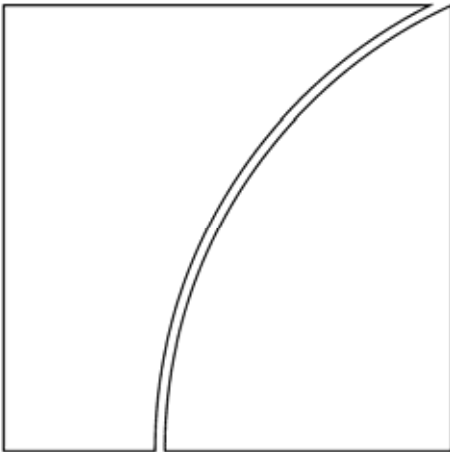




BANK FOR INTERNATIONAL SETTLEMENTS

Monetary and Economic  
Department

OTC derivatives market activity  
in the second half of 2007



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## I. Market developments in the second half of 2007

The over-the-counter (OTC) derivatives market showed relatively steady growth in the second half of 2007, amid the turmoil in global financial markets. Notional amounts of all categories of OTC contracts rose by 15% to \$596 trillion at the end of December (Table 1), following a 24% increase in the first half of the year.<sup>1</sup> Growth remained particularly strong in the credit segment, where the notional amounts of outstanding credit default swaps (CDSs) increased by 36% to \$58 trillion. Expansion in the foreign exchange, interest rate and commodities segments was also relatively robust, recording double digit growth rates, while the equity segment showed a negative growth rate.

Gross market values, which measure the cost of replacing all existing contracts, increased by 30% and reached \$15 trillion in total at the end of December 2007 (Table 1). In particular, gross market values of CDSs almost tripled (an increase of 178%) to \$2 trillion, due chiefly to a substantial price movement of CDS contracts during the period. An increase in gross market values was found in all categories of OTC contracts. Gross credit exposures, after netting agreements, also rose by 22% to a total of \$3.3 trillion.<sup>2</sup>

### 1. Strong growth in credit default swaps

Notional amounts of CDSs continued to expand by 36% in the second half of 2007, although the growth rate slowed from the 49% recorded in the first half of the year (Graph 1, left-hand panel, and Table 4). At a cumulated \$6.0 trillion<sup>3</sup> in the second half, multilateral terminations of CDS contracts almost doubled from \$3.2 trillion in the first half, and shaved approximately 14% off the growth rate in this market.

Growth in the notional amounts of multi-name CDSs (40%) again outpaced that in single-name contracts (33%). By credit rating (single-name instruments), CDS contracts on firms with ratings below investment grade and without ratings increased by 54% and 24% from the previous half's 31% and 9%, respectively, while growth in contracts on firms with investment grade slowed to 32% from 49% (Table 5).

The breakdown by counterparty showed that CDS contracts with insurance firms recorded a high growth rate (46%), along with contracts with banks and securities firms (44%), although the share of insurance firms was still very small (0.8% of all trades). Insurance firms sold \$319 billion of the protection bought, and purchased \$166 billion of the protection sold by the reporting dealers. In the second half of 2007, insurance firms showed a high growth rate (89%) as purchasers of the protection sold by the reporting dealers.

Gross market values of CDSs recorded a growth rate of 178% in the second half of the year, much higher than the 53% from the first half (Graph 1, right-hand panel). This unprecedentedly rapid growth presumably reflected a substantial increase in insurance prices on CDS contracts as measured by CDS spreads in the second half of the year. This increased valuation of existing CDS contracts, amid the turmoil in global financial markets. By counterparty, CDS contracts with insurance firms expanded at the very high rate of 597%, followed by 225% for contracts with banks and securities firms.

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<sup>1</sup> Growth rates have not been annualised but refer to changes over six months.

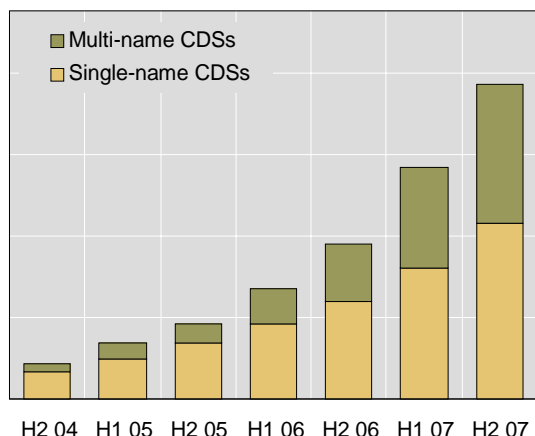
<sup>2</sup> Market sources indicate that these positions are largely collateralised. Netting arrangements and collateral are discussed in more detail in Committee on Payment and Settlement Systems, *New developments in clearing and settlement arrangements for OTC derivatives*, March 2007.

<sup>3</sup> Figures supplied by TriOptima. The volumes of terminations of contracts between BIS reporting dealers has been adjusted for double-counting.

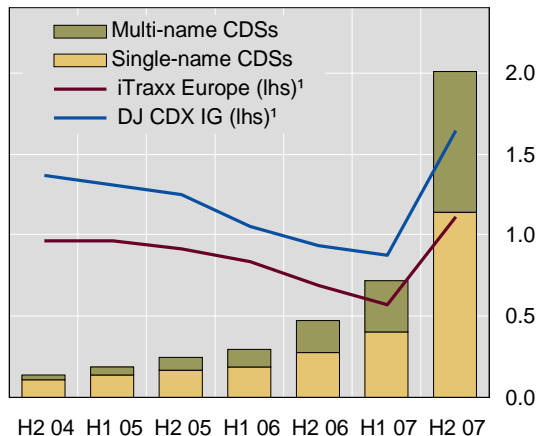
## Credit default swaps

In trillions of US dollars

Notional amounts



Gross market values



<sup>1</sup> Investment grade CDS indices; five-year on-the-run mid-spread; average of daily spreads, in basis points.

Sources: JPMorgan Chase; BIS.

Graph 1

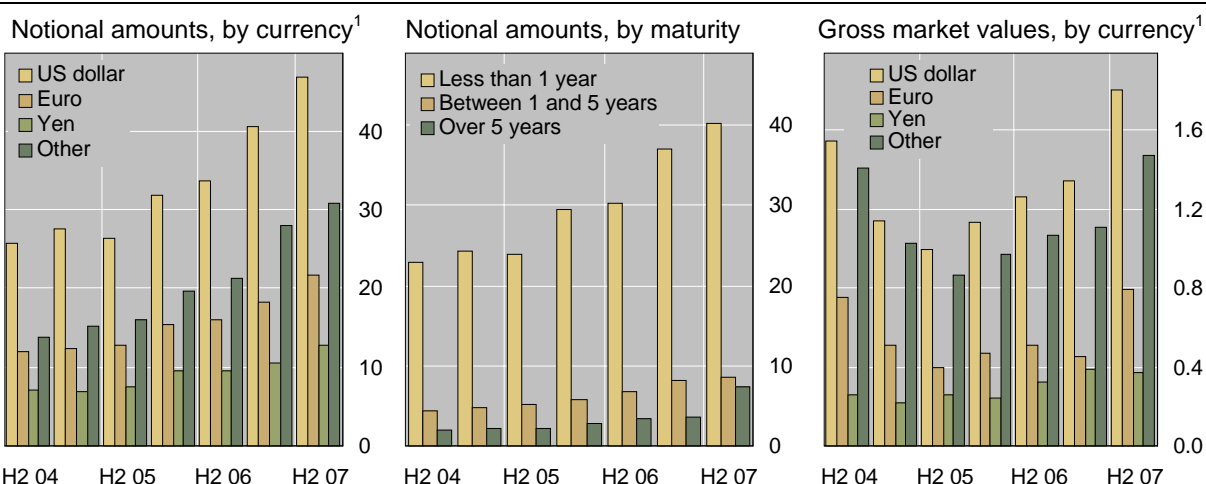
## 2. Solid growth in FX derivatives

Notional amounts of OTC foreign exchange derivatives showed a solid growth rate of 16% in the second half of 2007, slightly below the 21% recorded in the first half of the year (Table 2). By instrument, activity in outright forwards and forex swaps and currency swaps remained relatively robust, expanding by 19% and 17%, respectively, while the growth rate of options slowed to 8% from 23% in the first half of the year. By currency, contracts with one leg denominated in US dollars, euros, Japanese yen or Swiss francs showed robust growth, ranging between 16% and 21%, while contracts in sterling slowed to 3% (Graph 2, left-hand panel). By maturity, contracts with maturities over five years increased substantially by 104%, while the growth rate of contracts with shorter maturities slowed significantly (Graph 2, centre panel).

Gross market values of OTC foreign exchange derivatives in total recorded a high growth rate of 34% in the second half of the year, significantly above the first half's 6%. By instrument, all the categories (outright forwards and forex swaps, currency swaps and options) showed rates of growth higher than 30% (37%, 32% and 34%, respectively). By currency, the euro, sterling and the US dollar recorded high growth rates (73%, 50% and 32%), while the Japanese yen showed a negative growth rate of -5% (Graph 2, right-hand panel).

## Foreign exchange derivatives market

In trillions of US dollars



<sup>1</sup> Because two currencies are involved in each transaction, the sum of individual currencies comes to twice the total.

Source: BIS.

Graph 2

### 3. Moderate growth in interest rate derivatives

The rapid expansion in the notional amounts and gross market values of OTC interest rate derivatives in the first half of 2007 (19% and 26% respectively) gave way to more moderate growth (13% and 18%) in the second half of the year. Notional amounts outstanding and gross market values stood at \$393 trillion and \$7.2 trillion respectively at the end of December 2007 (Table 3).

By instrument, notional amounts of forward rate agreements grew faster (17%) than those of swaps (14%) or options (9%). By maturity, notional amounts with maturities over five years showed a much higher growth rate (47%) than shorter maturities. By currency, the Japanese yen and the pound sterling slowed to growth rates of 11% and 3% in the second half of the year, from 26% and 24% in the first half.

### 4. Subdued activity in equity derivatives

Growth in the notional amounts of OTC equity derivatives slowed markedly from 15% in the first half of 2007 to -1% in the second, the first negative growth rate since the second half of 2004 (Table 1). The notional amounts of OTC equity contracts stood at \$8.5 trillion at the end of December 2007.

Declining notional amounts came from contracts on US (-7%), Japanese (-26%), European (-1%) and Latin American equities (-7%). This contrasted with rapidly increasing activity in derivatives on other Asian equities (107%). The breakdown by instrument indicates that the notional amounts of forwards and swaps declined by 10%, while those of options grew by 3%. Gross market values of OTC equity contracts slightly increased by 2% to \$1.1 trillion at the end of December.

### 5. Robust growth in commodity derivatives

The market for OTC commodity derivatives showed robust activity, with notional amounts increasing by 19% in the second half of 2007 to reach \$9.0 trillion at the end of December (Table 1). By risk category, gold showed a high growth rate of 40% in the second half of the year,

significantly rebounding from –33% in the first half. For commodities other than gold, forwards and swaps increased by 63% to \$5.6 trillion, whereas option volume declined by 25% to \$2.8 trillion. Gross market values of commodity contracts in total increased by 18% to \$0.8 trillion.

## **6. Market concentration stable and low, particularly for FX derivatives**

Concentration in the OTC derivatives market remained relatively stable in a wide array of product categories, particularly the foreign exchange segment. According to the Herfindahl indices calculated on the basis of responses from individual dealers, concentration in the foreign exchange segment remained stable at a low level (Table 6b). In the interest rate segment, Herfindahl indices rose in forward rate agreements and options on the Swedish krona and US dollar, while they fell in forward rate agreements in euros and Japanese yen (Table 6a). In the equity segment, a decline in concentration was observed in options contracts on Japanese and other Asian stocks, as well as forward and swap contracts on US stocks, contrasted with increased concentration for forwards and swaps on Japanese stocks and options on Latin American stocks (Table 6c).



## 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, 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 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 6a to 6i).

In response to a request made by the Committee on the Global Financial System (CGFS), as of end-December 2004 the BIS started releasing semiannual statistics on credit default swaps (CDSs) (Tables 4 and 5), which 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 CDSs 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**

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

## **4. Next publication dates**

The next OTC derivatives statistics, covering the first half of 2008, will be released no later than 30 November 2008.

### III. Statistical tables

Table 1  
**The global OTC derivatives market<sup>1</sup>**  
 Amounts outstanding in billions of US dollars

	Notional amounts outstanding				Gross market values			
	Jun 2006	Dec 2006	Jun 2007	Dec 2007	Jun 2006	Dec 2006	Jun 2007	Dec 2007
<b>GRAND TOTAL (including CDSs)</b>	<b>370,178</b>	<b>414,845</b>	<b>516,407</b>	<b>596,004</b>	<b>9,949</b>	<b>9,691</b>	<b>11,140</b>	<b>14,522</b>
<b>A. Foreign exchange contracts</b>	<b>38,127</b>	<b>40,271</b>	<b>48,645</b>	<b>56,238</b>	<b>1,136</b>	<b>1,266</b>	<b>1,345</b>	<b>1,807</b>
Outright forwards and forex swaps	19,407	19,882	24,530	29,144	436	469	492	675
Currency swaps	9,696	10,792	12,312	14,347	535	601	619	817
Options	9,024	9,597	11,804	12,748	165	196	235	315
<i>Memo: Exchange-traded contracts<sup>2</sup></i>	181	240	303	291				
<b>B. Interest rate contracts<sup>3</sup></b>	<b>262,526</b>	<b>291,582</b>	<b>347,312</b>	<b>393,138</b>	<b>5,445</b>	<b>4,826</b>	<b>6,063</b>	<b>7,177</b>
FRAs	18,117	18,668	22,809	26,599	25	32	43	41
Swaps	207,588	229,693	272,216	309,588	4,840	4,163	5,321	6,183
Options	36,821	43,221	52,288	56,951	580	631	700	953
<i>Memo: Exchange-traded contracts<sup>2</sup></i>	76,829	62,593	86,150	71,051				
<b>C. Equity-linked contracts</b>	<b>6,782</b>	<b>7,488</b>	<b>8,590</b>	<b>8,509</b>	<b>671</b>	<b>853</b>	<b>1,116</b>	<b>1,142</b>
Forwards and swaps	1,430	1,767	2,470	2,233	147	166	240	239
Options	5,351	5,720	6,119	6,276	523	686	876	903
<i>Memo: Exchange-traded contracts<sup>2</sup></i>	7,388	7,611	10,249	9,239				
<b>D. Commodity contracts<sup>4</sup></b>	<b>6,394</b>	<b>7,115</b>	<b>7,567</b>	<b>9,000</b>	<b>718</b>	<b>667</b>	<b>636</b>	<b>753</b>
Gold	456	640	426	595	77	56	47	70
Other	5,938	6,475	7,141	8,405	641	611	589	683
Forwards and swaps	2,188	2,813	3,447	5,629				
Options	3,750	3,663	3,694	2,776				
<b>E. Credit default swaps<sup>5</sup></b>	<b>20,352</b>	<b>28,650</b>	<b>42,580</b>	<b>57,894</b>	<b>294</b>	<b>470</b>	<b>721</b>	<b>2,002</b>
Single-name instruments	13,873	17,879	24,239	32,246	186	278	406	1,143
Multi-name instruments	6,479	10,771	18,341	25,648	109	192	315	859
<b>F. Unallocated<sup>6</sup></b>	<b>35,997</b>	<b>39,740</b>	<b>61,713</b>	<b>71,225</b>	<b>1,685</b>	<b>1,609</b>	<b>1,259</b>	<b>1,642</b>
<b>GROSS CREDIT EXPOSURE<sup>7</sup></b>					<b>2,032</b>	<b>2,036</b>	<b>2,672</b>	<b>3,256</b>
<i>Memo: Exchange-traded contracts<sup>2,8</sup></i>	84,398	70,444	96,703	80,581				

<sup>1</sup> 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. <sup>2</sup> Sources: FOW TRADEdata; Futures Industry Association; various futures and options exchanges. <sup>3</sup> Single currency contracts only. <sup>4</sup> Adjustments for double-counting partly estimated. <sup>5</sup> See Tables 4 and 5. <sup>6</sup> 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. <sup>7</sup> Gross market values after taking into account legally enforceable bilateral netting agreements. Excludes CDS contracts for all countries except for the United States. <sup>8</sup> Excludes commodity contracts.

Table 2  
**The global OTC foreign exchange derivatives market<sup>1,2</sup>**

Amounts outstanding in billions of US dollars

	Notional amounts outstanding				Gross market values			
	Jun 2006	Dec 2006	Jun 2007	Dec 2007	Jun 2006	Dec 2006	Jun 2007	Dec 2007
<b>Total contracts</b>	<b>38,127</b>	<b>40,271</b>	<b>48,645</b>	<b>56,238</b>	<b>1,136</b>	<b>1,266</b>	<b>1,345</b>	<b>1,807</b>
With reporting dealers	15,306	15,532	19,173	21,334	368	438	455	594
With other financial institutions	15,123	16,023	19,144	24,154	471	521	557	801
With non-financial customers	7,698	8,716	10,329	10,751	297	307	333	412
Up to 1 year <sup>3</sup>	29,579	30,270	36,950	40,316				
Between 1 and 5 years <sup>3</sup>	5,851	6,702	8,090	8,553				
Over 5 years <sup>3</sup>	2,697	3,299	3,606	7,370				
US dollar	31,791	33,755	40,513	46,947	969	1,069	1,112	1,471
Euro	15,344	16,037	18,280	21,806	472	509	455	790
Japanese yen	9,536	9,490	10,602	12,857	243	325	389	371
Pound sterling	5,217	6,135	7,770	7,979	148	197	174	260
Swiss franc	2,096	2,311	3,056	3,662	50	49	54	91
Canadian dollar	1,674	1,768	2,239	2,404	75	68	106	134
Swedish krona	1,172	1,220	1,390	1,525	31	33	23	29
Other	9,424	9,825	13,440	15,297	283	282	377	470
<i>Memo: Exchange-traded contracts<sup>4</sup></i>	<i>181</i>	<i>240</i>	<i>303</i>	<i>291</i>				

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

Table 3  
**The global OTC interest rate derivatives market<sup>1</sup>**

Amounts outstanding in billions of US dollars

	Notional amounts outstanding				Gross market values			
	Jun 2006	Dec 2006	Jun 2007	Dec 2007	Jun 2006	Dec 2006	Jun 2007	Dec 2007
<b>Total contracts</b>	<b>262,526</b>	<b>291,582</b>	<b>347,312</b>	<b>393,138</b>	<b>5,445</b>	<b>4,826</b>	<b>6,063</b>	<b>7,177</b>
With reporting dealers	114,826	127,432	148,555	157,245	2,221	1,973	2,375	2,774
With other financial institutions	114,930	125,708	153,370	184,396	2,516	2,223	2,946	3,523
With non-financial customers	32,770	38,441	45,387	51,497	708	630	742	879
Up to 1 year <sup>2</sup>	90,755	104,098	132,402	127,601				
Between 1 and 5 years <sup>2</sup>	101,909	110,314	125,700	134,713				
Over 5 years <sup>2</sup>	69,861	77,170	89,210	130,824				
US dollar	88,115	97,430	114,371	129,756	2,120	1,661	1,851	3,219
Euro	103,461	111,791	127,648	146,082	2,299	2,300	2,846	2,688
Japanese yen	32,581	38,113	48,035	53,099	463	297	364	401
Pound sterling	19,071	22,238	27,676	28,390	291	311	627	430
Swiss franc	3,647	3,543	3,921	4,101	46	34	52	42
Canadian dollar	2,047	2,125	2,828	3,014	38	31	43	37
Swedish krona	3,452	3,594	5,155	5,176	38	32	48	43
Other	10,152	12,747	17,678	23,520	150	160	232	317
<i>Memo: Exchange-traded contracts<sup>3</sup></i>	<i>76,829</i>	<i>62,593</i>	<i>86,150</i>	<i>71,051</i>				

<sup>1</sup> See footnote 1 to Table 1. <sup>2</sup> Residual maturity. <sup>3</sup> See footnote 2 to Table 1.

Table 4

**Credit default swaps market<sup>1</sup>**

Amounts outstanding in billions of US dollars

	Notional amounts outstanding									Gross market values		
	December 2006			June 2007			December 2007			Dec 2006	Jun 2007	Dec 2007
	Bought	Sold	Total	Bought	Sold	Total	Bought	Sold	Total			
<b>Total CDS contracts</b>	<b>22,571</b>	<b>22,372</b>	<b>28,650</b>	<b>32,979</b>	<b>32,917</b>	<b>42,580</b>	<b>44,298</b>	<b>45,626</b>	<b>57,894</b>	<b>470</b>	<b>721</b>	<b>2,002</b>
With reporting dealers	16,230	16,355	16,292	23,285	23,346	23,316	31,387	32,673	32,030	244	358	938
With other financial institutions	5,779	5,488	11,267	9,232	9,152	18,383	12,423	12,562	24,985	199	336	1,003
Banks and securities firms	2,745	2,577	5,322	4,855	4,737	9,592	6,768	7,081	13,849	80	148	482
Insurance firms	211	95	306	244	88	331	319	166	485	2	3	18
Other	2,823	2,816	5,639	4,133	4,326	8,460	5,336	5,315	10,651	116	185	503
With non-financial customers	561	530	1,091	462	420	882	489	390	879	27	27	60
Up to 1 year	1,966	1,876	2,336	2,338	2,244	2,867	2,575	2,482	3,130	–	–	–
Between 1 and 5 years	13,251	13,366	16,877	18,953	19,111	24,353	27,640	28,693	35,954	–	–	–
Over 5 years	7,353	7,131	9,437	11,687	11,562	15,361	14,084	14,451	18,810	–	–	–
Single-name instruments <sup>2</sup>	13,727	13,633	17,879	18,543	18,020	24,239	24,554	24,740	32,246	278	406	1,143
Multi-name instruments	8,844	8,740	10,771	14,436	14,897	18,341	19,745	20,885	25,648	192	315	859

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

Table 5  
**Credit default swaps market<sup>1</sup>**  
**Single-name instruments**

Amounts outstanding in billions of US dollars

	Notional amounts outstanding									Gross market values		
	December 2006			June 2007			December 2007			Dec 2006	Jun 2007	Dec 2007
	Bought	Sold	Total	Bought	Sold	Total	Bought	Sold	Total			
<b>Total single-name instruments</b>	<b>13,727</b>	<b>13,633</b>	<b>17,879</b>	<b>18,543</b>	<b>18,020</b>	<b>24,239</b>	<b>24,554</b>	<b>24,740</b>	<b>32,246</b>	<b>278</b>	<b>406</b>	<b>1,143</b>
With reporting dealers	9,504	9,455	9,480	12,555	12,092	12,324	16,916	17,181	17,049	142	198	485
With other financial institutions	3,942	3,892	7,834	5,650	5,599	11,249	7,284	7,246	14,530	127	196	628
Banks and securities firms	1,612	1,519	3,131	2,877	2,641	5,518	3,883	3,853	7,736	43	84	313
Insurance firms	107	55	162	116	52	168	166	99	264	1	2	13
Other	2,223	2,317	4,540	2,657	2,906	5,563	3,235	3,294	6,529	83	111	301
With non-financial customers	280	286	566	338	329	667	354	314	667	9	12	30
Up to 1 year	1,201	1,065	1,444	1,530	1,408	1,893	1,590	1,512	2,003	–	–	–
Between 1 and 5 years	8,508	8,669	11,101	11,200	11,179	14,566	16,033	16,397	20,896	–	–	–
Over 5 years	4,018	3,898	5,334	5,812	5,432	7,780	6,931	6,831	9,346	–	–	–
Sovereigns	868	774	1,101	1,276	995	1,490	1,410	1,390	1,798	–	–	–
Non-sovereigns	12,859	12,859	16,778	17,322	17,026	22,778	23,144	23,350	30,448	–	–	–
Investment grade	8,206	8,143	10,529	11,934	11,806	15,685	15,249	16,071	20,659	–	–	–
Below investment grade	1,895	1,941	2,481	2,417	2,427	3,248	3,751	3,716	5,011	–	–	–
Non-rated	3,625	3,548	4,870	4,192	3,788	5,307	5,553	4,954	6,576	–	–	–

<sup>1</sup> Data on total CDS and gross market values are shown on a net basis. Data on CDSs 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

Currency	Contract type	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04	Jun 05	Dec 05	Jun 06	Dec 06	Jun 07	Dec 07
CAD	Forward rate agreements	1,373	1,418	1,452	1,347	1,812	1,556	1,818	1,530	1,522	1,965	1,741	1,659	1,649	1,670	1,499	1,164	1,122
	Interest rate swaps	800	856	876	874	1,044	1,044	1,047	1,041	1,039	1,048	973	1,000	1,017	1,018	1,020	987	985
	Options	1,340	1,458	1,791	1,621	1,702	1,682	2,112	2,161	2,226	2,313	2,697	2,955	3,052	2,703	2,951	2,978	2,962
CHF	Forward rate agreements	1,317	1,421	1,274	1,264	1,252	1,234	1,218	1,264	1,269	1,169	1,222	1,158	1,630	1,698	1,919	2,043	2,032
	Interest rate swaps	643	655	688	678	788	824	846	896	852	797	807	936	1,015	1,080	1,149	1,150	1,162
	Options	1,154	1,432	2,439	1,239	1,228	1,461	1,693	1,684	1,616	1,796	1,292	1,508	1,584	1,395	1,200	1,045	948
EUR	Forward rate agreements	937	851	1,107	936	740	556	571	539	639	670	597	631	667	690	783	812	709
	Interest rate swaps	522	511	500	486	524	478	492	481	478	473	481	479	484	502	561	623	596
	Options	578	530	565	559	584	561	546	608	591	675	607	567	539	533	567	604	596
GBP	Forward rate agreements	641	614	728	693	638	605	610	607	1,095	930	923	855	1,210	1,083	1,023	1,120	1,066
	Interest rate swaps	444	429	448	438	476	489	515	544	565	594	578	614	661	707	692	736	765
	Options	686	677	662	648	727	648	615	643	666	747	1,452	1,288	905	957	915	806	777
JPY	Forward rate agreements	932	1,014	1,109	1,937	1,758	1,763	1,942	1,972	1,647	1,308	1,852	2,565	3,025	3,280	3,468	2,569	2,302
	Interest rate swaps	528	545	585	613	706	779	790	806	744	728	693	664	635	618	624	679	673
	Options	596	715	791	708	1,217	1,202	1,624	1,223	1,065	978	739	781	793	829	769	801	745
SEK	Forward rate agreements	914	936	957	1,125	1,002	944	886	839	947	965	861	811	767	847	1,068	1,096	1,242
	Interest rate swaps	601	586	640	592	608	532	569	561	570	583	583	564	571	586	594	628	660
	Options	987	1,036	1,076	989	1,081	1,149	1,224	1,174	1,230	1,137	995	1,077	1,259	1,431	1,638	1,945	2,337
USD	Forward rate agreements	710	755	879	888	1,145	907	1,042	901	786	725	645	652	690	788	918	850	967
	Interest rate swaps	490	500	528	529	730	666	682	701	672	626	673	650	691	680	680	687	698
	Options	734	782	819	764	1,143	1,044	1,038	961	877	847	767	756	762	816	830	865	982



Table 6b

**Herfindahl indices for all OTC foreign exchange derivatives contracts**

Contract type	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04	Jun 05	Dec 05	Jun 06	Dec 06	Jun 07	Dec 07
<b>Forwards, forex swaps and currency swaps</b>	413	423	423	416	471	427	434	438	429	442	446	440	464	475	483	487	497
<b>Options</b>	544	507	528	546	564	518	503	498	605	560	605	591	624	606	569	558	570

Table 6c

**Herfindahl indices for all OTC equity-linked derivatives contracts**

Region	Contract type	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04	Jun 05	Dec 05	Jun 06	Dec 06	Jun 07	Dec 07
<b>Europe</b>	<b>Forwards and swaps</b>	787	618	750	693	733	770	762	768	698	611	631	598	652	616	690	785	738
	<b>Options</b>	613	657	779	891	880	952	791	985	1,013	1,195	659	662	615	689	780	722	675
<b>Japan</b>	<b>Forwards and swaps</b>	3,416	2,501	2,043	1,461	2,005	1,822	1,946	1,854	3,106	1,984	1,734	2,056	2,292	1,326	1,205	1,073	1,308
	<b>Options</b>	1,102	1,018	1,386	860	841	1,072	1,132	2,322	1,718	2,553	1,203	893	3,953	3,405	3,078	2,551	1,267
<b>Latin America</b>	<b>Forwards and swaps</b>	9,274	6,881	5,015	5,163	6,063	7,546	7,281	8,839	3,808	3,732	4,243	6,953	7,039	6,704	7,199	7,876	7,420
	<b>Options</b>	4,330	6,776	6,703	4,353	8,084	7,585	4,807	9,332	6,432	6,304	4,029	4,427	5,790	3,918	3,902	3,735	4,415
<b>Other Asia</b>	<b>Forwards and swaps</b>	3,606	5,119	1,663	1,631	5,294	6,086	1,677	3,197	2,233	2,010	1,536	1,355	1,334	1,294	1,066	1,343	1,350
	<b>Options</b>	2,341	1,586	1,600	1,188	1,447	1,550	1,675	1,894	5,464	5,435	1,674	1,177	5,566	5,536	5,615	4,968	2,882
<b>United States</b>	<b>Forwards and swaps</b>	1,895	1,088	1,132	1,048	1,070	1,174	1,037	964	1,040	855	849	722	947	941	1,487	1,578	803
	<b>Options</b>	1,275	749	759	663	751	890	665	793	1,031	836	915	725	787	1,402	752	802	755

Table 6d

Herfindahl indices for OTC interest rate derivatives contracts between reporters<sup>1</sup>

Currency	Contract type	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04	Jun 05	Dec 05	Jun 06	Dec 06	Jun 07	Dec 07
CAD	Forward rate agreements	1,707	1,594	1,876	1,365	2,266	1,992	2,325	2,000	1,814	2,118	2,218	1,815	1,979	1,698	1,687	1,246	1,088
	Interest rate swaps	834	876	910	818	1,008	949	893	974	1,018	1,008	1,045	938	978	996	1,007	952	945
	Options	1,341	1,212	1,622	1,558	1,474	1,720	2,426	2,695	2,811	2,722	3,135	2,333	2,659	2,686	2,738	2,741	2,578
CHF	Forward rate agreements	1,480	1,505	1,256	1,211	1,270	1,262	1,594	1,606	1,475	1,348	1,401	1,244	1,710	1,813	2,321	2,086	2,183
	Interest rate swaps	701	724	708	705	822	854	890	835	833	800	815	932	1,043	1,169	1,229	1,218	1,176
	Options	1,371	1,495	1,186	1,350	1,041	1,220	1,441	1,487	1,347	1,691	1,634	1,223	1,214	1,296	1,034	901	935
EUR	Forward rate agreements	961	956	1,071	954	727	540	547	555	540	506	576	661	679	707	820	701	637
	Interest rate swaps	549	543	530	506	571	503	505	474	478	474	470	483	496	516	517	512	542
	Options	583	584	619	618	642	636	558	600	575	605	649	556	547	557	581	616	669
GBP	Forward rate agreements	736	666	788	769	697	647	648	576	746	1,012	939	977	1,180	1,090	1,024	936	1,003
	Interest rate swaps	456	427	468	458	490	497	550	522	547	723	691	695	751	757	707	729	799
	Options	928	886	795	826	828	786	685	670	661	721	845	842	870	908	892	801	832
JPY	Forward rate agreements	973	1,073	1,386	2,319	2,194	2,095	2,316	2,379	1,803	1,463	2,291	3,163	3,447	3,841	3,662	2,354	2,853
	Interest rate swaps	568	600	629	691	801	866	895	935	894	843	792	749	706	666	651	710	731
	Options	795	822	876	803	1,381	1,665	1,749	1,423	1,383	1,158	855	871	903	888	833	975	814
SEK	Forward rate agreements	862	964	939	1,279	979	962	938	970	1,211	1,125	996	902	769	771	892	918	1,131
	Interest rate swaps	617	607	662	601	623	530	570	569	602	651	664	641	650	658	656	676	744
	Options	859	969	900	857	898	1,143	1,148	1,101	1,232	1,111	1,098	1,036	1,265	1,830	1,392	1,504	2,278
USD	Forward rate agreements	757	932	894	934	1,046	1,070	1,440	1,142	978	791	625	604	703	782	878	825	916
	Interest rate swaps	508	533	562	577	784	719	757	757	751	678	716	682	729	698	686	673	694
	Options	822	858	931	832	1,111	1,239	1,144	991	899	820	770	783	807	980	884	890	767

<sup>1</sup> 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 6e

**Herfindahl indices for OTC foreign exchange derivatives contracts between reporters<sup>1</sup>**

Contract type	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04	Jun 05	Dec 05	Jun 06	Dec 06	Jun 07	Dec 07
<b>Forwards, forex swaps and currency swaps</b>	425	437	430	411	464	444	452	478	463	499	491	493	534	534	525	517	544
<b>Options</b>	543	550	558	496	614	526	512	538	518	683	700	635	706	657	602	588	634

<sup>1</sup> 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 6f

**Herfindahl indices for OTC equity-linked derivatives contracts between reporters<sup>1</sup>**

Region	Contract type	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04	Jun 05	Dec 05	Jun 06	Dec 06	Jun 07	Dec 07
<b>Europe</b>	<b>Forwards and swaps</b>	883	694	938	948	859	840	753	639	705	582	670	619	760	569	708	865	1,074
	<b>Options</b>	750	943	874	834	912	737	728	655	676	697	715	748	780	838	878	766	759
<b>Japan</b>	<b>Forwards and swaps</b>	2,539	3,614	5,209	2,844	2,541	3,220	2,435	2,225	2,789	1,275	2,367	2,027	1,689	1,355	1,562	1,449	1,863
	<b>Options</b>	1,316	1,288	1,758	908	924	1,137	968	2,433	1,698	1,127	1,102	838	5,054	3,604	2,161	1,139	1,061
<b>Latin America</b>	<b>Forwards and swaps</b>	8,613	4,116	5,115	10,000	10,000	6,242	4,863	5,556	6,932	3,851	3,284	3,387	5,729	7,743	5,273	6,676	7,056
	<b>Options</b>	6,936	7,398	3,433	3,613	4,273	4,772	8,724	3,090	7,515	5,133	4,587	5,707	9,957	1,784	3,253	3,744	2,948
<b>Other Asia</b>	<b>Forwards and swaps</b>	6,097	7,915	3,550	4,962	9,879	9,740	5,494	7,022	5,918	3,675	2,467	2,482	2,062	1,924	1,189	1,819	2,114
	<b>Options</b>	5,268	2,502	1,604	2,152	2,120	3,290	3,678	3,520	3,166	2,526	874	1,000	995	873	931	982	991
<b>United States</b>	<b>Forwards and swaps</b>	1,049	850	1,136	2,424	1,315	2,542	1,632	708	889	800	931	870	787	630	1,118	1,174	879
	<b>Options</b>	1,796	975	1,020	753	783	765	951	1,555	668	774	762	803	851	1,316	908	881	765

<sup>1</sup> 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 6g

Herfindahl indices for OTC interest rate derivatives contracts between reporters<sup>1</sup> and non-reporters

Currency	Contract type	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04	Jun 05	Dec 05	Jun 06	Dec 06	Jun 07	Dec 07
CAD	Forward rate agreements	1,613	1,567	1,412	2,114	2,003	1,681	1,991	1,681	2,079	2,092	1,773	1,978	1,448	2,003	1,656	1,144	1,811
	Interest rate swaps	982	1,050	1,050	1,167	1,495	1,568	1,631	1,374	1,366	1,423	1,276	1,235	1,220	1,177	1,157	1,159	1,158
	Options	1,589	1,963	2,065	1,917	2,111	1,996	2,451	2,174	2,269	2,448	2,632	3,559	3,339	2,763	3,164	3,563	3,137
CHF	Forward rate agreements	1,063	1,961	1,638	1,639	2,171	2,250	2,079	1,933	1,990	2,049	1,371	1,490	1,907	1,744	3,516	2,011	1,737
	Interest rate swaps	763	741	725	703	951	1,082	1,099	1,261	1,035	1,026	1,099	1,074	1,125	1,086	1,184	1,208	1,248
	Options	928	1,361	4,531	1,147	2,146	2,061	2,254	2,354	2,140	1,929	1,496	1,943	2,054	1,839	1,631	1,598	1,498
EUR	Forward rate agreements	999	1,294	1,449	1,032	1,040	831	931	814	1,209	1,295	876	859	891	959	1,026	1,467	1,759
	Interest rate swaps	597	557	513	515	540	529	559	563	551	565	656	545	556	568	680	852	779
	Options	973	615	541	543	578	499	607	707	684	861	943	716	632	583	670	697	798
GBP	Forward rate agreements	754	735	884	683	797	773	879	1,247	2,928	881	1,203	1,158	1,693	1,741	1,447	2,149	2,995
	Interest rate swaps	503	541	503	489	562	599	604	669	685	546	583	602	687	756	765	824	904
	Options	634	689	717	704	766	772	719	797	781	946	2,809	2,907	1,127	1,282	1,135	951	1,409
JPY	Forward rate agreements	3,055	3,153	2,502	3,915	4,132	4,983	3,782	2,431	2,105	1,692	1,395	1,503	1,409	1,581	2,406	4,351	1,893
	Interest rate swaps	592	571	632	575	625	717	739	767	762	807	1,077	775	775	742	720	790	822
	Options	688	729	759	656	1,009	946	1,402	911	802	1,008	1,275	670	732	898	870	1,106	1,716
SEK	Forward rate agreements	1,535	1,340	1,341	2,073	1,771	1,849	1,690	916	879	980	908	1,097	1,174	1,459	2,006	1,737	1,852
	Interest rate swaps	799	760	784	716	771	751	717	707	638	662	879	572	611	660	706	845	857
	Options	1,398	1,260	1,444	1,209	1,379	1,221	1,339	1,330	1,327	1,322	1,104	1,187	1,531	2,240	2,034	2,429	2,531
USD	Forward rate agreements	883	805	1,338	1,395	1,978	1,089	1,319	1,265	859	813	917	923	928	1,001	1,406	1,132	1,289
	Interest rate swaps	558	545	574	538	731	694	683	725	674	661	871	702	747	757	760	795	844
	Options	756	815	814	792	1,275	1,058	1,018	1,030	915	937	933	770	751	718	857	940	1,745

<sup>1</sup> 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 6h

Herfindahl indices for OTC foreign exchange derivatives contracts between reporters<sup>1</sup> and non-reporters

Contract type	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04	Jun 05	Dec 05	Jun 06	Dec 06	Jun 07	Dec 07
<b>Forwards, forex swaps and currency swaps</b>	432	438	444	453	516	469	468	460	443	445	518	454	461	475	487	495	533
<b>Options</b>	646	566	576	646	675	638	603	592	995	670	638	672	642	658	631	634	673

<sup>1</sup> 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 6i

Herfindahl indices for OTC equity-linked derivatives contracts between reporters<sup>1</sup> and non-reporters

Region	Contract type	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01	Jun 02	Dec 02	Jun 03	Dec 03	Jun 04	Dec 04	Jun 05	Dec 05	Jun 06	Dec 06	Jun 07	Dec 07
<b>Europe</b>	<b>Forwards and swaps</b>	900	706	841	733	831	824	947	984	857	879	761	837	767	803	748	822	603
	<b>Options</b>	945	743	1,312	1,962	1,541	2,235	1,327	1,788	1,863	2,227	832	794	814	727	1,140	1,073	965
<b>Japan</b>	<b>Forwards and swaps</b>	4,186	2,616	2,359	1,924	2,494	2,059	2,458	2,910	5,520	3,114	2,209	2,330	3,014	1,942	1,645	1,582	1,316
	<b>Options</b>	1,909	1,822	918	1,412	1,108	1,096	2,110	2,132	1,988	4,446	1,932	1,583	2,080	3,004	4,896	5,244	2,612
<b>Latin America</b>	<b>Forwards and swaps</b>	9,277	6,919	5,051	5,524	6,324	7,932	7,526	8,863	4,353	3,839	4,681	7,270	7,122	6,857	7,330	8,167	7,603
	<b>Options</b>	4,538	7,794	6,875	4,945	8,829	8,324	9,561	9,622	7,604	6,678	4,072	4,623	5,481	3,971	3,953	3,842	4,487
<b>Other Asia</b>	<b>Forwards and swaps</b>	2,677	3,734	1,645	1,848	1,676	2,256	2,088	1,273	1,485	1,536	1,667	1,313	1,431	1,240	1,189	1,549	1,483
	<b>Options</b>	1,527	1,346	1,702	1,146	1,352	1,059	2,443	2,454	6,074	6,013	2,207	1,616	6,399	7,622	7,309	7,108	5,167
<b>United States</b>	<b>Forwards and swaps</b>	2,277	1,290	1,228	1,321	1,288	1,390	1,229	1,265	1,419	1,276	1,246	929	1,187	1,273	1,709	1,870	1,028
	<b>Options</b>	1,774	884	1,023	851	955	1,212	812	809	1,457	1,063	1,213	852	962	1,570	900	924	861

<sup>1</sup> 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.