

Central bank survey of foreign exchange and derivatives market activity in April 2001: preliminary global data

In April this year, 48 central banks and monetary authorities participated in the Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity. They collected data on turnover in traditional foreign exchange markets – spot, outright forwards and foreign exchange swaps – and in over-the-counter (OTC) currency and interest rate derivatives.¹ Today many participating central banks and monetary authorities are publishing their national survey results and the BIS is releasing preliminary global statistics from the survey.² The BIS plans to publish the final global results on foreign exchange market turnover and the final statistics on OTC derivatives market turnover and amounts outstanding in early 2002.

1. Traditional foreign exchange markets

Foreign exchange market activity declined markedly between 1998 and 2001. This is in sharp contrast to the previous surveys, which had shown substantial growth in trading volumes. Average daily turnover in traditional foreign exchange markets was estimated at \$1,210 billion in April 2001 compared to \$1,490 billion in April 1998, representing a 19% decline (Table 1).³ The introduction of the euro, the growing share of electronic broking in the spot interbank market and consolidation in the banking industry appear to have been the main factors driving this fall in foreign exchange market turnover.

The decline was most pronounced in spot markets, where average daily turnover fell from \$568 to 387 billion. Trading volumes in foreign exchange swaps⁴ dropped from \$734 to 656 billion, or by 11%. By contrast, trading in outright forwards slightly increased to \$131 billion.

The April 2001 figures also reveal some changes in the relative importance of trading between different counterparties. Trading between reporting dealers fell substantially, from \$909 to 689 billion (Table 2). In April 2001, it captured 59% of total turnover, down from 64% in 1998. This can in part be explained by the growing role of electronic brokers in the spot interbank market. The use of electronic brokers implies that foreign exchange dealers generally need to trade less actively among themselves. Trading between banks and non-financial customers also declined markedly, from \$241 to 156 billion, while transactions between banks

¹ Data on amounts outstanding of OTC foreign exchange, interest rate, equity, commodity and credit derivatives were collected at end-June and preliminary results will be published in November 2001.

² National results are adjusted for local inter-dealer double-counting while global results are adjusted for both local and cross-border inter-dealer double-counting and for estimated gaps in reporting.

³ The five emerging market countries that in 2001 participated for the first time in the survey captured about 0.2% of total foreign exchange turnover (see Table 5).

⁴ Foreign exchange swaps commit two counterparties to the exchange of two cash flows and involve the sale of one currency for another in the spot market with the simultaneous repurchase of the first currency in the forward market. By contrast, currency swaps (or cross-currency swaps), which are discussed in the next section on OTC derivatives markets, commit two counterparties to several cash flows, which in most cases involve an initial exchange of principal and a final re-exchange of principal upon maturity of the contract, and in all cases several streams of interest payments.

and financial customers rose from \$279 to 329 billion. The higher trading volumes between banks and other financial institutions seem to have reflected the increasing role of asset managers rather than the activity of hedge funds. In fact, market commentary suggests that the role of hedge funds in foreign exchange markets has on balance declined somewhat since the previous survey.

In terms of the currency composition of foreign exchange market activity, the main impact of the introduction of the euro appears to have been through the elimination of intra-EMS trading. Thus the euro entered on one side of 38% of all foreign exchange transactions – higher than the Deutsche mark's share in 1998 (30%) but lower than that of all euro constituents taken together in 1998 (53%). The relative importance of other currencies seems not to have changed substantially since 1998. The dollar's share in foreign exchange markets edged up from 87% in 1998 to 90% in 2001 (Table 3). The yen's share increased slightly to 23% in 2001.

Dollar/euro was by far the most traded currency pair in 2001 and captured 30% of global turnover (Table 4). It was followed by dollar/yen with 20% and dollar/sterling with 11%. Trading in local currencies in emerging markets captured about 4.5% of foreign exchange activity in 2001, compared with 3.1% in 1998.

Preliminary data for 2001 reveal an overall decline in the number of reporting banks: 2,772 in 48 countries compared to 3,087 in 43 countries in 1998. This is consistent with the broad trend towards consolidation in the banking industry and the consequent reduction in the number of trading desks. This trend seems to have been an additional factor contributing to the decrease in foreign exchange market turnover, especially in the interbank market.

The geographical distribution of foreign exchange trading appears not to have changed substantially over the last three years (Table 5). Turnover fell in most countries, with some notable exceptions. In Japan, turnover increased mainly because of a surge in cross-border foreign exchange swaps. In Sweden and Canada, a relaxation of restrictions on institutional investors boosted foreign exchange market activity. In Australia, activity rose as a number of global players have centred their Asian time zone foreign exchange business in Australia. Market commentary pointed to a tendency among commercial banks in some continental European countries to move foreign exchange business to London, while in some other countries banks tended to concentrate their business in their home country. On balance, these two trends appeared to have offset each other, as the United Kingdom's share in total trading was little changed over 1998.

2. OTC derivatives markets

In the OTC derivatives market, average daily turnover in April 2001 amounted to \$575 billion, exceeding that in April 1998 by 53% (see Table 6).⁵ The survey showed a contrast between interest rate and foreign exchange contracts, with the former continuing to grow at a rapid pace (by 85%, to \$489 billion) and the latter contracting (by 31%, to \$67 billion). This divergent path led to a further increase in the relative share of interest rate products in overall OTC derivatives activity, to 85% of total turnover compared with 71% in the previous survey. Data from

⁵ The OTC market consists of "non-traditional" foreign exchange derivatives – such as cross-currency swaps and options – and all interest rate derivatives contracts.

derivatives exchanges had shown a similar, if less pronounced pattern, with an expansion of interest rate products and a contraction of currency instruments (see the memorandum items at the bottom of Table 6).⁶

Expansion in the interest rate segment was driven by the buoyancy of interest rate swaps, with turnover rising by 114%, to \$331 billion (see Table 6). Business in dollar-denominated swaps grew even faster than in the previous survey (by 178%, to \$100 billion; see Table 7), reflecting a deepening of the market possibly driven by a shift in hedging and trading practices. Net repayments of US government debt have reduced the liquidity of long-term US government bonds, encouraging market participants to switch to more effective hedging and trading instruments, such as interest rate swaps. The higher turnover of dollar-denominated swaps thus reflects the increased importance of such instruments as trading and pricing benchmarks.

Activity in euro-denominated interest rate swaps also expanded rapidly (by 104%, to \$173 billion).⁷ The consolidation of activity resulting from the introduction of the euro in January 1999 resulted in a temporary decline in business in European interest rate derivatives but this was quickly offset by the creation of a large and liquid market in euro-denominated swaps. With European government bond markets remaining heterogeneous, the euro-denominated swap curve has in effect become a new benchmark for European fixed income markets. By contrast, trading in yen-denominated interest rate swaps expanded much more slowly (by 14%, to \$16 billion), with activity remaining below that recorded in 1995. The low volume of business may have reflected a fairly widespread view at the time of the survey that Japanese interest rates would evolve in a narrow range for the foreseeable future.

Trading in FRAs witnessed a fairly strong and broad-based expansion (by 74%, to \$129 billion; see Table 7), following slower growth in the previous reporting period. By contrast, activity in interest rate options, a much smaller segment of the OTC interest rate market, contracted by 19%, to \$29 billion, with much of the decline occurring in the yen segment.

Turnover in currency options, by far the largest group of “non-traditional” foreign exchange products, dropped substantially (by 31%, to \$60 billion; see Table 8). Much of the decline was concentrated in the dollar/yen pair (-48%). Options involving the dollar and euro area currencies declined less sharply (-26%). Currency swaps, a relatively small segment of the OTC derivatives market, also contracted (by 30%, to \$7 billion; see Table 8).

Overall, business within the group of reporting dealers grew faster (by 74%, to \$354 billion; see Table 9) than transactions with non-reporting financial institutions (by 46%, to \$159 billion), while transactions with non-financial customers declined (by 16%, to \$42 billion). In contrast to the spot foreign exchange market, electronic broking has not yet made significant inroads into OTC derivatives markets. This may explain why inter-dealer business has remained buoyant relative to 1998. Lastly, cross-border activity grew more than twice as rapidly as local business

⁶ It should be noted, however, that activity in the two types of markets cannot be directly compared owing to inherent differences in the characteristics and uses of products.

⁷ Comparing activity in legacy currencies in 1998 with that in the euro in 2001.

(71% versus 34%). Cross-border contracts accounted for 58% of total activity, illustrating the global nature of the derivatives business.

Table 1
Global foreign exchange market turnover¹
Daily averages in April, in billions of US dollars

Instrument	1989	1992	1995	1998 ²	2001
Spot transactions	317	394	494	568	387
Outright forwards	27	58	97	128	131
Foreign exchange swaps	190	324	546	734	656
Estimated gaps in reporting	56	44	53	60	36
Total “traditional” turnover	590	820	1,190	1,490	1,210
<i>Memorandum item:</i>					
<i>Turnover at April 2001 exchange rates³</i>	570	750	990	1,400	1,210

¹ Adjusted for local and cross-border double-counting. ² Revised. ³ Non-US dollar legs of foreign currency transactions were converted into original currency amounts at average exchange rates for April of each survey year and then reconverted into US dollar amounts at average April 2001 exchange rates.

Table 2
Reported foreign exchange market turnover by instrument, counterparty
and maturity¹

Daily averages in April, in billions of US dollars

Instrument/counterparty	1992	1995	1998 ²	2001
Spot	394	494	568	387
With reporting dealers.....	282	325	348	218
With other financial institutions.....	47	94	121	111
With non-financial customers.....	62	75	99	58
Outright forwards.....	58	97	128	131
With reporting dealers.....	21	33	49	52
With other financial institutions.....	10	28	34	41
With non-financial customers.....	28	36	44	37
Up to 7 days.....	...	50	66	51
Over 7 days and up to 1 year	...	44	59	76
Over 1 year.....	...	2	5	4
Foreign exchange swaps.....	324	546	734	656
With reporting dealers.....	238	370	512	419
With other financial institutions.....	39	108	124	177
With non-financial customers.....	47	68	98	60
Up to 7 days.....	...	382	529	450
Over 7 days and up to 1 year	...	155	192	197
Over 1 year.....	...	7	10	8
Total	776	1,137	1,430	1,173
With reporting dealers.....	541	728	909	689
With other financial institutions.....	96	230	279	329
With non-financial customers.....	137	179	241	156
Local	316	526	658	499
Cross-border	391	613	772	674

¹ Adjusted for local and cross-border double-counting. ² Revised.

Table 3
Currency distribution of reported global foreign exchange market turnover¹

Percentage shares of average daily turnover in April

Currency	1989	1992	1995	1998 ²	2001
US dollar	90	82.0	83.3	87.3	90.4
Euro	.	.	.	.	37.6
Deutsche mark ³	27	39.6	36.1	30.1	.
French franc.....	2	3.8	7.9	5.1	.
ECU and other EMS currencies.....	4	11.8	15.7	17.3	.
Japanese yen.....	27	23.4	24.1	20.2	22.7
Pound sterling.....	15	13.6	9.4	11.0	13.2
Swiss franc	10	8.4	7.3	7.1	6.1
Canadian dollar.....	1	3.3	3.4	3.6	4.5
Australian dollar	2	2.5	2.7	3.1	4.2
Swedish krona ⁴	...	1.3	0.6	0.4	2.6
Hong Kong dollar ⁴	...	1.1	0.9	1.3	2.3
Norwegian krone ⁴	...	0.3	0.2	0.4	1.5
Danish krone ⁴	...	0.5	0.6	0.4	1.2
Singapore dollar ⁴	...	0.3	0.3	1.2	1.1
South African rand ⁴	...	0.3	0.2	0.5	1.0
Mexican peso ⁴	...	...	...	0.6	0.9
Korean won ⁴	...	...	...	0.2	0.8
New Zealand dollar ⁴	...	0.2	0.2	0.3	0.6
Polish zloty ⁴	...	...	...	0.1	0.5
Brazilian real ⁴	...	...	...	0.4	0.4
Russian rouble ⁴	...	...	...	0.3	0.4
Taiwan dollar ⁴	...	...	...	0.1	0.3
Chilean peso ⁴	...	...	...	0.1	0.2
Czech koruna ⁴	...	...	...	0.3	0.2
Indian rupee ⁴	...	...	...	0.1	0.2
Thai baht ⁴	...	...	...	0.2	0.2
Malaysian ringgit ⁴	...	...	...	0.0	0.1
Saudi riyal ⁴	...	...	...	0.1	0.1
Other currencies.....	22	7.7	7.1	8.2	6.7
All currencies	200	200.0	200.0	200.0	200.0

¹ Because two currencies are involved in each transaction, the sum of the percentage shares of individual currencies totals 200% instead of 100%. The figures relate to reported “net-net” turnover, ie they are adjusted for both local and cross-border double-counting, except for 1989 data, which are available only on a “gross-gross” basis. ² Revised. ³ Data for April 1989 exclude domestic trading involving the Deutsche mark in Germany. ⁴ For 1992-98, the data cover local home currency trading only.

Table 4
Reported foreign exchange turnover by currency pairs¹

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

Currency pair	1992		1995		1998 ²		2001	
	Amount	% share	Amount	% share	Amount	% share	Amount	% share
USD/EUR	.	.	.	.	.	.	352	30
USD/DEM	192	25	254	22	291	20	.	.
USD/FRF	19	2	51	4	58	4	.	.
USD/XEU	13	2	18	2	17	1	.	.
USD/OthEMS	43	6	104	9	176	12	.	.
USD/JPY	155	20	242	21	257	18	230	20
USD/GBP	77	10	78	7	118	8	125	11
USD/CHF	49	6	61	5	79	5	57	5
USD/CAD	25	3	38	3	50	3	50	4
USD/AUD	18	2	29	3	42	3	47	4
USD/Oth	48	6	72	6	172	12	197	17
EUR/JPY	.	.	.	.	.	.	30	3
EUR/GBP	.	.	.	.	.	.	24	2
EUR/CHF	.	.	.	.	.	.	12	1
EUR/Oth	.	.	.	.	.	.	22	2
DEM/JPY	18	2	24	2	24	2	.	.
DEM/GBP	23	3	21	2	31	2	.	.
DEM/CHF	13	2	18	2	18	1	.	.
DEM/FRF	10	1	34	3	10	1	.	.
DEM/XEU	6	1	6	1	3	0	.	.
DEM/OthEMS	21	3	38	3	35	2	.	.
DEM/Oth	20	3	16	1	18	1	.	.
OthEMS/OthEMS ³	3	0	3	0	5	0	.	.
Other currency pairs	25	3	30	3	31	2	24	2
All currency pairs	778	100	1,137	100	1,430	100	1,173	100

¹ Adjusted for local and cross-border double-counting. ² Revised. ³ The data cover local home currency trading only.

Table 5
Geographical distribution of global reported foreign exchange market turnover¹

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

Country	1989		1992		1995		1998		2001	
	Amount	% share	Amount	% share	Amount	% share	Amount	% share	Amount	% share
Australia	29	4.0	29	2.7	40	2.5	47	2.4	52	3.2
Austria	...	...	4	0.4	13	0.8	11	0.6	8	0.5
Bahrain	3	0.4	4	0.4	3	0.2	2	0.1	3	0.2
Belgium	10	1.4	16	1.5	28	1.8	27	1.4	10	0.6
Brazil ²	...	...	...	...	...	...	5	0.3	5	0.3
Canada	15	2.1	22	2.0	30	1.9	37	1.9	42	2.6
Chile	...	...	...	...	...	...	1	0.1	2	0.1
China ²	...	...	...	...	...	...	0	0.0	0	0.0
Colombia	...	...	...	...	...	...	...	...	0	0.0
Czech Republic	...	...	...	...	...	...	5	0.3	2	0.1
Denmark	13	1.8	27	2.5	31	2.0	27	1.4	23	1.4
Finland ³	3	0.4	7	0.7	5	0.3	4	0.2	2	0.1
France	23	3.2	33	3.1	58	3.7	72	3.7	48	3.0
Germany	...	...	55	5.1	76	4.8	94	4.8	88	5.5
Greece	0	0.0	1	0.1	3	0.2	7	0.4	5	0.3
Hong Kong SAR	49	6.8	60	5.6	90	5.7	79	4.0	67	4.1
Hungary	...	...	...	...	...	...	1	0.1	1	0.0
India	...	...	...	...	...	...	2	0.1	3	0.2
Indonesia	...	...	...	...	...	...	2	0.1	4	0.2
Ireland	5	0.7	6	0.6	5	0.3	10	0.5	8	0.5
Israel	...	...	...	...	...	...	...	...	1	0.0
Italy	10	1.4	16	1.5	23	1.5	28	1.4	17	1.0
Japan ⁴	111	15.5	120	11.2	161	10.2	136	6.9	147	9.1
Korea	...	...	...	...	...	...	4	0.2	10	0.6
Luxembourg	...	...	13	1.2	19	1.2	22	1.1	13	0.8
Malaysia	...	...	...	...	...	...	1	0.1	1	0.1
Mexico	...	...	...	...	...	...	9	0.5	9	0.5
Netherlands	13	1.8	20	1.9	26	1.7	41	2.1	30	1.9
New Zealand	...	...	4	0.4	7	0.4	7	0.4	4	0.2
Norway	4	0.6	5	0.5	8	0.5	9	0.5	13	0.8
Peru	...	...	...	0.0	...	0.0	...	...	0	0.0
Philippines	...	...	...	...	...	...	1	0.1	1	0.1
Poland	...	...	...	...	...	...	3	0.2	8	0.5
Portugal	1	0.1	1	0.1	2	0.1	4	0.2	2	0.1
Russia	...	...	...	...	...	...	7	0.4	10	0.6
Saudi Arabia	...	...	...	...	...	...	2	0.1	2	0.1
Singapore	55	7.7	74	6.9	105	6.7	139	7.1	101	6.2
Slovak Republic	...	...	...	...	...	...	...	...	1	0.0
Slovenia	...	...	...	...	...	...	...	...	0	0.0
South Africa	...	...	3	0.3	5	0.3	9	0.5	10	0.6
Spain	4	0.6	12	1.1	18	1.1	19	1.0	8	0.5
Sweden	13	1.8	21	2.0	20	1.3	15	0.8	27	1.5
Switzerland	56	7.8	66	6.1	87	5.5	82	4.2	71	4.4
Taiwan, China	...	...	...	...	...	...	5	0.3	4	0.3
Thailand	...	...	...	...	...	...	3	0.2	2	0.1

Turkey	...	...	...	...	...	...	...	...	1	0.1
United Kingdom	184	25.6	291	27.0	464	29.5	637	32.5	504	31.2
United States....	115	16.0	167	15.5	244	15.5	351	17.9	252	15.7
Total⁴	718	100.0	1,076	100.0	1,572	100.0	1,958	100.0	1,619	100.0

¹ Adjusted for local double-counting ("net-gross"). Estimated coverage of the foreign exchange market ranged between 90% and 100% in most countries. ² Data only cover spot transactions. ³ Data for 1992 not adjusted for local double-counting. ⁴ Revised for 1998.

Table 6
Global OTC derivatives market turnover by instrument¹

Average daily turnover in April, in billions of US dollars; notional amounts

Instrument	1995	1998	2001
A. Foreign exchange instruments.....	45	97	67
Currency swaps	4	10	7
Options	41	87	60
Other	1	0	0
B. Interest rate instruments².....	151	265	489
FRAs.....	66	74	129
Swaps.....	63	155	331
Options	21	36	29
Other	2	0	0
C. Estimated gaps in reporting	4	13	19
D. Total.....	200	375	575
<i>Memorandum items:</i>			
<i>Turnover at April 2001</i>			
<i>exchange rates³</i>	190	345	575
<i>Exchange-traded derivatives⁴</i>			
<i>Currency instruments.....</i>	17	12	9
<i>Interest rate instruments</i>	1,205	1,360	2,200

¹ Adjusted for local and cross-border double-counting. ² Single-currency interest rate contracts only. ³ Non-US dollar legs of foreign currency transactions were converted into original currency amounts at average exchange rates for April of each survey year and then reconverted into US dollar amounts at average April 2001 exchange rates. ⁴ Sources: FOW TRADEdata; Futures Industry Association; various futures and options exchanges.

Table 7
Reported OTC interest rate derivatives turnover by currency¹
Daily averages in April, in billions of US dollars

Currency	1995	1998	2001
FRAs.....	66	74	129
US dollar	18	23	39
Euro	.	.	48
Deutsche mark.....	9	9	.
French franc.....	...	2	.
ECU and other EMS	...	15	.
Japanese yen.....	10	3	9
Pound sterling.....	...	8	12
Other	30	14	21
Swaps.....	63	155	331
US dollar	17	36	100
Euro	.	.	173
Deutsche mark.....	7	47	.
French franc.....	...	22	.
ECU and other EMS	...	16	.
Japanese yen.....	17	14	16
Pound sterling.....	...	8	23
Other	22	12	19
Options.....	21	36	29
US dollar	7	12	12
Euro	.	.	11
Deutsche mark.....	2	7	.
French franc.....	...	1	.
ECU and other EMS	...	3	.
Japanese yen.....	8	10	2
Pound sterling.....	...	1	2
Other	4	3	2
Total	151	265	489
US dollar	41	71	152
Euro	.	.	231
Deutsche mark.....	18	63	.
French franc.....	...	25	.
ECU and other EMS	...	35	.
Japanese yen.....	35	27	27
Pound sterling.....	...	17	37
Other	58	45	42

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

Table 8
Reported OTC foreign exchange derivatives turnover by currency pair¹
Daily averages in April, in billions of US dollars

Currency pair	Total			Currency swaps			Options		
	1995	1998	2001	1995	1998	2001	1995	1998	2001
US dollar vs other currencies	34	77	54	3	9	6	31	68	48
Euro	.	.	18	.	.	1	.	.	17
Deutsche mark.....	10	18	.	0	1	.	10	17	.
Other EMS currencies	2	8	.	1	2	.	1	6	.
Japanese yen.....	14	36	19	1	3	2	13	33	17
Pound sterling.....	3	5	4	0	1	1	3	4	3
Other	5	10	13	1	2	2	4	8	11
Euro vs other currencies ²	.	.	10	.	.	1	.	.	9
Japanese yen.....	.	.	6	.	.	0	.	.	6
Pound sterling.....	.	.	2	.	.	0	.	.	2
Other	.	.	1	.	.	0	.	.	1
Deutsche mark vs other currencies ²	8	17	.	0	1	.	8	16	.
Japanese yen.....	2	5	.	0	0	.	2	5	.
Pound sterling.....	1	5	.	0	0	.	1	5	.
Other EMS currencies	4	2	.	0	0	.	4	2	.
Other	1	4	.	0	0	.	1	4	.
Other currency pairs ³	2	4	3	1	1	0	2	3	3
All currency pairs	45	97	67	4	10	7	41	87	60

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

Table 9
Global OTC derivatives turnover by counterparty¹

Daily averages in April, in billions of US dollars

Counterparty	Total			Foreign exchange ²			Interest rates ³		
	1995	1998	2001	1995	1998	2001	1995	1998	2001
With reporting dealers.....	125	203	354	23	53	32	102	150	322
Local.....	52	91	146	7	20	10	45	71	135
Cross-border.....	73	112	209	16	33	22	57	78	187
With other financial institutions.....	46	109	159	14	20	17	32	89	142
Local.....	21	53	63	5	8	7	16	46	57
Cross-border.....	25	56	96	9	12	10	16	44	85
With non-financial customers.....	25	50	42	7	23	18	17	27	25
Local.....	17	30	24	5	13	10	12	16	15
Cross-border.....	8	21	18	2	10	8	5	10	10
Total¹	196	362	556	45	97	67	151	265	489

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

Table 10

Geographical distribution of reported OTC derivatives turnover¹

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

Country	1995		1998		2001	
	Amount	% share	Amount	% share	Amount	% share
Australia	4	1.5	5	1.1	12	1.6
Austria	2	0.7	4	0.8	5	0.7
Bahrain	4	1.5	0	0.0	0	0.0
Belgium	6	2.2	6	1.3	14	1.8
Brazil	...	...	...	...	1	0.1
Canada	5	1.9	7	1.5	13	1.7
Colombia	...	...	...	...	0	0.0
Czech Republic	...	...	...	...	0	0.0
Denmark	4	1.5	5	1.1	6	0.8
Finland	2	0.7	2	0.4	1	0.1
France	22	8.1	46	9.7	67	8.8
Germany	14	5.2	34	7.2	97	12.7
Greece	0	0.0	0	0.0	0	0.0
Hong Kong SAR	5	1.9	3	0.6	4	0.5
Hungary	...	...	0	0.0	0	0.0
India	...	...	...	...	0	0.0
Indonesia	...	...	0	0.0	0	0.0
Ireland	1	0.4	3	0.6	6	0.8
Italy	2	0.7	5	1.1	24	3.1
Japan	32	11.9	42	8.8	22	2.9
Korea	...	...	0	0.0	0	0.0
Luxembourg	2	0.7	3	0.6	5	0.7
Malaysia	...	...	1	0.2	0	0.0
Mexico	...	...	0	0.0	0	0.0
Netherlands	5	1.9	6	1.3	25	3.3
New Zealand	0	0.0	0	0.0	0	0.0
Norway	1	0.4	3	0.6	3	0.4
Poland	...	...	...	...	0	0.0
Portugal	0	0.0	1	0.2	0	0.0
Saudi Arabia	...	...	0	0.0	0	0.0
Singapore	18	6.7	11	2.3	6	0.8
Slovak Republic	...	...	...	...	0	0.0
.....						
South Africa	0	0.0	1	0.2	1	0.1
Spain	3	1.1	4	0.8	21	2.8
Sweden	2	0.7	5	1.1	4	0.5
Switzerland	4	1.5	16	3.4	15	2.0
Taiwan, China	...	...	0	0.0	1	0.1
Thailand	...	...	0	0.0	0	0.0
United Kingdom	74	27.4	171	36.0	275	36.1
United States	53	19.6	90	18.9	135	17.7
Total	270	100.0	475	100.0	764	100.0

¹ Adjusted for local double-counting (“net-gross”). Estimated coverage of the derivatives market in individual countries ranged between 75% and 100%. The table shows only those 40 countries that reported data on OTC derivatives turnover.
