Herfindahl indices for OTC equity-linked derivatives contracts between reporters¹

	Europe		Japan		Latin America		Other Asia		United States	
	Forwards and swaps	Options	Forwards and swaps	Options	Forwards and swaps	Options	Forwards and swaps	Options	Forwards and swaps	Options
Jun 1998	1,539	796	4,147	1,042	8,578	2,815	2,964	2,477	1,648	906
Dec 1998	1,192	582	4,424	1,081	4,350	2,127	2,370	2,001	1,154	1,347
Jun 1999	851	725	4,756	1,403	6,230	3,206	6,146	2,386	1,157	1,448
Dec 1999	883	750	2,539	1,316	8,613	6,936	6,097	5,268	1,049	1,796
Jun 2000	694	943	3,614	1,288	4,116	7,398	7,915	2,502	850	975
Dec 2000	938	874	5,209	1,758	5,115	3,433	3,550	1,604	1,136	1,020
Jun 2001	948	834	2,844	908	10,000	3,613	4,962	2,152	2,424	753
Dec 2001	859	912	2,541	924	10,000	4,273	9,879	2,120	1,315	783
Jun 2002	840	737	3,220	1,137	6,242	4,772	9,740	3,290	2,542	765
Dec 2002	753	728	2,435	968	4,863	8,724	5,494	3,678	1,632	951
Jun 2003	639	655	2,225	2,433	5,556	3,090	7,022	3,520	708	1,555
Dec 2003	705	676	2,789	1,698	6,932	7,515	5,918	3,166	889	668
Jun 2004	582	697	1,275	1,127	3,851	5,133	3,675	2,526	800	774
Dec 2004	669	714	2,395	1,116	3,284	4,587	2,467	874	931	762
Jun 2005	618	748	2,068	838	3,387	5,707	2,482	1,000	870	803
Dec 2005	757	779	1,836	5,063	5,729	9,957	2,062	995	787	851
Jun 2006	568	829	1,600	3,606	7,743	1,784	1,924	873	629	1,316
Dec 2006	705	873	1,699	2,216	5,273	3,253	1,189	931	1,118	915
Jun 2007	862	760	1,495	1,218	6,676	3,744	1,819	982	677	884
Dec 2007	1,068	751	1,904	1,147	7,056	2,948	2,114	991	879	765
Jun 2008	797	832	1,335	989	5,350	5,032	1,909	1,159	815	796
Dec 2008	947	1,183	1,484	979	9,754	4,241	1,959	1,641	1,226	1,083
Jun 2009	1,082	1,074	1,323	1,104	5,296	4,184	1,787	1,439	1,126	1,130

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; reporting dealers will mainly be commercial and investment banks and securities houses, including their branches and subsidiaries and other entities which are active dealers.

Table 6g

Herfindahl indices for OTC interest rate derivatives contracts between reporters¹ and non-reporters

	Canadian dollar			Swiss franc			Euro			Sterling			Japanese yen			Swedish krona			US dollar		
	FRAs ²	IRS ³	Opts. ⁴	FRAs ²	IRS ³	Opts. ⁴	FRAs ²	IRS ³	Opts. ⁴	FRAs ²	IRS ³	Opts. ⁴	FRAs ²	IRS ³	Opts. ⁴	FRAs ²	IRS ³	Opts. ⁴	FRAs ²	IRS ³	Opts. ⁴
Jun 1998	828	826	1,072	862	820	909	...	...	...	859	561	739	1,033	518	660	1,703	717	1,570	666	512	1,483
Dec 1998	885	786	1,047	1,959	711	731	...	...	...	1,234	521	663	1,709	501	466	1,371	649	1,121	750	501	987
Jun 1999	1,026	885	1,500	1,055	696	936	1,415	645	567	1,372	599	704	3,035	578	2,701	1,272	710	1,100	939	526	980
Dec 1999	1,613	982	1,589	1,063	763	928	999	597	973	754	503	634	3,055	592	688	1,535	799	1,398	883	558	756
Jun 2000	1,567	1,050	1,963	1,961	741	1,361	1,294	557	615	735	541	689	3,153	571	729	1,340	760	1,260	805	545	815
Dec 2000	1,412	1,050	2,065	1,638	725	4,531	1,449	513	541	884	503	717	2,502	632	759	1,341	784	1,444	1,338	574	814
Jun 2001	2,114	1,167	1,917	1,639	703	1,147	1,032	515	543	683	489	704	3,915	575	656	2,073	716	1,209	1,395	538	792
Dec 2001	2,003	1,495	2,111	2,171	951	2,146	1,040	540	578	797	562	766	4,132	625	1,009	1,771	771	1,379	1,978	731	1,275
Jun 2002	1,681	1,568	1,996	2,250	1,082	2,061	831	529	499	773	599	772	4,983	717	946	1,849	751	1,221	1,089	694	1,058
Dec 2002	1,991	1,631	2,451	2,079	1,099	2,254	931	559	607	879	604	719	3,782	739	1,402	1,690	717	1,339	1,319	683	1,018
Jun 2003	1,681	1,374	2,174	1,933	1,261	2,354	814	563	707	1,247	669	797	2,431	767	911	916	707	1,330	1,265	725	1,030
Dec 2003	2,079	1,366	2,269	1,990	1,035	2,140	1,209	551	684	2,928	685	781	2,105	762	802	879	638	1,327	859	674	915
Jun 2004	2,092	1,423	2,448	2,049	1,026	1,929	1,295	565	861	881	546	946	1,692	807	1,008	980	662	1,322	813	661	937
Dec 2004	1,635	1,305	2,817	1,376	1,075	1,682	847	541	835	1,210	549	2,755	1,304	757	1,087	917	840	1,159	871	683	793
Jun 2005	1,978	1,235	3,559	1,490	1,074	1,943	859	545	716	1,158	602	2,907	1,503	775	670	1,097	572	1,187	923	702	770
Dec 2005	1,448	1,220	3,339	1,907	1,125	2,054	891	556	632	1,693	687	1,127	1,409	775	732	1,174	611	1,531	928	747	751
Jun 2006	2,003	1,177	2,763	1,744	1,086	1,847	959	570	583	1,741	757	1,285	1,581	736	901	1,459	660	2,240	1,001	757	718
Dec 2006	1,656	1,158	3,167	3,516	1,185	1,644	1,032	685	698	1,449	773	1,144	2,406	734	901	2,006	708	2,065	1,404	765	863
Jun 2007	1,227	1,221	3,108	2,011	1,208	1,598	1,467	852	697	2,149	824	951	4,351	785	1,103	1,737	829	2,426	1,132	794	940
Dec 2007	1,811	1,158	3,137	1,737	1,248	1,498	1,759	779	798	2,995	904	1,409	1,893	822	1,716	1,852	857	2,531	1,289	844	1,745
Jun 2008	1,778	1,127	3,539	1,329	1,282	1,709	1,849	683	888	2,896	965	1,731	1,837	820	3,196	1,801	946	2,344	1,231	891	1,944
Dec 2008	1,562	1,807	3,449	1,767	1,392	1,631	737	674	736	1,990	824	958	4,211	945	788	1,842	882	1,881	1,439	971	968
Jun 2009	1,590	1,601	3,013	2,138	1,274	1,393	1,507	799	988	2,611	952	1,858	2,850	1,084	1,507	1,812	1,009	1,960	1,301	1,209	2,092

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; reporting dealers will mainly be commercial and investment banks and securities houses, including their branches and subsidiaries and other entities which are active dealers. ² Forward rate agreements. ³ Interest rate swaps. ⁴ Interest rate options.

Table 6h
Herfindahl indices for OTC foreign exchange derivatives contracts between reporters¹ and non-reporters

Period	Forwards, forex swaps and currency swaps	Options
Jun 1998	330	691
Dec 1998	357	640
Jun 1999	401	596
Dec 1999	432	646
Jun 2000	438	566
Dec 2000	444	576
Jun 2001	453	646
Dec 2001	516	675
Jun 2002	469	638
Dec 2002	468	603
Jun 2003	460	592
Dec 2003	443	995
Jun 2004	445	670
Dec 2004	476	656
Jun 2005	454	672
Dec 2005	461	645
Jun 2006	475	659
Dec 2006	484	635
Jun 2007	492	632
Dec 2007	533	673
Jun 2008	530	744
Dec 2008	549	776
Jun 2009	630	769

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; reporting dealers will mainly be commercial and investment banks and securities houses, including their branches and subsidiaries and other entities which are active dealers.

Table 6i

Herfindahl indices for OTC equity derivatives contracts between reporters¹ and non-reporters

	Europe		Japan		Latin America		Other Asia		United States	
	Forwards and swaps	Options	Forwards and swaps	Options	Forwards and swaps	Options	Forwards and swaps	Options	Forwards and swaps	Options
Jun 1998	1,158	995	2,508	1,236	5,291	3,715	1,468	812	1,227	1,700
Dec 1998	1,187	1,254	2,691	912	2,883	4,570	1,487	1,357	1,260	941
Jun 1999	802	892	1,877	2,028	3,093	7,075	3,134	1,680	1,304	1,450
Dec 1999	900	945	4,186	1,909	9,277	4,538	2,677	1,527	2,277	1,774
Jun 2000	706	743	2,616	1,822	6,919	7,794	3,734	1,346	1,290	884
Dec 2000	841	1,312	2,359	918	5,051	6,875	1,645	1,702	1,228	1,023
Jun 2001	733	1,962	1,924	1,412	5,524	4,945	1,848	1,146	1,321	851
Dec 2001	831	1,541	2,494	1,108	6,324	8,829	1,676	1,352	1,288	955
Jun 2002	824	2,235	2,059	1,096	7,932	8,324	2,256	1,059	1,390	1,212
Dec 2002	947	1,327	2,458	2,110	7,526	9,561	2,088	2,443	1,229	812
Jun 2003	984	1,788	2,910	2,132	8,863	9,622	1,273	2,454	1,265	809
Dec 2003	857	1,863	5,520	1,988	4,353	7,604	1,485	6,074	1,419	1,457
Jun 2004	879	2,227	3,114	4,446	3,839	6,678	1,536	6,013	1,276	1,063
Dec 2004	767	852	2,165	1,810	6,352	4,534	1,282	2,275	1,242	1,282
Jun 2005	837	794	2,330	1,583	7,270	4,623	1,313	1,616	929	852
Dec 2005	767	814	3,014	2,080	7,122	5,481	1,431	6,399	1,187	962
Jun 2006	803	721	1,942	3,099	6,857	3,971	1,240	7,619	1,234	1,612
Dec 2006	748	1,140	1,645	4,896	7,330	3,953	1,189	7,309	1,709	896
Jun 2007	822	1,073	1,582	4,599	8,167	3,842	1,549	1,513	1,415	924
Dec 2007	603	965	1,316	2,197	7,603	4,486	1,483	5,165	1,028	861
Jun 2008	949	918	1,217	1,786	6,809	6,527	1,207	1,841	1,014	836
Dec 2008	775	1,163	1,123	2,615	4,750	5,065	1,152	1,378	885	1,126
Jun 2009	825	1,325	1,312	2,985	5,335	6,404	962	1,254	827	1,555

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; reporting dealers will mainly be commercial and investment banks and securities houses, including their branches and subsidiaries and other entities which are active dealers.

Annex 1

**Revisions to notional amounts outstanding and
gross market values outstanding at end-December 2008**

In per cent

	Revisions	
	Notionals	Gross market values
GRAND TOTAL	-7.5	-4.9
A. Foreign exchange contracts	-11.2	-8.3
Outright forwards and forex swaps	-13.4	-6.8
Currency swaps	-9.5	-10.5
Options	-8.2	-7.0
B. Interest rate contracts	-7.8	-2.2
FRAs	-10.9	-8.8
Swaps	-5.6	-0.8
Options	-19.8	-15.3
C. Equity-linked contracts	-5.2	-5.6
Forwards and swaps	-4.9	-4.4
Options	-5.3	-6.1
D. Commodity contracts	-13.7	-13.2
Gold	-16.0	-14.9
Other	-13.5	-13.0
Forwards and swaps	-19.3	...
Options	-4.3	...
E. Credit default swaps	0.0	-9.5
Single-name instruments	0.0	-11.7
Multi-name instruments	0.0	-5.3
F. Unallocated	-7.5	-4.9
GROSS CREDIT EXPOSURE	...	-9.0