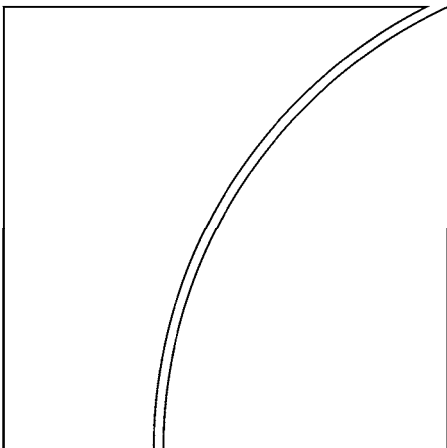




BANK FOR INTERNATIONAL SETTLEMENTS

Triennial Central Bank Survey

Report on global foreign
exchange market activity
in 2010



Monetary and Economic Department

December 2010

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Conventions used in the tables and graphs

0 = Value close to zero.

... = Reported to be nil, not reported, not shown for reasons of confidentiality, not meaningful or not applicable.

Owing to rounding and incomplete reporting of various breakdowns, the component items do not always sum to the total for the category in question.

Lhs, rhs = left-hand scale, right-hand scale

Participating institutions

Data on foreign exchange national turnover and amounts outstanding were provided by the following institutions:

Argentina	Central Bank of Argentina
Australia	Reserve Bank of Australia
Austria	Central Bank of the Republic of Austria
Bahrain	Bahrain Monetary Agency
Belgium	National Bank of Belgium
Brazil	Central Bank of Brazil
Bulgaria	Bulgarian National Bank
Canada	Bank of Canada
Chile	Central Bank of Chile
China	People's Bank of China
	State Administration of Foreign Exchange
Chinese Taipei	Central Bank of China
Colombia	Bank of the Republic
Czech Republic	Czech National Bank
Denmark	National Bank of Denmark
Estonia	Bank of Estonia
Finland	Bank of Finland
France	Bank of France
Germany	Deutsche Bundesbank
Greece	Bank of Greece
Hong Kong SAR	Hong Kong Monetary Authority
Hungary	Magyar Nemzeti Bank
India	Reserve Bank of India
Indonesia	Bank Indonesia
Ireland	Central Bank of Ireland
Israel	Bank of Israel
Italy	Bank of Italy
Japan	Bank of Japan
Korea	Bank of Korea
Latvia	Bank of Latvia
Lithuania	Bank of Lithuania
Luxembourg	Central Bank of Luxembourg
Malaysia	Central Bank of Malaysia
Mexico	Bank of Mexico
Netherlands	Netherlands Bank
New Zealand	Reserve Bank of New Zealand
Norway	Central Bank of Norway
Peru	Central Reserve Bank of Peru
Philippines	Bangko Sentral ng Pilipinas
Poland	National Bank of Poland
Portugal	Bank of Portugal
Romania	National Bank of Romania
Russia	Central Bank of the Russian Federation
Saudi Arabia	Saudi Arabian Monetary Agency
Singapore	Monetary Authority of Singapore
Slovakia	National Bank of Slovakia
South Africa	South African Reserve Bank
Spain	Bank of Spain
Sweden	Sveriges Riksbank
	Statistics Sweden
Switzerland	Swiss National Bank
Thailand	Bank of Thailand
Turkey	Central Bank of the Republic of Turkey
United Kingdom	Bank of England
United States	Federal Reserve Bank of New York

A. Summary of main findings on global foreign exchange markets

Previous triennial surveys have used the expression “traditional foreign exchange markets” to refer to spot transactions, outright forwards and foreign exchange swaps. This expression excluded currency swaps and currency options, which were discussed separately. Starting with the 2010 survey, the expression “global foreign exchange markets” includes all five categories of foreign exchange instruments. The analysis distinguishes between *spot transactions* and *other related foreign exchange instruments* (outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange products).

In addition, the format of the 2010 survey includes the following main refinements and clarifications of reporting procedures compared with the 2007 survey:

- The list of currency pairs has been expanded in order to capture transactions involving currencies typically used in carry trade strategies, namely AUD/JPY, NZD/JPY, USD/ZAR and USD/HKD. Trades in the Brazilian real, Chinese renminbi, Indian rupee and Korean won against the US dollar were also collected.
- A more detailed counterparty breakdown for each instrument has been collected for identification of execution method in order to include a distinction between “with reporting dealers, local” and “with reporting dealers, cross-border”.

Despite these changes, the data presented here can be considered as being largely comparable with those of the previous triennial survey in 2007, notwithstanding the different structure of the results. Weighted average coverage of foreign exchange markets in reporting countries increased from 96% in 2007 to 97% in 2010.

1. Turnover in April 2010

- Global foreign exchange market turnover was 20% higher in April 2010 than in April 2007, with average daily turnover of \$4.0 trillion compared with \$3.3 trillion. The increase was driven by the 48% growth in turnover of *spot* transactions, which represent 37% of foreign exchange market turnover. Spot turnover rose to \$1.5 trillion in April 2010 from \$1.0 trillion in April 2007.
- The increase in turnover of *other foreign exchange instruments* was more modest at 7%, with average daily turnover of \$2.5 trillion in April 2010. Turnover in outright forwards and currency swaps grew strongly (by 31% and 36%, respectively). Turnover in the large foreign exchange swaps segment was flat relative to the previous survey, while trading in currency options fell.
- As regards counterparties, the higher global foreign exchange market turnover is associated with the increased trading activity of “other financial institutions” – a category that includes non-reporting banks, hedge funds, pension funds, mutual funds, insurance companies and central banks. Turnover by this category grew by 42%, rising to \$1.9 trillion in April 2010 from \$1.3 trillion in April 2007. At 13%, the share of trading with non-financial customers was the lowest since 2001.
- Foreign exchange market activity became more global, with cross-border transactions representing 65% of trading activity in April 2010, while local transactions accounted for 35%, the lowest share ever.
- The relative ranking of foreign exchange trading centres has changed slightly from the previous survey. Banks located in the United Kingdom accounted for 37% of all foreign exchange market turnover, against 35% in 2007, followed by the United States (18%), Japan (6%), Singapore (5%), Switzerland (5%), Hong Kong SAR (5%) and Australia (4%).

2. Amounts outstanding and market values at end-June 2010

- Growth in the positions of OTC foreign exchange instruments was moderate at 9%, compared with an increase of 83% in notional amounts outstanding of currency instruments in the 2004–07 period.
- In contrast, market values of these instruments almost doubled against a backdrop of increased financial market volatility during mid-April and early June 2010.

B. Turnover in the global foreign exchange markets in April 2010

1. Growth of global foreign exchange turnover

The 2010 triennial survey shows another substantial increase in global foreign exchange market activity (spot transactions, outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange products¹) since the last survey in 2007, following the unprecedented 72% rise in activity between 2004 and 2007.² In the wake of the financial crisis, global foreign exchange market turnover was 20% higher in April 2010 than in April 2007 (Table B.1). This increase brought average daily turnover to \$4.0 trillion (from \$3.3 trillion) at current exchange rates. Because euro/dollar exchange rates were almost unchanged in April 2007 and 2010, growth calculated at constant exchange rates was similar at 18%.^{3, 4}

Global foreign exchange market turnover¹					
Daily averages in April, in billions of US dollars					
Instrument/maturity	1998	2001	2004	2007	2010
Foreign exchange instruments	1,527	1,239	1,934	3,324	3,981
Spot transactions ²	568	386	631	1,005	1,490
Outright forwards ²	128	130	209	362	475
Up to 7 days	65	51	92	154	219
Over 7 days	62	80	116	208	256
Foreign exchange swaps ²	734	656	954	1,714	1,765
Up to 7 days	528	451	700	1,329	1,304
Over 7 days	202	204	252	382	459
Currency swaps	10	7	21	31	43
Options and other products ³	87	60	119	212	207
<i>Memo:</i>					
<i>Turnover at April 2010 exchange rates⁴</i>	<i>1,705</i>	<i>1,505</i>	<i>2,040</i>	<i>3,370</i>	<i>3,981</i>
<i>Estimated gaps in reporting</i>	<i>49</i>	<i>30</i>	<i>116</i>	<i>152</i>	<i>144</i>
<i>Exchange-traded derivatives⁵</i>	<i>11</i>	<i>12</i>	<i>26</i>	<i>80</i>	<i>168</i>

¹ Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). ² Previously classified as part of the so-called "Traditional FX market". ³ The category "other FX products" covers highly leveraged transactions and/or trades whose notional amount is variable and where a decomposition into individual plain vanilla components was impractical or impossible. ⁴ 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 2010 exchange rates. ⁵ Sources: FOW TRADEdata; Futures Industry Association; various futures and options exchanges. Reported monthly data were converted into daily averages of 20.5 days in 1998, 19.5 days in 2001, 20.5 in 2004, 20 in 2007 and 20 in 2010.

Table B.1

¹ Instrument definitions are provided in Section D (Methodology). See M King and C Mallo, *BIS Quarterly Review*, December 2010 (forthcoming), for a discussion of methodological issues that are important for correct interpretation of the survey data.

² Growth rates in this section refer to changes over three years unless otherwise noted.

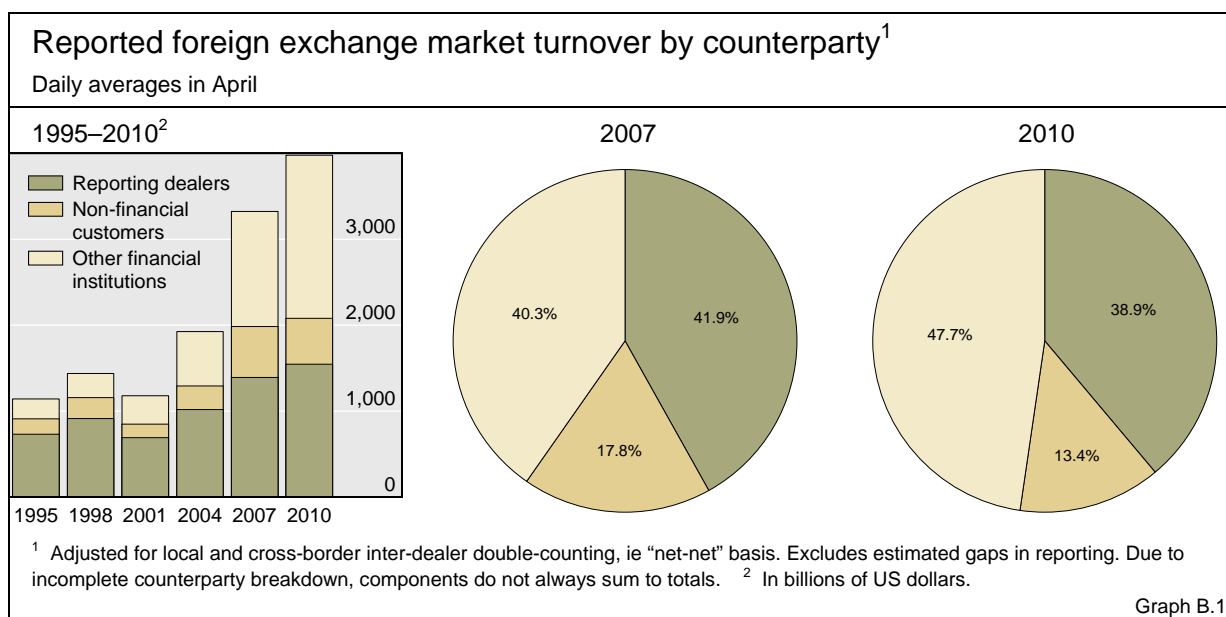
³ Foreign exchange growth in the earlier period was driven – apart from valuation effects – by factors such as low levels of financial market volatility and of risk aversion, and by expansion in hedge fund activity.

⁴ For more details on the results of the 2007 triennial survey, see G Galati and A Heath, "What drives the growth in FX activity? Interpreting the 2007 triennial survey", *BIS Quarterly Review*, December 2007.

Turnover of outright forwards, foreign exchange swaps, currency swaps, currency options and other OTC foreign exchange products continues to be many times larger than the volumes traded on organised exchanges. Daily turnover for currency instruments on organised exchanges was \$168 billion, less than 7% of the \$2.5 trillion average daily turnover in those instruments (Table B.1).

2. Turnover by counterparty

Data for turnover by counterparty show that the increase in global foreign exchange market turnover in 2010 is largely due to the enlarged trading activity of *other financial institutions* – a category that includes non-reporting banks, hedge funds, pension funds, mutual funds, insurance companies and central banks⁵ (Graph B.1). Turnover by this category grew by 42% to \$1.9 trillion in April 2010 from \$1.3 trillion in April 2007.



Although a surge in activity with other financial institutions had already accounted for most of the growth in total turnover in 2007, this category's share (48%) surpassed transactions between reporting dealers (39%) for the first time in 2010 (Graph B.1). Other financial institutions increased their activity mainly in the spot market, with their share of turnover rising from 39% to 51%. In outright forwards, their share rose from 44% to 54% (Annex Table E.1).

Transactions between *reporting dealers* in the interbank market grew by 11% to \$1.5 trillion in April 2010 from \$1.4 trillion in April 2007 (Table B.2). Some of the factors identified as drivers of the downward trend in the share of the interbank market in analyses of previous triennial surveys, such as the increased concentration of the banking sector and the spread of electronic broking platforms, may also have had a dampening effect on interbank turnover.⁶

⁵ M King and D Rime, *BIS Quarterly Review*, December 2010 (forthcoming), analyse in depth how the trading activity of participants in the "other financial institutions" sector has contributed to recent foreign exchange market turnover growth.

⁶ See G Galati and M Melvin, "Explaining the surge in FX turnover", *BIS Quarterly Review*, December 2004, and G Galati, "Why has global FX turnover declined? Explaining the 2001 triennial survey", *BIS Quarterly Review*, December 2001.

Global foreign exchange market turnover by counterparty¹

Daily averages in April, in billions of US dollars and per cent

Instrument/counterparty/ maturity	1998		2001		2004		2007		2010	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
TOTAL	1,527	100	1,239	64	1,934	100	3,324	100	3,981	100
with reporting dealers	961	63	719	37	1,018	53	1,392	42	1,548	39
with other financial institutions	299	20	346	18	634	33	1,339	40	1,900	48
with non-financial customers	266	17	174	9	276	14	593	18	533	13
Local	698	46	525	42	743	38	1,274	38	1,395	35
Cross-border	828	54	713	58	1,185	61	2,051	62	2,586	65

¹ Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). Due to incomplete reporting, components do not always sum to totals.

Table B.2

The lower share of turnover between reporting dealers is consistent with ongoing concentration in the FX industry. Among the top 13 global FX centres (covering 90% of global turnover), a decrease in the number of banks accounting for 75% of the turnover was reported between 2007 and 2010 in most centres. In contrast, in Denmark, Hong Kong SAR and Korea, an increase in competition is evident (Table B.3).

Concentration in the banking industry

Number of banks accounting for 75% of foreign exchange turnover¹

Country	1998	2001	2004	2007	2010
Switzerland	7	6	5	3	2
Denmark	3	3	2	2	3
Sweden	3	3	3	3	3
France	7	6	6	4	4
Canada	6	5	4	6	5
Germany	9	5	4	5	5
Australia	9	10	8	8	7
United States	20	13	11	10	7
Japan	19	17	11	9	8
United Kingdom	24	17	16	12	9
Singapore	23	18	11	11	10
Hong Kong SAR	26	14	11	12	14
Korea	21	14	12	12	16

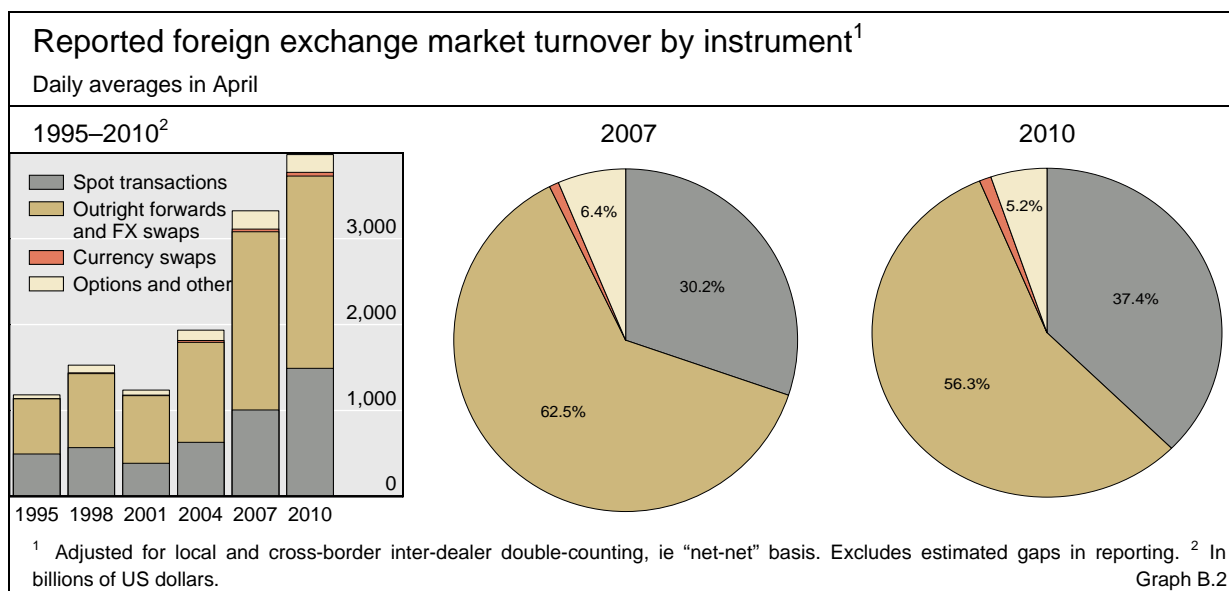
¹ Spot transactions, outright forwards and FX swaps.

Table B.3

Foreign exchange market transactions with *non-financial customers* declined by 10%, falling to \$533 billion in April 2010 from \$593 billion in April 2007 (Table B.2). This category, which includes corporations and governments, now represents around 13% of global foreign exchange market activity, its lowest share since 2001. An increase in spot transactions by these counterparties was offset by a decrease in the use of foreign exchange swaps and currency options. The use of outright forwards and currency swaps by non-financial customers was relatively unchanged (Annex Table E.1).

3. Turnover by instrument

Foreign exchange *spot* turnover rose to \$1.5 trillion in April 2010 from \$1.0 trillion, an increase of 48% at current exchange rates (Table B.1). The increase in spot market turnover to a share of 37% of the global activity accounts for three quarters of the overall increase in global foreign exchange market activity relative to the previous survey (Graph B.2). The higher turnover in spot transactions is largely due to more active trading by other financial institutions, followed by inter-dealer trading (Annex Table E.1).



Trading activity in *other related foreign exchange instruments* continued to expand, but at a much more moderate pace than in the three years to April 2007. Average daily turnover in these instruments grew by 7% to \$2.5 trillion in April 2010, compared with an increase of 78% in the previous three-year period (Table B.1). Turnover in *outright forwards* increased by 31% to \$475 billion. Trading in *currency swaps* also grew strongly, by 39%, albeit from a much lower level, to \$43 billion.

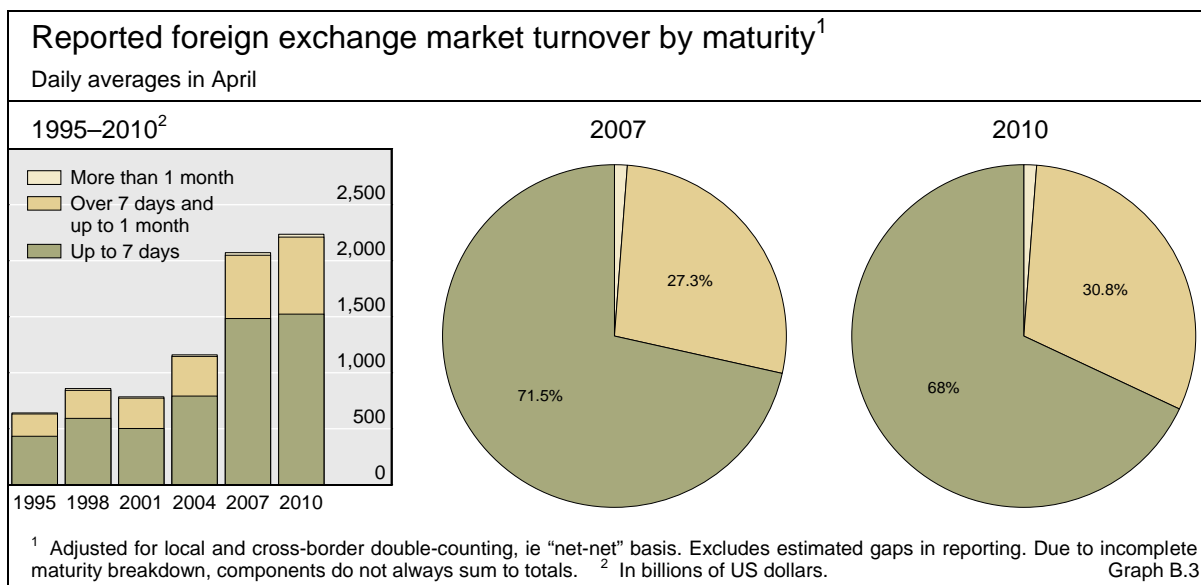
Foreign exchange swaps, the most actively traded foreign exchange instrument by far, are widely used by banks to raise liquidity across money markets for different currencies.⁷ The dominance of reporting banks in this market has declined markedly over time, falling from 70% of total turnover in 1998, and around 60% in 2001 and 2004, to just 47% in 2010. At \$1.8 trillion (+3%), the level of turnover is largely unchanged from the prior survey. The distribution of trading across other counterparties and maturities was also largely unchanged from 2007 (Annex Table E.1).

Finally, the use of *currency options* declined by 2% between surveys, with average daily turnover of \$207 billion in April 2010. However, turnover in currency options with other financial institutions increased, their share in this sector rising from 43% to 55% (Annex Table E.1).

⁷ Disruptions to the foreign exchange swap market during the 2007–09 financial crisis attracted considerable attention; see N Baba and F Packer, “From turmoil to crisis: dislocations in the FX swap market before and after the failure of Lehman Brothers”, *BIS Working Papers*, no 285, July 2009.

4. Turnover by maturity⁸

The distribution of turnover by maturity, which is collected only for outright forwards and foreign exchange swaps (Table B.1 and Graph B.3), shows that the increase in instruments with a maturity of up to seven days was instrumental in the surge in turnover reported in 2007. Since then, the maturity distribution has remained fairly stable, with the share of short-term instruments dropping back slightly from 72% to 68% of turnover. With spot transactions having increased by almost half since 2007, it would, however, be unwarranted to conclude that the significance of short-term trades in the foreign exchange market has decreased.



5. Turnover by currency

The *currency composition* of turnover has changed only slightly over the past three years, with the relative share of the main currencies diverging somewhat (Table B.4).⁹ The market share of the top three currencies (the US dollar, euro and Japanese yen) increased by 3 percentage points, with the market share of the top 10 increasing by only 1.4 percentage points. The biggest increases were seen for the euro and yen, and the biggest decline for sterling. The most significant increases in emerging market currencies were seen for the Turkish lira, Chinese renminbi and Korean won, followed by the Brazilian real and Singapore dollar.¹⁰ The renminbi now accounts for almost 1% of global turnover, on a par with the Indian rupee and the Russian rouble.

⁸ Original maturity.

⁹ Because each transaction involves two currencies, the shares sum to 200%.

¹⁰ The shares of some currencies, in particular the Brazilian real, the Chinese renminbi and the Korean won, have benefited at the margin from a refinement in the data collection process, which encouraged reporting banks to report turnover for a more comprehensive set of currency pairs. For more details on the set of currencies covered by the survey, see the statistical notes in Section D.

Currency distribution of global foreign exchange market turnover¹

Percentage shares of average daily turnover in April

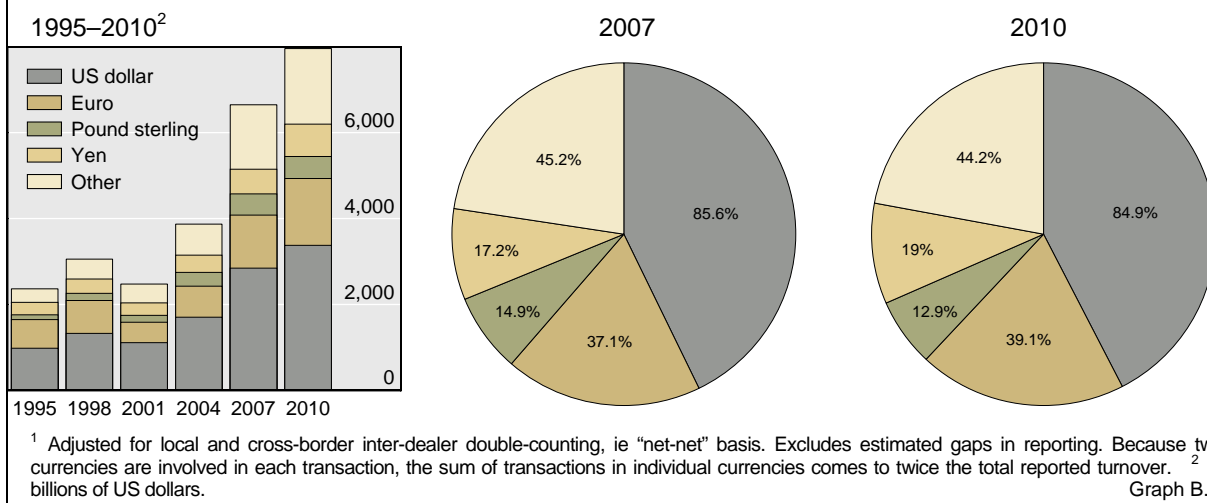
Currency	1998	2001	2004	2007	2010
US dollar	86.8	89.9	88.0	85.6	84.9
Euro	...	37.9	37.4	37.0	39.1
Japanese yen	21.7	23.5	20.8	17.2	19.0
Pound sterling	11.0	13.0	16.5	14.9	12.9
Australian dollar	3.0	4.3	6.0	6.6	7.6
Swiss franc	7.1	6.0	6.0	6.8	6.4
Canadian dollar	3.5	4.5	4.2	4.3	5.3
Hong Kong dollar	1.0	2.2	1.8	2.7	2.4
Swedish krona	0.3	2.5	2.2	2.7	2.2
New Zealand dollar	0.2	0.6	1.1	1.9	1.6
Korean won	0.2	0.8	1.1	1.2	1.5
Singapore dollar	1.1	1.1	0.9	1.2	1.4
Norwegian krone	0.2	1.5	1.4	2.1	1.3
Mexican peso	0.5	0.8	1.1	1.3	1.3
Indian rupee	0.1	0.2	0.3	0.7	0.9
Russian rouble	0.3	0.3	0.6	0.7	0.9
Chinese renminbi	0.0	0.0	0.1	0.5	0.9
Polish zloty	0.1	0.5	0.4	0.8	0.8
Turkish lira	...	0.0	0.1	0.2	0.7
South African rand	0.4	0.9	0.7	0.9	0.7
Brazilian real	0.2	0.5	0.3	0.4	0.7
Danish krone	0.3	1.2	0.9	0.8	0.6
New Taiwan dollar	0.1	0.3	0.4	0.4	0.5
Hungarian forint	0.0	0.0	0.2	0.3	0.4
Malaysian ringgit	0.0	0.1	0.1	0.1	0.3
Thai baht	0.1	0.2	0.2	0.2	0.2
Czech koruna	0.3	0.2	0.2	0.2	0.2
Philippine peso	0.0	0.0	0.0	0.1	0.2
Chilean peso	0.1	0.2	0.1	0.1	0.2
Indonesian rupiah	0.1	0.0	0.1	0.1	0.2
Israeli new shekel	...	0.1	0.1	0.2	0.2
Colombian peso	...	0.0	0.0	0.1	0.1
Romanian leu	...	...	0.0	0.0	0.1
Saudi riyal	0.1	0.1	0.0	0.1	0.1
Argentine peso	0.1	...	0.0	0.0	0.0
Peruvian nuevo sol	...	0.0	0.0	0.0	0.0
Lithuanian litas	...	...	0.0	0.0	0.0
Other currencies	8.7	6.6	6.5	7.6	4.6
All currencies	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%. Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis).

Table B.4

Reported foreign exchange market turnover by currency¹

Daily averages in April



The *US dollar* continued the slow retreat from its 90% peak share of all transactions, reached in the 2001 survey just after the introduction of the euro. The share of foreign exchange transactions involving the US dollar has fallen over time, to 85% in April 2010 (Graph B.4). This decline benefited the *euro*, which gained 2 percentage points in market share since the last survey and accounted for 39% of all transactions. The *Japanese yen* also increased its market share by 2 percentage points, to 19%, a recovery relative to the 2007 survey but still below its 2001 peak of 24%.

Currency and instrument distribution of global foreign exchange market turnover¹

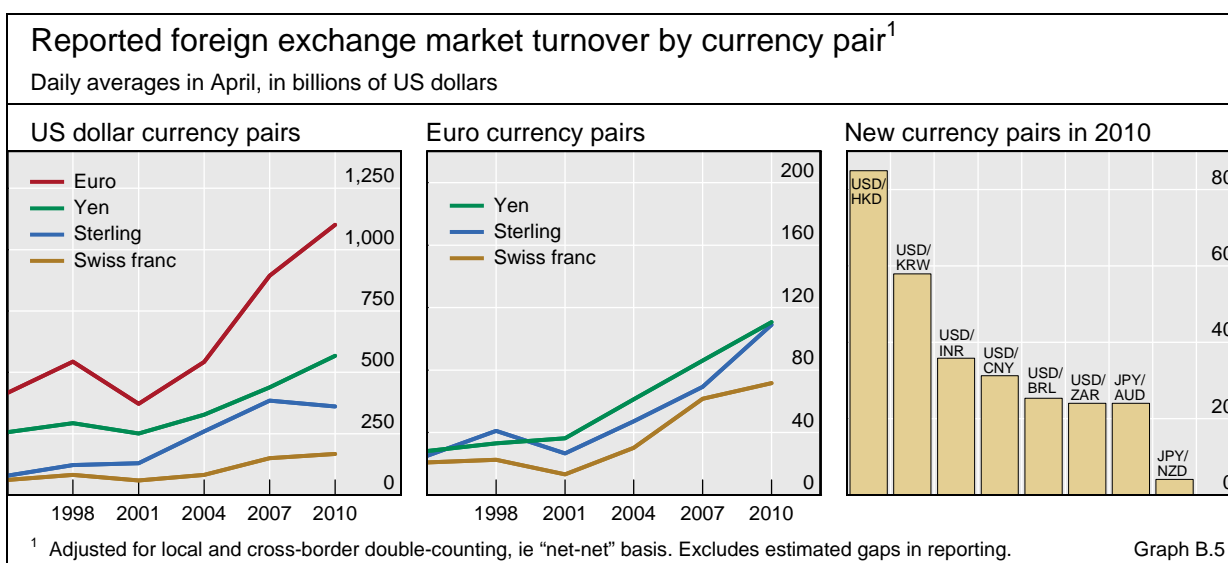
Percentage shares of average daily turnover in April 2010

Currency	Spot	Outright forwards	Foreign exchange swaps	Currency swaps	Options and other instruments
US dollar	35.2	11.6	47.4	1.1	4.7
Euro	44.4	9.6	39.2	1.1	5.6
Japanese yen	39.7	15.2	36.9	0.9	7.2
Pound sterling	41.6	10.7	43.4	0.5	3.9
Swiss franc	36.4	7.5	50.2	0.7	5.3
Australian dollar	36.8	9.6	46.7	1.9	5.1
Canadian dollar	37.0	12.5	46.2	1.4	2.9
Swedish krona	21.5	9.8	64.4	0.8	3.4
Hong Kong dollar	19.9	4.0	74.0	0.4	1.8
Norwegian krone	23.4	11.7	60.0	1.2	3.6
Korean won	35.1	29.9	27.5	1.6	5.9
Mexican peso	36.3	10.8	47.5	0.7	4.6
New Zealand dollar	34.2	8.0	52.3	1.0	4.4
Singapore dollar	27.7	7.8	59.6	0.1	4.8
Danish krone	21.2	12.4	65.0	0.5	0.9
South African rand	31.7	9.9	54.3	0.5	3.6
Russian rouble	50.6	6.3	39.7	0.5	2.9
Polish zloty	22.4	11.1	59.4	0.6	6.5
New Taiwan dollar	31.9	35.9	25.0	0.5	6.7
Indian rupee	35.8	36.1	18.0	0.1	9.9
Brazilian real	31.3	47.3	2.9	1.4	17.1
Czech koruna	17.4	8.0	71.3	0.4	2.8
Thai baht	37.1	14.5	45.8	1.4	1.2
Hungarian forint	24.1	10.6	57.8	0.3	7.2
Chilean peso	38.8	48.2	9.0	3.5	0.5
Malaysian ringgit	38.0	37.9	20.2	1.2	2.7
Chinese renminbi	23.7	41.6	19.9	0.2	14.6
Israeli new shekel	23.1	7.3	58.6	1.3	9.6
Turkish lira	27.2	10.4	43.1	6.5	12.8
Philippine peso	33.5	35.7	17.7	2.8	10.2
Indonesian rupiah	40.9	44.2	11.1	1.1	2.7
Saudi riyal	50.6	11.6	37.8	0.0	0.1
Colombian peso	43.6	24.3	0.8	30.9	0.4
Argentine peso	85.0	13.9	0.3	0.0	0.7
Bulgarian lev	91.2	1.0	7.7	0.2	0.0
Bahraini dinar	31.1	22.2	45.6	0.7	0.4
Estonian kroon	39.5	4.6	55.9	0.0	0.0
Lithuanian litas	19.4	0.8	79.7	0.0	0.0
Latvian lats	18.8	2.4	78.8	0.0	0.0
Peruvian nuevo sol	64.6	34.6	0.3	0.3	0.2
Romanian leu	34.8	4.3	58.7	0.7	1.6
All currencies	37.4	11.9	44.3	1.1	5.2

¹ Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis).

Table B.5

6. Turnover by currency pair



Turnover by *currency pair* in April 2010 (Table B.6) showed no major changes in ranking from three years earlier, although absolute turnover in the major currency pairs tended to increase, with the exception of dollar/sterling transactions (Graph B.5). USD/EUR remained by far the dominant pair (with a 28% share), followed at some distance by USD/JPY with a slight increase to 14% of turnover. The USD/GBP pair continued to retreat from its 2004 peak to a 9% share or about the level reached in pre-euro 1998, but the EUR/GBP pair gained almost 60% in absolute terms.

Global foreign exchange market turnover by currency pair¹
Daily averages in April, in billions of US dollars and percentages

Currency pair	2001		2004		2007		2010	
	Amount	%	Amount	%	Amount	%	Amount	%
US dollar/euro	372	30	541	28	892	27	1,101	28
US dollar/yen	250	20	328	17	438	13	568	14
US dollar/sterling	129	10	259	13	384	12	360	9
US dollar/Australian dollar	51	4	107	6	185	6	249	6
US dollar/Swiss franc	59	5	83	4	151	5	168	4
US dollar/Canadian dollar	54	4	77	4	126	4	182	5
US dollar/Swedish krona	6	0	7	0	57	2	45	1
US dollar/other	193	16	300	16	612	18	705	18
Euro/yen	36	3	61	3	86	3	111	3
Euro/sterling	27	2	47	2	69	2	109	3
Euro/Swiss franc	13	1	30	2	62	2	72	2
Euro/other	22	2	44	2	123	4	162	4
Other currency pairs	28	2	50	3	139	4	149	4
All currency pairs	1,239	100	1,934	100	3,324	100	3,981	100

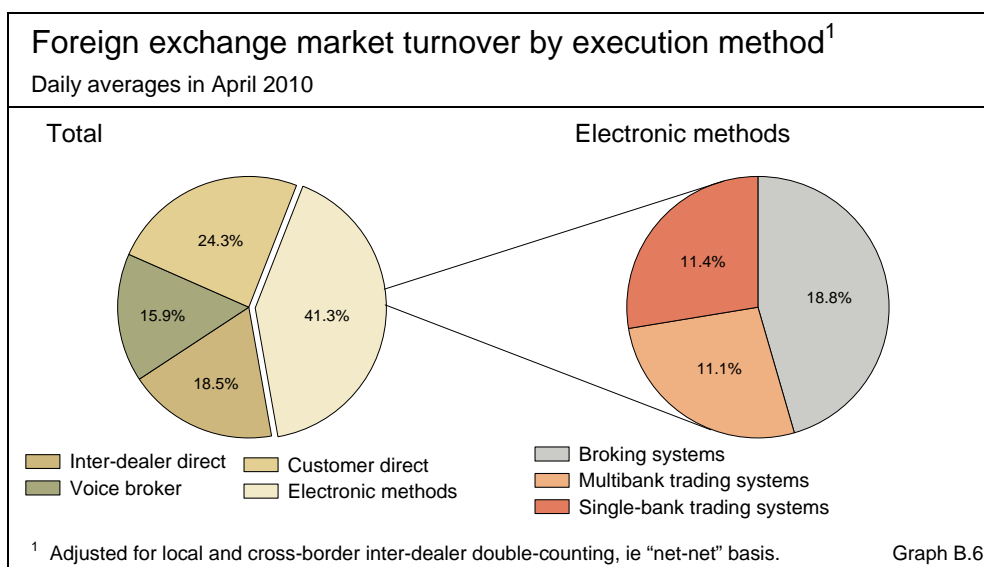
¹ Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis).

Table B.6

The 2010 survey has expanded the detailed coverage of emerging economy currencies, including additional currency pairs. New currency pairs relate mainly to transactions between the US dollar and Asian currency pairs (Graph B.5).

7. Turnover by execution method

Reporting institutions were asked to provide information on the execution method¹¹ used to settle their foreign exchange transactions. In the 2010 survey, the data on execution method now distinguish between trades “with reporting dealers, local” and those “with reporting dealers, cross-border”, to allow more accurate elimination of double-counting. Separate information was requested for spot transactions, outright forwards, foreign exchange swaps and options: the data reveal that 40% of spot transactions are conducted on electronic trading systems¹² (Annex Table E.24), compared with 12–27% for other foreign exchange instruments. As noted in previous surveys, the spread of electronic trading platforms has also contributed to greater activity by other financial institutions, particularly algorithmic trading (Graph B.6).



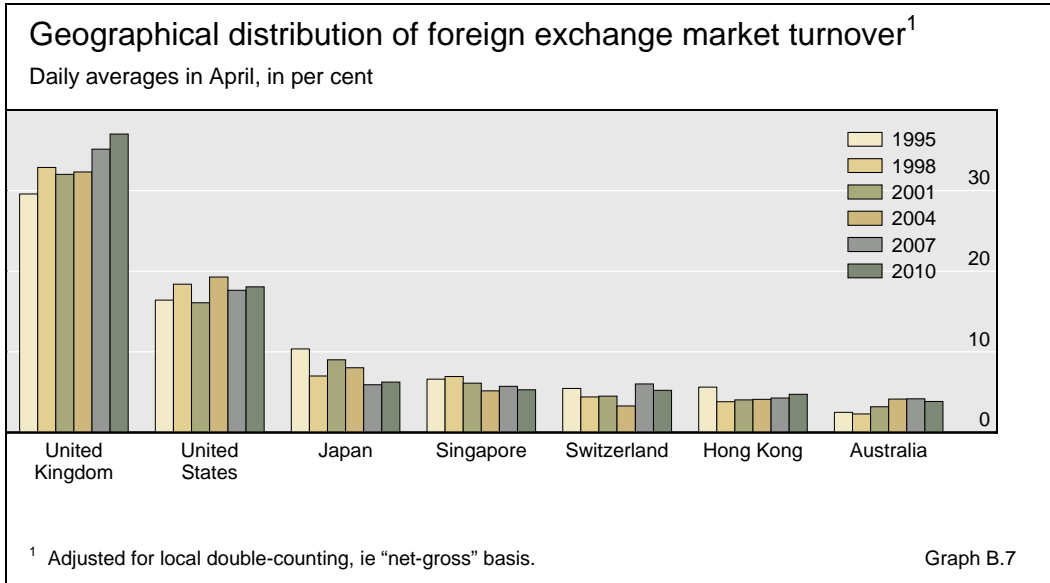
8. Geographical distribution of turnover

Foreign exchange market activity was more global in April 2010, with the share of cross-border transactions increasing to 65% from 62% in April 2007 (Table B.2). Local transactions fell to 35% of total turnover. Cross-border trading has increased slowly but steadily over the past five surveys.

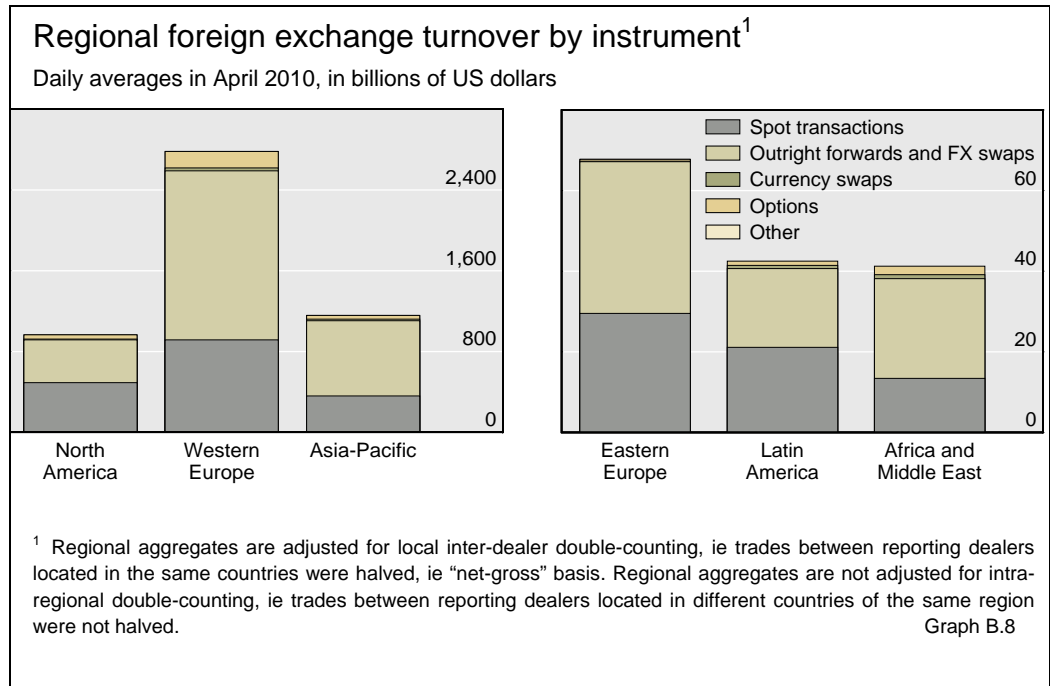
The geographical distribution of foreign exchange trading typically changes slowly over time, and the 2010 results are no exception (Table B.8). Banks located in the United Kingdom accounted for 37% of global foreign exchange market turnover, followed by those in the United States (18%), Japan (6%), Singapore (5%), Switzerland (5%), Hong Kong SAR (5%) and Australia (4%). Japan has recovered its third-place ranking, which it lost in the 2007 survey. Singapore has moved ahead of Switzerland in 2010 (Graph B.7).

¹¹ Detailed definitions of execution methods are provided in Section D.7 of the Methodology.

¹² Most inter-dealer trading is also executed electronically.



In dollar terms, the greatest increases in trading activity were in the United Kingdom (\$370 billion), the United States (\$159 billion), Japan (\$62 billion) and Hong Kong SAR (\$57 billion). Other countries that saw significant growth relative to the 2007 survey include Denmark, France, Singapore, Finland, Turkey, Australia and Spain.¹³



¹³ D Mihaljek and F Packer, *BIS Quarterly Review*, December 2010 (forthcoming), discuss in depth what distinguishes turnover in FX derivatives in emerging markets from that in developed countries.

Foreign exchange trading is concentrated in western Europe, which accounts for 55% of global turnover on a net-gross basis, thanks to the presence of the London market and a number of other important trading centres. The Americas and Asia account for about 20% each (Graph B.8). These shares are approximate, since the data do not allow double-counting between reporting dealers located in different countries of the same region to be corrected. Regional turnover by instrument is fairly evenly divided between spot transactions, which account for about 50% of turnover in North and Latin America and for about a third of turnover in other regions, and outright forwards and FX swaps, which account for almost two thirds of turnover in most regions but around 45% in the Americas. The remainder comprises options, which account for around 5% of turnover (Table B.7).

Regional FX turnover by instrument¹					
Daily averages in April 2010, in billions of US dollars					
Region	Spot	Outright forwards and FX swaps	Currency	Options	Total
North America	491	423	10	42	966
Western Europe	916	1,672	29	163	2,780
Asia-Pacific	361	743	16	38	1,159
Eastern Europe	30	38	0	0	68
Latin America	21	20	1	1	42
Africa and Middle East	13	25	1	2	41
All regions ("net-gross")	1,832	2,921	57	246	5,056
Adjustment for cross-border double-counting	-342	-681	-14	-39	-1,075
Global turnover ("net-net") ²	1,490	2,240	43	207	3,981

¹ Regional aggregates are adjusted for local inter-dealer double-counting, ie trades between reporting dealers located in the same countries were halved, ie "net-gross" basis. Regional aggregates are not adjusted for intraregional double-counting, ie trades between reporting dealers located in different countries of the same region were not halved. ² Global aggregates are adjusted for both local and cross-border inter-dealer double-counting, ie "net-net" basis.

Table B.7

Geographical distribution of global foreign exchange market turnover¹

Daily averages in April, in billions of US dollars and per cent

Country	1998		2001		2004		2007		2010	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Argentina	2	0	...	...	1	0	1	0	2	0
Australia	48	2	54	3	107	4	176	4	192	4
Austria	12	1	8	0	15	1	19	0	20	0
Bahrain	3	0	3	0	3	0	3	0	5	0
Belgium	27	1	10	1	21	1	50	1	33	1
Brazil ²	5	0	6	0	4	0	6	0	14	0
Bulgaria	...	...	...	...	...	...	1	0	1	0
Canada	38	2	44	3	59	2	64	1	62	1
Chile	1	0	2	0	2	0	4	0	6	0
China ³	0	0	...	...	1	0	9	0	20	0
Chinese Taipei	5	0	5	0	9	0	16	0	18	0
Colombia	...	...	0	0	1	0	2	0	3	0
Czech Republic	5	0	2	0	2	0	5	0	5	0
Denmark	28	1	24	1	42	2	88	2	120	2
Estonia	...	...	...	...	0	0	1	0	1	0
Finland	4	0	2	0	2	0	8	0	31	1
France	77	4	50	3	67	3	127	3	152	3
Germany	100	5	91	5	120	5	101	2	109	2
Greece	7	0	5	0	4	0	5	0	5	0
Hong Kong SAR	80	4	68	4	106	4	181	4	238	5
Hungary	1	0	1	0	3	0	7	0	4	0
India	2	0	3	0	7	0	38	1	27	1
Indonesia	2	0	4	0	2	0	3	0	3	0
Ireland	11	1	9	1	8	0	11	0	15	0
Israel	...	...	1	0	5	0	8	0	10	0
Italy	29	1	18	1	23	1	38	1	29	1
Japan	146	7	153	9	207	8	250	6	312	6
Korea	4	0	10	1	21	1	35	1	44	1
Latvia	...	...	...	...	2	0	3	0	2	0
Lithuania	...	...	...	...	1	0	1	0	1	0
Luxembourg	23	1	13	1	15	1	44	1	33	1
Malaysia	1	0	1	0	2	0	3	0	7	0
Mexico	9	0	9	1	15	1	15	0	17	0
Netherlands	43	2	31	2	52	2	25	1	18	0
New Zealand	7	0	4	0	7	0	13	0	9	0
Norway	9	0	13	1	14	1	32	1	22	0
Peru	...	...	0	0	0	0	1	0	1	0
Philippines	1	0	1	0	1	0	2	0	5	0
Poland	3	0	5	0	7	0	9	0	8	0
Portugal	4	0	2	0	2	0	4	0	4	0
Romania	...	...	...	...	...	...	3	0	3	0
Russia	7	0	10	1	30	1	50	1	42	1
Saudi Arabia	2	0	2	0	2	0	4	0	5	0
Singapore	145	7	104	6	134	5	242	6	266	5
Slovakia	...	...	1	0	2	0	3	0	0	0
Slovenia	...	...	0	0	0	0	0	0	...	...
South Africa	9	0	10	1	10	0	14	0	14	0
Spain	20	1	8	0	14	1	17	0	29	1
Sweden	16	1	25	1	32	1	44	1	45	1
Switzerland	92	4	76	4	85	3	254	6	263	5
Thailand	3	0	2	0	3	0	6	0	7	0
Turkey	...	...	1	0	3	0	4	0	17	0
United Kingdom	685	33	542	32	835	32	1,483	35	1,854	37
United States	383	18	273	16	499	19	745	17	904	18
Total⁴	2,099	100	1,705	100	2,608	100	4,281	100	5,056	100

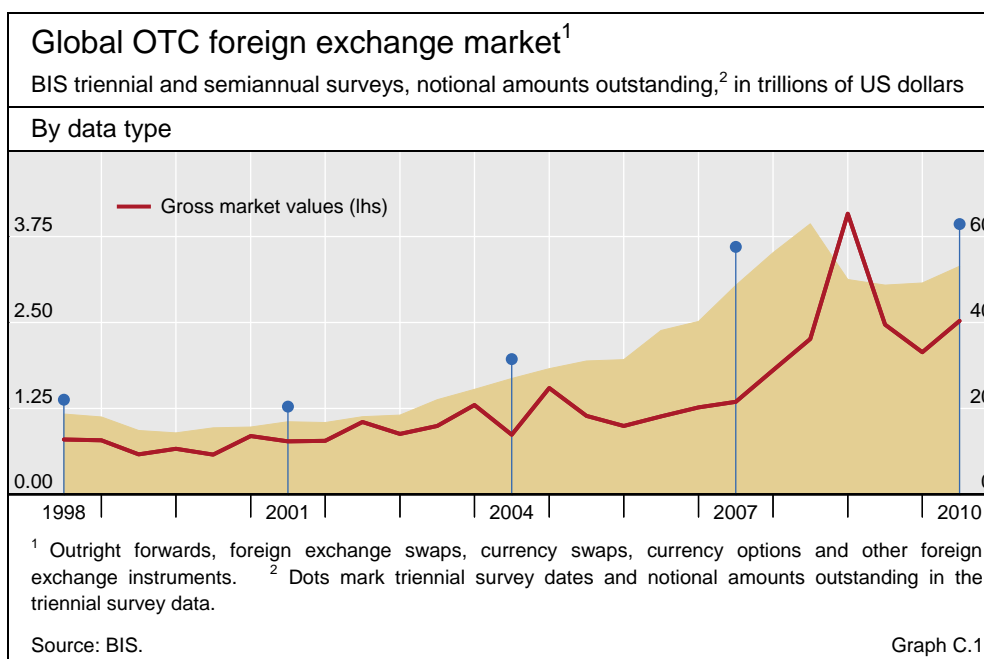
¹ Adjusted for local inter-dealer double-counting (ie "net-gross" basis). ² Data for 1998 only cover spot transactions. ³ Data from 1998 to 2004 only cover spot transactions. ⁴ Estimated coverage of the FX market ranged between 90% and 100% in most countries.

Table B.8

C. Amounts outstanding at end-June 2010

1. Growth of global foreign exchange positions

This part of the report focuses on the results of the second part of the Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity together with those of the semiannual OTC derivatives market statistics, both at end-June 2010. The triennial survey provides a benchmark for the regular semiannual survey of positions in the global OTC derivatives market. Graph C.1 combines the triennial end-June survey data (blue dots on vertical lines) with the more frequent semiannual data. While the semiannual survey relies on data provided by 59 major dealers in the G10 countries, the triennial survey expands coverage to over 400 market participants in 42 countries and jurisdictions worldwide (including the regular semiannual participants). Both surveys cover the worldwide consolidated positions of reporting dealers (notional amounts outstanding and gross market values) of foreign exchange instruments traded in OTC markets (outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange instruments). The coverage of the triennial surveys has been 9% higher than that of the semiannual surveys in terms of amounts outstanding in both 2007 and 2010.



Global positions in OTC derivatives markets by type of instrument¹

Amounts outstanding, in billions of US dollars

	Positions at end-June 2007			Positions at end-June 2010		
	Notional amounts	Gross market values	% ²	Notional amounts	Gross market values	% ²
Foreign exchange contracts	57,604	1,612	2.8	62,933	3,158	5.0
Outright forwards and FX swaps	29,775	668	2.2	31,935	1,330	4.2
Currency swaps	14,130	666	4.7	18,890	1,372	7.3
Options	13,662	279	2.0	12,107	456	3.8
Other	37	...	...	1	...	...
Memo: Exchange-traded currency contracts ³	326	...	...	386	...	...

¹ Adjusted for inter-dealer double-counting. ² Gross market values as a percentage of notional amounts. ³ Sources: FOW TRADEdata; Futures Industry Association; various futures and options exchanges.

Table C.1

Growth in the positions of OTC *foreign exchange* instruments was moderate at 9%, compared with an increase of 83% in notional amounts outstanding of currency instruments in the 2004–07 period. The 2007 and 2010 BIS triennial surveys bracket a period of strong growth in amounts outstanding, as shown by comparison with the semiannual data in Graph C.1. Notional amounts outstanding in all instruments peaked in June 2008, declined thereafter and recovered somewhat by June 2010.

Notional amounts outstanding provide useful information on the structure of the OTC foreign exchange market but should not be interpreted as a measure of the counterparty risk of these positions. While no single comprehensive measure of risk exists, a useful concept is the cost of replacing all open contracts at the prevailing market prices. This measure, called *gross market value*, increased at a considerably higher rate (96%) than notional amounts during the reporting period, to \$3.2 trillion at the end of June 2010.

Sharp asset price movements following the bankruptcy of Lehman Brothers in September 2008 resulted in a strong rise of gross market values (Graph C.1, left-hand scale) in the second half of 2008. Gross market values declined rapidly again in subsequent periods as prices moved closer to their pre-crisis values, but increased again in the first half of 2010 as foreign exchange markets went through another bout of turbulence.

2. Positions by counterparty

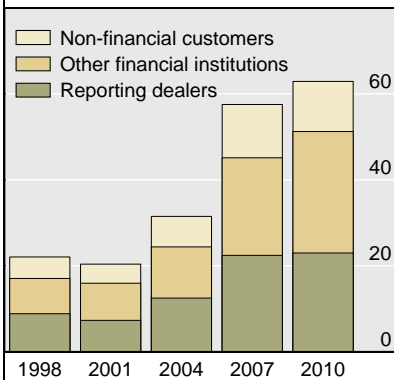
Data for amounts outstanding by counterparty show that the increase in global foreign exchange market positions in 2010 is also due mainly to the enlarged trading activity of *other financial institutions* (counterparties such as non-reporting banks, hedge funds, pension funds, mutual funds, insurance companies and central banks). While a surge in activity with both reporting dealers and other financial institutions had already accounted for most of the growth in total amounts outstanding in 2007, the latter category's share (45%) surpassed transactions between reporting dealers (36%) for the first time in 2010 (Graph C.2). Reporting dealers and non-financial customers had both accounted for a 39% share of outstanding OTC foreign exchange instruments in June 2007.

In terms of counterparty risk, as measured by gross market values, the position appears largely the same in relative terms. While absolute amounts at risk have doubled (Graph C.2), this doubling has been distributed fairly evenly in all market segments.

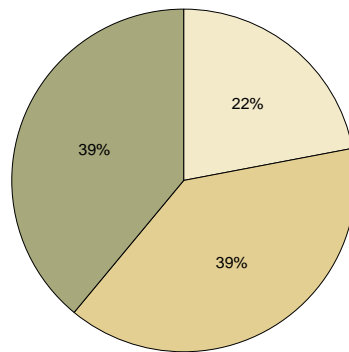
Global positions in OTC foreign exchange market by counterparty¹

Notional amounts outstanding

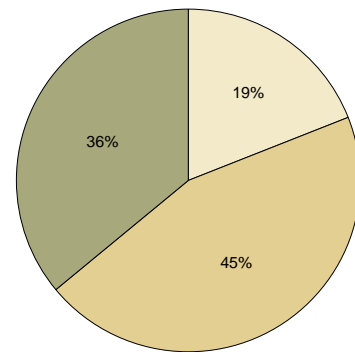
1998–2010²



2007

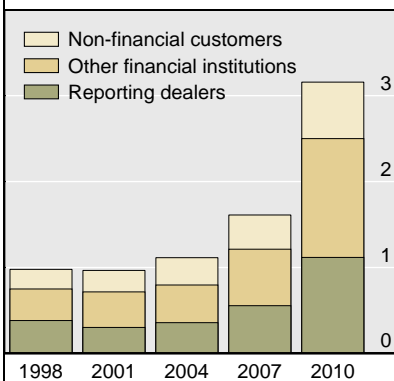


2010

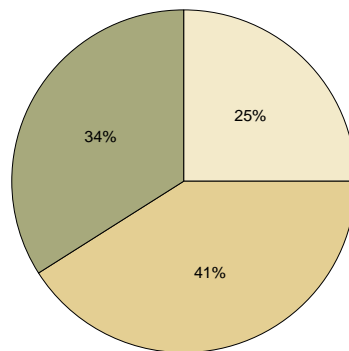


Gross market values

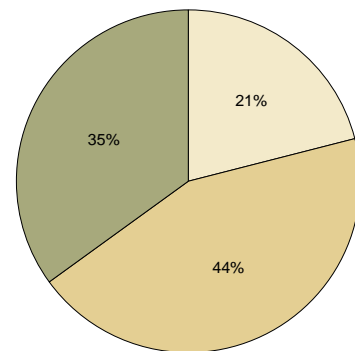
1998–2010²



2007



2010

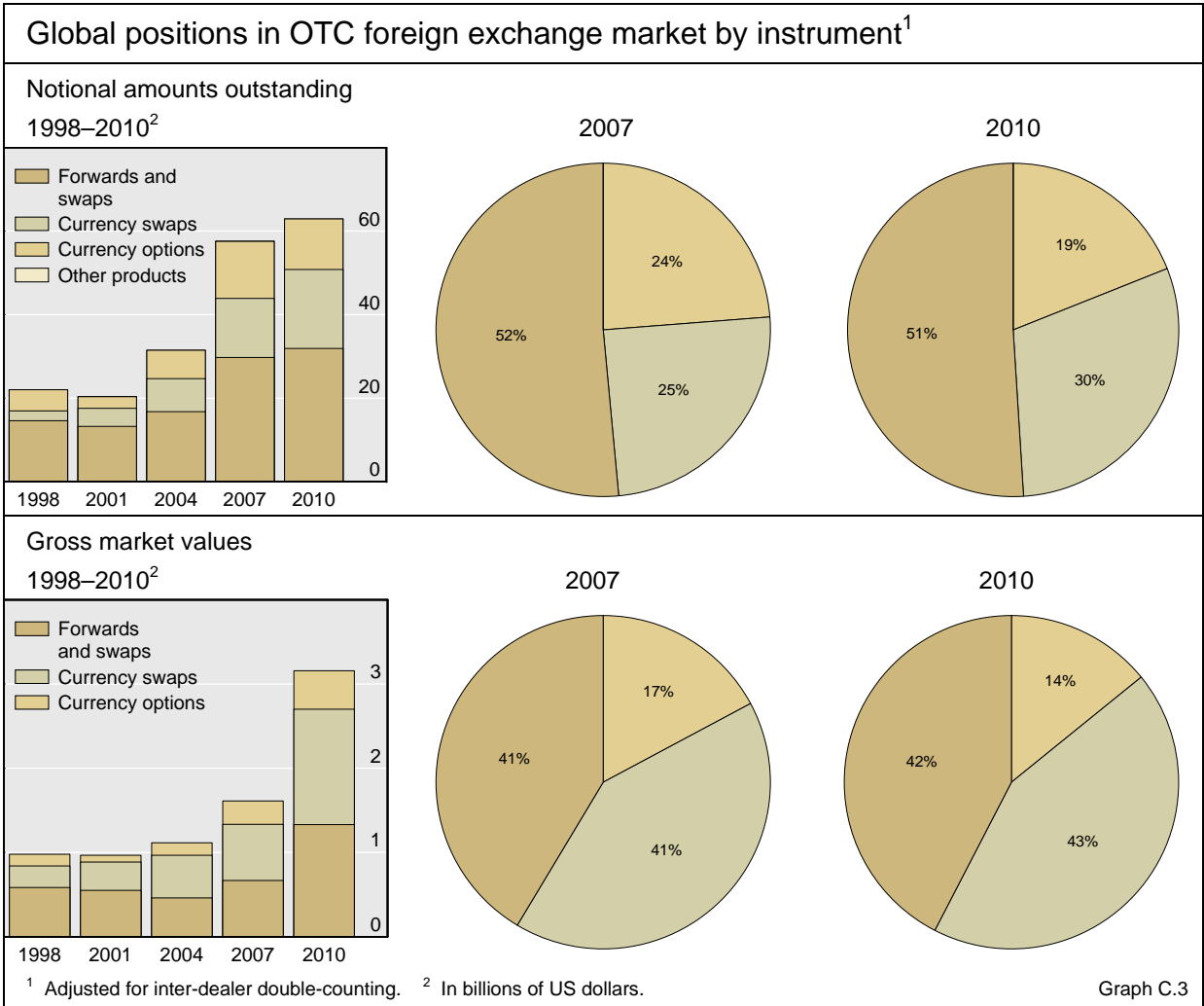


¹ Adjusted for inter-dealer double-counting. ² In billions of US dollars.

Graph C.2

3. Positions value by instrument

Not all foreign exchange OTC instruments showed limited growth in amounts outstanding. Currency swaps increased to almost \$19 trillion outstanding in June 2010, growing by a third relative to 2007, increasing their share of outstanding instruments to 30% (Graph C.3). In contrast, currency options outstanding fell 12% to \$12 trillion, or 19% of the total outstanding. Gross market values, which had been rather low in June 2007, despite large amounts outstanding, doubled for most instruments against a backdrop of currency volatility, with the value of options trailing behind somewhat, but still increasing by 63%.

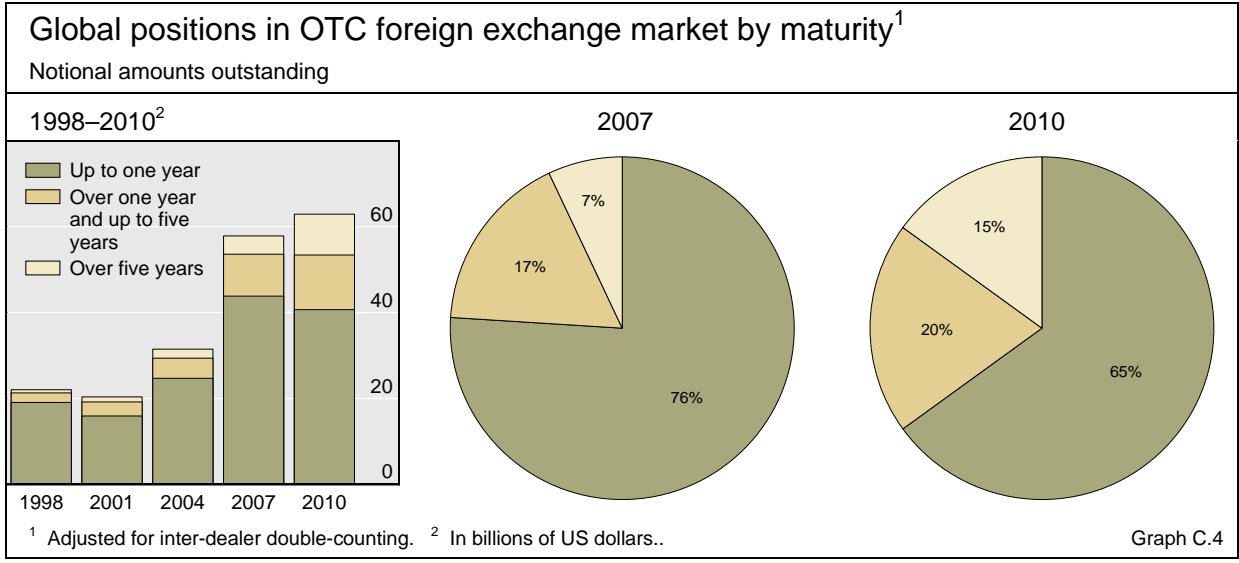


4. Positions by maturity

The maturity distribution of outstanding instruments is dominated by short-term instruments, with 65% of the outstanding total having a remaining maturity of less than a year (Graph C.4), which is consistent with the dominance of very short-term (seven days or less) instruments in turnover.

The instrument breakdown for notional amounts outstanding of FX derivatives reflects typical differences in the maturities of the various types of contracts. Outright forwards and FX swaps, which tend to have comparatively short maturities (Table C.2), accounted for a noticeably smaller share of open positions (42%) than of turnover (56%). By contrast, currency swaps, which tend to have much longer maturities than forwards or FX swaps, had a share of 43% in notional amounts outstanding, but only of 1% in turnover.¹⁴

¹⁴ The maturity distribution of currency swaps, outright forwards and FX swaps is not reported individually in the reporting template for amounts outstanding.



5. Positions by currency¹⁵

Global positions in OTC foreign exchange markets by currency (Graph C.5) showed only limited change in amounts outstanding. US dollar-denominated instruments were up slightly, being involved on one side of 85.5% of total amounts outstanding, compared with 83.0% in 2007. The weight of instruments denominated in sterling fell, with only 11.7% of positions including the currency on one side, compared with 15.5% in April 2007.

¹⁵ Because each transaction involves two currencies, the shares sum to 200%.

Global positions in OTC foreign exchange markets¹

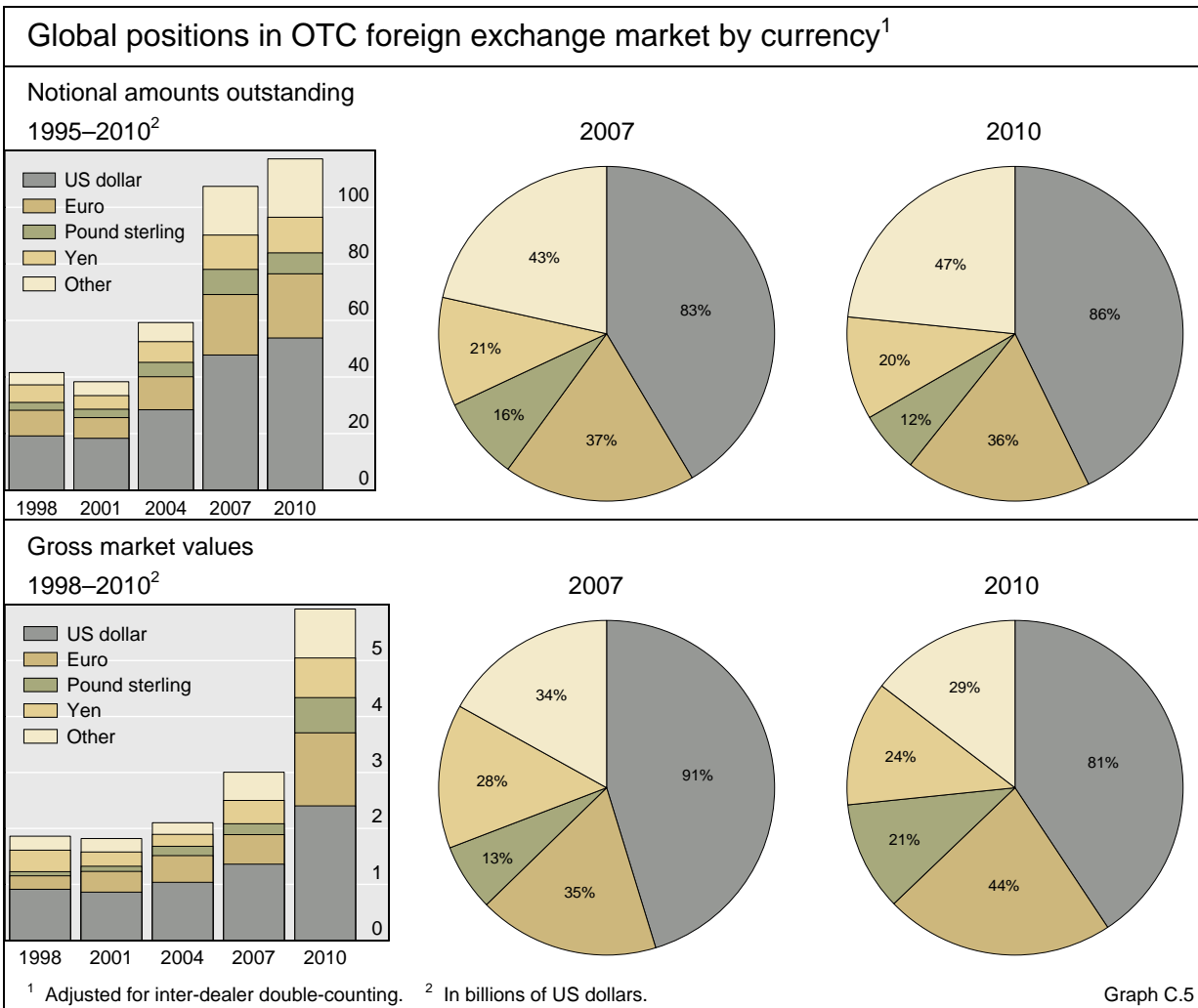
Amounts outstanding at end-June, in billions of US dollars

	Total ²			Of which					
				Forwards and swaps ³			Options		
	2004	2007	2010	2004	2007	2010	2004	2007	2010
Total	31,499	57,604	62,933	24,702	43,905	50,825	6,789	13,662	12,107
by currency									
US dollar	28,402	47,783	53,821	22,024	37,407	44,205	6,378	10,376	9,615
Euro	11,726	21,356	22,710	9,248	16,205	18,528	2,478	5,151	4,182
Yen	7,265	12,178	12,611	5,178	7,130	8,411	2,088	5,048	4,200
Pound sterling	5,078	8,933	7,383	4,013	7,701	6,426	1,065	1,232	957
Swiss franc	1,590	3,451	4,319	1,276	2,424	3,358	313	1,027	961
Canadian dollar	1,261	2,604	2,801	1,044	2,183	2,482	217	421	318
Australian dollar	1,583	3,056	3,892	1,169	2,344	3,265	414	712	627
Swedish krona	877	1,601	1,590	790	1,434	1,453	88	167	136
Other	5,216	14,246	16,739	4,663	10,984	13,521	538	3,189	3,216
by maturity ⁴									
One year or less	24,706	43,830	40,671	18,618	5,519	6,328	6,089	10,605	8,388
Over 1 year and up to 5 years	4,712	9,793	12,744	4,114	1,267	1,787	598	2,702	2,584
Over 5 years	2,067	4,222	9,526	1,966	535	746	101	375	1,136

¹ Adjusted for inter-dealer double-counting. ² Including "other" instruments. Counting both currency sides of every foreign exchange transaction means that the currency breakdown sums to 200% of the aggregate. ³ Outright forwards, foreign exchange swaps and currency swaps. ⁴ Due to incomplete maturity breakdown, components do not always sum to totals.

Table C.2

Gross market values increased particularly strongly in euro- and sterling-denominated instruments by end-June 2010. Market values for US dollar-denominated instruments declined on a relative basis from 91% of the total to 81% (Graph C.5).



D. Methodology

I. Background to the Triennial Central Bank Survey

In April and at end-June of this year, 53 and 42 central banks and monetary authorities, respectively, participated in both parts of the eighth Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity (“the triennial survey”). The objective of the survey is to provide the most comprehensive and internationally consistent information on the size and structure of global foreign exchange markets, allowing policymakers and market participants to better monitor patterns of activity in the global financial system.¹⁶ Coordinated by the BIS, participating institutions collect data in April from 1,309¹⁷ banks and other dealers (so-called reporting dealers) on turnover in foreign exchange instruments. For the survey, each participating institution is requested to collect data from the reporting dealers in its jurisdiction and calculate aggregate national data. These data are then provided to the BIS, which compiles and publishes the global aggregates. In addition, more than 4,000 institutions located around the world participated in the second part of the triennial survey, which covers data on amounts outstanding at end-June 2010 and complements the turnover data collected in the first part of the survey.¹⁸ The triennial survey has been conducted every three years since April 1989, covering data on amounts outstanding since 1995.

It should be noted that previous triennial surveys have used the expression “traditional foreign exchange markets” to refer to spot transactions, outright forwards and foreign exchange swaps. This expression excludes currency swaps, currency options and other foreign exchange instruments, which are classified under OTC derivative instruments. Starting with the 2010 survey, the expression “global foreign exchange markets” includes all six foreign exchange instruments. The analysis will henceforth distinguish between *spot transactions* and *other related foreign exchange instruments* (outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange products).

II. Statistical notes

This section contains a description of the methodology, general definitions, classification principles and compilation procedures for the most recent Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity carried out by central banks and monetary authorities in April and at end-June 2010. The main purpose of the statistics collected by the triennial survey is to provide a measure of the size and structure of foreign exchange and other derivatives markets and to monitor key developments in these segments. In conjunction with the banking and securities statistics, the data provide a more comprehensive picture of activity in global financial markets.

Two main statistical frameworks are implemented by the BIS for the collection of foreign exchange and derivatives statistics: the triennial survey and the semiannual OTC derivatives market statistics. The triennial survey covers data not only on turnover in foreign exchange in the month of April, ie the first part of the triennial survey, but also on OTC derivatives amounts outstanding at end-June, ie the second part of the triennial survey. The amounts outstanding part of the survey covers positions across a wider range of market risk categories and is used to benchmark the representativeness of the more frequent semiannual survey on OTC derivatives market activity.¹⁹

¹⁶ The triennial survey complements more frequent regional surveys conducted in the following financial centres by local foreign exchange committees: Australia, Canada, Hong Kong SAR, London, New York, Singapore and Tokyo.

¹⁷ Compared with 1,260 in 2007.

¹⁸ The second part of the triennial survey is conducted on a consolidated basis and covers not only positions in FX-related instruments but also those in interest rate, equity-linked, commodity, credit and other derivative products.

¹⁹ Detailed results of the June 2010 semiannual and triennial Surveys are available on the BIS website at www.bis.org/publ/otc_hy1011.htm.

The present report is focused exclusively on the statistics covering foreign exchange market instruments.

The format of the 2010 survey includes the following main refinements and clarifications of reporting procedures as compared with the previous survey:

- The list of currency pairs has been expanded in order to capture transactions involving currencies typically used in carry trade strategies, namely AUD/JPY, NZD/JPY, USD/ZAR and USD/HKD. Trades in the Brazilian real, Chinese renminbi, Indian rupee and Korean won against the US dollar were also collected.
- A more detailed counterparty breakdown for each instrument has been collected for identification of execution method in order to include a distinction between “with reporting dealers, local” and “with reporting dealers, cross-border”. The more detailed counterparty breakdown allows for a more accurate correction of inter-dealer double-counting.

Despite these changes, the data presented here can be considered as being largely comparable with those of the previous triennial survey in 2007, notwithstanding the different structure of the results. Weighted average coverage of foreign exchange markets in reporting countries increased from 96% in 2007 to 97% in 2010.

1. Coverage and basic features of the 2010 survey

The triennial survey collects data on the following foreign exchange instruments that can be divided into two groups: spot transactions, for which only turnover data are collected; and outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange instruments, for which both turnover and amounts outstanding are reported.

In the turnover part, the instrument breakdown distinguishes between spot transactions, forwards, swaps, options and other foreign exchange products (see Section B.3). The counterparty breakdown distinguishes between transactions with reporting dealers, with other financial institutions and with non-financial customers. A further local/cross-border breakdown was requested (see Section B.4). The currency breakdown includes separate reporting of all reporting countries' currencies (see Section B.5). The maturity breakdown distinguishes between transactions with original maturity up to seven days, over seven days and up to one year, and over one year (see Section B.6). Information on the execution method was also requested for foreign exchange transactions (see Section B.7). Central banks and monetary authorities were also requested to provide information on the percentage coverage of the survey in their country, the number of banks covering 75% of the reported totals, the number of participants, the number of trading days²⁰ and the nature of the turnover in April 2010 and during the preceding six months. The results are shown in Table D.1.

The second part of the triennial survey covers notional amounts outstanding and gross market values of foreign exchange, but also of interest rate, equity, commodity, credit and other derivatives. The following instrument breakdown was requested for the foreign exchange market risk category: forwards and swaps,²¹ currency swaps, currency options sold, currency options bought and other foreign exchange products. As in the turnover part of the survey, data for the OTC foreign exchange instruments are broken down by counterparty (see Section C.2), currency (see Section C.5) and remaining maturity (see Section C.4).

²⁰ Trading days are requested so that daily averages can be calculated.

²¹ This category covers outright forwards and foreign exchange swaps.

Basic features of the April 2010 foreign exchange market survey ¹						
	Coverage, in per cent	Banks covering 75%	Number of participants	Trading days	Nature of turnover	
					April	Preceding six months
Argentina	98	10	67	20	Above normal	Increasing
Australia	95	7	27	19	Normal	Steady
Austria	92	3	14	21	Below normal	Steady
Bahrain	90	4	26	24	Below normal	Decreasing
Belgium	95	3	4	21	Normal	Steady
Brazil	70	7	14	20	Normal	Increasing
Bulgaria	90	3	11	20	Below normal	Decreasing
Canada	99	5	16	21	Normal	Steady
Chile	100	9	29	21	Normal	Steady
China	70	10	15	22	Normal	Steady
Chinese Taipei	86	16	29	21	Above normal	Increasing
Colombia	85	13	17	20	Normal	Steady
Czech Republic	95	5	13	21	Normal	Steady
Denmark	98	3	6	18	Normal	Steady
Estonia	96	2	3	21	Normal	Steady
Finland	99	1	12	20	Normal	Steady
France	98	4	35	21	Normal	Increasing
Germany	90	5	27	20	Normal	Steady
Greece	89	4	5	20	Below normal	Decreasing
Hong Kong SAR	95	14	67	19	Normal	Steady
Hungary	88	6	10	21	Normal	Steady
India	75	19	19	20	Normal	Steady
Indonesia	76	19	20	21	Normal	Normal
Ireland	100	5	20	21	Normal	Steady
Israel	100	4	12	19	Normal	Steady
Italy	88	4	35	21	Normal	Increasing
Japan	98	8	45	21	Normal	Increasing
Korea	99	16	41	22	Normal	Steady
Latvia	31	3	5	20	Normal	Steady
Lithuania	96	2	7	21	Normal	Steady
Luxembourg	100	10	148	20	Normal	Steady
Malaysia	100	6	10	22	Normal	Steady
Mexico	92	7	17	20	Normal	Steady
Netherlands	95	3	7	20	Normal	Steady
New Zealand	95	3	5	20	Above normal	Steady
Norway	90	2	7	19	Normal	Steady
Peru	95	6	16	20	Normal	Steady
Philippines	100	9	32	19	Normal	Increasing
Poland	93	8	17	21	Normal	Steady
Portugal	100	4	75	21	Normal	Steady
Romania	99	8	33	21	Normal	Steady
Russia	94	16	40	22	Normal	Steady
Saudi Arabia	90	5	16	30	Normal	Steady
Singapore	99	10	54	21	Normal	Steady
Slovakia	60	5	3	20	Normal	Steady
South Africa	95	5	11	19	Below normal	Steady
Spain	91	2	9	20	Normal	Steady
Sweden	90	3	4	20	Normal	Steady
Switzerland	100	2	27	19	Normal	Steady
Thailand	100	10	27	18	Normal	Steady
Turkey	86	7	20	21	Normal	Increasing
United Kingdom	99	9	47	20	Normal	Steady
United States	95	7	24	21	Normal	Increasing

¹ Spot transactions, outright forwards and FX swaps.

Table D.1

2. Types of data collected

2.1 *Turnover data*

Turnover data provide a measure of market activity as well as an indication of market liquidity. Turnover is defined as the absolute gross value of all new deals entered into during the month of April 2010, and is measured in terms of the nominal or notional amount of the contracts.

No distinction is 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 are counted as single transactions; however, cross-currency transactions passing through a vehicle currency are recorded as two separate deals against the vehicle currency. The gross amount of each transaction is recorded once, and netting arrangements and offsets are ignored. For turnover of transactions with variable nominal or notional principal amounts, the nominal or notional principal amount on the transaction date is reported.

The basis for reporting is in principle the location of the sales desk of any trade, even if deals entered into in different locations are booked in a central location. Thus, transactions concluded by offices located abroad are not reported by the country of location of the head office, but by that of the office abroad (insofar as the latter is a reporting institution in one of the other 52 reporting countries). Where no sales desk was involved in a deal, the trading desk is used to determine the location of deals.

In all cases, transactions are 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 are collected over a one-month period, the month of April, in order to reduce the likelihood of very short-term variations in activity contaminating the data. The data collected for the survey reflect all transactions entered into during the calendar month of April 2010, regardless of whether delivery or settlement was made during that month.

In order to allow a comparison across countries, daily turnover averages are 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 18 to 22 in April 2010, with the exception of Saudi Arabia (30 days) and Bahrain (24 days).

2.2 *Nominal or notional amounts outstanding*

Nominal or notional amounts outstanding provide a measure of market size, and can also provide a rough proxy for the potential transfer of price risk in derivatives markets. They are also comparable to measures of market size in related underlying cash markets and shed useful light on the relative size and growth of cash and derivatives markets.

Nominal or notional amounts outstanding are defined as the absolute gross nominal or notional value of all deals concluded and still open on the last business day of June 2010; end-June is chosen to provide consistency with the semiannual OTC derivatives market statistics for the G10 countries.

As in the case of the turnover data, no distinction is made between sales and purchases of derivative instruments and the resulting claims and liabilities of open contracts. In the case of foreign exchange swaps, which are concluded as spot/forward transactions, only the unsettled forward part of the deal is reported. If foreign exchange swaps are executed on a forward/forward basis, amounts outstanding are reported separately for both legs. For other forward contracts and swaps, the transactions are always reported as one transaction only. For transactions with variable notional principal amounts, notional principal amounts at the reporting date are provided.

In contrast to the turnover part of the survey, data on notional amounts outstanding data are collected on a consolidated basis, ie including positions of all branches and (majority-owned) subsidiaries of a given institution. All these positions were added together and reported by the parent institution only to the monetary institution in the country where the parent institution had its head office. In addition, all in-house deals and deals with other domestic and foreign offices of the same institution were netted out.

Amounts outstanding are reported to the BIS in US dollar equivalents, with non-dollar amounts converted into US dollars using end-of-period exchange rates.

2.3 Gross market values

Another measure of the size of derivatives markets is provided by the gross market values. Gross market values also supply information about the scale of gross transfer of price risks in the derivatives markets. Furthermore, gross market values at current market prices provide a measure of derivatives market size and economic significance that is readily comparable across markets and products.

Gross market values are defined as the sums of the absolute values of all open contracts with either positive or negative replacement values calculated at market prices prevailing on the reporting date. Replacement value denotes the price to be received or paid if the instrument were sold in the market at the time of reporting. Market values are therefore the amounts at which a contract could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale. If a quoted price was available for a contract, the number of trading units was multiplied by that market price. If a quoted market price was not available, the reporting institution provided its best estimate of market value based on the quoted price of a similar contract or on valuation techniques such as discounted cash flows.

Gross market value is defined as the value of all open contracts before counterparty or any other netting. Thus, the gross positive market value of a firm's outstanding contracts is the sum of all positive replacement values of a firm's contracts. Similarly, the gross negative market value is the sum of all negative values of a firm's contracts.

The term "gross" is used to indicate that contracts with positive and negative replacement values with the same counterparty should not be netted. Nor should the sums of positive and negative contract values be set off against each other within a risk category.

In the case of forwards and swaps, the market (or replacement) value of outstanding contracts to which the reporter is a counterparty is either positive, zero or negative, depending on how underlying prices have moved since the contract's initiation.

Unlike forwards or swaps, OTC options have a market value at initiation, which is equal to the premium paid to the writer of the option. Throughout their life, option contracts can only have a positive market value for the buyer and a negative market value for the seller. If a quoted market price is available for a contract, the market value for that contract is the product of the number of trading units of the contract multiplied by that market price. If a quoted market price is not available, the market value of an outstanding option contract is determined on the basis of secondary market prices for options with the same strike prices and remaining maturities as the options being valued, or by using option pricing models. In an option pricing model, current quotes of forward prices for the underlying (spot prices for American options) and the implied volatility and market interest rate relevant to the option's maturity would normally be used to calculate the "market" values.

In the case of options, the gross positive market value is the sum of the current market values of all purchased options, and gross negative market value is the sum of the values of sold options. As is the case for other instruments, options sold and purchased with the same counterparty are not netted against each other, nor are options that are bought and sold against the same underlying offset against each other.

Data on gross market values are reported, in US dollar equivalents, with non-dollar amounts converted into US dollars using end-of-period exchange rates.

3. Instruments

Foreign exchange transactions are broken down into spot transactions and three types of *plain vanilla derivative instrument*, ie forwards, swaps and options. Plain vanilla instruments are defined as products traded in generally liquid markets according to more or less standardised contracts and market conventions. If a transaction is composed of several plain vanilla components, each part is in principle to be reported separately. In addition, there is a separate category for “other foreign exchange products”. This mainly includes transactions with a variable notional principal amount or contract features which act to multiply leverage.

The definitions used for foreign exchange market instruments are the following:

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 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 usually to exchange principal amounts in different currencies at a pre-agreed exchange rate at maturity.

Currency option/warrant: 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 currency options such as average rate options and barrier options.

Currency swaption: option to enter into a currency swap contract.

Other foreign exchange products: the options section takes precedence in the instrument classification, so that any foreign exchange derivative product with an embedded option is to be reported as an option. All other foreign exchange derivative products are in principle to be reported in the forwards or swaps section. However, foreign exchange derivative instruments which involve several features and where a breakdown into individual plain vanilla components is impractical or impossible, such as swaps with underlying notional principal in one currency and fixed or floating interest rate payments based on interest rates in currencies other than the notional (differential swaps or diff swaps), are to be allocated to the residual category of “other” foreign exchange products.

4. Counterparties

Following the methodology of previous triennial central bank surveys, reporting institutions were requested to provide a counterparty breakdown for each instrument depending on whether the counterparty was a reporting dealer, another financial institution or a non-financial customer.²² In the turnover part of the survey, reporters were also requested to

²² One of the main purposes of this counterparty breakdown is to eliminate double-counting; see Section 8.

provide separate information on local and cross-border transactions according to the location of the counterparty.²³

To enable survey participants to identify other reporting dealers and thereby perform the counterparty allocation, a list containing all institutions that participated in the turnover part of the survey was circulated to all market participants together with the main reporting templates. For the amounts outstanding part, however, the list of institutions circulated for the counterparty allocation comprised only those 59 reporters that regularly participate in the semiannual OTC derivatives survey. The reason for not including all reporting institutions was to ensure consistency with the regular derivatives market statistics and to limit the reporting burden. While this approach makes it difficult to accurately eliminate double-counting of trades between non-regular reporters (see Section 8), the amounts involved are believed to be small.

The following three counterparty categories are covered in both parts of the triennial survey:

“Reporting dealers” are defined as 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 (i) participate in the *inter-dealer* market and/or (ii) 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 to meet 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 includes the branches and subsidiaries of institutions operating in multiple locations that have sales desks, but not necessarily trading desks, which conduct active business with large customers.

“Other financial institutions” are defined as those financial institutions that are not classified as *reporting dealers*. Thus, the term mainly covers 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, financial subsidiaries of corporate firms and central banks.

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

5. Currency and other market risk breakdowns

5.1 Turnover

In order to obtain consistent data on turnover in principal currency segments of the foreign exchange market, reporting institutions are asked to report turnover data on foreign exchange contracts and to identify the main currency pairs. Thus, data should be provided separately for trading in the domestic currency, the US dollar and the euro against each other and against the individual currencies listed below.

- JPY: Japanese yen
- GBP: pound sterling
- CHF: Swiss franc
- CAD: Canadian dollar
- AUD: Australian dollar
- SEK: Swedish krona
- Other currencies

²³ In other words, not according to its nationality.

Due to the importance of carry trade activities, data are also collected for transactions involving certain combination of currencies that – not being explicitly listed with the main currency pairs above – are typically present in carry trade strategies, namely USD/ZAR, USD/HKD, AUD/JPY and NZD/JPY. Data on trades in the Brazilian real, Chinese renminbi, Indian rupee and Korean won against the US dollar were also collected.

Moreover, given the increasing interest in the identification of turnover in all reporting countries' currencies, reporting dealers were requested to provide supplementary information on total turnover for the following currencies:

Argentine peso, Australian dollar, Bahraini dinar, Brazilian real, Bulgarian lev, Canadian dollar, Chilean peso, Chinese renminbi, New Taiwan dollar, Colombian peso, Czech koruna, Danish krone, Estonian kroon, Hong Kong dollar, Hungarian forint, Indian rupee, Indonesian rupiah, Israeli new shekel, Japanese yen, Korean won, Latvian lats, Lithuanian litas, Malaysian ringgit, Mexican peso, New Zealand dollar, Norwegian krone, Peruvian new sol, Philippine peso, Polish zloty, Romanian leu, Russian rouble, Saudi riyal, Singapore dollar, South African rand, Swedish krona, Swiss franc, Thai baht, Turkish lira and pound sterling.

5.2 Amounts outstanding

For amounts outstanding of foreign exchange contracts, the following currency breakdown was requested: USD, EUR, JPY, GBP, CHF and other currencies.

In addition, reporting institutions were asked to identify amounts for other individual currencies if they had a material amount of outstanding contracts in those currencies, ie if a notional amount outstanding in a currency for a given instrument was greater than 2% of the total notional amounts outstanding for that instrument. However, participating central banks had discretion in defining a "material" amount for reporting of other individual currencies.

In contrast to the turnover part of the survey, amounts outstanding of foreign exchange contracts are broken down on a single currency basis. This means that the notional amount outstanding and the gross positive or negative market value of each contract are reported twice, according to the currencies making up the two "legs" of the contract. The total of the amounts reported for individual currencies thus sums to 200% of total contracts outstanding, while total reported contracts represent only half of the sum of the individual currency components. For example, a reporting institution entering into a forward contract to purchase US dollars in exchange for euros with a notional principal amount of \$100 million will have reported \$100 million in the US dollar column, another \$100 million in the euro column and \$100 million in the "Total" column.

6. Maturities

6.1 Turnover

Transactions in outright forwards and foreign exchange swaps are broken down on an *original maturity* basis according to the following maturity bands:

- seven days or less
- over seven days and up to one year
- over one year

For *outright forward* contracts, the maturity band of the transaction is determined by the difference between the delivery date and the date of the initiation of the contract. For both *spot/forward* and *forward/forward foreign exchange swaps*, the maturity band for the contract is determined by the difference between the due date of the second or long leg of the swap and the date of the initiation of the contract.

6.2 Amounts outstanding

For amounts outstanding of foreign exchange contracts, a breakdown is requested by *residual maturity* between the following bands:

- one year or less
- over one year and up to five years
- over five years

In the case of transactions where the first leg has not come due, the remaining maturity of each leg is determined as the difference between the reporting date and the settlement or due date, respectively, of the near- and far-end legs of the transaction.

7. Execution methods

Reporting institutions were asked to provide information on the execution method used to settle their foreign exchange transactions. Separate information was requested for spot, outright forwards, foreign exchange swaps and currency options.

Amounts outstanding are reported separately according to the following categories:

<i>Interbank direct (inter-reporting dealer)</i>	Executed between two dealers participating in the triennial survey and not intermediated by a third party. For example, a transaction executed via direct telephone communication or direct electronic dealing systems such as Reuters Conversational Dealing.
<i>Customer direct (inter-dealer/customer)</i>	Executed between a reporting dealer and either a customer or a non-reporting dealer, and not intermediated by a third party. For example, a deal executed via direct telephone communication or direct electronic dealing systems such as Reuters Conversational Dealing.
<i>Electronic broking systems</i>	Executed via automated order matching system for foreign exchange dealers. Examples of such systems are EBS and Reuters Matching 2000/2.
<i>Electronic trading systems</i>	Executed via a single-bank proprietary platform or a multibank dealing system. These systems are generally geared towards customers. Examples of multibank systems include FXAll, Currenex, FXConnect, Globalink and eSpeed.
<i>Voice broker</i>	Executed via telephone communication with a foreign exchange voice broker.

8. Elimination of double-counting

Double-counting arises because transactions 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 between reporting dealers. To permit this, reporters are asked to distinguish deals contracted with other reporters (dealers) (see Section 4). The following methods of adjustment are applied for the three different types of data collected in the survey: turnover, notional amounts outstanding and gross market values.

Double-counting and the specific case of overnetting

In the case of turnover data, the procedure used to eliminate double-counting between reporting dealers across countries implicitly assumes that each transaction is reported twice. This assumption can introduce a bias at the currency level if, for example, one country accurately reports cross-border transactions in their local currency with reporting dealers in the rest of the world, but counterparties in the rest of the world do not separately identify those deals under the relevant currency but under the residual category instead. In this case, the method of halving inter-dealer cross-border transactions will underestimate the size of trade for this currency. The resulting effect is referred to as overnetting.

Overnetting is likely to be more relevant for currencies with lower turnover since they are less likely to be separately identified by large centres. The consequence can be that the global turnover for the segment “with reporting dealers, cross-border” for a given currency could be less than the turnover reported by the currency’s home country.

One way of partially correcting for overnetting is to use only the domestic report of cross-border trade in local currency as an estimate in cases where the overnetting is evident. The reasoning behind this methodology is that global turnover for each currency should be at least equal to the turnover reported by the currency’s home country.

After measuring the extent to which the overnetting could affect each individual currency covered by the survey, results suggested that, at an aggregate level, some cases of overnetting can be found in currencies such as the Hong Kong dollar, Russian rouble, Slovak koruna and Danish krone. A selection of the currencies affected by this bias is presented in Table D.2 below.

Overnetting estimation for inter-dealer cross-border transactions

Foreign exchange turnover in April 2010, in millions of US dollars¹

	Reported by country of origin	Reported by rest of the world	Calculated net-net figure	Overnetting
Bulgarian lev	47	11	29	18
Colombian peso	321	152	237	85
Danish krone	11,627	6,714	9,171	2,457
Hong Kong dollar	37,935	17,295	27,615	10,320
Lithuanian litas	783	736	760	24
Russian rouble	4,766	4,270	4,518	248

¹ Including spot transactions, outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange transactions.

Table D.2

It is acknowledged that this bias can also be present for other major currencies; however, the lack of a vis-à-vis country breakdown makes it impossible to measure the size of the bias.

8.1 Double-counting: netting of turnover data

In the case of turnover data, in order to obtain country aggregates, the BIS deducts one half of the amounts reported under “with local reporting dealers” to arrive at the so-called “net-gross” figure, ie country aggregates net of local inter-dealer double-counting. In a second step, to obtain global aggregates, the BIS performs an additional calculation, which is the deduction of one half of the amount reported under “with cross-border reporting dealers”, to arrive at the so-called “net-net” figure, ie the overall global turnover figure net of local and cross-border inter-dealer double-counting. Based on this principle, country aggregates are systematically shown in all tables as net-gross figures while global aggregates are presented as net-net totals.²⁴

8.2 Double-counting: netting of data on amounts outstanding

The same methodology is applied to notional amounts outstanding. The only distinction from the turnover data is that amounts outstanding are collected on a worldwide consolidated basis, which implies that there is no relevant local/cross-border distinction. Double-counting is therefore eliminated by deducting half of the amount reported under “with reporting dealers”.

8.3 Double-counting: netting of gross market values

In the case of gross market values, for which data are also collected on a worldwide consolidated basis without distinction between local and cross-border deals, the adjustments for double-counting are performed as follows: in a first step, gross positive and negative market values of contracts held by reporting institutions are added together to obtain data on a “gross-gross” basis; in a second step, the gross negative market value of contracts with other reporting dealers is subtracted from the “gross-gross” data to immediately arrive at “net-net” figures. For gross market values reported by non-regular reporting institutions, ie dealers that did not participate in the regular derivatives market statistics exercise in the G10 countries, the adjustments for double-counting are assumed to be proportionate to those of the regular reporting institutions.

9. 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 country coverage. The second type of gap is mitigated by the existence of counterparty reports. The bulk of the cross-border business of institutions located in non-reporting countries is very likely to be captured by the reports of their counterparties if they are reporting dealers in countries participating in the survey. However, transactions between dealers in non-reporting countries, and between non-reporting dealers and customers or other financial institutions, are not captured.

An estimate of both gaps is provided for turnover in foreign exchange instruments (see Table D.3). The basis for estimating gaps due to incomplete reporting in the countries providing the data is the 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 with total market activity was 90%, the gap from incomplete reporting is estimated to represent the remaining 10% of the total market turnover in that country.

Gaps are not estimated for notional amounts outstanding and gross market values because it can be assumed that the coverage for the two latter types of data is almost complete due to the worldwide consolidated reporting by all major dealers in the participating countries.

²⁴ In some cases, tables by country also include gross-gross aggregates for information purposes.

Measures of global foreign exchange market activity¹					
Daily averages in April, in billions of US dollars					
	1998	2001	2004	2007	2010
Total reported gross turnover	2,488	1,959	2,953	4,717	5,529
Adjustment for local double-counting ²	-370	-245	-344	-436	-472
Total reported turnover net of local double-counting ("net-gross")	2,117	1,713	2,609	4,281	5,056
Adjustment for cross-border double-counting ³	-543	-446	-674	-957	-1,075
Total reported net turnover	1,527	1,239	1,934	3,324	3,981
Of which: cross-border transactions	777	677	1,185	2,051	2,586

¹ Including spot, outright forward, foreign exchange swap, currency swap, currency options and other foreign exchange products. ² Made by halving positions vis-à-vis other local reporting dealers. ³ Made by halving positions vis-à-vis other reporting dealers abroad.

Table D.3

10. Intertemporal comparisons

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

Changes in coverage may be of two kinds. First, within national markets the coverage of dealers active in national markets may have changed. An increase in the number of reporting institutions, for example, does not necessarily denote greater coverage. If institutions which were not active before, and were therefore not covered in earlier reports, begin 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 or the transfer to another country of their activity, and to their relative importance in the market.

The second type of change in coverage relates to the inclusion of a larger number of countries and of new features since the inception of the survey in 1986. For instance, in 1995 the coverage of market activity was significantly expanded to include most financial derivatives. In 1998 the number of reporting countries increased from 28 to 43 and the coverage of derivatives market activity was further expanded to include separate data on credit-linked derivatives. In 2001, 2004 and 2007 the number of reporting countries increased further to 48, 52 and 54, respectively, while in 2010 the number of participating countries dropped to 53. For all these periods, 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 previously captured therefore relates to local inter-dealer transactions and transactions with non-reporting financial institutions and customers.

Another complication involves changes in definitions. Most changes in definitions reflect improvements in compilation procedures. In particular, greater effort has been made following 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, intertemporal comparisons have to be interpreted carefully. The current procedure introduces biases to the extent that the share of inter-dealer business has changed over time. In 2004, an effort was made to clarify the concept of reporting dealers, in order to better distinguish between inter-dealer and customer transactions. In addition, the reporting basis for the location of trades was further clarified as being, in principle, that of the *sales desk* of any reporting institution. See Section 2.1 of these statistical notes for more details.

The extension of the currency breakdown in 2010 is another factor to be considered when analysing movements in a particular currency or currency pair. The effect of the template expansion of selected currency pairs in the 2010 survey is shown in Table D.4. Some caution is therefore needed when making intertemporal comparisons on turnover for the currencies involved.

Effect of the template expansion on selected currency pairs			
Foreign exchange turnover in April 2010 ¹ , in millions of US dollars			
	Total	Of which: due to template expansion	% share of total
USD/BRL	25,359	17,142	67.6
USD/CNY	31,283	21,551	68.9
USD/HKD	84,951	33,509	39.4
USD/INR	35,820	15,678	43.8
USD/KRW	57,900	23,465	40.5
USD/ZAR	24,045	16,835	70.0
JPY/AUD	24,040	12,840	53.4
JPY/NZD	4,089	4,050	99.0

¹ Adjusted for local and cross-border inter-dealer double-counting. Including spot, outright forward, foreign exchange swap, currency swap and options transactions.

Table D.4

11. Data at constant exchange rates

Another question often raised with intertemporal comparisons is the impact on aggregate turnover of movements in exchange rates vis-à-vis the US dollar from one reporting date to the next. For instance, 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 example, 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. To provide some guidance on the impact of actual exchange rate movements on total reported aggregates, pre-2010 totals have been additionally recalculated at constant exchange rates, replacing historical exchange rates by average April 2010 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 2010 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.

12. Annex tables

The detailed aggregated results of the Central Bank Survey of Foreign Exchange and Derivatives Market Activity in April and at end-June 2010, as far as foreign exchange instruments are concerned, are presented in the following set of annex tables in two separate sections (E.1 and E.2):

Section E.1 covers turnover in global foreign exchange markets, ie turnover in spot transactions, outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange products.

Section E.2 comprises notional amounts outstanding and gross market values of OTC foreign exchange derivatives markets.

Country aggregates are systematically shown in all tables as net-gross figures, while global aggregates are presented as net-net totals (see Section 8).

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

12.1 Turnover on foreign exchange markets (Section E.1)

Tables E.1 to E.4 show total reported foreign exchange market turnover net of both local and cross-border inter-dealer double-counting²⁵ by market segment, counterparty and currency. No adjustments were made for gaps in reporting in these or any other annex tables.

Because two currencies are involved in each deal, the sum of transactions in all individual currencies shown in Table E.1 equals twice the total shown in the first column. Information by currency pair is shown for the US dollar in Table E.2, for the euro in Table E.3 and for the yen in Table E.4. Because the data in these latter tables relate to currency pairs, the sum of all transactions equals the total for the currency in question, not twice that total. The totals for the currencies in Tables E.2, E.3 and E.4 therefore correspond to the figures in the second, third and fourth columns of Table E.1. The information on currencies relates only to separately reported transactions. If transactions in a given currency were not identified separately, but placed with residual (or other) currencies, global turnover in that currency may be understated (see Section 8 and the box on overnetting). For the major currencies, the amount of underestimation from this source can be presumed to be minimal.

The data on transactions in “currencies of other reporting countries” relate to transactions that have been individually identified as the local currency of another country participating in the survey (see Section 5 for the full list of currencies identified in the survey). Data in the “residual currencies” column represent the difference between the total and sum of components.

Tables E.5 to E.9 provide information on reported foreign exchange market turnover by country and currency net of local inter-dealer double-counting. No adjustment was made for cross-border inter-dealer double-counting or for gaps in reporting. The totals at the foot of these tables are the sum of the items in the columns in question. They do not correspond to those in Tables E.1 to E.4 because of the absence of an adjustment for cross-border inter-dealer double-counting.

²⁵ See Section 8.

As in Table E.1, the sum of transactions in each individual currency in Table E.5 equals twice the total transactions because two currencies figure in every deal. Because the data in Tables E.6 to E.9 relate to currency pairs, the total for all transactions sums to the total for the currency, not to twice the total.

Tables E.10 to E.15 contain information on reported foreign exchange market turnover by country, counterparty and market segment, and on the maturity breakdown of reported outright forward and foreign exchange swap transactions by country net of local double-counting. No adjustment was made for cross-border inter-dealer double-counting.

Tables E.16 and E.17 contain information on the maturity breakdown of reported outright forward and foreign exchange swap transactions by currency net of local and cross-border inter-dealer double-counting.

Tables E.18 to E.23 provide an intertemporal comparison of reported foreign exchange turnover net of local inter-dealer double-counting by country and market segment.

Table E.24 provides information on reported turnover of foreign exchange contracts by execution method. The data broken down by instrument are calculated net of both local and cross-border double-counting.

12.2 Positions (amounts outstanding) on derivatives markets (Section E.2)

Table E.25 contains detailed data on reported notional amounts outstanding of foreign exchange derivatives, broken down by instrument, counterparty and market risk factor (ie mainly currency). The data are adjusted for inter-dealer double-counting.

Table E.26 contains detailed data on reported gross positive and negative market values of foreign exchange derivatives by instrument, counterparty and market risk factor (ie mainly currency). The data are not adjusted for inter-dealer double-counting.

Table E.27 provides information on the maturity breakdown of notional amounts outstanding of foreign exchange derivatives by instrument and counterparty. The data are adjusted for inter-dealer double-counting.

Table E.28 provides an intertemporal comparison of reported notional amounts outstanding and gross market values of foreign exchange derivatives by instrument and counterparty. The data are adjusted for inter-dealer double-counting.

E. Statistical annex tables

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²⁶ Spot transactions, outright forwards, foreign exchange swaps, currency swaps, currency options and other foreign exchange instruments.

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Conventions used in the tables

0 = Value close to zero.

... = Reported to be nil, not reported, not shown for reasons of confidentiality, not meaningful or not applicable.

Owing to rounding and incomplete reporting of various breakdowns, the component items do not always sum to the total for the category in question.

“Gross” refers to data for which no adjustment has been made for estimated double-counting; “net-gross” refers to data for which adjustments have been made for estimated local double-counting; and “net-net”, or “net”, refers to data adjusted for both local and cross-border double-counting.

1. Turnover in April 2010

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

Total reported transactions in all currencies

Daily averages, in millions of US dollars

	Total	Specified currency against all other currencies ²					
		US dollar	Euro	Yen	Pound sterling	Swiss franc	Canadian dollar
Spot	1,490,205	1,187,699	691,210	300,214	212,976	92,090	77,831
with reporting dealers	517,996	421,171	232,767	97,655	70,395	28,203	23,825
local	175,900	145,414	68,722	27,309	23,949	8,915	6,413
cross-border	342,096	275,757	164,045	70,346	46,446	19,288	17,413
with other financial institutions	755,203	598,504	361,401	152,144	115,907	52,433	41,628
local	301,247	242,285	147,602	60,048	43,739	22,773	14,878
cross-border	453,955	356,217	213,799	92,096	72,168	29,661	26,751
with non-financial customers	217,006	168,025	97,042	50,415	26,674	11,454	12,378
local	91,339	67,744	30,137	24,425	9,389	3,354	6,836
cross-border	125,667	100,281	66,905	25,991	17,285	8,100	5,542
Outright forwards	475,007	391,501	149,687	115,111	54,844	19,076	26,332
with reporting dealers	112,510	96,325	34,039	12,039	11,275	5,203	4,545
local	28,634	23,950	8,558	3,157	3,127	1,627	1,345
cross-border	83,875	72,375	25,481	8,882	8,148	3,576	3,199
with other financial institutions	254,172	207,497	83,368	57,319	34,405	10,315	17,277
local	99,098	74,530	36,704	19,816	17,457	3,773	7,156
cross-border	155,073	132,967	46,664	37,503	16,947	6,542	10,122
with non-financial customers	108,326	87,680	32,279	45,752	9,164	3,558	4,510
local	54,062	39,901	19,187	15,061	5,864	2,210	2,963
cross-border	54,265	47,778	13,092	30,691	3,300	1,348	1,547
Up to 7 days	218,778	181,689	69,926	75,000	27,281	10,058	13,847
Over 7 days and up to 1 year	244,894	200,687	76,244	39,145	26,406	8,847	12,138
Over 1 year	11,335	9,123	3,516	966	1,157	172	347
Foreign exchange swaps	1,765,210	1,600,101	609,801	278,897	222,214	127,078	97,049
with reporting dealers	837,004	775,490	273,064	125,552	96,787	65,017	38,061
local	241,165	229,167	61,008	35,164	32,611	11,919	11,289
cross-border	595,838	546,323	212,055	90,388	64,176	53,098	26,772
with other financial institutions	757,769	685,372	267,399	126,072	102,805	49,334	49,426
local	221,017	196,326	77,799	32,917	41,028	14,306	13,930
cross-border	536,752	489,047	189,601	93,155	61,777	35,029	35,496
with non-financial customers	170,437	139,238	69,338	27,273	22,621	12,726	9,562
local	71,757	53,033	27,758	16,222	10,018	3,852	4,313
cross-border	98,680	86,205	41,580	11,051	12,604	8,875	5,250
Up to 7 days	1,303,954	1,208,255	419,682	201,122	161,342	90,265	72,330
Over 7 days and up to 1 year	444,209	376,210	186,218	75,844	58,828	35,430	23,815
Over 1 year	14,522	13,039	3,903	1,932	2,043	1,382	904

For footnotes, see facing page.

Table E.1

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

Total reported transactions in all currencies

Daily averages, in millions of US dollars

Specified currency against all other currencies ²								
Australian dollar	Swedish krona	Brazilian real	Renminbi	Czech koruna	Danish krone	Hong Kong dollar	Forint	
111,107	18,787	8,518	8,123	1,330	4,785	18,713	4,144	Spot
37,564	6,799	2,275	6,415	657	1,989	8,862	1,780	with reporting dealers
12,028	1,751	1,602	4,723	95	301	3,759	665	local
25,536	5,049	673	1,692	563	1,688	5,103	1,115	cross-border
56,135	9,641	4,672	1,419	413	1,627	6,448	2,008	with other financial institutions
19,953	2,456	2,446	385	117	293	1,951	730	local
36,182	7,185	2,226	1,034	296	1,334	4,497	1,278	cross-border
17,408	2,347	1,571	289	260	1,169	3,402	356	with non-financial customers
9,994	1,096	1,460	144	198	858	2,271	189	local
7,414	1,251	111	145	62	311	1,132	167	cross-border
28,836	8,578	12,866	14,248	612	2,794	3,725	1,816	Outright forwards
6,951	2,544	2,538	6,052	103	777	1,090	360	with reporting dealers
1,702	643	703	1,235	16	297	428	135	local
5,249	1,901	1,835	4,817	87	480	661	224	cross-border
17,197	4,123	8,585	5,467	213	865	1,505	1,052	with other financial institutions
8,274	1,788	2,574	1,332	107	599	673	394	local
8,923	2,335	6,011	4,135	106	266	831	658	cross-border
4,688	1,911	1,743	2,729	296	1,152	1,131	404	with non-financial customers
3,295	1,379	1,063	1,959	189	1,049	859	254	local
1,393	532	681	769	107	103	272	150	cross-border
12,607	4,420	3,875	1,849	174	1,521	1,887	549	Up to 7 days
15,912	4,080	8,343	10,377	421	1,215	1,564	1,249	Over 7 days and up to 1 year
316	78	649	2,022	17	58	274	18	Over 1 year
140,794	56,198	791	6,825	5,446	14,681	69,538	9,937	Foreign exchange swaps
71,439	28,866	187	2,879	3,474	8,103	36,484	3,418	with reporting dealers
20,111	2,717	53	2,566	543	1,207	14,982	1,209	local
51,328	26,149	134	313	2,931	6,896	21,502	2,209	cross-border
59,520	18,096	419	3,163	1,303	3,217	30,227	4,442	with other financial institutions
14,844	5,814	166	3,028	483	1,441	3,247	1,120	local
44,676	12,282	253	134	820	1,776	26,980	3,322	cross-border
9,835	9,236	184	784	669	3,361	2,827	2,076	with non-financial customers
4,049	4,701	142	748	367	2,749	2,138	212	local
5,786	4,534	43	36	302	613	690	1,865	cross-border
112,494	39,596	278	4,130	4,370	9,843	55,821	8,088	Up to 7 days
27,942	16,180	404	2,603	1,070	4,814	12,285	1,713	Over 7 days and up to 1 year
357	418	110	93	6	24	1,432	136	Over 1 year

¹ Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. ² Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover.

Table E.1 (cont)

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

Total reported transactions in all currencies

Daily averages, in millions of US dollars

	Specified currency against all other currencies ²							
	Indian rupee	Rupiah	Won	Mexican peso	Norwegian krone	New Zealand dollar	Philippine peso	Zloty
Spot	13,527	2,464	21,144	18,158	12,335	21,643	2,249	7,193
with reporting dealers	7,081	1,436	12,821	6,925	4,475	7,798	1,679	3,108
local	5,544	803	9,769	2,125	1,156	2,636	1,123	960
cross-border	1,537	633	3,052	4,800	3,319	5,162	556	2,148
with other financial institutions	2,947	621	6,229	8,366	6,105	11,299	375	3,176
local	878	176	3,183	2,812	1,285	3,416	201	950
cross-border	2,070	445	3,046	5,555	4,820	7,883	174	2,226
with non-financial customers	3,498	407	2,094	2,867	1,755	2,546	195	909
local	2,881	350	1,714	1,599	830	1,330	159	604
cross-border	618	56	380	1,268	925	1,216	36	305
Outright forwards	13,620	2,659	18,018	5,392	6,153	5,076	2,396	3,559
with reporting dealers	4,811	1,368	11,002	1,425	1,619	1,324	1,248	693
local	1,466	337	1,667	434	366	380	170	201
cross-border	3,345	1,031	9,335	992	1,253	944	1,079	492
with other financial institutions	5,059	1,070	5,639	3,014	3,301	2,976	891	2,159
local	1,513	322	1,865	1,140	1,649	1,354	217	923
cross-border	3,546	749	3,774	1,874	1,652	1,621	674	1,236
with non-financial customers	3,750	221	1,377	952	1,233	776	257	707
local	3,259	175	942	318	941	457	213	430
cross-border	491	45	435	634	292	319	44	277
Up to 7 days	3,263	552	2,590	2,117	3,102	2,621	370	1,160
Over 7 days and up to 1 year	9,458	2,071	14,808	3,164	2,986	2,398	1,983	2,334
Over 1 year	899	37	620	111	64	57	43	65
Foreign exchange swaps	6,789	667	16,597	23,735	31,602	33,148	1,188	19,074
with reporting dealers	6,030	569	13,823	10,683	14,863	16,028	1,004	7,083
local	5,243	417	12,908	2,302	2,269	4,894	841	1,986
cross-border	787	152	915	8,382	12,594	11,134	163	5,097
with other financial institutions	637	68	1,781	9,742	11,984	14,450	171	7,653
local	381	54	1,046	3,270	3,077	3,700	170	1,900
cross-border	257	13	736	6,472	8,906	10,750	1	5,753
with non-financial customers	121	30	992	3,310	4,755	2,670	14	4,338
local	99	26	908	767	2,216	872	14	632
cross-border	22	4	84	2,543	2,539	1,799	...	3,706
Up to 7 days	3,290	447	7,387	20,278	22,222	28,699	555	15,680
Over 7 days and up to 1 year	2,931	220	8,329	3,359	9,231	4,296	628	3,280
Over 1 year	568	1	881	98	149	162	4	113

For footnotes, see facing page.

Table E.1 (cont)

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

Total reported transactions in all currencies

Daily averages, in millions of US dollars

Specified currency against all other currencies ²								
Rouble	Rand	Singapore dollar	New Taiwan dollar	Baht	Turkish lira	Currencies of other reporting countries ³	Residual currencies ⁴	
18,139	9,111	15,616	6,064	2,836	7,955	15,092	69,356	Spot
5,936	4,040	6,746	2,102	1,096	4,328	5,664	20,399	with reporting dealers
4,610	1,344	1,868	1,201	445	1,750	3,667	7,151	local
1,325	2,696	4,878	901	650	2,578	1,997	13,248	cross-border
6,342	4,059	6,227	1,952	617	3,234	5,028	39,448	with other financial institutions
4,428	1,026	2,235	1,126	97	1,017	2,909	17,101	local
1,913	3,033	3,992	826	520	2,218	2,119	22,347	cross-border
5,861	1,011	2,643	2,010	1,123	392	4,400	9,510	with non-financial customers
2,103	733	758	1,463	1,051	301	4,213	4,497	local
3,759	277	1,885	548	72	91	187	5,013	cross-border
2,262	2,856	4,416	6,820	1,107	3,032	9,837	32,787	Outright forwards
699	689	1,093	3,456	80	964	4,235	6,471	with reporting dealers
361	320	283	641	20	498	1,106	2,097	local
339	370	810	2,815	59	466	3,129	4,375	cross-border
1,261	1,588	2,359	2,584	134	1,786	4,313	21,022	with other financial institutions
449	635	987	630	55	690	1,767	8,823	local
812	954	1,371	1,955	79	1,095	2,546	12,198	cross-border
301	578	965	779	894	282	1,289	5,295	with non-financial customers
167	413	613	457	870	204	1,110	2,320	local
134	165	352	323	24	78	179	2,975	cross-border
704	1,144	1,708	1,547	268	1,820	2,687	7,220	Up to 7 days
1,472	1,673	2,614	5,196	826	1,182	6,786	24,208	Over 7 days and up to 1 year
85	39	94	77	13	29	364	1,360	Over 1 year
14,240	15,628	33,594	4,761	3,503	12,634	10,324	63,590	Foreign exchange swaps
5,817	9,622	20,726	929	2,675	6,034	4,501	24,800	with reporting dealers
3,215	3,669	7,481	830	1,914	1,837	1,721	6,259	local
2,602	5,953	13,245	99	761	4,198	2,779	18,542	cross-border
7,556	5,031	11,032	3,184	636	6,310	4,461	30,045	with other financial institutions
4,224	1,131	3,841	3,112	303	2,103	1,195	6,078	local
3,332	3,900	7,191	72	333	4,207	3,266	23,968	cross-border
866	974	1,835	648	192	289	1,363	8,744	with non-financial customers
343	677	721	647	131	183	941	4,039	local
524	298	1,115	0	61	106	423	4,705	cross-border
13,047	12,112	26,598	347	1,914	9,886	7,690	50,139	Up to 7 days
1,067	3,400	6,795	4,159	1,511	2,696	2,532	10,628	Over 7 days and up to 1 year
126	117	201	254	78	52	103	359	Over 1 year

¹ Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. ² Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover. ³ Includes all participating countries' currencies other than the ones listed. ⁴ Calculated as the difference between the total and the sum of the listed components.

Table E.1 (cont)

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

Total reported transactions in all currencies

Daily averages, in millions of US dollars

	Total	Specified currency against all other currencies ²					
		US dollar	Euro	Yen	Pound sterling	Swiss franc	Canadian dollar
Currency swaps	42,866	38,313	17,673	6,597	2,575	1,681	2,839
with reporting dealers	20,056	18,490	6,787	2,707	1,482	592	996
local	5,944	5,405	1,431	491	639	59	152
cross-border	14,112	13,085	5,356	2,216	843	533	844
with other financial institutions	19,255	16,771	9,498	3,320	878	904	1,309
local	7,488	6,522	4,376	1,169	388	216	259
cross-border	11,767	10,250	5,121	2,151	490	688	1,050
with non-financial customers	3,555	3,052	1,389	569	215	185	533
local	1,764	1,457	584	279	122	110	297
cross-border	1,791	1,594	805	290	93	75	236
Options sold	136,882	105,529	57,445	34,497	12,866	9,197	4,189
with reporting dealers	60,904	47,216	24,812	12,229	6,239	4,126	2,189
local	21,195	16,349	8,887	4,990	2,524	1,682	642
cross-border	39,708	30,867	15,924	7,239	3,715	2,444	1,548
with other financial institutions	60,448	47,221	25,850	19,399	5,280	3,575	1,621
local	33,423	27,862	12,117	14,411	2,449	1,671	713
cross-border	27,026	19,359	13,733	4,988	2,831	1,904	908
with non-financial customers	15,530	11,092	6,784	2,869	1,347	1,496	379
local	6,241	4,552	2,864	1,386	442	582	151
cross-border	9,289	6,540	3,919	1,482	905	914	227
Options bought	130,788	101,003	54,981	31,397	13,423	8,373	4,055
with reporting dealers	59,909	45,459	26,633	10,629	6,435	4,224	2,105
local	20,434	15,463	9,198	3,171	2,443	1,422	640
cross-border	39,475	29,996	17,434	7,458	3,991	2,802	1,465
with other financial institutions	53,027	42,385	21,329	17,678	4,909	2,709	1,419
local	27,812	23,627	8,879	13,282	1,898	1,069	587
cross-border	25,215	18,758	12,450	4,396	3,011	1,640	832
with non-financial customers	17,852	13,159	7,020	3,090	2,080	1,440	531
local	7,152	5,402	2,750	1,343	607	455	222
cross-border	10,700	7,757	4,270	1,748	1,473	985	309
Total options	207,264	160,194	86,705	54,465	19,952	13,395	6,097
Other products	150	...	...	...	...	...	...
Total foreign exchange contracts	3,980,703	3,377,809	1,555,076	755,283	512,560	253,321	210,148

For footnotes, see facing page.

Table E.1 (cont)

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

Total reported transactions in all currencies

Daily averages, in millions of US dollars

Specified currency against all other currencies ²								
Australian dollar	Swedish krona	Brazilian real	Renminbi	Czech koruna	Danish krone	Hong Kong dollar	Forint	
5,649	699	391	65	30	117	347	45	Currency swaps
2,984	466	39	31	19	22	215	44	with reporting dealers
441	286	22	3	2	8	32	3	local
2,543	180	17	28	17	14	184	41	cross-border
2,406	219	155	22	10	87	56	0	with other financial institutions
714	126	142	1	1	74	11	...	local
1,691	93	13	21	9	13	45	0	cross-border
259	14	198	12	1	9	76	1	with non-financial customers
55	10	197	6	0	9	25	1	local
204	4	1	6	1	...	52	...	cross-border
10,444	1,808	3,040	3,164	148	186	1,156	825	Options sold
5,713	795	1,506	1,626	69	167	513	360	with reporting dealers
1,561	261	637	447	12	0	96	136	local
4,152	534	869	1,179	57	167	416	223	cross-border
3,755	723	1,389	1,197	47	4	303	366	with other financial institutions
1,752	243	457	668	6	...	125	147	local
2,003	479	932	529	41	4	178	218	cross-border
976	290	145	342	32	15	340	100	with non-financial customers
432	158	59	107	10	13	185	30	local
545	133	86	234	22	2	155	70	cross-border
10,663	1,972	3,187	3,517	127	110	1,123	804	Options bought
5,832	865	1,634	1,736	49	19	662	413	with reporting dealers
1,524	300	631	399	0	0	154	210	local
4,308	565	1,004	1,337	49	19	508	204	cross-border
3,151	669	1,456	1,280	28	32	180	305	with other financial institutions
1,415	193	426	673	12	23	51	100	local
1,735	476	1,030	607	16	8	129	204	cross-border
1,680	438	97	501	50	60	281	86	with non-financial customers
756	239	41	213	15	31	182	27	local
924	200	56	288	35	29	99	59	cross-border
15,334	2,950	4,657	5,000	216	203	1,692	1,243	Total options
...	...	...	...	...	...	...	...	Other products
301,719	87,212	27,224	34,261	7,634	22,581	94,015	17,184	Total foreign exchange contracts

¹ Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. ² Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover.

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

Total reported transactions in all currencies

Daily averages, in millions of US dollars

	Specified currency against all other currencies ²							
	Indian rupee	Rupiah	Won	Mexican peso	Norwegian krone	New Zealand dollar	Philippine peso	Zloty
Currency swaps	50	68	951	353	643	664	187	181
with reporting dealers	14	9	625	190	208	380	184	84
local	3	2	348	83	136	36	183	15
cross-border	11	7	277	107	72	344	1	69
with other financial institutions	19	57	264	136	389	280	3	82
local	10	53	62	30	214	62	...	6
cross-border	9	4	202	106	175	218	3	76
with non-financial customers	17	2	62	28	46	4	0	15
local	17	2	58	6	18	1	0	1
cross-border	...	...	4	22	28	3	...	14
Options sold	2,194	120	2,521	1,595	1,208	1,873	102	1,371
with reporting dealers	793	70	1,467	839	497	1,012	41	616
local	297	8	525	231	160	379	6	201
cross-border	496	62	942	608	337	634	35	415
with other financial institutions	877	38	836	613	501	587	37	570
local	470	1	341	225	252	210	7	235
cross-border	408	37	495	387	249	377	30	335
with non-financial customers	523	12	217	144	210	274	24	186
local	355	0	81	44	77	64	1	58
cross-border	168	12	136	100	133	210	23	128
Options bought	2,429	107	2,438	1,531	1,205	1,979	1,160	1,337
with reporting dealers	948	64	1,341	783	529	1,114	1,109	634
local	429	8	484	253	141	333	1,056	221
cross-border	520	56	857	530	388	780	54	413
with other financial institutions	781	24	838	609	411	520	26	543
local	332	5	467	253	144	192	7	187
cross-border	449	20	371	356	266	327	18	356
with non-financial customers	699	19	260	139	265	346	25	160
local	477	1	117	36	113	119	1	76
cross-border	222	18	143	104	152	227	24	85
Total options	3,752	160	3,555	2,316	1,899	2,790	687	2,083
Other products	...	...	...	...	...	...	...	...
Total foreign exchange contracts	37,738	6,019	60,265	49,954	52,632	63,321	6,707	32,089

For footnotes, see facing page.

Table E.1 (cont)

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

Total reported transactions in all currencies

Daily averages, in millions of US dollars

Specified currency against all other currencies ²								
Rouble	Rand	Singapore dollar	New Taiwan dollar	Baht	Turkish lira	Currencies of other reporting countries ³	Residual currencies ⁴	
182	150	67	103	111	1,908	1,692	1,400	Currency swaps
65	91	44	34	62	1,238	1,369	640	with reporting dealers
29	9	1	21	59	692	1,255	43	local
36	82	42	13	3	546	114	597	cross-border
102	49	19	26	20	589	192	651	with other financial institutions
33	7	6	17	18	283	61	114	local
69	43	13	9	2	305	131	536	cross-border
15	10	4	43	29	81	131	110	with non-financial customers
12	3	4	37	29	16	119	53	local
3	7	0	5	...	65	12	56	cross-border
766	775	1,750	914	50	2,559	572	10,901	Options sold
491	523	915	485	11	1,090	199	5,199	with reporting dealers
288	234	236	150	9	431	74	936	local
204	289	679	335	2	658	124	4,263	cross-border
208	201	633	349	1	1,286	276	3,156	with other financial institutions
89	56	362	138	0	714	68	1,054	local
119	145	271	211	1	572	208	2,101	cross-border
67	50	203	79	38	183	98	2,546	with non-financial customers
11	24	57	44	37	97	86	477	local
56	26	146	36	0	87	12	2,069	cross-border
761	782	1,846	862	55	2,260	602	7,486	Options bought
466	521	922	519	9	1,033	182	2,948	with reporting dealers
239	228	285	112	7	468	74	974	local
227	293	637	407	2	565	108	1,974	cross-border
223	195	662	250	2	820	331	2,290	with other financial institutions
91	59	345	96	1	192	79	937	local
133	136	317	154	1	628	252	1,353	cross-border
72	67	262	92	43	407	89	2,248	with non-financial customers
18	40	110	55	43	330	76	413	local
54	27	151	37	0	76	13	1,835	cross-border
1,049	1,035	2,678	1,273	95	3,757	984	14,313	Total options
...	...	...	...	...	...	...	300	Other products
35,870	28,780	56,371	19,021	7,652	29,285	37,929	181,746	Total foreign exchange contracts

¹ Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. ² Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover. ³ Includes all participating countries' currencies other than the ones listed. ⁴ Calculated as the difference between the total and the sum of the listed components.

Table E.1 (cont)

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

US dollar against:

Daily averages, in millions of US dollars

	Total	Euro	Yen	Pound sterling	Swiss franc	Canadian dollar	Australian dollar	Swedish krona
Spot	1,187,699	468,891	183,108	139,582	50,793	65,148	83,869	5,441
with reporting dealers	421,171	159,180	66,429	47,249	14,637	19,816	28,888	1,975
local	145,414	46,591	17,329	16,797	5,064	5,395	9,268	697
cross-border	275,757	112,589	49,100	30,451	9,573	14,421	19,620	1,278
with other financial institutions	598,504	245,922	89,099	76,718	30,434	34,604	43,834	2,926
local	242,285	101,494	36,210	29,389	13,916	13,463	16,935	700
cross-border	356,217	144,429	52,888	47,328	16,518	21,141	26,898	2,226
with non-financial customers	168,025	63,789	27,579	15,616	5,722	10,728	11,147	540
local	67,744	16,085	13,105	4,441	1,451	5,891	5,435	233
cross-border	100,281	47,704	14,474	11,175	4,272	4,837	5,713	307
Outright forwards	391,501	92,085	89,205	33,599	10,715	20,295	20,494	3,468
with reporting dealers	96,325	23,568	7,287	7,463	2,894	3,436	5,177	1,292
local	23,950	5,397	2,142	2,170	786	897	1,323	330
cross-border	72,375	18,172	5,145	5,293	2,109	2,539	3,854	962
with other financial institutions	207,497	50,565	43,981	21,447	6,055	13,487	12,612	1,647
local	74,530	19,999	11,248	10,071	2,072	4,904	5,575	791
cross-border	132,967	30,566	32,733	11,375	3,983	8,583	7,037	856
with non-financial customers	87,680	17,951	37,937	4,689	1,765	3,372	2,705	529
local	39,901	9,730	8,853	2,970	1,084	2,173	2,001	297
cross-border	47,778	8,222	29,084	1,720	681	1,199	704	232
Up to 7 days	181,689	46,113	63,245	16,987	6,076	10,358	9,293	1,846
Over 7 days and up to 1 year	200,687	44,334	25,316	15,804	4,563	9,702	10,994	1,601
Over 1 year	9,123	1,637	644	808	76	235	206	21
Foreign exchange swaps	1,600,101	475,868	245,705	175,231	101,240	89,609	128,846	35,546
with reporting dealers	775,490	218,896	116,805	80,184	53,975	36,046	68,570	17,177
local	229,167	51,390	32,600	28,867	8,875	10,817	19,203	2,449
cross-border	546,323	167,506	84,204	51,317	45,100	25,229	49,367	14,728
with other financial institutions	685,372	211,629	109,094	80,627	37,513	45,214	52,998	13,405
local	196,326	59,711	27,084	34,027	10,283	12,109	12,513	3,519
cross-border	489,047	151,918	82,009	46,600	27,230	33,105	40,485	9,886
with non-financial customers	139,238	45,343	19,806	14,419	9,752	8,348	7,278	4,963
local	53,033	13,772	10,489	5,786	2,420	3,633	2,449	1,825
cross-border	86,205	31,571	9,317	8,633	7,332	4,716	4,829	3,138
Up to 7 days	1,208,255	346,362	180,217	135,846	77,198	68,014	105,574	25,573
Over 7 days and up to 1 year	376,210	126,990	63,746	37,945	22,806	20,731	22,965	9,710
Over 1 year	13,039	2,516	1,742	1,439	1,236	864	307	260

For footnotes, see facing page.

Table E.2

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

US dollar against:

Daily averages, in millions of US dollars

Brazilian real	Renminbi	Hong Kong dollar	Indian rupee	Won	Rand	Currencies of other reporting countries ²	Residual currencies ³	
8,223	6,173	13,440	12,525	20,280	7,023	46,038	77,163	Spot
2,267	4,546	6,121	6,970	12,433	3,460	18,494	28,705	with reporting dealers
1,601	2,887	1,795	5,528	9,635	1,159	12,394	9,277	local
666	1,660	4,327	1,442	2,799	2,301	6,101	19,428	cross-border
4,629	1,398	4,932	2,821	6,038	3,050	12,384	39,714	with other financial institutions
2,442	368	1,640	825	3,117	890	8,490	12,407	local
2,187	1,030	3,293	1,997	2,921	2,160	3,894	27,308	cross-border
1,327	229	2,387	2,733	1,809	514	15,160	8,744	with non-financial customers
1,220	92	1,394	2,582	1,493	286	10,084	3,952	local
107	137	992	152	316	228	5,076	4,792	cross-border
12,219	13,433	2,489	13,037	17,179	2,424	8,926	51,934	Outright forwards
2,353	5,886	816	4,673	10,704	594	2,799	17,383	with reporting dealers
684	1,230	327	1,441	1,619	273	965	4,365	local
1,669	4,656	488	3,233	9,084	321	1,834	13,018	cross-border
8,383	5,396	1,137	4,835	5,250	1,428	2,605	28,668	with other financial institutions
2,510	1,308	448	1,416	1,666	564	1,928	10,029	local
5,872	4,088	689	3,419	3,584	865	677	18,639	cross-border
1,483	2,150	537	3,528	1,225	401	3,523	5,883	with non-financial customers
936	1,444	336	3,084	819	273	3,362	2,541	local
547	707	200	445	407	128	161	3,342	cross-border
3,660	1,721	1,411	3,145	2,390	909	3,168	11,367	Up to 7 days
7,949	9,802	875	9,031	14,187	1,489	5,623	39,418	Over 7 days and up to 1 year
609	1,909	203	862	601	26	136	1,149	Over 1 year
782	6,741	67,278	6,776	16,421	13,747	66,605	169,706	Foreign exchange swaps
183	2,860	35,348	6,024	13,790	9,017	37,638	78,976	with reporting dealers
53	2,548	14,740	5,238	12,877	3,415	15,106	20,988	local
130	312	20,608	786	913	5,602	22,533	57,988	cross-border
416	3,158	29,476	635	1,722	4,159	24,554	70,772	with other financial institutions
163	3,024	3,044	379	994	828	12,225	16,423	local
253	134	26,432	256	728	3,331	12,329	54,349	cross-border
183	723	2,454	118	909	570	4,413	19,958	with non-financial customers
141	700	1,920	96	879	376	3,105	5,444	local
43	24	534	22	30	194	1,308	14,514	cross-border
274	4,074	54,422	3,288	7,283	10,529	48,902	140,700	Up to 7 days
397	2,575	11,427	2,924	8,265	3,105	17,066	25,558	Over 7 days and up to 1 year
111	92	1,429	564	873	113	637	855	Over 1 year

¹ Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. ² Includes all participating countries' currencies other than the ones listed. ³ Calculated as the difference between the total and the sum of the listed components.

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

US dollar against:

Daily averages, in millions of US dollars

	Total	Euro	Yen	Pound sterling	Swiss franc	Canadian dollar	Australian dollar	Swedish Krona
Currency swaps	38,313	13,507	5,646	1,831	927	2,683	5,333	365
with reporting dealers	18,490	5,323	2,576	1,141	356	991	2,885	204
local	5,405	910	467	545	42	151	438	90
cross-border	13,085	4,414	2,109	595	314	839	2,447	114
with other financial institutions	16,771	7,185	2,572	573	527	1,247	2,200	156
local	6,522	3,438	677	258	122	248	704	123
cross-border	10,250	3,747	1,894	316	405	999	1,496	33
with non-financial customers	3,052	999	499	117	44	445	248	5
local	1,457	376	216	46	3	279	50	5
cross-border	1,594	623	282	71	41	166	198	...
Options sold	105,529	33,397	27,545	6,682	3,265	3,001	7,000	177
with reporting dealers	47,216	14,664	9,130	3,293	1,574	1,652	3,812	86
local	16,349	5,211	3,983	1,220	686	430	957	18
cross-border	30,867	9,454	5,147	2,073	888	1,222	2,855	68
with other financial institutions	47,221	15,230	16,315	2,694	1,188	1,074	2,560	60
local	27,862	7,567	13,298	1,206	599	505	1,233	12
cross-border	19,359	7,662	3,017	1,488	589	569	1,327	48
with non-financial customers	11,092	3,503	2,099	695	502	275	628	31
local	4,552	1,410	1,023	209	152	116	296	15
cross-border	6,540	2,093	1,076	486	350	160	332	16
Options bought	101,003	32,624	24,865	6,832	2,207	2,893	7,121	192
with reporting dealers	45,459	15,573	7,550	3,259	1,038	1,599	3,967	90
local	15,463	5,362	2,252	1,093	336	409	963	21
cross-border	29,996	10,212	5,299	2,166	702	1,190	3,004	69
with other financial institutions	42,385	13,270	15,048	2,458	783	901	2,022	51
local	23,627	5,675	12,199	903	321	365	915	8
cross-border	18,758	7,595	2,849	1,554	462	536	1,107	43
with non-financial customers	13,159	3,782	2,267	1,115	387	393	1,132	50
local	5,402	1,487	1,007	320	92	168	482	29
cross-border	7,757	2,294	1,259	795	294	225	650	21
Total options	160,194	50,903	44,070	10,238	4,166	4,268	10,232	280
Other products	...	...	...	...	...	...	...	...
Total foreign exchange contracts	3,377,809	1,101,254	567,734	360,481	167,841	182,002	248,775	45,100

For footnotes, see facing page.

Table E.2 (cont)

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

US dollar against:

Daily averages, in millions of US dollars

Brazilian real	Renminbi	Hong Kong dollar	Indian rupee	Won	Rand	Currencies of other reporting countries ²	Residual currencies ³	
381	58	313	45	918	134	1,436	4,735	Currency swaps
39	31	195	13	615	89	852	3,180	with reporting dealers
22	3	27	3	340	9	300	2,058	local
17	28	168	10	275	80	552	1,122	cross-border
155	22	49	18	243	37	423	1,365	with other financial institutions
142	1	11	9	42	5	265	477	local
13	21	38	9	202	32	158	888	cross-border
188	6	69	14	60	8	160	190	with non-financial customers
187	3	19	14	56	2	148	53	local
1	3	50	...	4	6	12	137	cross-border
2,407	3,089	1,031	2,004	2,183	572	1,349	11,826	Options sold
1,193	1,601	437	724	1,269	423	711	6,646	with reporting dealers
546	447	85	287	512	181	126	1,661	local
647	1,154	351	437	756	242	586	4,986	cross-border
1,086	1,185	289	844	781	124	302	3,489	with other financial institutions
376	668	120	450	319	32	84	1,393	local
710	517	170	394	463	92	218	2,096	cross-border
128	303	305	436	133	25	337	1,691	with non-financial customers
59	90	152	347	79	19	273	313	local
69	213	153	90	55	6	64	1,378	cross-border
2,611	3,442	884	2,230	2,156	571	2,419	9,954	Options bought
1,336	1,706	532	874	1,208	430	1,569	4,728	with reporting dealers
526	399	147	408	462	186	1,170	1,730	local
809	1,307	385	465	747	244	399	2,999	cross-border
1,181	1,267	165	750	771	102	321	3,294	with other financial institutions
367	673	48	310	446	28	88	1,282	local
814	593	118	440	325	75	233	2,013	cross-border
94	469	187	607	177	39	529	1,931	with non-financial customers
40	195	98	466	102	29	471	414	local
54	274	89	141	75	10	58	1,517	cross-border
3,754	4,877	1,431	3,436	3,101	717	2,629	16,092	Total options
...	...	...	...	...	...	...	...	Other products
25,359	31,283	84,951	35,820	57,900	24,045	125,634	319,631	Total foreign exchange contracts

¹ Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. ² Includes all participating countries' currencies other than the ones listed. ³ Calculated as the difference between the total and the sum of the listed components.

Table E.2 (cont)

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

Euro against:

Daily averages, in millions of US dollars

	Total	US dollar	Yen	Pound sterling	Swiss franc
Spot	691,210	468,891	73,103	50,235	34,799
with reporting dealers	232,767	159,180	20,396	16,847	11,570
local	68,722	46,591	6,336	5,341	3,424
cross-border	164,045	112,589	14,060	11,506	8,146
with other financial institutions	361,401	245,922	40,290	27,121	18,407
local	147,602	101,494	17,332	11,192	8,222
cross-border	213,799	144,429	22,958	15,930	10,186
with non-financial customers	97,042	63,789	12,417	6,267	4,821
local	30,137	16,085	4,814	1,944	1,506
cross-border	66,905	47,704	7,603	4,323	3,315
Outright forwards	149,687	92,085	13,832	13,878	6,009
with reporting dealers	34,039	23,568	2,251	2,461	1,460
local	8,558	5,397	570	664	582
cross-border	25,481	18,172	1,682	1,798	878
with other financial institutions	83,368	50,565	7,255	8,820	3,273
local	36,704	19,999	4,906	4,731	1,252
cross-border	46,664	30,566	2,349	4,089	2,021
with non-financial customers	32,279	17,951	4,326	2,596	1,276
local	19,187	9,730	3,470	1,380	714
cross-border	13,092	8,222	856	1,216	562
Up to 7 days	69,926	46,113	5,922	6,322	2,666
Over 7 days and up to 1 year	76,244	44,334	7,732	7,326	3,279
Over 1 year	3,516	1,637	178	230	64
Foreign exchange swaps	609,801	475,868	17,028	37,130	22,129
with reporting dealers	273,064	218,896	4,866	14,185	9,814
local	61,008	51,390	1,120	2,971	2,452
cross-border	212,055	167,506	3,747	11,214	7,362
with other financial institutions	267,399	211,629	8,135	17,225	10,081
local	77,799	59,711	2,760	4,683	3,043
cross-border	189,601	151,918	5,374	12,542	7,038
with non-financial customers	69,338	45,343	4,027	5,720	2,234
local	27,758	13,772	3,174	2,687	1,038
cross-border	41,580	31,571	853	3,033	1,196
Up to 7 days	419,682	346,362	9,066	20,229	11,301
Over 7 days and up to 1 year	186,218	126,990	7,857	16,306	10,700
Over 1 year	3,903	2,516	106	595	128

For footnotes, see facing page.

Table E.3

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

Euro against:

Daily averages, in millions of US dollars

Canadian dollar	Australian dollar	Swedish krona	Currencies of other reporting countries ²	Residual currencies ³	
4,917	5,316	11,052	7,559	35,338	Spot
1,651	1,631	4,189	2,552	14,752	with reporting dealers
493	419	908	834	4,376	local
1,157	1,211	3,281	1,718	10,376	cross-border
2,611	2,383	5,350	2,119	17,197	with other financial institutions
714	748	1,540	1,198	5,163	local
1,897	1,635	3,810	920	12,035	cross-border
655	1,303	1,513	2,888	3,389	with non-financial customers
300	871	651	2,621	1,345	local
356	432	862	267	2,044	cross-border
3,072	2,101	3,253	2,485	12,972	Outright forwards
389	416	589	374	2,530	with reporting dealers
151	84	151	113	847	local
239	332	437	261	1,683	cross-border
2,065	1,313	1,605	565	7,907	with other financial institutions
1,395	686	646	441	2,648	local
669	627	960	125	5,258	cross-border
618	372	1,058	1,545	2,536	with non-financial customers
409	210	808	1,454	1,014	local
210	162	251	91	1,522	cross-border
1,742	858	1,180	981	4,142	Up to 7 days
1,265	1,187	2,024	1,370	7,726	Over 7 days and up to 1 year
65	55	49	134	1,104	Over 1 year
4,908	3,592	18,020	9,468	21,658	Foreign exchange swaps
1,321	1,034	11,378	4,510	7,060	with reporting dealers
263	208	204	1,420	981	local
1,059	826	11,174	3,089	6,078	cross-border
3,023	1,727	3,451	2,363	9,765	with other financial institutions
1,091	527	1,536	1,659	2,789	local
1,933	1,200	1,915	704	6,976	cross-border
563	830	3,192	2,595	4,834	with non-financial customers
242	346	1,998	2,348	2,153	local
321	484	1,193	247	2,681	cross-border
3,132	1,198	12,941	4,714	10,738	Up to 7 days
1,742	2,360	4,930	4,695	10,638	Over 7 days and up to 1 year
34	33	149	59	282	Over 1 year

¹ Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. ² Includes all participating countries' currencies other than the ones listed. ³ Calculated as the difference between the total and the sum of the listed components. ⁴ Due to incomplete reporting, the maturity breakdown does not always sum to totals.

Table E.3 (cont)

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

Euro against:

Daily averages, in millions of US dollars

	Total	US dollar	Yen	Pound sterling	Swiss franc
Currency swaps	17,673	13,507	770	651	710
with reporting dealers	6,787	5,323	95	320	222
local	1,431	910	18	89	15
cross-border	5,356	4,414	78	231	207
with other financial institutions	9,498	7,185	664	279	348
local	4,376	3,438	478	119	90
cross-border	5,121	3,747	186	160	258
with non-financial customers	1,389	999	11	53	140
local	584	376	4	39	106
cross-border	805	623	7	14	34
Options sold	57,445	33,397	4,070	4,565	5,213
with reporting dealers	24,812	14,664	1,606	2,159	2,190
local	8,887	5,211	551	940	840
cross-border	15,924	9,454	1,056	1,220	1,350
with other financial institutions	25,850	15,230	1,935	1,900	2,098
local	12,117	7,567	655	969	1,001
cross-border	13,733	7,662	1,280	931	1,098
with non-financial customers	6,784	3,503	529	506	925
local	2,864	1,410	310	175	414
cross-border	3,919	2,093	219	331	511
Options bought	54,981	32,624	3,492	4,881	5,296
with reporting dealers	26,633	15,573	1,619	2,398	2,821
local	9,198	5,362	509	1,018	904
cross-border	17,434	10,212	1,110	1,380	1,916
with other financial institutions	21,329	13,270	1,420	1,811	1,584
local	8,879	5,675	610	753	666
cross-border	12,450	7,595	810	1,058	918
with non-financial customers	7,020	3,782	453	671	891
local	2,750	1,487	226	186	301
cross-border	4,270	2,294	227	485	590
Total options	86,705	50,903	5,950	7,167	8,004
Other products	...	...	...	...	...
Total foreign exchange contracts	1,555,076	1,101,254	110,684	109,061	71,650

For footnotes, see facing page.

Table E.3 (cont)

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

Euro against:

Daily averages, in millions of US dollars

Canadian dollar	Australian dollar	Swedish krona	Currencies of other reporting countries ²	Residual currencies ³	
148	215	314	433	925	Currency swaps
5	73	255	202	292	with reporting dealers
1	2	196	166	35	local
4	71	59	36	258	cross-border
63	136	57	203	564	with other financial institutions
11	10	4	169	57	local
51	126	53	34	506	cross-border
81	6	2	29	69	with non-financial customers
11	...	2	29	18	local
70	6	1	...	51	cross-border
390	605	1,430	577	7,197	Options sold
135	334	636	330	2,757	with reporting dealers
42	105	221	19	959	local
93	229	415	311	1,797	cross-border
210	222	575	161	3,519	with other financial institutions
56	96	222	4	1,547	local
154	126	352	157	1,972	cross-border
44	49	220	86	921	with non-financial customers
17	24	119	86	309	local
27	25	101	0	613	cross-border
335	567	1,544	454	5,789	Options bought
109	306	669	142	2,995	with reporting dealers
46	72	237	23	1,028	local
64	234	432	119	1,968	cross-border
176	190	539	142	2,197	with other financial institutions
79	92	171	28	805	local
97	98	368	115	1,392	cross-border
49	71	336	170	597	with non-financial customers
20	24	180	140	185	local
30	46	156	30	412	cross-border
602	852	2,321	795	10,110	Total options
...	...	...	...	...	Other products
13,648	12,076	34,960	20,740	81,004	Total foreign exchange contracts

¹ Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. ² Includes all participating countries' currencies other than the ones listed. ³ Calculated as the difference between the total and the sum of the listed components.

Table E.3 (cont)

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

Yen against:

Daily averages, in millions of US dollars

	Total	US dollar	Euro	Australian dollar	New Zealand dollar	Currencies of other reporting countries ²	Residual currencies ³
Spot	300,214	183,108	73,103	12,980	2,051	12,326	16,646
with reporting dealers	97,655	66,429	20,396	3,724	310	2,930	3,865
local	27,309	17,329	6,336	1,363	134	1,093	1,053
cross-border	70,346	49,100	14,060	2,361	176	1,837	2,812
with other financial institutions	152,144	89,099	40,290	6,044	1,082	5,928	9,700
local	60,048	36,210	17,332	1,539	133	1,290	3,544
cross-border	92,096	52,888	22,958	4,505	949	4,638	6,157
with non-financial customers	50,415	27,579	12,417	3,211	659	3,468	3,081
local	24,425	13,105	4,814	2,324	577	2,867	738
cross-border	25,991	14,474	7,603	887	82	601	2,343
Outright forwards	115,111	89,205	13,832	3,869	360	4,775	3,069
with reporting dealers	12,039	7,287	2,251	911	89	671	830
local	3,157	2,142	570	128	15	81	220
cross-border	8,882	5,145	1,682	783	74	590	610
with other financial institutions	57,319	43,981	7,255	1,826	196	2,416	1,645
local	19,816	11,248	4,906	1,221	91	1,778	573
cross-border	37,503	32,733	2,349	606	105	638	1,072
with non-financial customers	45,752	37,937	4,326	1,132	75	1,688	594
local	15,061	8,853	3,470	751	58	1,574	355
cross-border	30,691	29,084	856	381	17	114	238
Up to 7 days	75,000	63,245	5,922	1,383	201	2,508	1,741
Over 7 days and up to 1 year	39,145	25,316	7,732	2,440	156	2,199	1,302
Over 1 year	966	644	178	47	3	69	25
Foreign exchange swaps	278,897	245,705	17,028	5,061	1,502	4,524	5,077
with reporting dealers	125,552	116,805	4,866	1,057	346	1,156	1,322
local	35,164	32,600	1,120	424	120	436	465
cross-border	90,388	84,204	3,747	633	226	721	857
with other financial institutions	126,072	109,094	8,135	2,924	911	2,020	2,987
local	32,917	27,084	2,760	1,019	274	1,113	667
cross-border	93,155	82,009	5,374	1,906	638	907	2,321
with non-financial customers	27,273	19,806	4,027	1,080	245	1,347	768
local	16,222	10,489	3,174	865	201	1,098	395
cross-border	11,051	9,317	853	214	44	249	373
Up to 7 days	201,122	180,217	9,066	4,005	1,322	2,295	4,217
Over 7 days and up to 1 year	75,844	63,746	7,857	1,044	180	2,217	801
Over 1 year	1,932	1,742	106	12	0	12	59

For footnotes, see facing page.

Table E.4

**OTC foreign exchange turnover by instrument, counterparty and currency
in April 2010¹**

Yen against:

Daily averages, in millions of US dollars

	Total	US dollar	Euro	Australian dollar	New Zealand dollar	Currencies of other reporting countries ²	Residual currencies ³
Currency swaps	6,597	5,646	770	73	...	68	40
with reporting dealers	2,707	2,576	95	8	...	6	22
local	491	467	18	0	...	2	4
cross-border	2,216	2,109	78	8	...	4	18
with other financial institutions	3,320	2,572	664	61	...	12	12
local	1,169	677	478	...	...	11	3
cross-border	2,151	1,894	186	61	...	1	8
with non-financial customers	569	499	11	3	...	50	6
local	279	216	4	3	...	49	6
cross-border	290	282	7	0	...	1	0
Options sold	34,497	27,545	4,070	1,374	99	469	940
with reporting dealers	12,229	9,130	1,606	683	56	256	498
local	4,990	3,983	551	157	18	138	143
cross-border	7,239	5,147	1,056	526	38	119	354
with other financial institutions	19,399	16,315	1,935	556	36	188	368
local	14,411	13,298	655	213	10	83	151
cross-border	4,988	3,017	1,280	343	26	106	216
with non-financial customers	2,869	2,099	529	134	7	24	75
local	1,386	1,023	310	21	3	14	15
cross-border	1,482	1,076	219	113	4	10	60
Options bought	31,397	24,865	3,492	1,375	163	454	1,047
with reporting dealers	10,629	7,550	1,619	701	116	211	431
local	3,171	2,252	509	154	17	101	138
cross-border	7,458	5,299	1,110	546	100	110	293
with other financial institutions	17,678	15,048	1,420	508	30	206	466
local	13,282	12,199	610	217	11	91	153
cross-border	4,396	2,849	810	291	19	114	312
with non-financial customers	3,090	2,267	453	166	17	37	150
local	1,343	1,007	226	38	6	22	42
cross-border	1,748	1,259	227	128	10	15	108
Total options	54,465	44,070	5,950	2,057	176	689	1,523
Other products	...	...	...	...	...	...	...
Total foreign exchange contracts	755,283	567,734	110,684	24,040	4,089	22,381	26,356

¹ Adjusted for local and cross-border inter-dealer double-counting. Due to incomplete reporting, the maturity breakdown does not always sum to totals. Due to incomplete counterparty breakdown, components do not always sum to totals. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. ² Includes all participating countries' currencies other than the ones listed. ³ Calculated as the difference between the total and the sum of the listed components.

Table E.4 (cont)

OTC foreign exchange turnover by country and currency in April 2010¹

Daily averages, in millions of US dollars

	Total	Specified currency against all other currencies ²				
		US dollar	Euro	Yen	Pound sterling	Swiss franc
Argentina	1,613	1,515	331	1	1	1
Australia	192,052	173,577	46,744	25,215	18,205	3,117
Austria	19,549	12,153	14,325	1,795	729	3,803
Bahrain	4,543	4,113	879	168	288	15
Belgium	32,524	27,190	19,651	1,876	6,625	1,775
Brazil	14,094	12,851	3,280	1,544	102	169
Bulgaria	866	249	802	9	47	26
Canada	61,892	58,224	8,019	2,827	2,806	716
Chile	5,544	5,488	426	32	60	1
China	19,774	16,565	2,821	2,454	1,158	87
Chinese Taipei	17,983	17,169	3,186	1,754	863	72
Colombia	2,794	2,781	86	9	11	1
Czech Republic	5,110	3,096	3,146	71	50	31
Denmark	120,463	85,757	68,132	6,639	8,851	15,968
Estonia	1,059	70	1,046	4	5	0
Finland	31,254	19,456	21,612	258	893	8,302
France	151,621	130,191	83,245	22,119	21,059	11,100
Germany	108,598	85,305	69,003	13,163	14,436	11,661
Greece	5,164	3,022	4,381	647	285	641
Hong Kong SAR	237,568	227,015	38,346	30,960	11,970	2,401
Hungary	4,196	2,949	1,877	22	32	259
India	27,358	26,474	3,401	750	1,987	93
Indonesia	3,381	3,192	236	498	74	7
Ireland	14,578	9,793	10,220	1,259	4,553	665
Israel	10,017	9,715	211	31	15	21
Italy	28,601	23,969	21,405	2,256	3,206	1,738
Japan	312,326	254,353	58,970	248,863	18,378	3,174
Korea	43,824	43,149	2,897	2,105	393	57
Latvia	2,226	1,832	1,735	60	112	32
Lithuania	1,154	158	1,090	25	26	8
Luxembourg	33,363	27,856	21,553	4,516	4,161	1,672
Malaysia	7,262	6,693	789	422	361	14
Mexico	17,019	16,796	476	18	22	6
Netherlands	18,253	12,931	14,002	1,262	3,006	669
New Zealand	8,754	7,950	683	623	669	92
Norway	22,191	17,826	6,178	913	1,832	434
Peru	1,425	1,423	184	12	64	69
Philippines	5,017	4,813	674	114	51	8
Poland	7,847	4,887	3,916	48	164	378
Portugal	3,654	2,899	2,419	240	401	444
Romania	3,169	721	2,928	14	85	147
Russia	41,658	39,786	13,700	469	1,119	203
Saudi Arabia	5,291	4,430	967	305	774	44
Singapore	265,977	238,125	62,202	41,356	27,246	7,097
Slovakia	443	154	379	18	24	8
South Africa	14,375	13,946	1,887	308	800	108
Spain	29,322	24,608	15,578	1,775	7,518	954
Sweden	44,796	31,102	22,606	1,389	2,331	1,297
Switzerland	262,582	219,073	112,868	29,610	31,458	78,375
Thailand	7,390	6,869	617	855	174	16
Turkey	16,817	15,727	5,960	247	1,189	179
United Kingdom	1,853,594	1,570,573	820,234	342,118	330,748	112,685
United States	904,357	785,223	376,392	140,417	104,610	61,597
Total	5,056,282	4,315,781	1,978,693	934,464	636,027	332,439

For footnotes, see facing page.

Table E.5

OTC foreign exchange turnover by country and currency in April 2010¹

Daily averages, in millions of US dollars

Specified currency against all other currencies ²					
Canadian dollar	Australian dollar	Swedish krona	Currencies of other reporting countries ³	Residual currencies ⁴	
1	0	0	1,375	0	Argentina
5,919	85,782	855	23,146	1,546	Australia
299	409	40	3,390	2,157	Austria
17	8	3	1,797	1,798	Bahrain
462	1,318	574	5,068	508	Belgium
119	119	28	9,955	20	Brazil
17	7	1	543	33	Bulgaria
42,699	2,090	557	5,735	110	Canada
24	1	1	5,055	0	Chile
136	630	14	15,683	0	China
250	1,580	18	11,069	6	Chinese Taipei
9	0	0	2,687	2	Colombia
6	6	10	3,800	4	Czech Republic
1,525	1,912	21,326	30,338	480	Denmark
0	0	5	987	0	Estonia
588	35	10,187	1,143	33	Finland
5,352	8,205	2,869	14,539	4,562	France
1,458	2,812	1,376	9,840	8,141	Germany
100	171	21	678	384	Greece
3,662	27,097	...	121,895	11,790	Hong Kong SAR
3	...	2	3,245	2	Hungary
120	180	17	21,403	292	India
3	88	0	2,553	111	Indonesia
352	671	392	662	589	Ireland
20	0	0	4,576	5,444	Israel
679	1,286	490	2,048	125	Italy
6,088	19,522	1,189	13,593	522	Japan
369	185	14	38,369	109	Korea
15	17	65	550	35	Latvia
0	2	2	998	1	Lithuania
362	1,906	1,250	3,304	146	Luxembourg
12	444	1	5,479	307	Malaysia
40	20	0	16,658	1	Mexico
314	317	218	632	3,157	Netherlands
114	1,324	4	6,047	3	New Zealand
119	1,643	1,067	14,368	2	Norway
20	0	0	1,077	...	Peru
9	52	0	4,309	2	Philippines
6	10	21	6,226	38	Poland
109	65	40	683	7	Portugal
3	1	2	2,439	0	Romania
110	199	26	27,669	35	Russia
14	43	8	2,429	1,565	Saudi Arabia
10,086	33,186	1,837	108,660	2,159	Singapore
2	1	1	297	3	Slovakia
117	150	49	11,205	179	South Africa
239	1,018	139	3,022	3,794	Spain
800	641	22,344	6,955	127	Sweden
7,714	11,450	6,651	22,287	5,677	Switzerland
6	144	3	6,096	2	Thailand
32	45	7	10,155	93	Turkey
86,266	122,645	36,958	205,536	79,425	United Kingdom
83,095	61,166	10,358	99,626	86,230	United States
259,882	390,604	121,041	921,876	221,757	Total

¹ Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting. Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. ² Because two currencies are involved in each transaction, the sum of transactions in individual currencies comes to twice the total reported turnover. ³ Includes all participating countries' currencies other than the ones listed. ⁴ Difference between the total and the sum of the listed components. Table E.5 (cont)

OTC foreign exchange turnover by country and currency in April 2010¹

US dollar against:

Daily averages, in millions of US dollars

	Total	Euro	Yen	Pound sterling	Swiss franc	Canadian dollar	Australian dollar	Swedish krona
Argentina	1,515	240	0	0	1	0	0	0
Australia	173,577	37,993	18,840	14,060	1,153	4,384	75,472	538
Austria	12,153	7,347	1,006	437	1,199	253	381	22
Bahrain	4,113	582	113	199	14	17	8	1
Belgium	27,190	15,122	821	5,030	1,132	225	1,061	390
Brazil	12,851	2,774	891	64	51	74	65	21
Bulgaria	249	205	4	19	0	0	...	...
Canada	58,224	5,980	1,996	2,133	477	40,205	1,745	319
Chile	5,488	382	28	58	1	23	1	1
China	16,565	2,460	1,608	383	73	132	610	4
Chinese Taipei	17,169	2,743	1,387	620	54	210	1,407	17
Colombia	2,781	76	7	11	1	9	0	0
Czech Republic	3,096	1,173	21	16	18	6	6	5
Denmark	85,757	38,501	2,928	5,135	12,562	1,096	1,404	6,169
Estonia	70	59	1	4	...	0	0	0
Finland	19,456	9,859	188	316	8,261	350	7	15
France	130,191	63,910	18,765	11,509	7,930	4,608	6,246	2,176
Germany	85,305	48,063	8,938	8,842	5,405	962	2,108	791
Greece	3,022	2,412	110	127	103	53	70	4
Hong Kong SAR	227,015	33,103	27,078	10,049	2,401	3,239	24,641	...
Hungary	2,949	670	15	21	148	1	...	...
India	26,474	2,760	574	1,800	84	110	158	14
Indonesia	3,192	202	364	68	7	2	79	0
Ireland	9,793	6,057	588	1,668	404	213	248	226
Israel	9,715	...	...	...	...	...	...	...
Italy	23,969	17,314	955	1,570	1,024	242	1,117	371
Japan	254,353	28,699	195,835	8,630	1,726	3,424	8,163	385
Korea	43,149	2,526	1,831	343	53	339	170	13
Latvia	1,832	1,393	11	93	14	13	12	62
Lithuania	158	117	0	1	1	0	0	0
Luxembourg	27,856	16,652	3,370	2,444	1,092	160	1,262	485
Malaysia	6,693	484	244	269	12	10	354	1
Mexico	16,796	264	15	20	4	36	20	0
Netherlands	12,931	9,126	693	1,335	509	186	202	146
New Zealand	7,950	552	551	606	82	87	762	4
Norway	17,826	2,852	366	1,392	239	58	1,611	665
Peru	1,423	183	12	63	69	20	0	0
Philippines	4,813	486	87	49	6	9	45	0
Poland	4,887	1,125	20	81	181	2	3	2
Portugal	2,899	1,697	178	262	231	77	46	14
Romania	721	500	2	44	57	1	1	0
Russia	39,786	11,945	332	962	118	106	169	22
Saudi Arabia	4,430	786	246	633	26	14	20	7
Singapore	238,125	48,667	30,709	18,806	4,619	6,065	27,568	746
Slovakia	154	95	7	7	3	1	0	0
South Africa	13,946	1,572	258	677	101	99	138	47
Spain	24,608	12,194	1,053	6,160	745	145	932	82
Sweden	31,102	11,265	730	1,140	827	554	451	12,097
Switzerland	219,073	75,997	23,053	22,900	54,648	6,345	10,080	5,327
Thailand	6,869	441	579	139	10	4	107	2
Turkey	15,727	4,984	144	1,051	124	28	19	4
United Kingdom	1,570,573	595,230	250,348	232,509	71,464	74,938	101,968	24,150
United States	785,223	283,948	115,617	85,503	46,268	77,100	56,059	6,903
Total	4,315,781	1,413,767	713,515	450,257	225,732	226,236	326,993	62,252

For footnotes, see facing page.

Table E.6

OTC foreign exchange turnover by country and currency in April 2010¹

US dollar against:

Daily averages, in millions of US dollars

Brazilian real	Renminbi	Hong Kong dollar	Indian rupee	Won	Rand	Local currency	Residual currencies ²	
1	0	0	0	0	0	1,271	0	Argentina
146	173	2,776	130	357	392	...	17,162	Australia
1	1	49	1	...	44	...	1,413	Austria
0	...	...	0	...	1	81	3,096	Bahrain
...	39	421	4	...	159	...	2,786	Belgium
8,480	4	...	1	8	24	...	395	Brazil
...	...	...	...	...	...	17	4	Bulgaria
1,331	533	207	63	128	127	...	2,982	Canada
14	...	0	...	0	0	4,887	94	Chile
...	9,742	1,398	...	2	19	...	135	China
3	201	390	31	45	187	9,274	600	Chinese Taipei
3	...	...	...	...	...	2,661	12	Colombia
...	...	...	...	...	2	1,793	56	Czech Republic
8	12	179	11	1	74	11,028	6,650	Denmark
...	...	...	...	...	...	4	2	Estonia
1	6	0	2	1	1	...	449	Finland
48	76	854	17	103	622	...	13,327	France
...	...	...	...	...	...	...	10,197	Germany
...	...	0	...	...	6	...	138	Greece
...	10,690	69,790	4,555	7,412	...	...	34,057	Hong Kong SAR
...	...	...	...	...	...	2,049	45	Hungary
...	...	2	20,879	0	12	...	81	India
...	...	10	0	...	0	2,394	65	Indonesia
1	0	56	6	11	10	...	304	Ireland
...	...	...	...	...	...	4,274	5,441	Israel
0	...	270	1	...	183	...	922	Italy
15	111	687	89	134	1,516	...	4,937	Japan
13	12	188	8	37,391	7	...	255	Korea
...	...	...	...	...	0	15	221	Latvia
...	...	...	...	...	0	11	27	Lithuania
1,065	19	98	11	15	248	...	934	Luxembourg
0	2	23	0	...	1	4,823	469	Malaysia
99	...	...	...	...	0	16,323	14	Mexico
0	...	17	1	...	10	...	705	Netherlands
...	...	30	0	0	1	5,235	39	New Zealand
2	13	4	1	1	10	9,982	630	Norway
0	...	0	...	...	0	1,072	3	Peru
...	39	8	...	0	...	4,050	33	Philippines
...	...	...	...	...	1	3,301	171	Poland
200	...	18	...	1	10	...	165	Portugal
...	...	...	...	...	...	114	3	Romania
...	0	1	...	...	1	26,081	47	Russia
0	...	0	11	4	5	2,221	457	Saudi Arabia
305	7,447	14,226	6,728	15,072	386	29,388	27,393	Singapore
...	...	...	...	...	0	...	42	Slovakia
...	...	0	...	...	10,764	...	291	South Africa
357	128	249	1	25	33	...	2,505	Spain
2	9	35	1	4	48	...	3,940	Sweden
272	117	479	185	298	3,071	...	16,301	Switzerland
...	0	13	0	1	...	5,531	44	Thailand
0	...	0	...	...	18	9,265	89	Turkey
5,481	6,772	13,462	5,141	7,877	11,874	...	169,357	United Kingdom
10,722	3,025	4,965	3,866	2,832	2,723	...	85,692	United States
28,570	39,170	110,910	41,742	71,722	32,592	157,145	415,179	Total

¹ Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

² Calculated as the difference between the total and the sum of the listed components.

OTC foreign exchange turnover by country and currency in April 2010¹

Euro against:

Daily averages, in millions of US dollars

	Total	US dollar	Yen	Pound sterling	Swiss franc
Argentina	331	240	...	...	...
Australia	46,744	37,993	2,213	1,365	216
Austria	14,325	7,347	468	259	2,502
Bahrain	879	582	2	7	0
Belgium	19,651	15,122	822	1,183	471
Brazil	3,280	2,774	2	14	12
Bulgaria	802	205	2	16	20
Canada	8,019	5,980	259	215	145
Chile	426	382	...	0	...
China	2,821	2,460	29	37	7
Chinese Taipei	3,186	2,743	146	143	5
Colombia	86	76	...	...	...
Czech Republic	3,146	1,173	42	19	7
Denmark	68,132	38,501	2,471	1,705	1,797
Estonia	1,046	59	3	1	0
Finland	21,612	9,859	64	564	41
France	83,245	63,910	2,376	8,758	2,855
Germany	69,003	48,063	2,882	5,594	6,256
Greece	4,381	2,412	495	110	446
Hong Kong SAR	38,346	33,103	2,032	876	...
Hungary	1,877	670	7	4	94
India	3,401	2,760	62	63	0
Indonesia	236	202	9	1	0
Ireland	10,220	6,057	533	2,620	184
Israel	211	...	...	...	...
Italy	21,405	17,314	963	1,329	594
Japan	58,970	28,699	27,211	970	604
Korea	2,897	2,526	120	1	0
Latvia	1,735	1,393	8	1	17
Lithuania	1,090	117	6	6	7
Luxembourg	21,553	16,652	668	1,601	508
Malaysia	789	484	44	36	1
Mexico	476	264	...	...	...
Netherlands	14,002	9,126	126	1,656	155
New Zealand	683	552	13	16	3
Norway	6,178	2,852	322	131	61
Peru	184	183	...	...	...
Philippines	674	486	21	0	1
Poland	3,916	1,125	15	49	135
Portugal	2,419	1,697	50	127	208
Romania	2,928	500	8	30	83
Russia	13,700	11,945	76	67	65
Saudi Arabia	967	786	4	98	9
Singapore	62,202	48,667	4,646	3,740	1,026
Slovakia	379	95	10	13	2
South Africa	1,887	1,572	9	79	2
Spain	15,578	12,194	366	1,247	181
Sweden	22,606	11,265	413	514	265
Switzerland	112,868	75,997	4,098	5,621	20,291
Thailand	617	441	23	8	...
Turkey	5,960	4,984	76	35	47
United Kingdom	820,234	595,230	55,608	75,081	35,223
United States	376,392	283,948	21,513	19,098	15,329
Total	1,978,693	1,413,767	131,333	135,110	89,877

For footnotes, see facing page.

Table E.7

OTC foreign exchange turnover by country and currency in April 2010¹

Euro against:

Daily averages, in millions of US dollars

Canadian dollar	Australian dollar	Swedish krona	Local currency	Residual currencies ²	
...	...	...	91	0	Argentina
303	3,041	190	...	1,423	Australia
38	18	18	...	3,675	Austria
...	...	...	0	288	Bahrain
117	128	132	...	1,676	Belgium
1	1	4	444	28	Brazil
7	7	1	517	27	Bulgaria
1,127	59	46	...	188	Canada
0	...	...	43	0	Chile
0	8	0	265	14	China
8	41	...	90	11	Chinese Taipei
...	...	...	10	0	Colombia
0	0	5	1,694	205	Czech Republic
145	121	13,518	8,013	1,861	Denmark
0	...	4	80	900	Estonia
226	26	10,151	...	680	Finland
457	955	576	...	3,360	France
495	438	584	...	4,689	Germany
42	50	14	...	812	Greece
...	...	...	1,274	1,061	Hong Kong SAR
2	...	2	1,030	69	Hungary
1	6	0	264	245	India
0	2	0	20	2	Indonesia
65	251	102	...	409	Ireland
...	...	...	211	...	Israel
319	109	63	...	714	Italy
381	364	174	...	568	Japan
15	0	...	234	1	Korea
2	3	2	231	77	Latvia
0	1	1	937	15	Lithuania
183	444	736	...	761	Luxembourg
...	17	0	67	140	Malaysia
...	...	...	204	7	Mexico
127	110	71	...	2,630	Netherlands
1	7	0	85	6	New Zealand
1	3	199	2,497	112	Norway
...	...	...	1	0	Peru
...	3	...	162	1	Philippines
1	0	16	2,418	156	Poland
27	11	16	...	282	Portugal
2	0	1	2,258	46	Romania
1	2	2	1,530	12	Russia
0	1	1	6	61	Saudi Arabia
974	971	351	238	1,589	Singapore
1	1	0	...	257	Slovakia
7	1	1	204	12	South Africa
85	83	42	...	1,379	Spain
65	37	8,266	...	1,782	Sweden
607	464	973	...	4,817	Switzerland
...	1	...	145	0	Thailand
3	1	0	797	18	Turkey
4,400	5,040	10,617	...	39,034	United Kingdom
5,947	1,920	3,455	...	25,182	United States
16,185	14,748	50,333	26,059	101,281	Total

¹ Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

² Calculated as the difference between the total and the sum of the listed components.

OTC foreign exchange turnover by country and currency in April 2010¹

Yen against:

Daily averages, in millions of US dollars

	Total	US dollar	Euro	Australian dollar	New Zealand dollar	Local currency	Residual currencies ²
Argentina	1	0	...	...	...	1	...
Australia	25,215	18,840	2,213	2,769	180	...	1,211
Austria	1,795	1,006	468	6	1	...	314
Bahrain	168	113	2	...	...	1	53
Belgium	1,876	821	822	25	7	...	202
Brazil	1,544	891	2	52	98	63	439
Bulgaria	9	4	2	...	...	0	3
Canada	2,827	1,996	259	62	58	...	452
Chile	32	28	...	...	...	4	0
China	2,454	1,608	29	10	...	73	735
Chinese Taipei	1,754	1,387	146	64	21	68	67
Colombia	9	7	...	...	...	0	2
Czech Republic	71	21	42	...	...	7	1
Denmark	6,639	2,928	2,471	220	16	105	900
Estonia	4	1	3	...	...	...	0
Finland	258	188	64	0	...	...	6
France	22,119	18,765	2,376	552	13	...	413
Germany	13,163	8,938	2,882	266	...	...	1,078
Greece	647	110	495	28	1	...	14
Hong Kong SAR	30,960	27,078	2,032	904	92	238	615
Hungary	22	15	7	...	...	0	0
India	750	574	62	1	0	37	77
Indonesia	498	364	9	2	0	63	60
Ireland	1,259	588	533	8	1	...	128
Israel	31	...	...	...	...	31	...
Italy	2,256	955	963	23	37	...	278
Japan	248,863	195,835	27,211	10,336	2,025	...	13,456
Korea	2,105	1,831	120	3	0	144	7
Latvia	60	11	8	1	...	...	40
Lithuania	25	0	6	0	...	0	18
Luxembourg	4,516	3,370	668	179	94	...	205
Malaysia	422	244	44	8	0	37	89
Mexico	18	15	...	...	...	2	1
Netherlands	1,262	693	126	2	...	...	441
New Zealand	623	551	13	15	40	...	4
Norway	913	366	322	...	...	198	26
Peru	12	12	...	...	...	...	...
Philippines	114	87	21	1	...	2	3
Poland	48	20	15	6	...	6	1
Portugal	240	178	50	...	...	...	12
Romania	14	2	8	...	...	1	2
Russia	469	332	76	2	...	2	57
Saudi Arabia	305	246	4	10	2	4	39
Singapore	41,356	30,709	4,646	1,671	249	285	3,796
Slovakia	18	7	10	...	...	...	2
South Africa	308	258	9	4	...	14	23
Spain	1,775	1,053	366	3	0	...	352
Sweden	1,389	730	413	12	2	...	233
Switzerland	29,610	23,053	4,098	221	35	...	2,204
Thailand	855	579	23	0	...	246	8
Turkey	247	144	76	0	...	22	5
United Kingdom	342,118	250,348	55,608	7,835	1,437	...	26,890
United States	140,417	115,617	21,513	3,061	226	...	0
Total	934,464	713,515	131,333	28,361	4,633	1,657	54,965

¹ Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

² Calculated as the difference between the total and the sum of the listed components.

Table E.8

OTC foreign exchange turnover by country and currency in April 2010¹

Local currency against:

Daily averages, in millions of US dollars

	Total	US dollar	Euro	Yen	Pound sterling
Argentina	1,369	1,271	91	1	1
Australia	85,782	75,472	3,041	2,769	1,465
Austria	14,325	7,347	...	468	259
Bahrain	162	81	0	1	79
Belgium	19,651	15,122	...	822	1,183
Brazil	9,071	8,480	444	63	8
Bulgaria	536	17	517	0	1
Canada	42,699	40,205	1,127	383	395
Chile	4,942	4,887	43	4	1
China	12,110	9,742	265	73	10
Chinese Taipei	9,507	9,274	90	68	11
Colombia	2,672	2,661	10	0	0
Czech Republic	3,527	1,793	1,694	7	13
Denmark	20,805	11,028	8,013	105	349
Estonia	85	4	80	...	0
Finland	21,612	9,859	...	64	564
France	83,245	63,910	...	2,376	8,758
Germany	69,003	48,063	...	2,882	5,594
Greece	4,381	2,412	...	495	110
Hong Kong SAR	72,604	69,790	1,274	238	324
Hungary	3,113	2,049	1,030	0	5
India	21,301	20,879	264	37	82
Indonesia	2,507	2,394	20	63	4
Ireland	10,220	6,057	...	533	2,620
Israel	4,576	4,274	211	31	15
Italy	21,405	17,314	...	963	1,329
Japan	248,863	195,835	27,211	...	7,994
Korea	37,918	37,391	234	144	49
Latvia	255	15	231	...	1
Lithuania	953	11	937	0	1
Luxembourg	21,553	16,652	...	668	1,601
Malaysia	5,043	4,823	67	37	18
Mexico	16,537	16,323	204	2	1
Netherlands	14,002	9,126	...	126	1,656
New Zealand	5,962	5,235	85	40	43
Norway	13,471	9,982	2,497	198	273
Peru	1,074	1,072	1	...	1
Philippines	4,223	4,050	162	2	1
Poland	5,880	3,301	2,418	6	31
Portugal	2,419	1,697	...	50	127
Romania	2,389	114	2,258	1	8
Russia	27,638	26,081	1,530	2	7
Saudi Arabia	2,381	2,221	6	4	1
Singapore	31,741	29,388	238	285	206
South Africa	11,056	10,764	204	14	35
Spain	15,578	12,194	...	366	1,247
Sweden	22,344	12,097	8,266	131	533
Switzerland	78,375	54,648	20,291	664	1,578
Thailand	6,012	5,531	145	246	19
Turkey	10,117	9,265	797	22	28
United Kingdom	330,748	232,509	75,081	12,228	...
United States	785,223	...	283,948	115,617	85,503
Total	2,242,964	1,134,709	445,025	143,303	124,142

For footnotes, see facing page.

Table E.9

OTC foreign exchange turnover by country and currency in April 2010¹

Local currency against:

Daily averages, in millions of US dollars

Swiss franc	Canadian dollar	Australian dollar	Swedish krona	Residual currencies ²	
1	0	0	0	5	Argentina
170	700	...	61	2,104	Australia
2,502	38	18	18	3,675	Austria
0	...	...	...	1	Bahrain
471	117	128	132	1,676	Belgium
23	13	2	3	36	Brazil
0	0	0	0	0	Bulgaria
90	...	175	190	134	Canada
0	1	0	0	5	Chile
6	3	2	9	2,000	China
3	6	17	0	38	Chinese Taipei
0	0	0	0	0	Colombia
6	0	0	0	12	Czech Republic
494	20	35	450	311	Denmark
0	...	0	0	0	Estonia
41	226	26	10,151	680	Finland
2,855	457	955	576	3,360	France
6,256	495	438	584	4,689	Germany
446	42	50	14	812	Greece
...	90	517	...	371	Hong Kong SAR
14	...	...	0	15	Hungary
7	4	8	2	16	India
0	0	4	0	22	Indonesia
184	65	251	102	409	Ireland
21	20	0	0	3	Israel
594	319	109	63	714	Italy
536	1,794	10,336	260	4,897	Japan
4	8	12	0	76	Korea
...	...	...	0	9	Latvia
0	0	0	1	3	Lithuania
508	183	444	736	761	Luxembourg
1	0	23	0	73	Malaysia
1	4	0	0	0	Mexico
155	127	110	71	2,630	Netherlands
7	15	530	0	8	New Zealand
126	59	28	189	119	Norway
...	...	...	...	0	Peru
0	0	0	...	6	Philippines
62	3	0	3	56	Poland
208	27	11	16	282	Portugal
5	0	0	0	2	Romania
12	0	0	2	4	Russia
0	0	1	0	147	Saudi Arabia
74	106	395	24	1,025	Singapore
6	7	7	1	18	South Africa
181	85	83	42	1,379	Spain
141	88	89	...	1,000	Sweden
...	375	314	86	420	Switzerland
5	2	37	1	27	Thailand
1	0	0	2	3	Turkey
2,544	1,745	2,799	645	3,197	United Kingdom
46,268	77,100	56,059	6,903	113,825	United States
65,031	84,346	74,015	21,339	151,054	Total

¹ Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

² Calculated as the difference between the total and the sum of the listed components.

Table E.9 (cont)

Foreign exchange turnover by country and counterparty in April 2010¹

Daily averages, in millions of US dollars

	Gross turnover ²	Net turnover ³				
		Total	With reporting local dealers	With reporting dealers abroad	With other financial institutions	With non-financial customers
Argentina	1,895	1,613	282	...	349	982
Australia	218,158	192,052	26,106	91,598	61,045	13,304
Austria	20,039	19,549	490	13,029	5,327	704
Bahrain	4,619	4,543	76	2,881	1,476	110
Belgium	32,770	32,524	247	19,824	10,832	1,621
Brazil	15,609	14,094	1,516	3,854	5,951	2,773
Bulgaria	874	866	9	288	411	158
Canada	68,546	61,892	6,654	27,090	22,765	5,383
Chile	7,229	5,544	1,684	1,428	1,430	1,001
China	27,486	19,774	7,712	2,411	5,738	3,913
Chinese Taipei	20,034	17,983	2,050	6,060	5,740	4,132
Colombia	3,822	2,794	1,028	403	721	641
Czech Republic	5,489	5,110	379	3,822	168	742
Denmark	123,231	120,463	2,767	82,165	12,189	23,342
Estonia	1,063	1,059	4	997	10	48
Finland	31,316	31,254	62	28,911	507	1,775
France	162,906	151,509	11,397	90,000	39,438	10,674
Germany	115,740	108,598	7,142	58,985	34,452	8,019
Greece	5,244	5,164	79	3,702	812	571
Hong Kong SAR	257,327	237,542	19,785	160,049	44,587	13,121
Hungary	4,763	4,196	567	2,172	1,077	379
India	38,857	27,358	11,499	5,413	2,340	8,106
Indonesia	4,632	3,381	1,251	1,197	387	546
Ireland	14,994	14,578	416	7,305	6,003	854
Israel	10,333	10,017	317	...	7,771	1,929
Italy	29,695	28,601	1,093	23,328	2,877	1,303
Japan	337,389	312,326	25,063	163,998	77,739	45,526
Korea	67,241	43,824	23,417	10,470	5,840	4,096
Latvia	2,359	2,226	133	340	804	950
Lithuania	1,183	1,154	29	903	88	134
Luxembourg	34,408	33,363	1,045	22,581	8,426	1,313
Malaysia	8,262	7,262	1,000	1,736	2,130	2,396
Mexico	18,156	17,019	1,137	12,594	2,005	1,282
Netherlands	18,626	18,253	372	9,892	6,690	1,300
New Zealand	9,460	8,754	706	2,557	4,811	680
Norway	22,450	22,191	260	13,078	5,363	3,490
Peru	1,856	1,425	431	455	200	338
Philippines	7,649	5,017	2,632	1,491	514	379
Poland	8,632	7,847	785	4,812	1,479	771
Portugal	3,831	3,654	177	1,976	1,090	411
Romania	3,518	3,169	349	2,063	375	383
Russia	49,217	41,658	7,559	10,793	15,520	7,785
Saudi Arabia	6,136	5,291	845	3,082	597	766
Singapore	278,929	265,899	13,030	161,046	72,693	19,131
Slovakia	445	443	1	297	50	95
South Africa	17,092	14,375	2,717	9,994	799	865
Spain	29,794	29,322	472	17,662	2,061	9,127
Sweden	45,640	44,796	844	16,548	17,529	9,874
Switzerland	273,640	262,582	11,058	149,097	79,536	22,890
Thailand	9,649	7,390	2,259	2,206	819	2,107
Turkey	17,677	16,817	860	13,913	918	1,127
United Kingdom	2,065,334	1,853,594	211,741	597,232	866,375	178,246
United States	963,283	904,357	58,926	283,301	451,019	111,111
Total	5,528,525	5,056,067	472,459	2,151,028	1,899,874	532,706

¹ Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. ² Not adjusted for inter-dealer double-counting (ie "gross-gross" basis). ³ Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Table E.10

Spot foreign exchange turnover by country and counterparty in April 2010¹

Daily averages, in millions of US dollars

	Total	Reporting dealers		Other financial institutions		Non-financial customers	
		Local	Cross-border	Local	Cross-border	Local	Cross-border
Argentina	1,581	282	...	116	232	949	2
Australia	60,188	5,326	21,958	2,706	21,262	5,083	3,854
Austria	5,874	190	3,302	521	1,586	202	72
Bahrain	723	1	301	65	326	11	18
Belgium	7,909	65	5,188	77	2,355	111	113
Brazil	8,743	1,467	2,272	2,256	1,326	1,371	50
Bulgaria	595	9	83	366	3	134	1
Canada	18,281	1,185	9,786	1,359	4,258	1,382	310
Chile	2,695	990	452	618	8	623	3
China	8,604	4,460	1,522	1,406	757	458	0
Chinese Taipei	7,728	1,023	2,605	1,058	820	1,642	581
Colombia	1,760	823	54	434	11	433	5
Czech Republic	1,067	60	794	18	6	167	23
Denmark	33,032	543	12,987	146	2,850	1,277	15,230
Estonia	82	0	40	4	0	25	13
Finland	816	34	424	18	37	241	61
France	27,054	1,000	17,225	1,715	4,987	957	1,170
Germany	30,107	1,281	20,117	1,580	5,478	511	1,140
Greece	1,316	1	1,037	13	147	118	...
Hong Kong SAR	43,783	2,275	30,416	864	5,874	2,555	1,800
Hungary	763	39	367	70	150	133	4
India	13,411	5,597	3,284	583	988	2,944	15
Indonesia	2,183	793	794	24	182	364	27
Ireland	3,535	6	1,553	223	1,614	84	55
Israel	3,880	107	...	279	2,351	1,136	6
Italy	9,025	326	7,109	441	324	783	43
Japan	101,459	4,979	58,161	5,318	12,548	19,054	1,398
Korea	18,488	9,412	3,303	2,423	1,311	1,915	124
Latvia	779	38	108	14	163	25	432
Lithuania	260	3	79	73	2	92	11
Luxembourg	11,692	239	7,410	856	2,761	229	197
Malaysia	3,920	499	1,205	557	640	988	31
Mexico	5,296	446	2,846	590	260	1,143	11
Netherlands	5,081	53	4,256	352	289	84	47
New Zealand	1,533	75	530	108	639	174	7
Norway	2,296	22	1,126	159	198	756	35
Peru	1,017	349	266	85	5	312	0
Philippines	2,121	1,050	674	181	50	162	4
Poland	1,955	110	996	186	202	459	2
Portugal	1,060	107	565	7	224	150	7
Romania	1,263	171	640	71	59	314	7
Russia	22,544	4,523	4,128	4,775	2,256	2,323	4,540
Saudi Arabia	3,276	479	1,887	175	199	536	...
Singapore	90,798	2,421	50,878	2,934	28,231	1,873	4,461
Slovakia	196	0	124	2	36	31	3
South Africa	4,036	563	2,809	80	269	274	42
Spain	8,274	52	5,504	114	306	514	1,785
Sweden	11,794	433	5,988	744	3,369	816	444
Switzerland	60,905	2,048	36,869	2,750	13,190	3,185	2,862
Thailand	2,941	405	1,145	51	317	973	50
Turkey	5,488	627	4,249	153	173	285	1
United Kingdom	696,514	82,440	210,377	115,491	228,579	13,198	46,429
United States	472,580	36,471	134,400	146,041	99,745	17,781	38,142
Total	1,832,302	175,900	684,193	301,247	453,955	91,339	125,667

¹ Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.11

Outright forward foreign exchange turnover by country and counterparty in April 2010¹

Daily averages, in millions of US dollars

	Total	Reporting dealers		Other financial institutions		Non-financial customers	
		Local	Cross-border	Local	Cross-border	Local	Cross-border
Argentina	31	...	...	...	...	31	...
Australia	8,015	459	1,760	2,399	1,863	1,340	194
Austria	1,841	29	1,300	173	141	187	11
Bahrain	101	9	14	20	39	2	18
Belgium	1,548	5	1,130	11	240	80	81
Brazil	3,801	21	1,423	486	907	700	265
Bulgaria	55	...	30	6	2	18	0
Canada	6,287	440	1,490	1,847	1,256	1,042	212
Chile	2,120	225	865	545	147	338	...
China	3,054	415	180	83	99	2,215	63
Chinese Taipei	1,222	67	376	181	11	505	81
Colombia	975	201	313	199	70	192	...
Czech Republic	198	1	24	4	0	165	3
Denmark	11,110	353	6,593	503	2,109	1,077	475
Estonia	1	...	0	0	...	...	0
Finland	462	9	20	17	1	290	125
France	9,918	729	4,688	803	1,718	847	1,133
Germany	8,094	505	952	1,132	4,280	855	370
Greece	196	...	8	...	19	168	1
Hong Kong SAR	32,022	1,689	20,032	431	5,401	1,125	3,344
Hungary	262	...	...	39	2	214	7
India	4,895	345	160	40	254	4,091	5
Indonesia	247	17	26	53	28	123	...
Ireland	2,196	0	564	223	1,154	192	62
Israel	154	14	...	42	79	18	1
Italy	1,266	117	607	250	46	204	43
Japan	31,625	857	7,187	9,873	529	12,247	931
Korea	6,101	570	3,867	400	422	805	37
Latvia	12	...	...	0	0	11	1
Lithuania	17	...	16	0	0	1	0
Luxembourg	4,480	44	1,151	905	1,831	338	212
Malaysia	664	6	108	37	87	398	28
Mexico	954	8	647	179	45	68	9
Netherlands	8,540	138	3,103	1,196	3,660	190	254
New Zealand	685	1	307	108	54	214	1
Norway	1,819	4	339	505	126	800	45
Peru	385	81	172	102	8	22	...
Philippines	598	33	265	14	86	201	0
Poland	318	3	20	69	4	221	1
Portugal	496	3	222	3	91	57	120
Romania	95	5	50	5	2	31	2
Russia	592	4	171	143	186	73	16
Saudi Arabia	665	139	458	3	7	58	...
Singapore	36,474	1,722	22,867	1,146	7,683	1,170	1,887
Slovakia	33	0	13	0	1	16	4
South Africa	688	113	262	19	19	266	8
Spain	2,668	38	1,229	43	325	480	553
Sweden	1,944	16	97	417	226	990	198
Switzerland	11,238	998	2,462	709	1,483	2,498	3,088
Thailand	971	8	88	26	18	818	14
Turkey	2,517	131	2,037	102	12	234	1
United Kingdom	228,122	12,970	50,500	37,048	87,291	5,811	34,503
United States	116,107	5,092	27,555	36,563	31,011	10,027	5,859
Total	558,882	28,634	167,751	99,098	155,073	54,062	54,265

¹ Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. Table E.12

Foreign exchange swap turnover by country and counterparty in April 2010¹

Daily averages, in millions of US dollars

	Total	Reporting dealers		Other financial institutions		Non-financial customers	
		Local	Cross-border	Local	Cross-border	Local	Cross-border
Argentina	...	...	...	...	...	...	...
Australia	117,548	19,867	64,065	4,789	26,230	1,058	1,539
Austria	10,725	245	7,792	493	2,063	75	57
Bahrain	3,596	66	2,462	88	933	1	48
Belgium	22,473	165	13,088	508	7,509	501	701
Brazil	292	...	30	60	75	95	33
Bulgaria	211	...	171	16	19	5	...
Canada	33,853	4,838	13,676	3,199	10,210	1,430	499
Chile	522	462	7	25	3	25	...
China	8,024	2,837	666	3,281	90	1,128	22
Chinese Taipei	7,418	876	2,404	3,148	274	713	3
Colombia	29	4	17	1	3	4	...
Czech Republic	3,775	318	2,965	110	25	208	150
Denmark	72,356	1,327	60,450	1,008	4,927	2,644	2,000
Estonia	973	4	955	6	...	8	0
Finland	29,827	13	28,375	15	412	579	432
France	104,262	9,523	60,184	6,918	21,480	3,409	2,748
Germany	63,864	4,792	34,532	4,756	15,865	1,863	2,056
Greece	3,460	78	2,515	115	503	249	0
Hong Kong SAR	147,046	15,299	99,133	2,974	27,095	1,724	820
Hungary	3,117	528	1,771	306	502	11	...
India	7,697	5,427	1,748	376	64	80	...
Indonesia	896	439	376	51	0	27	3
Ireland	8,081	409	5,056	477	1,701	386	52
Israel	5,419	155	...	411	4,230	603	20
Italy	17,726	559	15,283	385	1,339	73	88
Japan	168,260	18,453	93,599	9,351	36,718	9,182	958
Korea	18,420	13,088	3,047	1,035	139	990	122
Latvia	1,436	95	232	57	569	12	470
Lithuania	857	26	798	1	12	15	5
Luxembourg	16,858	752	13,817	552	1,490	98	149
Malaysia	2,429	451	367	479	304	644	183
Mexico	10,434	611	8,969	261	556	38	...
Netherlands	3,241	176	1,898	281	237	167	482
New Zealand	6,353	622	1,619	393	3,483	227	9
Norway	17,524	232	11,410	864	3,288	1,397	332
Peru	16	2	14	...	...	...	...
Philippines	1,256	839	223	167	15	12	...
Poland	5,368	662	3,687	307	675	29	7
Portugal	1,974	67	1,134	12	690	72	...
Romania	1,774	172	1,355	9	227	12	...
Russia	18,416	3,032	6,440	5,172	2,961	315	496
Saudi Arabia	1,273	227	694	57	149	36	110
Singapore	121,999	8,607	78,130	6,833	21,641	2,986	3,801
Slovakia	153	1	135	0	5	12	...
South Africa	9,109	1,922	6,589	196	203	183	16
Spain	16,831	307	10,067	346	644	386	5,080
Sweden	29,312	376	9,972	3,306	8,661	4,160	2,837
Switzerland	181,979	7,816	105,827	8,354	50,917	5,432	3,632
Thailand	3,276	1,778	967	244	144	99	45
Turkey	6,831	19	6,274	150	316	65	7
United Kingdom	775,381	98,086	301,253	91,230	217,461	14,993	52,357
United States	267,099	14,514	105,441	57,839	59,696	13,298	16,311
Total	2,361,049	241,165	1,191,677	221,017	536,752	71,757	98,680

¹ Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. Table E.13

Currency swap turnover by country and counterparty in April 2010¹

Daily averages, in millions of US dollars

	Total	Reporting dealers		Other financial institutions		Non-financial customers	
		Local	Cross-border	Local	Cross-border	Local	Cross-border
Argentina	...	...	...	...	...	...	...
Australia	4,437	338	2,755	319	981	24	19
Austria	307	0	202	3	94	1	8
Bahrain	10	...	10	...	0	...	...
Belgium	83	3	57	0	21	...	1
Brazil	417	22	58	136	...	201	...
Bulgaria	4	...	4	...	...	...	...
Canada	1,240	76	602	23	263	267	9
Chile	204	7	103	15	70	10	...
China	1	...	0	...	0	0	...
Chinese Taipei	79	21	5	16	...	37	...
Colombia	13	0	12	...	1	...	...
Czech Republic	35	...	25	...	...	10	...
Denmark	1,327	320	708	74	194	15	15
Estonia	...	...	...	...	...	...	...
Finland	73	6	62	...	6	...	...
France	4,025	43	3,153	89	670	5	67
Germany	1,344	37	878	109	201	107	12
Greece	4	...	4	...	...	...	...
Hong Kong SAR	7,038	90	6,594	0	232	35	86
Hungary	...	...	...	...	...	...	...
India	31	2	7	4	1	17	...
Indonesia	54	1	1	49	0	2	...
Ireland	692	...	93	420	163	15	0
Israel	75	1	...	10	49	16	...
Italy	28	...	24	...	3	...	...
Japan	2,236	156	1,779	51	129	110	12
Korea	654	335	149	51	52	58	9
Latvia	...	...	...	...	...	...	...
Lithuania	19	...	10	...	...	10	...
Luxembourg	28	8	18	...	0	...	3
Malaysia	156	29	29	3	...	83	12
Mexico	153	70	37	9	34	4	...
Netherlands	1,276	4	590	137	510	31	4
New Zealand	135	8	101	20	5	1	...
Norway	408	1	184	214	1	4	4
Peru	3	...	2	...	...	2	...
Philippines	508	183	323	...	2	0	...
Poland	79	2	52	1	24	...	...
Portugal	...	...	...	...	...	...	...
Romania	4	...	4	...	...	...	...
Russia	...	...	...	...	...	...	...
Saudi Arabia	...	...	...	...	...	...	...
Singapore	687	12	556	15	91	5	7
Slovakia	...	...	...	...	...	...	...
South Africa	39	1	36	1	0	0	...
Spain	659	73	255	2	198	67	64
Sweden	92	2	6	29	50	5	...
Switzerland	23	...	11	...	11	...	...
Thailand	111	59	6	19	...	27	...
Turkey	921	82	839	...	...	...	...
United Kingdom	18,177	2,318	4,397	4,134	6,366	146	816
United States	9,092	1,633	3,484	1,537	1,345	449	644
Total	56,978	5,944	28,224	7,488	11,767	1,764	1,791

¹ Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. Table E.14

Options turnover by country and counterparty in April 2010¹

Daily averages, in millions of US dollars

	Total	Reporting dealers		Other financial institutions		Non-financial customers	
		Local	Cross-border	Local	Cross-border	Local	Cross-border
Argentina	...	...	...	...	...	...	...
Australia	1,864	116	1,059	158	337	126	67
Austria	802	25	433	34	220	49	41
Bahrain	113	...	95	...	6	1	12
Belgium	510	8	360	...	109	15	18
Brazil	841	6	71	11	694	28	32
Bulgaria	...	...	...	...	...	...	...
Canada	2,232	114	1,535	20	330	125	108
Chile	2	1	0	...	...	1	...
China	91	0	42	...	21	28	...
Chinese Taipei	1,536	64	672	74	158	386	183
Colombia	17	0	7	1	2	7	...
Czech Republic	35	0	14	...	4	16	1
Denmark	2,637	224	1,427	37	341	108	501
Estonia	3	...	2	...	...	2	...
Finland	76	...	30	...	...	37	9
France	6,250	102	4,751	480	579	209	129
Germany	5,189	527	2,506	501	549	411	695
Greece	189	...	138	0	15	35	...
Hong Kong SAR	7,654	432	3,874	86	1,629	1,174	459
Hungary	53	...	34	...	10	9	...
India	1,325	127	214	30	...	954	...
Indonesia	1	1	0	...	...	...	...
Ireland	75	1	39	8	20	2	6
Israel	489	41	...	81	239	114	14
Italy	557	91	304	17	74	70	1
Japan	8,747	618	3,273	1,484	1,738	1,332	303
Korea	161	13	105	0	7	37	...
Latvia	...	...	...	...	...	...	...
Lithuania	1	...	0	...	...	1	...
Luxembourg	306	2	185	4	28	6	81
Malaysia	94	14	28	16	6	27	2
Mexico	181	2	96	33	39	10	1
Netherlands	117	1	44	21	9	35	7
New Zealand	48	...	...	1	...	46	0
Norway	143	...	19	...	7	92	25
Peru	4	...	2	...	...	2	...
Philippines	534	527	6	...	...	0	...
Poland	128	8	57	2	9	52	...
Portugal	124	...	55	0	63	5	...
Romania	33	...	13	0	2	17	1
Russia	105	...	54	...	28	22	1
Saudi Arabia	77	...	43	...	7	23	4
Singapore	15,941	267	8,613	407	3,711	620	2,321
Slovakia	61	...	26	...	6	29	0
South Africa	502	118	298	8	2	76	...
Spain	891	2	607	...	84	28	170
Sweden	1,653	17	485	112	614	304	121
Switzerland	8,437	197	3,928	341	1,778	819	1,374
Thailand	90	8	0	1	0	80	0
Turkey	1,060	1	515	7	3	531	3
United Kingdom	135,399	15,926	30,704	49,538	29,236	3,476	6,518
United States	39,479	1,216	12,421	7,718	9,524	1,819	6,782
Total	246,856	20,814	79,184	61,235	52,240	13,393	19,989

¹ Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. Table E.15

Outright forward transactions by country and maturity in April 2010¹

Percentage share of country's total outright forward transactions

	Up to and including 7 days	Over 7 days and up to and including 1 year	Over 1 year
Argentina	8	91	1
Australia	41	58	1
Austria	77	23	1
Bahrain	17	78	5
Belgium	22	77	1
Brazil	39	45	15
Bulgaria	31	69	...
Canada	33	65	3
Chile	28	70	2
China	51	43	6
Chinese Taipei	17	82	2
Colombia	17	82	0
Czech Republic	63	34	3
Denmark	69	31	1
Estonia	49	51	...
Finland	29	70	1
France	16	79	5
Germany	65	32	3
Greece	50	49	0
Hong Kong SAR	33	62	5
Hungary	39	59	2
India	29	49	22
Indonesia	74	26	0
Ireland	22	78	0
Israel	66	32	2
Italy	21	75	3
Japan	41	58	1
Korea	12	75	13
Latvia	85	15	...
Lithuania	0	100	0
Luxembourg	15	84	0
Malaysia	64	34	2
Mexico	20	78	1
Netherlands	28	60	12
New Zealand	56	43	1
Norway	42	57	1
Peru	19	81	1
Philippines	20	75	5
Poland	40	57	2
Portugal	22	78	0
Romania	24	72	4
Russia	16	80	4
Saudi Arabia	92	8	0
Singapore	16	81	3
Slovakia	59	41	0
South Africa	41	56	3
Spain	34	60	6
Sweden	37	61	1
Switzerland	29	70	2
Thailand	25	75	1
Turkey	91	8	0
United Kingdom	60	39	1
United States	39	60	2
Total	45	52	2

¹ Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Since data on the maturity breakdown were only collected on a gross basis, data on a net basis have been calculated by adjusting the gross data proportionally. Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.16

Foreign exchange swap transactions by country and maturity in April 2010¹

Percentage share of country's total FX swaps transactions

	Up to and including 7 days	Over 7 days and up to and including 1 year	Over 1 year
Argentina	...	...	...
Australia	84	16	0
Austria	72	27	1
Bahrain	75	24	1
Belgium	80	20	0
Brazil	14	42	44
Bulgaria	71	29	...
Canada	71	29	1
Chile	25	73	3
China	64	36	1
Chinese Taipei	28	69	4
Colombia	40	16	43
Czech Republic	84	16	0
Denmark	80	20	0
Estonia	94	6	...
Finland	94	6	0
France	74	26	1
Germany	66	33	1
Greece	58	42	...
Hong Kong SAR	78	21	1
Hungary	65	31	4
India	47	42	10
Indonesia	77	23	0
Ireland	59	41	0
Israel	86	13	1
Italy	77	23	0
Japan	79	21	0
Korea	47	48	5
Latvia	95	5	0
Lithuania	95	5	0
Luxembourg	77	23	0
Malaysia	71	29	0
Mexico	95	5	0
Netherlands	52	48	0
New Zealand	85	15	0
Norway	62	37	0
Peru	14	86	...
Philippines	48	52	0
Poland	82	17	1
Portugal	59	41	0
Romania	79	21	0
Russia	97	3	0
Saudi Arabia	44	45	11
Singapore	76	24	1
Slovakia	82	18	...
South Africa	66	32	2
Spain	76	24	1
Sweden	54	45	1
Switzerland	69	30	1
Thailand	49	48	3
Turkey	65	35	...
United Kingdom	75	25	1
United States	71	27	1
Total	74	25	1

¹ Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Since data on the maturity breakdown were only collected on a gross basis, data on a net basis have been calculated by adjusting the gross data proportionally. Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.17

Total foreign exchange turnover by country in April, 1995—2010¹

Daily averages, in billions of US dollars

	Total					
	April 1995	April 1998	April 2001	April 2004	April 2007	April 2010
Argentina	...	2	...	1	1	2
Australia	41	48	54	107	176	192
Austria	13	12	8	15	19	20
Bahrain	3	3	3	3	3	5
Belgium	29	27	10	21	50	33
Brazil	...	5	6	4	6	14
Bulgaria	...	...	...	...	1	1
Canada	31	38	44	59	64	62
Chile	...	1	2	2	4	6
China	...	0	...	1	9	20
Chinese Taipei	...	5	5	9	16	18
Colombia	...	...	0	1	2	3
Czech Republic	...	5	2	2	5	5
Denmark	32	28	24	42	88	120
Estonia	...	...	...	0	1	1
Finland	5	4	2	2	8	31
France	62	77	50	67	127	152
Germany	79	100	91	120	101	109
Greece	3	7	5	4	5	5
Hong Kong SAR	91	80	68	106	181	238
Hungary	...	1	1	3	7	4
India	...	2	3	7	38	27
Indonesia	...	2	4	2	3	3
Ireland	5	11	9	8	11	15
Israel	...	...	1	5	8	10
Italy	24	29	18	23	38	29
Japan	168	146	153	207	250	312
Korea	...	4	10	21	35	44
Latvia	...	...	...	2	3	2
Lithuania	...	...	...	1	1	1
Luxembourg	19	23	13	15	44	33
Malaysia	...	1	1	2	3	7
Mexico	...	9	9	15	15	17
Netherlands	27	43	31	52	25	18
New Zealand	7	7	4	7	13	9
Norway	8	9	13	14	32	22
Peru	...	...	0	0	1	1
Philippines	...	1	1	1	2	5
Poland	...	3	5	7	9	8
Portugal	2	4	2	2	4	4
Romania	...	...	...	...	3	3
Russia	...	7	10	30	50	42
Saudi Arabia	...	2	2	2	4	5
Singapore	107	145	104	134	242	266
Slovakia	...	...	1	2	3	0
Slovenia	...	...	0	0	0	...
South Africa	5	9	10	10	14	14
Spain	18	20	8	14	17	29
Sweden	20	16	25	32	44	45
Switzerland	88	92	76	85	254	263
Thailand	...	3	2	3	6	7
Turkey	...	...	1	3	4	17
United Kingdom	479	685	542	835	1,483	1,854
United States	266	383	273	499	745	904
Total	1,633	2,099	1,705	2,608	4,281	5,056

¹ Spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products. Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.18

Spot foreign exchange turnover by country in April, 1995—2010¹

Daily averages, in billions of US dollars

	Spot					
	April 1995	April 1998	April 2001	April 2004 ²	April 2007	April 2010
Argentina	...	2	...	1	1	2
Australia	18	20	13	36	44	60
Austria	9	5	4	6	6	6
Bahrain	2	2	1	1	2	1
Belgium	6	7	3	6	15	8
Brazil	...	5	4	3	5	9
Bulgaria	...	...	...	...	0	1
Canada	12	11	11	18	14	18
Chile	...	1	2	2	2	3
China	...	0	...	1	8	9
Chinese Taipei	...	3	3	5	9	8
Colombia	...	...	0	1	1	2
Czech Republic	...	2	1	1	1	1
Denmark	9	6	4	9	15	33
Estonia	...	...	...	0	0	0
Finland	3	1	1	1	1	1
France	25	19	9	13	25	27
Germany	34	42	26	36	25	30
Greece	2	3	2	1	1	1
Hong Kong SAR	35	31	19	36	38	44
Hungary	...	1	0	1	2	1
India	...	1	2	3	14	13
Indonesia	...	1	3	1	2	2
Ireland	3	5	4	5	4	4
Israel	...	...	1	3	4	4
Italy	13	12	5	9	11	9
Japan	55	57	37	53	101	101
Korea	...	3	6	10	17	18
Latvia	...	...	...	1	1	1
Lithuania	...	...	...	1	1	0
Luxembourg	8	8	4	3	13	12
Malaysia	...	0	0	1	2	4
Mexico	...	6	4	11	5	5
Netherlands	11	15	5	10	3	5
New Zealand	3	2	1	1	2	2
Norway	3	3	3	3	3	2
Peru	...	...	0	0	1	1
Philippines	...	0	0	0	1	2
Poland	...	2	2	2	2	2
Portugal	1	2	1	1	2	1
Romania	...	...	...	...	1	1
Russia	...	6	9	24	34	23
Saudi Arabia	...	1	1	1	3	3
Singapore	44	60	34	43	89	91
Slovakia	...	...	0	0	0	0
Slovenia	...	...	0	0	0	...
South Africa	2	4	2	2	3	4
Spain	7	6	3	4	6	8
Sweden	9	5	6	7	8	12
Switzerland	44	34	23	23	108	61
Thailand	...	1	1	1	1	3
Turkey	...	...	0	1	1	5
United Kingdom	186	217	151	223	335	697
United States	134	148	104	217	311	473
Total	680	762	519	840	1,305	1,832

¹ Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. Table E.19

Outright forward foreign exchange turnover by country in April, 1995—2010¹

Daily averages, in billions of US dollars

	Outright forward					
	April 1995	April 1998	April 2001	April 2004	April 2007	April 2010
Argentina	...	0	...	...	0	0
Australia	1	2	3	6	14	8
Austria	0	1	0	1	2	2
Bahrain	0	0	1	1	1	0
Belgium	0	1	1	2	7	2
Brazil	...	...	1	0	0	4
Bulgaria	...	...	...	...	0	0
Canada	3	1	2	4	4	6
Chile	...	0	1	1	1	2
China	...	...	...	...	0	3
Chinese Taipei	...	1	0	1	2	1
Colombia	...	...	0	0	0	1
Czech Republic	...	...	0	0	1	0
Denmark	2	1	1	2	10	11
Estonia	...	...	...	0	0	0
Finland	0	0	0	0	0	0
France	2	3	1	5	7	10
Germany	4	8	12	12	23	8
Greece	1	1	0	0	0	0
Hong Kong SAR	3	4	4	5	15	32
Hungary	...	0	0	0	0	0
India	...	0	0	1	6	5
Indonesia	...	0	0	0	1	0
Ireland	0	1	1	0	1	2
Israel	...	...	...	...	...	0
Italy	2	2	1	1	3	1
Japan	17	17	20	21	26	32
Korea	...	0	1	4	5	6
Latvia	...	...	...	0	0	0
Lithuania	...	...	...	0	0	0
Luxembourg	1	1	1	2	5	4
Malaysia	...	0	0	0	0	1
Mexico	...	0	0	1	0	1
Netherlands	3	6	3	4	6	9
New Zealand	0	0	0	1	1	1
Norway	0	0	0	0	2	2
Peru	...	...	0	0	0	0
Philippines	...	0	0	0	0	1
Poland	...	0	0	0	1	0
Portugal	0	0	0	0	1	0
Romania	...	...	...	...	0	0
Russia	...	1	0	1	1	1
Saudi Arabia	...	0	0	0	0	1
Singapore	3	4	8	11	25	36
Slovakia	...	...	0	0	0	0
Slovenia	...	...	0	0	0	...
South Africa	1	2	0	0	1	1
Spain	1	1	1	1	2	3
Sweden	1	1	1	1	2	2
Switzerland	8	5	6	7	17	11
Thailand	...	0	0	0	1	1
Turkey	...	...	0	0	1	3
United Kingdom	34	48	53	103	124	228
United States	28	37	36	61	114	116
Total	115	155	164	261	434	559

¹ Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.20

Foreign exchange swap turnover by country in April, 1995—2010¹

Daily averages, in billions of US dollars

	Foreign exchange swap					
	April 1995	April 1998	April 2001	April 2004	April 2007	April 2010
Argentina	...	...	...	...	...	...
Australia	21	25	35	61	111	118
Austria	4	5	3	7	10	11
Bahrain	1	0	1	0	1	4
Belgium	22	18	7	11	26	22
Brazil	...	...	0	0	0	0
Bulgaria	...	...	...	...	0	0
Canada	15	25	29	32	42	34
Chile	...	...	...	0	0	1
China	...	...	...	...	1	8
Chinese Taipei	...	1	1	2	4	7
Colombia	...	...	0	0	0	0
Czech Republic	...	3	1	1	3	4
Denmark	20	20	18	30	61	72
Estonia	...	...	...	0	1	1
Finland	3	3	1	1	7	30
France	30	50	38	46	87	104
Germany	38	44	51	70	52	64
Greece	1	3	3	3	4	3
Hong Kong SAR	53	44	44	61	122	147
Hungary	...	0	0	2	4	3
India	...	1	1	2	13	8
Indonesia	...	1	0	1	1	1
Ireland	1	4	4	2	6	8
Israel	...	...	1	2	4	5
Italy	8	15	11	10	22	18
Japan	89	61	90	125	112	168
Korea	...	1	3	6	11	18
Latvia	...	...	...	1	2	1
Lithuania	...	...	...	0	0	1
Luxembourg	10	13	8	10	24	17
Malaysia	...	1	1	0	1	2
Mexico	...	2	4	3	10	10
Netherlands	12	20	21	36	15	3
New Zealand	4	5	3	5	10	6
Norway	4	6	9	11	26	18
Peru	...	...	0	0	...	0
Philippines	...	0	0	0	1	1
Poland	...	0	3	4	6	5
Portugal	1	2	1	1	1	2
Romania	...	...	...	...	1	2
Russia	...	0	...	5	15	18
Saudi Arabia	...	1	1	1	1	1
Singapore	58	75	58	72	116	122
Slovakia	...	...	0	1	3	0
Slovenia	...	...	...	0	0	...
South Africa	2	4	7	8	10	9
Spain	10	12	4	9	8	17
Sweden	11	10	17	22	33	29
Switzerland	34	42	41	49	116	182
Thailand	...	2	1	1	4	3
Turkey	...	...	0	2	2	7
United Kingdom	244	372	300	428	899	775
United States	83	166	114	183	239	267
Total	777	1,052	934	1,329	2,250	2,361

¹ Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. Table E.21

Currency swap turnover by country in April, 1995—2010¹

Daily averages, in billions of US dollars

	Currency swaps					
	April 1995	April 1998	April 2001	April 2004	April 2007	April 2010
Argentina	...	...	...	...	...	...
Australia	0	0	1	1	2	4
Austria	0	0	0	0	0	0
Bahrain	...	0	0	0	0	0
Belgium	0	0	0	0	0	0
Brazil	...	...	0	0	0	0
Bulgaria	...	...	...	...	0	0
Canada	0	0	0	1	2	1
Chile	...	...	...	0	0	0
China	...	...	...	...	...	0
Chinese Taipei	...	0	0	0	0	0
Colombia	...	...	0	0	0	0
Czech Republic	...	...	0	0	0	0
Denmark	1	0	0	0	1	1
Estonia	...	...	...	...	0	...
Finland	0	0	0	0	0	0
France	0	1	0	1	1	4
Germany	0	1	0	0	0	1
Greece	0	0	0	...	0	0
Hong Kong SAR	0	0	0	1	1	7
Hungary	...	0	...	...	0	...
India	...	0	0	0	0	0
Indonesia	...	0	0	0	0	0
Ireland	0	0	0	0	0	1
Israel	...	...	...	...	...	0
Italy	0	0	0	0	0	0
Japan	1	1	1	1	1	2
Korea	...	0	0	0	1	1
Latvia	...	...	...	...	...	...
Lithuania	...	...	...	...	...	0
Luxembourg	0	0	0	0	1	0
Malaysia	...	...	...	0	0	0
Mexico	...	...	0	0	0	0
Netherlands	0	0	0	0	0	1
New Zealand	0	0	0	0	0	0
Norway	0	0	0	0	0	0
Peru	...	...	...	0	...	0
Philippines	...	...	0	0	0	1
Poland	...	...	...	0	0	0
Portugal	0	0	0	...	0	...
Romania	...	...	...	...	...	0
Russia	...	...	...	...	...	...
Saudi Arabia	...	...	...	0	0	...
Singapore	1	1	0	0	1	1
Slovakia	...	...	0	...	...	...
Slovenia	...	...	...	0	...	...
South Africa	...	0	0	0	0	0
Spain	0	1	0	0	0	1
Sweden	0	0	0	0	0	0
Switzerland	0	0	0	0	0	0
Thailand	...	0	0	0	0	0
Turkey	...	...	...	0	1	1
United Kingdom	1	5	4	16	18	18
United States	0	1	1	2	6	9
Total	5	13	9	26	40	57

¹ Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. Table E.22

Options turnover by country in April, 1995—2010¹

Daily averages, in billions of US dollars

	Options					
	April 1995	April 1998	April 2001	April 2004	April 2007	April 2010
Argentina	...	...	...	...	...	...
Australia	1	1	2	4	5	2
Austria	0	1	0	1	1	1
Bahrain	0	0	0	0	0	0
Belgium	0	1	0	1	2	1
Brazil	...	...	0	0	0	1
Bulgaria	...	...	...	...	0	...
Canada	1	1	2	5	3	2
Chile	...	...	...	...	0	0
China	...	...	...	...	...	0
Chinese Taipei	...	0	0	1	1	2
Colombia	...	...	0	0	0	0
Czech Republic	...	0	0	0	0	0
Denmark	0	1	0	1	1	3
Estonia	...	...	...	...	0	0
Finland	0	0	0	0	0	0
France	3	4	1	2	6	6
Germany	3	5	3	3	2	5
Greece	0	0	0	0	0	0
Hong Kong SAR	1	1	1	3	6	8
Hungary	...	0	0	0	0	0
India	...	0	0	0	4	1
Indonesia	...	0	...	0	0	0
Ireland	0	0	0	0	0	0
Israel	...	...	...	0	0	0
Italy	0	0	1	3	2	1
Japan	6	9	5	8	11	9
Korea	...	0	0	0	1	0
Latvia	...	...	...	...	...	...
Lithuania	...	...	...	...	0	0
Luxembourg	0	0	0	0	1	0
Malaysia	...	0	0	0	0	0
Mexico	...	0	0	0	0	0
Netherlands	1	2	0	3	1	0
New Zealand	0	0	0	0	0	0
Norway	0	0	0	0	0	0
Peru	...	...	...	...	...	0
Philippines	...	...	...	0	0	1
Poland	...	...	...	0	0	0
Portugal	0	0	0	0	1	0
Romania	...	...	...	...	0	0
Russia	...	0	...	...	0	0
Saudi Arabia	...	0	0	0	0	0
Singapore	1	5	3	8	10	16
Slovakia	...	...	...	...	0	0
Slovenia	...	...	...	0	0	...
South Africa	0	0	0	0	0	1
Spain	0	0	0	0	1	1
Sweden	0	1	1	1	2	2
Switzerland	2	10	5	6	12	8
Thailand	...	0	0	0	0	0
Turkey	...	...	...	0	0	1
United Kingdom	14	43	33	65	106	135
United States	21	31	18	36	75	39
Total	55	117	79	152	253	247

¹ Adjusted for local inter-dealer double-counting (ie "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Table E.23

Foreign exchange turnover by execution method in April 2010¹

Daily averages, in millions of US dollars

	Inter-dealer direct	Customer direct	Electronic Trading Systems		Multibank dealing systems	Voice broker
			Electronic Broking System	Single-bank proprietary platforms		
Spot	237,433	343,390	413,502	227,733	231,199	136,271
Outright forwards	76,530	178,371	46,365	84,614	69,329	38,432
FX swaps	403,454	369,321	302,338	145,580	152,942	452,761
FX options	46,043	109,284	12,729	12,525	4,198	29,388

¹ Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). Due to incomplete allocation by execution method, components do not sum to the aggregates published in Table D.1.

Table E.24

2. Amounts outstanding at end-June 2010

Notional amounts outstanding of OTC foreign exchange by instrument, counterparty and currency at end-June 2010¹

All currencies

In millions of US dollars

	Total	US dollar	Euro	Yen	Pound sterling
Forwards and swaps	31,935,312	27,775,021	10,825,619	4,633,047	4,031,984
with reporting dealers	10,178,437	9,356,050	3,210,128	1,743,162	1,034,301
with other financial institutions	15,065,960	13,290,515	4,781,705	2,056,037	2,034,589
with non-financial customers	6,690,924	5,128,459	2,833,794	833,848	963,101
Currency swaps	18,890,095	16,430,215	7,702,510	3,777,790	2,394,091
with reporting dealers	7,906,256	7,203,382	3,047,769	1,977,914	936,423
with other financial institutions	8,611,532	7,446,154	3,488,850	1,316,708	1,088,792
with non-financial customers	2,372,315	1,780,678	1,165,888	483,164	368,872
Options sold	8,550,830	6,806,025	2,922,539	3,119,424	672,804
with reporting dealers	4,826,250	3,793,261	1,596,739	1,971,487	355,646
with other financial institutions	2,393,299	1,924,467	768,618	772,861	201,611
with non-financial customers	1,331,289	1,088,298	557,187	375,076	115,548
Options bought	8,414,627	6,638,007	2,842,115	3,101,505	637,739
with reporting dealers	4,891,384	3,863,850	1,569,578	2,069,455	351,056
with other financial institutions	2,235,461	1,738,668	751,132	723,255	176,147
with non-financial customers	1,287,794	1,035,490	521,405	308,797	110,536
Total options	12,106,637	9,615,479	4,181,502	4,200,459	957,194
Other products	1,075	...	...	...	...
Total contracts	62,933,119	53,820,715	22,709,631	12,611,296	7,383,269

For footnotes, see facing page.

Table E.25

Notional amounts outstanding of OTC foreign exchange by instrument, counterparty and currency at end-June 2010¹

All currencies

In millions of US dollars

Swiss franc	Canadian dollar	Swedish krona	Other currencies ²	
2,395,214	1,656,914	1,001,917	11,550,908	Forwards and swaps
1,030,850	428,130	277,289	3,276,964	with reporting dealers
910,873	823,115	359,718	5,875,368	with other financial institutions
453,499	405,673	364,914	2,398,560	with non-financial customers
963,087	825,386	451,473	5,235,638	Currency swaps
408,002	261,087	180,591	1,797,344	with reporting dealers
427,957	364,771	208,136	2,881,696	with other financial institutions
127,129	199,525	62,745	556,629	with non-financial customers
690,313	220,762	94,878	2,574,915	Options sold
407,859	117,821	53,564	1,356,123	with reporting dealers
199,774	65,916	22,968	830,383	with other financial institutions
82,683	37,022	18,344	388,420	with non-financial customers
675,505	214,614	94,338	2,625,431	Options bought
401,545	116,427	52,377	1,358,480	with reporting dealers
181,050	62,652	21,877	816,141	with other financial institutions
92,911	35,534	20,084	450,831	with non-financial customers
961,114	318,253	136,249	3,843,024	Total options
...	...	...	2,150	Other products
4,319,415	2,800,553	1,589,639	20,631,720	Total contracts

¹ Data adjusted for inter-dealer double-counting. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. Due to incomplete counterparty breakdown, components do not always add to totals. ² Calculated as the difference between the total and the sum of the listed components.

Table E.25 (cont)

Gross market values of OTC foreign exchange by instrument, counterparty and currency at end-June 2010¹

All currencies

In millions of US dollars

	Total	US dollar	Euro	Yen	Pound sterling
Positive market values					
Forwards and FX swaps	886,143	694,135	366,976	143,339	190,548
with reporting dealers	452,804	353,002	183,794	80,149	116,375
with other financial institutions	280,336	227,528	108,798	40,581	50,984
with non-financial customers	152,997	113,603	74,384	22,605	23,191
Currency swaps	864,547	672,975	362,928	207,179	154,955
with reporting dealers	461,548	382,283	180,273	132,325	75,042
with other financial institutions	286,332	213,048	123,840	47,651	55,785
with non-financial customers	116,668	77,643	58,815	27,201	24,118
Options bought	335,921	254,349	115,237	161,383	16,869
with reporting dealers	202,042	157,875	64,934	108,936	9,309
with other financial institutions	75,061	50,694	28,978	23,598	4,256
with non-financial customers	58,813	45,785	21,328	28,845	3,304
Total contracts	2,086,628	1,621,464	845,153	511,901	362,369
Negative market values					
Forwards and FX swaps	970,183	655,740	357,968	133,335	441,190
with reporting dealers	526,723	338,266	172,655	75,813	294,661
with other financial institutions	305,737	221,968	122,299	40,430	109,636
with non-financial customers	137,723	95,510	63,022	17,097	36,894
Currency swaps	990,369	760,281	405,837	221,474	245,356
with reporting dealers	482,579	382,879	178,075	115,866	134,815
with other financial institutions	357,979	273,916	151,627	74,242	75,519
with non-financial customers	149,810	103,487	76,133	31,360	35,017
Options sold	324,478	241,261	118,773	140,713	23,164
with reporting dealers	204,158	156,468	68,435	109,170	11,573
with other financial institutions	79,165	53,085	30,762	21,754	7,073
with non-financial customers	41,155	31,710	19,576	9,790	4,516
Total contracts	2,285,052	1,657,299	882,592	495,525	709,717
For footnotes, see facing page.					

Table E.26

Gross market values of OTC foreign exchange by instrument, counterparty and currency at end-June 2010¹

All currencies

In millions of US dollars

Swiss franc	Canadian dollar	Swedish krona	Other currencies ²	
Positive market values				
73,787	38,268	19,931	245,302	Forwards and FX swaps
42,035	16,569	8,997	104,687	with reporting dealers
22,020	13,718	5,334	91,709	with other financial institutions
9,731	7,979	5,597	48,904	with non-financial customers
45,805	35,784	10,518	238,950	Currency swaps
23,469	13,216	6,234	110,254	with reporting dealers
16,603	12,783	2,947	100,007	with other financial institutions
5,733	9,780	1,332	28,714	with non-financial customers
26,589	5,333	1,949	90,133	Options bought
16,327	2,908	929	42,866	with reporting dealers
7,286	1,617	511	33,182	with other financial institutions
2,976	812	510	14,066	with non-financial customers
146,183	79,387	32,400	574,399	Total contracts
Negative market values				
65,177	39,186	19,731	228,039	Forwards and FX swaps
37,246	16,808	10,100	107,897	with reporting dealers
16,405	14,252	4,938	81,546	with other financial institutions
11,525	8,124	4,693	38,581	with non-financial customers
56,142	35,960	13,027	242,661	Currency swaps
22,670	11,827	7,148	111,878	with reporting dealers
21,070	13,137	3,683	102,764	with other financial institutions
12,401	10,994	2,192	28,036	with non-financial customers
26,033	6,008	2,224	90,780	Options sold
15,953	2,966	899	42,852	with reporting dealers
7,357	2,055	866	35,378	with other financial institutions
2,718	983	455	12,562	with non-financial customers
147,353	81,155	34,986	561,477	Total contracts

¹ Counterparty breakdown partially estimated. ² Calculated as the difference between the total and the sum of the listed components.

Table E.26 (cont)

Notional amounts outstanding of OTC foreign exchange by instrument, counterparty and remaining maturity at end-June 2010¹

In millions of US dollars

	Total	One year or less	Over 1 year and up to 5 years	Over 5 years
Forwards and swaps	50,825,407	32,282,575	10,159,882	8,389,912
with reporting dealers	18084693	11,714,146	4,059,140	2,305,296
with other financial institutions	23,677,492	14,051,372	4,514,795	5,102,349
with non-financial customers	9,063,239	6,494,612	1,585,296	982,247
Options sold	8,550,830	6,128,066	1,939,216	483,556
with reporting dealers	4,826,250	3,275,891	1,216,854	330,780
with other financial institutions	2,393,299	1,867,443	440,450	85,375
with non-financial customers	1,331,289	982,604	280,373	67,402
Options bought	8,414,627	5,560,605	1,872,315	981,749
with reporting dealers	4,891,384	3,325,528	1,237,236	327,636
with other financial institutions	2,235,461	1,271,612	391,104	572,726
with non-financial customers	1,287,794	961,463	242,414	81,390
Total options	12,106,637	8,387,966	2,584,491	1,136,101
Other products	1,075	...	...	...
Total contracts	62,933,119	40,670,527	12,744,367	9,526,012
Total contracts including gold	63,602,498	...	...	...

¹ Data adjusted for inter-dealer double-counting. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. Due to incomplete allocation, the maturity breakdown does not always sum to totals.

Table E.27

Notional amounts outstanding of OTC foreign exchange by instrument and counterparty at end-June 2004, 2007 and 2010¹

In millions of US dollars

	End-June 2004		End-June 2007		End-June 2010	
	Notional amounts outstanding	Gross market values	Notional amounts outstanding	Gross market values	Notional amounts outstanding	Gross market values
Forwards and FX swaps	16,763,791	459,617	29,775,280	667,587	31,935,312	1,329,600
with reporting dealers	6,834,095	191,668	10,580,077	254,317	10,178,437	452,804
with other financial institutions	6,579,777	165,060	12,280,687	256,313	15,065,960	586,073
with non-financial customers	3,349,930	102,886	6,914,531	156,973	6,690,924	290,720
Total including gold	16,920,203	...	30,486,523	...	32,320,119	...
Currency swaps	7,938,591	505,366	14,130,193	666,201	18,890,095	1,372,342
with reporting dealers	3,078,941	114,194	5,714,743	174,697	7,906,256	461,548
with other financial institutions	3,112,463	229,223	5,941,666	308,004	8,611,532	644,311
with non-financial customers	1,747,196	161,950	2,473,788	183,495	2,372,315	266,478
Options sold	4,702,476	98,624	9,915,023	204,856	8,550,830	324,478
with reporting dealers	2,565,614	50,516	6,127,064	124,230	4,826,250	204,158
with other financial institutions	1,144,366	22,220	2,282,195	49,391	2,393,299	79,165
with non-financial customers	992,505	25,895	1,505,781	31,238	1,331,289	41,155
Total including gold	4,792,802	...	10,066,243	...	8,722,762	...
Options bought	4,646,972	100,603	9,880,162	197,877	8,414,627	335,921
with reporting dealers	2,554,475	52,989	6,139,281	125,530	4,891,384	202,042
with other financial institutions	1,102,087	20,518	2,215,249	44,442	2,235,461	75,061
with non-financial customers	990,416	27,100	1,525,647	27,909	1,287,794	58,813
Total including gold	4,804,363	...	10,144,470	...	8,590,477	...
Total options	6,789,401	148,712	13,662,018	278,507	12,106,637	456,243
Other products	7,229	...	36,724	...	1,075	...
Total contracts	31,499,012	1,113,695	57,604,215	1,612,295	62,933,119	3,158,185
Total contracts including gold	31,857,932	1,159,925	58,655,148	1,668,515	63,602,238	3,212,349

¹ Data adjusted for inter-dealer double-counting. While data on total options are shown on a net basis, separate data on options sold and options bought are recorded on a gross basis, ie not adjusted for inter-dealer double-counting. The counterparty breakdown for the gross market values was estimated.

Table E.28