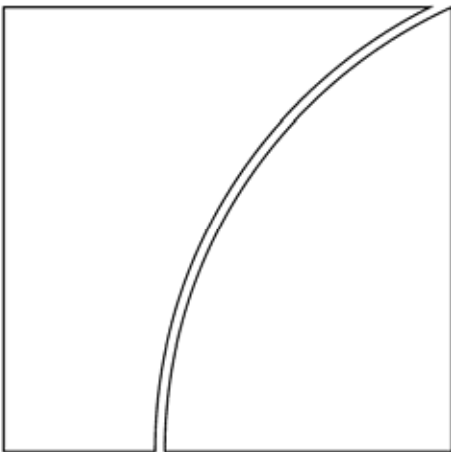




BANK FOR INTERNATIONAL SETTLEMENTS

Monetary and Economic  
Department

OTC derivatives market activity  
in the first half of 2006



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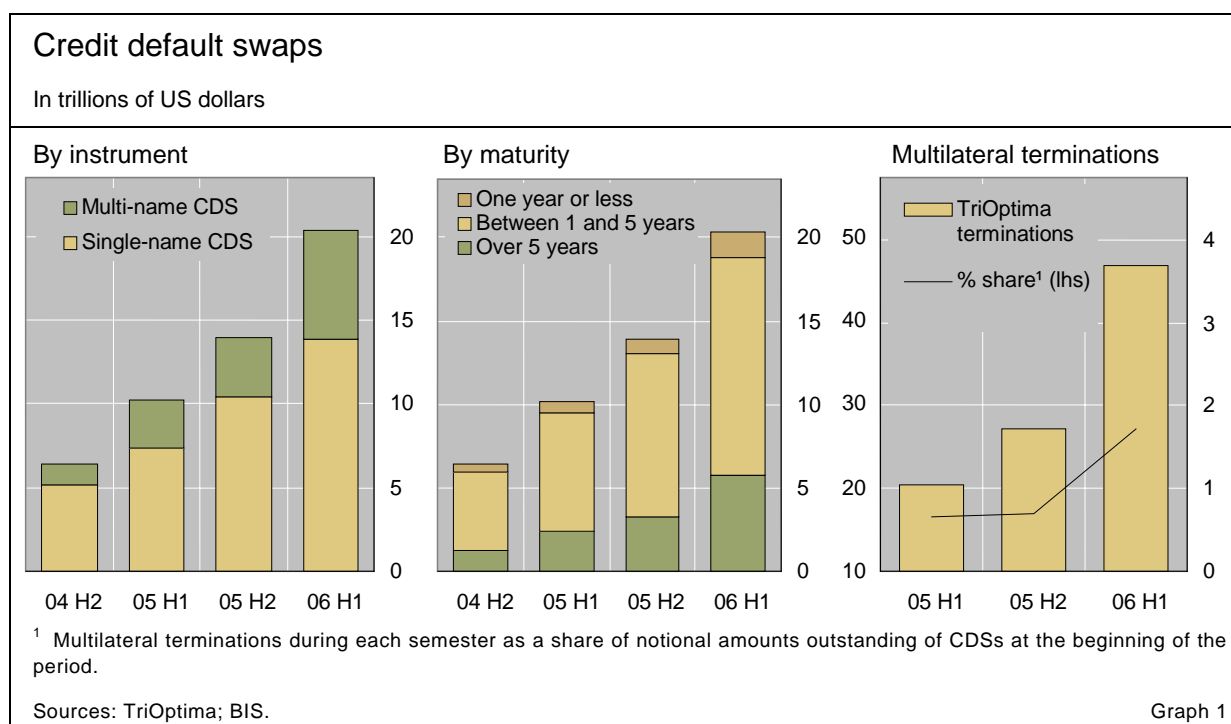


## I. Market developments in the first half of 2006

The volumes outstanding of over-the-counter derivatives expanded at a brisk pace in the first half of 2006. Notional amounts of all types of OTC contracts stood at \$370 trillion at the end of June, 24% higher than six months before (Table 1).<sup>1</sup> Growth was particularly strong in the credit segment, where the notional amounts of outstanding credit default swaps (CDS) increased by 46%. Rapid growth was also recorded in other market segments. Open positions in interest rate derivatives rose by 24%, while those in FX contracts expanded by 22%. Equity and commodity contracts grew at 17% and 18%, respectively. Gross market values, which measure the cost of replacing all existing contracts and thus represent a better measure of market risk at a given point in time than notional amounts, increased by 3% to \$10 trillion at the end of June 2006.

### 1. Rapid growth in credit default swaps

Growth in the market for credit default swaps (CDSs) accelerated to 46% in the first half of 2006, up from 36% during the previous months (Graph 1 and Table 4). The rate of growth would have been even higher had it not been for an increase in the number of early terminations of such contracts. Multilateral terminations have had a substantial effect on the size of the CDS market.<sup>2</sup> In the first half of 2006, contracts totalling almost \$4 trillion were terminated, which shaved nearly 30 percentage points from the rate of growth in that market. The corresponding figures in previous semesters were below 20 percentage points.



<sup>1</sup> In contrast to previous releases of the OTC derivatives data, the total includes credit default swaps (CDSs). The notional amount outstanding of OTC contracts excluding CDSs increased by 23% in the first half of 2006, to \$350 trillion at the end of June. All growth rates refer to changes over the previous six months.

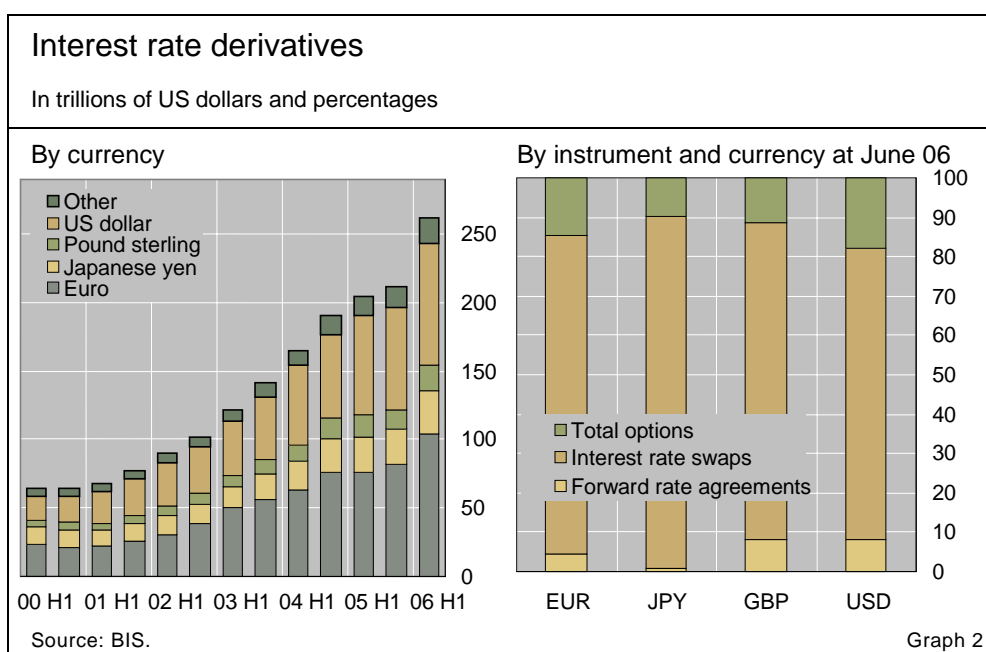
<sup>2</sup> The private firm TriOptima has been offering multilateral termination services to OTC derivatives dealers since the beginning of 2003, first for interest rate swaps and later for CDSs. A termination cycle consists of two steps. Dealers first provide TriOptima with contract-by-contract information on their derivatives positions. The firm then checks whether each individual contract is reported by both counterparties with identical terms. In a second step, it computes a set of bilateral contracts between participants that provides the same net exposures but lower gross exposures.

The rate of increase was particularly strong in multi-name CDSs, a category that includes index tranches. The notional amount of such instruments expanded by 86% in the first six months of 2006 to \$6.5 trillion, while those of single-name CDS increased by just under one third to \$13.9 trillion.

Activity in the CDS market has become more evenly spread across the maturity spectrum. Although most CDSs continue to fall into the maturity bracket ranging from one year to five years, growth was much stronger in the short- and long-term segments of the market. The notional amounts of CDSs with a maturity of less than one year increased by 83%, while those of instruments expiring in more than five years rose by 79%. The growth in the nearer-term segment may be explained in part by older contracts approaching expiry, whereas the sharp increase in long-term CDSs points to increasing liquidity at the far end of the maturity spectrum.

## 2. Brisk growth in interest rate products

Growth in the market for OTC interest rate derivatives accelerated in the first half of 2006 after more moderate rates of increase in the previous year. Notional amounts of these instruments reached \$262 trillion at the end of June 2006, 24% higher than six months before (Graph 2 and Table 3). Gross market values of OTC interest rate derivatives remained stable at \$5.5 trillion, despite sharp movements in interest rates and bond yields in most currencies. Replacement values of OTC interest rate contracts account for approximately one half of the gross market values of all risk categories combined, which is substantially below their 71% share when market size is measured in terms of notional amounts.



While growth remained strong in all major currencies, positions in euro-denominated products increased at a faster rate (27%) than those in dollar-denominated contracts (18%). Strong growth was also recorded in contracts in Japanese yen and pounds sterling, whose notional amounts expanded by 26% and 27%, respectively. However, at \$32 and \$19 trillion respectively, the yen and sterling segments remain considerably smaller than those of the euro or the US dollar (\$104 and \$88 trillion, respectively).

The high growth in euro contracts was concentrated in interest rate swaps (28%) and options (29%), while the volume of forward rate agreements (FRAs) rose at a lower rate (12%). At less than 5%, the share of these instruments in the euro total is considerably lower than the

corresponding figures for the dollar or sterling markets, where FRAs account for more than 8% of all interest rate contracts. In the dollar market, FRAs and interest rate options grew at a higher pace (25% and 24%, respectively) than swaps (16%). Since swaps account for the bulk of interest rate derivatives in any major currency, this might explain the somewhat lower growth in positions in the dollar market relative to the other reserve currencies.

In the yen market, the prospect of the first rate hike in years by the Bank of Japan led to the resurgence of the FRA market, since these instruments allow market participants to take relatively precise positions on the path of future short-term interest rates. However, although the notional amounts of yen-denominated FRAs increased by 58% in the first half of 2006, at \$0.3 trillion this market segment remains rather small, accounting for less than 1% of the yen total. There also appears to be a growing market for yen-denominated swaps on overnight interest rates, although the data unfortunately do not allow these instruments to be disentangled from swaps on other rates.

### **3. Robust activity in FX derivatives**

Notional amounts of foreign exchange derivatives increased by 22% to \$38 trillion, while gross market values rose by 14% to \$1.1 trillion, close to the level attained 12 months before (Table 2). Growth in the notional amounts of FX options (29%) outpaced the change in the volumes of currency swaps (14%). Forwards, which account for roughly half of total OTC FX derivatives when measured in terms of notional amounts, grew in line with the market total. There were no significant changes in the currency composition of FX derivatives. The dollar remained the most important vehicle currency, well ahead of the euro. Eighty-three per cent of all contracts (measured by notional amounts) had one leg denominated in US dollars, compared to 40% for the euro and 25% for the Japanese yen.

### **4. Slowing growth in commodity contracts**

Notional amounts of OTC commodity derivatives increased by a solid 18% in the first half of 2006 to \$6.4 trillion. Contracts on gold and other precious metals expanded by 36% each, reaching \$0.5 trillion and \$0.1 trillion, respectively, at the end of June. Growth was weaker in other commodities, where notional amounts outstanding increased by 16% to \$5.9 trillion. The sharp movements in commodity prices recorded during the first half of 2006 had a substantial impact on the replacement value of commodity contracts, which fell by 18% to \$0.7 trillion.

Substantial data revisions for December 2005 make it impossible to compare the rate of growth in commodity derivatives to those that prevailed in the past. However, they indicate that the data for this product category are probably less reliable than those for financial contracts. In part, this may be due to the lack of integration of commodity desks with those for financial derivatives at some dealers, which complicates reporting. In addition, the sample of reporting dealers may be less representative for the commodities market than for other risk categories due to the presence of a distinct trader population.

### **5. Growth in equity derivatives weakens**

Growth in positions in OTC equity derivatives slowed to 17% in the first half of 2006, down from 27% recorded in the previous period. The notional amounts of OTC equity contracts stood at \$6.8 trillion at the end of June 2006, about one half of which was accounted for by contracts written on European stocks. The share of European equities is more than twice as high as that of US stocks, which contrasts with the higher capitalisation of US relative to European stock exchanges. However, the United States also has a considerably larger market for exchange-traded equity options than Europe, suggesting that many trades that in the United States would take place on an organised exchange are executed over the counter in Europe.

In contrast to the interest rate and FX segments of the OTC derivatives market, equities are dominated by options rather than forwards. Options account for almost four fifths of all contracts in terms of notional amounts, which is much higher than the 14% and 24% recorded in the interest rate and FX segments, respectively. The tenors of outstanding equity options lengthened considerably during the first half of 2006, as the notional amounts of contracts with a maturity of more than five years rose by 84% to \$0.4 trillion, while that of contracts of one year or less remained roughly stable at \$2.3 trillion.

## **6. Stable degree of concentration**

Concentration in the OTC derivatives market remained remarkably stable during the first half of 2006. The Herfindahl indices were lowest and most stable in the foreign exchange segment of the OTC derivatives market, followed by interest rate products. Concentration appears to have declined in forwards and swaps on European equities and, albeit from a very high level, in options on Latin American stocks. The latter is particularly noteworthy, as the decline in concentration coincided with a sharp fall in volume (-64%) of such contracts. By contrast, the Herfindahl index for options on US stocks increased and is now almost twice as high as that for options on European equities. Concentration measures for inter-dealer positions rose slightly in several segments of the fixed income market but decreased in equities. Again, the decline was particularly notable in options on Latin American stocks.



## 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 credit default swaps or credit default swap indices. A basket credit default swap 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 <http://www.bis.org/statistics/derstats.htm>

## **4. Next publication dates**

The next OTC derivatives statistics, covering the second half of 2006, will be released no later than 30 May 2006.

### 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 (total)			
	End- Dec 2004	End- Jun 2005	End- Dec 2005	End- Jun 2006	End- Dec 2004	End- Jun 2005	End- Dec 2005	End- Jun 2006
<b>GRAND TOTAL ( including credit default swaps - CDSs)</b>	<b>257,894</b>	<b>281,493</b>	<b>297,670</b>	<b>369,906</b>	<b>9,377</b>	<b>10,605</b>	<b>9,749</b>	<b>10,074</b>
<b>A. Foreign exchange contracts</b>	<b>29,289</b>	<b>31,081</b>	<b>31,364</b>	<b>38,111</b>	<b>1,546</b>	<b>1,141</b>	<b>997</b>	<b>1,134</b>
Outright forwards and forex swaps	14,951	15,801	15,873	19,415	643	464	406	436
Currency swaps	8,223	8,236	8,504	9,669	745	549	453	533
Options	6,115	7,045	6,987	9,027	158	129	138	166
<i>Memo: Exchange-traded contracts<sup>2</sup></i>	164	169	174	188				
<b>B. Interest rate contracts<sup>3</sup></b>	<b>190,502</b>	<b>204,795</b>	<b>211,970</b>	<b>262,296</b>	<b>5,417</b>	<b>6,699</b>	<b>5,397</b>	<b>5,549</b>
FRAs	12,789	13,973	14,269	18,117	22	31	22	25
Swaps	150,631	163,749	169,106	207,323	4,903	6,077	4,778	4,944
Options	27,082	27,072	28,596	36,856	492	592	597	579
<i>Memo: Exchange-traded contracts<sup>2</sup></i>	42,769	53,794	52,297	76,838				
<b>C. Equity-linked contracts</b>	<b>4,385</b>	<b>4,551</b>	<b>5,793</b>	<b>6,783</b>	<b>498</b>	<b>382</b>	<b>582</b>	<b>671</b>
Forwards and swaps	756	1,086	1,177	1,423	76	88	112	147
Options	3,629	3,464	4,617	5,361	422	294	470	523
<i>Memo: Exchange-traded contracts<sup>2</sup></i>	3,659	4,554	5,346	7,389				
<b>D. Commodity contracts<sup>4</sup></b>	<b>1,443</b>	<b>2,940</b>	<b>5,434</b>	<b>6,394</b>	<b>169</b>	<b>376</b>	<b>871</b>	<b>718</b>
Gold	369	288	334	456	32	24	51	77
Other	1,074	2,652	5,100	5,938	137	351	820	641
Forwards and swaps	558	1,748	1,909	2,186	0	0	0	0
Options	516	904	3,191	3,752	0	0	0	0
<b>E. Credit default swaps<sup>5</sup></b>	<b>6,396</b>	<b>10,211</b>	<b>13,908</b>	<b>20,352</b>	<b>133</b>	<b>188</b>	<b>243</b>	<b>294</b>
Single-name instruments	5,117	7,310	10,432	13,873	112	136	171	186
Multi-name instruments	1,279	2,901	3,476	6,479	22	52	71	109
<b>F. Unallocated<sup>6</sup></b>	<b>25,879</b>	<b>27,915</b>	<b>29,199</b>	<b>35,969</b>	<b>1,613</b>	<b>1,818</b>	<b>1,659</b>	<b>1,707</b>
<b>GROSS CREDIT EXPOSURE<sup>7</sup></b>					<b>2,075</b>	<b>1,897</b>	<b>1,900</b>	<b>2,032</b>
<i>Memo: Exchange-traded contracts<sup>2,8</sup></i>	46,592	58,517	57,816	84,415				

<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 and commodity derivatives of non-reporting institutions, based on the triennial central bank survey of foreign exchange and derivatives market activity. <sup>7</sup> Gross market values after taking into account legally enforceable bilateral netting agreements. <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 (total)			
	End-Dec 2004	End-Jun 2005	End-Dec 2005	End-Jun 2006	End-Dec 2004	End-Jun 2005	End-Dec 2005	End-Jun 2006
<b>Total contracts</b>	<b>29,289</b>	<b>31,081</b>	<b>31,364</b>	<b>38,111</b>	<b>1,546</b>	<b>1,141</b>	<b>997</b>	<b>1,134</b>
With reporting dealers	11,668	12,179	12,161	15,281	486	377	323	367
With other financial institutions	11,417	12,334	12,721	15,120	648	470	412	471
With non-financial customers	6,204	6,568	6,482	7,710	413	294	261	296
Up to 1 year <sup>3</sup>	22,834	24,256	23,910	29,578				
Between 1 and 5 years <sup>3</sup>	4,386	4,729	5,165	5,841				
Over 5 years <sup>3</sup>	2,069	2,097	2,289	2,692				
US dollar	25,726	27,584	26,297	31,771	1,408	1,024	867	967
Euro	11,900	12,404	12,857	15,348	752	512	397	472
Japanese yen	7,076	6,907	7,578	9,510	258	220	256	242
Pound sterling	4,331	4,273	4,424	5,219	220	150	121	148
Swiss franc	1,452	1,586	1,690	2,096	60	54	46	50
Canadian dollar	1,171	1,217	1,379	1,675	71	56	70	75
Swedish krona	957	1,039	1,067	1,172	41	48	24	31
Other	5,965	7,152	7,436	9,431	282	219	214	283
<i>Memo: Exchange-traded contracts<sup>4</sup></i>	<i>164</i>	<i>169</i>	<i>174</i>	<i>188</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 (total)			
	End-Dec 2004	End-Jun 2005	End-Dec 2005	End-Jun 2006	End-Dec 2004	End-Jun 2005	End-Dec 2005	End-Jun 2006
<b>Total contracts</b>	<b>190,502</b>	<b>204,795</b>	<b>211,970</b>	<b>262,296</b>	<b>5,417</b>	<b>6,699</b>	<b>5,397</b>	<b>5,549</b>
With reporting dealers	82,258	87,049	91,541	114,474	2,155	2,598	2,096	2,219
With other financial institutions	85,729	92,092	95,320	115,089	2,631	3,265	2,625	2,613
With non-financial customers	22,516	25,655	25,109	32,734	631	837	676	718
Up to 1 year <sup>2</sup>	62,659	66,681	69,378	90,582				
Between 1 and 5 years <sup>2</sup>	77,929	82,341	86,550	101,795				
Over 5 years <sup>2</sup>	49,915	55,773	56,042	69,918				
US dollar	61,103	72,558	74,441	88,094	1,535	1,826	1,515	2,149
Euro	76,161	76,426	81,442	103,607	2,986	3,692	2,965	2,358
Japanese yen	24,209	25,224	25,605	32,214	352	454	294	472
Pound sterling	15,289	16,621	15,060	19,079	240	372	344	296
Swiss franc	3,243	2,804	3,275	3,647	62	75	49	47
Canadian dollar	1,475	1,602	1,747	2,047	40	53	36	38
Swedish krona	2,213	2,222	2,551	3,452	48	63	41	38
Other	6,809	7,339	7,850	10,156	155	165	153	153
<i>Memo: Exchange-traded contracts<sup>3</sup></i>	<i>42,769</i>	<i>53,794</i>	<i>52,297</i>	<i>76,838</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		
	End-Jun 2005			End-Dec 2005			End-Jun 2006			End-Jun 2005	End-Dec 2005	End-Jun 2006
	bought	sold	Total	bought	sold	Total	bought	sold	Total			
<b>Total CDS contracts</b>	<b>7,659</b>	<b>7,405</b>	<b>10,211</b>	<b>10,672</b>	<b>10,174</b>	<b>13,908</b>	<b>15,729</b>	<b>15,232</b>	<b>20,352</b>	<b>188</b>	<b>243</b>	<b>294</b>
With reporting dealers	4,857	4,849	4,853	6,988	6,888	6,938	10,670	10,547	10,609	77	109	138
With other financial institutions	2,545	2,340	4,886	3,325	3,009	6,335	4,657	4,360	9,017	99	119	142
Banks and securities firms <sup>2</sup>				1,839	1,703	3,541	2,555	2,470	5,025		57	69
Insurance firms <sup>2</sup>				176	59	235	229	68	297		2	2
Other <sup>2</sup>				1,310	1,248	2,559	1,873	1,823	3,696		60	72
With non-financial customers	257	216	473	359	277	636	402	325	727	12	15	14
Up to 1 year	571	402	671	830	455	862	1,326	1,168	1,574	-	-	-
Between 1 and 5 years	5,322	5,387	7,139	7,436	7,513	9,821	9,994	9,910	13,019	-	-	-
Over 5 years	1,765	1,615	2,400	2,406	2,205	3,225	4,408	4,154	5,759	-	-	-
Single-name instruments <sup>3</sup>	5,521	5,428	7,310	7,882	7,737	10,432	10,646	10,448	13,873	136	171	186
Multi-name instruments	2,138	1,977	2,901	2,790	2,437	3,476	5,082	4,784	6,479	52	71	109

<sup>1</sup> 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 <sup>2</sup> Global aggregates available only from end-December 2005. <sup>3</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		
	End-Jun 2005			End-Dec 2005			End-Jun 2006			End-Jun 2005	End-Dec 2005	End-Jun 2006
	bought	sold	Total	bought	sold	Total	bought	sold	Total			
<b>Total single-name instruments</b>	<b>5,521</b>	<b>5,428</b>	<b>7,310</b>	<b>7,882</b>	<b>7,737</b>	<b>10,432</b>	<b>10,646</b>	<b>10,448</b>	<b>13,873</b>	<b>136</b>	<b>171</b>	<b>186</b>
With reporting dealers	3,659	3,617	3,638	5,216	5,158	5,187	7,277	7,164	7,221	60	82	92
With other financial institutions	1,697	1,648	3,344	2,400	2,353	4,753	3,095	3,059	6,154	69	80	86
Banks and securities firms <sup>2</sup>				1,323	1,296	2,619	1,580	1,528	3,109		41	41
Insurance firms <sup>2</sup>				94	32	125	90	38	129		1	1
Other <sup>2</sup>				983	1,026	2,009	1,425	1,492	2,916		38	43
With non-financial customers	165	163	328	265	226	492	274	225	499	7	9	8
Up to 1 year	445	345	535	621	402	688	911	765	1,087	-	-	-
Between 1 and 5 years	3,841	3,951	5,126	5,623	5,764	7,497	7,084	7,110	9,272	-	-	-
Over 5 years	1,235	1,130	1,649	1,638	1,571	2,247	2,651	2,574	3,514	-	-	-
Sovereigns <sup>2</sup>				1,995	1,896	2,695	2,325	2,191	3,033	-	-	-
Non-sovereigns <sup>2</sup>				5,887	5,842	7,737	8,321	8,257	10,840	-	-	-
Investment grade <sup>2</sup>				5,642	5,549	7,316	7,426	7,241	9,330	-	-	-
Below investment grade <sup>2</sup>				1,028	1,029	1,469	1,362	1,445	2,002	-	-	-
Non-rated <sup>2</sup>				1,212	1,159	1,647	1,858	1,762	2,542	-	-	-

<sup>1</sup> 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 <sup>2</sup> Global aggregates available only from end-December 2005.

Table 6.A  
Herfindahl Index for all the 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	Jun-05	Dec-05	Jun-06
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	1,741	1,659	1,649	1,670
	Interest rate swaps Options	647 962	737 1,438	800 1,340	856 1,458	876 1,791	874 1,621	1,044 1,702	1,047 2,112	1,044 1,682	1,041 2,112	1,041 2,161	1,039 2,226	1,048 2,313	973 2,697	1,000 2,955	1,017 3,052
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	1,222	1,158	1,630	1,698
	Interest rate swaps Options	542 1,077	678 937	643 1,154	655 1,432	688 2,439	678 1,239	788 1,228	846 1,461	824 1,461	846 1,693	896 1,684	852 1,616	797 1,796	807 1,292	936 1,508	1,015 1,584
EUR	Forward rate agreements	...	834	937	851	1,107	936	740	556	571	539	639	670	597	631	667	690
	Interest rate swaps Options	...	572 525	522 578	511 530	500 565	486 559	524 584	478 561	478 561	492 546	481 608	478 591	473 675	481 607	479 567	484 539
GBP	Forward rate agreements	828	856	641	614	728	693	638	605	610	607	1,095	930	923	855	1,210	1,083
	Interest rate swaps Options	406 628	433 828	444 686	429 677	448 662	438 648	476 727	489 648	489 648	515 615	544 643	565 666	594 747	578 1,452	614 1,288	661 905
JPY	Forward rate agreements	860	942	932	1,014	1,109	1,937	1,738	1,763	1,942	1,972	1,647	1,308	1,852	2,565	3,025	3,280
	Interest rate swaps Options	440 436	484 949	528 596	545 715	585 791	613 708	706 1,217	790 1,202	779 1,202	790 1,624	806 1,223	744 1,065	728 978	693 739	664 781	635 793
SEK	Forward rate agreements	965	870	914	936	957	1,125	1,002	944	886	839	947	965	861	811	767	847
	Interest rate swaps Options	542 899	549 824	601 987	586 1,036	640 1,076	592 989	608 1,081	569 1,224	532 1,149	569 1,224	561 1,174	570 1,230	583 1,137	583 995	564 1,077	571 1,259
USD	Forward rate agreements	617	655	710	755	879	888	1,145	907	1,042	901	786	725	645	652	690	788
	Interest rate swaps Options	415 901	495 847	490 734	500 782	528 819	529 764	730 1,143	682 1,038	666 1,044	682 1,038	701 961	672 877	626 847	673 767	650 756	691 762



**Table 6B**

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	Jun-05	Dec-05	Jun-06
Forwards, forex swaps and currency swaps	333	372	413	423	423	416	471	427	434	438	429	442	446	440	461	475
Options	504	525	544	507	528	546	564	518	503	498	605	560	605	591	624	606

**Table 6C**

Herfindahl indices for all OTC equity linked derivatives contracts

Region	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	Jun-05	Dec-05	Jun-06
Europe	869 659	715 639	787 613	618 657	750 779	693 891	733 880	770 952	762 791	768 985	698 1,013	611 1,195	631 659	598 662	652 615	616 689
Japan	2,837 970	2,170 1,462	3,416 1,102	2,501 1,018	2,043 1,386	1,461 860	2,005 841	1,822 1,072	1,946 1,132	1,854 2,322	3,106 1,718	1,984 2,553	1,734 1,203	2,056 893	2,292 3,953	1,326 3,405
Latin America	2,849 4,307	3,071 6,169	9,274 4,330	6,881 6,776	5,015 6,703	5,163 4,353	6,063 8,084	7,546 7,585	7,281 4,807	8,839 9,332	3,808 6,432	3,732 6,304	4,243 4,029	6,953 4,427	7,039 5,790	6,704 3,918
Other Asia	1,313 1,271	3,506 1,388	3,606 2,341	5,119 1,586	1,663 1,600	1,631 1,188	5,294 1,447	6,086 1,550	1,677 1,675	3,197 1,894	2,233 5,464	2,010 5,435	1,536 1,674	1,355 1,177	1,334 5,566	1,294 5,536
United States	1,111 759	1,215 1,042	1,895 1,275	1,088 749	1,132 759	1,048 663	1,070 751	1,174 890	1,037 665	964 793	1,040 1,031	855 836	849 915	722 725	947 787	941 1,402

**Table 6d**  
Herfindahl Index for all the OTC Interest rate derivatives contracts between reporters (1)

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	Jun-05	Dec-05	Jun-06
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	1,815	1,979	1,698
	Interest rate swaps	671	772	834	876	910	818	1,008	949	893	974	1,018	1,008	1,045	938	978	996
	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	2,333	2,659	2,686
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	1,244	1,710	1,813
	Interest rate swaps	530	776	701	724	708	705	822	854	890	835	833	800	815	932	1,043	1,169
	Options	1,458	1,044	1,371	1,495	1,186	1,350	1,041	1,441	1,220	1,487	1,347	1,691	1,634	1,223	1,214	1,296
EUR	Forward rate agreements	...	744	961	956	1,071	954	727	540	547	555	540	506	576	661	679	707
	Interest rate swaps	...	595	549	543	530	506	571	503	505	474	478	474	470	483	496	516
	Options	...	591	583	584	619	618	642	636	558	600	575	605	649	556	547	557
GBP	Forward rate agreements	862	982	736	666	788	769	697	647	648	576	746	1,012	939	977	1,180	1,090
	Interest rate swaps	400	408	456	427	468	458	490	497	550	522	547	723	691	695	751	757
	Options	678	1,145	928	886	795	826	828	786	685	670	661	721	845	842	870	908
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	3,163	3,447	3,841
	Interest rate swaps	460	501	568	600	629	691	801	866	895	935	894	843	792	749	706	666
	Options	521	546	795	822	876	803	1,381	1,665	1,749	1,423	1,383	1,158	855	871	903	888
SEK	Forward rate agreements	897	819	862	964	939	1,279	979	962	938	970	1,211	1,125	996	902	769	771
	Interest rate swaps	591	563	617	607	662	601	623	530	570	569	602	651	664	641	650	658
	Options	876	786	859	969	900	857	898	1,143	1,148	1,101	1,232	1,111	1,098	1,036	1,265	1,830
USD	Forward rate agreements	631	692	757	932	894	934	1,046	1,070	1,440	1,142	978	791	625	604	703	782
	Interest rate swaps	421	537	508	533	562	577	784	719	757	757	751	678	716	682	729	698
	Options	896	873	822	858	931	832	1,111	1,239	1,144	991	899	820	770	783	807	980

(1) "Reporters" ("Reporting dealers") are defined as those institutions whose head office is located in the Group of Ten countries and which participate in the semi-annual 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 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	Jun-05	Dec-05	Jun-06
Forwards, forex swaps and currency swaps	342	385	425	437	430	411	464	444	452	478	463	499	491	493	534	534
Options	517	539	543	550	558	496	614	526	512	538	518	683	700	635	706	657

**Table 6f**  
**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	Jun-05	Dec-05	Jun-06
Europe	Forwards and swaps	1,192	851	883	694	938	948	859	840	753	639	705	582	670	619	760	569
	Options	582	725	750	943	874	834	912	737	728	655	676	697	715	748	780	838
Japan	Forwards and swaps	4,424	4,756	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
	Options	1,081	1,403	1,316	1,288	1,758	908	924	1,137	968	2,433	1,698	1,127	1,102	838	5,054	3,604
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	3,387	5,729	7,743
	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	5,707	9,957	1,784
Other Asia	Forwards and swaps	2,370	6,146	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
	Options	2,001	2,386	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
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	931	870	787	630
	Options	1,347	1,448	1,756	975	1,020	753	783	765	951	1,555	668	774	762	803	851	1,316

Table 6g  
**Herfindahl Index for all the 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	Jun-05	Dec-05	Jun-06
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	1,773	1,978	1,448	2,003
	Interest rate swaps	786	885	982	1,050	1,050	1,167	1,495	1,568	1,631	1,631	1,374	1,423	1,276	1,235	1,220	1,177
	Options	1,047	1,500	1,589	1,963	2,065	1,917	2,111	1,996	2,451	2,451	2,174	2,269	2,448	3,559	3,339	2,763
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	1,371	1,490	1,907	1,744
	Interest rate swaps	711	696	763	741	725	703	951	1,082	1,099	1,261	1,035	1,026	1,099	1,074	1,125	1,086
	Options	731	936	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
EUR	Forward rate agreements	...	1,415	999	1,294	1,449	1,032	1,040	831	931	814	1,209	1,295	876	859	891	959
	Interest rate swaps	...	645	597	557	513	515	540	529	559	563	551	565	656	545	556	568
	Options	...	567	973	615	541	543	578	499	607	707	684	861	943	716	632	583
GBP	Forward rate agreements	1,234	1,372	754	735	884	683	797	773	879	1,247	2,928	881	1,203	1,158	1,693	1,741
	Interest rate swaps	521	599	503	541	503	489	562	599	604	669	685	546	583	602	687	756
	Options	663	704	634	689	717	704	766	772	719	797	781	946	2,809	2,907	1,127	1,282
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	1,395	1,503	1,409	1,581
	Interest rate swaps	501	578	592	571	632	575	625	717	739	767	762	807	1,077	775	775	742
	Options	466	2,701	688	729	759	656	1,009	946	1,402	911	802	1,008	1,275	670	732	898
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	908	1,097	1,174	1,459
	Interest rate swaps	649	710	799	760	784	716	771	751	717	707	638	662	879	572	611	660
	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	1,104	1,187	1,531	2,240
USD	Forward rate agreements	750	939	883	805	1,338	1,395	1,978	1,089	1,319	1,265	859	813	917	923	928	1,001
	Interest rate swaps	501	526	558	545	574	538	731	694	683	725	674	661	871	702	747	757
	Options	987	980	756	815	814	792	1,275	1,058	1,018	1,030	915	937	933	770	751	718

**Table 6h**  
**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	Jun-05	Dec-05	Jun-06
Forwards, forex swaps and currency swaps	357	401	432	438	444	453	516	469	468	460	443	445	518	454	461	475
Options	640	596	646	566	576	646	675	638	603	592	995	670	638	672	642	658

**Table 6i**  
**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	Jun-05	Dec-05	Jun-06
Europe	Forwards and swaps	1,187	802	900	706	841	733	831	824	947	984	857	879	761	837	767	803
	Options	1,254	892	945	743	1,312	1,962	1,541	2,235	1,327	1,788	1,863	2,227	832	794	814	727
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	2,209	2,330	3,014	1,942
	Options	912	2,028	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
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	4,681	7,270	7,122	6,857
	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	4,072	4,623	5,481	3,971
Other Asia	Forwards and swaps	1,487	3,134	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
	Options	1,357	1,680	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
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	1,246	929	1,187	1,273
	Options	941	1,450	1,774	884	1,023	851	955	1,212	812	809	1,457	1,063	1,213	852	962	1,570