

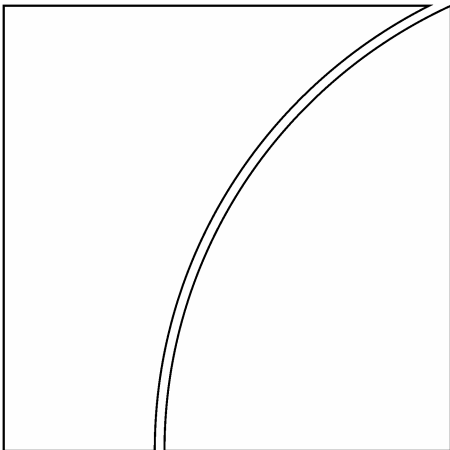


BANK FOR INTERNATIONAL SETTLEMENTS

Monetary and Economic
Department

**Triennial Central Bank
Survey of Foreign Exchange
and Derivatives Market
Activity in April 2004**

Preliminary global results
September 2004



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Notations used in this release

billion	thousand million
...	not available
.	not applicable
\$	US dollar unless specified otherwise

Differences in totals are due to rounding.

I. Results for April 2004

In April this year, 52 central banks and monetary authorities participated in the Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity. They collected data on turnover in traditional foreign exchange markets – those for spot transactions, outright forwards and foreign exchange swaps – and in over-the-counter (OTC) currency and interest rate derivatives. This was the sixth global survey since April 1989 of foreign exchange market activity and the fourth survey since April 1995 additionally covering OTC derivatives market activity. Today participating central banks and monetary authorities are publishing their national survey results and the BIS is releasing preliminary global statistics from the survey.¹ The BIS plans to publish a more detailed analysis of the results for the traditional foreign exchange markets in the December 2004 *BIS Quarterly Review*. In addition, the BIS will release the preliminary global results from the second part of the triennial survey covering open contracts outstanding in OTC derivatives markets at end-June 2004 in November 2004, and the final global results on foreign exchange market turnover and the final statistics on OTC derivatives market turnover and amounts outstanding in spring 2005.

1. Traditional foreign exchange markets

The 2004 survey shows a large increase in activity in traditional foreign exchange markets as compared to 2001. Average daily turnover rose to \$1.9 trillion in April 2004, up by 57% at current exchange rates and by 36% at constant exchange rates (Table 1). This more than reversed the fall in global trading volumes between 1998 and 2001. Turnover rose across instruments but particularly in the spot and forward markets. In addition to valuation effects, factors that have arguably boosted turnover include investors' interest in foreign exchange as an asset class alternative to equity and fixed income, the more active role of asset managers, and the growing importance of hedge funds.

The growth in turnover was driven by all types of counterparties. Trading between banks and financial customers rose markedly, and its share in total turnover went up from 28% to 33% (Table 2). Based on market commentary, the higher activity between reporting banks and financial customers may to a large extent have reflected a sizeable increase in activity by hedge funds and commodity trading advisers, as well as robust growth of trading by asset managers. This is in contrast with the period between 1998 and 2001, when activity in this market segment had been driven mainly by asset managers, while the role of hedge funds had reportedly declined. Trading between reporting dealers also rose between 2001 and 2004, although its share continued to fall, from 59% in 2001 to 53% in 2004. Restraining factors might include the continuing consolidation in the banking industry, as well as efficiency gains derived from the use of electronic brokers in the interbank spot market. For its part, the share of trading between banks and non-financial customers edged up slightly to 14%.

Between 2001 and 2004, there were no substantial changes in the currency composition of turnover. The dollar was on one side of 89% of all transactions, followed by the euro (37%), the yen (20%) and the pound sterling (17%) (Table 3). Dollar/euro continued to be by far the most traded currency pair in April 2004, with 28% of global turnover, slightly less than in 2001, followed by dollar/yen with 17% (20% in 2001) and dollar/sterling with 14% (11%) (Table 4). The share of trading in local currencies in emerging markets increased slightly to 5.2%.

The geographical distribution of foreign exchange trading did not change noticeably, as turnover rose fairly evenly in most countries (Table 5). The United Kingdom continued to be the most active trading centre, capturing 31% of total turnover, followed by the United States (19%), Japan (8%), Singapore (5%), Germany (5%), Hong Kong SAR (4%), Australia (3%), Switzerland (3%) and France (3%).

¹ National results are adjusted for local inter-dealer double-counting while global results are adjusted for both local and cross-border inter-dealer double-counting and for estimated gaps in reporting.

2. OTC derivatives markets

In the OTC derivatives market, average daily turnover increased by 112% between April 2001 and April 2004, to \$1.2 trillion at current exchange rates (see Table 6). The OTC market section consists of “non-traditional” foreign exchange derivatives – such as cross-currency swaps and options – and all interest rate derivatives contracts. The turnover of exchange-traded derivatives increased by a similar magnitude over this period, suggesting that the increase in OTC activity reflected broad market factors rather than a shift from exchanges (see the memo items at the bottom of Table 6).² Keeping the exchange rates fixed at their April 2004 values brings the increase in average daily turnover down by one third, to 77%.

Business in interest rate contracts grew by 110%. The increase was driven especially by trading in dollar-denominated instruments, which were up by 128%. Activity was particularly intense for dollar-denominated options (with turnover up by 675%). Due to this remarkable jump, trading in interest rate options represented 17% of total trading in interest rate products, a threefold increase over April 2001. The shift during April 2004 in the expectations of market participants about future US interest rates may explain part of the increase in the turnover of two of the components of the dollar-denominated interest rate segment, ie options and swaps.³

Activity was nonetheless also strong for euro-denominated contracts, up by 100%. Business in euro-denominated interest rate swaps, which in the absence of homogeneous government bond markets remain the benchmark for the European fixed income segment, expanded by 66%. In terms of market size, contracts denominated in euros remained larger than those in dollars (\$461 billion against \$347 billion), as was the case in April 2001 (Table 9). It is worth recalling that part of the measured increase in the activity in euro-denominated derivatives stems from the 25% depreciation recorded by the dollar with respect to the euro between April 2001 and April 2004.

After decreasing between April 1995 and April 2001, activity in yen-denominated interest rate swaps expanded by 119%, to \$35 billion. The growth may reflect the signs of economic recovery and the associated changes in the outlook for interest rates. Activity in sterling-denominated interest rate swaps was also buoyant, up by 157%, to \$59 billion.

Turnover in foreign exchange derivatives was up by 109%, to \$140 billion (see Table 8). The share of this segment of the OTC derivatives market remained around 12%. Activity was boosted by contracts involving the US dollar (up by 104%, to \$110 billion), especially the dollar/euro and the dollar/yen pairs (up by 124% and 58%, respectively). Turnover also increased for other euro-denominated contracts (by 130%, to \$23 billion). Trading in currency options, by far the largest group of “non-traditional” foreign exchange products, expanded by 95%, to \$117 billion.

Turning to the counterparty breakdown, turnover with other financial institutions rose to 43% of global OTC derivatives turnover, up from 29% in April 2001 (see Table 7). Business with other financial institutions is now similar in size to inter-dealer business. The decreased importance of inter-dealer business relative to 2001 may reflect a greater use of derivatives by small commercial banks, mutual funds, hedge funds and insurance companies in the light of the turbulence experienced by financial markets since the last survey. Lastly, cross-border activity accounted for 60% of all activity in April 2004, reflecting the global nature of the derivatives business. The share of cross-border activity stood at 52% in April 1998 and has been gradually increasing since then.

² It should be noted, however, that activity in the two markets cannot be directly compared owing to inherent differences in the characteristics and uses of products.

³ The former are typically employed to hedge risks in periods of changing expectations, the latter for mortgage hedging in periods of rising interest rates.

II. Statistical notes

The turnover part of the most recent triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity was carried out by central banks and monetary authorities in 52 countries for April 2004. The objective of the exercise was to obtain reasonably comprehensive and internationally consistent information on the size and structure of foreign exchange and over-the-counter (OTC) derivatives markets. The purpose of the statistics is to increase market transparency and thereby help central banks, other authorities and market participants to better monitor patterns of activity in the global financial system. The latest triennial survey covered foreign exchange and OTC derivatives turnover in April 2004, as reported by approximately 1,200 market participants in 52 countries on a gross and unconsolidated basis.

The format of the 2004 survey included the following main refinements and clarifications of reporting procedures as compared with the previous survey:

- A clarification of the dealer concept, in order to better distinguish between inter-dealer and customer transactions; and
- A clarification of the reporting basis for the location of trades as, in principle, that of the sales desk instead of the trading desk.

Despite these changes, the data presented here can be expected to be largely comparable with those of the previous triennial central bank survey in 2001. For example, although the number of reporting dealers has been halved as compared with the previous survey, this did not have a substantial effect on the overall results (except for estimated gaps in reporting, see Section 8 below), as the current population of reporters covers a substantial part (at least 90% for most countries) of market activity. An increase from 48 to 52 participating countries also seems to have had little effect on the overall coverage of the survey.

1. Coverage

Data on turnover were collected on foreign exchange spot transactions and foreign exchange and single currency interest rate derivatives. For derivatives, in principle an instrument breakdown into forwards, swaps and options was requested.

2. Turnover data

Turnover data provide a measure of market activity, and can also give an indication of market liquidity. Turnover was defined as the absolute gross value of all new deals entered into during the month of April 2004, and was measured in terms of the nominal or notional amount of the contracts.

No distinction was made between sales and purchases (ie a purchase of \$5 million against sterling and a sale of \$7 million against sterling would amount to a gross turnover of \$12 million). Direct cross-currency transactions were counted as single transactions; however, cross-currency transactions passing through a vehicle currency were recorded as two separate deals against the vehicle currency. The gross amount of each transaction was recorded once, and netting arrangements and offsets were ignored. For turnover of transactions with variable nominal or notional principal amounts, the nominal or notional principal amount on the transaction date was reported.

The basis for reporting was in principle the location of the sales desk of any trade, even if deals entered into in different locations were booked in a central location. Thus, transactions concluded by offices located abroad were not reported by the country of location of the head office, but by that of the office abroad (insofar as the latter was a reporting institution in one of the other 51 reporting countries). Where no sales desk was involved in a deal, the trading desk was used to determine the location of deals.

In addition, reporting institutions were asked to include trades with their own branches and subsidiaries and between affiliated firms in their reported aggregates, and to identify them as a separate "of which" memo item, under related party trades. However, trades that were conducted as back-to-back deals and trades to facilitate internal bookkeeping and internal risk management within a

given institution, as well as trades between desks and offices of the reporting dealer located in the same country, were to be excluded from the reporting. The reported trades with own branches and subsidiaries and between affiliated firms were allocated to the category of reporting dealers or other financial institutions depending on whether the counterparty was a reporting dealer or not.

In all cases, transactions were reported to the BIS in US dollar equivalents, with non-dollar amounts generally converted into US dollars using the exchange rate prevailing on the date of the trade.

As in the previous triennial foreign exchange market surveys, turnover data were collected over a one-month period in order to reduce the likelihood that very short-term variations in activity might contaminate the data. The data collected for the survey reflected all transactions entered into during the calendar month of April 2004, regardless of whether delivery or settlement was made during that month.

In order to allow a comparison across countries, daily averages of turnover were computed by dividing aggregate monthly turnover for the country in question by the number of days in April on which the foreign exchange and derivatives markets in that country were open. The number of trading days ranged from 17 to 24.

3. Instruments

The definitions used for traditional foreign exchange market instruments and OTC derivatives market instruments were as follows:

Spot transaction: single outright transaction involving the exchange of two currencies at a rate agreed on the date of the contract for value or delivery (cash settlement) within two business days.

Outright forward: transaction involving the exchange of two currencies at a rate agreed on the date of the contract for value or delivery (cash settlement) at some time in the future (more than two business days later). This category also includes forward foreign exchange agreement transactions (FXAs), non-deliverable forwards and other forward contracts for differences.

Foreign exchange swap: transaction which involves the actual exchange of two currencies (principal amount only) on a specific date at a rate agreed at the time of the conclusion of the contract (the short leg), and a reverse exchange of the same two currencies at a date further in the future at a rate (generally different from the rate applied to the short leg) agreed at the time of the contract (the long leg).

Currency swap: contract which commits two counterparties to exchange streams of interest payments in different currencies for an agreed period of time and to exchange principal amounts in different currencies at a previously agreed exchange rate at maturity.

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. This category also includes exotic foreign exchange options such as average rate options and barrier options.

Forward rate agreement (FRA): interest rate forward contract in which the rate to be paid or received on a specific obligation for a set period of time, beginning at some time in the future, is determined at contract initiation.

Interest rate swap: agreement to exchange periodic payments related to interest rates on a single currency; can be fixed for floating, or floating for floating based on different indices. This group includes those swaps whose notional principal is amortised according to a fixed schedule independent of interest rates.

Interest rate option: option contract that gives the right to pay or receive a specific interest rate on a predetermined principal for a set period of time.

4. Counterparties

Following the methodology of the previous triennial central bank surveys, reporting institutions were requested to provide for each instrument a breakdown of contracts by counterparty as follows: reporting dealers, other financial institutions and non-financial customers. Reporters were requested to

provide separate information on local and cross-border transactions. The distinction between local and cross-border had to be determined according to the location of the counterparty and not its nationality.

“Reporting dealers” were defined as those financial institutions that actively participate in local and global foreign exchange and derivatives markets. These are mainly large commercial and investment banks and securities houses that (1) participate in the *inter-dealer* market and/or (2) have active *business with large customers*, such as large corporate firms, governments and other non-reporting financial institutions; in other words, *reporting dealers* are institutions that are actively buying and selling currency and OTC derivatives both for their own account and/or in meeting customer demand. In practice, *reporting dealers* are often those institutions that actively or regularly deal through electronic platforms, such as EBS or Reuters dealing facilities. The category of *reporting dealers* also included the branches and subsidiaries of institutions operating in multiple locations that have a sales desk, but not necessarily a trading desk, in those locations that conducts active business with large customers.

“Other financial institutions” were defined as those financial institutions that were not classified as *reporting dealers*. Thus, they mainly cover all other financial institutions, such as smaller commercial banks, investment banks and securities houses, and in addition mutual funds, pension funds, hedge funds, currency funds, money market funds, building societies, leasing companies, insurance companies, other financial subsidiaries of corporate firms and central banks.

“Non-financial customers” were defined as any counterparty other than those described above, ie mainly non-financial *end users*, such as corporates and governments.

5. Currency and other market risk breakdowns

In order to obtain consistent data on turnover in principal currency segments of the foreign exchange market, reporting institutions were asked to report turnover data on foreign exchange contracts in principle with a similar breakdown by currency pairs to that in the previous surveys. As a result, data were provided separately for trading in domestic currency, US dollars and euros against each other and against the following currencies:

Japanese yen, pound sterling, Swiss franc, Canadian dollar, Australian dollar and other currencies.

Given the increasing interest in and importance of a number of other currencies, in particular emerging market currencies, reporting dealers were requested to provide supplementary information on total turnover for the following currencies, which also had to be included in the above columns for “other” currencies in the breakdown by currency pairs:

Brazilian real, Chinese renminbi, Czech koruna, Danish krone, Hong Kong dollar, Hungarian forint, Indian rupee, Indonesian rupiah, Korean won, Mexican peso, New Zealand dollar, Norwegian krone, Philippine peso, Polish zloty, Russian rouble, Singapore dollar, South African rand, Swedish krona, new Taiwan dollar, Thai baht and Turkish lira.

For turnover of single currency interest rate contracts the currency breakdown covered the following currencies:

Domestic currency, US dollar, euro, Japanese yen, pound sterling, Swiss franc, Canadian dollar, Australian dollar, Danish krone, Hong Kong dollar, Indonesian rupiah, Mexican peso, New Zealand dollar, Norwegian krone, Singapore dollar, Swedish krona and Thai baht.

6. Maturities

Transactions in outright forwards and foreign exchange swaps were to be broken down between the following maturity bands: seven days or less, over seven days and up to one year, over one year.

7. Elimination of double-counting

Double-counting arises because transactions and positions between two reporting entities are recorded by each of them, ie twice. In order to derive meaningful measures of overall market size, it is therefore necessary to halve the data on transactions and positions between reporting dealers. To enable this, reporters were asked to distinguish deals contracted with other reporters (dealers). The

following methods of adjustment were applied: data on local deals with other reporters were firstly divided by two and this figure was subtracted from total gross data to arrive at so-called “net-gross” figures, ie business net of local inter-dealer double-counting. In a second step, data on cross-border deals with other reporters were also divided by two and this figure was subtracted from total “net-gross” data to obtain so-called “net-net” figures, ie business net of local and cross-border inter-dealer double-counting.

8. Gaps in reporting

Gaps in reporting stem from two sources: incomplete reporting (ie deals between two non-reporters) in the countries providing data, and less than full coverage of the range of countries in which the surveyed activity takes place. The second type of gap is mitigated by the existence of counterparty reports. The bulk of the cross-border inter-dealer business of dealers located in non-reporting countries is very likely to be captured in the reports of their counterparties in countries participating in the survey. The types of transactions which are not included in the reported data are local as well as cross-border transactions between dealers in non-reporting countries, and those between non-reporting dealers and any customers or other financial institutions wherever they are located.

As in previous surveys, an attempt was made to estimate the gaps due to incomplete reporting in the countries providing the data. This estimate was based on information supplied on the coverage of the survey in each participating country. For example, if in a given country the coverage of the survey as compared to total market activity was 90%, the gap from incomplete reporting was estimated to represent 10% of reported turnover and amounts outstanding in that country.

Due to a decrease in the number of reporting dealers in 2004 (as explained in the introduction to these notes), the overall coverage of foreign exchange market activity fell to 94% from 98% in 2001 and that of OTC derivatives market activity to 95% from 97% in 2001. Accordingly, the estimated gaps in reporting substantially increased for both market segments in 2004 as compared to 2001.

In some cases, the sum of sub-items does not equal the total for the category in question. Apart from rounding, this can result from incomplete classification of data, use of residual categories and suppression of data for confidentiality reasons.

9. Intertemporal comparisons

Intertemporal comparisons are complicated by changes in coverage and definition and the movement of exchange rates over the three-year periods separating the surveys in the participating countries.

Changes in coverage have been of two kinds. First, within national markets the coverage of dealers active in national markets has changed. An increase in the number of reporting institutions does not, however, necessarily denote greater coverage. If institutions which were not active before, and were therefore not covered in earlier reports, began to deal on a substantial scale, it is legitimate to compare the total turnover of the larger number of reporting institutions with the total turnover of the smaller number reporting their transactions in the previous period. The same applies, of course, in the case of a decrease in the number of reporting institutions due to a reduction of their activity and importance in the market.

The second type of change in coverage relates to the inclusion of a larger number of countries. In 1986 only four countries participated in the triennial foreign exchange turnover survey. In 1989 the number rose to 21, but some of them did not provide all types of information. In 1992 a total of 26 countries, including all countries with important markets, reported comprehensive data on turnover in foreign exchange transactions. In 1995 the number of countries did not increase further, but the coverage of market activity was significantly expanded to include all financial derivatives and to collect data not only on turnover, but on notional amounts outstanding and gross market values as well. In 1998 the number of reporting countries increased to 43 and the coverage of derivatives market activity was further expanded to include separate data on credit-linked derivatives. In 2001 and 2004, the number of reporting countries increased further to 48 and then to 52, while the coverage of market segments remained the same as in 1998.

While the additional information provided by new reporting countries is valuable, not all of it relates to transactions that were not captured before. The bulk of these countries' cross-border transactions with dealers can be presumed to have been included in the reports of their counterparties in earlier years.

In new reporting countries, the business not captured before therefore relates to local inter-dealer transactions and those with non-reporting financial institutions and customers.

Another complication involves changes in definitions. Most changes in definition reflect improvements in compilation procedures. In particular, greater effort has been made since the 1992 survey to classify counterparties accurately and a finer counterparty breakdown has been used. As a result, it is now possible to arrive at more accurate estimates of double-counting and to compile net figures on turnover for all items. However, because this was not possible in earlier years, intertemporal comparisons have to be interpreted carefully. The new procedure introduces biases to the extent that the share of inter-dealer business has changed over time. In addition, as mentioned in the introduction to these statistical notes, in the 2004 triennial survey an effort has been made to clarify the concept of reporting dealers, in order to better distinguish between inter-dealer and customer transactions, and to clarify the reporting basis for the location of trades as, in principle, that of the sales desk of any reporting institution. It is expected that the latter two changes will have contributed to better consistency and meaningfulness of the reported data.

10. Data at constant exchange rates

Another question often raised with intertemporal comparisons is about the impact on aggregate turnover and amounts outstanding of movements in exchange rates vis-à-vis the US dollar from one reporting date to the next. For example, turnover in the Japanese yen/pound sterling sector may have remained unchanged from one reporting period to the next in terms of these currencies. But if the dollar rises against both currencies, total turnover in the segment reported in dollar terms will be lower, thus signalling a decline where none has in fact taken place. Even in currency pairs involving the dollar, exchange rate movements will impact on turnover. For instance, if a trade for a fixed amount of yen against US dollars is transacted, the trade will enter the aggregates with a smaller or larger US dollar amount, depending on how the yen moves against the dollar from one reporting date to the next. A yen-based observer would note spurious movements in the yen aggregates reported in dollar terms.

To provide some guidance on the impact of actual exchange rate movements on total reported aggregates, a few of the major pre-2004 aggregates have been provided additionally recalculated at constant exchange rates, replacing historical exchange rates by average April 2004 exchange rates. All transactions in a given currency, say the yen, are converted into original currency terms at the historical exchange rate and then recalculated using the average April 2004 dollar/yen exchange rate, as appropriate. In the case of foreign exchange transactions, the dollar side of transactions remains unchanged, since the exchange rate for dollar amounts is constant (and equal to one) over time. The sums of all recalculated transactions are divided by two. This takes account of the joint contribution of two currencies to each foreign exchange transaction.

III. Statistical tables

Table 1

Global foreign exchange market turnover¹

Daily averages in April, in billions of US dollars

Instrument	1989	1992	1995	1998	2001	2004
Spot transactions	317	394	494	568	387	621
Outright forwards	27	58	97	128	131	208
Foreign exchange swaps	190	324	546	734	656	944
Estimated gaps in reporting	56	44	53	60	26	107
Total "traditional" turnover	590	820	1,190	1,490	1,200	1,880
<i>Memorandum item:</i>						
<i>Turnover at April 2004 exchange rates²</i>	650	840	1,120	1,590	1,380	1,880

¹ Adjusted for local and cross-border double-counting. ² Non-US dollar legs of foreign currency transactions were converted into original currency amounts at average exchange rates for April of each survey year and then reconverted into US dollar amounts at average April 2004 exchange rates.

Table 2

**Reported foreign exchange market turnover
by instrument, counterparty and maturity¹**

Daily averages in April, in billions of US dollars

Instrument/counterparty	1995		1998		2001		2004	
	Amount	% share	Amount	% share	Amount	% share	Amount	% share
Spot	494	43	568	40	387	33	621	35
With reporting dealers	325	66	348	61	218	56	301	48
With other financial institutions	94	19	121	21	111	29	213	34
With non-financial customers	75	15	99	17	58	15	108	17
Outright forwards	97	9	128	9	131	11	208	12
With reporting dealers	33	34	49	38	52	40	73	35
With other financial institutions	28	29	34	27	41	31	80	38
With non-financial customers	36	37	44	34	37	29	56	27
Up to 7 days	50	52	66	52	51	39	92	44
Over 7 days and up to 1 year	44	45	59	46	76	58	111	53
Over 1 year	2	2	5	4	4	3	5	3
Foreign exchange swaps	546	48	734	51	656	56	944	53
With reporting dealers	370	68	512	70	419	64	562	60
With other financial institutions	108	20	124	17	177	27	293	31
With non-financial customers	68	12	98	13	60	9	89	9
Up to 7 days	382	70	529	72	450	69	692	73
Over 7 days and up to 1 year	155	28	192	26	197	30	240	25
Over 1 year	7	1	10	1	8	1	10	1
Total²	1,137	100	1,430	100	1,174	100	1,773	100
With reporting dealers	728	64	908	64	689	59	936	53
With other financial institutions	230	20	279	20	329	28	585	33
With non-financial customers	179	16	242	17	156	13	252	14
Local	526	46	657	46	499	43	674	38
Cross-border	613	54	772	54	674	57	1,099	62

¹ Adjusted for local and cross-border double-counting. ² Excludes the estimated gaps in reporting shown in Table 1.

Table 3**Currency distribution of reported foreign exchange market turnover¹**

Percentage shares of average daily turnover in April

Currency	1989	1992	1995	1998	2001	2004
US dollar.....	90	82.0	83.3	87.3	90.3	88.7
Euro .....	.	.	.	.	37.6	37.2
Deutsche mark ²	27	39.6	36.1	30.1	.	.
French franc.....	2	3.8	7.9	5.1	.	.
ECU and other EMS currencies.....	4	11.8	15.7	17.3	.	.
Japanese yen	27	23.4	24.1	20.2	22.7	20.3
Pound sterling.....	15	13.6	9.4	11.0	13.2	16.9
Swiss franc	10	8.4	7.3	7.1	6.1	6.1
Australian dollar	2	2.5	2.7	3.1	4.2	5.5
Canadian dollar.....	1	3.3	3.4	3.6	4.5	4.2
Swedish krona ³.....	...	1.3	0.6	0.4	2.6	2.3
Hong Kong dollar ³.....	...	1.1	0.9	1.3	2.3	1.9
Norwegian krone ³.....	...	0.3	0.2	0.4	1.5	1.4
Korean won ³.....	...	...	...	0.2	0.8	1.2
Mexican peso ³.....	...	...	...	0.6	0.9	1.1
New Zealand dollar ³.....	...	0.2	0.2	0.3	0.6	1.0
Singapore dollar ³.....	...	0.3	0.3	1.2	1.1	1.0
Danish krone ³.....	...	0.5	0.6	0.4	1.2	0.9
South African rand ³.....	...	0.3	0.2	0.5	1.0	0.8
Polish zloty ³.....	...	...	...	0.1	0.5	0.4
Taiwan dollar ³.....	...	...	...	0.1	0.3	0.4
Indian rupee ³.....	...	...	...	0.1	0.2	0.3
Brazilian real ³.....	...	...	...	0.4	0.4	0.2
Czech koruna ³.....	...	...	...	0.3	0.2	0.2
Thai baht ³.....	...	...	...	0.2	0.2	0.2
Hungarian forint ³.....	...	...	...	0.0	0.0	0.2
Russian rouble ³.....	...	...	...	0.3	0.4	0.7
Chilean peso ³.....	...	...	...	0.1	0.2	0.1
Malaysian ringgit ³.....	...	...	...	0.0	0.1	0.1
Other currencies	22	7.7	7.1	8.2	6.5	6.1
All currencies	200	200.0	200.0	200.0	200.0	200.0

¹ Because two currencies are involved in each transaction, the sum of the percentage shares of individual currencies totals 200% instead of 100%. The figures relate to reported "net-net" turnover, ie they are adjusted for both local and cross-border double-counting, except for 1989 data, which are available only on a "gross-gross" basis. ² Data for April 1989 exclude domestic trading involving the Deutsche mark in Germany. ³ For 1992-98, the data cover local home currency trading only.

Table 4**Reported foreign exchange turnover by currency pair¹**

Daily averages in April, in billions of US dollars and percentages

Currency pair	1992		1995		1998		2001		2004	
	Amount	% share	Amount	% share	Amount	% share	Amount	% share	Amount	% share
USD/EUR	.	.	.	.	.	.	354	30	501	28
USD/DEM	192	25	254	22	290	20	.	.	.	.
USD/FRF	19	2	51	4	58	4	.	.	.	.
USD/XEU	13	2	18	2	17	1	.	.	.	.
USD/OthEMS	43	6	104	9	172	12	.	.	.	.
USD/JPY	155	20	242	21	256	18	231	20	296	17
USD/GBP	77	10	78	7	117	8	125	11	245	14
USD/CHF	49	6	61	5	79	5	57	5	78	4
USD/CAD	25	3	38	3	50	3	50	4	71	4
USD/AUD	18	2	29	3	42	3	47	4	90	5
USD/Oth	48	6	72	6	167	12	195	17	293	17
EUR/JPY	.	.	.	.	.	.	30	3	51	3
EUR/GBP	.	.	.	.	.	.	24	2	43	2
EUR/CHF	.	.	.	.	.	.	12	1	26	1
EUR/Oth	.	.	.	.	.	.	21	2	39	2
DEM/JPY	18	2	24	2	24	2	.	.	.	.
DEM/GBP	23	3	21	2	31	2	.	.	.	.
DEM/CHF	13	2	18	2	18	1	.	.	.	.
DEM/FRF	10	1	34	3	10	1	.	.	.	.
DEM/XEU	6	1	6	1	3	0	.	.	.	.
DEM/OthEMS	21	3	38	3	34	2	.	.	.	.
DEM/Oth	20	3	16	1	20	1	.	.	.	.
OthEMS ²	3	0	3	0	4	0	.	.	.	.
Other pairs	25	3	30	3	38	2	26	2	42	2
All currency pairs	778	100	1,137	100	1,430	100	1,174	100	1,773	100

¹ Adjusted for local and cross-border double-counting. ² OthEMS/OthEMS: the data cover local home currency trading only.

Table 5
Geographical distribution of reported foreign exchange market turnover¹

Daily averages in April, in billions of US dollars and percentages

Country	1992		1995		1998		2001		2004	
	Amount	% share	Amount	% share	Amount	% share	Amount	% share	Amount	% share
Argentina.....	...	...	...	...	2	0.1	...	...	1	0.0
Australia.....	29	2.7	40	2.5	47	2.4	52	3.2	81	3.4
Austria.....	4	0.4	13	0.8	11	0.6	8	0.5	13	0.6
Bahrain.....	4	0.4	3	0.2	2	0.1	3	0.2	3	0.1
Belgium.....	16	1.5	28	1.8	27	1.4	10	0.6	20	0.8
Brazil ².....	...	...	...	...	5	0.3	5	0.3	3	0.1
Canada.....	22	2.0	30	1.9	37	1.9	42	2.6	54	2.2
Chile.....	...	...	...	...	1	0.1	2	0.1	2	0.1
China ².....	...	...	...	...	0	0.0	0	0.0	1	0.0
Colombia.....	...	...	...	...	...	...	0	0.0	1	0.0
Czech Republic....	...	...	...	...	5	0.3	2	0.1	2	0.1
Denmark.....	27	2.5	31	2.0	27	1.4	23	1.4	41	1.7
Estonia.....	...	...	...	...	...	...	...	...	0	0.0
Finland ³	7	0.7	5	0.3	4	0.2	2	0.1	2	0.1
France.....	33	3.1	58	3.7	72	3.7	48	3.0	64	2.7
Germany.....	55	5.1	76	4.8	94	4.8	88	5.5	118	4.9
Greece.....	1	0.1	3	0.2	7	0.4	5	0.3	4	0.2
Hong Kong SAR	60	5.6	90	5.7	79	4.0	67	4.1	102	4.2
Hungary.....	...	...	...	...	1	0.1	1	0.0	3	0.1
India.....	...	...	...	...	2	0.1	3	0.2	7	0.3
Indonesia.....	...	...	...	...	2	0.1	4	0.2	2	0.1
Ireland.....	6	0.6	5	0.3	10	0.5	8	0.5	7	0.3
Israel.....	...	...	...	...	...	...	1	0.1	5	0.2
Italy.....	16	1.5	23	1.5	28	1.4	17	1.0	20	0.8
Japan.....	120	11.2	161	10.2	136	6.9	147	9.1	199	8.3
Korea.....	...	...	...	...	4	0.2	10	0.6	20	0.8
Latvia.....	...	...	...	...	...	...	...	...	2	0.1
Lithuania.....	...	...	...	...	...	...	...	...	1	0.0
Luxembourg.....	13	1.2	19	1.2	22	1.1	13	0.8	14	0.6
Malaysia.....	...	...	...	...	1	0.1	1	0.1	2	0.1
Mexico.....	...	...	...	...	9	0.5	9	0.5	15	0.6
Netherlands.....	20	1.9	26	1.7	41	2.1	30	1.9	49	2.0
New Zealand.....	4	0.4	7	0.4	7	0.4	4	0.2	7	0.3
Norway.....	5	0.5	8	0.5	9	0.5	13	0.8	14	0.6
Peru.....	...	0.0	...	0.0	...	...	0	0.0	0	0.0
Philippines.....	...	...	...	...	1	0.1	1	0.1	1	0.0
Poland.....	...	...	...	...	3	0.2	8	0.5	6	0.3
Portugal.....	1	0.1	2	0.1	4	0.2	2	0.1	2	0.1
Russia.....	...	...	...	...	7	0.4	10	0.6	30	1.2
Saudi Arabia.....	...	...	...	...	2	0.1	2	0.1	2	0.1
Singapore.....	74	6.9	105	6.7	139	7.1	101	6.2	125	5.2
Slovakia.....	...	...	...	...	...	...	1	0.0	2	0.1
Slovenia.....	...	...	...	...	...	...	0	0.0	0	0.0
South Africa.....	3	0.3	5	0.3	9	0.5	10	0.6	10	0.4
Spain.....	12	1.1	18	1.1	19	1.0	8	0.5	14	0.6
Sweden.....	21	2.0	20	1.3	15	0.8	24	1.5	31	1.3
Switzerland.....	66	6.1	87	5.5	82	4.2	71	4.4	79	3.3
Taiwan, China.....	...	...	...	...	5	0.3	4	0.3	8	0.3
Thailand.....	...	...	...	...	3	0.2	2	0.1	3	0.1
Turkey.....	...	...	...	...	...	...	1	0.1	3	0.1
United Kingdom ...	291	27.0	464	29.5	637	32.5	504	31.2	753	31.3
United States.....	167	15.5	244	15.5	351	17.9	254	15.7	461	19.2
Total.....	1,076	100.0	1,572	100.0	1,958	100.0	1,619	100.0	2,408	100.0

¹ Adjusted for local double-counting ("net-gross"). Estimated coverage of the foreign exchange market ranged between 90% and 100% in most countries. ² Data only cover spot transactions. ³ Data for 1992 not adjusted for local double-counting.

Table 6

Global OTC derivatives market turnover by instrument¹

Average daily turnover in April, in billions of US dollars

Instrument	1995	1998	2001	2004
A. Foreign exchange instruments	45	97	67	140
Currency swaps	4	10	7	21
Options	41	87	60	117
Other	1	0	0	2
B. Interest rate instruments²	151	265	489	1,025
FRAs	66	74	129	233
Swaps	63	155	331	621
Options	21	36	29	171
Other	2	0	0	0
C. Estimated gaps in reporting	4	13	19	55
D. Total	200	375	575	1,220
<i>Memo:</i>				
<i>Turnover at April 2004</i>				
<i>exchange rates³</i>	180	410	690	1,220
<i>Exchange-traded derivatives⁴</i>				
<i>Currency instruments</i>	17	11	10	22
<i>Interest rate instruments</i>	1,204	1,371	2,170	4,521

¹ Adjusted for local and cross-border double-counting. ² Single currency interest rate contracts only. ³ Non-US dollar legs of foreign currency transactions were converted into original currency amounts at average exchange rates for April of each survey year and then reconverted into US dollar amounts at average April 2004 exchange rates. ⁴ Sources: FOW TRADEdata; Futures Industry Association; various futures and options exchanges.

Table 7

Reported OTC derivatives turnover by counterparty¹

Daily averages in April, in billions of US dollars

Counterparty	Total				Foreign exchange ²				Interest rates ³			
	95	98	01	04	95	98	01	04	95	98	01	04
With reporting dealers	125	203	354	556	23	53	32	61	102	150	322	494
Local.....	52	91	146	210	7	20	10	22	45	71	135	188
Cross-border.....	73	112	209	345	16	33	22	39	57	78	187	306
With other financial institutions	46	109	159	499	14	20	17	49	32	89	142	450
Local.....	21	53	63	211	5	8	7	16	16	46	57	195
Cross-border.....	25	56	96	288	9	12	10	32	16	44	85	256
With non-financial customers.....	25	50	42	103	7	23	18	24	17	27	25	79
Local.....	17	30	24	42	5	13	10	10	12	16	15	32
Cross-border.....	8	21	18	62	2	10	8	14	5	10	10	47
Total⁴	196	362	556	1,165	45	97	67	140	151	265	489	1,025

¹ Adjusted for local and cross-border double-counting. ² Currency swaps and options. ³ Single currency interest rate contracts only.

⁴ For 2004, includes turnover data for which no counterparty breakdown has been reported.

Table 8

Reported OTC foreign exchange derivatives turnover by currency pair¹

Daily averages in April, in billions of US dollars

Currency pair	Total				Currency swaps				Options			
	95	98	01	04	95	98	01	04	95	98	01	04
US dollar vs other currencies	34	77	54	110	3	9	6	18	31	68	48	92
Euro .....	.	.	17	38	.	.	1	7	.	.	16	31
Deutsche mark.....	10	18	.	.	0	1	.	.	10	17	.	.
Other EMS currencies	2	8	.	.	1	2	.	.	1	6	.	.
Japanese yen	14	36	19	30	1	3	2	3	13	33	17	27
Pound sterling.....	3	5	4	12	0	1	1	3	3	4	3	9
Other.....	5	10	14	31	1	2	2	5	4	8	12	26
Euro vs other currencies ²	.	.	10	23	.	.	1	3	.	.	9	20
Japanese yen .....	.	.	6	10	.	.	0	0	.	.	6	10
Pound sterling.....	.	.	2	4	.	.	0	2	.	.	2	3
Swiss franc .....	.	.	.	4	.	.	.	0	.	.	.	4
Other.....	.	.	1	5	.	.	0	1	.	.	1	4
Deutsche mark vs other currencies ²	8	17	.	.	0	1	.	.	8	16	.	.
Japanese yen	2	5	.	.	0	0	.	.	2	5	.	.
Pound sterling.....	1	5	.	.	0	0	.	.	1	5	.	.
Other EMS currencies	4	2	.	.	0	0	.	.	4	2	.	.
Other.....	1	4	.	.	0	0	.	.	1	4	.	.
Other currency pairs ³	2	4	3	5	1	1	0	1	2	3	3	5
All currency pairs.....	45	97	67	140	4	10	7	21	41	87	60	117

¹ Adjusted for local and cross-border double-counting. ² Excluding the US dollar. ³ Excluding the US dollar, the euro and the Deutsche mark.

Table 9**Reported OTC interest rate derivatives turnover by currency¹**

Daily averages in April, in billions of US dollars

Currency	1995	1998	2001	2004
FRAs	66	74	129	233
US dollar	18	23	39	59
Euro .....	.	.	48	116
Deutsche mark.....	9	9	.	.
French franc.....	...	2	.	.
ECU and other EMS .....	...	15	.	.
Japanese yen	10	3	9	0
Pound sterling.....	...	8	12	25
Other.....	30	14	21	33
Swaps	63	155	331	621
US dollar	17	36	100	195
Euro .....	.	.	173	288
Deutsche mark.....	7	47	.	.
French franc.....	...	22	.	.
ECU and other EMS .....	...	16	.	.
Japanese yen	17	14	16	35
Pound sterling.....	...	8	23	59
Other.....	22	12	19	43
Options	21	36	29	171
US dollar	7	12	12	93
Euro .....	.	.	11	57
Deutsche mark.....	2	7	.	.
French franc.....	...	1	.	.
ECU and other EMS .....	...	3	.	.
Japanese yen	8	10	2	10
Pound sterling.....	...	1	2	6
Other.....	4	3	2	4
Total	151	265	489	1,025
US dollar	41	71	152	347
Euro .....	.	.	231	461
Deutsche mark.....	18	63	.	.
French franc.....	...	25	.	.
ECU and other EMS .....	...	35	.	.
Japanese yen	35	27	27	46
Pound sterling.....	...	17	37	90
Other.....	58	28	42	81

¹ Adjusted for local and cross-border double-counting. Single currency interest rate contracts only.

Table 10
Geographical distribution of reported OTC derivatives turnover¹

Daily averages in April, in billions of US dollars and percentages

Country	1995		1998		2001		2004	
	Amount	% share	Amount	% share	Amount	% share	Amount	% share
Australia.....	4	1.5	5	1.1	12	1.6	18	1.2
Austria.....	2	0.7	4	0.8	5	0.7	15	1.0
Bahrain.....	4	1.5	0	0.0	0	0.0	0	0.0
Belgium.....	6	2.2	6	1.3	14	1.8	32	2.1
Brazil.....	...	...	...	...	1	0.1	1	0.1
Canada.....	5	1.9	7	1.5	13	1.7	17	1.2
Chile.....	...	...	...	...	...	...	0	0.0
Colombia.....	...	...	...	...	0	0.0	0	0.0
Czech Republic	...	...	...	...	0	0.0	1	0.0
Denmark.....	4	1.5	5	1.1	6	0.8	12	0.8
Finland.....	2	0.7	2	0.4	1	0.1	0	0.0
France.....	22	8.1	46	9.7	67	8.8	154	10.2
Germany.....	14	5.2	34	7.2	97	12.7	46	3.0
Greece.....	0	0.0	0	0.0	0	0.0	0	0.0
Hong Kong SAR	5	1.9	3	0.6	4	0.5	15	1.0
Hungary.....	...	...	0	0.0	0	0.0	0	0.0
India.....	...	...	...	...	0	0.0	1	0.1
Indonesia.....	...	...	0	0.0	0	0.0	0	0.0
Ireland.....	1	0.4	3	0.6	6	0.8	13	0.9
Israel.....	...	...	...	...	...	...	0	0.0
Italy.....	2	0.7	5	1.1	24	3.1	41	2.7
Japan.....	32	11.9	42	8.8	22	2.9	39	2.6
Korea.....	...	...	0	0.0	0	0.0	2	0.1
Lithuania.....	...	...	...	...	...	...	0	0.0
Luxembourg.....	2	0.7	3	0.6	5	0.7	7	0.5
Malaysia.....	...	...	1	0.2	0	0.0	0	0.0
Mexico.....	...	...	0	0.0	0	0.0	2	0.1
Netherlands.....	5	1.9	6	1.3	25	3.3	22	1.5
New Zealand.....	0	0.0	0	0.0	0	0.0	1	0.1
Norway.....	1	0.4	3	0.6	3	0.4	5	0.3
Philippines.....	...	...	...	...	...	...	0	0.0
Poland.....	...	...	...	...	...	...	1	0.1
Portugal.....	0	0.0	1	0.2	0	0.0	1	0.0
Saudi Arabia.....	...	...	0	0.0	0	0.0	0	0.0
Singapore.....	18	6.7	11	2.3	6	0.8	17	1.1
South Africa.....	0	0.0	1	0.2	1	0.1	3	0.2
Spain.....	3	1.1	4	0.8	21	2.7	12	0.8
Sweden.....	2	0.7	5	1.1	4	0.5	8	0.6
Switzerland.....	4	1.5	16	3.4	15	2.0	18	1.2
Taiwan, China.....	...	...	0	0.0	1	0.1	3	0.2
Thailand.....	...	...	0	0.0	0	0.0	0	0.0
Turkey.....	...	...	...	...	...	...	0	0.0
United Kingdom ...	74	27.4	171	36.0	275	36.0	643	42.6
United States.....	53	19.6	90	18.9	135	17.7	355	23.5
Total.....	270	100.0	475	100.0	764	100.0	1,508	100.0

¹ Adjusted for local double-counting ("net-gross"). Estimated coverage of the derivatives market in individual countries ranged between 75% and 100%. The table shows only those 44 countries that reported any data on OTC derivatives turnover.