Turnover in Polish foreign exchange and OTC derivatives markets in April 2004

RESULTS SUMMARY

Introduction

Every three years the Bank for International Settlements together with national central banks and monetary authorities conduct a survey of development of the foreign exchange and OTC derivatives markets. 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 markets. The Bank for International Settlements defines the scope of data reporting and the uniform methodology of their collection. At national level the survey is coordinated by central banks and monetary authorities. In 2004 the survey was carried out in 52 countries. Central banks and monetary authorities collected data from approximately 1200 entities – the most active institutions in the foreign exchange and OTC derivatives markets. Preliminary results of the global turnover in the foreign exchange and OTC derivatives markets have been published by the Bank for International Settlements and are available on its website at www.bis.org/publ/rpfx04.htm .

Methodological remarks

The National Bank of Poland did not conduct a separate statistical survey for the two former editions of the project in 1998 and 2001. It only provided the Bank for International Settlements with the data on turnover in most liquid segments of the domestic foreign exchange and OTC derivatives markets, as prepared on the basis of information obtained from banks in their monthly reports. Thus the data from previous years are not fully comparable with the results presented below.

In 2004 Poland took part in the survey in its full scope for the first time. During the study 16 banks operating in Poland were asked to provide their data in the special reporting forms and according to guidelines defined by the Bank for International Settlements. The survey examined the most active banks in the Polish market (full list in Appendix 1). The compliance of reports with the methodology (presented in Appendix 2) was verified by the NBP. Aggregates for Poland were calculated by the NBP and then submitted to the Bank for International Settlements.

This summary presents the aggregated data on **net turnover** in the domestic foreign exchange and the OTC derivatives markets recorded in April 2004. The data include only transactions where one of the counterparties was a bank operating in Poland, classified as reporting dealer (see Appendix 1). The term "net turnover" means that the data represent the nominal value of a transaction. The results are adjusted for local inter-dealer double-counting (i.e. **the effect of double reporting** of transactions concluded between two domestic reporting dealers **has been eliminated**). The presented data **do not cover transactions between non-residents** (when the zloty is traded on the *off-shore* market mainly in London). The values of turnover which cover all transactions involving the zloty will be published in the Bank for International Settlements' report in the spring of 2005.

Similarly to the global results, the data for Poland are presented in the following two breakdowns: turnover in the foreign exchange market and turnover in the OTC derivatives market. **The foreign exchange market** is defined as spot transactions, fx swaps and outright-forwards. The **OTC derivatives market** comprises cross-currency interest rate swaps (CIRS) and foreign exchange options (fx options), as well as interest rate derivatives – forward rate agreements (FRA), interest rate swaps (IRS) and interest rate options. **Presented results are not adjusted for estimated gaps in reporting**. The National Bank of Poland estimates that the transaction values reported by those 16 banks constitute about 95% of the total turnover in the domestic foreign exchange market and 99% of the total turnover in the domestic OTC derivatives market. Average daily turnover has been calculated according to the number of business days – in April 2004 **there were 21 business days in Poland**. All the data are presented in **million US dollars**, which is consistent with the standard adopted in the ***Triennial Central Bank Survey***.

On the basis of additional information collected from banks it has been stated that some technical and organisational changes introduced in certain banks in connection with the European Economic Summit taking place in Warsaw on April 28 – 30, 2004 did not have a significant impact on the activity of those banks in the foreign exchange and the OTC derivatives markets. **Thus, the presented data can be considered sufficiently representative.**

Turnover in the foreign exchange market

In April 2004 the average daily turnover in the domestic foreign exchange market amounted to 6,354 million US dollars, of which 5,707 million US dollars constituted operations with financial institutions and 647 million US dollars — transactions with non-financial customers. Transactions involving the zloty prevail in the currency turnover composition.

Table 1. Average daily turnover in the domestic foreign exchange market by instrument (April 2004, in million US dollars)

	foreign currencies/ PLN	foreign currencies/ foreign currencies	TOTAL
Spot transactions	1,051	879	1,930
Outright-forwards	189	140	329
Fx swaps	3,495	600	4,095
Foreign exchange market	**4,735**	**1,619**	**6,354**

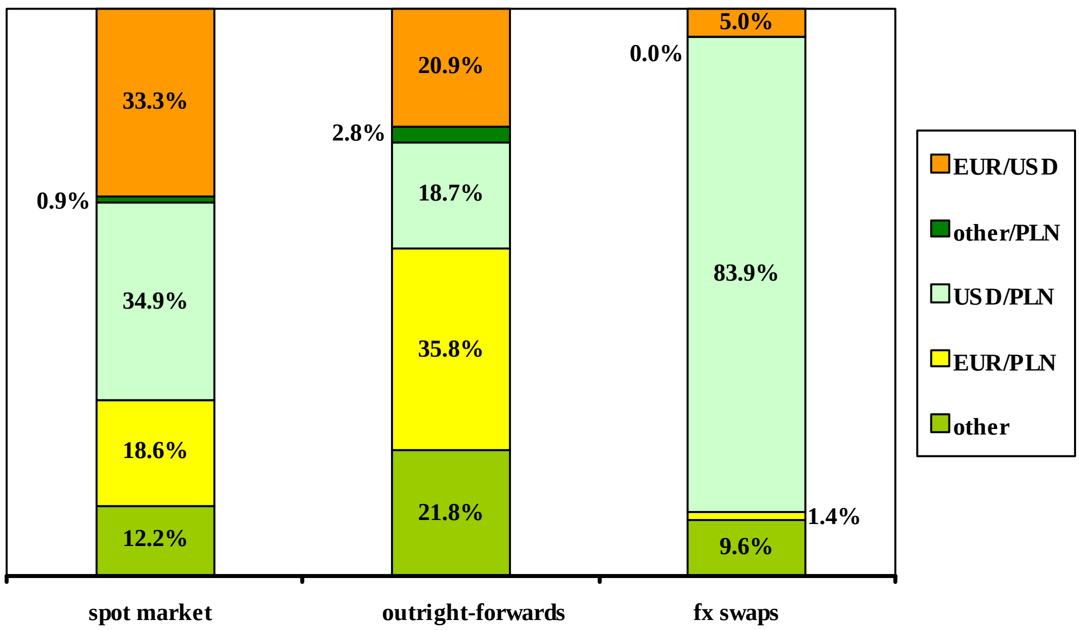
The average daily value of transactions with financial institutions concluded in the domestic spot market decreased in comparison to 2001 by about 25% (at the current exchange rates) and amounted to 1,614 million US dollars in 2004. The decrease concerns mainly operations involving the zloty and results from the centralisation of risk management in international banks. Some foreign-owned banks reduced their activity in the zloty market in Poland and transferred those operations to the London market. Another important factor reducing the liquidity in interbank spot market were mergers which took place in the domestic banking system in the last three years. Transactions with non-residents dominate in operations with financial institutions (around 80%). The USD/PLN currency pair is still dominant in that market segment (with the average daily turnover of 585 million US dollars and 76% share in transactions involving the zloty). The share of the EUR/PLN relation is increasing steadily. In 2001 transactions on EUR/PLN currency pair constituted 14.5% of total turnover, whereas in 2004 they amounted to 23%. However, the turnover in the EUR/PLN segment (with the average daily turnover of 177 million US dollars) is still lower than the value of EUR/USD transactions (with the average daily turnover of 630 million US dollars).

Table 2. Turnover in the foreign exchange market by counterparty (average daily turnover in April 2004, in million US dollars)

	residents	non-residents	TOTAL
Spot market	614	1,306	1,930
with financial institutions	314	1,300	1,614
with non-financial customers	310	6	316
Outright-forwards	300	29	329
with financial institutions	12	25	37
with non-financial customers	288	4	292
Fx swaps market	450	3,645	4,095
with financial institutions	411	3,645	4,056
with non-financial customers	39	0	39
Foreign exchange market	**1,364**	**4,980**	**6,354**
with financial institutions	**737**	**4.970**	**5.707**
with non-financial customers	**637**	**10**	**647**

Transactions between financial institutions conducted via the electronic conversational platform amounted to 51% of the total turnover in the zloty market. The share of trading volume in the automated matching system is still increasing — in April 2004 it constituted as much as 44%. The standard nominal value of transaction in the zloty market amounted to 3 million US dollars or euro — for the USD/PLN and EUR/USD, correspondingly. The nominal value of operations dealt through the electronic matching systems is lower and amounts to 1 million US dollars and euro.

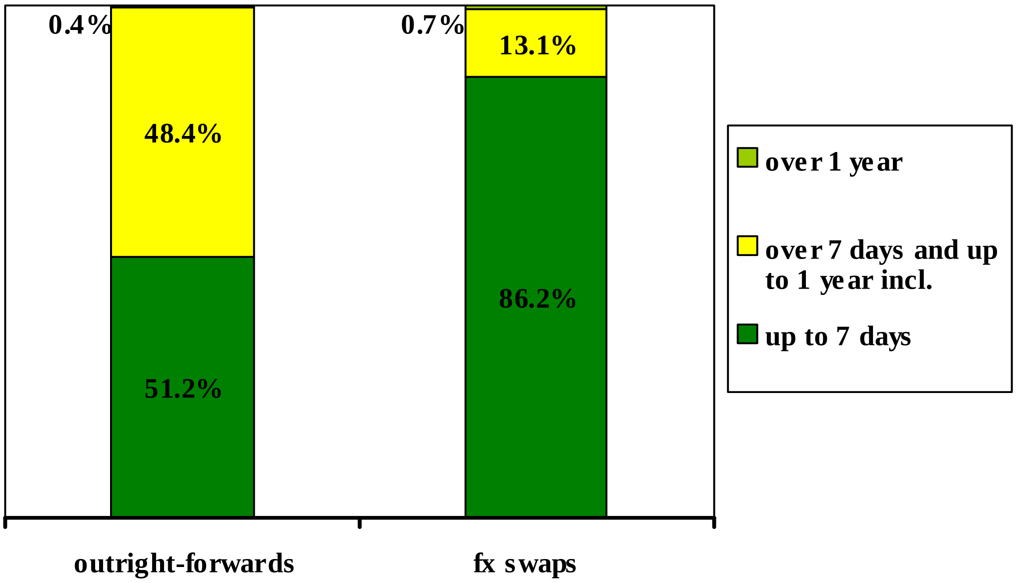
Figure 1. Foreign exchange market turnover in Poland by currency pairs, April 2004 (%)



The average daily turnover in the customer spot market (operations with non-financial customers) amounted to 316 million US dollars. The EUR/PLN transactions predominate with 64% share in the total turnover. The USD/PLN operations constitute about 31%. Such structure reflects the currency composition of Polish corporate payments in international trade.

The outright-forward market is rather illiquid. There is a visible dominance of short-term operations with non-financial customers, who use that instrument in foreign exchange risk management. The EUR/PLN and USD/PLN transactions constitute 63% and 33% of operations involving the zloty, respectively. Banks rarely conduct outright-forwards. They prefer synthetic forward contracts traded in more liquid markets – a combination of a spot transaction and an fx swap. Non-deliverable forwards were concluded nearly exclusively with non-financial customers and constituted about 12% of trading volume in the customer market.

Figure 2. Term structure of turnover in the *outright-forward* and *fx swap* markets (%)



FX swaps remain the most liquid instrument of the Polish foreign exchange market. In comparison to 2001, the average daily trading volume in fx swaps with financial institutions increased by about 28% and amounted to 4,056 million US dollars in April 2004. Higher liquidity results first of all from a growth in the non-resident exposure in the treasury bonds denominated in PLN. Foreign financial institutions use the short-term transactions (T/N swaps) to finance their investments in Polish bonds. Every day they roll over their short-term zloty loans secured mainly with US dollars. This explains both the dominant share of transactions with non-residents (90% of the trading volume in the segment of operations between financial institutions), and the significant dominance of contracts with initial maturity of up to 7 days (approximately 86%). The standard size of transactions in the interbank fx swaps market amounts to 25 or 50 million US dollars and euro.

Turnover in the OTC derivatives market

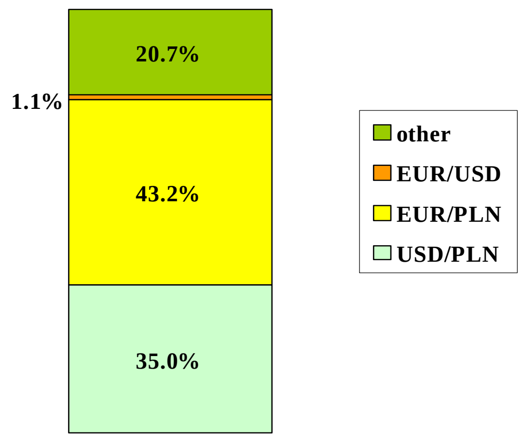
In Poland, like in the global markets, interest rate contracts constitute a major part of the total turnover in OTC derivatives. On average, the daily trading volume in the foreign exchange and interest rate derivatives amounted to 180 and 958 million US dollars, respectively. Strong activity of foreign banks is essential for the liquidity of particular instruments.

Table 3. Average daily turnover in the domestic OTC derivatives market by instrument (April 2004, in million US dollars)

	PLN	TOTAL
Foreign exchange derivatives	141	180
CIRS	1	3
Fx options	140	177
Interest rate derivatives	848	958
FRA	635	691
IRS	213	267
Interest rate options	0	0
Derivatives market	**989**	**1,138**

Currency options are the most traded instruments among Polish fx derivatives. The participation (since the beginning of 2002) of a new, active domestic player was material for the development of the interbank and customer markets. Domestic banks conduct option transactions especially with foreign banks (65% of total turnover) and domestic non-financial customers (31%). Polish companies tend to manage the fx risk using option strategies tailored to their needs. Both in the customer market and in the operations between financial institutions the EUR/PLN options prevail. It results from the currency composition of trade payments, which are hedged by non-banking firms, and a growing popularity of the currency-spread strategies among banks. The standard value of the at-the-money straddle (option strategy commonly quoted by brokers and market-makers) amounts to 5 or 10 million US dollars and euro.

Figure 3. Currency composition of the turnover in the fx options market (%)



The CIRS market is very poorly developed. Its average daily turnover in April 2004 amounted to a mere 3 million US dollars. Only a few domestic banks conclude basis swap contracts with non-residents. The trading activity between banks is concentrated in the London market. Among non-financial customers, the counterparties of CIRS transactions are mainly large enterprises which are raising finance on international markets.

Table 4. Turnover in the foreign exchange derivatives market by instrument and counterparty (average daily turnover in April 2004, in million US dollars)

	residents	non-residents	TOTAL
CIRS	1	2	3
with financial institutions	0	2	2
with non-financial customers	1	0	1
FX options	59	118	177
with financial institutions	4	116	120
with non-financial customers	55	2	57
Foreign exchange derivatives	**60**	**120**	**180**
with financial institutions	**4**	**118**	**122**
with non-financial customers	**56**	**2**	**58**

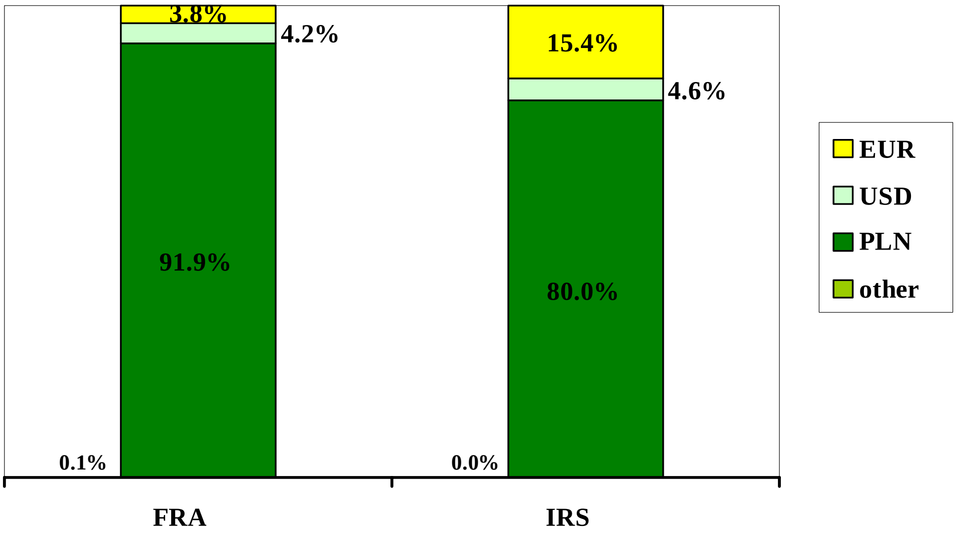
The most liquid instrument of the OTC derivatives market is FRA. In April 2004 the average daily turnover in the FRA market amounted to 691 million US dollars and was about 70% higher in relation to the volumes recorded in the corresponding period of 2001. The increase in the turnover resulted from the enlargement of the market-makers group (two new domestic participants). Apart from that, several other banks boosted their activity. Transactions with exposure on the Polish money market rates dominated in the turnover (with 92%). Domestic banks conclude most transactions (72%) with foreign financial institutions. However, the segment of interbank operations between residents with the average daily turnover of 191 million US dollars should be considered relatively well-developed. Polish non-financial companies still rarely hedge the interest rate risk and that is why the customer market of FRAs is less liquid than the currency options market. The standard size of FRA transaction quoted on the interbank market amounts to 100 or 200 million zloty.

Table 5. Breakdown of turnover in the interest rate derivatives market by instrument and counterparty (average daily turnover in April 2004, in million US dollars)

	resident	non-resident	TOTAL
FRA market	205	486	691
with financial institutions	191	486	677
with non-financial customers	14	0	14
IRS market	89	178	267
with financial institutions	88	178	266
with non-financial customers	1	0	1
Interest rate derivatives	**294**	**664**	**958**
with financial institutions	**279**	**664**	**943**
with non-financial customers	**15**	**0**	**15**

The market which has developed most dynamically for three years is the IRS market. In comparison with the liquidity in 2001, average daily turnover in the segment of operations with financial institutions reported a sevenfold increase and amounted to 266 million US dollars in April 2004. Such considerable dynamics in activity may be partly explained by the base effect – low liquidity in 2001. The rapid growth in turnover resulted also from an increase in the number of active market participants among domestic banks and also from a change in the perception of Polish banks' creditworthiness. In 2004 non-residents were more willing to conclude IRS contracts not only in the London market, but also with banks operating in Poland. Another factor contributing to the increase in the trading volume was high popularity of the asset swap and the calendar spread strategies. Transactions with non-residents constitute 67% of turnover in the domestic market. Contracts denominated in PLN prevail — they had an 80% share in the volume recorded in April 2004. The standard notional amount of IRS contract equals 25 or 50 million zloty. Banks managing speculative portfolios of interest rate derivatives start to increase their trading in IRS with the exposure on the euro zone and dollar deposit interest rates.

Figure 4. Currency composition of turnover in the FRA and IRS markets (%)



The interest rate options market is the least developed segment of the domestic OTC derivatives market. None of the domestic banks manages a portfolio of those instruments, and thus they are not able to actively participate in the interbank market. Only three banks offer this product to non-banking customers. However, the value of transactions concluded with non-financial institutions is so small that the average daily turnover in that market does not even reach 1 million US dollars.

Warsaw, 28 September 2004.
Prepared by the Financial System Department

Appendix 1

Reporting dealers in Poland*:

1. ABN AMRO Bank Polska SA
2. Bank Gospodarki Żywnościowej SA
3. Bank Handlowy w Warszawie SA
4. Bank Polska Kasa Opieki SA
5. Bank Przemysłowo-Handlowy PBK SA
6. Bank Millennium SA
7. Bank Zachodni WBK SA
8. BNP Paribas Bank Polska SA
9. BRE Bank SA
10. Deutsche Bank Polska SA
11. ING Bank Śląski SA
12. Kredyt Bank SA
13. Powszechna Kasa Oszczędności Bank Polski SA
14. Raiffeisen Bank Polska SA
15. Société Générale Oddział w Polsce SA
16. WestLB Bank Polska SA

* Institutions operating in Poland and which are referred to in the survey as reporting dealers. The listed banks reported to the National Bank of Poland the data on their transactions conducted in April 2004. On the basis of the data received from these banks, the NBP has calculated aggregated values of the turnover in the foreign exchange and OTC derivatives markets in Poland. The aggregates for Poland have been reported to the Bank for International Settlements.

Appendix 2

REPORTING GUIDELINES

for the survey of turnover in the foreign exchange and OTC derivatives market

Methodology worked out by the Bank for International Settlements

Survey Coverage

The turnover survey covers all new deals entered in the foreign exchange and the OTC derivatives markets in Poland in April 2004. Reporting dealers provided data reflecting transactions in the interbank market (including prime brokerage operations) and in the customer market. Retail transactions with non-financial customers have been excluded from the reporting – only operations in which exchange rate could be negotiated have been included in the statistics.

According to the standard agreed with the Bank for International Settlements and other central banks, the **foreign exchange market covers**:

- spot transactions,
- fx swaps,
- outright-forwards.

The **foreign exchange derivatives market** is defined as:

- cross currency interest rate swaps – CIRS,
- fx options – sold and bought options, separately,

Whereas the **interest rate derivatives market** comprises:

- forward rate agreements – FRA,
- interest rate swaps – IRS,
- interest rate options – sold and bought options, separately.

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

The subject of the survey covered also the role of electronic brokering. The information about deals concluded via electronic based systems was collected in a breakdown on conversational systems and automated order matching systems.

Reporting rules

Turnover is defined as **the nominal or notional gross amount of all transactions concluded in April 2004, regardless of their settlement date.** The term “gross” means that each transaction was considered separately. Gross turnover is defined as the absolute total value of all deals contracted. No netting was made between sales and purchases (i.e. a purchase of 5 million US dollars against the zloty and a sale of 3 million US dollars against the zloty by the same institution amounts to the turnover of 8 million US dollars). The data on turnover were broken down by currency pairs (e.g. the sale of 1 million US dollars against 4 million zloty was classified as a transaction on the USD/PLN market with the value of 1 million US dollars). Cross-currency transactions involving vehicle currency were reported as two separate deals (e.g. the sale of US dollars and the purchase of Danish krones via the euro market – first, the sale of 6 million US dollars against the euro, and then the purchase of Danish krones against the euro, amount in total to the turnover of 12 million US dollars). Contracts with variable nominal or notional amount were reported according to the value of the amount as of the conclusion date.

According to the methodology of this survey, the basis for the reporting was the location in which the dealer operates. This means that the data presented by the NBP include all transactions concluded by dealers operating in Poland, regardless of whether the transactions were booked at a bank in Poland or at its head office abroad. The data provided by reporting dealers include trades with their own parent companies, branches, subsidiaries and between affiliated firms, unless such operations were made solely as back-to-back deals and to faciliate internal bookkeeping and risk management within a given bank. The trades between desks of the reporting dealer were not reported.

The turnover values are expressed in **million US dollars.** The value of transactions which involve currencies other than the US dollar was converted into US dollars at the exchange rate prevailing on the conclusion date or at an average monthly rate.

The following maturity bands are specified for fx swaps and outright-forwards, separately:

- up to seven days (one week),
- over seven days and up to one year (over one week and up to 365 days),
- over one year (over 365 days).

The maturity for outright-forwards was calculated as the difference between the settlement date and the date of conclusion of the contract. Correspondingly the initial maturity of the fx swaps is measured on the same basis, i.e. the difference between the settlement date of the long leg and the date of the initiation of the deal.

Counterparties

Tunover values provided to the NBP by reporting dealers were broken down for each instrument by counterparty as follows:

- other reporting dealers,
  - residents,
  - non-residents,
- other financial institutions,
  - residents,
  - non-residents,
- non-financial customers,
  - residents,
  - non-residents.

The criterion differentiating transactions with residents or non-residents is the location of the counterparty and not its nationality, i.e. the location from which the counterparty counludes deals with the reporting dealer.

Reporting dealers are defined as those financial institutions that actively participate in the local and global foreign exchange and OTC derivatives markets and/or have an active business with customers. The distinction of the “reporting dealers” category is aimed at elimination of double counting which arises because transactions concluded between two reporting dealers are recorded and reported by each of them, i.e. twice. In 2004 triennial survey, coordinated by the Bank for International Settlements, approximately 1,200 reporting dealers from 52 countries participated, including 16 banks operating in Poland. The list of Polish reporting dealers (banks that provided data on their transactions to the National Bank of Poland and via the NBP to the BIS) is presented in Appendix 1.

The "other financial institutions" category covers all other financial institutions that were not classified as reporting dealers. The group of financial institutions comprises commercial banks, investment and mortgage banks, securities houses, investment funds, pension funds, hedge funds, leasing companies, insurance companies, financial subsidiaries of corporates and central banks. The group of non-financial institutions cover all other counterparties (mainly the corporate and government sector).

Instruments

In the turnover survey data were collected on the following derivative instruments:

- forwards,
- swaps,
- options.

All derivatives strategies (non-plain vanilla products) were broken down into above instruments and each component was reported separately. If it was not feasible and the contract had an embedded option, then such instrument was classified as an option.

Foreign exchange transactions under consideration 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 for value or settlement within two business days. This category covers foreign exchange transactions settled on the day of their conclusion. Neither the short leg nor the long leg of foreign exchange swaps were included in this category, even for settlement within two business days (e.g.: T/N fx swap).

Outright forward
Single transaction involving the exchange of two currencies at a forward rate agreed on the date of the contract and settled at some time in the future (later than within two business days). The category also includes non-deliverable forwards (NDF) and other contracts for difference (CFD). The long leg of the fx swap transaction, regardless of the booking method is excluded form this category.

Foreign exchange swap
Contract which commits its counterparties to the exchange of two currencies on a specific date at an agreed rate (the short leg) and a reverse exchange of the same two currencies on a date further in the future (other than the settlement of the short leg) and at a rate agreed at the time of conclusion of the contract (generally different from the rate applied to the short leg). This category includes both spot/forward and forward/forward fx swaps. All fx swaps (including short-term swaps carried out as T/N fx swaps), regardless of the booking method, were reported in this category. According to the survey methodology, the nominal amount of fx swap was included in the turnover statistics (only the short or long leg was reported). This means that the turnover in the fx swap market represents the nominal value of fx swaps, and not the value of settlement flows (payments in one of the currencies).

Cross currency interest rate swaps (CIRS)
Contract which commits both counterparties to exchange periodic streams of interest payments (calculated on a specified principal amount) within the agreed period and to exchange the principal amount (at a previously agreed rate) on the contract maturity. Interest payments are in different currencies and are calculated at interest rates specified separately for each of the counterparties.

Currency option
Option contract that gives the right to buy or sell a currency at a previously agreed rate during a specified period. This category includes European and American options, as well as all exotic options. Each option that constitutes an option strategy (straddle, strangle, butterfly, risk reversal, etc.) was reported separately.

Interest rate contracts under consideration are defined as follows:

Forward rate agreement (FRA)
Contract, where the counterparties commit to pay interest on an agreed principal amount for a set period of time, beginning in the future. The interests are calculated at rates agreed on the day of the contract initiation. The counterparties settle only interest difference, which is proportional to the principal amount of the contract and the difference between the FRA rate (forward rate on the day of the contract initiation) and the reference rate binding two business days before the settlement date.

Single-currency interest rate swap (IRS)
Contract that commits both counterparties to exchange periodic streams of interest payments (calculated on a specified nominal amount) for an agreed period. The interest payments are related to interest rates in one currency (one rate may be fixed and the other floating, or both may be floating but based on different indices). This category includes overnight index swaps (OIS) and those swaps, whose principal changes over time, i.e. amortising and drawdown swaps.

Interest rate option
Option contract that gives the right to pay or receive a specific interest on an agreed principal for a set period of time. Caps, floors and collars are included in this category.
Interest rate cap
Option that gives the right to receive compensation in the case of increase in the short-term rate index. The compensation for the buyer of the cap is the difference between the interest calculated at the market rate and the interest set at the maximum interest rate (cap rate) specified in the contract. The interest is calculated for a predeterminated principal amount and for an agreed period.
Interest rate floor
Option that gives the right to receive compensation in the case of decrease in the short term rate index. The compensation for the buyer of the floor is the difference between the interest calculated at a minimum interest rate (floor rate) specified in the contract and the interest set at the market rate. The interest is calculated for a predeterminated principal amount and for an agreed period.
Interest rate collar
A combination of the cap and the floor, where one of the these instruments is sold and the other is purchased.