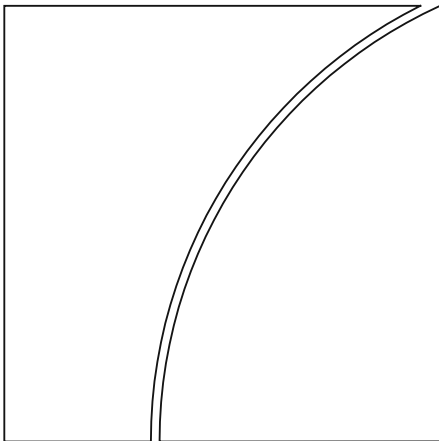




BANK FOR INTERNATIONAL SETTLEMENTS



# **Triennial Central Bank Survey**

## Foreign exchange turnover in April 2019

Monetary and Economic Department

16 September 2019

Tools to access and download the results of the BIS Triennial Central Bank Survey:

- [BIS website](#) – tables in PDF of the BIS's most current data
- [BIS Statistics Explorer](#) – a browsing tool for pre-defined views of the BIS's most current data
- [BIS Statistics Warehouse](#) – a search tool for customised queries of the BIS's most current data

Questions about the BIS Triennial Central Bank Survey may be addressed to [statistics@bis.org](mailto:statistics@bis.org).

This publication is available on the BIS website ([www.bis.org/statistics/rpfx19.htm](http://www.bis.org/statistics/rpfx19.htm)).

# Foreign exchange turnover in April 2019

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This publication presents the global results of the 2019 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/rpfx19.htm](http://www.bis.org/statistics/rpfx19.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](http://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 2019.

Data are subject to change. Revised data will be released concurrently with the *BIS Quarterly Review* in December 2019. The December 2019 *BIS Quarterly Review* will include several special feature articles that analyse the results of the 2019 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 foreign exchange (FX) and over-the-counter (OTC) derivatives markets. The Triennial Survey aims to increase the transparency of OTC markets and to help central banks, other authorities and market participants monitor developments in global financial markets. It also helps to inform discussions on reforms to OTC markets.

FX market activity has been surveyed every three years since 1986, and OTC interest rate derivatives market activity 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 is supported through the Data Gaps Initiative endorsed by the G20.

This statistical release concerns the FX turnover part of the 2019 Triennial Survey, which took place in April and involved central banks and other authorities in 53 jurisdictions (see page 15). They collected data from close to 1,300 banks and other dealers in their jurisdictions and reported national aggregates to the BIS, which then calculated global aggregates. Turnover data are reported by the sales desks of reporting dealers, regardless of where a trade is booked, and are reported on an unconsolidated basis, ie including trades between related entities that are part of the same group.

Data are subject to revision. The final data, as well as several special features that analyse the data, will be released with the *BIS Quarterly Review* in December 2019.

### Highlights

Highlights from the 2019 Triennial Survey of turnover in OTC FX markets:

- Trading in FX markets reached \$6.6 trillion per day in April 2019, up from \$5.1 trillion three years earlier.<sup>1</sup> Growth of FX derivatives trading, especially in FX swaps, outpaced that of spot trading.
- The US dollar retained its dominant currency status, being on one side of 88% of all trades. The share of trades with the euro on one side expanded somewhat, to 32%. By contrast, the share of trades involving the Japanese yen fell some 5 percentage points, although the yen remained the third most actively traded currency (on one side of 17% of all trades).
- As in previous surveys, currencies of emerging market economies (EMEs) again gained market share, reaching 25% of overall global turnover. Turnover in the renminbi, however, grew only slightly faster than the aggregate market, and the renminbi did not climb further in the global rankings. It remained the eighth most traded currency, with a share of 4.3%, ranking just after the Swiss franc.
- While the volume of spot trades increased relative to April 2016, the expansion was less strong compared with other instruments – hence the share of spot trades continued to fall, to 30% in 2019, compared with 33% in 2016. By contrast, FX swaps continued to gain in market share, accounting for 49% of total FX market turnover in April 2019. Trading of outright forwards also picked up, with a large part of the rise due to the segment of non-deliverable forwards (NDFs).

<sup>1</sup> Growth in FX turnover between April 2016 and 2019 was similar to the growth that can be derived from more frequent regional surveys run by local foreign exchange committees (FXCs). These semiannual surveys by FXCs in Australia, Canada, Hong Kong SAR, London, New York, Singapore and Tokyo focus on the structure of local FX markets, and there are some methodological differences compared with the Triennial Survey. In particular, the Triennial Survey collects data based on the location of the sales desk, whereas some regional surveys are based on the location of the trading desk.

- FX trading with “other financial institutions”, ie those other than reporting dealers, again exceeded inter-dealer trading volumes, reaching \$3.6 trillion in April 2019, or 55% of global turnover. This was due to a higher share of trading with non-reporting banks as well as with hedge funds and proprietary trading firms (PTFs), while trading with institutional investors declined.
- In April 2019, sales desks in five countries – the United Kingdom, the United States, Hong Kong SAR, Singapore and Japan – facilitated 79% of all foreign exchange trading. Trading activity in the United Kingdom and Hong Kong SAR grew by more than the global average. Mainland China also recorded a significant rise in trading activity, making it the eighth largest FX trading centre (up from 13th in April 2016).

## 2. Turnover in foreign exchange markets

### Turnover by currencies 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 2019 (Graph 1, left-hand panel). The relative ranking of the next seven most liquid currencies did not change from 2016. The global share of EME currencies rose by about 4 percentage points to 25% of total FX turnover in April 2019, continuing the trend observed in previous surveys.

Turnover in the euro, the world’s second most traded currency, increased at a somewhat higher rate than did the aggregate market, and its share in global trading edged up to 32% (Table 2). This reflected higher than market average growth in EUR/JPY and EUR/CHF trading.

In contrast, JPY turnover stagnated, and the yen’s share in global turnover dropped by 5 percentage points, to 17%. Despite this decline, the yen remained the third most traded currency globally. The fall in JPY turnover was mostly due to a contraction in the important JPY/USD cross amid low volatility. By contrast, trading in other popular JPY crosses, such as EUR/JPY and AUD/JPY, increased over the three-year period. In addition, trading in yen against several high-yielding EME currencies that are attractive for Japanese retail margin traders, albeit small relative to total JPY turnover, grew faster than the global average. Specifically, the combined average daily turnover in JPY/TRY, JPY/ZAR, and JPY/BRL close to doubled, from \$7 billion in 2016 to \$12 billion in 2019 (Table 3).

The market shares for other heavily traded advanced economy currencies in April 2019 were unchanged from their 2016 values, with the GBP at 13%, the AUD at 7%, the CAD at 5% and the CHF at 5% of global FX turnover.

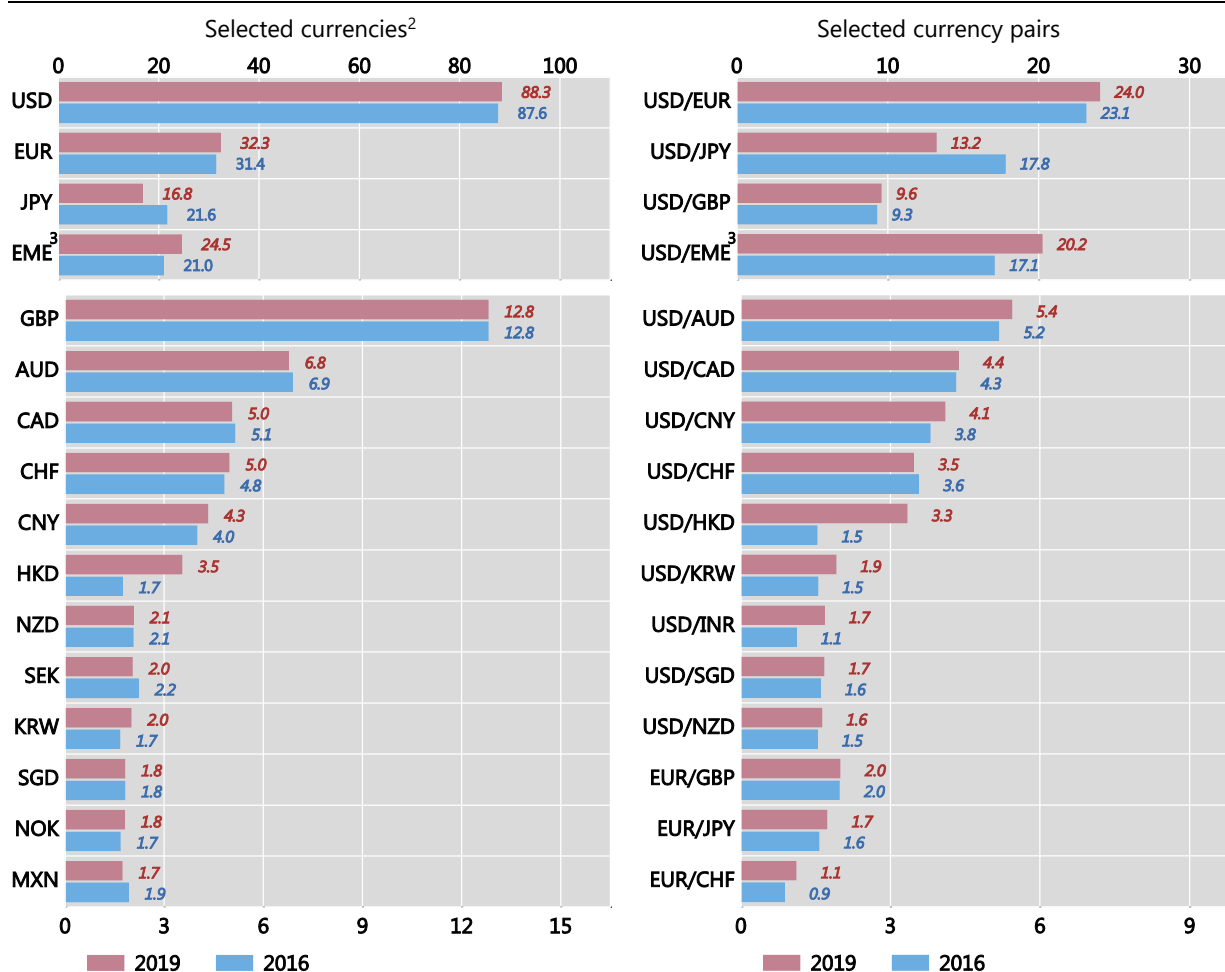
Renminbi trading increased in line with aggregate market growth, so the Chinese currency did not climb in the global rankings, unlike in past surveys. With \$284 billion in turnover (Table 5), the renminbi remained the world’s eighth most traded currency and the most traded EME currency. The US dollar was on the other side of 95% of all renminbi transactions (Table 3).

In contrast, several other Asia-Pacific currencies gained market share. Turnover in the Hong Kong dollar more than doubled relative to 2016, and the currency climbed to ninth place in the global ranking (up from 13th in 2016). The Korean won, Indian rupee and Indonesian rupiah also moved higher in the global rankings. Turning to the currencies of other EME regions, the Mexican peso and the Turkish lira were among the currencies which dropped several places in global rankings.

## Foreign exchange market turnover by currency and currency pairs<sup>1</sup>

Net-net basis, daily averages in April, in per cent

Graph 1



<sup>1</sup> Adjusted for local and cross-border inter-dealer double-counting, ie “net-net” basis. <sup>2</sup> As two currencies are involved in each transaction, the sum of shares in individual currencies will total 200%. <sup>3</sup> EME currencies.

Source: BIS Triennial Central Bank Survey. For additional data by currency and currency pairs, see Tables 2 and 3 on pages 10 and 11, respectively. See our [Statistics Explorer](#) for access to the full set of published data.

## Turnover by instrument and maturity

Turnover in FX spot markets rose in the 2019 survey, but declined as a share in global FX activity. At \$2.0 trillion per day, the volume of spot trades in April 2019 was some 20% greater than in April 2016, but still below the level recorded in the April 2013 Triennial Survey (Table 1). Spot turnover accounted for 30% of global turnover in April 2019, down from 33% in 2016 and 38% in 2013 (Graph 2).

By contrast, trading in FX swaps and outright forwards gained in market share. Turnover in FX swaps, the most heavily traded instrument, which is primarily used by market participants for the management of funding liquidity and hedging of currency risk, rose by more than a third to \$3.2 trillion per day and accounted for almost half of global FX trading. The US dollar was on one side of 91% of all FX swap transactions (ie somewhat higher than its share across all instruments), while the euro was on one side of more than a third of FX swap transactions. The bulk of turnover in FX swaps was in short-maturity instruments (overnight up to seven days) in April 2019, although trading in longer tenors expanded over the past three years (Table 4).

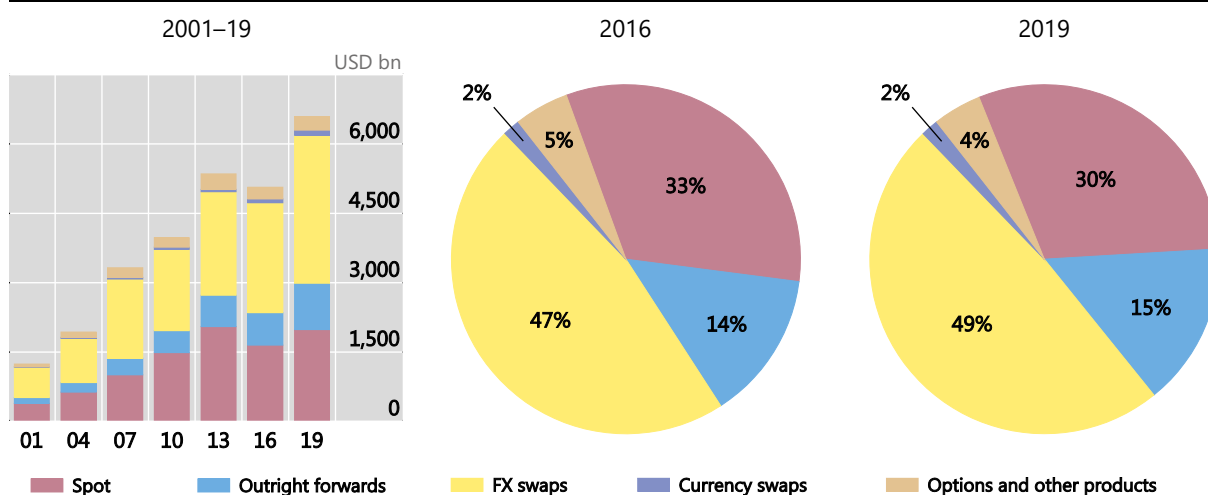
Trading in outright forwards rose by a notable 43% to \$999 billion per day. Trading in medium-term tenors for outright forwards is more common than for FX swaps, and 61% of the turnover in outright forwards was in maturities of over seven days and up to three months (Table 4). The US dollar was on one side of 88% of outright forwards transactions (Table 5). Within the various instrument categories within outright forwards, NDFs accounted for a significant share of the increase in trading between 2016 and 2019, reflecting in particular the strong activity in Korean won, Indian rupee and Brazilian real NDF markets.

Trading in OTC FX options grew at a slower pace than did overall FX turnover, with a rise of 16%, to \$294 billion per day in April 2019 (representing 4% of total FX turnover; Graph 2). Trading volumes in currency swaps increased by almost a third between 2016 and 2019, to \$108 billion per day. The typically long maturity of currency swaps means their average daily turnover is naturally lower than that for other instruments.

## Foreign exchange market turnover by instrument<sup>1</sup>

Net-net basis, daily averages in April

Graph 2



<sup>1</sup> 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 on page 9.

## Turnover by counterparty

Trading in the inter-dealer market did not keep pace with overall market growth, and thus inter-dealer trades dipped below 40% of total FX market turnover in April 2019 (Graph 3). Inter-dealer spot turnover actually declined slightly in absolute terms relative to 2016, whereas inter-dealer turnover in FX swaps, outright forwards and currency swaps expanded noticeably (Table 4).

Reporting dealers' trading with "other financial institutions" – a category that includes non-reporting banks, hedge funds and PTFs, institutional investors, and official sector financial institutions – grew notably from 2016, to \$3.6 trillion per day in April 2019, or 55% of global trading volume (Graph 3, centre panel). Non-reporting banks – typically smaller, regional banks that serve as clients of the large FX dealer banks but do not engage in FX market-making – remained the largest counterparty category within other financial institutions (Graph 3, right-hand panel): they accounted for \$1.6 trillion (Table 5), or 24%, of total FX market turnover. Trading with hedge funds and PTFs also increased, to \$593 billion (9% of total turnover). Prime-brokered turnover rose to \$1.5 trillion in April 2019, a 68% increase compared with the 2016 survey (Table 5), in line with the above-mentioned rise in activity conducted by the typical prime brokerage clients, such as smaller banks, hedge funds and PTFs. By contrast, trading with institutional investors declined in both absolute and relative terms, with their share in global FX turnover falling to 12%



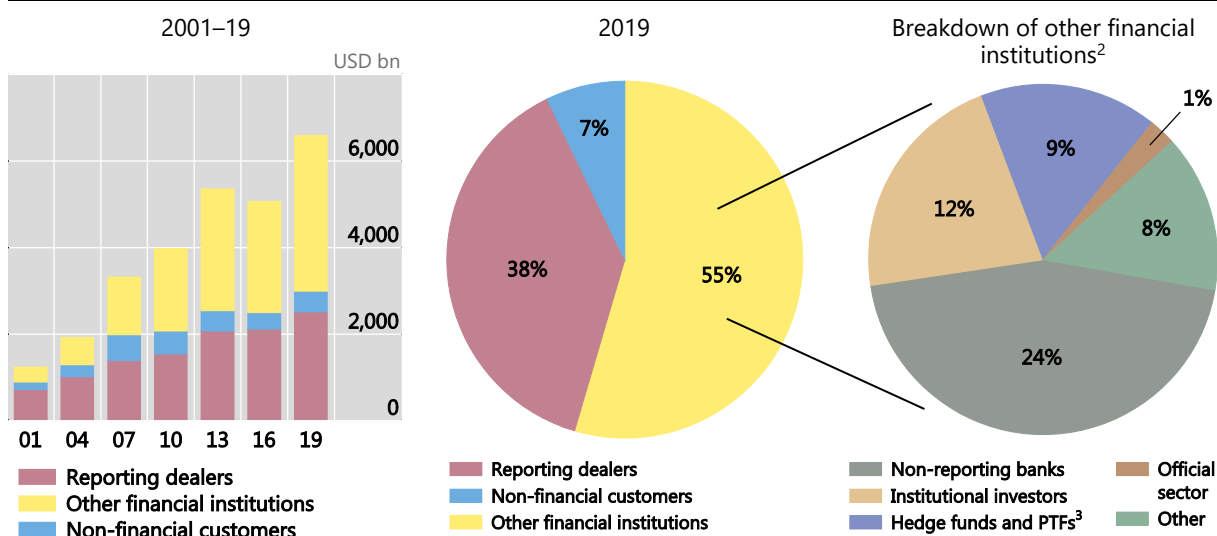
in April 2019 (from 16% in the previous survey). The relative importance of trading with non-financial customers also fell slightly, to 7% of total FX market turnover.

Changes in the composition of counterparties went alongside shifts in the mix of traded FX instruments. For instance, the increase in trading with non-reporting banks reflected primarily their stronger activity in FX swaps, which amounted to \$966 billion in April 2019 (Table 5), a notable increase of more than two thirds compared with April 2016. Trading in currency swaps with non-reporting banks increased by 20%. The rise in trading with hedge funds and PTFs was mainly attributable to greater activity in outright forwards, but their trading in other instruments also increased.

## Foreign exchange market turnover by counterparty<sup>1</sup>

Net-net basis, daily averages in April

Graph 3



<sup>1</sup> Adjusted for local and cross-border inter-dealer double-counting, ie “net-net” basis. <sup>2</sup> For definitions of counterparties, see page 19. <sup>3</sup> Proprietary trading firms.

Source: BIS Triennial Central Bank Survey. For additional data by counterparty, see Tables 4 and 5 on pages 12 and 13, respectively.

## Geographical distribution of turnover

FX trading continues to be concentrated in the largest financial centres. In April 2019, sales desks in five locations – the United Kingdom, the United States, Singapore, Hong Kong SAR, and Japan – intermediated 79% of all foreign exchange trading (Table 6). While the ranking of these trading hubs remained unchanged from 2016, there were changes in their relative shares in global turnover. The share of trading taking place in the United States declined to 17% in 2019, from 20% in 2016. In contrast, the share of FX trading in the United Kingdom rose by 6 percentage points to 43% of global FX activity in April 2019.

The share of FX trading in the leading Asian financial centres, namely Hong Kong SAR, Singapore, and Tokyo, declined slightly to 20% in April 2019. This was mainly driven by relatively slower growth of activity in Singapore and Tokyo. Turnover in Hong Kong SAR grew at a higher rate than the global aggregate, raising its share in global turnover by one percentage point.

Several other FX trading centres also gained in prominence. In particular, mainland China recorded a significant rise in trading activity, to \$136 billion in 2019, or an 87% increase since 2016. Mainland China thus climbed several places in the global ranking to become the eighth largest FX trading centre (up from 13th place three years previously).

The share of cross-border trading in total FX turnover dropped significantly, to just 56% in 2019, down from 65% in 2016 – the lowest level observed since 2001. Among reporting dealers, the bulk (68%) of the \$2.5 trillion per day in inter-dealer trading remained cross-border (Table 5).

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#### OTC foreign exchange turnover

Net-net basis,<sup>1</sup> daily averages in April, in billions of US dollars

Table 1

Instrument	2004	2007	2010	2013	2016	2019
Foreign exchange instruments	1,934	3,324	3,973	5,357	5,066	<b>6,590</b>
Spot transactions	631	1,005	1,489	2,047	1,652	<b>1,987</b>
Outright forwards	209	362	475	679	700	<b>999</b>
Foreign exchange swaps	954	1,714	1,759	2,240	2,378	<b>3,202</b>
Currency swaps	21	31	43	54	82	<b>108</b>
Options and other products <sup>2</sup>	119	212	207	337	254	<b>294</b>
<i>Memo:</i>						
Turnover at April 2019 exchange rates <sup>3</sup>	1,854	3,071	3,602	4,827	4,958	<b>6,590</b>
Exchange-traded derivatives <sup>4</sup>	25	77	144	145	115	<b>127</b>

<sup>1</sup> Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). <sup>2</sup> 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. <sup>3</sup> 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 2019 exchange rates. <sup>4</sup> Sources: Euromoney Tradedata; Futures Industry Association; The Options Clearing Corporation; BIS derivatives statistics. Foreign exchange futures and options traded worldwide.

## Currency distribution of OTC foreign exchange turnover

Net-net basis,<sup>1</sup> percentage shares of average daily turnover in April<sup>2</sup>

Table 2

Currency	2004		2007		2010		2013		2016		2019	
	Share	Rank	Share	Rank	Share	Rank	Share	Rank	Share	Rank	Share	Rank
USD	88.0	1	85.6	1	84.9	1	87.0	1	87.6	1	<b>88.3</b>	<b>1</b>
EUR	37.4	2	37.0	2	39.0	2	33.4	2	31.4	2	<b>32.3</b>	<b>2</b>
JPY	20.8	3	17.2	3	19.0	3	23.0	3	21.6	3	<b>16.8</b>	<b>3</b>
GBP	16.5	4	14.9	4	12.9	4	11.8	4	12.8	4	<b>12.8</b>	<b>4</b>
AUD	6.0	6	6.6	6	7.6	5	8.6	5	6.9	5	<b>6.8</b>	<b>5</b>
CAD	4.2	7	4.3	7	5.3	7	4.6	7	5.1	6	<b>5.0</b>	<b>6</b>
CHF	6.0	5	6.8	5	6.3	6	5.2	6	4.8	7	<b>5.0</b>	<b>7</b>
CNY <sup>3</sup>	0.1	29	0.5	20	0.9	17	2.2	9	4.0	8	<b>4.3</b>	<b>8</b>
HKD <sup>3</sup>	1.8	9	2.7	8	2.4	8	1.4	13	1.7	13	<b>3.5</b>	<b>9</b>
NZD <sup>3</sup>	1.1	13	1.9	11	1.6	10	2.0	10	2.1	10	<b>2.1</b>	<b>10</b>
SEK	2.2	8	2.7	9	2.2	9	1.8	11	2.2	9	<b>2.0</b>	<b>11</b>
KRW <sup>3</sup>	1.1	11	1.2	14	1.5	11	1.2	17	1.7	15	<b>2.0</b>	<b>12</b>
SGD <sup>3</sup>	0.9	14	1.2	13	1.4	12	1.4	15	1.8	12	<b>1.8</b>	<b>13</b>
NOK <sup>3</sup>	1.4	10	2.1	10	1.3	13	1.4	14	1.7	14	<b>1.8</b>	<b>14</b>
MXN <sup>3</sup>	1.1	12	1.3	12	1.3	14	2.5	8	1.9	11	<b>1.7</b>	<b>15</b>
INR <sup>3</sup>	0.3	20	0.7	19	0.9	15	1.0	20	1.1	18	<b>1.7</b>	<b>16</b>
RUB <sup>3</sup>	0.6	17	0.7	18	0.9	16	1.6	12	1.1	17	<b>1.1</b>	<b>17</b>
ZAR <sup>3</sup>	0.7	16	0.9	15	0.7	20	1.1	18	1.0	20	<b>1.1</b>	<b>18</b>
TRY <sup>3</sup>	0.1	28	0.2	26	0.7	19	1.3	16	1.4	16	<b>1.1</b>	<b>19</b>
BRL <sup>3</sup>	0.3	21	0.4	21	0.7	21	1.1	19	1.0	19	<b>1.1</b>	<b>20</b>
TWD <sup>3</sup>	0.4	18	0.4	22	0.5	23	0.5	23	0.6	23	<b>0.9</b>	<b>21</b>
DKK <sup>3</sup>	0.9	15	0.8	16	0.6	22	0.8	21	0.8	21	<b>0.6</b>	<b>22</b>
PLN <sup>3</sup>	0.4	19	0.8	17	0.8	18	0.7	22	0.7	22	<b>0.6</b>	<b>23</b>
THB <sup>4</sup>	0.2	22	0.2	25	0.2	26	0.3	27	0.4	24	<b>0.5</b>	<b>24</b>
IDR <sup>4</sup>	0.1	27	0.1	29	0.2	30	0.2	30	0.2	31	<b>0.4</b>	<b>25</b>
HUF <sup>3</sup>	0.2	23	0.3	23	0.4	24	0.4	24	0.3	27	<b>0.4</b>	<b>26</b>
CZK <sup>4</sup>	0.2	24	0.2	24	0.2	27	0.4	26	0.3	28	<b>0.4</b>	<b>27</b>
ILS <sup>4</sup>	0.1	26	0.2	27	0.2	31	0.2	29	0.3	29	<b>0.3</b>	<b>28</b>
CLP <sup>4</sup>	0.1	25	0.1	30	0.2	29	0.3	28	0.2	30	<b>0.3</b>	<b>29</b>
PHP <sup>4</sup>	0.0	32	0.1	31	0.2	28	0.1	31	0.1	33	<b>0.3</b>	<b>30</b>
AED	...	55	...	57	...	57	...	41	...	39	<b>0.2</b>	<b>31</b>
COP <sup>4</sup>	0.0	34	0.1	34	0.1	32	0.1	33	0.2	32	<b>0.2</b>	<b>32</b>
SAR <sup>4</sup>	0.0	33	0.1	33	0.1	33	0.1	34	0.3	26	<b>0.2</b>	<b>33</b>
MYR <sup>4</sup>	0.1	30	0.1	28	0.3	25	0.4	25	0.4	25	<b>0.1</b>	<b>34</b>
RON <sup>4</sup>	...	56	0.0	35	0.1	34	0.1	32	0.1	34	<b>0.1</b>	<b>35</b>
OTH	6.6		7.7		4.7		1.7		2.2		<b>2.2</b>	
<b>Total</b>	<b>200.0</b>		<b>200.0</b>		<b>200.0</b>		<b>200.0</b>		<b>200.0</b>		<b>200.0</b>	

<sup>1</sup>Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). <sup>2</sup> Because two currencies are involved in each transaction, the sum of the percentage shares of individual currencies totals 200% instead of 100%. <sup>3</sup> Turnover for years prior to 2013 may be underestimated owing to incomplete reporting of offshore trading in previous surveys. Methodological changes in the 2013 survey ensured more complete coverage of activity in EME and other currencies. <sup>4</sup> Turnover may be underestimated owing to incomplete reporting of offshore trading.

## OTC foreign exchange turnover by currency pair

Net-net basis,<sup>1</sup> daily averages in April, in billions of US dollars and percentages

Table 3

Currency pair	2004		2007		2010		2013		2016		2019	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
USD / EUR	541	28.0	892	26.8	1,099	27.7	1,292	24.1	1,172	23.1	<b>1,584</b>	<b>24.0</b>
USD / JPY	328	17.0	438	13.2	567	14.3	980	18.3	901	17.8	<b>871</b>	<b>13.2</b>
USD / GBP	259	13.4	384	11.6	360	9.1	473	8.8	470	9.3	<b>630</b>	<b>9.6</b>
USD / AUD	107	5.5	185	5.6	248	6.3	364	6.8	262	5.2	<b>358</b>	<b>5.4</b>
USD / CAD	77	4.0	126	3.8	182	4.6	200	3.7	218	4.3	<b>287</b>	<b>4.4</b>
USD / CNY	...	...	...	...	31	0.8	113	2.1	192	3.8	<b>269</b>	<b>4.1</b>
USD / CHF	83	4.3	151	4.5	166	4.2	184	3.4	180	3.6	<b>228</b>	<b>3.5</b>
USD / HKD	...	...	...	...	85	2.1	69	1.3	77	1.5	<b>219</b>	<b>3.3</b>
USD / KRW	...	...	...	...	58	1.5	60	1.1	78	1.5	<b>125</b>	<b>1.9</b>
USD / INR	...	...	...	...	36	0.9	50	0.9	56	1.1	<b>110</b>	<b>1.7</b>
USD / SGD	...	...	...	...	...	...	65	1.2	81	1.6	<b>110</b>	<b>1.7</b>
USD / NZD	...	...	...	...	...	...	82	1.5	78	1.5	<b>107</b>	<b>1.6</b>
USD / MXN	...	...	...	...	...	...	128	2.4	90	1.8	<b>105</b>	<b>1.6</b>
USD / SEK	...	...	57	1.7	45	1.1	55	1.0	66	1.3	<b>86</b>	<b>1.3</b>
USD / NOK	...	...	...	...	...	...	49	0.9	48	0.9	<b>73</b>	<b>1.1</b>
USD / BRL	...	...	...	...	25	0.6	48	0.9	45	0.9	<b>66</b>	<b>1.0</b>
USD / RUB	...	...	...	...	...	...	79	1.5	53	1.1	<b>63</b>	<b>1.0</b>
USD / ZAR	...	...	...	...	24	0.6	51	1.0	40	0.8	<b>62</b>	<b>0.9</b>
USD / TRY	...	...	...	...	...	...	63	1.2	64	1.3	<b>62</b>	<b>0.9</b>
USD / TWD	...	...	...	...	...	...	22	0.4	31	0.6	<b>59</b>	<b>0.9</b>
USD / PLN	...	...	...	...	...	...	22	0.4	19	0.4	<b>25</b>	<b>0.4</b>
USD / OTH	307	15.9	612	18.4	446	11.2	214	4.0	215	4.2	<b>320</b>	<b>4.9</b>
EUR / GBP	47	2.4	69	2.1	109	2.7	102	1.9	100	2.0	<b>131</b>	<b>2.0</b>
EUR / JPY	61	3.2	86	2.6	111	2.8	148	2.8	79	1.6	<b>114</b>	<b>1.7</b>
EUR / CHF	30	1.6	62	1.9	71	1.8	71	1.3	44	0.9	<b>73</b>	<b>1.1</b>
EUR / SEK	...	...	24	0.7	35	0.9	28	0.5	36	0.7	<b>36</b>	<b>0.5</b>
EUR / NOK	...	...	...	...	...	...	20	0.4	28	0.6	<b>33</b>	<b>0.5</b>
EUR / AUD	4	0.2	9	0.3	12	0.3	21	0.4	16	0.3	<b>18</b>	<b>0.3</b>
EUR / CAD	2	0.1	7	0.2	14	0.3	15	0.3	14	0.3	<b>15</b>	<b>0.2</b>
EUR / PLN	...	...	...	...	...	...	14	0.3	13	0.3	<b>13</b>	<b>0.2</b>
EUR / DKK	...	...	...	...	...	...	13	0.2	13	0.2	<b>11</b>	<b>0.2</b>
EUR / HUF	...	...	...	...	...	...	10	0.2	5	0.1	<b>10</b>	<b>0.2</b>
EUR / CNY	...	...	...	...	...	...	1	0.0	2	0.0	<b>4</b>	<b>0.1</b>
EUR / TRY	...	...	...	...	...	...	6	0.1	4	0.1	<b>2</b>	<b>0.0</b>
EUR / OTH	38	1.9	83	2.5	102	2.6	51	0.9	65	1.3	<b>85</b>	<b>1.3</b>
JPY / AUD	...	...	...	...	24	0.6	46	0.9	31	0.6	<b>35</b>	<b>0.5</b>
JPY / CAD	...	...	...	...	...	...	6	0.1	7	0.1	<b>7</b>	<b>0.1</b>
JPY / NZD	...	...	...	...	4	0.1	5	0.1	5	0.1	<b>6</b>	<b>0.1</b>
JPY / TRY	...	...	...	...	...	...	1	0.0	3	0.1	<b>6</b>	<b>0.1</b>
JPY / ZAR	...	...	...	...	...	...	4	0.1	3	0.1	<b>5</b>	<b>0.1</b>
JPY / BRL	...	...	...	...	...	...	3	0.1	1	0.0	<b>2</b>	<b>0.0</b>
JPY / OTH	14	0.7	49	1.5	49	1.2	42	0.8	65	1.3	<b>63</b>	<b>1.0</b>
Other currency pairs	36	1.9	90	2.7	72	1.8	90	1.7	95	1.9	<b>102</b>	<b>1.6</b>
All currency pairs	1,934	100.0	3,324	100.0	3,973	100.0	5,357	100.0	5,066	100.0	<b>6,590</b>	<b>100.0</b>

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

# OTC foreign exchange turnover by instrument, counterparty and maturity<sup>1</sup>

Net-net basis,<sup>2</sup> daily averages in April, in billions of US dollars and percentages

Table 4

Instrument/counterparty/maturity	2004		2007		2010		2013		2016		2019	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Spot transactions	631	32.6	1,005	30.2	1,489	37.5	2,047	38.2	1,652	32.6	<b>1,987</b>	<b>30.2</b>
with reporting dealers	310	49.2	426	42.4	518	34.8	676	33.0	605	36.6	<b>593</b>	<b>29.8</b>
with other financial institutions	212	33.7	394	39.2	755	50.7	1,183	57.8	930	56.3	<b>1,236</b>	<b>62.2</b>
with non-financial customers	108	17.0	184	18.3	217	14.6	188	9.2	117	7.1	<b>159</b>	<b>8.0</b>
Outright forwards	209	10.8	362	10.9	475	11.9	679	12.7	700	13.8	<b>999</b>	<b>15.2</b>
with reporting dealers	73	35.1	96	26.5	113	23.7	181	26.6	189	27.0	<b>268</b>	<b>26.8</b>
with other financial institutions	80	38.3	159	43.9	254	53.5	402	59.2	431	61.6	<b>615</b>	<b>61.6</b>
with non-financial customers	56	26.6	107	29.6	108	22.8	96	14.2	80	11.4	<b>116</b>	<b>11.6</b>
Up to 7 days	92	44.3	154	42.6	219	46.1	270	39.7	270	38.6	<b>269</b>	<b>26.9</b>
Over 7 days and up to 1 month	...	...	...	...	...	...	...	...	...	...	<b>291</b>	<b>29.1</b>
Over 1 month and up to 3 months	...	...	...	...	...	...	...	...	...	...	<b>322</b>	<b>32.2</b>
Over 3 months and up to 6 months	...	...	...	...	...	...	...	...	...	...	<b>71</b>	<b>7.1</b>
Over 6 months	...	...	...	...	...	...	...	...	...	...	<b>47</b>	<b>4.7</b>
Over 7 days and up to 1 year	111	53.2	200	55.4	245	51.5	378	55.6	412	58.9	...	...
Over 1 year	5	2.6	7	2.0	11	2.4	31	4.6	18	2.5	...	...
Foreign exchange swaps	954	49.3	1,714	51.6	1,759	44.3	2,240	41.8	2,378	46.9	<b>3,202</b>	<b>48.6</b>
with reporting dealers	573	60.0	796	46.4	834	47.4	1,088	48.6	1,205	50.7	<b>1,498</b>	<b>46.8</b>
with other financial institutions	293	30.7	682	39.8	755	42.9	1,002	44.7	1,026	43.1	<b>1,537</b>	<b>48.0</b>
with non-financial customers	89	9.3	236	13.8	170	9.7	150	6.7	147	6.2	<b>166</b>	<b>5.2</b>
Up to 7 days	700	73.4	1,329	77.5	1,300	73.9	1,573	70.2	1,635	68.7	<b>2,061</b>	<b>64.4</b>
Over 7 days and up to 1 month	...	...	...	...	...	...	...	...	...	...	<b>398</b>	<b>12.4</b>
Over 1 month and up to 3 months	...	...	...	...	...	...	...	...	...	...	<b>520</b>	<b>16.2</b>
Over 3 months and up to 6 months	...	...	...	...	...	...	...	...	...	...	<b>143</b>	<b>4.5</b>
Over 6 months	...	...	...	...	...	...	...	...	...	...	<b>79</b>	<b>2.5</b>
Over 7 days and up to 1 year	242	25.3	365	21.3	442	25.2	579	25.9	713	30.0	...	...
Over 1 year	10	1.0	18	1.0	15	0.8	87	3.9	30	1.3	...	...
Currency swaps	21	1.1	31	0.9	43	1.1	54	1.0	82	1.6	<b>108</b>	<b>1.6</b>
with reporting dealers	12	57.7	12	38.6	20	46.8	29	53.7	38	46.1	<b>56</b>	<b>51.5</b>
with other financial institutions	5	23.4	13	41.1	19	45.0	19	34.7	37	45.5	<b>46</b>	<b>43.0</b>
with non-financial customers	3	14.2	6	20.4	4	8.2	6	11.6	7	8.5	<b>6</b>	<b>5.5</b>
FX options and other products <sup>3</sup>	119	6.2	212	6.4	207	5.2	337	6.3	254	5.0	<b>294</b>	<b>4.5</b>
with reporting dealers	49	41.4	62	29.2	60	29.1	99	29.4	84	32.8	<b>107</b>	<b>36.3</b>
with other financial institutions	44	36.6	91	42.8	113	54.7	207	61.3	141	55.3	<b>160</b>	<b>54.5</b>
with non-financial customers	21	17.9	59	28.0	33	16.1	31	9.3	30	11.9	<b>27</b>	<b>9.1</b>
Total	1,934	100.0	3,324	100.0	3,973	100.0	5,357	100.0	5,066	100.0	<b>6,590</b>	<b>100.0</b>
with reporting dealers	1,018	52.6	1,392	41.9	1,545	38.9	2,072	38.7	2,120	41.9	<b>2,522</b>	<b>38.3</b>
with other financial institutions	634	32.8	1,339	40.3	1,896	47.7	2,812	52.5	2,564	50.6	<b>3,595</b>	<b>54.5</b>
with non-financial customers	276	14.3	593	17.8	532	13.4	472	8.8	382	7.5	<b>474</b>	<b>7.2</b>
Local	743	38.4	1,274	38.3	1,394	35.1	2,259	42.2	1,798	35.5	<b>2,900</b>	<b>44.0</b>
Cross-border	1,185	61.2	2,051	61.7	2,579	64.9	3,097	57.8	3,268	64.5	<b>3,690</b>	<b>56.0</b>

<sup>1</sup>More granular maturity bands were collected in 2019 (see explanatory notes). <sup>2</sup>Adjusted for local and cross-border inter-dealer double-counting (ie "net-net" basis). <sup>3</sup>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.

## OTC foreign exchange turnover by instrument, currency and counterparty□

Net-net basis,<sup>1</sup> daily averages in April 2019, in billions of US dollars

Table 5

Instrument/currency/counterparty	Total	Spot transactions	Outright forwards	Foreign exchange swaps	Currency swaps	FX options
<b>Total</b>	<b>6,590</b>	<b>1,987</b>	<b>999</b>	<b>3,202</b>	<b>108</b>	<b>294</b>
<i>By currency</i>						
USD	5,819	1,687	883	2,905	102	243
EUR	2,129	616	256	1,142	26	90
JPY	1,108	360	145	515	24	63
GBP	844	240	109	444	19	32
AUD	445	170	53	186	12	24
CAD	332	122	43	146	7	14
CHF	327	86	36	194	2	9
CNY	284	97	36	137	2	13
HKD	233	57	26	139	3	8
NZD	136	53	16	54	4	10
SEK	134	41	17	71	3	3
KRW	131	30	72	19	1	10
SGD	119	37	12	65	2	4
NOK	119	42	15	56	1	5
MXN	114	48	13	44	1	8
INR	113	30	63	15	0	6
RUB	72	34	10	26	1	2
ZAR	72	27	7	30	1	7
TRY	71	24	5	35	2	4
BRL	71	14	43	1	2	11
TWD	60	13	35	10	0	2
DKK	42	7	5	30	0	0
PLN	41	12	5	22	0	1
HUF	27	9	3	12	0	2
OTH	338	121	93	106	2	16
<i>By counterparty<sup>3</sup></i>						
with reporting dealers	2,522	593	268	1,498	56	107
local	818	202	85	467	21	44
cross-border	1,704	391	183	1,032	35	63
with other financial institutions	3,595	1,236	615	1,537	46	160
local	1,838	709	309	710	13	97
cross-border	1,757	527	306	827	34	63
non-reporting banks	1,612	448	126	966	22	50
institutional investors	777	308	215	212	8	33
hedge funds and PTFs <sup>2</sup>	593	261	154	123	11	44
official sector	89	18	21	48	1	1
other	524	200	99	187	5	33
with non-financial customers	474	159	116	166	6	27
local	244	96	52	77	3	16
cross-border	230	63	64	88	3	11
<i>Of which: prime brokered</i>	<i>1,488</i>	<i>918</i>	<i>252</i>	<i>218</i>	<i>0</i>	<i>100</i>
<i>Of which: retail-driven</i>	<i>201</i>	<i>66</i>	<i>13</i>	<i>97</i>	<i>0</i>	<i>25</i>

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

## Geographical distribution of OTC foreign exchange turnover<sup>1</sup>

Net-gross basis,<sup>2</sup> daily averages in April, in billions of US dollars and percentages

Table 6

Country	2004		2007		2010		2013		2016		2019	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Argentina	1	0.0	1	0.0	2	0.0	1	0.0	1	0.0	2	0.0
Australia	107	4.1	176	4.1	192	3.8	182	2.7	121	1.9	119	1.4
Austria	15	0.6	19	0.4	20	0.4	15	0.2	19	0.3	16	0.2
Bahrain	3	0.1	3	0.1	5	0.1	9	0.1	6	0.1	2	0.0
Belgium	21	0.8	50	1.2	33	0.6	22	0.3	23	0.4	36	0.4
Brazil	4	0.1	6	0.1	14	0.3	17	0.3	20	0.3	19	0.2
Bulgaria	...	...	1	0.0	1	0.0	2	0.0	2	0.0	2	0.0
Canada	59	2.3	64	1.5	62	1.2	65	1.0	86	1.3	109	1.3
Chile	2	0.1	4	0.1	6	0.1	12	0.2	7	0.1	8	0.1
China	1	0.0	9	0.2	20	0.4	44	0.7	73	1.1	136	1.6
Chinese Taipei	9	0.4	16	0.4	18	0.4	26	0.4	27	0.4	30	0.4
Colombia	1	0.0	2	0.0	3	0.1	3	0.0	4	0.1	4	0.0
Czech Republic	2	0.1	5	0.1	5	0.1	5	0.1	4	0.1	7	0.1
Denmark	42	1.6	88	2.1	120	2.4	117	1.8	101	1.5	63	0.8
Estonia	0	0.0	1	0.0	1	0.0	0	0.0	...	...	...	...
Finland	2	0.1	8	0.2	31	0.6	15	0.2	14	0.2	7	0.1
France	67	2.6	127	3.0	152	3.0	190	2.8	181	2.8	167	2.0
Germany	120	4.6	101	2.4	109	2.2	111	1.7	116	1.8	124	1.5
Greece	4	0.2	5	0.1	5	0.1	3	0.0	1	0.0	1	0.0
Hong Kong SAR	106	4.1	181	4.2	238	4.7	275	4.1	437	6.7	632	7.6
Hungary	3	0.1	7	0.2	4	0.1	4	0.1	3	0.1	4	0.0
India	7	0.3	38	0.9	27	0.5	31	0.5	34	0.5	40	0.5
Indonesia	2	0.1	3	0.1	3	0.1	5	0.1	5	0.1	7	0.1
Ireland	7	0.3	11	0.3	15	0.3	11	0.2	2	0.0	7	0.1
Israel	5	0.2	8	0.2	10	0.2	8	0.1	8	0.1	7	0.1
Italy	23	0.9	38	0.9	29	0.6	24	0.4	18	0.3	17	0.2
Japan	207	8.0	250	5.8	312	6.2	374	5.6	399	6.1	376	4.5
Korea	21	0.8	35	0.8	44	0.9	48	0.7	48	0.7	55	0.7
Latvia	2	0.1	3	0.1	2	0.0	2	0.0	1	0.0	0	0.0
Lithuania	1	0.0	1	0.0	1	0.0	1	0.0	0	0.0	0	0.0
Luxembourg	15	0.6	44	1.0	33	0.7	51	0.8	37	0.6	58	0.7
Malaysia	2	0.1	3	0.1	7	0.1	11	0.2	8	0.1	10	0.1
Mexico	15	0.6	15	0.4	17	0.3	32	0.5	20	0.3	20	0.2
Netherlands	52	2.0	25	0.6	18	0.4	112	1.7	85	1.3	64	0.8
New Zealand	7	0.3	13	0.3	9	0.2	12	0.2	10	0.2	9	0.1
Norway	14	0.6	32	0.7	22	0.4	21	0.3	40	0.6	30	0.4
Peru	0	0.0	1	0.0	1	0.0	2	0.0	1	0.0	2	0.0
Philippines	1	0.0	2	0.1	5	0.1	4	0.1	3	0.0	4	0.0
Poland	7	0.3	9	0.2	8	0.2	8	0.1	9	0.1	9	0.1
Portugal	2	0.1	4	0.1	4	0.1	4	0.1	2	0.0	2	0.0
Romania	...	...	3	0.1	3	0.1	3	0.1	3	0.0	2	0.0
Russia	30	1.1	50	1.2	42	0.8	61	0.9	45	0.7	47	0.6
Saudi Arabia	2	0.1	4	0.1	8	0.1	7	0.1	8	0.1	6	0.1
Singapore	134	5.1	242	5.6	266	5.3	383	5.7	517	7.9	633	7.6
Slovakia	2	0.1	3	0.1	0	0.0	1	0.0	2	0.0	1	0.0
Slovenia	0	0.0	0	0.0	...	...	...	...	...	...	...	...
South Africa	10	0.4	14	0.3	14	0.3	21	0.3	21	0.3	20	0.2
Spain	14	0.5	17	0.4	29	0.6	43	0.6	33	0.5	41	0.5
Sweden	32	1.2	44	1.0	45	0.9	44	0.7	42	0.6	37	0.4
Switzerland	85	3.3	254	5.9	249	4.9	216	3.2	156	2.4	276	3.3
Thailand	3	0.1	6	0.1	7	0.1	13	0.2	11	0.2	14	0.2
Turkey	3	0.1	4	0.1	17	0.3	27	0.4	22	0.3	19	0.2
United Arab Emirates	...	...	...	...	...	...	...	...	...	...	46	0.6
United Kingdom	835	32.0	1,483	34.6	1,854	36.7	2,726	40.8	2,406	36.9	3,576	43.1
United States	499	19.1	745	17.4	904	17.9	1,263	18.9	1,272	19.5	1,370	16.5
<b>Total</b>	<b>2,608</b>	<b>100.0</b>	<b>4,281</b>	<b>100.0</b>	<b>5,045</b>	<b>100.0</b>	<b>6,686</b>	<b>100.0</b>	<b>6,514</b>	<b>100.0</b>	<b>8,294</b>	<b>100.0</b>

<sup>1</sup>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. <sup>2</sup> Adjusted for local inter-dealer double-counting (ie "net-gross" basis).



## B Explanatory notes

The methodology and structure of the foreign exchange turnover part of the 2019 Triennial Central Bank Survey were unchanged from 2016.

### Participating authorities

Central banks and other authorities in 53 jurisdictions participated in the 2019 Triennial Survey. The United Arab Emirates participated for the first time. Data reported by the UAE exclude the trading activity of dealers located in the Dubai International Financial Centre.

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

## 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 one of the other reporting countries). 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 foreign exchange 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 2019, 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:

<b>spot transactions</b>	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.
<b>outright forwards</b>	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.
<b>foreign exchange swaps</b>	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.
<b>currency swaps</b>	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.
<b>OTC options</b>	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"> <li>• The currency swaption: an OTC option to enter into a currency swap contract.</li> <li>• The currency warrant: a long-dated (over one year) OTC currency option.</li> </ul>
<b>other products</b>	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.

<b>reporting dealers</b>	<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>
<b>other financial institutions</b>	<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>
<b>non-reporting banks</b>	<p>Smaller or regional commercial banks, publicly owned banks, securities firms or investment banks not directly participating as reporting dealers.</p>
<b>institutional investors</b>	<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>
<b>hedge funds and proprietary trading firms</b>	<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>
<b>official sector financial institutions</b>	<p>Central banks, sovereign wealth funds, international financial institutions in the public sector (BIS, IMF etc), development banks and agencies.</p>
<b>other</b>	<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>
<b>non-financial customers</b>	<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.

<b>prime brokers</b>	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.
<b>retail-driven transactions</b>	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.
<b>related party trades</b>	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.

## 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 retained for the 2016 and the 2019 surveys.<sup>2</sup> These changes in the reporting setup were introduced to better capture offshore trading in non-major currencies, most of which are EME currencies.<sup>3</sup>

### Currencies collected in the 2019 survey

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

<sup>1</sup> Includes offshore transactions, commonly denoted by CNH.

<sup>2</sup> In the past, several technical features in its reporting setup had limited the Triennial Survey’s capacity to capturing turnover in non-major currencies in a consistent manner globally. This was less of an issue in the past when non-major currencies were mainly traded onshore, but offshore trading of many non-major currencies has expanded significantly. Given the global nature of the Triennial Survey, it is crucial to have consistent reporting of these currencies across all participating jurisdictions.

<sup>3</sup> 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.

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 2019 survey					
	Domestic currency against	USD against	EUR against	JPY against	Residual <sup>1</sup>
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 <sup>2</sup>	Other <sup>2</sup>	Other <sup>2</sup>	Other <sup>2</sup>	

<sup>1</sup> Transactions that do not involve the domestic currency, USD, EUR or JPY in one leg. <sup>2</sup> 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

Transactions in outright forwards and foreign exchange swaps were broken down between the following original maturity bands: seven days or less; over seven days and up to one year; over one year for the periods before 2019, and 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 2019.

For outright forward contracts, the maturity band for 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.

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

<b>Gross turnover</b>	Minus	<b>= Net-gross turnover</b>	Minus	<b>= Net-net turnover</b>
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)