The over-the-counter derivatives markets in the United Kingdom

By the Derivatives Markets Survey Team in Markets and Systems Division.

- *Average daily over-the-counter (OTC) derivatives[1] turnover in the United Kingdom during April 1995 was $74 billion.[2] The main components were forward rate agreements (FRAs, 47%), interest rate swaps (25%) and currency options (18%). In addition, average daily turnover of outright foreign exchange (FX) forwards and swaps in the United Kingdom was $278 billion.[3]*

- *The United Kingdom had a 27% share of the $270 billion average daily worldwide turnover in OTC derivatives contracts and a 31% share of the $892 billion turnover in outright FX forwards and swaps. The next most active trading locations for OTC derivatives contracts were the United States (20%) and Japan (12%).*

- *The notional (or face) value of outstanding OTC derivatives contracts booked in the United Kingdom was $12.1 trillion at end-March 1995. The main components were interest rate swaps (55%), FRAs (21%), interest rate options (9%), currency swaps (7%) and currency options (5%). UK reporters' current credit exposure in OTC derivatives was $320 billion, 2.2% of their gross notional outstandings.*

- *Though the results of the survey show the OTC derivatives markets to be somewhat larger than previous estimates, they are also less concentrated than has sometimes been thought and the bulk of activity is in 'plain vanilla'—rather than exotic—products. The relationship between notional values and current credit exposure is in line with expectations.*

Background

In 1993, under Bank for International Settlements (BIS) auspices, the Group of Ten (G10) central banks commissioned work on a range of issues related to OTC derivatives.[4] As part of this, the Euro-currency Standing Committee established a Working Group—chaired by Jan Brockmeijer of the Netherlands Central Bank—to identify central banks' requirements for information on global derivatives markets.[5] The data then available on OTC derivatives markets focused largely on notional amounts rather than market values; their coverage was incomplete in terms of both products and active market participants; and they did not provide information on the structure of participation and activity in derivatives markets. Since the data were not comparable, global aggregation was difficult. The Working Group was asked to develop measurement concepts and monitoring techniques that would address central banks' need for comprehensive and internationally comparable data.

The Brockmeijer Report[6] was submitted to the G10 Governors early in 1994, endorsed by them in May 1994 and published in February 1995. One of its recommendations was a comprehensive survey of derivatives markets activity. It was decided that this survey should be carried out under BIS auspices at the same time as the well-established triennial central bank survey of the foreign exchange market.[7]

The Brockmeijer Report included a questionnaire for the survey drawn up by the Working Group, which was used for consulting market participants. As a result, a number of changes were made; and countries were free to add items to

(1) For the purposes of this article, the term 'OTC derivatives' encompasses the following instruments: currency swaps and options; FRAs; interest rate swaps; options on traded securities; interest rate options (including caps, floors, collars and swaptions); equity forwards, swaps and options; and commodity forwards, swaps and options. Categories for 'other products' were also included. The term *excludes* spot and forward foreign exchange transactions. All instruments are defined in the annex.
(2) The data reported in this article are generally adjusted for local double-counting (net-gross) though some are—for comparability purposes—quoted without adjustment for double-counting (gross) or are also adjusted for cross-border double-counting (net-net). Figures are net-gross unless otherwise stated. The annex defines these and other terms more fully.
(3) In addition, average daily turnover in the FX spot market in London was $186 billion. The results of the 1995 foreign exchange market survey were presented in an article in the November edition of the *Quarterly Bulletin*, 'The foreign exchange market in London', pages 361–69.
(4) Other work was published in two further BIS papers: 'A Discussion Paper on Public Disclosure of Market and Credit Risks by Financial Intermediaries' (The Fisher Report) September 1994; and 'Macroeconomic and Monetary Policy Issues Raised by the Growth of Derivatives Markets' (The Hannoun Report) November 1994.
(5) An article in the May 1995 issue of the *Quarterly Bulletin* 'Statistical information about derivatives markets', pages 185–91, outlined other developments in this area.
(6) Entitled 'Issues of Measurement Related to Market Size and Macroprudential Risks in Derivatives Markets'.
(7) Which, as already mentioned, was carried out in April 1995 and discussed in an article in the November 1995 edition of the *Quarterly Bulletin*, 'The foreign exchange market in London'.

the resultant 'core' survey return if they felt they would be useful. All the G10 central banks, and a further 16 countries, participated in the survey, achieving effective worldwide coverage of these markets.

The survey

Participants

The Bank of England asked the following entities to participate in the survey: banks active in the United Kingdom and some non-bank, financial firms believed to be active in OTC derivatives markets here. The selection of banks was made largely on the basis of information already available to the Bank; the Securities and Futures Authority (SFA) helped identify appropriate securities houses. A total of 396 banks and securities houses participated in the UK part of the derivatives markets survey. Of these, 127 submitted nil returns, suggesting that the survey achieved a comprehensive coverage: little if any OTC business is thought to take place directly between non-financial firms.

Data coverage

Data were collected on nominal turnover during April 1995 and on nominal outstandings, gross positive and gross negative market values at end-March 1995. Instruments were categorised broadly in terms of their risk exposure—interest rate, foreign exchange, equity and commodity—and in a variety of currencies. Within these categories, products were broken down into swaps (interest rate and currency); FRAs;(1) OTC options;(2) and 'other products'.(3) In addition, information was sought on survey respondents' activities in exchange-traded futures and options—though no attempt was made to survey these markets in their entirety, since such data are already available from the exchanges concerned. Data on foreign exchange futures and options, which were previously included in the foreign exchange survey, were on this occasion collected as part of the derivatives markets survey. The Bank also sought a small amount of qualitative information, for example the extent to which activity in April was typical and firms' reasons for using OTC derivatives.

Quality of response

Various statistical checks were applied to the survey returns, taking as their basis relationships calculated from existing data sources, such as prudential returns and the International Swaps and Derivatives Association (ISDA) survey. These disclosed a number of cases of possible mis-reporting which were followed up with the firms concerned. Differences in approach to the calculation of gross market values caused most problems. The BIS produced an *aide memoire* which gave a step-by-step guide to this calculation for the purposes of this survey. Where firms could not complete the survey form, they were encouraged to provide estimates. In the few cases where this was not possible, market averages were applied.

This survey—unlike the ISDA survey, which focuses largely on interest rate swaps—sought to include arms-length internal transactions (that is, transactions between entities in the same group which arise in the normal course of business, rather than for internal accounting or risk management). Turnover data were reported by location of trade (that is, where transactions were initially conducted), whereas amounts outstanding (both notional amounts and gross market values) were reported by book location (that is, where the deals were processed and the risk managed). The reason for this was essentially practical: companies sometimes book transactions in a different location from where the deals are initially done, so it can be difficult to identify after the event where a deal was originated.

Results(4)

The information from the survey responses forms a large dataset. In this article, it is only possible to provide an overview(5): aggregate data are shown in Table A. The data published in this section—unless stated otherwise—are for

Table A
Aggregate data by instrument

$ billions

	Turnover	Outstandings	Gross market value	
OTC derivatives			+	–
Foreign currency	**271**	**1,429**	**115**	**122**
Currency swaps	26	822	104	109
Currency options	245	596	8	8
Interest rate	**1,058**	**10,382**	**176**	**166**
FRAs	626	2,590	5	5
Interest rate swaps	334	6,692	153	142
Interest rate options on traded securities	31	126	2	2
Other interest rate options	65	910	16	17
Equity		**347**	**24**	**23**
Forwards and swaps		42	2	2
Options		305	22	21
Commodities		**62**	**5**	**4**
Forwards and swaps		43	5	4
Options		19	—	—
OTC total	**1,329**	**12,220**	**320**	**315**
Exchange traded derivatives				
Foreign currency	**77**	**14**		
Futures	73	1		
Options	4	13		
Interest rates	**2,138**	**4,074**		
Futures up to one year	1,531	2,529		
Futures over one year	304	687		
Options	303	859		
Equity		**134**		
Futures		52		
Options		82		
Commodities		**59**		
Futures		45		
Options		14		
Exchange traded total	**2,215**	**4,281**		

Figures for OTC derivatives are adjusted for local double-counting. Turnover figures for exchange traded instruments have been halved to adjust approximately for double-counting and to make them comparable to data from the exchanges. Sum totals may differ from their constituent parts because the category 'other products' has been excluded.

(1) Including equity and commodity forwards.
(2) Including caps, collars, floors, warrants, swaptions and options on traded securities.
(3) These were defined as: 'Any instrument where (i) the transaction is highly leveraged and/or the notional amount is variable and (ii) a decomposition into individual 'plain vanilla' components is impractical or impossible'.
(4) Pie charts only include categories that account for a significant share of the market. Sum totals may differ from their constituent parts because of rounding.
(5) Full copies of the UK data—with some suppressions to protect the confidentiality of individual reporters' figures —are available on request from the Bank of England (0171–601–3191).

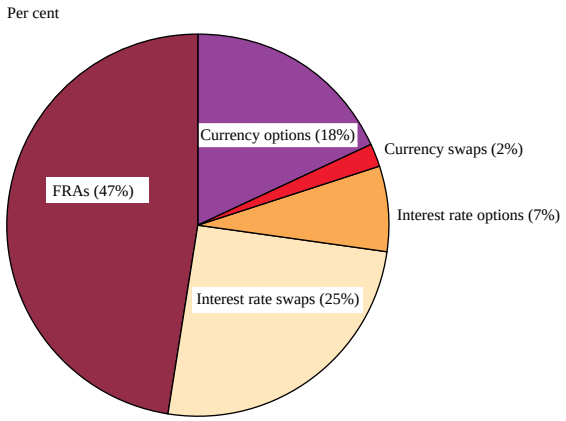
the United Kingdom only. The BIS intend to publish an analysis of the global results later this year.

Turnover

By instrument

Turnover (for definition see the annex) was dominated by trading in short-term instruments, notably FRAs—which accounted for 47% of total turnover[1] (see Chart 1). Interest rate swaps (25%) and currency options (18%) accounted for the bulk of the remaining turnover.[2]

Chart 1
Turnover (split by instrument)



Total turnover in the United Kingdom in April 1995: $1,329 billion

FRAs accounted for 55% of sterling turnover. FRAs are—largely for historical reasons—more actively traded in the United Kingdom than in other centres. Interest rate swaps accounted for 23% of sterling turnover; currency options for 14%; interest rate options for 7%; and currency swaps for 1%.

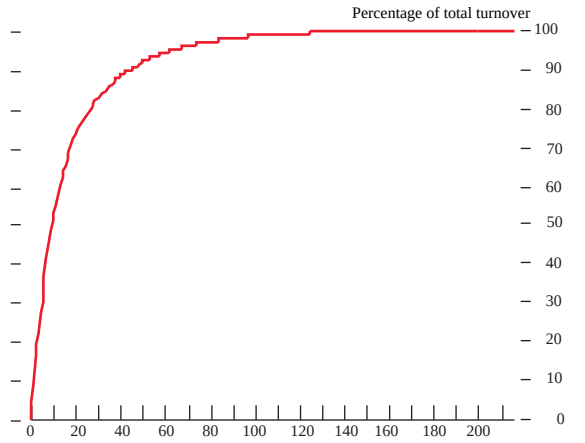
By currency

About a quarter of FRAs and interest rate swaps transacted in the United Kingdom in April were dollar-denominated. Of the remainder, the main European currencies (sterling, Deutsche Mark and French franc) accounted for 40% of turnover in both instruments. For currency derivatives, the dollar was the dominant currency, with 83% of currency swaps and 77% of currency options having a dollar leg.[3] The Deutsche Mark had a significantly larger share of currency options (54%) than of currency swaps (24%). In contrast, the shares accounted for by yen (28% of turnover in currency swaps and 29% in currency options) and sterling (10% and 12% respectively) were similar in both instruments.

Market concentration

In terms of turnover, activity in the UK OTC market seems to be quite widely dispersed (see Chart 2): 21 firms each had 1% or more of total turnover in April; and of these, 16 each had 2% or more. The top ten firms had a combined

Chart 2
Concentration of total turnover



Number of reporters in the United Kingdom in April 1995

share of 52%; and the top 20 had 74%. These figures suggest that the OTC markets are only slightly more concentrated than the foreign exchange market.

Activity in individual sectors of the OTC market is inevitably more concentrated than the aggregate figures suggest, and the degree of concentration varies markedly across sectors. In some sectors activity is not very concentrated, notably interest rate swaps and FRAs, where the top ten firms accounted for 61% of total turnover in both instruments. In contrast, in some more specialised sectors, the number of active participants is much lower, for example options on traded securities (85%) and interest rate options (86%).

By nationality of firm

US-owned firms dominated turnover in OTC derivatives in the United Kingdom in April: they accounted for 40% of turnover in foreign exchange derivatives and 37% in interest rate derivatives (see Table B). Among other European firms, Swiss entities were the most active (7% and 18%), followed by French firms (4% and 7%).

Table B
Gross turnover by nationality of firm

$ billions: *percentages in italic*

	Interest rate derivatives	Foreign exchange derivatives
$ billions	1,381	304
of which:		
United States	*37*	*40*
United Kingdom	*30*	*20*
Rest of Europe	*17*	*24*
Japan	*9*	*8*
Other	*7*	*7*

Gross turnover in the United Kingdom in April 1995.

Counterparties: location and type

While turnover in interest rate derivatives was evenly split between local (51%) and cross-border (49%) business, most

(1) This was also reflected in the on-exchange futures data: in nominal terms 83% of interest rate futures relate to short-term interest rates.
(2) Some respondents suggested that turnover in currency options may have been unusually high in April because of increased volatility in the yen-dollar exchange rate; almost a quarter of OTC currency options were ¥/$ denominated, although the $/DM sector was larger.
(3) Percentages add up to more than 100% because currency swaps and currency options have legs denominated in two different currencies.

Table C
Maturity breakdown of OTC derivatives

$ billions: *percentages in italic*

	Foreign exchange derivatives		Interest rates derivatives				Equity derivatives	Commodity derivatives
	Currency swaps	Currency options	Swaps	FRAs	Options on traded securities	Other options		
$ billions	822	596	6,692	2,590	126	910	347	62
of which, maturity:								
Under 1 year	*26*	*93*	*34*	*86*	*82*	*34*	*59*	*70*
1–5 years	*51*	*6*	*51*	*16*	*12*	*53*	*39*	*28*
Over 5 years	*23*	*1*	*15*	*—*	*6*	*13*	*2*	*2*

Figures are adjusted for local double-counting.

foreign exchange derivatives' turnover was cross-border (74%). As expected, sterling turnover tended to be local (68% in interest rate derivatives).

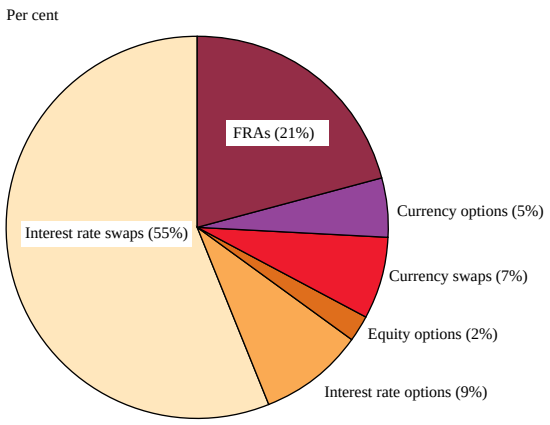
In terms of type of counterparty, most turnover was between reporters (that is, between banks and securities firms): 79% of foreign exchange derivatives turnover and 83% of interest rate derivatives turnover was of this type, including 90% of FRAs. End-users (corporates and other financial intermediaries such as insurance companies and pension funds) account for a relatively small share of market activity: UK end-users accounted for only 2% of total turnover.

Outstandings

By instrument and maturity

As one might expect, in comparison with turnover, outstandings (see the annex for definition) are dominated by longer-maturity instruments (see Table C). These longer-maturity instruments—interest rate swaps and options (excluding options on traded securities) and currency swaps—accounted for 70% of outstandings (see Chart 3). Two thirds of these instruments had an outstanding maturity of over one year. Short-maturity instruments—FRAs, currency options and options on traded securities—accounted for 27% of outstandings, much less than their share of turnover.

Chart 3
Outstandings (split by instrument)



Total outstandings in the United Kingdom as at end-March 1995: $12,220 billion

Thus despite the preponderance of FRAs in *turnover,* interest rate swaps accounted for the bulk of OTC outstandings at end-March 1995. Equity options made up almost 2% of total outstandings, but other equity derivatives (forwards and swaps) accounted for negligible proportions of the total market, as did commodity derivatives.

The breakdown for sterling-denominated outstandings by instrument type is similar to that of overall outstandings: interest rate swaps accounted for 59%, FRAs for 21%, interest rate options for 10%, currency swaps for 5%, and currency options for 5%.

By currency

The major currency for interest rate derivatives booked in the United Kingdom is the US dollar: 28% of FRAs and 26% of interest rate swaps were dollar-denominated (see Table D). The major European currencies (Deutsche Mark, sterling and French franc) together accounted for 38% of both FRAs and interest rate swaps.

Table D
Currency breakdown of outstandings in interest rate derivatives

$ billions	$	¥	DM	£	FFr	Other	**Total**
Interest rate swaps	1,714	1,309	1,071	1,069	433	1,096	**6,692**
FRAs	734	285	450	386	155	580	**2.590**
Interest rate options	312	108	273	188	69	86	**1,036**
Total	**2,760**	**1,702**	**1,794**	**1,643**	**657**	**1,762**	**10,318**

Figures for OTC derivatives are adjusted for local double counting.

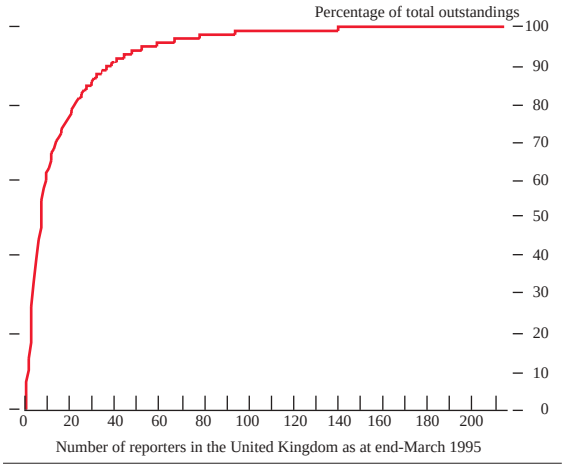
In addition, 72% of outstanding currency swaps had a dollar leg; one third had a yen leg, 20% had a Deutsche Mark leg and just 11% had a sterling leg.(1) Similarly, 74% of currency options had a dollar leg. In comparison with currency swaps, more (47%) currency options had a Deutsche Mark leg. In contrast, the shares accounted for by yen (33% of outstandings in currency swaps and 30% in currency options) and sterling (11% and 14% respectively) were broadly similar in both instruments.

Concentration

Outstandings at end-March were fairly widely dispersed (see Chart 4): 20 firms each had 1% or more of total outstandings; and, of these, twelve had 2% or more. The top ten had a combined share of 60%; and the top twenty

(1) Percentages add up to more than 100% because currency swaps and currency options have legs denominated in two different currencies.

Chart 4
Concentration of total outstandings



had 76%. As with turnover, outstandings in some sectors were not very concentrated—notably interest rate swaps (where the top ten firms accounted for 67% of total outstandings) and FRAs (64%). However, in some more specialised sectors—for example, commodity derivatives (93%)—the number of participants was much lower.

Gross market values

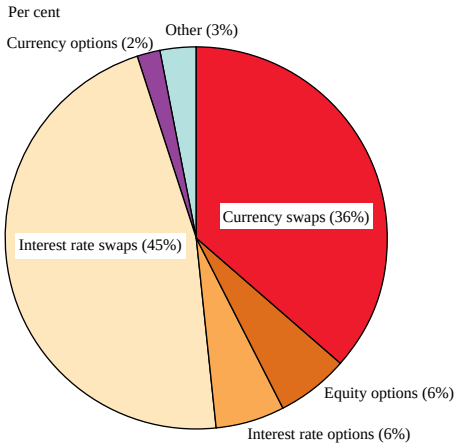
Notional outstandings can give an exaggerated impression of the amounts at risk in derivatives activities because they are calculated on a nominal (that is, face value) basis which often does not directly measure the payment obligations of the parties. They are however relevant in assessing the risk to which firms might be exposed by price changes in the underlying markets. But to measure that risk correctly information is also needed on other positions—for example, in cash instruments—which were outside the scope of the survey. Cash positions typically form part of firms' overall portfolios, and may hedge some or all of the market risks to which their derivatives activities might—considered in isolation—appear to expose them.

Nor do notional outstandings reflect the amounts at risk from counterparty default. This is better measured by gross market values, data on which are accordingly reported below. Credit exposures will in practice be further reduced by netting (for example, under ISDA master agreements) and by collateral agreements between counterparties.

Current credit exposure (as measured by gross positive market value—see the annex for definition) was, at $320 billion, 2.2% of reporters' total gross notional outstandings in the UK OTC markets at end-March. In addition, banks and securities houses' gross negative market value to non-reporters (that is, end-users' exposure to reporters—see Annex for definition) was $108 billion. Aggregate market value therefore totalled $428 billion.

Most of this aggregate market value was accounted for by 'plain vanilla' instruments: interest rate swaps and currency

Chart 5
Aggregate market value (split by instrument)



Total in the United Kingdom as at end-March 1995: $429 billion

swaps between them accounted for 81% of the total (see Chart 5). Currency swaps accounted for a greater share of aggregate market value than they did of outstandings. This is because the nature of the product (in particular, the exchange of principal at maturity and its long maturity) generally means that its market value is more sensitive than other products to price changes in underlying markets.(1) The reverse is true of FRAs, which accounted for a smaller share of aggregate market value than they did of outstandings, primarily because of their short maturity.

Because the value of derivative instruments partly reflects the value of the underlying instrument, another way of seeing the effect of different products' sensitivity to underlying price changes is to look at positive market value as a percentage of notional outstandings: for the same reasons as those given above, currency swaps (at 12.7%) had the highest percentage and FRAs (0.2%) the lowest.

Current credit exposure was more concentrated than outstandings: 18 firms each accounted for 1% or more of total positive gross market value and nine of these each had 2% or more. The top ten had 71% and the top twenty had 84%. Current credit exposure is more concentrated than outstandings across all sectors. However, some are still not very concentrated, for example, the top ten firms using FRAs accounted for 67% of positive gross market value. Equally, some more specialised sectors—such as equity derivatives (90%) and commodity derivatives (98%)—were highly concentrated.

Individual firms, generally speaking, have outstandings in individual product types with roughly comparable gross positive market values and gross negative market values. This is consistent with them principally acting as intermediaries, entering into transactions which pass the market risks on to others—ultimately, to end-users of the markets with different desired risk profiles. Reporters do not as a rule seem to be using OTC derivatives to take open positions which might expose them to large market risks.

(1) The share of aggregate market value accounted for by currency swaps may have been unusually high because of sharp movements in some key exchange rates before and during the survey period.

Qualitative information

The Bank of England also sought qualitative information on a variety of matters. Of those surveyed, 53% thought turnover in April was normal and 30% thought it was below normal; only 8% thought it was above normal (the remainder expressed no opinion). As many as 88% of respondents said that their transactions carried out in the United Kingdom are also booked in the United Kingdom. Finally, 43% of firms said that they used derivatives for both trading and hedging, 32% for hedging alone and 14% for trading, hedging and as market-makers. Results from the major firms differed only slightly from the average, although they did reflect their greater activity in making markets in OTC derivatives.

Comparison with other markets

Data on the OTC derivatives markets have, as do those on other financial markets, magnitudes which are difficult to comprehend in everyday terms. It is therefore helpful to provide some perspective by comparing different markets. For example, turnover in the OTC derivatives markets in London is, on the basis of this survey, 16% of that in the foreign exchange market; and reporters' current credit exposure (as measured by positive gross market values on their OTC contracts, and not taking into account any reductions achieved by netting or collateralisation) is on average 2.2% of their gross notional outstandings.(1) To take a different comparison, this current credit exposure is some 15% of the credit risk to which they are exposed in their lending activities.

Exchange traded derivatives

In addition to the data collected on OTC derivatives, the survey also covered reporters' activity in exchange traded derivatives. However, as already noted, the survey did not attempt to collect *comprehensive* data on exchange traded derivatives; this is available from exchanges themselves and is summarised in Table E.

Average daily turnover in futures and exchange traded options by OTC market participants in the United Kingdom was $123 billion,(2) 66% higher than these firms' OTC business. This compares with average daily turnover of $962 billion worldwide in the 15 major exchange traded contracts in the first six months of 1995. OTC reporters' outstandings in futures and exchange traded options were $4.3 trillion(3) at end-March. Almost all of turnover (83%) and outstandings (75%) in exchange traded instruments was accounted for by interest rate futures: the eurodollar contracts (with 21% of turnover and 32% of outstandings), euromark (26% and 17%) and short sterling (20% and 17%) were the most used by reporters.(4) In discussions with some of the main reporters, the view received was that exchange traded positions were used primarily to hedge OTC positions.

Table E
Exchange traded derivatives

$ billions

Contract	Exchange (a)	Average daily turnover (b)	*of which:* OTC reporters in the United Kingdom (c)
Three-month interest rate contracts			
Euro$	CME	337.2	18.1
Sterling	LIFFE	39.2	17.3
Euromark	LIFFE	65.1	21.7
PIBOR	MATIF	52.2	7.5
Euroyen	TIFFE	231.3	11.2
Government bond futures			
US T-bond	CBOT	32.4	4.0
Bund	DTB	7.5	4.5
	LIFFE	19.2	
Notionnel	MATIF	11.9	1.2
Total		**796.0**	**85.5**

(a) The Exchanges referred to are as follows: Chicago Mercantile Exchange (CME); London International Financial Futures and Options Exchange (LIFFE); Marché à Terme International de France (MATIF); Tokyo International Financial Futures Exchange (TIFFE); Chicago Board of Trade (CBOT); and Deutsche Terminborse (DTB).
(b) Exchanges' figures are derived from FIA statistics on number of contracts traded and are averages for April, calculated on an 18-day trading basis.
(c) Survey figures are based on turnover in April and are calculated on an 18-day trading basis. They have been halved to adjust approximately for double-counting and to make them comparable to data from the exchanges.

Global figures

UK reporters accounted for a significant share of the global totals, particularly in some products (see Table F). As mentioned earlier, the BIS intend to publish an analysis of the global results later this year.

Table F
Comparison of UK and global data

$ billions

Instrument	Global	United Kingdom	UK percentage share
Outstandings			
Currency swaps	8,741	822	9
Currency options	1,968	596	30
FRAs	4,588	2,590	56
Interest rate swaps	18,265	6,692	37
Interest rate options	3,548	1,036	29
Equity derivatives (OTC)	805	347	43
Commodity derivatives (OTC)	389	62	16
OTC total	*38,304*	*12,220*	*32*
Exchange-traded derivatives	16,581	4,281	26
Average daily turnover			
Currency swaps	4	1	25
Currency options	40	14	35
FRAs	65	35	54
Interest rate swaps	63	19	30
Interest rate options	21	5	24
OTC total	*193*	*74*	*38*
Exchange-traded derivatives	1,136	246	22

All global figures are from the BIS.
For both turnover and outstandings in OTC derivatives, global figures are adjusted for local and cross-border double counting; UK figures are adjusted for local double-counting; these comparisons of UK 'net' figures to global 'net-net' figures give an exaggerated estimate of UK reporters' share of the global totals. Turnover figures for exchange traded instruments have been halved to adjust approximately for double counting and to make them comparable to data from the exchanges. Sum totals will differ from their constituent parts because the category 'other products' has been excluded.

(1) This measure of the amounts of risk in the event of counterparty default is not out of line with earlier estimates (for example that of the ISDA survey).
(2) Turnover figures for exchange traded derivatives have been halved to adjust approximately for double counting and to make them comparable to data from the exchanges.
(3) Outstandings is not the same as open interest: for an individual trade, outstandings include both counterparties' positions (long and short) whereas open interest includes one counterparty's position (long or short). Open interest may also be calculated on a net basis.
(4) The eurodollar contract is traded on the Chicago Mercantile Exchange (CME) and the Singapore International Monetary Exchange (SIMEX). The euromark and short sterling contracts are traded on the London International Financial Futures and Options Exchange (LIFFE).

Future reporting

One recommendation of the Brockmeijer report was that—as a follow-up to this survey—the G10 central banks should consider proposals for collecting and publishing information on derivatives markets on a more regular basis. It was envisaged that this information would be collected from a smaller population, largely comprising the firms most active in these markets. Another working group under BIS auspices—chaired by Shinichi Yoshikuni of the Bank of Japan—has been established to address these issues and it is likely that their discussions will lead to proposals, which will take the form of a consultative paper.

Conclusions

This survey provides the first comprehensive data on the international OTC derivatives markets—one of the needs identified by the Brockmeijer report. The market is, on the basis of the aggregate results compiled by the BIS, somewhat larger than previous data suggested. But it is not so substantially larger as to cast doubt on previous assessments of the significance of OTC derivatives activity. Indeed, part of the additional turnover is accounted for by intra-group transactions, which were excluded from other surveys.

This survey is revealing in a number of other respects. First, it shows that the bulk of OTC activity is in well-established, 'plain vanilla' products like interest rate swaps and FRAs rather than the more complex, exotic products. Second, the market is less concentrated than is sometimes suggested—differing little from the foreign exchange market. Third, the survey confirms that OTC activity is smaller than exchange traded business. Fourth, it suggests that the relationship between current credit exposure and notional principal is very much in line with earlier information. Finally, the survey results—in terms of positive and negative gross market values—are consistent with banks and securities houses acting principally as intermediaries, offsetting risks within their OTC derivatives activities rather than building up open positions in OTC derivatives which might expose them to large risks.

Annex

Definition of technical terms

Turnover

Turnover data were used to measure market activity. Turnover was defined as the gross value of all new deals entered into during April 1995. The basis for reporting was the location of the trade (that is, where transactions were initially conducted). It was measured in terms of nominal (or notional) amounts for forward, swap and futures contracts; and, for option contracts, in terms of nominal (or notional) amounts *and* premia. The gross value of each transaction was recorded once by each reporter (so if it was a deal between two survey participants, it appears twice in the *gross* data). Netting and offsets were ignored.

Outstandings

Outstandings, in nominal or notional amounts, were used to provide a rough measure of the potential transfer of price risk in derivatives markets. Outstandings were measured as at end-March 1995. The basis for reporting was the book location (that is, where deals were processed and risk managed). For transactions with variable nominal or notional principal amounts, the basis for reporting was the nominal or notional principal amounts at the time of reporting.

Gross positive/negative market value

Gross market value is a measure of the gross sums of all open contracts with positive or negative (as appropriate) replacement values evaluated at market prices prevailing at end-March 1995. Thus, the gross *positive* market value of a firm's outstanding contracts is the sum of the replacement values of all contracts that show a profit to the reporter at current market prices (and which therefore, if they were immediately settled, 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 (that is, those that are in a current loss position and which, if they were immediately settled, would represent liabilities of the firm to its counterparties).

Aggregate market value

The aggregate market value figure is calculated as the sum of:

- the gross positive market value of contracts between reporting firms.
- the gross positive market value of contracts with non-reporting firms.
- the gross negative market value of contracts with non-reporting firms (which is an approximation of the positive market value of the same contracts held by non-reporters).

Current credit exposure

The term *current credit exposure* used in the article refers to the sum of the gross positive market values. It takes no account of netting or collateral agreements. It is also distinct from potential credit exposure and from credit equivalent amount; the latter is normally defined as the sum of current and potential credit exposure.

Arms-length transactions

An *arms-length* transaction was defined as one where the dealer was indifferent as to the counterparty. In other words, deals within the same institution should have been included if the trader was equally willing to conclude the deal in question with a third party. So internal transactions should only have been reported if they were driven by a genuine business need, rather than internal accounting or risk allocation and management considerations.

Gross

Figures that have *not* been adjusted for either local or cross-border double-counting between reporters (ie banks and securities firms).

Net-gross (or net)

Figures that have been adjusted for local, but not cross-border double-counting between reporters (ie banks and securities firms).

Net-net

Figures that have been adjusted for local and cross-border double-counting between reporters (ie banks and securities firms).

Currency swap

Contract which commits two counterparties to exchange streams of fixed interest payments in *different* currencies for an agreed period of time *and* to exchange principal amounts in *different* currencies at an agreed exchange rate at the end of the period.

Currency option

Option contract that gives the right to buy or sell a currency with another currency at a specified exchange rate during a specified period.

Forward rate agreement (FRA)

Interest rate forward contract in which the rate to be paid or received on a specific obligation, is determined at contract initiation for a set period of time, beginning at a future date.

Interest rate swap

Agreement to exchange periodic payments related to interest rates on a *single* currency.

Interest rate option

Provision to pay or receive a specific interest rate on a predetermined principal for a set period of time. Including:

- **Option on traded securities**—OTC option on an interest bearing underlying security.
- **Interest rate cap**—OTC option that pays the difference between a floating interest rate and the cap rate.
- **Interest rate floor**—OTC option that pays the difference between the floor rate and the floating interest rate.
- **Interest rate collar**—combination of cap and floor.
- **Interest rate swaption**—OTC option to enter into an interest rate swap contract, purchasing the right to pay or receive a certain fixed rate.
- **Interest rate warrants**—OTC option, long-dated (over one year) interest rate option.

Equity forward

Contract to exchange an equity or equity basket at a set price at a future date.

Equity swap

Contract in which one or both payments are linked to the performance of equities or an equity index.

Equity option

Provision to deliver or receive a specific equity or equity basket or equity index at an agreed price at an agreed time in the future.

Commodity forward

Forward contract to exchange a commodity or commodity index at a set price at a future date.

Commodity swap

Contract with one or both payments linked to the performance of a commodity price or a commodity index.

Commodity option

OTC option to deliver or receive a specific commodity or commodity index at an agreed price at a future date.

FX spot transactions

Single transactions which are delivered for cash settlement *not more* than two business days after the transactions are contracted.

FX forward transactions

Include:

- **Outright forwards**—delivered for cash settlement *more* than two business days after the transactions are contracted.
- **Swaps**—simultaneous spot sales/purchases and forward purchases/sales of a single currency.