Narodowy Bank Polski

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Turnover in the Domestic Foreign Exchange and OTC Derivatives Markets in April 2019

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Introduction

Every three years the Bank for International Settlements (BIS), together with national central banks, conducts a survey on developments in the foreign exchange and over-the-counter (OTC) derivatives markets.[1] The purpose of the Triennial Central Bank Survey of Foreign Exchange and OTC Derivatives Market Activity is to obtain comprehensive and internationally comparable statistical information on the liquidity and structure of the above mentioned markets. The BIS defines the scope of data reporting and the uniform methodology of data collection. At the national level, the survey is coordinated by individual central banks. In 2019, 53 central banks – including Narodowy Bank Polski (NBP) – and monetary authorities participated in the survey. These institutions collected data from almost 1,300 entities that are the most active participants of the foreign exchange and OTC derivatives markets.

Narodowy Bank Polski, in addition to this analysis of the results of the survey for Poland, has posted on its website: http://www.nbp.pl/homen.aspx?f=/en/systemfinansowy/obroty.html data on the value of transactions concluded in April 2019 in the domestic foreign exchange and OTC derivatives markets presented in detailed breakdowns. The results of the survey on the turnover in the global foreign exchange and OTC derivatives markets, including all transactions involving the Polish zloty, published by the BIS, are available on the following website: https://www.bis.org/statistics/rpfx19.htm. Links to studies prepared by other central banks, where the results of the turnover survey for some national markets are presented, can be found at: http://www.bis.org/statistics/triennialrep/national.htm.

[1] In this document, the term "OTC derivatives market" is used with respect to the derivatives which are not traded in regulated markets, i.e. other than exchange-traded derivatives.

Methodological remarks

In 2019, Poland participated in the Triennial Central Bank Survey of Foreign Exchange and OTC Derivatives Market Activity in its full scope for the sixth time, collecting data on all market segments according to the BIS methodology. The presented results are comparable with the results of studies conducted by NBP in previous years, which can be found at: http://www.nbp.pl/homen.aspx?f=/en/systemfinansowy/obroty.html. The data collected in the current and the 2016 survey (some of the 2016 data have been revised) served as the basis for an analysis of changes in the size and structure of the foreign exchange and OTC derivatives markets in Poland over the last three years.

Thirteen most active banks and branches of credit institutions operating in Poland participated in the 2019 survey (the reporting dealers are listed in Appendix 1). They provided data on the value of transactions concluded in April 2019, in accordance with the reporting forms and guidelines specified by the BIS.[2] The conformity of the reports provided by banks with the methodology presented in Appendix 2 was verified by NBP. The aggregates for Poland, calculated by NBP, were sent to the BIS and have been included in the global results.

Data for Poland for 2019 and 2016 are broken down into turnover in the foreign exchange market and in the OTC interest rate derivatives market. The **foreign exchange market** comprises spot transactions, outright forwards (including non-deliverable forwards – NDF), fx swaps, CIRS and currency options. The **OTC interest rate derivatives market** includes forward rate agreements (FRA), overnight index swaps (OIS), interest rate swaps (IRS) and interest rate options.

The data on turnover include only those transactions in which at least one of the parties was a bank or branch of a credit institution operating in Poland, having the reporting dealer status, with **the location of a dealer initiating a transaction being the decisive factor**. The presented **data do not cover transactions entered into between non-residents** (foreign exchange and OTC derivatives markets instruments denominated in the Polish zloty are traded in the offshore market, mainly in London). The data comprising all transactions involving the Polish zloty have been processed and published by the BIS – https://www.bis.org/statistics/rpfx19.htm.

The presented data are not adjusted for gaps in reporting. Narodowy Bank Polski estimates that the value of transactions reported by 13 banks and branches of credit institutions account for around 95% of the total turnover in the domestic foreign exchange market and 98% in the domestic

[2] Reporting forms used in Poland have been slightly modified by NBP. Data were compiled on, among others, standard transaction sizes in individual segments of the foreign exchange and the OTC derivatives markets. The forms were also supplemented with questions on internet trading platforms for retail clients, online exchange offices and the value of centrally cleared transactions.

OTC interest rate derivatives market. Average daily turnover has been calculated according to the number of business days – **in April 2019 there were 21 business days in Poland** (as was the case in April 2016). For the purpose of this note, the term **"turnover"** means that data represent the nominal value of transactions **after the effect of double reporting of transactions concluded between two local reporting dealers has been eliminated**. For those categories or breakdowns, where the elimination of this effect has been impossible, the text explicitly indicates that gross turnover (gross values) is presented. All data are presented in **USD million**, which is consistent with the standard adopted by the Bank for International Settlements for the purpose of the survey.

Turnover on the foreign exchange market

According to the BIS methodology, the foreign exchange market comprises spot transactions, outright forwards (including non-deliverable forwards), fx swaps, CIRS and currency options. In April 2019, the average daily turnover in the domestic foreign exchange market amounted to USD 8,864 million and was slightly lower than the value of transactions concluded in April 2016 (table 1).[3] Transactions involving the Polish zloty prevailed in the domestic foreign exchange market. In comparison with April 2016, their average daily value increased by 8.6% (while the value of foreign currency/foreign currency transactions dropped) and in April 2019 amounted to USD 6,317 million (table 2). Transactions with financial institutions dominated with an 83% share in the domestic foreign exchange market (table 3).

Table 1. Average daily turnover in the domestic foreign exchange market in April 2016 and April 2019 (in USD million)

	2016	2019	Percentage change (at current exchange rates)	Percentage change (at constant exchange rates)
Foreign exchange market	**8,975**	**8,864**	**-1**	**0**
Spot transactions	2,083	2,556	23	24
Outright forwards	792	959	21	22
of which non-deliverable forwards	323	473	47	49
Fx swaps	5,870	5,190	-12	-11
CIRS	160	41	-74	-74
Currency options	70	118	69	70

Note: Presented series include 2016 data revisions submitted by banks during the current edition of the survey.

Table 2. Average daily turnover in individual segments of the domestic foreign exchange market in April 2016 and April 2019 (in USD million)

	2016		2019	
	Foreign currencies/ PLN	Foreign currencies/ Foreign currencies	Foreign currencies/ PLN	Foreign currencies/ Foreign currencies
Foreign exchange market	**5,819**	**3,156**	**6,317**	**2,547**
Spot transactions	1,634	449	1,749	807
Outright forwards	423	369	489	470
Fx swaps	3,627	2,243	3,935	1,255
CIRS	73	87	35	6
Currency options	62	8	110	8

Note: Presented series include 2016 data revisions submitted by banks during the current edition of the survey.

[3] The figures in this document mainly refer to changes in the average daily net turnover in USD at current exchange rates (in April 2019 US dollar exchange rate vis-à-vis other currencies was close to the one observed in April 2016). For information purposes, the changes in turnover at constant exchange rates are shown in Tables 1 and 4 (calculated according to the methodology described in section 7 of Appendix 2).

Related party trades of the domestic banks accounted for around 24% of gross turnover in the domestic foreign exchange market and around 36% of the value of operations with non-residents (in 2016, it was around 30% and over 40%, respectively). Such a high share of these transactions stems from the scale of activity in Poland of banks belonging to the same capital groups as foreign financial institutions, as well as from the popularity of the business model, in which market risk management is centralised at the capital group level. A decrease of the share of related party trades over the past three years was associated with changes in the ownership structure of the domestic banking sector. In April 2019, none of the reporting dealers from Poland provided prime brokerage[4] services as defined in the survey methodology.

Table 3. Average daily turnover in the domestic foreign exchange market by counterparty in April 2016 and April 2019 (in USD million)

	2016			2019		
	Resident	Non-resident	TOTAL	Resident	Non-resident	TOTAL
Foreign exchange market	**2,391**	**6,584**	**8,975**	**2,636**	**6,228**	**8,864**
with financial institutions	**1,357**	**6,539**	**7,896**	**1,221**	**6,208**	**7,429**
with non-financial customers	**1,034**	**45**	**1,079**	**1,414**	**21**	**1,435**
Spot transactions	1,025	1,057	2,083	1,262	1,294	2,556
with financial institutions	455	1,035	1,490	505	1,281	1,786
with non-financial customer	570	22	593	757	13	770
Outright forwards	457	335	792	702	257	959
with financial institutions	146	333	479	213	252	465
with non-financial customers	310	2	313	490	4	494
Fx swaps	817	5,054	5,870	616	4,575	5,190
with financial institutions	727	5,033	5,760	492	4,571	5,063
with non-financial customers	90	20	110	124	3	127
CIRSs	61	99	160	7	33	41
with financial institutions	27	99	127	7	33	41
with non-financial customers	33	0	33	0	0	0
Currency options	31	38	70	48	70	118
with financial institutions	1	38	40	4	69	73
with non-financial customers	30	0	30	44	0	44

Note: Presented series include 2016 data revisions submitted by banks during the current edition of the survey. In some rows or columns, the values of categories may be slightly different from the sums of values in sub-categories due to rounding.

[4] Prime brokerage services enable bank's client to conduct trades in the foreign exchange market using credit lines of the bank that acts as a prime broker. To this end, the bank facilitates trades for their clients in the bank's name with a group of predetermined counterparties. Under this service, the operation consists in a simultaneous execution of a transaction between a counterparty and the prime broker and a transaction between the prime broker and the client. The prime broker acts as an intermediary, becoming a counterparty to both transactions mentioned above.

1. Spot market

The average daily turnover in the spot market increased by around 23% as compared to the previous survey's figure and in April 2019 amounted to USD 2,556 million. The growth was largely due to increased activity of domestic non-financial customers. The average daily value of spot transactions concluded by the reporting dealers with domestic non-financial customers amounted to USD 757 million and was almost by a third higher than in April 2016. This might have been due to an increase in the value of foreign trade payments.[5]

In this market segment, average value of transactions not only with the largest non-financial customers, but also with small- and medium-sized enterprises was higher. Access to the foreign exchange market has improved along with the growing popularity of trading platforms and online exchange offices, operated by individual banks. The above mentioned trading platforms and exchange offices allowed smaller entities to carry out foreign exchange operations at rates similar to those quoted in the wholesale market. The dissemination of these execution methods has contributed to the increase in the average daily value of retail-driven spot transactions initiated for speculative or investment purposes. In April 2019, it amounted to almost USD 51 million, as compared to USD 44 million in April 2016.

The significant increase in the average daily value of transactions with non-residents, particularly with foreign banks, was related to increased speculative activity of some reporting dealers and the aforementioned activity of non-financial customers. Most domestic banks close on regular basis their open foreign exchange positions stemming from transactions with their customers by concluding opposite transactions with foreign banks. In April 2019, average daily turnover in this market segment amounted to USD 1,294 million and was around 22% higher than three years before.

As compared to April 2016, there was also an 11-percent increase in the value of transactions concluded between the reporting dealers and domestic financial institutions in the spot market – in April 2019 it amounted to USD 505 million. Domestic investment funds which substantially increased their investment in foreign financial markets had the largest share in turnover in this market segment.

As regards the currency structure of spot transactions, operations involving the Polish zloty dominated (figure 1). Their average value in April 2019 amounted to USD 1,749 million (over 68% of turnover). The share of the most important currency pair – EUR/PLN – in the turnover in the domestic spot market fell from 61% in April 2016 to 51% three years later. At the same time, the importance of transactions involving the USD increased significantly, which could have been influenced by, inter alia, clearly higher than in April 2016 prices of some commodities (including

[5] In April 2019, the total value of imports and exports of goods and services (expressed in USD) was more than 27% higher than three years earlier. Detailed data on Poland's balance of payments are available at: http://www.nbp.pl/home.aspx?f=/statystyka/bilans_platniczy/bilans_platniczy.html.

crude oil), trades in which are invoiced in this currency. The average daily values of transactions in the domestic EUR/USD and USD/PLN markets were similar and amounted to USD 377 million and USD 363 million, respectively, i.e. around 14% of turnover in the domestic spot market each. The fourth most common currency pair in the Polish spot market was GBP/USD (almost 9% of total turnover). The increased speculative activity of some domestic banks in this market segment was associated with investor's uncertainty as to the consequences of a potential UK's withdrawal from the EU without any agreement and the resulting increase in volatility of the pound sterling exchange rate.

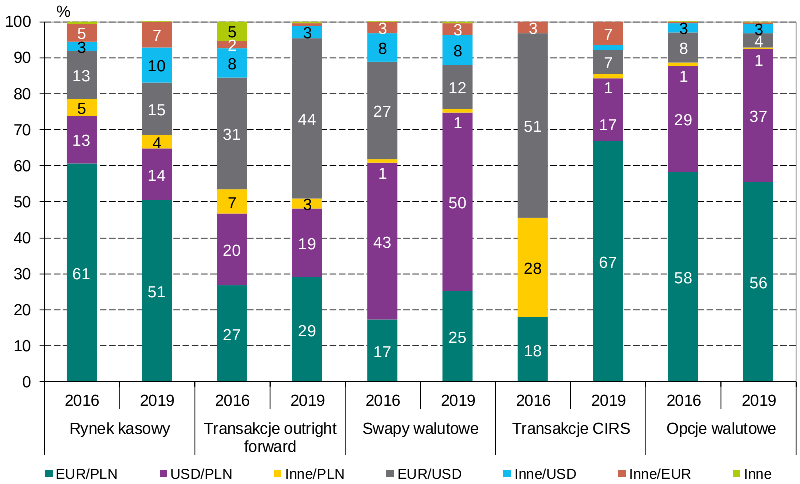
In comparison with April 2016, the share of EUR/PLN transactions carried out between financial institutions in the spot market decreased significantly. The EUR/PLN operations accounted for only 42% of the value of turnover in this market segment. Despite this EUR/PLN was still considered to be the main currency pair in the interbank Polish zloty spot market, best indicating the value of this currency. The share of USD/PLN transactions in operations between financial institutions amounted to less than 13%.

The currency structure of turnover in the customer market (transactions of reporting dealers with non-financial customers) roughly reflected the structure of payments in Poland's foreign trade. Tight economic links with the European Union, and euro area countries in particular, were the reason behind the prevalence of the EUR/PLN transactions (around 75% of the total turnover in this market). The USD/PLN transactions had an approximately 21% share in turnover on the Polish zloty customer spot market – some of these operations were related to servicing of commodity trading payments.

The transactions concluded via electronic brokerage systems (automatically matching buy and sell offers) accounted for about 41% of turnover in the domestic spot market. In recent years there has been a shift of activity from anonymous venues (e.g. Reuters Spot Matching) to disclosed venues which allow to conclude transactions only with a specific group of counterparties that can be identified prior to the conclusion of a transaction. The use of such platforms increased the homogeneity of the group of potential counterparties, which is particularly important in the periods of turmoil in financial markets and increased risk aversion. Such trading strategy facilitates the management of credit risk related to foreign exchange market activity (so-called settlement risk). This is particularly important for domestic reporting dealers, which in April 2019 virtually did not settle any foreign exchange transactions in systems operating on a payment vs. payment basis.

Transactions concluded directly, i.e. with the use of electronic communication systems and over the phone, in April 2019 accounted for around 31% and 7% of turnover in the domestic spot market, respectively. As compared to April 2016, there was an increase in share of transactions concluded on single-bank proprietary trading platforms dedicated to corporates and high-net-worth individuals (about 20% of the spot market turnover). Few domestic banks sufficiently equipped in human and technical resources occasionally used algorithms that automatically generate buy and sell orders to conclude transactions in the spot market (algorithmic trading). The standard size of a single transaction executed by domestic banks in the Polish zloty spot market amounted to EUR 1 million or USD 1 million for EUR/PLN or USD/PLN currency pairs, respectively. However, relatively high liquidity of the Polish zloty market allowed to conclude transactions of larger value without influencing significantly the Polish zloty exchange rate.

Figure 1. Currency breakdown of turnover in the domestic foreign exchange market in April 2016 and April 2019 (in %)



Note: Presented series include 2016 data revisions submitted by banks during the current edition of the survey.

2. Outright forward market

As compared to the previous edition of the survey, the turnover in the domestic outright forward market increased by more than 20%. This was mainly due to the substantial increase in activity in the non-deliverable forwards (contracts for difference – CFD) segment. The average daily turnover in this market increased from USD 323 million in April 2016 to USD 473 million in April 2019. Such tendency was primarily associated with the recently observed rapid development of services facilitating retail clients' access to internet trading platforms (so-called forex platforms), through which they could use CFD transactions to speculate on changes in foreign exchange rates. Subsequently, banks were closing open currency positions stemming from the non-compensating (unbalanced) operations of retail clients by concluding relevant transactions in the interbank market.

In April 2019, the average daily value of retail-driven forward transactions initiated for speculative or investment purposes amounted to approximately USD 223 million. This value, however, does not reflect the size of the whole market as, as it covers only those forward transactions in which the reporting dealer from Poland was formally a counterparty or which were concluded between such an institution and an entity offering its clients access to internet trading platforms (e.g. a brokerage house).[6]

In the case of physically-settled forwards, the average daily turnover in April 2019 amounted to USD 486 million and was close to the one observed three years ago. However, the counterparty structure of operations in this market segment changed significantly. The activity of domestic investment funds and non-financial customers, which use physically-settled forwards in order to hedge against currency risk resulting from their operating activities, increased.

As compared to April 2016, the value of outright forward transactions in the domestic interbank market decreased. The liquidity of this market was primarily determined by the activity of some reporting dealers which concluded transactions with foreign banks (including parent entities within capital groups) in order to hedge against market risk related to the above mentioned activity of retail clients on the internet trading platforms (back-to-back hedging). Domestic banks rarely concluded outright forward transactions with one another.

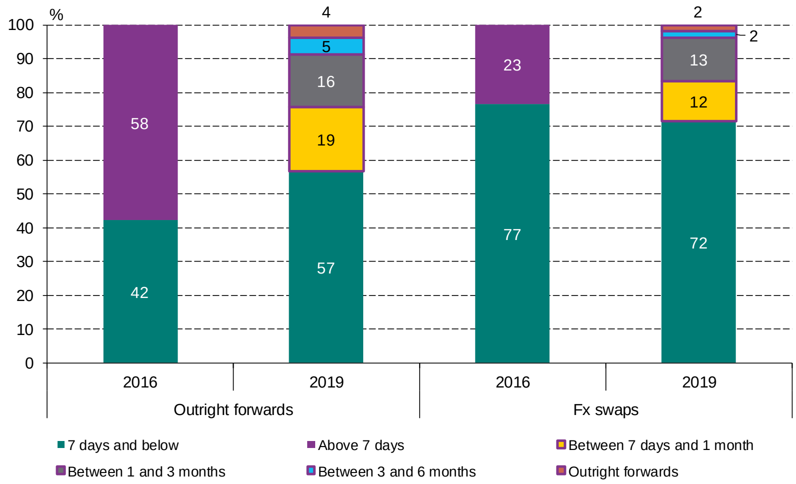
In April 2019, the term structure of turnover on the domestic outright forward market was prevailed by operations with a maturity of up to 7 days, including intraday transactions (almost 57% of gross turnover – Figure 2). They were predominantly used by retail clients for short-term speculation using internet trading platforms. Operations with maturities from 1 week to 3 months, usually used by non-bank financial institutions and enterprises to hedge against currency risk, accounted for approximately 35% of gross turnover. Outright forward operations with maturities over three months were rarely concluded and constituted less than 9% of the gross value of the transactions.

The currency structure of outright forward transactions resulted to a greater extent from the above mentioned speculative operations (mainly CFD) than from the currency structure of Polish enterprises' payments related to foreign trade. The most popular currency pair in April 2019 was the EUR/USD – 44% of the value of transactions in the outright forward market. EUR/PLN and USD/PLN trades were also significant – 29% and 19% of turnover, respectively.

Most outright forward transactions (52% of turnover) were executed by reporting dealers using direct electronic communication systems. Such systems include internet trading platforms, through which retail clients concluded non-deliverable forwards transactions, as well as systems that enabled reporting dealers to automatically reduce their currency exposure stemming from the aforementioned client operations by entering into opposite transactions with foreign banks (sometimes using prime brokerage). A significant part of turnover (around 42%) were outright forward operations agreed over the phone – the terms of most physically-settled transactions (usually initiated by the customers of reporting dealers) were determined this way.

[6] The study does not include CFD transactions concluded by domestic retail clients directly with non-residents or on platforms operated by domestic entities not participating in the survey, including brokerage houses, which are particularly active on this market.

Figure 2. Term structure of turnover in the domestic outright forward and fx swap markets in April 2016 and April 2019 (in %)



Note: Presented series include 2016 data revisions submitted by banks during the current edition of the survey.

Significant interest in CFD transactions on the part of retail clients, most often with moderate financial knowledge and not fully aware of the risk assumed, resulted, among others, from the low financial threshold for entering the market for those instruments and from various forms of – sometimes very intense – advertising of such investments. Exchange rates are highly volatile, which makes CFD transactions subject to significant investment risk, magnified by financial leverage. The typical margin in CFD transactions amounts to only 3-5% of the nominal value of the contract (usually 10,000 units of the base currency), which allows to conclude such transactions even by those clients whose funds are limited.

Retail clients who engage in CFD transactions should take into account that the currency market is characterised by strong information asymmetry. Foreign investment banks servicing smaller banks and the largest non-bank financial institutions (including, among others, hedge funds) observe flows generated by their clients and use the related information advantage to open speculative positions. Retail clients do not have access to such information, which puts them at a worse position from the very beginning and, as a result, translates into a significantly lower probability of making a profit from investments on this market. This is confirmed by, among others, results of surveys conducted by the Polish Financial Supervison Authority (PFSA) Office among investment firms. These surveys show that in the years 2014–2018 around 80% of customers who actively used internet trading platforms suffered a net loss.[7]

[7] *Komunikat w sprawie wyników osiąganych przez inwestorów na rynku Forex*, PFSA, 2 April 2019, available at: https://www.knf.gov.pl/knf/pl/komponenty/img/Komunikat_UKNF_nt_wynikow_klientow_na_rynku_Forex_2019_65254.pdf.

Both national and European financial supervision authorities are aware of the risk taken by retail clients concluding CFD transactions, and of misconduct in offering these instruments. Bearing in mind the need to protect these clients, the PFSA Office published a guide in which the risk associated with investing via internet trading platforms was thoroughly discussed.[8] ESMA, in turn, pursuant to Article 40 of the MiFIR[9], decided to apply to CFD the so-called product intervention.[10] It had been in force until the end of October 2018, after which it was extended several times until the end of July 2019. From the beginning of August 2019, the PFSA applied a similar product intervention with respect to the domestic financial market[11], with the difference that in the case of clients who meet certain criteria regarding knowledge and experience, the maximum leverage in CFD transactions is 100:1.

3. Fx swap market

Fx swaps remained the most liquid instrument in the domestic foreign exchange market, mainly because they could be used for various purposes. In April 2019, the average daily turnover in the domestic fx swap market amounted to USD 5,190 million, and was around 12% lower than in April 2016. This fall was influenced by weaker activity in the foreign currency/foreign currency market segment due to less frequent use by some banks of EUR/USD cross fx swap operations aimed at obtaining the euro in exchange for the Polish zloty (these entities preferred direct EUR/PLN transactions).

In April 2019, the average daily turnover in domestic market for fx swaps involving the Polish zloty amounted to USD 3,935 million (around 8% more than in April 2016). Increased liquidity in this segment of the market was largely due to significantly higher activity of one reporting dealer who was responsible for managing positions in the Polish zloty interest rate for the entire European banking group. Furthermore the low cost of funding in the euro and a relatively high interest rate

[8] *Rynek Forex. Zagrożenia i prawa uczestników nieprofesjonalnych*, PFSA, Warsaw 2018, electronic version available at: https://www.knf.gov.pl/dla_rynku/forex/materialy_informacyjne_edukacyjne.
[9] Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012.
[10] ESMA's notice on this matter is available at: https://www.esma.europa.eu/policy-activities/mifid-ii-and-investor-protection/product-intervention. According to this decision:
- maximum financial leverage in CFD transactions concluded by retail clients was limited to 30:1,
- retail clients of forex platforms could not lose more than the value of funds paid into their cash account kept by the provider of a given platform,
- investment firms were required to close client positions when the margin falls below 50% of the minimum level,
- promotions and incentives related to concluding CFD transactions were prohibited,
- forex platform providers were required to publish standardised information on the share of clients incurring losses on a given platform in the total number of clients.

[11] *Komunikat KNF w sprawie wprowadzenia dodatkowych wymogów przy oferowaniu klientom detalicznym kontraktów na różnicę (CFD)*, PFSA, 1 August 2019 r., available at: https://www.knf.gov.pl/knf/pl/komponenty/img/Komunikat_KNF_ws_kontraktow_na_roznice_CFD_66691.pdf.

disparity between Poland and the euro area may have encouraged some non-residents to use carry trade strategies in the EUR/PLN fx swap market.

The main currency pair in the domestic fx swap market was still USD/PLN. In April 2019, the share of such trades in the market turnover amounted to around 50%. The still significant role of the US dollar resulted from the standard of concluding fx swap transactions which has been used in the global foreign exchange market for years. According to this standard, foreign entities exchange low interest currencies for US dollars, and only then use them to buy local currencies. In the domestic fx swap market, the role of EUR/PLN trades significantly increased, accounting for over 25% of the turnover in this market in April 2019. This may have been due to low cost of acquiring this currency, which was associated with record low interest rates maintained by the ECB and the aforementioned more frequent acquiring of the euro directly through EUR/PLN fx swaps instead of using a combination of USD/PLN and EUR/USD transactions by domestic banks. As a result, the importance of EUR/USD transactions was significantly lower than in April 2016. Those operations accounted for 12% of turnover in domestic fx swap market.

Transactions with shortest maturities (up to 7 days) dominated in the domestic fx swap market – in April 2019 they accounted for around 72% of the gross turnover. Such term structure of the transactions stemmed from liquidity management strategies used by market participants. Foreign entities that used fx swaps, among others, to finance their positions in PLN-denominated securities, preferred to roll over short-term fx swaps (mainly T/N and S/W transactions) on a regular basis. As compared to the previous survey, there was a slight increase in the share of transactions with maturities over 7 days in the gross turnover in the domestic fx swap market (from 24% in April 2016 to 28% in April 2019). Fx swaps with longer maturities were of interest to both domestic banks that used those transactions in strategies aimed at mitigating currency risk (arising from, among others, outright forward operations in the customer market), and foreign entities that applied above mentioned carry trade strategies. Furthermore, long-term fx swaps transactions were used for speculation on changes in interest rates or – in combination with spot transactions – exchange rates.

The standard size of a transaction executed in the domestic interbank market for fx swaps involving the Polish zloty amounted to around USD 50 million or around EUR 50 million. Most fx swaps were concluded directly, i.e. using electronic communication systems (37% of turnover in the domestic fx swap market) and over the phone (over 23%). The share of transactions in domestic market fx swap, whose terms were agreed by voice brokers, increased from 14% in April 2016 to 19% in April 2019. At the same time, the share of transactions concluded with the use of multi-bank trading platforms amounted to over 15%, whereas, as in the spot market, there was a noticeable shift in the activity of reporting dealers from anonymous venues to those that allow to identify counterparty before the execution of the transaction (disclosed venues).

4. Currency swap market

CIRS transactions were used by domestic banks mainly in strategies aimed at hedging against market risk arising from the mismatch of assets and liabilities currency structure. Those entities were exposed to this risk because of, among others, their portfolios of housing loans denominated in foreign currencies (mainly in the Swiss franc and the euro). Applying long-term CIRS transactions allowed banks to reduce the risk arising from being unable to roll over hedging strategies that involve fx swaps or from having to renew them on very unfavourable terms in the event of turmoil in the global financial markets.

In April 2019, the average daily turnover in the CIRS market amounted to USD 41 million and was 74% lower than in April 2016. The decrease in demand for these instruments resulted, among others, from the gradual decline in the value of the aforementioned portfolio of housing loans and from increasing foreign-currency funding in the capital market by domestic banks (e.g. by issuing debt securities).

In April 2019, around 90% of turnover in the domestic CIRS market were transactions concluded between reporting dealers and other banks, mostly foreign. In interbank CIRS transactions mutual exchange of collateral, mostly cash or Treasury debt securities denominated in foreign currencies, was commonly used. This collateralisation was based on master agreements adapted to EMIR[12] requirements (Credit Support Annex). Owing to the frequent exchange of collateral, CIRS transactions executed by domestic banks put a smaller (than in previous years) burden on the credit limits imposed on them by their counterparties.

In the currency structure of turnover in the domestic CIRS market, operations involving the Polish zloty dominated – EUR/PLN and USD/PLN transactions accounted for, respectively, 67% and 17% of turnover. In April 2019, unlike three years earlier, foreign currency/foreign currency transactions were concluded relatively rarely. The most important currency pairs in this segment of the market were EUR/USD and EUR/HUF, whose shares in turnover amounted to around 7% each. The terms of the vast majority of transactions were agreed with the use electronic communication systems (60% of turnover) and over the phone (22% of turnover). Operations in this market also were executed with the use of electronic trading platforms or voice brokers.

5. Currency option market

In April 2019, the average daily turnover in the domestic currency options market amounted to USD 118 million, almost 70% more than three years earlier. Liquidity in this market was primarily determined by activity of banks' clients. Almost all reporting dealers in Poland offered on a larger and larger scale option strategies to non-financial customers, which used them to mitigate currency

[12] Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories.

risk. Furthermore, some banks embedded options in securities, deposits and credit products, but those derivatives, according to the survey methodology, were not included in the turnover in the domestic currency market.

Activity in the interbank market was mainly associated with the above mentioned products for clients, because most banks mitigated market risk resulting from customer operations using opposite transactions (back-to-back hedging). Those transactions were concluded almost entirely with non-residents – nearly 95% of all trades in the domestic currency option market with financial institutions were transactions with foreign banks, including parent banks of the reporting dealers in Poland. Only few banks were actively managing currency option portfolios, using delta-hedging.

In the currency structure of turnover in the domestic currency option market, EUR/PLN transactions continued to prevail. As in April 2016, they accounted for 57% of the turnover in this market. At the same time, the share of USD/PLN transactions increased from 29% to 37%. The standard size of an at-the-money straddle option strategy in the domestic interbank market amounted to 5 or 10 million USD or EUR, respectively. In April 2019, most transactions in currency options were executed directly – over the phone (38% of the value of turnover) or with the use of electronic communication systems (33% of the value of turnover).

Turnover in the OTC interest rate derivatives market

According to the BIS methodology, the OTC interest rate derivatives comprise FRA, OIS, IRS and interest rate options. In April 2019, the average daily turnover in the market of these instruments totalled USD 2,112 million and was 42% higher than in April 2016 (table 4). This was accompanied by substantial changes in the currency structure of the transactions (table 5). Instruments linked to the domestic money market reference rates continued to prevail (the value of transactions in such instruments amounted to USD 1,229 million, a decline by over 14% as compared to the previous survey), but the role of foreign-currency denominated derivatives materially increased (turnover in this market segment went up from USD 57 million in April 2016 to USD 883 million in April 2019). This was predominantly because one of the European banking groups moved the management of its positions in interest rates of Central and Eastern European currencies to Warsaw. This move may have been motivated by UK's decision to withdraw from the EU.

Table 4. Average daily turnover in the domestic OTC interest rate derivatives market in April 2016 and April 2019 (in USD million)

	2016	2019	Percentage change (at current exchange rates)	Percentage change (at constant exchange rates)
Interest rate derivatives	**1,490**	**2,112**	**42**	**42**
FRA	836	1,206	44	45
OIS	26	12	-56	-56
IRS	616	878	43	43
Interest rate options	11	16	49	50

Note: Presented series include 2016 data revisions submitted by banks during the current edition of the survey. In some rows or columns, the values of categories may be slightly different from the sums of values in sub-categories due to rounding.

The average daily value of transactions in the domestic OTC interest rate derivatives market concluded between reporting dealers and financial institutions in April 2019 amounted to USD 2,086 million, which was almost all of the turnover in this market (table 6). Transactions with non-residents were of high significance, as they accounted for over 83% of turnover in the market of the above mentioned instruments. Related party trades of domestic banks constituted over 16% of gross turnover and approximately 22% of transactions with non-residents.

Table 5. Average daily turnover in individual segments of the domestic OTC interest rate derivatives market in April 2016 and April 2019 (in USD million)

	2016		2019	
	PLN	Foreign currencies	PLN	Foreign currencies
Interest rate derivatives	**1,433**	**57**	**1,229**	**883**
FRA	836	0	476	730
OIS	26	0	0	12
IRS	564	52	744	134
Interest rate options	6	5	9	7

Note: Presented series include 2016 data revisions submitted by banks during the current edition of the survey. In some rows or columns, the values of categories may be slightly different from the sums of values in sub-categories due to rounding.

Table 6. Average daily turnover in the domestic OTC interest rate derivatives market by counterparty in April 2016 and April 2019 (in USD million)

	2016			2019		
	Resident	Non-resident	TOTAL	Resident	Non-resident	TOTAL
Interest rate derivatives	**275**	**1,215**	**1,490**	**350**	**1,763**	**2,112**
with financial institutions	238	1,138	1,376	323	1,763	2,086
with non-financial customers	36	77	113	26	0	26
FRA	**76**	**760**	**836**	**45**	**1,161**	**1,206**
with financial institutions	76	721	798	45	1,161	1,206
with non-financial customers	0	38	38	0	0	0
OIS	**26**	**0**	**26**	**0**	**12**	**12**
with financial institutions	26	0	26	0	12	12
with non-financial customers	0	0	0	0	0	0
IRS	**167**	**449**	**616**	**296**	**582**	**878**
with financial institutions	135	410	545	278	582	860
with non-financial customers	32	39	71	19	0	19
Interest rate options	**5**	**6**	**11**	**8**	**8**	**16**
with financial institutions	0	6	7	0	8	8
with non-financial customers	4	0	4	8	0	8

Note: Presented series include 2016 data revisions submitted by banks during the current edition of the survey. In some rows or columns, the values of categories may be slightly different from the sums of values in sub-categories due to rounding.

Central clearing of FRA and IRS transactions was a common practice among domestic reporting dealers. It resulted from an obligation to clear transactions in certain classes of OTC derivatives through central counterparties (CCPs), imposed by EMIR.[13] The average daily gross value of transactions in OTC interest rate derivatives which were concluded in April 2019 and cleared by

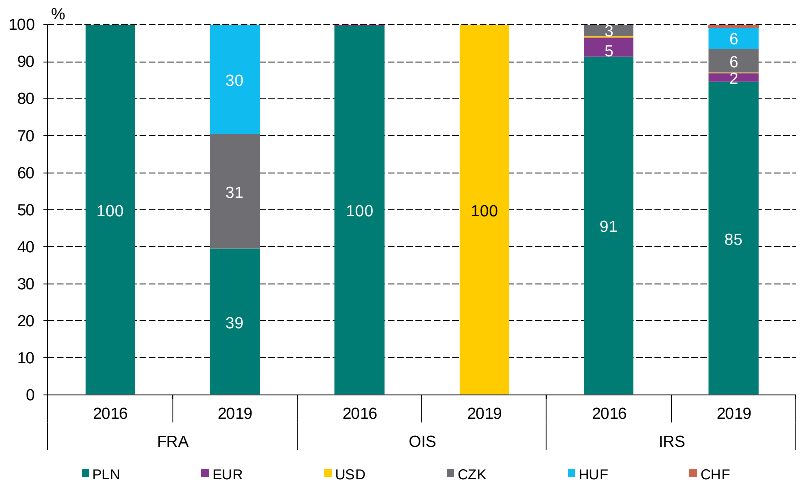
[13] In line with EMIR delegated acts (RTS 2015/2205 and RTS 2016/1178), mandatory central clearing in the EU was binding for standardised IRS and FRA transactions denominated in EUR, GBP, JPY, NOK, PLN, SEK and USD, as well as OIS denominated in EUR, GBP and USD, concluded between financial institutions which were sufficiently active in the OTC derivatives market, as indicated in the above mentioned legal acts.

local and foreign-based CCPs amounted to USD 2,294 million, i.e. around 95% of gross turnover in those instruments.

1. Forward rate agreement market

In April 2019, the average daily turnover in the FRA market amounted to USD 1,206 million, whereby those transactions were traded exclusively between financial institutions. The substantial upswing in market activity (increase of turnover by 44% as compared to April 2016) involved instruments denominated in CZK and HUF, each accounting for approximately 30% of turnover in the domestic FRA market recorded in April 2019 (chart 3). These developments resulted predominantly from the above mentioned centralisation of competence with respect to the management of positions in interest rates of Central and Eastern European currencies by one of the European banking groups. Vivid – as compared to the previous edition of the survey – interest in FRA transactions denominated in CZK and HUF may have been due to strong and diverse market participants' expectations of changes in interest rates by the central banks of those currencies, conducive to speculative activity.

Figure 3. Currency breakdown of turnover in the domestic FRA, OIS and IRS markets in April 2016 and April 2019 (in %)



Note: Presented series include 2016 data revisions submitted by banks during the current edition of the survey.

Turnover in PLN-denominated FRA transactions in April 2019 amounted to USD 476 million and was 43% lower than three years before. This was primarily driven by a significant reduction of speculative activity, as there were no strong and diverse expectations among market participants on interest rate changes by NBP in the short and medium term. Liquidity of this segment of the domestic derivatives market remained largely dependent on the activity of foreign banks whose share in turnover stood at above 90%. The average daily value of transactions between domestic banks fell from USD 67 million in April 2016 to USD 45 million in April 2019.

The standard sizes of PLN-denominated FRA were PLN 500 million for transactions based on WIBOR 1M and WIBOR 3M, and PLN 250 million for transactions based on WIBOR 6M.

2. Overnight index swap market

Over the last three years, liquidity of the domestic market for PLN-denominated OIS transactions continued to subside. In April 2019, this market was virtually non-existent (reporting dealers did not conclude any such transactions). The structural decline of activity in the PLN-denominated OIS transactions was due to the following factors:

- low and still declining number of domestic market participants (as a result of the banking sector consolidation),
- marginal non-residents' interest in those transactions,
- significant decrease of turnover in the interbank market for unsecured deposits longer than O/N, which constrained arbitrage opportunities,
- lack of strong and diverse expectations regarding interest rate changes by NBP in the short run,
- low volatility of POLONIA, which is the reference rate for those instruments.

In such conditions, domestic banks were reluctant to use OIS transactions for speculation or hedging against fluctuations of the costs of short-term financing in the interbank money market. In April 2019, only few reporting dealers concluded OIS transactions denominated in USD. As a result, average daily turnover in the domestic OIS market amounted to merely USD 12 million.

Diminishing liquidity of the domestic market for PLN-denominated OIS transactions may have adverse consequences for the development of certain other segments of the financial market in Poland. OIS curves, perceived as the best available approximation of risk-free rates, are used for pricing of many financial instruments. Furthermore, in some developed money markets (e.g. in the euro area or the UK) indices based on OIS rates are gradually replacing IBOR-based indices, sensitive to changes in credit counterparty risk and liquidity conditions, thus becoming the key money market benchmarks. In Poland, creating a risk-free rate based on OIS quotes that could be an alternative to the WIBOR rate is currently impossible.

3. Interest rate swap market

In April 2019, the average daily turnover in the domestic IRS market amounted to USD 878 million, i.e. 43% more than in April 2016. Approximately 85% of the value of all operations in this market were derivatives for which the underlying instruments were the Polish money market reference rates, predominantly WIBOR 3M and WIBOR 6M. IRS transactions denominated in CZK, HUF (approximately 6% of turnover each) and EUR (over 2% of turnover) were also concluded, and on a smaller scale – in CHF and USD.

The continued demand for PLN-denominated IRS resulted from their use by domestic banks to actively manage interest rate risk stemming from on-balance-sheet positions. A significantly greater, as compared to the previous edition of the survey, interest in those instruments by domestic banks may have been due to, among others, an increase of the Polish Treasury bond portfolios held by those entities (according to the Ministry of Finance data, from PLN 215.3 billion at the end of April 2016 to PLN 300.4 billion at the end of April 2019). Growing uncertainty with respect to the future state of both the global and the Polish economy, which translated into a more diverse market participants' expectations regarding NBP interest rates in the long run, may have also contributed to an increase of turnover in the market for those derivatives. A substantially higher demand for foreign-currency denominated IRS transactions (in April 2019, average daily turnover amounted to USD 134 million, an increase by almost 160% as compared to April 2016) resulted from the activity of a reporting dealer which – at its capital group level – was responsible for managing interest rate risk with respect to CZK and HUF.

Transactions with foreign financial institutions, chiefly banks and – to a lesser extent – investment funds, prevailed in the domestic IRS market Such operations accounted for almost two thirds of the turnover. Similar to other OTC interest rate derivatives, non-financial corporations showed little demand for IRS transactions. Operations with domestic non-financial customers accounted for approximately 2% of turnover in the domestic IRS market.

The standard size of PLN-denominated 1Y IRS was PLN 100 million. For transactions with longer maturities this was PLN 50 million (2Y–5Y) or PLN 25 million (10Y).

4. Interest rate option market

The interest rate options market in Poland remained underdeveloped. In April 2019, the average daily turnover in those instruments amounted to merely USD 16 million (an increase almost by half as compared to April 2016), of which 59% were options denominated in PLN, and 41% – in EUR. Almost half of the turnover in this segment of the domestic OTC interest rate derivatives market were transactions between the domestic reporting dealers and non-residents. The former used them to limit the exposure to market risk (hedge back-to-back) arising from transactions in options with domestic non-financial customers, and also from options embedded in structured products offered to retail clients (according to the BIS methodology not included in the survey).

Appendix 1

REPORTING DEALERS IN POLAND[14]

1. Alior Bank SA
2. Bank Gospodarstwa Krajowego
3. Bank Handlowy w Warszawie SA
4. Bank Millennium SA
5. Bank Polska Kasa Opieki SA
6. BNP Paribas Bank Polska SA
7. BNP Paribas SA Oddział w Polsce
8. Deutsche Bank Polska SA
9. ING Bank Śląski SA
10. mBank SA
11. Powszechna Kasa Oszczędności Bank Polski SA
12. Santander Bank Polska SA
13. Société Générale SA Oddział w Polsce

[14] Institutions operating in Poland which participated in the turnover part of the survey in 2019 (referred to as reporting dealers). The listed banks and branches of credit institutions reported the data on their transactions to Narodowy Bank Polski, which has verified the consitency of the data with the BIS reporting guidelines. Based on the data received from these banks, NBP has calculated the aggregate values of the turnover in the foreign exchange and OTC derivatives markets in Poland. The aggregates for Poland have been submitted to the BIS and included in the global results of the survey.

Appendix 2

Reporting guidelines for the survey of the turnover in the foreign exchange and OTC derivatives markets in April 2019, consistent with the Bank for International Settlements methodology

1. The scope of the survey

The survey covers all transactions concluded in the foreign exchange and OTC derivatives markets in Poland. The data reflect transactions in both the interbank, and the customer market (operations with non-bank institutions). Customer transactions executed in exchanges offices on banks' premises have been excluded from the reporting. The statistics only include operations negotiated by dealers with non-bank entities and transactions on internet trading platforms for retail clients (forex platforms) or in online exchange offices to which access is granted by the reporting dealers, provided that the exchange rates at which clients conclude transactions are directly linked to fluctuations of exchange rates in the wholesale market (and that the exchange rates at which clients conclude transactions are updated with high frequency). Derivatives embedded in securities and banking products fall outside the scope of the survey. The value of bought and sold securities, granted loans and accepted deposits with embedded derivatives has been excluded from the presented data.

According to the Bank for International Settlements definition, the **foreign exchange market** covers the following types of transactions:

- spot,
- outright forwards, including non-deliverable forwards,
- fx swaps,
- currency swaps (cross-currency interest rate swaps – CIRS),
- currency options.

All derivatives with exposure to more than one currency are classified as foreign exchange transactions.

The **OTC interest rate derivatives market** comprises:

- forward rate agreements (FRA),
- overnight index swaps (OIS),
- interest rate swaps (IRS),
- interest rate options.

The survey also covered execution methods applied to conclude transactions in the foreign exchange market, focusing in particular on electronic trading platforms. Furthermore, the survey included additional information on:

- prime brokerage transactions[15],
- deals executed by individual clients for speculative or investment purposes (retail-driven deals)[16], including on internet trading platforms for retail clients (so called forex platforms) and in online exchange offices,
- the scale of related party trades and transactions executed with institutions using automated systems of placing orders (algorithmic and high-frequency trading),
- the value of transactions which were concluded in April 2019 and cleared by central counterparties (CCPs).

2. Reporting rules

Turnover is defined as the **nominal or notional amount of all transactions concluded in April 2019, regardless of their clearing or settlement dates**. Each transaction was reported separately, buy and sell transactions were not netted – the difference between values of sales and purchases was not reported (i.e. the purchase of USD 5 million against the PLN and the sale of USD 3 million against the PLN by the same reporting dealer amount to the turnover of USD 8 million). The data on turnover were broken down by currency pairs (e.g. the sale of USD 1 million against PLN 4 million was classified as a transaction in the USD/PLN market with the value of USD 1 million). Cross-currency transactions involving a vehicle currency were reported as two separate deals (e.g. the sale of the US dollars and the purchase of the Danish krones via the euro market – first, the sale of USD 6 million against the euro, and then the purchase of the Danish krones against the euro – amount in total to the turnover of USD 12 million). Transactions with variable nominal or notional amounts were reported according to the value of the amount as of the trade date.

According to the methodology of this survey, the basis for the reporting was the location of the dealer. This means that the **data presented by NBP include all transactions concluded by dealers operating in Poland**, regardless of whether the transactions were booked by a bank operating in Poland or by its foreign parent bank (with respect to branches of foreign credit institutions – by its head office abroad).

The data include transactions of reporting dealers concluded with both directly and indirectly affiliated firms (parent entities, subsidiaries, branches), regardless of the jurisdiction where the entity is registered and regardless of the purpose of the transaction (inter alia, they include transactions executed by reporting dealers aimed at mitigating exposure to market risk originating from transactions concluded with their clients – back-to-back hedging). The survey also covers

[15] See footnote 4.
[16] Such transactions may be executed directly with the client (via the reporting dealer's internet trading platforms or by phone) or through entities specialising in providing services to such clients (in Poland e.g. reporting dealer's operations with brokerage houses that offer their clients access to internet transaction platforms organised by them). Data on retail-driven deals do not include operations executed by retail clients directly with non-residents or with local financial institutions, other than the reporting dealers, hedging back-to-back with non-residents the market risk resulting from such transactions.

transactions between dealers within the given reporting dealer, unless they were conducted solely to facilitate internal book-keeping or internal risk management.

The turnover values are expressed **in USD million**. The value of transactions which involved currencies other than the US dollar was converted into US dollars at the trade date exchange rate, e.g. the average NBP rate on the day of transaction or another rate not significantly deviating from the market rate.

3. Counterparties

Turnover values provided by reporting dealers were broken down for each instrument by counterparty as follows:

- reporting dealers
  - residents (local)
  - non-residents (cross-border)
- other financial institutions
  - residents (local)
  - non-residents (cross-border)
- non-financial customers
  - residents (local)
  - non-residents (cross-border).

The distinction between transactions with residents and non-residents is made on the basis of the location of the counterparty (i.e. the location from which the counterparty deals with the reporting dealer).

Reporting dealers were financial institutions that actively participate in both local and global foreign exchange and OTC derivatives markets. In the assessment of activity, transactions between financial institutions and with non-financial customers were included. The distinction of the "reporting dealers" category was aimed at the elimination of double counting which arises because transactions between two reporting dealers are recorded and reported by each of them. Almost 1,300 reporting dealers from 53 countries, including 13 banks and branches of credit institutions operating in Poland, participated in the survey. The list of the reporting dealers in Poland (banks that provided data on their transactions to NBP and via NBP to the BIS) is presented in Appendix 1.

The "other financial institutions" category covers all financial institutions that were not classified as reporting dealers. According to the BIS methodology, transactions concluded in the foreign exchange market with other financial institutions are additionally broken down into:

- Non-reporting banks: commercial, cooperative, investment and state banks and branches of credit institutions not participating in the survey.
- Institutional investors: entities such as investment and pension funds, insurance companies and reinsurance companies.

- Hedge funds and proprietary trading firms: asset management entities following a broad range of investment strategies that are not subject to borrowing and leverage restrictions, which often have a different legal status or are subject to different regulations than "institutional investors", typically cater to institutions and high net worth individual clients; they simultaneously hold long and short positions in multiple markets and asset classes, frequently use derivatives for speculative purposes; also, proprietary trading firms that invest and speculate for their own account (inter alia, specialised firms that employ high-speed algorithmic trading strategies, with very short periods of exposure to risk, including high-frequency trading).
- Official sector financial institutions: central banks, sovereign wealth funds, international financial institutions of the public sector (BIS, IMF etc.), development banks (for example, EBRD, EIB) and agencies.
- Other: all financial institutions that cannot be classified as any of the sub-categories above (e.g. leasing companies, factoring companies etc.).

Transactions cleared by CCPs are classified according to original counterparties' categories (before novation or open offer). A CCP is not treated as a counterparty for the purpose of the survey.

The "non-financial customers" category covers all other counterparties. These are mainly manufacturing corporations or service providers and retail clients.

4. Term structure

In the 2019 survey, the following maturities are distinguished (separately for outright forwards and fx swaps):

- up to seven calendar days (up to one week),
- over one week and up to one month,
- over one month and up to three months,
- over three months and up to six months,
- over six months.

The decisive classification criterium for outright forwards was the difference between the date of the initiation of the contract and the delivery date, while for fx swaps it was the difference between the date of the initiation of the contract and the due date of the long leg.

5. Currency breakdown

Data on transactions in the foreign exchange market were reported by major currency pairs. This included USD/PLN and EUR/PLN deals, which were reported by all institutions participating in the survey worldwide. According to the BIS methodology, foreign exchange transactions involving the Polish zloty, the US dollar, the euro and the Japanese yen were reported separately in Poland.

For single-currency interest rate derivatives, such currencies as, inter alia, the Polish zloty, the euro, the US dollar, the Japanese yen, the Swiss franc, Pound sterling, the Czech koruna, the Hungarian forint, were distinguished.

6. Execution methods

For the purpose of the survey, the transactions in the foreign exchange market were divided into the following categories of execution methods:

- *Voice Direct* – transactions negotiated over the phone directly between counterparties, regardless of the subsequent execution method, not intermediated by a third party,
- *Voice Indirect* – transactions negotiated via a voice broker (e.g. over the phone), intermediated by a third party, regardless of the subsequent execution method,
- *Electronic Direct* – transactions not intermediated by a third party, executed via an electronic communication system or electronic trading platform (with messaging systems and single-bank proprietary trading systems singled out),
- *Electronic Indirect* – transactions executed via electronic broking systems, automatically matching anonymous buy and sell offers (*anonymous venues* – Reuters Matching/EBS) or trading platforms where transactions can be concluded with a defined set of counterparties and individual entities' quotes are known *a priori* (*disclosed venues*).

7. Turnover at constant exchange rates

In order to ensure intertemporal comparability of data, the impact of exchange rate fluctuations needs to be removed (e.g. in April 2019 the Polish zloty was on average approximately 0.4% weaker vis-á-vis the US dollar than in April 2016). To this end, the data for the previous reporting period have been re-calculated for the estimation of the rate of change of average daily turnover in relation to the value presented in the previous edition of the survey. For transactions concluded in the foreign exchange market, for both currencies involved in each transaction the value of turnover reported in US dollars was converted into the original currency at the average exchange rate of April 2016. Next, the two amounts were re-calculated into US dollars at the average exchange rate of April 2019. The value of turnover at the constant exchange rate of 2019 was obtained by adding the amounts calculated separately for both currencies of the transaction and dividing the sum by two. A similar procedure was applied for transactions involving single-currency OTC interest rate derivatives. As regards most exchange rates that are important for the evaluation of changes in the domestic foreign exchange market, the differences between their average levels in April 2016 and April 2019 were minor. As a result, the dynamics of those changes presented using current exchange rates is very similar to the one measured using constant exchange rates.

8. Definitions of instruments

The data were collected for the following types of derivatives:

- forwards – in a forward contract, one party is obliged to sell and the other party to buy an underlying instrument at a specified date in the future, at a price agreed on the trade date; forwards are not traded in organised exchanges and their contractual terms do not have to be standardised,
- swaps – in a swap, both parties undertake to periodically exchange financial flows whose value is calculated on the basis of a specified principal amount in accordance with the rules set on the trade date,
- options – transactions that give the right or obliges (depending on whether the reporting dealer is a buyer or seller of the option, respectively) to buy or sell the baseline instrument at a specified date at a price agreed on the trade date; information on options sold and bought are reported jointly; options embedded in securities or credit products were excluded from the survey.

If a transaction consisted of several components – basic derivatives, each component was reported separately. If it was not feasible to separate basic derivatives, then a derivative was classified into an appropriate category according to the prevailing type of risk the reporting dealer was exposed to. All derivatives with exposure to more than one currency were classified as foreign exchange transactions. If a complex derivative had an embedded option, then such a transaction was classified as an option.

Foreign exchange transactions that are the subject of the survey are defined as follows:

Spot transaction

Single outright transaction involving the exchange of two currencies, at a rate agreed on the date of the contract, whose settlement is within two business days. Neither the short, nor the long leg of an fx swap is included in this category, even if their settlement falls within two business days (e.g. T/N fx swap).

Outright forward

Transaction involving the exchange of two currencies at a forward rate agreed on the trade date and settled at some point in time in the future (later than within two business days). The category also includes cash-settled transactions (non-deliverable forwards – NDF, contracts for differences – CFD), even if they are closed before the second business day. The long leg of an fx swap, regardless of the booking method, is excluded from this category.

Foreign exchange swap

Contract which obliges its parties to the exchange of two currencies at a specific date at an agreed rate (the short leg) and to a reverse exchange of the same two currencies on a date further in the future (other than the settlement of the short leg) at a rate agreed on the trade date (typically different from the rate applied to the short leg). The amount payable by one party to the other in the long leg is denominated in the same currency as the amount received in the first leg. This category includes both spot/forward and forward/forward fx swaps. All fx swaps (including T/N fx swaps), regardless of the booking method, are reported in this category. The turnover in the fx swap market represents its nominal value, and not the value of cash flows related to that transaction. This means that only the long leg is presented in the turnover statistics: the short leg is neither reported as a spot transaction, nor as an fx swap.

Currency swap (cross-currency interest rate swap – CIRS)

Contract which obliges both parties to periodically swap streams of interest payments calculated on a specified principal amount for an agreed period of time, which may be accompanied by an exchange of the principal amount (at a previously agreed rate) on the trade date and/or at maturity. Interest payments are expressed in different currencies and are calculated at interest rates specified separately for each of the currencies.

Currency option

A contract that gives the buyer the right to buy or sell a specified amount of one currency in exchange for another currency at a previously agreed exchange rate during a specified period of time. This category includes European and American options, as well as all exotic options. Each option comprising an option strategy (e.g. straddle, strangle, butterfly, risk reversal) was reported separately.

Single-currency OTC interest rate derivatives that are the subject of the survey are defined as follows:

Forward rate agreement (FRA)

Contract that obliges both parties to pay interest on an agreed principal amount for a set period of time beginning in the future. The interest is calculated at a rate agreed on the day of the initiation of the contract. In practice, counterparties only settle the difference between the FRA rate (forward rate set on the trade day) and the reference rate fixed two business days before the settlement date, proportional to the principal amount of the contract.

Overnight index swap (OIS)

A transaction in which counterparties agree to exchange the difference between interest payments accrued at a fixed and a floating rate. The interest is calculated on an agreed notional amount. The floating rate is tied to a daily overnight reference rate. Net settlement (without the exchange of the OIS notional amount) is effected on the working day following the maturity date.

Interest rate swap (IRS)

Contract that obliges counterparties to periodically swap streams of interest payments (calculated on a specified nominal amount) for an agreed period of time. The interest payments, effected at pre-agreed points in time, are expressed in a single currency and calculated according to interest rates specified for each of the counterparties (e.g. one rate may be fixed and the other floating, or both may be floating, but based on different reference rates). This category also includes swaps whose principal changes over time (amortising and drawdown swaps).

Interest rate option

A contract giving the option buyer the right to pay (to the option seller) or receive (from the option seller) interest on an agreed principal for a set period of time, at an agreed interest rate.

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