



Triennial Central Bank Survey

OTC foreign exchange turnover in April 2022

Monetary and Economic Department

27 October 2022

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BIS Triennial Central Bank Survey 2022
Monetary and Economic Department
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This publication presents the global results of the 2022 BIS Triennial Central Bank Survey of turnover in foreign exchange markets. A separate publication presents the results of turnover in over-the-counter interest rate derivatives markets (www.bis.org/statistics/rpfx22.htm). Many participating authorities also publish their national results, links to which are available on the BIS website (www.bis.org/statistics/triennialrep/national.htm). The global results for a companion survey on amounts outstanding in OTC derivatives markets will be published in November 2022.

Data are subject to change. Revised data will be released concurrently with the *BIS Quarterly Review* in December 2022. The December 2022 *BIS Quarterly Review* will include several special feature articles that analyse the results of the 2022 Triennial Survey.

Notations

billion	thousand million
trillion	thousand billion
e	estimated
lhs	left-hand scale
rhs	right-hand scale
\$	US dollar unless specified otherwise
...	not available
.	not applicable
–	nil or negligible

Differences in totals are due to rounding.

The term “country” as used in this publication also covers territorial entities that are not states as understood by international law and practice but for which data are separately and independently maintained.

Abbreviations

AED	United Arab Emirates dirham	LTL	Lithuanian litas
ARS	Argentine peso	LVL	Latvian lats
AUD	Australian dollar	MXN	Mexican peso
BGN	Bulgarian lev	MYR	Malaysian ringgit
BHD	Bahraini dinar	NOK	Norwegian krone
BRL	Brazilian real	NZD	New Zealand dollar
CAD	Canadian dollar	OTH	All other currencies
CHF	Swiss franc	PEN	Peruvian sol
CLP	Chilean peso	PHP	Philippine peso
CNY	Chinese yuan (renminbi)	PLN	Polish zloty
COP	Colombian peso	RMB	renminbi; see CNY
CZK	Czech koruna	RON	Romanian leu
DKK	Danish krone	RUB	Russian rouble
EUR	Euro	SAR	Saudi riyal
GBP	pound (sterling)	SEK	Swedish krona
HKD	Hong Kong dollar	SGD	Singapore dollar
HUF	Hungarian forint	THB	Thai baht
IDR	Indonesian rupiah	TRY	Turkish lira
ILS	Israeli new shekel	TWD	New Taiwan dollar
INR	Indian rupee	USD	US dollar
JPY	Japanese yen	ZAR	South African rand
KRW	Korean won		

1. BIS Triennial Central Bank Survey

The BIS Triennial Central Bank Survey is the most comprehensive source of information on the size and structure of global over-the-counter (OTC) markets in foreign exchange (FX) and interest rate derivatives. The Survey aims to increase the transparency of OTC markets, helping central banks and market participants monitor global financial markets, and to inform discussions on reforms to OTC markets.

Activity in FX markets has been surveyed every three years since 1986, and in OTC interest rate derivatives markets since 1995. The Triennial Survey is coordinated by the BIS under the auspices of the Markets Committee (for the FX part) and the Committee on the Global Financial System (for the interest rate derivatives part). It has been supported through the Data Gaps Initiative endorsed by the G20.

This statistical release concerns the FX turnover part of the 2022 Triennial Survey that took place in April and involved central banks and other authorities in 52 jurisdictions (see page 15)¹. They collected data from more than 1,200 banks and other dealers and reported national aggregates to the BIS for inclusion in global aggregates. Turnover data are reported by the sales desks of reporting dealers, regardless of where a trade is executed, and on an unconsolidated basis, ie including trades between related entities that are part of the same group.

The data are subject to revision. The final turnover data, as well as several special features that analyse them, will be released with the *BIS Quarterly Review* in December 2022. A separate survey on outstanding amounts as of June 2022 will be published in November 2022.²

Highlights

Highlights from the 2022 Triennial Survey of turnover in OTC FX markets:

- Trading in OTC FX markets reached \$7.5 trillion per day in April 2022 (“net-net” basis,³ all FX instruments), up 14% from \$6.6 trillion three years earlier.
- Turnover of FX swaps accounted for 51% of global turnover, up from 49% in 2019. The share of spot trades fell to 28% from 30% in 2019, and that of outright forwards remained unchanged at 15%.
- Overall, inter-dealer trading, ie trading among “reporting dealers”, reached \$3.5 trillion or 46% of global turnover in April 2022, a higher share than in previous Surveys. Trading with “other financial institutions” saw modest growth and accounted for 48% of global turnover (down from 55% in 2019).
- The US dollar was on one side of 88% of all trades (unchanged from 2019). The share for the euro decreased marginally to 31% (from 32% in 2019), and those for the Japanese yen and the pound sterling remained unchanged at 17% and 13%, respectively. The renminbi’s share rose to 7%, making it the fifth most traded currency in 2022 (up from eighth place in 2019 with a 4% share).
- Trading at sales desks in five jurisdictions – the United Kingdom, the United States, Hong Kong SAR, Singapore and Japan – amounted to 78% of all FX trading (“net-gross” basis). Trading activity in the United States and Singapore grew by more than the global average.

¹ One jurisdiction has submitted partial data; final data will be published in the December *BIS Quarterly Review*.

² The BIS semiannual OTC derivatives statistics, which capture *outstanding amounts*, are compiled with data from 12 major reporting jurisdictions that cover an estimated 90% of the global total. Every three years, additional data from all jurisdictions that participate in the Triennial Survey are included.

³ Figures on a “net-net” basis are corrected for local and cross-border inter-dealer double-counting. Figures on a “net-gross” basis are corrected for local inter-dealer double counting only.

2. Turnover in foreign exchange markets

Turnover in OTC FX markets averaged \$7.5 trillion per day in April 2022 (Graph 1, left-hand panel, and Table 1).⁴ The 14% growth since the April 2019 Survey (\$6.6 trillion per day) was the lowest triennial growth rate in all but two Surveys since 2004.⁵ This was despite data collection coinciding with heightened FX volatility due to changing expectations about the path of future interest rates in major advanced economies, rising commodity prices and geopolitical tensions following the Russian invasion of Ukraine. At the same time, Covid-19 restrictions in place in several reporting jurisdictions, including in China and Hong Kong SAR, may have suppressed turnover.

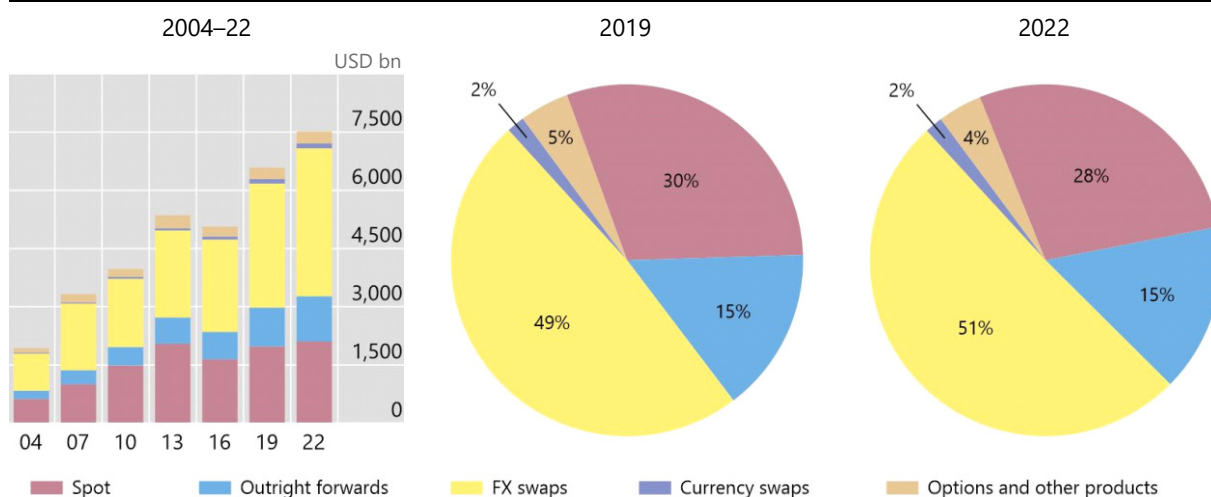
Turnover by instrument

Trading in spot and FX swaps continued to account for the bulk of FX turnover. At \$2.1 trillion per day in April 2022, turnover in FX spot markets accounted for 28% of global turnover (all instruments), a slightly lower share compared with 2019 (Graph 1). For their part, FX swaps, which are typically short-maturity instruments (up to seven days; Table 2) used by market participants to manage funding liquidity and hedge currency risk, remained the most traded instrument, with turnover of \$3.8 trillion per day. Their share in global turnover increased to 51% from 49% in 2019 and 47% in 2016. The share of trading in outright forwards remained unchanged at 15% of global turnover in the 2022 Survey. Turnover of FX options accounted for 4% of global turnover, and that of currency swaps for 2%. The latter typically have longer maturities than FX swaps or outright forwards and thus lower turnover.

Foreign exchange market turnover by instrument¹

Net-net basis, daily averages in April

Graph 1



¹ Adjusted for local and cross-border inter-dealer double-counting, ie “net-net” basis.

Source: BIS Triennial Central Bank Survey. For additional data by instrument, see Table 1.

⁴ Exchange rate movements between 2019 and 2022 had a minor impact on the growth in average daily turnover (Table 1). The growth was also similar to that which can be derived from more frequent regional surveys run by local foreign exchange committees (FXCs) in Australia, Canada, Hong Kong SAR, London, New York, Singapore and Tokyo. There are some methodological differences between the Triennial Survey and these surveys. Importantly, the Triennial collects data based on the location of the sales desk, whereas some regional surveys are based on the location of the trading desk.

⁵ Turnover at sales desks in Russia, which accounted for less than 1% of total turnover (“net-gross” basis; Table 6) in 2019, were not included in the 2022 Survey. At the same time, turnover in the Dubai International Financial Centre was included for the first time in 2022, yielding more complete coverage of turnover in the United Arab Emirates.

Market-facing vs non-market-facing trades

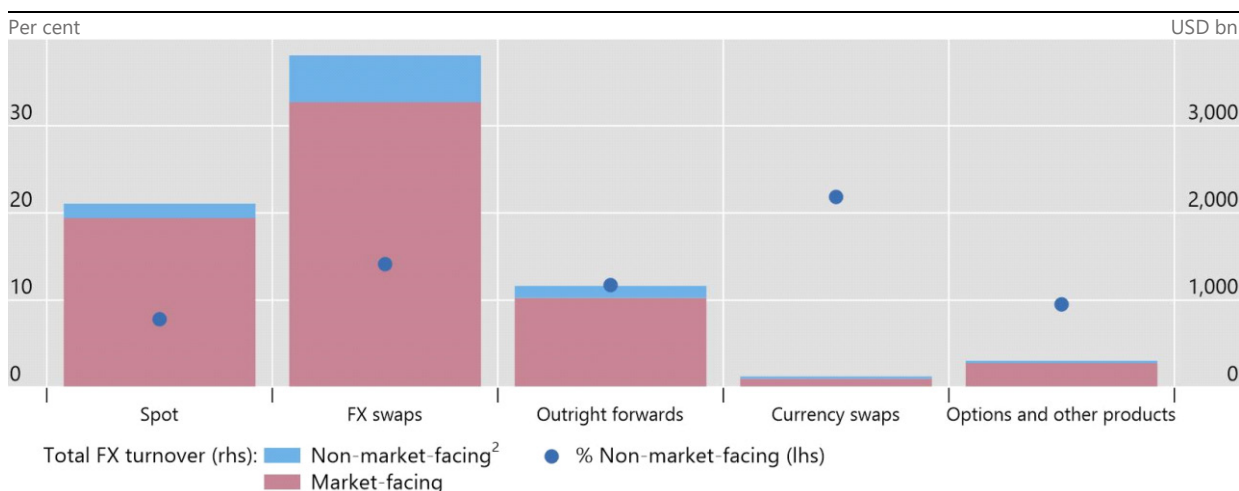
The 2022 Survey introduced new dimensions to better identify “market-facing trades”, ie deals with customers and other unrelated entities that contribute to price formation in the market. Specifically, the Survey breaks out “non-market-facing” trades consisting of (i) “back-to-back” trades, which are deals that automatically follow trades with customers to shift risk across sales desks; and (ii) compression trades, whereby dealers optimise their portfolios by replacing existing contracts with new ones to reduce notional amounts while keeping net exposures unchanged.⁶ In the 2022 Survey, these trades are separately reported as “of which” items (but without breakdowns by counterparty sector or currency).

In total, non-market-facing trades amounted to \$895 billion, or 12% of the \$7.5 trillion of global FX turnover in 2022. Across instruments, they accounted for 8% of spot turnover, 14% of FX swaps and 12% in outright forwards (Graph 2).

Total foreign exchange turnover, by instrument and type of trade

Net-net basis,¹ daily average in April, in billions of US dollars

Graph 2



¹ Adjusted for local and cross-border inter-dealer double-counting. ² Back-to-back and compression trades.

Source: BIS Triennial Central Bank Survey.

Turnover by counterparty

The growth in trading volumes between 2019 and 2022 reflected greater inter-dealer trading. Inter-dealer trading accounted for 46% of global FX turnover (Graph 3) in 2022, up from 38% in 2019. A further breakdown by instrument shows that inter-dealer trading accounted for 40% of spot turnover and 54% of turnover of FX swaps (Table 2). This uptick in inter-dealer trading may have reflected the elevated volatility in currency markets in April 2022. During such periods, inventory imbalances arising from trades with customers are more difficult to manage, creating the need to more frequently offload them in the inter-dealer market. Inventory imbalances may also be passed among affiliates of the same dealer bank, resulting in greater cross-border trading and related party trades (Table 3).

Conversely, the volume of trading with “other financial institutions” – a customer group that includes non-reporting banks, hedge funds and proprietary trading firms (PTFs), institutional investors, and official sector financial institutions – changed little between 2019 and 2022. At \$3.6 trillion per day in April 2022, turnover with this sector accounted for 48% of global turnover, down from 55% in 2019.

⁶ Compression trades play a marginal role in the FX market since few FX OTC derivatives are cleared with central counterparties.

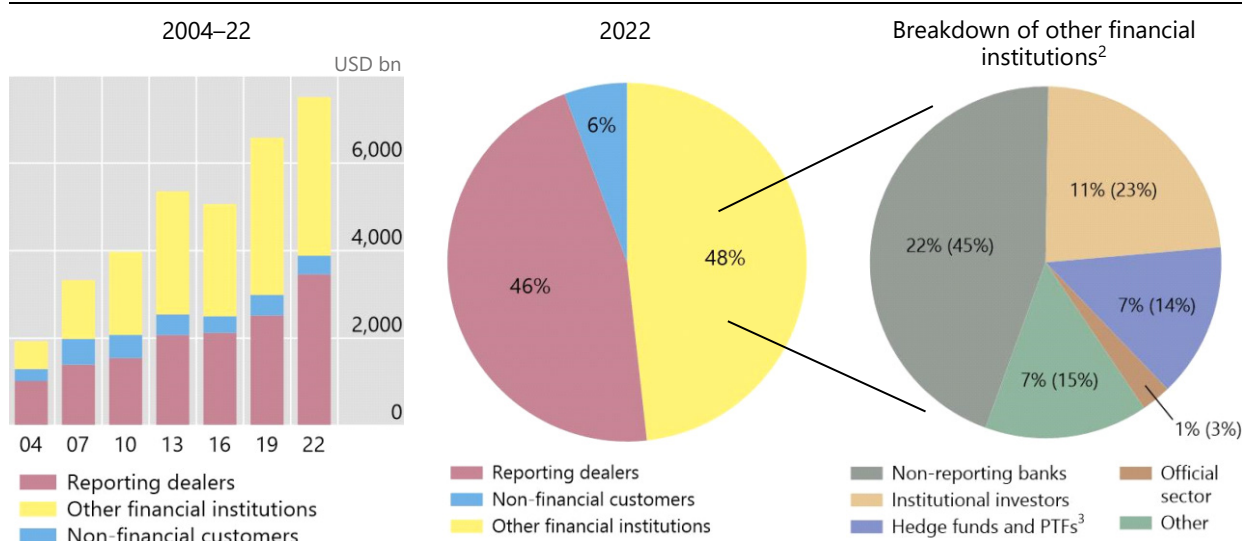
Within this “other financial institutions” customer group, trading with non-reporting banks, mainly comprised of smaller regional banks, remained dominant (Graph 3, right-hand panel). Daily turnover with this subsector averaged \$1.6 trillion (Table 3) or 22% of global turnover in 2022, down from 24% in 2019. Similarly, trading with institutional investors declined in relative terms for the third consecutive survey period. At \$847 billion per day in 2022, their share in global FX turnover fell to 11% from 12% in 2019 and 16% in 2016. Trading with hedge funds and PTFs decreased even in absolute terms over this period, from \$593 billion to \$514 billion, or 7% of total turnover.

The share of trading with non-financial customers continued its downward trend. It accounted for 6% of total FX market turnover in 2022, down from 7% in 2019 and 9% in 2013.

Foreign exchange market turnover by counterparty¹

Net-net basis, daily averages in April

Graph 3



¹ Adjusted for local and cross-border inter-dealer double-counting, ie “net-net” basis. ² For definitions of counterparties, see explanatory notes in the Annex. Shares in overall total, with shares in other financial institutions in brackets. ³ Proprietary trading firms.

Source: BIS Triennial Central Bank Survey. For additional data by counterparty, see Tables 2 and 3.

Turnover by currency and currency pairs

The US dollar remained the world’s dominant vehicle currency. It was on one side of 88% of all trades in April 2022, unchanged from the previous survey (Graph 4 and Table 4).

The next three most traded currencies – the euro, the Japanese yen and the pound sterling – retained their relative rankings. The euro continued to be the world’s second most traded currency, on one side of 30.5% of all trades in April 2022 (down slightly from 32% in 2019). The Japanese yen and sterling were on one side of 17% and 13% of all trades, respectively, virtually unchanged since the 2019 Survey.

The Chinese renminbi exhibited the biggest increase in market share since the 2019 survey, being on one side of 7% of all trades in 2022 (up from 4% in 2019). As a result, the renminbi became the fifth most traded currency, up from eighth place three years ago.

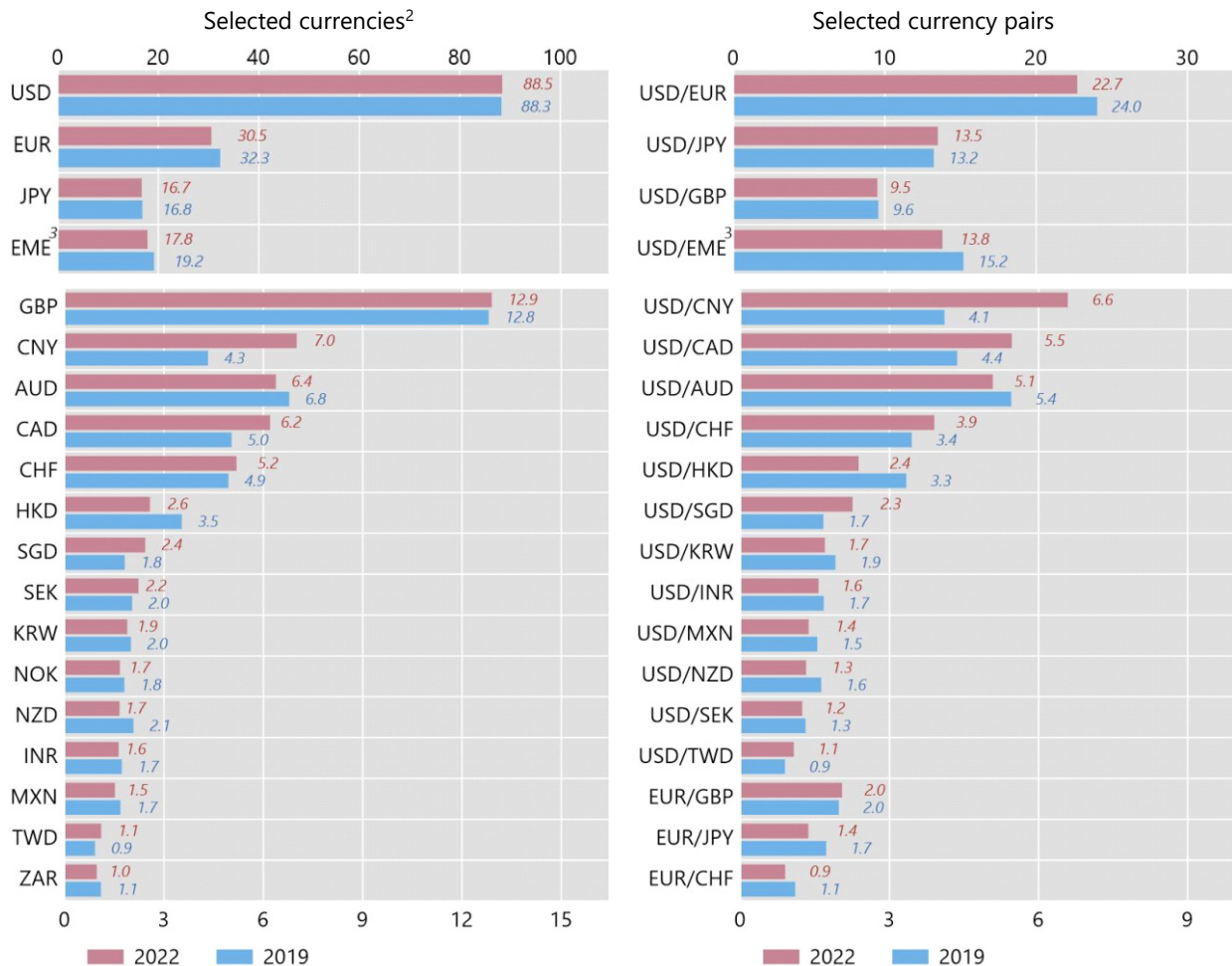
Some other currencies saw also relatively large changes in market share. While the Hong Kong dollar remained the ninth most traded currency, its share in global FX turnover decreased from 3.5% in

2019 to 2.6% in 2022. By contrast, the shares for the Canadian dollar and Singapore dollar increased noticeably.⁷

Foreign exchange market turnover by currency and currency pairs¹

Net-net basis, daily averages in April, as a percentage of total turnover

Graph 4



¹ Adjusted for local and cross-border inter-dealer double-counting, ie "net-net" basis. ² As two currencies are involved in each transaction, the sum of shares in individual currencies will total 200%. ³ Emerging market economy currencies excluding the Chinese renminbi and Russian rouble: AED, ARS, BGN, BHD, BRL, CLP, COP, CZK, HKD, HUF, IDR, ILS, INR, KRW, MXN, MYR, PEN, PHP, PLN, RON, SAR, SGD, THB, TRY, TWD and ZAR.

Source: BIS Triennial Central Bank Survey. For additional data by currency and currency pairs, see Tables 4 and 5. See our [Statistics Explorer](#) for access to the full set of published data.

Geographical distribution of turnover

FX trading continues to be concentrated in major financial centres. In April 2022, sales desks in five locations – the United Kingdom, the United States, Singapore, Hong Kong SAR and Japan – intermediated

⁷ While FX markets globally can be characterised as OTC markets, a large share of trading in the Brazilian real and, to a lesser extent, the Indian rupee is done via exchange-traded derivatives (XTD) (see Table 4). Taking XTD markets into account would boost the relative ranking of both currencies.

78% of all FX trading (Table 6, “net-gross” basis).⁸ The United Kingdom remained the most important FX trading location globally, with 38% of global turnover (from 43% in 2019).

While the rankings of the major trading centres remained unchanged since the 2019 Survey, there were changes in their relative shares in global turnover. The share of trading reported by the United States increased from 17% to 19%. The growth of activity among the leading Asian financial centres diverged. Turnover in Singapore grew at a higher rate than the global total, while that in Hong Kong SAR and Japan grew more slowly. Turnover in Singapore thus rose to 9% of global turnover in 2022, from 8% in 2019, while that in Hong Kong SAR declined to 7% from 8% and that in Japan to 4% from 5%.⁹

The share of cross-border trading in total FX turnover was 62% in April 2022, up from 56% in 2019 and closer to the 65% share in 2016 (Table 2). Among reporting dealers more specifically, the bulk (68%) of the \$3.5 trillion per day in inter-dealer trading was cross-border (Table 3).

⁸ The figures in Table 6 are on a “net-gross” basis, which corrects for double-counting of local (ie in the same country) inter-dealer positions but not for double-counting of cross-border inter-dealer positions.

⁹ The share of trading in Hong Kong SAR was probably affected by the Covid-19 restrictions in the first half of 2022 that dampened economic and financial market activities.

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OTC foreign exchange turnover by instrument					
"Net-net" basis, 1 daily averages in April in billions of US dollars					Table 1
Instrument	2010	2013	2016	2019*	2022
Foreign exchange instruments	3,973	5,357	5,066	6,581	7,508
Spot transactions	1,489	2,047	1,652	1,979	2,107
Outright forwards	475	679	700	998	1,163
Foreign exchange swaps	1,759	2,240	2,378	3,198	3,810
Currency swaps	43	54	82	108	124
Options and other products ²	207	337	254	298	304
<i>Memo:</i>					
<i>Turnover at April 2022 exchange rates³</i>	3,542	4,727	4,851	6,446	7,508
<i>Exchange-traded derivatives⁴</i>	144	145	115	127	152

¹ Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). ² 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. 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 2022 exchange rates. ⁴ Euromoney Tradedata; Futures Industry Association; The Options Clearing Corporation; BIS derivatives statistics. Foreign exchange futures and options traded worldwide. * Revised data.

OTC foreign exchange turnover by instrument, counterparty and maturity

"Net-net" basis,¹ daily averages in April in billions of US dollars and percentage share

Table 2

Instrument/counterparty/maturity	2010		2013		2016		2019*		2022	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Spot transactions	1,489	37.5	2,047	38.2	1,652	32.6	1,979	30.1	2,107	28.1
With reporting dealers	518	34.8	676	33.0	605	36.6	589	29.8	842	40.0
With other financial institutions	755	50.7	1,183	57.8	930	56.3	1,234	62.4	1,114	52.9
With non-financial customers	217	14.6	188	9.2	117	7.1	155	7.8	150	7.1
Outright forwards	475	11.9	679	12.7	700	13.8	998	15.2	1,163	15.5
With reporting dealers	113	23.7	181	26.6	189	27.0	267	26.8	394	33.9
With other financial institutions	254	53.5	402	59.2	431	61.6	614	61.6	675	58.0
With non-financial customers	108	22.8	96	14.2	80	11.4	116	11.6	95	8.1
Up to 7 days	219	46.1	270	39.7	270	38.6	268	26.9	383	32.9
One day	...	...	...	...	...	...	...	...	118	31.0
Over 1 day and up to 7 days	...	...	...	...	...	...	...	...	264	69.0
Over 7 days and up to 1 month	...	...	...	...	...	...	290	29.1	327	28.1
Over 1 month and up to 3 months	...	...	...	...	...	...	321	32.2	331	28.4
Over 3 months and up to 6 months	...	...	...	...	...	...	71	7.1	71	6.1
Over 6 months	...	...	...	...	...	...	47	4.7	52	4.5
Over 7 days and up to 1 year	245	51.5	378	55.6	412	58.9	...	...	...	...
Over 1 year	11	2.4	31	4.6	18	2.5	...	...	...	...
Foreign exchange swaps	1,759	44.3	2,240	41.8	2,378	46.9	3,198	48.6	3,810	50.7
With reporting dealers	834	47.4	1,088	48.6	1,205	50.7	1,497	46.8	2,042	53.6
With other financial institutions	755	42.9	1,002	44.7	1,026	43.1	1,535	48.0	1,620	42.5
With non-financial customers	170	9.7	150	6.7	147	6.2	166	5.2	148	3.9
Up to 7 days	1,300	73.9	1,573	70.2	1,635	68.7	2,059	64.4	2,708	71.1
One day	...	...	...	...	...	...	...	...	1,222	0.5
Over 1 day and up to 7 days	...	...	...	...	...	...	...	...	1,486	0.5
Over 7 days and up to 1 month	...	...	...	...	...	...	398	12.4	423	11.1
Over 1 month and up to 3 months	...	...	...	...	...	...	519	16.2	425	11.1
Over 3 months and up to 6 months	...	...	...	...	...	...	143	4.5	157	4.1
Over 6 months	...	...	...	...	...	...	79	2.5	97	2.5
Over 7 days and up to 1 year	442	25.2	579	25.9	713	30.0	...	...	...	...
Over 1 year	15	0.8	87	3.9	30	1.3	...	...	...	...
Currency swaps	43	1.1	54	1.0	82	1.6	108	1.6	124	1.7
With reporting dealers	20	46.8	29	53.7	38	46.1	56	51.6	65	52.7
With other financial institutions	19	45.0	19	34.7	37	45.5	47	43.0	53	42.9
With non-financial customers	4	8.2	6	11.6	7	8.5	6	5.5	5	4.4
FX options and other products ²	207	5.2	337	6.3	254	5.0	298	4.5	304	4.1
With reporting dealers	60	29.1	99	29.4	84	32.8	109	36.5	118	38.7
With other financial institutions	113	54.7	207	61.3	141	55.3	162	54.5	160	52.5
With non-financial customers	33	16.1	31	9.3	30	11.9	27	9.1	27	8.7
Total	3,973	100.0	5,357	100.0	5,066	100.0	6,581	100.0	7,508	100.0
With reporting dealers	1,545	38.9	2,072	38.7	2,120	41.9	2,518	38.3	3,462	46.1
With other financial institutions	1,896	47.7	2,812	52.5	2,564	50.6	3,592	54.6	3,622	48.2
With non-financial customers	532	13.4	472	8.8	382	7.5	470	7.1	425	5.7
Local	1,394	35.1	2,259	42.2	1,798	35.5	2,902	44.1	2,860	38.1
Cross-border	2,579	64.9	3,097	57.8	3,268	64.5	3,678	55.9	4,649	61.9

¹ Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). ² 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. * Revised data.

OTC foreign exchange turnover by currency and counterparty

"Net-net" basis,¹ daily averages in April 2022 in billions of US dollars

Table 3

Currency/counterparty	Total	Spot transactions	Outright forwards	Foreign exchange swaps	Currency swaps	FX options
Total	7,508	2,107	1,163	3,810	124	304
<i>By currency</i>						
USD	6,641	1,809	994	3,457	116	265
EUR	2,293	617	286	1,263	36	91
JPY	1,253	439	183	557	14	60
GBP	969	232	136	560	18	23
CNY	526	175	65	231	3	53
AUD	479	156	66	214	23	20
CAD	466	128	62	252	7	17
CHF	390	88	45	245	2	9
HKD	194	45	21	124	1	2
SGD	183	57	20	100	2	5
SEK	168	41	25	95	3	4
KRW	142	35	71	28	2	6
NOK	125	36	14	70	2	4
NZD	125	42	16	56	5	6
INR	122	39	60	19	1	5
MXN	114	48	15	45	1	6
TWD	83	19	50	10	0	4
ZAR	73	22	12	32	1	4
BRL	66	11	45	2	0	7
DKK	55	10	6	38	0	0
PLN	54	15	7	30	0	2
THB	31	12	6	13	0	1
ILS	31	8	3	18	0	1
OTH	434	129	119	162	9	16
<i>By counterparty</i> ²						
with reporting dealers	3,462	842	394	2,042	65	118
local	1,122	254	113	692	26	38
cross-border	2,339	589	281	1,350	39	80
with other financial institutions	3,622	1,114	675	1,620	53	160
local	1,456	509	292	576	11	67
cross-border	2,166	605	383	1,045	42	93
non-reporting banks	1,619	456	162	909	37	54
institutional investors	847	228	282	298	6	33
hedge funds and PTFs ³	514	223	117	130	4	40
official sector	99	20	19	55	3	1
other	544	187	94	228	3	31
with non-financial customers	425	150	95	148	5	27
local	281	106	64	92	3	16
cross-border	143	44	30	56	3	11
<i>Of which items:</i>						
Prime brokered	1,317	793	202	208	1	113
Retail-driven	192	94	20	71	0	7
Related party trades	1,647	...	...	...	...	...
Back-to-back trades	871	164	118	533	27	29
Compression trades	25	...	19	6	0	0

¹ Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). ² See explanatory notes for definitions of counterparties. ³ Proprietary trading firms.

OTC foreign exchange turnover by currency

"Net-net" basis,¹ daily averages in April in billions of US dollars and percentage share

Table 4

Currency	OTC turnover										Memo: XTD turnover ²	
	2010		2013		2016		2019*		2022		2022	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
USD	3,371	84.9	4,662	87.0	4,437	87.6	5,811	88.3	6,641	88.5	150	98.8
EUR	1,551	39.0	1,790	33.4	1,590	31.4	2,126	32.3	2,293	30.5	29	18.9
JPY	754	19.0	1,235	23.0	1,096	21.6	1,108	16.8	1,253	16.7	16	10.3
GBP	512	12.9	633	11.8	649	12.8	843	12.8	969	12.9	9	6.0
CNY	34	0.9	120	2.2	202	4.0	285	4.3	526	7.0	8	5.4
AUD	301	7.6	463	8.6	349	6.9	446	6.8	479	6.4	7	4.4
CAD	210	5.3	244	4.6	260	5.1	332	5.0	466	6.2	6	4.2
CHF	250	6.3	276	5.2	243	4.8	326	4.9	390	5.2	3	1.8
HKD	94	2.4	77	1.4	88	1.7	233	3.5	194	2.6	...	...
SGD	56	1.4	75	1.4	91	1.8	119	1.8	183	2.4	0	0.0
SEK	87	2.2	94	1.8	112	2.2	134	2.0	168	2.2	0	0.0
KRW	60	1.5	64	1.2	84	1.7	132	2.0	142	1.9	5	3.2
NOK	52	1.3	77	1.4	85	1.7	119	1.8	125	1.7	0	0.0
NZD	63	1.6	105	2.0	104	2.1	137	2.1	125	1.7	2	1.1
INR	38	0.9	53	1.0	58	1.1	114	1.7	122	1.6	20	12.9
MXN	50	1.3	135	2.5	97	1.9	111	1.7	114	1.5	1	0.7
TWD	19	0.5	24	0.5	32	0.6	60	0.9	83	1.1	0	0.0
ZAR	29	0.7	60	1.1	49	1.0	72	1.1	73	1.0	0	0.2
BRL	27	0.7	59	1.1	51	1.0	71	1.1	66	0.9	47	31.1
DKK	23	0.6	42	0.8	42	0.8	42	0.6	55	0.7	0	0.0
PLN	32	0.8	38	0.7	35	0.7	41	0.6	54	0.7	0	0.0
THB	8	0.2	17	0.3	18	0.4	32	0.5	31	0.4	0	0.0
ILS	6	0.2	10	0.2	14	0.3	20	0.3	31	0.4	0	0.3
IDR	6	0.2	9	0.2	10	0.2	27	0.4	29	0.4	...	...
CZK	8	0.2	19	0.4	14	0.3	26	0.4	29	0.4	0	0.0
AED	...	...	...	...	...	...	14	0.2	28	0.4	...	...
TRY	29	0.7	71	1.3	73	1.4	71	1.1	27	0.4	0	0.1
HUF	17	0.4	23	0.4	15	0.3	27	0.4	26	0.3	0	0.0
CLP	7	0.2	16	0.3	12	0.2	19	0.3	24	0.3	0	0.0
SAR	3	0.1	5	0.1	15	0.3	12	0.2	18	0.2	...	...
PHP	7	0.2	8	0.1	7	0.1	19	0.3	17	0.2	...	...
MYR	11	0.3	21	0.4	18	0.4	10	0.2	14	0.2	...	...
COP	4	0.1	6	0.1	8	0.2	12	0.2	14	0.2	...	...
RUB	36	0.9	86	1.6	58	1.1	72	1.1	14	0.2	0	0.0
RON	3	0.1	7	0.1	5	0.1	6	0.1	9	0.1	...	...
PEN	1	0.0	3	0.1	4	0.1	5	0.1	7	0.1	...	...
BHD	0	0.0	0	0.0	0	0.0	2	0.0	3	0.0	...	...
BGN	1	0.0	1	0.0	1	0.0	2	0.0	2	0.0	...	...
ARS	2	0.0	1	0.0	1	0.0	4	0.1	1	0.0	...	...
Other	184	4.6	83	1.6	103	2.0	121	1.8	174	2.3	1	0.4
Total	3,973	200.0	5,357	200.0	5,066	200.0	6,581	200.0	7,508	200.0	152	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). Turnover for years prior to 2013 may be underestimated owing to incomplete reporting in previous surveys. Methodological changes in the 2013 survey ensured more complete coverage of activity in emerging market and other currencies. See annex for abbreviations. ² Exchange-traded derivatives. See separate BIS statistics. * Revised data.

OTC foreign exchange turnover by currency pair

"Net-net" basis,¹ daily averages in April in billions of US dollars and percentage share

Table 5

Currency pair	2010		2013		2016		2019*		2022	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
USD/EUR	1,099	27.7	1,292	24.1	1,172	23.1	1,581	24.0	1,706	22.7
USD/JPY	567	14.3	980	18.3	901	17.8	871	13.2	1,014	13.5
USD/GBP	360	9.1	473	8.8	470	9.3	630	9.6	714	9.5
USD/CNY	31	0.8	113	2.1	192	3.8	270	4.1	495	6.6
USD/CAD	182	4.6	200	3.7	218	4.3	287	4.4	410	5.5
USD/AUD	248	6.3	364	6.8	262	5.2	359	5.4	381	5.1
USD/CHF	166	4.2	184	3.4	180	3.6	227	3.4	293	3.9
USD/HKD	85	2.1	69	1.3	77	1.5	220	3.3	178	2.4
USD/SGD	...	...	65	1.2	81	1.6	110	1.7	170	2.3
USD/KRW	...	...	60	1.1	78	1.5	126	1.9	128	1.7
USD/INR	36	0.9	50	0.9	56	1.1	110	1.7	118	1.6
USD/MXN	10	0.3	128	2.4	90	1.8	102	1.5	103	1.4
USD/NZD	...	...	82	1.5	78	1.5	107	1.6	99	1.3
USD/SEK	45	1.1	55	1.0	66	1.3	86	1.3	93	1.2
USD/TWD	...	...	22	0.4	31	0.6	59	0.9	81	1.1
USD/NOK	...	...	49	0.9	48	0.9	73	1.1	81	1.1
USD/ZAR	24	0.6	51	1.0	40	0.8	62	0.9	64	0.9
USD/BRL	25	0.6	48	0.9	45	0.9	66	1.0	63	0.8
USD/PLN	...	...	22	0.4	19	0.4	25	0.4	33	0.4
USD/TRY	...	...	63	1.2	64	1.3	62	0.9	24	0.3
USD/AED	...	...	...	...	...	...	8	0.1	23	0.3
USD/OTH	493	12.4	293	5.5	268	5.3	369	5.6	372	5.0
EUR/GBP	109	2.7	102	1.9	100	2.0	130	2.0	154	2.0
EUR/JPY	111	2.8	148	2.8	79	1.6	114	1.7	103	1.4
EUR/CHF	71	1.8	71	1.3	44	0.9	73	1.1	68	0.9
EUR/SEK	35	0.9	28	0.5	36	0.7	36	0.6	38	0.5
EUR/NOK	...	...	20	0.4	28	0.6	33	0.5	36	0.5
EUR/AUD	12	0.3	21	0.4	16	0.3	18	0.3	24	0.3
EUR/CAD	14	0.3	15	0.3	14	0.3	15	0.2	20	0.3
EUR/PLN	...	...	14	0.3	13	0.3	13	0.2	17	0.2
EUR/DKK	...	...	13	0.2	13	0.2	11	0.2	13	0.2
EUR/CNY	...	...	1	0.0	2	0.0	4	0.1	10	0.1
EUR/HUF	...	...	10	0.2	5	0.1	11	0.2	8	0.1
EUR/CZK	...	...	1	0.0	1	0.0	2	0.0	2	0.0
EUR/OTH	102	2.6	55	1.0	68	1.3	84	1.3	96	1.3
JPY/AUD	24	0.6	46	0.9	31	0.6	35	0.5	37	0.5
JPY/GBP	18	0.4	20	0.4	25	0.5	30	0.4	22	0.3
JPY/CAD	...	...	6	0.1	7	0.1	7	0.1	10	0.1
JPY/NZD	4	0.1	5	0.1	5	0.1	6	0.1	5	0.1
JPY/ZAR	...	...	4	0.1	3	0.1	5	0.1	5	0.1
JPY/CHF	...	...	1	0.0	1	0.0	2	0.0	3	0.0
JPY/OTH	31	0.8	25	0.5	44	0.9	38	0.6	55	0.7
Other currency pairs	72	1.8	90	1.7	95	1.9	102	1.6	142	1.9
All currency pairs	3,973	100.0	5,357	100.0	5,066	100.0	6,581	100.0	7,508	100.0

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

Geographical distribution of OTC foreign exchange turnover¹

"Net-gross" basis,² daily averages in April, in billions of US dollars and percentages

Table 6

Country	2010		2013		2016		2019*		2022	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Argentina	2	0.0	1	0.0	1	0.0	2	0.0	1	0.0
Australia	192	3.8	182	2.7	121	1.9	119	1.4	150	1.5
Austria	20	0.4	15	0.2	19	0.3	16	0.2	17	0.2
Bahrain	5	0.1	9	0.1	6	0.1	2	0.0	2	0.0
Belgium	33	0.6	22	0.3	23	0.4	36	0.4	32	0.3
Brazil	14	0.3	17	0.3	20	0.3	19	0.2	21	0.2
Bulgaria	1	0.0	2	0.0	2	0.0	2	0.0	2	0.0
Canada	62	1.2	65	1.0	86	1.3	109	1.3	172	1.7
Chile	6	0.1	12	0.2	7	0.1	8	0.1	9	0.1
China	20	0.4	44	0.7	73	1.1	136	1.6	153	1.6
Chinese Taipei	18	0.4	26	0.4	27	0.4	30	0.4	33	0.3
Colombia	3	0.1	3	0.0	4	0.1	4	0.1	5	0.1
Czechia	5	0.1	5	0.1	4	0.1	7	0.1	6	0.1
Denmark	120	2.4	117	1.8	101	1.5	63	0.8	83	0.8
Estonia	1	0.0	0	0.0	...	...	...	...	...	...
Finland	31	0.6	15	0.2	14	0.2	7	0.1	8	0.1
France	152	3.0	190	2.8	181	2.8	167	2.0	214	2.2
Germany	109	2.2	111	1.7	116	1.8	124	1.5	184	1.9
Greece	5	0.1	3	0.0	1	0.0	1	0.0	1	0.0
Hong Kong SAR	238	4.7	275	4.1	437	6.7	632	7.6	694	7.1
Hungary	4	0.1	4	0.1	3	0.1	4	0.0	6	0.1
India	27	0.5	31	0.5	34	0.5	40	0.5	53	0.5
Indonesia	3	0.1	5	0.1	5	0.1	7	0.1	12	0.1
Ireland	15	0.3	11	0.2	2	0.0	7	0.1	...	...
Israel	10	0.2	8	0.1	8	0.1	7	0.1	8	0.1
Italy	29	0.6	24	0.4	18	0.3	19	0.2	19	0.2
Japan	312	6.2	374	5.6	399	6.1	376	4.5	433	4.4
Korea	44	0.9	48	0.7	48	0.7	55	0.7	68	0.7
Latvia	2	0.0	2	0.0	1	0.0	0	0.0	0	0.0
Lithuania	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Luxembourg	33	0.7	51	0.8	37	0.6	58	0.7	92	0.9
Malaysia	7	0.1	11	0.2	8	0.1	12	0.1	16	0.2
Mexico	17	0.3	32	0.5	20	0.3	20	0.2	19	0.2
Netherlands	18	0.4	112	1.7	85	1.3	64	0.8	74	0.8
New Zealand	9	0.2	12	0.2	10	0.2	9	0.1	11	0.1
Norway	22	0.4	21	0.3	40	0.6	30	0.4	24	0.2
Peru	1	0.0	2	0.0	1	0.0	2	0.0	2	0.0
Philippines	5	0.1	4	0.1	3	0.0	4	0.0	...	...
Poland	8	0.2	8	0.1	9	0.1	9	0.1	13	0.1
Portugal	4	0.1	4	0.1	2	0.0	2	0.0	1	0.0
Romania	3	0.1	3	0.1	3	0.0	2	0.0	3	0.0
Russia	42	0.8	61	0.9	45	0.7	47	0.6	...	...
Saudi Arabia	8	0.1	7	0.1	8	0.1	6	0.1	6	0.1
Singapore	266	5.3	383	5.7	517	7.9	640	7.7	929	9.4
Slovakia	0	0.0	1	0.0	2	0.0	1	0.0	0	0.0
Slovenia	...	...	...	...	...	...	...	...	...	...
South Africa	14	0.3	21	0.3	21	0.3	20	0.2	16	0.2
Spain	29	0.6	43	0.6	33	0.5	28	0.3	39	0.4
Sweden	45	0.9	44	0.7	42	0.6	37	0.4	42	0.4
Switzerland	249	4.9	216	3.2	156	2.4	264	3.2	350	3.6
Thailand	7	0.1	13	0.2	11	0.2	14	0.2	15	0.2
Turkey	17	0.3	27	0.4	22	0.3	19	0.2	18	0.2
United Arab Emirates ³	...	...	...	...	...	...	46	0.6	66	0.7
United Kingdom	1,854	36.7	2,726	40.8	2,406	36.9	3,576	43.2	3,755	38.1
United States	904	17.9	1,263	18.9	1,272	19.5	1,370	16.5	1,912	19.4
Total	5,045	100.0	6,686	100.0	6,514	100.0	8,280	100.0	9,848	100.0

¹ Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding. The data for the Netherlands are not fully comparable over time due to reporting improvements in 2013. The 2019 data for Switzerland are not fully comparable with past periods due to reporting improvements in 2019. ² Adjusted for local inter-dealer double-counting (ie "net-gross" basis). ³ The UAE aggregates in 2022 incorporate data from the Dubai International Financial Centre. * Revised data.

B Explanatory notes

The methodology and structure of the foreign exchange turnover part of the 2022 Triennial Central Bank Survey are aligned with those from 2019. The 2022 Survey was expanded to break out non-market-facing trades, namely back-to-back trades and compression trades. Reporting was more comprehensive in some jurisdictions than in 2019, and thus the completeness and quality of data improved in the 2022 Survey.

Participating authorities

Central banks and other authorities in 52 jurisdictions participated in the 2022 Triennial Survey. The Dubai International Financial Centre participated for the first time.

Argentina	Central Bank of Argentina	Latvia	Bank of Latvia
Australia	Reserve Bank of Australia	Lithuania	Bank of Lithuania
Austria	Central Bank of the Republic of Austria	Luxembourg	Central Bank of Luxembourg
Bahrain	Central Bank of Bahrain	Malaysia	Central Bank of Malaysia
Belgium	National Bank of Belgium	Mexico	Bank of Mexico
Brazil	Central Bank of Brazil	Netherlands	Netherlands Bank
Bulgaria	Bulgarian National Bank	New Zealand	Reserve Bank of New Zealand
Canada	Bank of Canada	Norway	Central Bank of Norway
Chile	Central Bank of Chile	Peru	Central Reserve Bank of Peru
China	People's Bank of China State Administration of Foreign Exchange	Philippines	Bangko Sentral ng Pilipinas
Chinese Taipei	Central Bank of the Republic of China (Taiwan)	Poland	Narodowy Bank Polski
Colombia	Central Bank of Colombia	Portugal	Banco de Portugal
Czechia	Czech National Bank	Romania	National Bank of Romania
Denmark	Danmarks Nationalbank	Saudi Arabia	Saudi Central Bank
Finland	Bank of Finland	Singapore	Monetary Authority of Singapore
France	Bank of France	Slovakia	National Bank of Slovakia
Germany	Deutsche Bundesbank	South Africa	South African Reserve Bank
Greece	Bank of Greece	Spain	Bank of Spain
Hong Kong SAR	Hong Kong Monetary Authority	Sweden	Sveriges Riksbank Statistics Sweden
Hungary	Magyar Nemzeti Bank	Switzerland	Swiss National Bank
India	Reserve Bank of India	Thailand	Bank of Thailand
Indonesia	Bank Indonesia	Turkey	Central Bank of the Republic of Türkiye
Ireland	Central Bank of Ireland	United Kingdom	Bank of England
Israel	Bank of Israel	United States	Federal Reserve Bank of New York
Italy	Bank of Italy	United Arab Emirates	Central Bank of the United Arab Emirates
Japan	Bank of Japan		Dubai International Financial Centre
Korea	Bank of Korea		

Coverage

The Triennial Survey of foreign exchange turnover covers spot transactions, outright forwards, foreign exchange swaps, currency swaps, currency options and other OTC foreign exchange transactions with exposure to more than one currency.

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

The survey collected turnover data for both proprietary and commissioned business of the reporting institutions. "Commissioned business" refers to reporting institutions' transactions as a result of deals as an agent or trustee in their own name, but on behalf of third parties, such as customers or other entities.

Turnover data

Turnover data provide a measure of market activity, and can also be seen as a rough proxy for market liquidity. Turnover is defined as the gross value of all new deals entered into during a given period, and is measured in terms of the nominal or notional amount of the contracts.

No distinction was made between sales and purchases (eg a purchase of \$5 million against sterling and a sale of \$7 million against sterling would amount to a gross turnover of \$12 million). Direct cross-currency transactions were counted as single transactions (eg if a bank sold \$5 million of Swiss francs against the Swedish krona, the reported turnover would be \$5 million); however, cross-currency transactions passing through a vehicle currency were recorded as two separate deals against the vehicle currency (eg if a bank sold \$5 million of Swiss francs against euros first and then used the euros to purchase kronor, the reported turnover would be \$10 million). The gross amount of each transaction was recorded once, and netting arrangements and offsets were ignored.

OTC derivatives transactions that are centrally cleared via central counterparties (CCPs) were reported on a pre-novation basis (ie with the original execution counterpart as counterparty). Any post-trade transaction records that arise from central clearing via CCPs (eg through novation) were not reported as additional transactions.

As in the previous Surveys, turnover data were 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 reflected all transactions entered into during the calendar month of April 2022, regardless of whether delivery or settlement was made during that month. In order to allow comparison across countries, daily averages of turnover were computed by dividing aggregate monthly turnover for the country in question by the number of days in April on which the foreign exchange and derivatives markets in that country were open.

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.

Instruments

The instruments covered in the foreign exchange turnover part of the survey are defined as follows:

spot transactions	Single outright transactions 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. The spot legs of swaps are not included among spot transactions but are reported as swap transactions even when they are due for settlement within two days. This means that spot transactions are exclusive of overnight swaps and spot next swaps, as well as other "tomorrow/next day" transactions.
outright forwards	Transactions involving the exchange of two currencies at a rate agreed on the date of the contract for value or delivery (cash settlement) at some time in the future (more than two business days later). This category also includes forward foreign exchange agreement transactions (FXAs), non-deliverable forwards (NDFs) and other forward contracts for differences. Outright forwards are generally not traded on organised exchanges, and their contractual terms are not standardised.
foreign exchange swaps	Transactions involving 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). Both spot/forward and forward/forward swaps are included. For <i>turnover</i> , only the forward leg is reported as such. The spot leg is not reported at all, ie neither as a spot nor as a foreign exchange swap transaction. Short-term swaps carried out as "tomorrow/next day" transactions are also included in this category.
currency swaps	Contracts which commit two counterparties to exchange streams of interest payments in different currencies for an agreed period of time and/or to exchange principal amounts in different currencies at a pre-agreed exchange rate at maturity.
OTC options	Option contracts that give the right to buy or sell a currency with another currency at a specified exchange rate during a specified period. This category also includes exotic foreign exchange options such as average rate options and barrier options. OTC options include: <ul style="list-style-type: none"> • The currency swaption: an OTC option to enter into a currency swap contract. • The currency warrant: a long-dated (over one year) OTC currency option.
other products	Other derivative products are instruments where decomposition into individual plain vanilla instruments such as forwards, swaps or options is impractical or impossible. An example of "other" products is 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").

Counterparties

Reporting institutions were requested to provide for each instrument a breakdown of contracts by counterparty, as follows: reporting dealers, other financial institutions and non-financial customers, with separate information on local and cross-border transactions. The distinction between local and cross-border was determined according to the location of the counterparty and not its nationality. Starting with the 2013 survey of foreign exchange turnover, other financial institutions were further broken down into five subsectors.

reporting dealers	<p>Financial institutions that participate as reporters in the Triennial Survey.</p> <p>These are mainly large commercial and investment banks and securities houses that (i) participate in the inter-dealer market and/or (ii) have an active business with large customers, such as large corporate firms, governments and non-reporting financial institutions; in other words, reporting dealers are institutions that actively buy and sell currency and OTC derivatives both for their own account and/or in meeting customer demand.</p> <p>In practice, reporting dealers are often those institutions that actively or regularly deal through electronic platforms, such as EBS or Reuters dealing facilities.</p> <p>This category also includes the branches and subsidiaries of institutions operating in multiple locations that do not have a trading desk but do have a sales desk in those locations that conducts active business with large customers.</p> <p>The identification of transactions with reporting dealers allows the BIS to adjust for double-counting in inter-dealer trades.</p>
other financial institutions	<p>Financial institutions that are not classified as “reporting dealers” in the survey.</p> <p>These are typically regarded as foreign exchange and interest rate derivatives market end users. They mainly cover all other financial institutions, such as smaller commercial banks, investment banks and securities houses, and mutual funds, pension funds, hedge funds, currency funds, money market funds, building societies, leasing companies, insurance companies, other financial subsidiaries of corporate firms and central banks.</p>
non-reporting banks	<p>Smaller or regional commercial banks, publicly owned banks, securities firms or investment banks not directly participating as reporting dealers.</p>
institutional investors	<p>Institutional investors such as mutual funds, pension funds, insurance and reinsurance companies and endowments. Primary motives for market participation are to trade FX instruments eg for hedging, investing and risk management purposes. A common label for this counterparty category is “real money investors”.</p>
hedge funds and proprietary trading firms	<p>(i) Investment funds and various types of money managers, including commodity trading advisers (CTAs), which share (a combination of) the following characteristics: they often follow a relatively broad range of investment strategies that are not subject to borrowing and leverage restrictions, with many of them using high levels of leverage; they often have a different regulatory mandate than “institutional investors” and typically cater to sophisticated investors such as high net worth individuals or institutions; and they often hold long and short positions in various markets, asset classes and instruments, with frequent use of derivatives for speculative purposes.</p> <p>(ii) Proprietary trading firms that invest, hedge or speculate for their own account. This category may include specialised high-frequency trading (HFT) firms that employ high-speed algorithmic trading strategies characterised by numerous frequent trades and very short holding periods.</p>
official sector financial institutions	<p>Central banks, sovereign wealth funds, international financial institutions in the public sector (BIS, IMF etc), development banks and agencies.</p>
other	<p>All remaining financial institutions (eg retail aggregators) that cannot be classified in any of the four above-mentioned subcategories for other financial institutions.</p>
non-financial customers	<p>Any counterparty other than those described above, ie mainly non-financial end users, such as corporations and non-financial government entities. May also include private individuals who directly transact with reporting dealers for investment purposes, either on the online retail trading platforms operated by the reporting dealers or by other means (eg giving trading instructions by phone).</p>

Trading relationships

Reporting dealers were requested to identify how much of their total turnover for each instrument and currency pair was attributed to: (i) transactions conducted in a foreign exchange prime brokerage relationship (with the reporting dealer in the role of FX prime broker); and (ii) transactions that are directly or indirectly generated by retail investors. As in previous surveys, reporting dealers were requested to identify how much of their grand total of foreign exchange turnover was attributed to “related party” transactions. Additionally, dealers were asked to separately collect data on back-to-back trades and compression trades, to better separate market-facing from non-market-facing trades.

prime brokers	Institutions (usually large and highly rated banks) facilitating trades for their clients (often institutional funds, hedge funds and other proprietary trading firms). Prime brokers enable their clients to conduct trades, subject to credit limits, with a group of predetermined third-party banks in the prime broker’s name. This may also involve granting the client access to electronic platforms that are traditionally available only to large dealers. In an FX prime brokerage relationship, the client trade is normally “given up” to the prime broker, which is interposed between the third-party bank and the client and therefore becomes the counterparty to both legs of the trade.
retail-driven transactions	Reporting dealers’ (i) transactions with “wholesale” financial counterparties that cater to retail investors (ie electronic retail trading platforms and retail margin brokerage firms), and (ii) direct transactions with “non-wholesale” investors (ie private individuals) executed online or by other means (eg phone), if applicable.
related-party trades	Transactions between desks and offices, transactions with branches and subsidiaries, and transactions between affiliated firms. These trades are included regardless of whether the counterparty is resident in the same country as the reporting dealer or in another country. Back-to-back trades that involve the transfer of risk from the sales desk to another affiliate are included. However, trades conducted as back-to-back deals and trades to facilitate internal bookkeeping and internal risk management within the same sales desk (ie reporting dealer) are excluded.
back-to-back trades	Back-to-back deals are linked deals where the liabilities, obligations and rights of the second deal are exactly the same as those of the original deal. They are normally conducted between affiliates of the same consolidated group to facilitate either internal risk management or internal bookkeeping (and, as such, also included in related-party trades). Back-to-back trades that involve other entities outside the group should also be reported here, but not in related-party trades.
compression trades	Compression is a process of replacing multiple offsetting derivatives contracts with fewer deals of the same net risk to reduce the notional value of the portfolio. It can be carried out between two or more counterparties (bilateral and multilateral compression, respectively).

Currencies and currency pairs

All foreign exchange transactions involving the 24 currencies listed in the table below were collected in the survey. This list of currencies for which reporting is compulsory and consistent across all jurisdictions was expanded from eight currencies in the 2010 survey to 24 in the 2013 survey, the latter total being carried forward until the 2022 survey. These changes in the reporting setup were introduced to better capture offshore trading in non-major currencies, most of which are EME currencies.¹⁰

¹⁰ In previous surveys, only eight “major” currencies were subject to compulsory reporting on a global basis. Reporting of the other “non-major” currencies was only compulsory in the currencies’ “home” jurisdictions, whereas the reporting of these currencies’ offshore turnover was left to the discretion of the offshore jurisdictions. Potentially inconsistent treatment of non-major currencies across jurisdictions is known to be associated with problems such as “overnetting”, which affects the accuracy of the turnover aggregates.

Currencies collected in the 2022 survey

AUD	CHF	EUR	HUF	KRW	NZD	SEK	TWD
BRL	CNY ¹	GBP	INR	MXN	PLN	SGD	USD
CAD	DKK	HKD	JPY	NOK	RUB	TRY	ZAR

¹ Includes offshore transactions, commonly denoted by CNH.

Data were collected for the following 47 currency pairs. Turnover in currency pairs that are not listed was recorded in aggregate under "other" and "residual".

Currency pairs collected in the 2022 survey

	Domestic currency against	USD against	EUR against	JPY against	Residual ¹
G8 currencies	AUD, CAD, CHF, EUR, GBP, JPY, SEK, USD	AUD, CAD, CHF, EUR, GBP, JPY, SEK	AUD, CAD, CHF, GBP, JPY, SEK	AUD, CAD	
Non-G8 currencies		BRL, CNY, HKD, INR, KRW, MXN, NOK, NZD, PLN, RUB, SGD, TRY, TWD, ZAR	CNY, DKK, HUF, NOK, PLN, TRY	BRL, NZD, TRY, ZAR	
Other	Other ²	Other ²	Other ²	Other ²	

¹ Transactions that do not involve the domestic currency, USD, EUR or JPY in one leg. ² Currencies not explicitly listed in the table.

Given the interest in identifying turnover in all reporting countries' currencies, supplementary information for currencies recorded in aggregate under "other" and "residual" was also collected for the following 36 currencies: AED, ARS, AUD, BGN, BHD, BRL, CAD, CHF, CLP, CNY, COP, CZK, DKK, GBP, HKD, HUF, IDR, ILS, INR, KRW, MXN, MYR, NOK, NZD, PEN, PHP, PLN, RON, RUB, SAR, SEK, SGD, THB, TRY, TWD and ZAR.

Transactions conducted in a special unit of account adjusted to inflation (such as CLF, COU and MXV) were treated as having been executed in the main currency (respectively, CLP, COP and MXN).

Maturities

In the 2022 Survey, transactions in outright forwards and foreign exchange swaps were broken down into the following original maturity bands: one day; over one day and up to seven days; over seven days and up to one month; over one month and up to three months; over three months and up to six months; over six months. In the 2019 Survey, the maturity bands were: seven days or less; over seven days and up to one month; over one month and up to three months; over three months and up to six months; over six months. In all previous Surveys, the maturity bands were: seven days or less; over seven days and up to one year; over one year.

For outright forward contracts, the maturity band for the transaction is determined by the difference between the delivery date and the spot date. 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.

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).

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

Gross turnover	Minus	= Net-gross turnover	Minus	= Net-net turnover
Not adjusted for inter-dealer double-counting (ie "gross-gross" basis)	half of the turnover with local reporting dealers	Adjusted for local inter-dealer double-counting (ie "net-gross" basis)	half of the turnover with reporting dealers abroad	Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis)