### **Annual Report 2015**

Banking Sector Liquidity Monetary Policy Instruments of Narodowy Bank Polski



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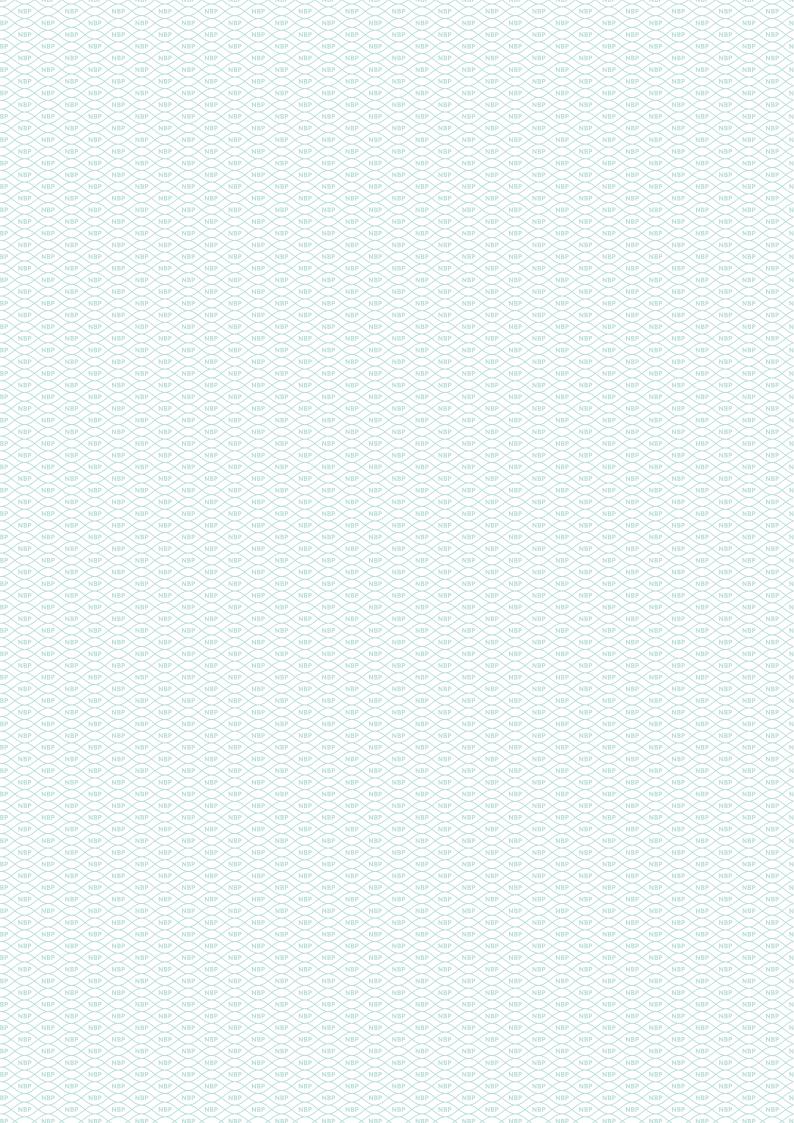
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### Introduction



#### Introduction

In 2015, Narodowy Bank Polski was persuade monetary policy in accordance with the *Monetary Policy Guidelines for 2015*. As in previous years, the key objective of this policy was to maintain medium-term inflation at 2.5% with a symmetrical tolerance band of +/- 1%, while supporting the Government's economic policy.

The primary instrument of monetary policy in 2015 was interest rates. By setting the NBP reference rate, the Monetary Policy Council determines the yields on the monetary policy instruments. Changes in this rate determine the course of monetary policy and affect the path of market rates. The deposit rate and the lombard rate set the fluctuation band for overnight interest rates in the interbank market, which is symmetric with respect to the reference rate.

In March 2015, the Monetary Policy Council decided to lower the basic NBP interest rate – the NBP reference rate – from 2.0% to 1.5%, while at the same time maintaining the width of the corridor for short-term market rate fluctuations, determined by the deposit rate and the lombard rate, at +/- 100 basis points from the reference rate. As at the end of 2015, the reference rate stood at 1.5%, the deposit rate at 0.5%, and the lombard rate at 2.5%. In comparison with the end-of-2014 figures, all the rates had been reduced by 0.5 percentage points.

Narodowy Bank Polski manages the banking sector liquidity and implements the adopted monetary policy guidelines by carrying out open market operations in a manner allowing short-term market rates to be maintained at a level conducive to the implementation of the inflation target assumed by the Monetary Policy Council. In 2015, the main open market operations involved the issuance of 7-day NBP bills on a regular basis, while fine-tuning operations consisted in the regular (on the last working day of the reserve maintenance period) and ad-hoc issuance of the NBP bills with shorter maturities. The yield on those securities was defined as equal to the NBP reference rate.

Access to the open market operations, the main ones and the regularly conducted fine-tuning ones, was granted to banks complying with the terms and conditions set by NBP; also the Bank Guarantee Fund (BFG) had access to the main open market operations. Banks being Money Market Dealers had access to the *ad-hoc* fine-tuning operations. In 2015, 13 banks the most active in the money market and foreign currency markets had the status of a Money Market Dealer.

Commercial banks also had the possibility of using standing facilities, placed at their disposal by NBP, to facilitate their short-term liquidity management. Banks were able to cover liquidity shortages via the marginal lending facility and to deposit excess funds with NBP via overnight deposit facility.

In 2015, NBP did not carry out any structural operations targeted at a long-term change in the banking sector liquidity.

**Table I.** Open market operations, (NBP bills and repo), FX swaps and standing facilities in the years 2001–2015 (in PLN million)

					Standing facilities	
Period	NBP bills	Repos	FX swaps	deposit facility	marginal lending facility	balance (deposit – credit)
2015	89 092	0	0	500	0	500
2014	108 518	0	0	298	0	298
2013	126 078	0	0	463	0	463
2012	95 913	0	0	393	0	393
2011	95 217	0	0	711	0	711
2010	74 968	5 097	0	1 036	0	1 036
2009	31 873	11 456	1 076	2 461	14	2 447
2008	11 530	2 135	162	1 421	14	1 407
2007	19 302	-	-	530	18	512
2006	19 758	-	-	150	50	100
2005	16 699	-	-	162	29	133
2004	5 275	-	-	310	22	288
2003	6 251	-	-	167	34	133
2002	10 565	-	-	80	170	-90
2001	14 701	-	-	715	234	481

Note: the values are quoted in annualized terms in the reserve maintenance periods.

Source: NBP.

In 2015, short-term banking sector liquidity level, measured as the average annual balance of central bank operations, was reduced. These operations comprised the issuance of NBP bills and standing facilities.

In 2015, the average level of short-term banking sector liquidity was PLN 89,592 million. Compared to the average level from the previous year, liquidity decreased by PLN 19,224 million. In the course of the year 2015, the level of short-term banking sector liquidity dropped from PLN 102,024 million in January to PLN 87,664 million in December, which means a reduction by PLN 14,360 million. The reduction in liquidity resulted mainly from an increase in currency in circulation and the required reserve.

In 2015, the average issue of NBP bills was PLN 89,092 million, of which 98.8% (PLN 87,984 million) was sold under main operations and 1.2% (PLN 1,108 million) – under fine-tuning operations.

The average level of standing facilities was PLN 500 million.

The year 2015 saw higher volatility of the POLONIA rate in comparison with 2014. The average absolute deviation of the POLONIA rate from the reference rate in 2015 was 12 bps (versus 11 bps in 2014). Maintaining the POLONIA rate near the reference rate was done by means of main open market operations as well as regular and irregular fine-tuning operations.

Table II. Market rates in the years 2001–2015

Period	Average reference			on of rates from refe is points (annual av		
	rate (in %)*	O/N	SW	2W	1M	POLONIA
2015	1,58	10	9	10	12	12
2014	2,39	9	6	6	7	11
2013	2,94	8	5	5	7	18
2012	4,61	10	3	5	11	21
2011	4,22	21	3	3	9	43
2010	3,50	49	17	10	7	69
2009	3,77	69	23	14	11	89
2008	5,72	30	16	19	30	32
2007	4,40	19	9	11	16	23
2006	4,06	10	6	6	7	16
2005	5,34	21	6	6	9	29
2004	5,79	40	11	10	15	-
2003	5,67	28	8	7	9	-
2002	8,82	90	60	-	32	-
2001	16,13	142	-	-	42	-

<sup>\*</sup> Average reference rate was weighted by its duration.

The arrangement used by NBP, which is conducive to smoothing the fluctuations in short-term interest rates and stabilisation of banking sector liquidity is the required reserve system. As in previous years, in 2015 the banks were obliged to maintain, in the required reserve period, funds on accounts with NBP at an average level not lower than the required reserve. In 2015, the basic required reserve rate did not change and amounted to 3.5%. Interest on the required reserve was 0.9% of the reference rate.

<sup>\*\*</sup> Deviations of rates from the reference rate – an uniform basis of 365 days per year was used. Source: NBP.

### Banking sector liquidity

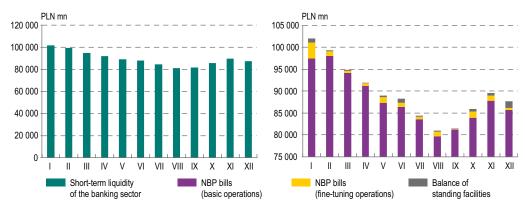


#### Banking sector liquidity

#### 1.1. Liquidity developments in 2015

In 2015, monetary policy was conducted – as in previous years – in an environment of excess liquidity of the banking sector. Short-term banking sector (measured by the level of NBP bills issuance and standing facilities) was PLN 102,024 million in January while PLN 87,664 million in December 2015.

Figure 1.1. Short-term liquidity of the banking sector in 2015



Source: NBP.

In December 2015, the average level of short-term banking sector liquidity reached PLN 87,664 million and was lower by PLN 11,554 million, i.e. by 11.6%, comparing with December 2014.

Among the most important autonomous factors contributing to the reduction in the liquidity was the increase in currency in circulation, which amounted to PLN 21,985 million (December 2015 to December 2014). The annual growth in currency in circulation in 2015<sup>1</sup> amounted to 15.6%, compared to 11.2% in 2014.

Another factor reducing liquidity was an increase in the level of banks' reserve requirement, which in 2015 amounted to PLN 2,853 million. The level of the reserve requirement increased throughout 2015 as a result of a gradual increase in bank sector deposits.

The factor adding the most to the increase in the liquidity of the banking sector in 2015 was the purchase of foreign currencies by NBP. Throughout the entire 2015, the central bank purchased foreign currency mainly from the Ministry of Finance. At the same time, sale of foreign currencies took place, mainly to convert Poland's membership fee paid to the EU, bilateral foreign exchange operations related to services provided to the central government

<sup>&</sup>lt;sup>1</sup> Calculated as a comparison of the average level in December 2015 compared to the level in December 2014.

entities. In annual terms, the balance of the purchase of foreign currency resulted in an increase in liquidity (on average December 2015 to December 2014) by PLN 13,941 million.

The payments made by NBP to the banking sector arising from the discount of the NBP bills and required reserve remuneration caused an increase of banking sector liquidity by PLN 1,985 million.

Public sector deposits decreased by PLN 262 million compared to 2014 and to a relatively small extent contributed to the increase in banking sector liquidity.

The central bank absorbed the liquidity surplus by issuing the NBP bills with a maturity of 7 days as main open market operations (the average amount in 2015 was PLN 87,984 million), and the NBP bills with shorter maturities as fine-tuning operations (the average value in 2015 amounted to PLN 1,108 million). 52 main open market operations and 14 fine-tuning operations were executed in 2015.

The excess funds not invested in open market operations were placed by banks as overnight deposit with NBP. In 2015, an average deposit amounted to PLN 500 million.

The direction of changes in banking sector liquidity during the year was not stable. From January to August 2015, a systematic decrease in banking sector liquidity was recorded, while in the subsequent months of 2015, an upward trend could be observed. From the beginning of 2015, a significant growth in currency in circulation was accompanied by larger sales of foreign currency compared to its purchases, which caused liquidity reduction. In the subsequent months, despite the still growing currency growth, an increase in liquidity was observed mainly due to significantly larger purchases than sales of foreign currency.

**Table 1.1.** Absorption of short-term liquidity as part of operations executed by NBP in 2015 (in PLN million)

2015	Average level of 7-day NBP bills	Average level of 1-, 2-, 3-, 4-day NBP bills	Average level of overnight deposit	Average level of marginal lending facility	Average level of short-term banking sector liquidity
	(1)	(2)	(3)	(4)	(1) + (2) + (3) + (4)
I	97 437	3 723	864	0	102 024
II	98 066	1 070	260	0	99 396
III	94 162	514	187	0	94 863
IV	91 265	517	163	0	91 945
V	87 346	1 319	323	0	88 988
VI	86 457	886	980	0	88 323
VII	83 538	643	253	0	84 434
VIII	79 736	1 016	192	0	80 944
IX	81 203	200	92	0	81 495
Х	83 893	1 454	596	0	85 943
XI	87 854	1 179	533	0	89 566
XII	85 681	480	1 503	0	87 664
On average	87 984	1 108	500	0	89 592

Notes: average values over required reserve maintenance periods. Positive values denote the absorption of zloty liquidity from the banking sector Source: NBP.

#### 1.2. Impact of autonomous factors on changes in banking sector liquidity

#### 1.2.1. Purchase and sale of foreign currencies by NBP

In 2015, purchase of foreign currencies by NBP prevailed over their sale. As a result of foreign exchange operations by the central bank, an increase in banking sector liquidity took place.

The purchase of foreign currencies by NBP included:

- purchase of foreign currencies from the Ministry of Finance equivalent to PLN 34,427 million (foreign currency valued at PLN 12,510 million was purchased this way in 2014); the largest item among those transactions was the purchase of foreign currency from the foreign currency account of the Ministry of Finance held with NBP (PLN 33,936 million)
- services provided to the central government entities whose accounts are held with NBP, in the amount of PLN 805 million (foreign currency valued at PLN 528 million was purchased this way in 2014).
- conversion of EU funds to PLN directly from the EU fund accounts, equivalent to PLN 83 million.

In 2015, NBP purchased foreign currencies amounting to a total of PLN 35,314 million (compared to PLN 13,061 million in 2014). The purchase of foreign currencies by NBP was made mainly in the second part of 2015. It amounted to PLN 13,048 million in the period from January to August 2015 and to PLN 22,266 million from September to the end of December.

The sale of foreign currencies by NBP was related to:

- the conversion of the membership fee paid to the account of the European Commission (EC) in the amount of PLN 16,242 million (compared to PLN 17,431 million in 2014),
- services provided to the central government entities whose accounts are held with NBP, in the amount of PLN 8,611 million (compared to PLN 4,102 million in 2014).

In 2015, the sale of foreign currencies by NBP was characterised by high volatility over time. Most foreign currencies were sold in February, June and December. At the beginning and in the last month of 2015, it was a result of the conversion of a significant part of the membership fee paid by Poland to the European Union budget into EUR.

As the continuation of the foreign currency management policy, the Ministry of Finance carried out sales of foreign currency on the market. These transactions did not affect banking sector liquidity.



Figure 1.2. Purchase and sale of foreign currencies by NBP in 2015

FX operations carried out by the central bank as part of its currency purchase and sale activities in 2015

#### Foreign operations of the State Treasury

Foreign currency transactions related to the servicing of foreign debt were carried out by the central bank on behalf of the Ministry of Finance. In 2015, as in the previous years, NBP did not sell foreign currencies to the Ministry of Finance. The Treasury's foreign liabilities were settled with the funds from the Ministry of Finance's foreign currency account with the central bank. Funds on this account came mainly from EU funds transferred by the European Commission using the fund accounts (EUR 13,084 million), issuance of bonds to foreign markets (EUR 4,272 million), as well as loans incurred in international financial institutions (EUR 2,173 million).

Payments made from the foreign currency account related to liabilities due to holders of international Treasury bonds and repayments of incurred foreign loans, payment of shares and other transactions.

#### Transactions resulting from to the European Union membership

In 2015, the main transactions related to Poland's membership in the European Union were operations involving the sale of foreign currencies by NBP to the European Commission for the conversion of Poland's membership fee paid to the EU budget in PLN into EUR. These transactions amounted to EUR 3,887 million (equivalent to PLN 16,242 million). Unlike in the previous years, in 2015, the currency conversion of the membership fee was very uneven throughout the year. These transactions took place mainly in the first half of the year (with a value equivalent to EUR 2,697 million). In the second half of 2015, the conversion of PLN to EUR took place only in October (equivalent to EUR 150 million) and December (the equivalent of EUR 1,040 million). Part of the PLN funds paid to the European Union by Poland was not converted until the end of 2015. Their value amounted to EUR 2,240 million.

In 2015, only a small part of the funds received by Poland from the European Union were exchanged into PLN directly from the fund accounts at NBP. The value of these transactions amounted to PLN 83 million.

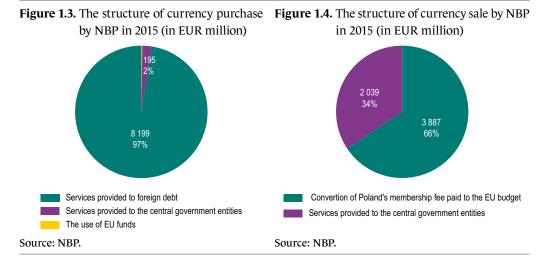
In 2015, EU funds were mostly transferred from the fund accounts to the foreign currency account of the Ministry of Finance with the NBP. They accounted for a significant part of the foreign currency credited to this account.

In 2015, the Ministry of Finance held large level of foreign currency in the account with NBP. Its average level amounted to EUR 5,685 million in 2015. A particularly high figure was recorded in Q2 and Q3 and amounted to an average of EUR 7,744 million and EUR 7,234 million respectively.

MF's foreign currency funds on account with NBP were partially transferred to Bank Gospodarstwa Krajowego, where, depending on the situation on the FX market, the manner to use this currency was determined. Among other things, it was exchanged to PLN on the interbank market. Some of it was converted into the domestic currency at the central bank.

#### Services to central government entities

Apart from foreign currency operations related to servicing foreign payables and receivables of the State Treasury and transactions involving the use of funds related to EU membership, the central bank carried out foreign currency operations with entities authorised to exchange foreign currencies at the central bank under bank account agreements. In 2015, the value of transactions consisting in the purchase of foreign currencies by NBP amounted to the equivalent of PLN 805 million. The sale of foreign currencies by the central bank amounted to the equivalent of PLN 8,611 million. This amount was much larger than in the previous years.



#### 1.2.2. Currency in circulation

Currency in circulation is a monetary aggregate which has been growing steadily for many years. In 2015, the amount of currency in circulation averaged PLN 150,957 million, which represents an increase of PLN 18,710 million (i.e. by 14.1%) compared to the previous year. The factor contributing to a greater increase in currency in circulation in 2015 was the reduction of the NBP interest rates and the resulting reduction of interest rates on deposits in commercial banks.

The amount of currency in circulation was also influenced by factors of a seasonal nature, which explain the changes in the level of currency in circulation in selected periods of 2015 (from weekly to yearly seasonality as well as increases observed in holiday periods).

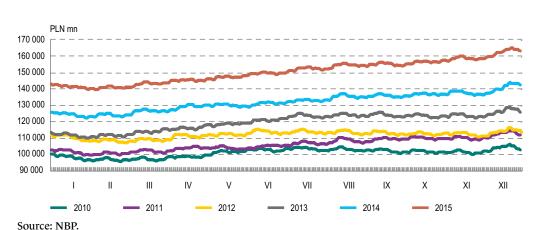


Figure 1.5. Currency in circulation in the years 2010–2015

In 2015, the path of changes in currency in circulation was not much different from that observed in previous years. The growth rate of currency in circulation, however, was larger than in previous years. In January 2015, the annual growth rate of currency in circulation stood at 13.7%. In subsequent months, this index remained at a relatively high level, in the period April – November 2015 it ranged between 12.8% and 15.4%. As in previous years, the largest increase in currency in circulation was recorded in December. The annual growth rate of currency in circulation was then at the level of 15.6%. The average level of currency in circulation in December 2015 was PLN 162,699 million, which is an increase by PLN 21,985 million compared to December 2014 (in 2014 this increase amounted to PLN 14,191 million). Increased demand for currency in circulation in December was related to the intensification of purchases in the holiday period.



Figure 1.6. Growth rate of currency in circulation in the years 2010–2015 (y/y)

#### 1.2.3. Public sector deposits held with the central bank

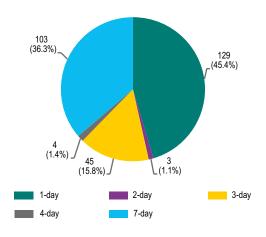
Public sector deposits with the central bank include mainly funds on current accounts and term deposits of the State Budget (from 1-day to 7-day).

The level of public sector deposits with NBP was an outcome of the following:

- changes in the volume of budgetary incomes and expenses,
- settlements resulting from the issue and redemption of State Treasury securities,
- funds coming from the Ministry of Finance's foreign currency account with NBP converted into PLN,
- limits set for the Ministry of Finance's PLN term deposits with the central bank,
- flows of funds between Poland and the European Union (including, among others, payment of Poland's membership fee to the EU budget),
- payments resulting from servicing other transactions connected with the State Budget's borrowing needs.

In 2015, public sector deposits showed an upward trend. The average level of public sector deposits in 2015 stood at PLN 4,302 million and was higher by PLN 1,096 million comparing to the previous year (PLN 3,206 million). The average level of the public sector deposits held on current accounts with NBP amounted to PLN 3,539 million (against PLN 2,226 million in 2014), while the Ministry of Finance's term deposits with NBP representing a significant item in the structure of public sector PLN deposits (17.7%) amounted to PLN 763 million against PLN 978 million (30.5%) in 2014.

Figure 1.7. The quantitative structure of Ministry of Finance's term deposits with NBP in 2015



The Ministry of Finance invested surplus funds of the State Budget on a temporary basis in the form of PLN deposits for periods of 1 to 7 days with NBP. A total of 284 deposits were made in 2015. In the recent years, the Ministry of Finance invested surplus funds mainly in 7-day deposits. A change in the quantitative structure of deposits took place in 2015, and over 60% of deposits were made for shorter periods (mainly for 1 day – 129 deposits, i.e. 45.4% of all deposits, and for 3 days – 45 deposits, i.e. 15.8%)². The Ministry of Finance made 103 7-day deposits in 2015, which represented 36.3% of all deposits. The average level of overnight deposits in 2015 was PLN 48 million.

<sup>&</sup>lt;sup>2</sup> 3-day deposits were made mainly on Fridays, so they are also treated as deposits with the shortest maturity periods.

The level of Ministry of Finance's PLN term deposits with the NBP in 2015, as in previous years, was very variable and its average level in individual months ranged between PLN 385 million and PLN 1,055 million. The highest level of deposits occurred in the Q1 and amounted to: in January PLN 1,003 million, in February PLN 1,029 million and in March PLN 1,055 million. The size of deposits placed in 2015 accounted for 28.9% of the established daily limit (for comparison in 2014 this figure represented approximately 36.3%).

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Figure 1.8. Redemption of bonds and Ministry of Finance's deposits in NBP in 2015

Source: NBP.

Temporary increase in limits on Ministry of Finance's deposits in NBP was connected with redemption of treasury bonds: on 26 January 2015 – bonds series WZ0115, on 27 April 2015 – bonds series PS0415, on 27 July 2015 – bonds series OK0715, on 26 October 2015 – bonds series DS1015.

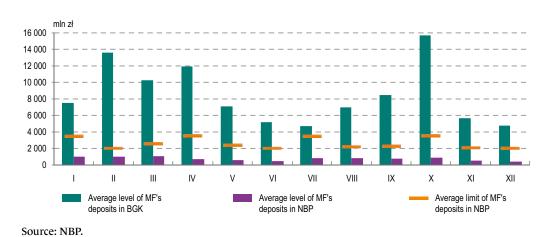
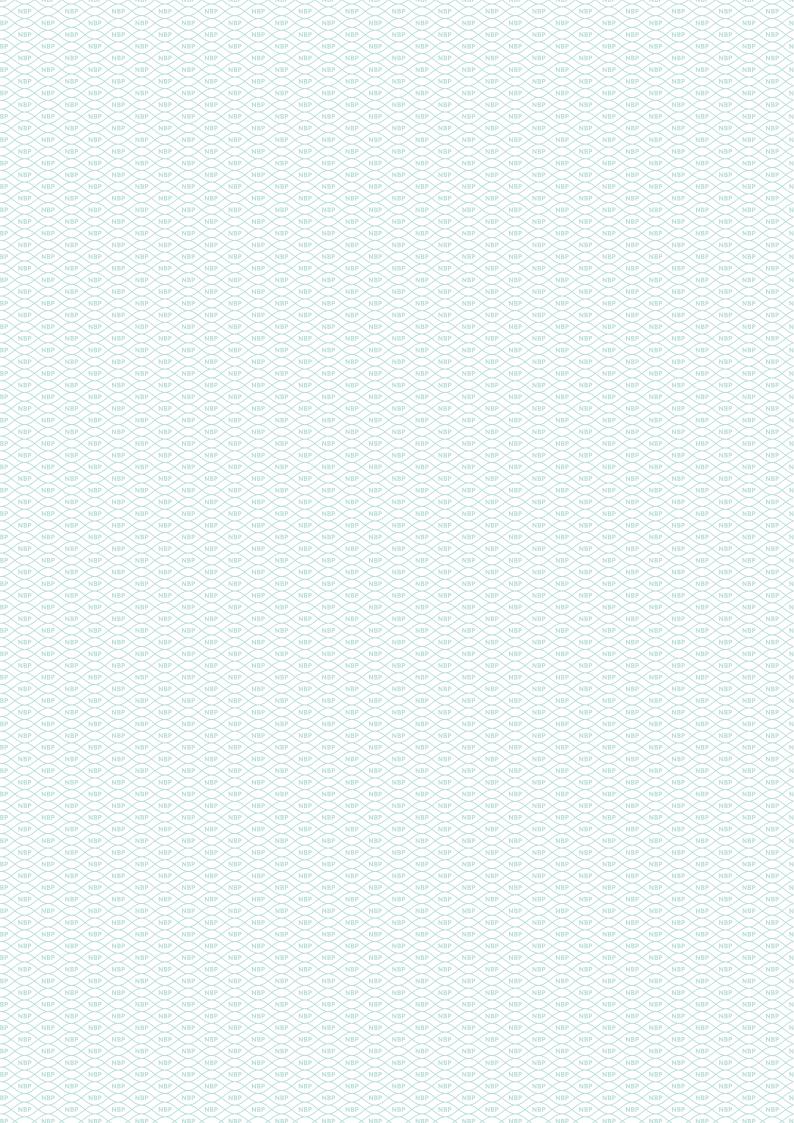


Figure 1.9. The average level of Ministry of Finance's term deposits in 2015

In 2015, as in the previous year, part of funds from the State Budget was invested on the interbank market through Bank Gospodarstwa Krajowego (an average of PLN 8,490 million annually). The average level of Ministry of Finance's deposits in commercial banks was lower by PLN 1,571 million (i.e. approx. 15.6%) compared to the previous year.

The Ministry of Finance placed those funds only on the interbank market of uncollateralised term deposits. The Ministry of Finance placed a part of the funds through Bank Gospodarstwa Krajowego as deposit facility with NBP (on average PLN 133 million per year).

The Ministry of Finance transferred most funds to the banking sector in February, March and April – on average PLN 11,912 million monthly and in October – PLN 15,691 million.



# Monetary policy instruments



#### Monetary policy instruments

#### 2.1. Interest rate

The primary instrument of the monetary policy is the short-term interest rate; the NBP reference rate determines the yield on main open market operations, affecting at the same time the level of short-term market interest rates. Changes in the NBP reference rate stem from the course of the monetary policy pursued by the central bank. The NBP deposit and lombard rates set the fluctuation band of the overnight interest rate in the interbank market.

In 2015, the Monetary Policy Council made one decision to lower the basic short-term interest rate – the NBP reference rate. Beginning on 5 March 2015, the reference rate dropped from 2.00% to 1.5%. At the same time, the deposit rate and the lombard rate were lowered by 50 basis points to 0.5% and 2.5% respectively. Therefore, the fluctuation band of short-term market rates set by the deposit and lombard rates was maintained and stood at +/- 100 basis points symmetric to the reference rate.

Table 2.1. NBP basic interest rates in 2015 (in %)

Validity period:	Reference rate	Lombard rate	Deposit rate
01.01-8.10.2014	2.50	4.00	1.00
09.10-31.12.2014	2.00	3.00	1.00

Source: NBP.

#### 2.2. Open market operations

In accordance with the *Monetary Policy Guidelines for 2015*, implementing the operational objective of the monetary policy, NBP made efforts to shape the POLONIA rate to remain at the level near to the NBP reference rate. The following open market operations represented the key instrument used to shape market interest rates:

- main operations in the form of regular issuance of the NBP bills, usually with a maturity of 7 days<sup>3</sup>,
- fine-tuning operations in the form of issuance of the NBP bills with maturities shorter than those of main operations (1-, 2- and 3-day).

Using open market operations, NBP affected banking sector liquidity, aiming to ensure conditions for banks to balance their own liquidity positions in the required reserve maintenance periods.

Open market operations in 2015 were carried out under continued (despite changes during the year) high banking sector liquidity. From the beginning of the 2015 to August 2015, banking sector liquidity, measured by the issuance of the NBP bills, was characterised by

<sup>&</sup>lt;sup>3</sup> In 2015, the exceptions were: a regular operation with a maturity of 6 days carried out on April 24 and 18 December and a regular operation with a maturity 8 days carried out on 30 April and 31 December.

a downward trend and decreased from PLN 101,160 million in January to PLN 80,752 million in August on average during the reserve maintenance period. In the subsequent three months, liquidity increased to PLN 89,033 million in November, and in December, on average during the reserve maintenance period, it dropped to PLN 86,161 million.

The objective of the banking sector liquidity management policy adopted by NBP was to establish the optimal, from the point of view of influencing the shortest-term market rates (in particular, the POLONIA rate), liquidity conditions in the banking sector. Specifying the levels of individual open market operations, the central bank strove to maintain balanced liquidity conditions in the banking sector in the reserve maintenance period. Supply was determined at a level that (based on the prepared forecasts of banking sector liquidity in the maturity period of a given operation) was designed to allow market participants to minimise the average deviation of the aggregate level of current accounts held with NBP from the value of the reserve requirement (in a given reserve maintenance period).

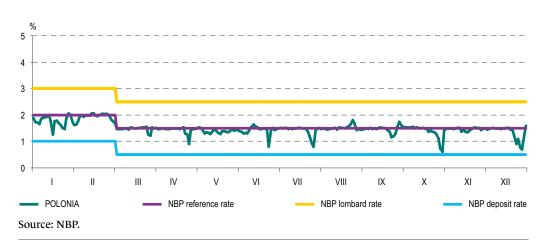


Figure 2.1. Short-term market rate POLONIA against NBP rates in 2015 (in %)

#### 2.2.1. Main operations

In 2015, NBP carried out main open market operations which consisted in issuance of the NBP bills with a maturity of 7 days. The NBP bills were issued regularly once a week, on Fridays. Access to main open market operations was available to all banks participating in the SORBNET2 system with an account in the SKARBNET4 system operated by NBP, as well as the Bank Guarantee Fund (BFG). Tenders for the NBP bills had a settlement period of t+0 and the yield equal to the NBP reference rate.

In 2015, the average level of the NBP bills under the main operations amounted to PLN 87,984 million and was lower by PLN 19,296 million as compared to the average level in 2014. In 2015, the central bank offered the NBP bills of PLN 4,909,000 million for sale under the main operations. In that period, the bids received from banks amounted to PLN 4,671,862 million, while the value of bids accepted by the central bank amounted to PLN 4,649,906 million.

The cumulative values of supply were at a higher level than the cumulative values of demand in 2015. The ratio of commercial banks' demand for the NBP bills in comparison to the supply offered by NBP was at an annual average of 0.95%.

Figure 2.2. The NBP bills – supply and demand at tenders for main open market operations in 2015



In 2015, underbidding occurred more often than overbidding (in 46 out of 53 tenders for main open market operations).

#### 2.2.2. Fine-tuning operations

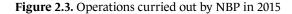
In 2015, NBP carried out fine-tuning operations in order to mitigate the fluctuations in short-term market interest rates. These took on the form of issue of NBP bills with maturities shorter than in the case of main operations. As in the previous year, fine-tuning operations were conducted regularly on the last day of the reserve period and *ad hoc* during the period.

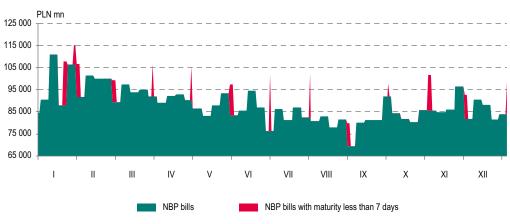
The goal of operations carried out on the last day of the reserve period was to balance the liquidity conditions in the banking sector on average in the entire required reserve maintenance period. Regular fine-tuning operations had the form of O/N transactions, but due to the 2015 calendar structure, these were 1-day operations (6 times) or 3-day operations (6 times).

Additionally, in 2015, two open market operations were carried out during the month (in January), in order to compensate for the deviations in market interest rates from the reference rate.

In 2015, NBP conducted 14 fine-tuning operations. The average level of the NBP bills with shorter maturity under this type of operations equalled PLN 1,108 million and was lower by PLN 130 million than the average level in 2014. In 2015, the central bank offered – for sale in fine-tuning operations – the NBP bills amounting to PLN 229,500 million. Bids received from banks in that period amounted to PLN 206,580 million, whereas bids accepted by the central bank amounted to PLN 202,341 million.

Overbidding from banks in relation to bills offered by the central bank in fine tuning operations occurred in 5 tenders. The ratio of commercial banks' demand for the NBP bills in fine-tuning operations in comparison to the supply offered by NBP fluctuated between 0.632 and 1.271.

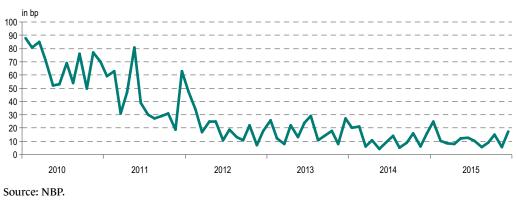




Source: NBP.

The manner to use open market operations (both main and fine-tuning ones) adopted in 2015 allowed NBP for the effective implementation of the monetary policy operational objective. The average absolute deviation of the POLONIA rate from the NBP reference rate in 2015 was 12 basis points, compared to 11 basis points in 2014<sup>4</sup>. At the same time, the indicated results were obtained while reducing the frequency of use of fine-tuning operations offered outside of the last working day of the reserve maintenance periods (only two such operations were carried out in 2015, compared to 7 in 2014).

**Figure 2.4.** Average absolute deviation of the POLONIA rate from the NBP reference rate in individual required reserve maintenance periods in the years 2010–2015



<sup>&</sup>lt;sup>4</sup> In the previous years, the deviation of the POLONIA rate from the reference rate was significantly higher (Table 0.2., p. 7).

#### 2.3. Required reserve

In 2015, banks, credit unions and the National Association of Credit Unions (KSKOK) were obliged to maintain average funds on accounts with NBP in the reserve maintenance period not lower than the value of the required reserve. This solution helped to stabilise the level of short-term rates.

The basis for calculating the required reserve were returnable funds in bank accounts and obtained from the sale of securities with the exception of funds received from another domestic bank, a credit union, and the Credit Union National Association (KSKOK). The basis for the reserve calculation in banks, branches of credit institutions and branches of foreign banks did not include funds obtained from abroad for a minimum of two years and deposited in savings and credit accounts with building societies, as well as funds accumulated at individual retirement accounts or individual pension security accounts and returnable funds obtained from BFG.

The required reserve is calculated and maintained in PLN. The value of the reserve calculated by individual entities is diminished by an equivalent of EUR 500 thousand.

The required reserve ratio in 2015 was 3.5% on all liabilities, except for funds received from repo and sell-buy back transactions, on which the required reserve ratio was 0%.

As at 31 December 2015, the amount of the required reserve was PLN 37,115 million, with the banking sector reserve at PLN 36,776 million and the credit unions' and Credit Union National Association's (KSKOK) reserve at PLN 339 million. The total required reserve was larger compared to the level observed on 31 December 2014 by PLN 2,419 million, which is an increase of 6.97%. The main factor contributing to the increase of the required reserve in 2015 was an increase in banking sector term deposits, which were used to calculate the required reserve.

In 2015, the remuneration on the required reserve amounted to 0.9 of the NBP reference rate and defined the interest rate on the basic open market operations. The average remuneration on required reserve funds in 2015 amounted to 1.43%, compared to 2.32% in 2014. A 0.89 percentage points reduction in the remuneration on the required reserve in 2015 by compared to 2014 resulted from a lowering of the average level of the NBP reference rate, which is the basis for calculating remuneration on reserve funds, as well as resulted from the change in the calculation formula<sup>5</sup>.

In 2015, in all the reserve maintenance periods banks recorded a small surplus of the average holdings on banks' NBP accounts over the required reserve level. It reached the lowest point in January (PLN 34.3 million), while the largest surplus was recorded in December (PLN 163.0 million). The average surplus on the accounts of the entities maintaining the reserve in 2015 was PLN 90.7 million, accounting for 0.25% of the average reserve requirement level.

<sup>&</sup>lt;sup>5</sup> As of 9 October 2014 a new formula for the calculation of the remuneration of the required reserve funds has been in place: in the formula, the rediscount rate has been replaced with the reference rate.

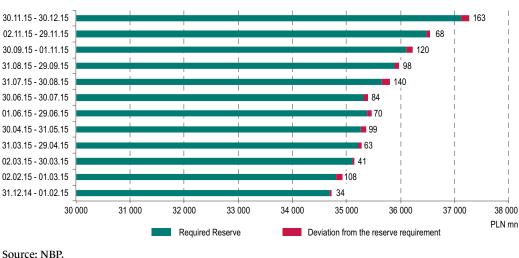


Figure 2.5. Changes in the required reserves and deviations from the reserve requirement in 2015

Source. INDr.

The year 2015 recorded 8 cases of non-compliance with the reserve requirement, including 2 by commercial banks, 3 by credit unions and 3 by cooperative banks. The Credit Union National Association maintained the required reserve in 2015.

#### 2.4. Standing facilities

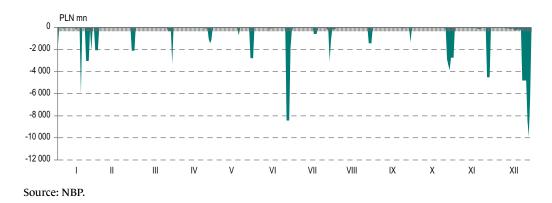
Standing facility operations (deposit facility and marginal lending facility) stabilised the level of interbank liquidity and limited the scale of overnight rates fluctuations. Standing facility operations were carried out on the initiative of commercial banks and their main goal was to increase banking sector liquidity or to invest surplus liquidity in the form of overnight deposits with NBP.

The lombard interest rate set the maximum price of funds obtained from NBP, indicating at the same time the ceiling of rate fluctuations in the interbank market, while the interest rate on deposit facility set the floor for the rate fluctuations.

#### 2.4.1. Deposit facility

In 2015, the total value of the deposit facility (calculated for days of its placement) amounted to PLN 182,618 million and was higher by 67.7% comparing to deposits placed in 2014. The total value of a single deposit placed by banks with the overnight facility ranged from PLN 1 million to PLN 9,903 million. Its average daily level amounted to PLN 500 million against PLN 298 million in 2014. Banks invested the largest funds on the last days of the required reserve maintenance periods.

Figure 2.6. The use of deposit facility in 2015



#### 2.4.2. Marginal lending facility

In 2015, banks were able to make use of the marginal lending facility collateralised with securities in order to provide current liquidity to current accounts with NBP. The total value of the lombard credit amounted to PLN 10.9 million throughout the year, and was almost 4.5 times smaller than in 2014 (PLN 48.7 million). Its average daily use came to the amount of PLN 29.9 thousand (against PLN 133.3 thousand in 2014.).

### Other operations



#### Other operations

#### 3.1. Intra-day credit facility

Intraday credit facility is an instrument that makes it easier for banks to manage liquidity during the operating day and to make interbank settlements at NBP. It is a non-interest bearing facility collateralised with securities that is taken and repaid on the same operating day. In 2015, banks used this facility every day, which resulted in an increase in the use of this facility by 28.9% (compared to 5.53% in 2014). Daily provision of operating liquidity to banks ranged from PLN 42,837 million to 55,636 million.

#### 3.2. Intra-day credit facility in euro

Intraday credit facility in euro is an instrument that ensures the liquidity of settlements in the TARGET2-NBP system. The loan collateralised with Treasury bonds accepted by the ECB was incurred and repaid during an operating day. The drawing on the facility increased by 82.9% compared to 2014, and amounted to EUR 9,382 million in 2015. In 2015, the average daily provision of operating liquidity to banks amounted to EUR 36.8 million. The increase resulted from regular drawing of the credit by one bank, beginning in July 2015, in the amount of EUR 15 million per day.

### Glossary



#### Glossary

**Banking sector short-term liquidity** – liquidity defined as the balance of open market operations conducted by NBP, i.e. main and fine-tuning operations as well as foreign exchange swaps and standing facilities.

**Deposit facility** – an instrument which enables banks to deposit their liquidity surplus on an overnight basis with the central bank. The interest rate on that deposit constitutes the lower limit for market rate quoted for that particular period.

**Fine-tuning operations** – operations which may be conducted by NBP in order to limit the impact of changes in the banking sector liquidity conditions on the short-term market interest rates.

**Foreign exchange swaps** – operations under which NBP is able to purchase (or sell) the zloty for foreign currencies, in the spot market and simultaneously to resell (or repurchase) the zloty under forward transaction on a specific value date.

**Intraday credit facility (PLN or EUR)** – a non-interest bearing credit facility which enables banks to obtain funds on an intraday basis, collateralised with securities accepted by the central bank. It is an instrument, which allows commercial banks to manage intraday liquidity.

**Main operations** – operations conducted on a regular basis (once a week). In the context of the banking sector liquidity surplus, they consist in issuance of NBP bills, typically with a 7-day maturity. During tenders, a fixed yield at the level of the NBP reference rate is binding.

Marginal lending facility (lombard credit) – an instrument which enables commercial banks to obtain credit on an overnight basis. The interest on that facility indicates the marginal cost of obtaining funds from the central bank. It is collateralised with securities accepted by the central bank.

Money Market Dealers – banks that are the most active in the money and foreign exchange markets, with which NBP enters into contracts on acting as the Money Market Dealer. In addition to the access to the main open market operations, these banks are involved in fine-tuning operations. Money Market Dealers participate in the fixing of the WIBOR and the WIBID reference rates, provide NBP with information concerning overnight transactions concluded on a given day, which are the base for the POLONIA rate fixing.

**NBP deposit rate** – determines the interest rate on deposits with NBP. It sets the floor for fluctuations of the overnight market rate. The deposit rate and the lombard rate create the fluctuation band for the overnight rate which is symmetric to the central bank's reference rate.

**NBP lombard rate** – determines the costs of funding obtainable from the NBP. It sets the ceiling for the growth in the overnight market rate.

**NBP reference rate** – determines the yield obtainable on the main open market operations, affecting at the same time, the level of short-term market interest rates.

**Open market operations** – a principal instrument of the central bank which is used to maintain short-term market interest rates at a level consistent with the NBP reference rate determined by the Monetary Policy Council.

**POLONIA rate** – the POLONIA rate (Polish Overnight Index Average) was introduced by NBP and ACI Polska in early 2005. It is an average overnight rate weighted by the value of transactions in the interbank deposit market. The rate reflects the actual interest rates on short-term interbank deposits. The POLONIA rate is published by NBP in the TM Reuters service (NBPS), Bloomberg service (PZCFPLNI Index) and at the NBP website each day at 5.00 p.m.

The fixing of the POLONIA rate is carried out by NBP on each operating day at 4.45 p.m. The participant is obliged to provide the central bank with a list of overnight transactions concluded with other participants and submitted on a given day until 4.30 p.m.

**Publication of information in information services** – in the TM Reuters service on the NBPM site and in the Bloomberg service on the NBP18 site, NBP provides banks with information on the current market liquidity situation, specifically concerning:

- banks' current accounts, deposit facility placed with NBP and marginal lending facility
- (lombard credit) provided by NBP, on a daily basis,
- level of required reserve during a specific reserve maintenance period,
- average balance of banks' current accounts during the required reserve maintenance period,
- forecast of an average daily balance of the current account in the period from the issue date of the NBP bills (under main operations) until the day preceding their maturity. Information on the forecasted average balance of banks' current accounts is published on the TM Reuters at the moment the decision on the value of the NBP bills on offer is taken.

Information on current auctions for NBP bills is also published on the NBPT site of the TM Reuters news service and the NBP19 site of the Bloomberg news service. The outcome of tenders is posted on the NBPU site (TM Reuters) and NBP20 site (Bloomberg).

Current information concerning the liquidity situation and auctions carried out by the NBP under open market operations is regularly published on the NBP website (www.nbp.pl).

**Repo operations** – short- and long-term refinancing operations aimed to providing liquidity to the banking sector, collateralised with securities approved by NBP.

**Reserve requirement** – a monetary policy instrument used by the central bank, among other things, to regulate the banking sector liquidity and to mitigate volatility of short-term interest rates. The obligation to maintain the reserve is also an element of liquidity management at banks. The reserve requirement is an obligation imposed on banks to maintain a specific average level of funds (set as a percentage) on their accounts with the central bank.

**Standing facilities** – operations conducted at the initiative of commercial banks under which commercial banks are able to deposit their liquidity surplus with NBP using deposit facility or reduce short-term liquidity shortage using marginal lending facility.

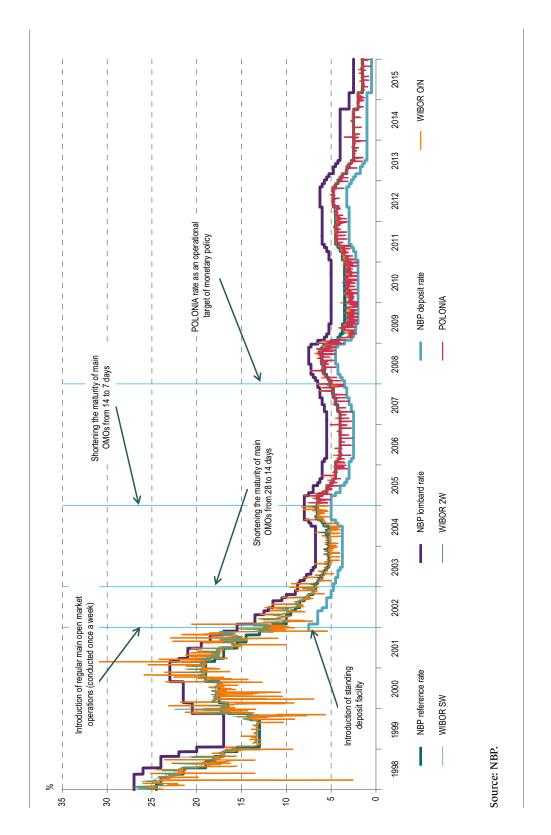
**Structural operations** – operations conducted in order to change the long-term structure of banking sector liquidity. Under these operations the central bank may carry out the following structural operations: issue of bonds, early redemption of bonds, purchase or sale of securities in the secondary market.

### Annexes



#### **Annexes**

Annex 1. Volatility of interest rates in the years 1998–2015



Annex 2. The NBP monetary policy instruments in the years 1990–2015

Item	1990	1990 1991	1992 1	1993 1	1994	1995	1996 1	1997	1998 19	1999 20	2000 20	2001 20	2002 200	2003 2004	2005	5 2006	6 2007	2008	2009	2010	2011	2012	2013	2014	2015
Required reserves																									
Issue of NBP bills																									
Issue / repurchase of NBP bonds																									
Repo / reverse repo operations																									
Outright operations																									
Loans for central investments																									
Rediscount Ioan																									
Marginal lending facility																									
Deposit facility																									
Loan limits																									
Deposits for households																									
Intraday credit																									
FX swap operations																									

Annex 3. Main operations in 2015

						1	
No.	Tender date*	Maturity date	Maturity period	Nominal value of sales offers	Nominal value	Nominal value	Average yield on bills
	uale	uate	(in days)	(PLN mn)	of offers to buy (PLN mn)	of accepted offers (PLN mn)	annual 365/360 (%)
1	2015.01.02	2015.01.09	7	104 000.00	90 506.64	90 506.64	2.0
2	2015.01.09	2015.01.16	7	116 000.00	110 910.04	110 910.04	2.0
3	2015.01.16	2015.01.23	7	106 000.00	87 954.60	87 954.60	2.0
4	2015.01.23	2015.01.30	7	112 000.00	106 423.08	106 423.08	2.0
5	2015.01.30	2015.02.06	7	102 000.00	91 847.02	91 847.02	2.0
6	2015.02.06	2015.02.13	7	105 000.00	101 421.46	101 421.46	2.0
7	2015.02.13	2015.02.20	7	100 000.00	103 396.24	100 000.00	2.0
8	2015.02.20	2015.02.27	7	101 500.00	100 087.90	100 087.90	2.0
9	2015.02.27	2015.03.06	7	100 000.00	89 299.88	89 299.88	2.0
10	2015.03.06	2015.03.13	7	99 000.00	97 566.51	97 566.51	1.5
11	2015.03.13	2015.03.20	7	94 000.00	96 991.61	94 000.00	1.5
12	2015.03.20	2015.03.27	7	95 000.00	95 047.27	95 000.00	1.5
13	2015.03.27	2015.04.03	7	95 000.00	91 881.99	91 881.99	1.5
14	2015.04.03	2015.04.10	7	92 500.00	89 222.69	89 222.69	1.5
15	2015.04.10	2015.04.17	7	93 500.00	92 221.52	92 221.52	1.5
16	2015.04.17	2015.04.24	7	93 500.00	92 896.23	92 896.23	1.5
17	2015.04.24	2015.04.30	6	93 500.00	90 323.15	90 323.15	1.5
18	2015.04.30	2015.05.08	8	90 000.00	86 490.11	86 490.11	1.5
19	2015.05.08	2015.05.15	7	92 000.00	83 220.10	83 220.10	1.5
20	2015.05.05	2015.05.13	7	95 500.00	88 050.10	88 050.10	1.5
21	2015.05.22	2015.05.29	7	96 000.00	93 464.80	93 464.80	1.5
22	2015.05.22	2015.06.05	7	99 000.00	83 337.42	83 337.42	1.5
23	2015.06.05	2015.06.03	7	92 500.00	85 522.39	85 522.39	1.5
24	2015.06.12	2015.06.12	7	95 000.00	94 496.76	94 496.76	1.5
25	2015.06.12	2015.06.15	7	88 500.00	86 936.48	86 936.48	1.5
26	2015.06.26	2015.00.20	7	89 000.00	76 303.40	76 303.40	1.5
27	2015.00.20	2015.07.05	7	88 500.00	86 270.92	86 270.92	1.5
28	2015.07.03	2015.07.10	7	86 500.00	81 370.68	81 370.68	1.5
29	2015.07.10	2015.07.17	7	88 500.00	87 123.55	87 123.55	1.5
30	2015.07.24	2015.07.24	7	85 500.00	82 486.76	82 486.76	1.5
31	2015.07.24	2015.07.07	7	82 000.00	80 882.55	80 882.55	1.5
32	2015.08.07	2015.08.14	7	83 000.00	87 617.85	83 000.00	1.5
33	2015.08.14	2015.08.21	7	78 000.00	84 849.10	78 000.00	1.5
34	2015.08.21	2015.08.28	7	81 500.00	81 762.80	81 500.00	1.5
35	2015.08.28	2015.09.04	7	80 000.00	69 375.64	69 375.64	1.5
36	2015.09.04	2015.09.11	7	85 000.00	80 062.80	80 062.80	1.5
37	2015.09.11	2015.09.18	7	83 500.00	81 422.93	81 422.93	1.5
38	2015.09.11	2015.09.10	7	85 000.00	81 239.31	81 239.31	1.5
39	2015.09.25	2015.03.23	7	92 500.00	91 900.49	91 900.49	1.5
40	2015.10.02	2015.10.02	7	84 500.00	88 291.40	84 500.00	1.5
41	2015.10.02	2015.10.05	7	83 500.00	81 729.65	81 729.65	1.5
42	2015.10.05	2015.10.10	7	86 000.00	80 375.70	80 375.70	1.5
43	2015.10.23	2015.10.20	7	91 500.00	85 923.80	85 923.80	1.5
44	2015.10.20	2015.10.30	7	98 000.00	85 657.00	85 657.00	1.5
45	2015.10.06	2015.11.13	7	91 000.00	84 831.50	84 831.50	1.5
46	2015.11.13	2015.11.20	7	93 000.00	86 076.35	86 076.35	1.5
47	2015.11.10	2015.11.27	7	98 000.00	96 500.60	96 500.60	1.5
48	2015.11.27	2015.11.27	7	91 000.00	81 812.68	81 812.68	1.5
49	2015.11.27	2015.12.04	7	94 500.00	90 639.50	90 639.50	1.5
50	2015.12.11	2015.12.11	7	91 000.00	88 190.00	88 190.00	1.5
51	2015.12.11	2015.12.10	6	86 500.00	81 638.80	81 638.80	1.5
52	2015.12.10	2015.12.24	7	92 500.00	83 889.17	83 889.17	1.5
53	2015.12.31	2016.01.08	8	88 500.00	74 121.00	74 121.00	1.5
	in 2015	20.0.01.00	J	4 909 000.00	4 671 861.92	4 649 905.65	
· Jtai	2010			- 555 500.00	- 51 1 00 1.0Z	4 545 500.00	

 $<sup>\</sup>boldsymbol{*}$  Day of payment for the NBP bills on the tender date.

Annex 4. Fine-tuning operations in 2015

No.	Tender date*	Maturity date	Maturity period (in days)	Nominal value of sales offers (PLN mn)	Nominal value of offers to buy (PLN mn)	Nominal value of accepted offers (PLN mn)	Average yield on bills annual 365/360 (%)
1	2015.01.20	2015.01.23	3	30 000.00	20 050.00	20 050.00	2.0
2	2015.01.28	2015.01.30	2	14 000.00	8 850.00	8 850.00	2.0
3	2015.01.30	2015.02.02	3	15 000.00	15 638.20	15 000.00	2.0
4	2015.02.27	2015.03.02	3	11 000.00	9 981.90	9 981.90	2.0
5	2015.03.30	2015.03.31	1	15 500.00	14 898.54	14 898.54	1.5
6	2015.04.29	2015.04.30	1	15 500.00	15 549.45	15 500.00	1.5
7	2015.05.29	2015.06.01	3	15 500.00	14 067.61	14 067.61	1.5
8	2015.06.29	2015.06.30	1	26 000.00	25 692.70	25 692.70	1.5
9	2015.07.30	2015.07.31	1	20 000.00	19 939.65	19 939.65	1.5
10	2015.08.28	2015.08.31	3	10 500.00	10 870.01	10 500.00	1.5
11	2015.09.29	2015.09.30	1	6 000.00	6 205.59	6 000.00	1.5
12	2015.10.30	2015.11.02	3	17 500.00	15 993.50	15 993.50	1.5
13	2015.11.27	2015.11.30	3	11 000.00	13 975.84	11 000.00	1.5
14	2015.12.30	2015.12.31	1	22 000.00	14 867.35	14 867.35	1.5
Total	in 2015			229 500.00	206 580.34	202 341.25	

<sup>\*</sup> Day of payment for the NBP bills on the tender date.

#### Annex 5.

#### Agreements with the Ministry of Finance

The agreement on the purchase and sale of foreign currencies to service liabilities and receivables of the State Treasury and principles for the performance of such service sets the rules, terms and conditions of transactions concluded between the Ministry of Finance and NBP relating to the purchase and sale of foreign currencies. The agreement sets out limits on FX transactions in 2015 in the following amounts:

- the total sales of foreign currencies by NBP to the Ministry of Finance shall not exceed the equivalent of EUR 6.200 million,
- the total amount of foreign currencies purchased by NBP from the Ministry of Finance shall not exceed the equivalent of EUR 6.500 million,

#### while:

- the accumulated absolute difference between the amount of foreign currencies sold and purchased as at the year-end shall not exceed the equivalent of EUR 6.2 billion, the accumulated absolute difference between the amount of foreign currencies purchased and sold as at year-end shall not exceed the equivalent of EUR 3.0 billion.

The agreement on the MF's PLN term deposits with NBP – pursuant to the Public Finance Act, the Minister of Finance is authorised to make interest-bearing deposits with Narodowy Bank Polski or with other bank, should there be a temporary surplus of funds on the central account of the State Budget. In 2015, the limit for the Ministry of Finance term deposits placed with NBP, counted in terms of daily balances, was as follows:

- PLN 3.5 billion in the period from 1 January to 2 February, 20 March to 7 May and 1
  July to 3 August and from 25 September to 3 November,
- PLN 2.0 billion in the period from 3 February to 19 March, from 8 May to 30 June, from
  4 August to 24 September and from 4 November to 31 December.

#### Annex 6.

#### Money Market Dealers in 2015

The Money Market Dealers System was introduced by NBP in 1992. Narodowy Bank Polski selects entities for the function of Money Market Dealers once a year (in December).

In 2015, the banks with the Money Market Dealer status were the exclusive circle authorised to participate in fine-tuning open market operations, used irregularly, with maturities of up to 7 days

In 2015 the following entities were Money Market Dealers (order by bank number):

- 1. Powszechna Kasa Oszczędności Bank Polski SA
- 2. Bank Handlowy w Warszawie SA
- 3. ING Bank Śląski SA
- 4. Bank BPH SA
- 5. Bank Zachodni WBK SA
- 6. Bank Gospodarstwa Krajowego
- 7. mBank SA
- 8. Bank Millennium SA
- 9. Bank Polska Kasa Opieki SA
- 10. Raiffeisen Bank Polska SA
- 11. Societe Generale SA Oddział w Polsce
- 12. Deutsche Bank Polska SA6
- 13. Bank BGŻ BNP Paribas SA<sup>7</sup>

<sup>&</sup>lt;sup>6</sup> Deutsche Bank Polska SA became a Money Market Dealer on 30 March 2015, i.e. after the accession by the entity to the group of banks quoting the WIBID and WIBOR reference rates.

<sup>&</sup>lt;sup>7</sup> Until 30 April 2015, Bank Gospodarki Żywnościowej SA (on 30 April 2015 Bank Gospodarki Żywnościowej SA merged with BNP Paribas Bankiem Polska SA and the merged bank operates under the name Bank BGŻ BNP Paribas SA).

Annex 7. Daily information (as at the month-end)

Items	XII 2014	12015	11 2015	111 2015	IV 2015	V 2015	VI 2015	VII 2015	VIII 2015	IX 2015	X 2015	XI 2015	XII 2015
CENTRAL BUDGET:													
	284 184.32		49 683.77	70 544.47	99 592.77	118 789.20	139 442.33	166 473.37	190 666.41		242 685.58	267 402.19	289 877.82
expenses	313 205.08	28 703.10	58 483.35	84 485.88	112 771.29	135 915.19	163 163.29	190 071.57	213 098.40	241 182.28	273 399.52	299 893.37	332 203.32
deficit (-) or surplus (+)	-29 020.76		-8 799.59	-13 941.41	-13 178.51	-17 125.99	-23 720.95	-23 598.20	-22 431.99		-30 713.94	-32 491.18	-42 325.50
central budget funds	80.15		33.01	37.00	27.98	21.97	20.21	18.29	19.33		12.73	17.24	14.87
MF foreign currency account	14 211.90		13 791.55	20 469.44	30 536.07	33 456.68	33 604.75	26 843.54	30 712.34	27 069.80	26 689.56	21 744.16	7 992.93
MF zloty term deposits in NBP	795.00		540.00	940.00	1 160.00	1 024.00	285.00	2 397.00	406.00	1 189.30	993.00	498.00	1 535.00
CURRENCY IN CIRCULATION	142 928.81		141 674.39	143 969.85	146 524.50	148 601.33	150 171.43	152 780.90	154 602.64	154 893.26	158 055.80	158 851.57	163 225.78
CURRENT ACCOUNT									:				
(including required reserve account)	47 218.52	28 905.55	32 208.94	38 355.79	39 158.88	25 559.20	46 089.17	36 939.55	48 145.12	30 312.03	20 910.01	45 734.15	48 666.91
Balance deviation from													
required reserve*	12 522.85		317.04	3 141.95	3 886.08	753.33	10 767.15	1 282.10	12 262.26	-5 789.57	1 108.01	8 539.82	11 551.75
REFINANCING LOAN	0.00		00.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
marginal lending	0.00		0.00	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00	0.00	0.00
rediscount	0.00		0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00	0.00	00.0	0.00
INTRADAY CREDIT	35 300.01	4	45 523.51	45 964.67	49 497.52	44 683.10	49 435.62	50 408.53	48 526.48	55 635.76	50 374.10	50 019.16	44 839.89
DEPOSIT FACILITY	1 740.00		2 100.39	43.50	44.00	2779.16	324.00	159.30	40.90	72.00	2 729.95	42.00	558.10
**************************************	VV 664 44	406 047 00	00 00 70	04 00 40	400 44	07 405 03	07 606 32	22 000 00	10 37E CA	04 000 40	404 650 50	04 040 60	74 404 00
OPEN MARKEL OPERATIONS	04 001.44	100 047.02	99.201.70	91 00 18	00 490.11	97 405.05	0 303.40	00 007.00	99.575.64	3	00.000 101	0	00.121.47
Kepo (-)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NBP bills 7-days (+)	84 661.44	91 847.02	89 299.88	91 881.99	86 490.11	83 337.42	76 303.40	80 882.55	69 375.64	91 900.49	85 657.00	81 812.68	74 121.00
NBP bills <7-days (+)	0	15 000.00	9 981.90	0.00	0.00	14 067.61	0.00	0.00	0.00	0.00	15 993.50	0	0
* NO TOO	7	c	90	4 53	1 47	4	7 67	7 70	7	60	7	4 40	7
	08.1	20.2	06.1	55.1	4.	94.	10.1	9	0.40	00.1	4.	24.	00.1
ver	925.00	1 960.00	1 470.00	935.00	1 780.00	353.00	1 465.00	2 625.00	215.00	1 005.00	2 085.00	2 842.50	20.00
WIBOR %		,											
NO	2.09	2.05	2.11	1.62	1.60	1.59	1.61	1.61	1.63	1.81	1.60	1.61	1.71
N/L	2.09	2.05	5.09	1.62	1.61	1.59	1.60	1.61	1.63	1.77	1.61	1.62	1.64
SW	2.08	2.02	1.99	1.62	1.60	1.61	1.62	1.61	1.64	1.64	1.62	1.63	1.60
2W	2.08	2.02	1.94	1.62	1.62	1.62	1.63	1.63	1.63	1.65	1.65	1.65	1.64
1M	2.08	2.01	1.89	1.64	1.63	1.65	1.66	1.66	1.66	1.67	1.67	1.67	1.65
3M	2.06	2.00	1.81	1.65	1.65	1.68	1.72	1.72	1.72	1.73	1.73	1.73	1.72
	2.04	1.97	1.79	1.68	1.68	1.80	1.82	1.83	1.83	1.84	1.83	1.82	1.79
WIBID %													
N/O	1.80		1.86	1.39	1.37	1.32	1.35	1.36	1.39	1.51	1.34	1.37	1.41
NL	1.81		1.84	1.36	1.37	1.33	1.34	1.36	1.39	1.47	1.34	1.38	1.35
SW	1.88		1.79	1.42	1.41	1.41	1.42	1.41	1.44	1.44	1.42	1.43	1.40
2W	1.88		1.74	1.42	1.42	1.42	1.43	1.43	1.43	1.45	1.45	1.45	1.44
1M	1.88		1.69	1.44	1.43	1.45	1.46	1.46	1.46	1.47	1.47	1.47	1.45
ЭМ	1.86	1.80	1.61	1.45	1.45	1.48	1.52	1.52	1.52	1.53	1.53	1.53	1.52
12M	1.84		1.59	1.48	1.48	1.60	1.62	1.63	1.63	1.64	1.63	1.62	1.59
USD/PLN (fixing)	3.5072		3.6980	3.8125	3.5987	3.7671	3.7645	3.7929	3.7780	3.7754	3.8748	4.0304	3.9011
EUR/PLN (fixing)	4.2623	7	4.1495	4.0890	4.0337	4.1301	4.1944	4.1488	4.2344	4.2386	4.2652	4.2639	4.2615
EUR/USD	1.2153	1.1311	1.1221	1.0725	1.1209	1.0964	1.1142	1.0938	1.1208	1.1227	1.1008	1.0579	1.0924
OFFICIAL RESERVE ASSETS (as at the end of the month)	he month)												
in PLN mn	352 256.90	370 037.90	360 588.80	370 293.80	370 370.70	387 714.90	391 735.80	374 253.80	373 053.50	383 089.80	390 509.40	395 158.60	370 296.70
in EUR mn	82 644.80	87 934.70	86 899.30	90 558.50	91 819.10	93 875.40	93 395.00	90 207.70	88 100.70		91 557.10	92 675.40	86 893.50
Purchase (-) or sale (+) of foreign currency	-2 604.15	-3 728.92	5 030.50	1 834.31	1 308.10	-2 049.23	2 010.46	-762.12	-248.49		-4 288.20	-3 644.58	525.72

<sup>\*</sup> Average deviation of current account from the required reserve calculated cumulatively from the beginning of reserve requirement period. \*\* Open market operations are reported at nominal value. The balance of this position includes NBP bills minus repo operation.

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