

# **REPORT**

## **MONETARY POLICY INSTRUMENTS OF THE NATIONAL BANK OF POLAND 2006**

### **BANKING SECTOR LIQUIDITY**

Warsaw 2007

# Summary

Pursuant to Article 227 para. 1 of the Constitution of the Republic of Poland, the National Bank of Poland is responsible for the value of Polish currency. Article 3 of the Act on the National Bank of Poland of 29 August 1997 stipulates that the basic objective of NBP shall be to maintain price stability, and it shall at the same time act in support of the Government economic policies, insofar as this does not constrain the pursuit of the basic objective of the NBP. The basic responsibilities of the NBP are stipulated in the Act on the National Bank of Poland and in the Banking Law Act.

The following documents served as the basis for the NBP activity in 2006: *Monetary Policy Strategy beyond 2003*, *Monetary Policy Guidelines for the Year 2006* and *National Bank of Poland: Plan of Activity 2004–2006*.

According to the guidelines of the monetary policy, the National Bank of Poland has an obligation to maintain the price stability with the use of short-term interest rates. By determining the **basic NBP interest rates**, the Monetary Policy Council determines the yields of the monetary policy instruments. Using the open market operations, the central bank maintains the short-term interest rates at the level compliant with the pursued objective of the monetary policy. The basic NBP rate is the reference rate which determines the direction of the monetary policy. This rate influences the level of market rates with the maturity comparable to that of basic open market operations. The NBP deposit and lombard rates determine the fluctuation band of overnight (O/N) interest rates in the interbank market. The band is symmetric against the reference rate and creates the range of acceptable fluctuations of the short-term interest rates.

In 2006, the Monetary Policy Council reduced the basic NBP interest rates twice. In February 2006 the reference rate was reduced from 4.50% to 4.25%, the lombard rate from 6.00% to 5.75% and the deposit rate from 3.00% to 2.75%. In March 2006 the interest rates were further reduced by 25 basis points, the reference rate from 4.25% to 4.00%, the lombard rate from 5.75% to 5.50% and the deposit rate from 2.75% to 2.50%. The width of the fluctuation band of market rates remained unchanged and amounted to +/-1.5 percentage points.

**Open market operations** are the basic instruments used by the NBP for the purposes of the monetary policy implementation and the banking sector liquidity management. Within the framework of those operations, the NBP issues 7-day NBP bills once a week (on Fridays). The minimum yield on the NBP bills is determined by the NBP reference rate.

The volume of open market operations conducted by the NBP depended on the level of the banking sector liquidity surplus resulting from the factors beyond the NBP`s control. The surplus of the liquidity measured with the scale of the NBP bills issues maintained at the level of 19,758 million zloty on average in 2006 and was by 3,059 million zloty (i.e. 18.3%), higher than the average level in 2005.

**The total absorption of funds in the banking sector**, measured with the scale of NBP bills issues and the level of the Ministry of Finance term deposits in zloty with the NBP, amounted to 24,823 million zloty (19,758 million zloty - NBP bills and 5,065 million zloty – the deposits of the Ministry of Finance) on average and was by 3,116 million zloty ( i.e. 14.4%), higher than in 2005.

*Table 1. Liquidity in the banking sector between 2001 and 2006*

Period	NBP bills	MF term deposits with the NBP	NBP bills share in the total absorption (%)	NBP bills and MF term deposits (total absorption)
2006	19 758	5 065	80	24 823
2005	16 699	5 008	77	21 707
2004	5 275	12 192	30	17 467
2003	6 251	6 067	51	12 318
2002	10 565	7 275	59	17 840
2001	14 701	3 660	80	18 361

Source: NBP

In 2006 the banks which met the requirements of the NBP and the Banking Guarantee Fund were granted the access to the basic open market operations. The group of the banks which were the most active in the money and FX markets obtained the status of the money market dealers authorising them to participate in fine-tuning operations.

Throughout 2006 no fine-tuning or structural operations were conducted by the NBP.

Standing facilities supplemented the basic open market operations. They allowed the commercial banks to manage the short-term liquidity using the marginal lending facility and the deposit facility. The banks compensated for the deficits in the liquidity with the marginal lending facility; the interest rate on which constituted the maximum cost of raising the short-term money in the market. The surplus of the liquidity at the end of the operating day was placed as overnight deposits by commercial banks with the NBP.

The additional instrument of the central bank's monetary policy used to stabilize the liquidity and to reduce the short-term interest rates volatility in 2006 was the **required reserve maintenance system**. Commercial banks had an obligation to maintain their required reserves with the NBP on the current accounts or on the required reserve accounts. The interest rate on the required reserves in 2006 stood at 3.5% for liabilities, except for the funds raised through sales of securities under repurchase agreements where it was 0%.

The NBP activities within the monetary policy operational framework in 2006 facilitated the maintenance of the **short-term money market interest rates** at the level coherent with the inflation target set by the Monetary Policy Council. Some fluctuations of the market interest rates resulted from the temporary distortions in liquidity conditions and reflected the interbank market's expectations for the change of the central bank basic interest rates. The average absolute deviation of the market rate with a maturity of one week (WIBOR SW) from the NBP reference rate in 2006 amounted to 6 basis points, as in 2005.

*Table 2. Use of standing facility and the changes of money market rates between 2001 and 2006*

Period	Standing facility, annual average (in mln zloty)			Average reference rate (%)	Deviation of rates from the reference rate in basis points (annual average)					Av. dev. of banks' current accounts from req. reserve (in mln zloty)
	Deposit facility	Marginal lending facility	Balance (credit/deposit)		O/N	SW	2W	1M	POLONIA	
2006	150	50	-100	4,06	10	6			16	35
2005	162	29	-133	5,34	21	6			29	28
2004	310	22	-288	5,79	40		10			24
2003	167	34	-133	5,67	28		7			25
2002	80	170	89	8,82	90			32		43
2001	715	234	-481	16,13	142			42		151

*All interest rates in the table were calculated according to a uniform basis of 365 days in a year.*

*Source: NBP*

The main and at the same time the most volatile factor reducing the banking sector liquidity in the period was the increase in the currency in circulation. In the whole year, the average level of currency increased by 9,223 million zloty, (i.e. by 15.6%), while a year ago the increase in the currency in circulation amounted to 6.9%. The increase in the surplus of the banking sector liquidity was a result of the NBP foreign exchange transactions related to the flows of EU funds. Within the period from December 2005 to December 2006 the purchase of foreign currencies by the NBP exceeded the sale by 5,762 million zloty. The gradual increase in the surplus of the banking sector liquidity in 2005 was translated into the level of the surplus of the liquidity in 2006.

From the beginning of 2006 the NBP widened the range of information about the current liquidity in the interbank market. The data were presented on each operating day in the Reuters information service on the NBPM website.

The monetary policy operational framework used by the National Bank of Poland in 2006 was to a great extent coherent with the regulations in force at the Eurosystem.

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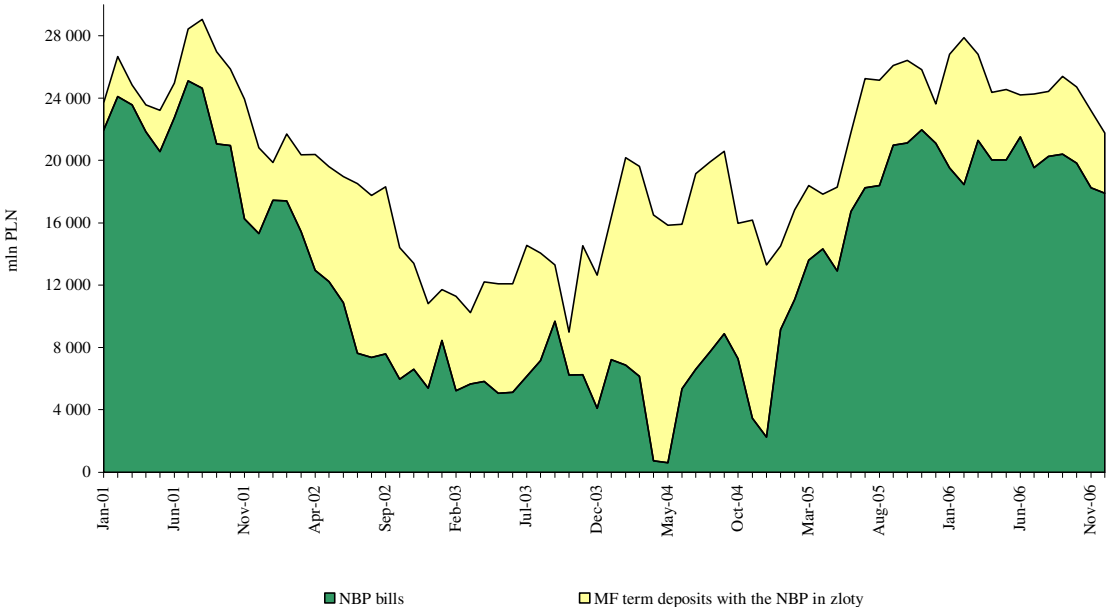
# Chapter I

## Banking sector liquidity

The surplus of the banking sector liquidity measured by the NBP bills issues, has maintained since mid-1990s. The lowest volume of the NBP bills issue was recorded in April and May 2004 when it stood at 740 million zloty and 625 million zloty, respectively. At the same time the MF term deposits with the NBP fluctuated between 15.2 – 15.8 billion zloty on average within the period of maintaining the required reserve. The situation was reversed in 2005 being a result of the framework agreement between the NBP and the MF on depositing MF funds on the zloty deposit accounts with the NBP. The MF deposits decreased to the level of 5.0 billion zloty on average in 2005 and 2006, while at the same time the level of NBP bills in those years amounted to 16.7 billion zloty and 19.8 billion zloty, respectively. The surplus of the banking sector liquidity resulted mainly from the higher purchase of foreign currencies by the NBP due to the inflow of the EU funds. The main factor that reduced the liquidity in that period was the increase in the currency in circulation.

Between 2001 and 2006, the total absorption of funds of the banking sector, calculated as the total of NBP bills issues and the level of the Ministry of Finance zloty term deposits with the NBP, fluctuated between 12.3 and 24.8 billion zloty, which was presented on Figure 1. The share of the MF term deposits with the NBP in the total absorption of funds in the above mentioned years fluctuated between 20 and 80%.

Figure 1. Surplus of the banking sector liquidity in the years 2001 - 2006

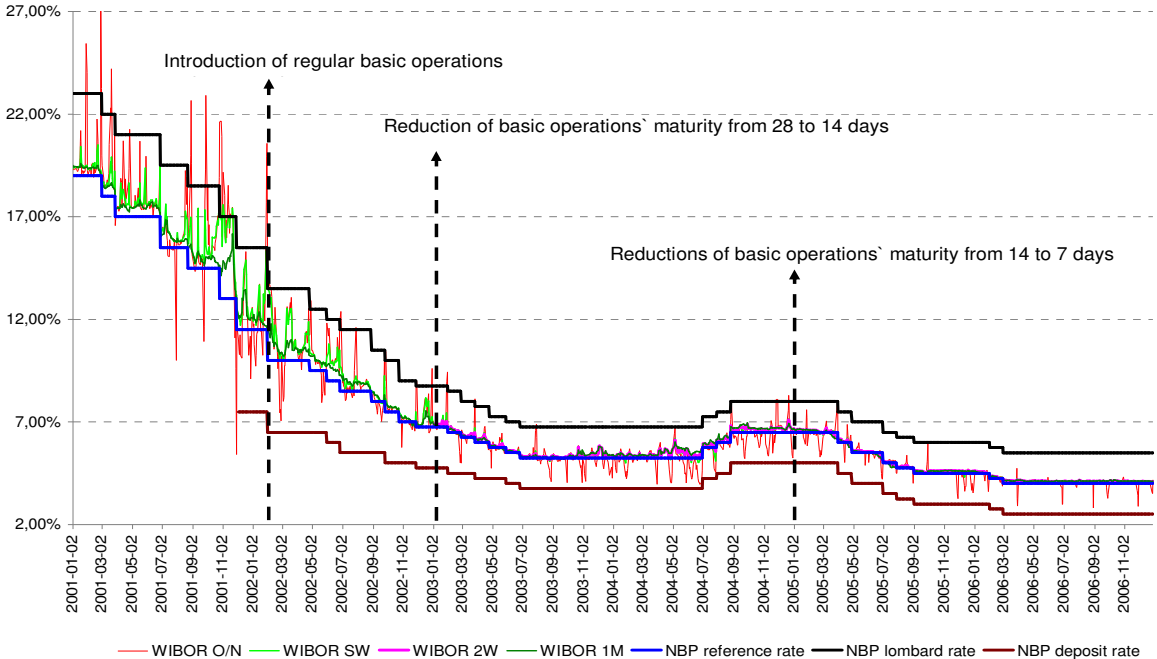


Source: NBP

Since 2001 the following changes have been taking place in the monetary policy instruments system: the deposit facility has been introduced, the system of conducting open market operations has been changed from the irregular to regular one, the maturity of the issued the NBP bills has been gradually reduced from 28 days through 14 to 7 days and the changes to the required reserve system have been introduced (the reserve rate has been lowered and the interest rate on the reserve has been introduced), while at the same time the NBP basic interest rates have been reduced and the band between them has been narrowed.

As a result of this change, the significant reduction of the interest rates fluctuations in the interbank market has been observed.

**Figure 2. Changes in the level of fluctuations of the shortest-term interest rates in the interbank market against the open market operations conducted in the years 2001-2006**



Source: NBP

### I.1 Liquidity developments in 2006

The surplus of the banking sector liquidity, measured with the scale of the NBP bills issue, remained at the level of 19,758 million zloty on average in 2006 and was by 3,059 million zloty, (i.e. 18.3%), higher than the average level in 2005. The fluctuation in the liquidity in the money market in individual months resulted from high volatility of autonomous factors that were independent of the central bank.

The list below presents the monthly changes of the most important factors in 2006 (change in the average level of the selected factor in a given month as compared to the previous month in absolute terms):

	<u>the smallest change</u>		<u>the biggest change</u>	
	in million zloty	in %	in million zloty	in %
– public sector deposits in zloty with the NBP	50	0.7	3,679	29.9
– currency in circulation	162	0.2	3,046	4,8
– (net) purchase/sale of foreign currencies	45	0.5	1,252	23.2
– required reserve of the banks	10	0.1	600	4.5

The individual autonomous factors in daily terms changed to the greater extent than the monthly fluctuations, which had an impact on the significant fluctuations of the banking sector liquidity on individual days. The highest daily volatility of the public sector deposits amounted to 3.3 billion zloty, of the foreign currencies purchase to 2.3 billion zloty, of the foreign currencies sales to 0.7 billion zloty, while the daily change of currency in circulation stood at 0.8 billion zloty. The daily changes to the individual autonomous factors which are difficult to predict explain why the interest rates fluctuations in the interbank market did occur.

The autonomous factors in individual months which exercised different impacts on the changes to the surplus of the banking sector liquidity resulted in the balance of the NBP bills fluctuations between 18.5 and 21.5 billion zloty from the beginning of the year to the end of 2006 Q3. At the end of the year the increase in the currency in circulation and the required reserve (in December its growth resulted mainly from the completion of the NBP aid in the restructuring process of one of the banks) caused in the decrease in the surplus of the liquidity to 17.9 billion zloty at the end of the year.

*The list below presents the factors that determined the banking sector liquidity in 2006. The factors presented below illustrate the changes (a decrease or an increase) as an annual average in 2006 as compared to 2005.*

*Factors increasing liquidity (in mln zloty):*

– net foreign currencies purchase by the NBP	6,953
– other items, net	3,064 <sup>1</sup>
– payment of the NBP profit to the state budget	2,663
– NBP bills discount	890
– payment of the interests on the NBP bonds	479
– payment of the interests on the required reserve	384
– marginal lending facility	15
– deposit facility (compared to the previous year)	6
<b>Total:</b>	<b>14,454</b>

*Factors decreasing liquidity (in mln zloty):*

– currency in circulation increase	9,223
– banks' reserve requirements level increase	1,277
– public sector deposits in zloty increase with the NBP	529

<sup>1</sup> The increase in the liquidity due to other net items resulted mainly in the payment on the interest on the term deposits (both in zloty and in foreign currencies) and on the current accounts of the public sector, the NBP withdrawals related to the costs of operations, the decrease in the average balance of funds on the Social Insurance Institution (*Zakład Ubezpieczeń Społecznych – ZUS*) accounts, the social insurance funds' accounts, and the balance of funds on the European Commission zloty account.



– *refinancing loan repayment*

366

**Total:**

**11,395**

As a result of the above mentioned factors the surplus of the banking sector liquidity in 2006 increased by 3,059 million zloty as compared to the average level in 2005.

The increase was primarily due to the NBP foreign exchange transactions stemming from the higher purchase of foreign currencies by the central bank in relation to the inflow of the EU funds. Within the framework of the currency exchange of the EU funds, the NBP purchased foreign currencies to the amount of 6,239 million zloty and the balance of all foreign exchange transactions had an impact on the increase in the banking sector liquidity by 6,953 million zloty as an annual average.

The main factor that reduced the liquidity in that period was the increase in the currency in circulation (by 9,223 million zloty).

**The total absorption of funds of the banking sector**, measured with the scale of the NBP bills issue and the level of the Ministry of Finance term deposits with the NBP, amounted to 24,823 million zloty in 2006 (19,758 million zloty – the NBP bills and 5,065 million zloty – the deposits of the Ministry of Finance) on average and was by 3,116 million zloty, (i.e. 14.4%), higher than in 2005.

## **I.2 Impact of autonomous factors on the banking sector liquidity in 2006**

### **I.2.1 Purchase and sale of foreign currencies by the NBP**

The purchase and sale of foreign currencies by the NBP resulted in the increase in the banking sector liquidity in 2006 by 6,953 million zloty (the annual average).

Purchase of foreign currencies by the NBP was related to:

- the use of European Union funds within the framework of pre- and post-accession assistance funds – 15,043 million zloty;
- the exchange of funds coming from loans from the international financial organisations for zloty and the repayment of loans granted from the governments of other countries – 2,217 million zloty;
- the exchange of a part of funds raised from the issue of bonds to the foreign markets for zloty – 33 million zloty.

Sale of foreign currencies by the NBP resulted from:

- the currency exchange of 89% of the membership fee paid to the European Commission account – 8,803 million zloty;
- the services to the central budget units the accounts of which are maintained with the NBP – 1,342 million zloty;
- the return of funds used in 2004 from the structural fund accounts by the Ministry of Finance in order to improve the central budget liquidity – 1,559 million zloty.

## **Foreign currency operations conducted by the central bank within purchase and sale of foreign currencies framework in 2006:**

### *Transactions related to the membership in the European Union*

The majority of foreign exchange transactions conducted by the central bank was related to servicing the foreign currencies purchase transactions, related to the use of pre- and post-accession EU funds in the Polish zloty, transferred by the European Commission in euro. The Common Agricultural Policy funds had the biggest share in those transactions (50% of exchanged funds).

The sale of foreign currencies by the central bank in 2006 was related mainly to the exchange of a part of the Polish membership fee paid to the EU in zloty. In the previous year, the European Commission exchanged the membership fee paid in zloty not only with the NBP but also in the market. Those transactions took place in the first three months of the year.

As a result of the operations related to Poland's membership in the EU, the NBP purchased foreign currencies amounting to a net value of 6,239 million zloty, which affected the increase in the banking sector liquidity.

### *Foreign operations of the State Treasury*

The operations of the State Treasury related to the servicing of foreign liabilities and receivables of the State Treasury, consisting in the purchase of foreign currencies by the NBP, influenced the banking sector liquidity. Foreign exchange transactions in 2006 were conducted pursuant to Annex to the agreement concluded between the Ministry of Finance and the NBP in December 2005.

#### ***Box 1. Agreement on purchase and sale of foreign currencies***

On 30 December 2005, the Ministry of Finance and the NBP signed an Annex to the agreement on purchase and sale of foreign currencies for servicing foreign liabilities and receivables of the State Treasury and on the servicing principles of 12 January 2004. The Annex introduced limits on the value of foreign exchange transactions in 2006: the purchase of foreign currencies by the NBP up to 3,900 million euro and the sales up to 3,900 million euro, with the accumulated absolute difference between the sales amount and the purchase amount as at the end of the year not exceeding an equivalent of 1,750 million euro.

In 2006, the agreement was executed in 14.89% as regards the purchase of foreign currencies by the NBP. The value of the conducted transactions amounted to 2,245 million zloty. No foreign currencies were sold for the purpose of servicing the foreign debt of the State Treasury. The foreign exchange operations consisting in the repayment of the liabilities of the State Treasury due to the foreign creditors were executed with the use of the funds from the MF foreign currency account held with the NBP. The account was credited with funds from the Treasury bonds issues to foreign markets.

In 2006 the Ministry of Finance issued the bonds amounting to 3,000 million euro and 85,000 million yen to the foreign markets. The funds were transferred to the MF currency account with the NBP and amounted to the equivalent of 13,551 million zloty. This amount and the funds transferred from the previous year (3,387 million zloty) were used to cover the liabilities due to the creditors from the Paris

Club (6,414 million zloty), the London Club (1,828 million zloty), related to the foreign bonds of the State Treasury (5,376 million zloty), foreign loans, shares and other liabilities (3,300 million zloty). Apart from the foreign exchange operations concerning the servicing of foreign liabilities and receivables of the State Treasury and the transactions related to the use of the EU funds, the central bank conducted foreign exchange operations with the entities which were authorised to purchase or sell foreign currencies with the central bank pursuant to the bank account agreement.

### **1.2.2 Public sector deposits held with the central bank**

The public sector deposits held with the central bank include: the current funds of the central budget units, the term deposits, the special fund resources and other.

The average level of the public sector deposits in 2006 amounted to 8,764 million zloty and was by 529 million zloty higher than in the previous year (8,235 million zloty).

The changes in the level of the public sector deposits with the NBP resulted from the flows of funds between the banking sector and the public sector. The main factors determining the changes in the level of the public sector deposits included:

- the volume of the central budget incomes and expenditures;
- the settlements for the Treasury Securities issues and repurchase;
- the payments resulting from servicing other transactions related to meeting the borrowing needs of the public sector;
- the use of the EU funds;
- the binding agreements between the Ministry of Finance and the NBP that introduced (decreased) the limits for the MF term deposits with the central bank;
- the flows of funds between Poland and the European Union (payment of the Poland's membership fee to the European Union budget).

In 2006, the share of the MF zloty term deposits in the central budget deposits decreased for yet another year and amounted to around 57.8%, as compared to 61.1% in 2005 and 82.1% in 2004.

#### ***Box 2. MF term deposits held with the NBP in 2006***

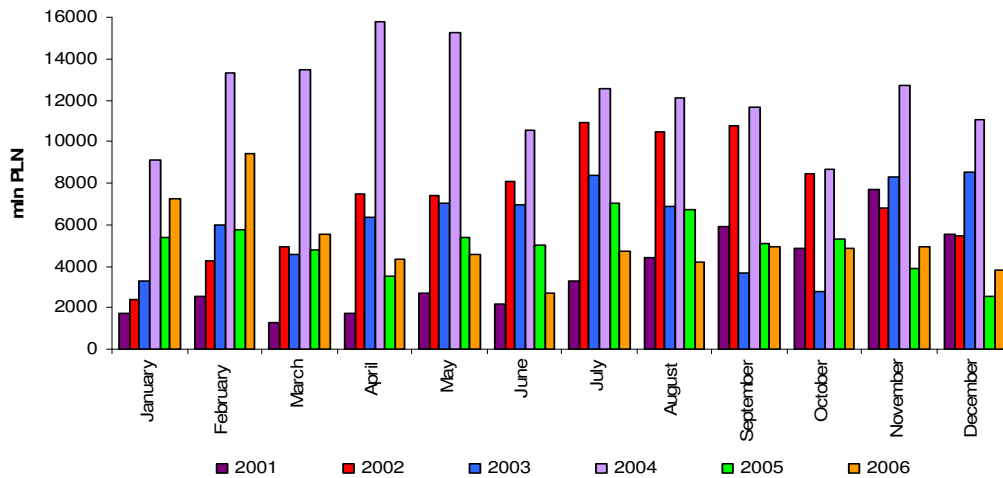
Pursuant to Article 164 of the Public Finance Act, in 2006 the Minister of Finance was entitled to place the interest-bearing surplus funds deposits in the Polish zloty with the NBP or Bank Gospodarstwa Krajowego.

The detailed principles for depositing such funds with the NBP were specified in the framework agreement concluded between the Ministry of Finance and the NBP on 15 December 2004 and its subsequent amendments:

- Annex of 27 September 2005 specifying daily limits on the balances of deposits with the NBP for 2006;
- Annex of 16 January 2006 modifying the limits for 2006.

In 2006 the limit of the MF deposits with the NBP calculated according to daily balances amounted to 6 billion zloty from 1 January to 19 January; to 15 billion zloty from 20 January to 15 February; 6 billion zloty from 16 February to 11 August and to 5 billion zloty from 12 August to 31 December.

**Figure 3. Average level of the Ministry of Finance term deposits with the NBP in individual months of 2006**

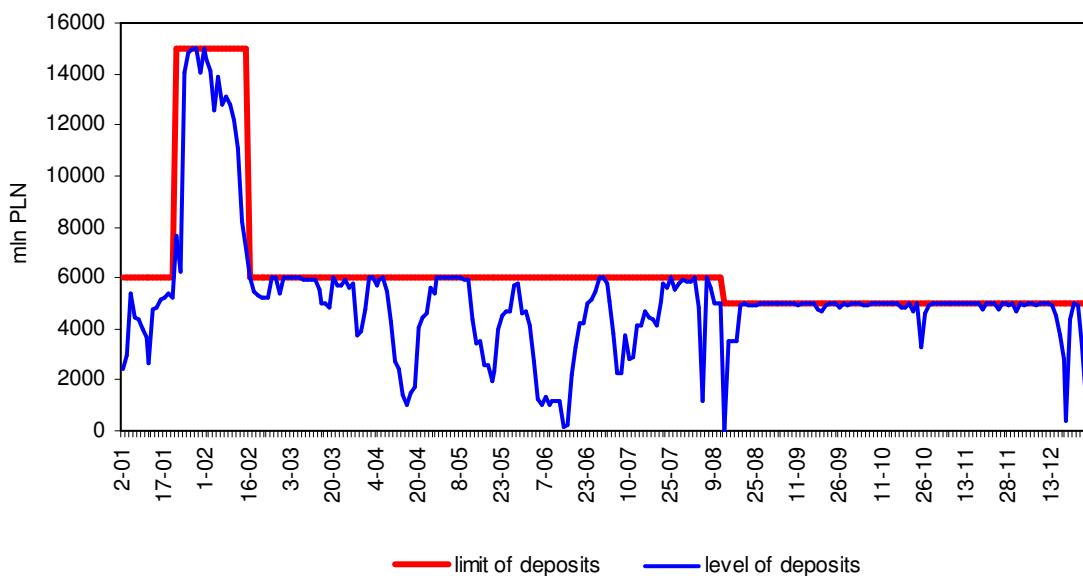


Source: NBP.

In 2006 the Ministry of Finance held funds on the term deposit zloty accounts with the NBP amounting to the monthly average of 5,065 million zloty, i.e. the similar amount as in the previous year (5,008 million zloty). The amount accounted for 80.7% of the set daily limit of deposits, set forth in the *Monetary Policy Guidelines for the Year 2006* at the level of 5.6 billion zloty. In 2005 the Ministry of Finance used 62.40% of the daily limit of deposits on average at the level of 8 billion zloty.

The levels of deposits in the last two years were significantly lower than the highest level recorded in 2004 when no deposit limits were in force and the average value of term deposits in the year amounted to 12,192 million zloty.

**Figure 4. Use of MF term deposits limit with the NBP in 2006**



Source: NBP

The introduction of the deposit limits resulted in the decrease of the term deposits share in the total volume of central budget deposits and reduced the fluctuations of the budget deposits held with the NBP which in turn was favourable for the stabilisation of the interest rates in the money market.

In 2006 a part of surplus funds of the central budget was placed in the interbank market through Bank Gospodarstwa Krajowego. Conditional liquidity transactions of the buy-sell-back type were concluded with banks that acted as the Government securities dealers. Such transactions were collateralised with both the Treasury bills and Treasury bonds. In addition, in 2006 the Ministry of Finance continued to deposit funds in the interbank market of non-collateralised term deposits.

The scale of the operations performed in Polish zloty between the Ministry of Finance and the commercial banks has increased since August 2006 with the largest accumulation of the deposits taking place in November. The high level of the deposits stemmed from the increase in the income of the State Budget.

The transfer of funds to the interbank market resulted from the decrease in the daily limit of MF term deposits with the NBP. It increased the volume of the amount of open market operations.

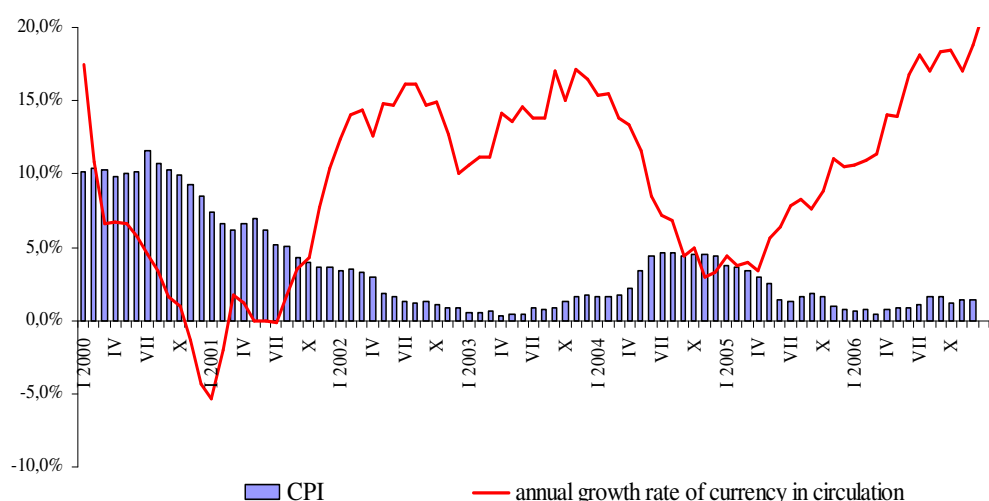
Pursuant to the *Resolution 71/2005 of the Management Board of the NBP of 23 December 2005 on conditions of accepting the term deposits in zloty by the NBP, the maintenance periods and the interest principles*, not only the Ministry of Finance but other ministries as well as began to deposit their surplus funds with the NBP. Those deposits amounted to 138 million Polish zloty per year (annual average).

### **I.2.3 Currency in circulation**

In 2006 the volume of currency in circulation stood at 68,305 million zloty on average. In the whole year the average increase in the currency in circulation amounted to 9,223 million zloty which means a growth of 15.6% as compared to the previous year. In 2005 the average level of currency in circulation increased by 3,799 million, i.e. by 6.9%.

The analysis of the structure of the currency in circulation shows that in the subsequent months of 2006 the share of currency in circulation in the total supply of currency gradually increased and amounted to 15.8% at the end of December 2006 (in December 2005 the share of currency in the M3 monetary aggregate amounted to 15.2%).

**Figure 5. Growth rate of the currency in circulation against inflation in 2000 - 2006**



Source: NBP

Throughout the whole 2006, with the economy growth in that period, the significant acceleration of the growth rate of the most liquid financial assets, the currency in circulation in particular was observed. The indicator of the annual growth rate of currency remained at the high level in the second half of the year. In December 2006 the annual growth rate of the currency for the average level of currency in a month amounted to 18.8%, while in the corresponding period of the previous year it stood at 10.5%<sup>2</sup>. Such a significant growth of the currency in circulation has not been recorded since the beginning of 2000, though it should be noted that the years 2002 – 2004 were also the period of its intensive growth. The analysis of the monthly growth rate of the currency in circulation points out the significant fluctuations of the currency in circulation growth rate in the analysed period (particularly in the first half of 2006). The highest average monthly growth rate of the currency in circulation was recorded in April and in December 2006, when it amounted to 4.9% and 3.5% respectively, while the lowest one in January 2006 when it stood at 1.8%.

The high growth rate of the currency in circulation in 2006 could be the result of the intensive development of the Polish economy, which was recorded in that period. The gradual increase in the GDP growth rate<sup>3</sup> was observed throughout the year, as well as a significant boom in loans and deposits both of the part of enterprises and households<sup>4</sup>.

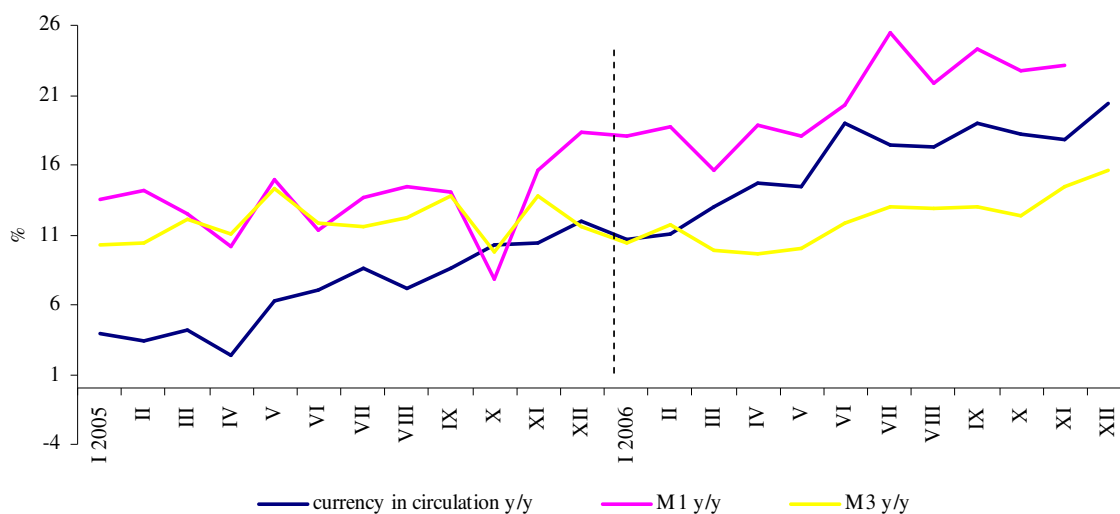
Due to the sound financial standing of households, the volume of financial assets owned by households increased dynamically which contributed to the intensification of both the growth rate of the investments made by households and the growth rate of the currency in circulation.

<sup>2</sup> The increase in currency in circulation in December 2006 accounted for 27.3% of the increase in that year.

<sup>3</sup> The GDP growth rate in the consecutive quarters of 2006<sup>3</sup>: 2006 Q1 – 5.2%, 2006 Q2 – 5.5%, 2006 Q3 – 5.8% and 2006 Q4 5.5%.

<sup>4</sup> In the annual terms, the growth rate of loans for households amounted to 33%, including a 54% growth rate of mortgage loans; which was the highest label in five years. The loans denominated in foreign currencies accounted for a significant share of those loans.

**Figure 6. Growth rate of the currency in circulation against M1 and M3 monetary aggregates**



Source: NBP

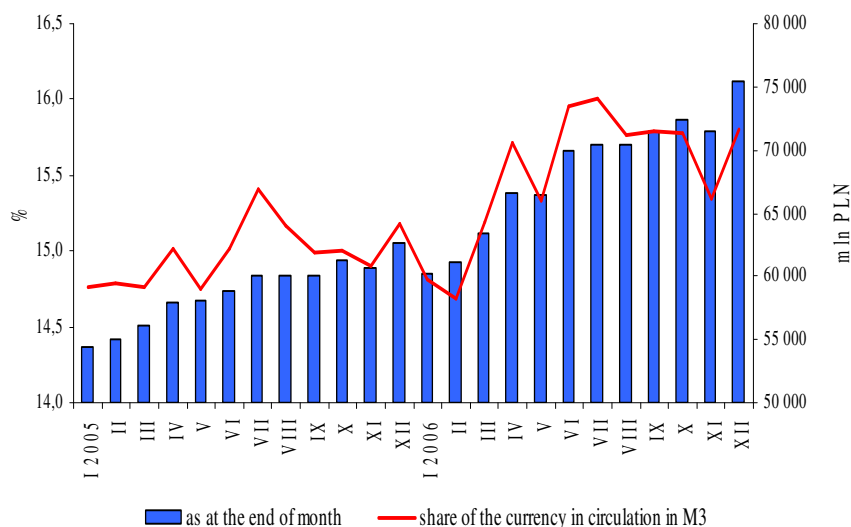
In the consecutive months of 2006, the tendencies focusing on the reallocation of the structure of investment portfolio of the population were observed. The reduction of the NBP basic interest rates resulted in the decrease in interest rates level calculated by the commercial banks<sup>5</sup>, which along with the increase in the growth rate of the currency in circulation, contributed to the change of the structure of the portfolio for the benefit of alternative investments, such as units of investment funds or Treasury securities.

The increase in the growth rate of the currency in circulation in the subsequent months of 2006 could be accounted for the intensification of the flow of funds from abroad, i.e. private transfers of salaries and wages as well as the EU funds. The data on the turnover in foreign currencies show that there was an increase in the purchase of the foreign currencies in the bureaux de change.

In 2006, in line with a long-term seasonal trend, an increased growth rate of the currency in circulation was observed before Christmas and Easter, and during holiday months.

<sup>5</sup> Weighted average interest on zloty term deposits of households throughout 2006 decreased by 20 basis points, from 2.8% in January 2006 to 2.6% in December 2006.

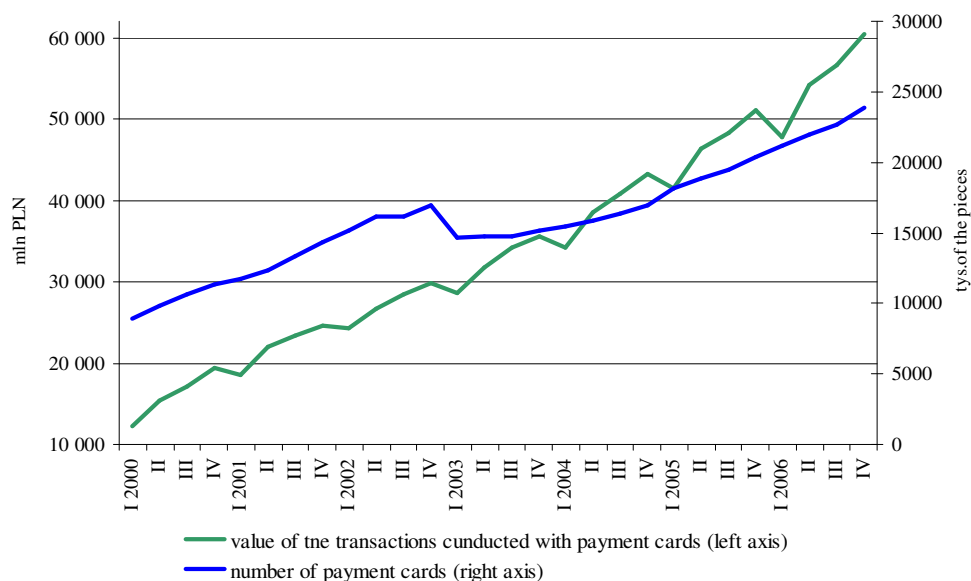
**Figure 7. Level of the currency in circulation and its share in the M3 broad monetary aggregate in 2005 and 2006**



Source: NBP

The element which constrained the dynamic growth of the currency in circulation was the further development of the non-cash payments market. This situation caused the systematic reduction in the level of the currency in circulation which at the same time contributed to the increase in the surplus of the banking sector liquidity. The constant upward trend in the consecutive months of 2006 was observed with regard to both the number and the value of transactions performed with the use of various types of cards. The value of the transactions performed with various type of cards increased by 9,332.3 million zloty in 2006 and amounted to 60,398.60 million zloty at the end of 2006 Q4, out of which 77.2% were the transactions of cash withdrawal at the cash dispensers.

**Figure 8. Development of the payment cards in 2000 – 2006**



Source: NBP



## Chapter II

# Impact of monetary policy operating system on the banking sector liquidity in 2006

## II.1 Monetary policy instruments in 2006

### II.1.1 Interest rates

Interest rates are the primary instruments for *Monetary Policy Guidelines* implementation. In 2006, the Monetary Policy Council reduced the NBP basic interest rates twice by further 25 basis points each time. The reference rate was reduced from 4.50% to 4.00%, the lombard rate — from 6.00% to 5.50%, and the deposit rate — from 3.00% to 2.50%. The fluctuation band for the short-term market rates remained unchanged at +/- 1.5 percentage points.

#### **Box 3. NBP interest rates**

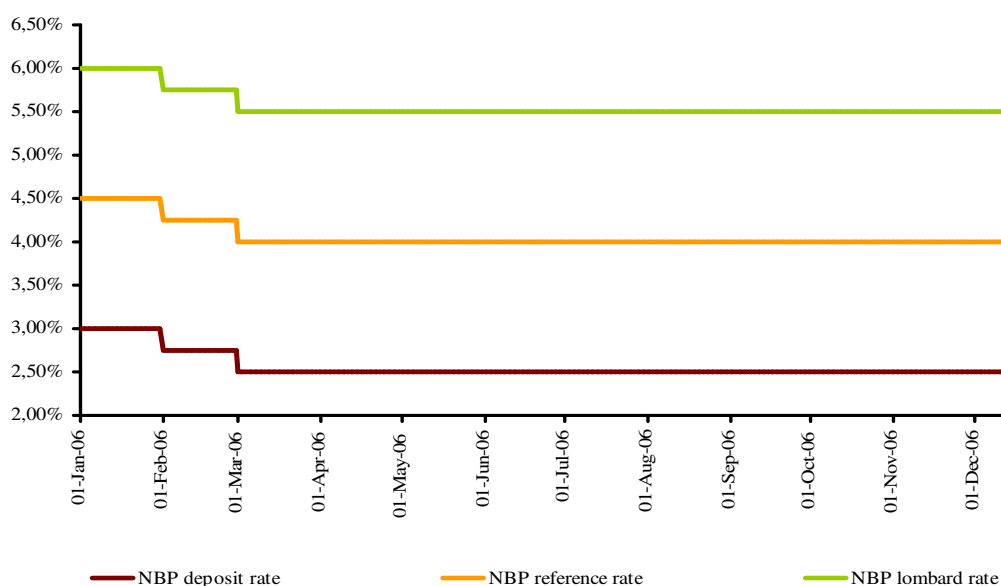
The NBP reference rate specifies the minimum yield of the basic open market operations and simultaneously affects the interest rate on deposits with maturity similar to that of open market operations in the interbank market.

The NBP lombard rate specifies the ceiling for the increase in the overnight market rates and indicates the cost of financial means offered by the central bank.

The NBP deposit rate specifies the floor for the decrease in the overnight market rates and indicates the profitability of the overnight deposits with the NBP.

The NBP deposit and lombard rates establish the fluctuation band for the overnight rate, which is symmetric against the central bank reference rate.

*Figure 9. NBP interest rates in 2006*



Source: NBP

## II.1.2 Open market operations

Open market operations serve as an instrument facilitating the maintenance of the short-term interest rates at a level specified by the Monetary Policy Council.

Open market operations have been conducted pursuant to Resolution 14/2005 of the Monetary Policy Council of 20 December 2005 on the principles of conducting open market operations, and pursuant to Resolution of the Monetary Policy Council of 28 September 2005 on adopting the *Monetary Policy Guidelines for 2006*.

### Basic operations

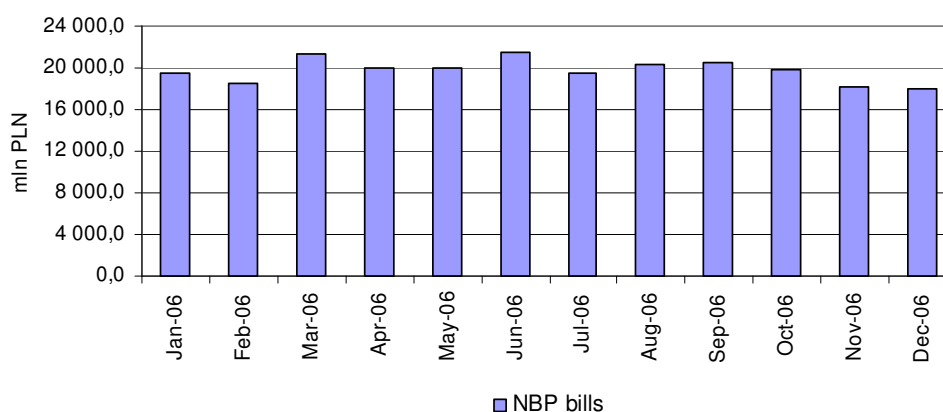
In 2006 the NBP conducted open market operations issuing the NBP bills with 7-day maturity. On 1 January 2006 all banks participating in the SORBNET system, having both an account at the Securities Register held with the NBP, and having the ELBON application obtained the access to the basic open market operations. At the same time it was decided that the group of the most active banks in the money and foreign exchange markets would be authorised to participate in the fine-tuning operations.

In the previous year the basic open market operations were conducted regularly on a weekly basis, on Fridays. The yield on the NBP bills was established in the course of tenders, and its floor was determined by the NBP reference rate.

In 2006, the central bank supplied the NBP bills of the nominal value of 1,025.0 billion zloty whereas the market demand amounted to 2,700.4 billion zloty. The central bank accepted bids of the nominal value of 1,025.0 billion zloty. The demand for the NBP bills exceeded their supply by 163%. There was no overbidding observed in the first three quarters of 2006. Overbidding occurred as late as Q4 and to such an extent that an increase in overbidding (annual average) could be seen as compared to the previous year.

The volume of open market operations at the end of 2006 amounted to 18,400 million zloty and was by 4,600 million lower than in the previous year. In annual average terms, the volume of the operations was observed higher by 3,059 million zloty as compared to the previous year and amounted to 19,758 million zloty.

Figure 10. Average monthly issue of the NBP bills in 2006



Source: NBP.

### **Fine-tuning operations**

The National Bank of Poland had the right to conduct fine-tuning operations in 2006. Such operations may have been initiated in the case of unexpected, short-term changes in the banking sector liquidity that could have led to undesirable, from the point of view of the monetary policy, fluctuations of the short-term interest rates. These could have included both absorbing and providing operations, i.e. the issue of the NBP bills, the repo operations, and early NBP bills repurchase. The group of the most active banks in the money and foreign exchange markets were authorised to participate in the fine-tuning operations<sup>6</sup>. The National Bank of Poland did not conduct any fine-tuning operations in 2006.

### **Structural operations**

Structural operations are aimed at a long-term change in the banking sector liquidity.

If such a need had to be met, the central bank could conduct operations consisting in the earlier repurchase of its own bonds (the portfolios of the commercial banks contain the bonds amounting to 7,816 million zloty), the purchase and the sale of securities in the market, or the issue of the long-term debt securities. No structural operations were conducted by the NBP throughout 2006.

## **II.1.3 Required reserves**

For the purpose of the short-term interest rates stabilisation, the National Bank of Poland used the averaged system of the required reserves provisions. At the beginning of 2006, 64 commercial banks had to maintain required reserves while at the end of the year the number increased to 69

### ***Box 4. Required reserves***

The banks maintain the required reserves on the current accounts or the required reserve accounts with the NBP. The affiliated cooperative banks maintain the required reserves through the correspondent bank.

Required reserves are calculated on the basis of repayable funds accumulated on bank accounts and the funds obtained from the sales of securities, with the exception of funds received from other domestic bank and/or obtained from abroad for a period of at least 2 years.

The reserves are calculated and maintained in zloty. The required reserve ratios were not changed in 2006 and stood at:

- 0% for funds obtained from the sale of securities under the repurchase agreements (repo transactions);
- 3.5% for other liabilities.

All banks deduct the equivalent of 500,000 euro from the calculated required reserves.

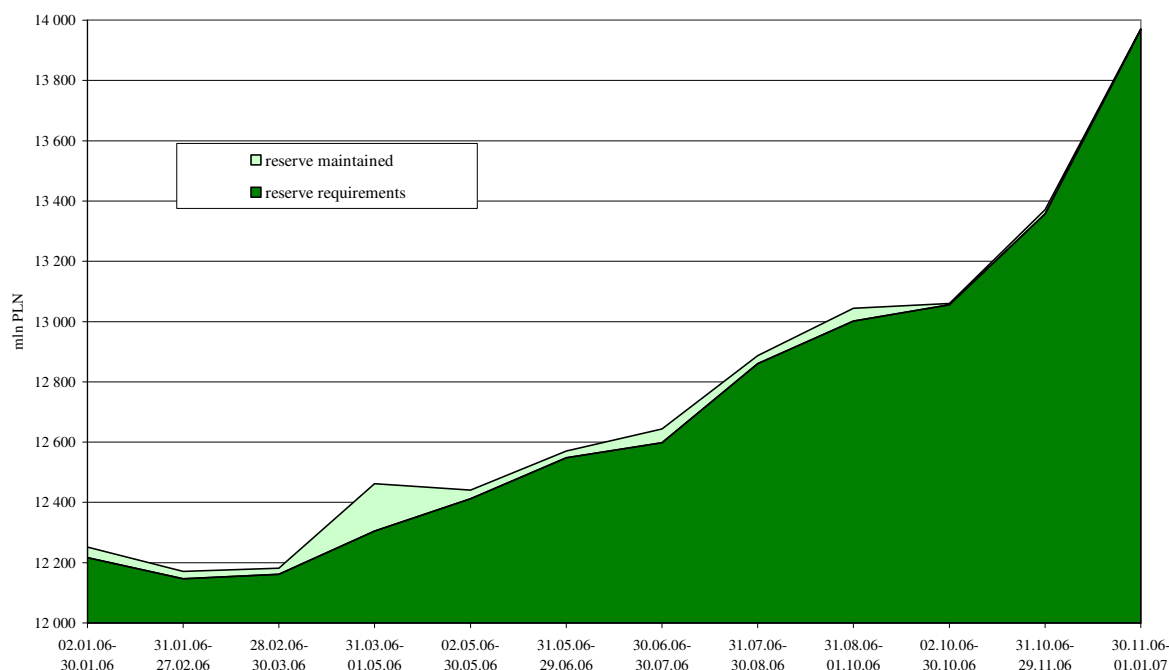
The principles for calculating and maintaining the required reserves by banks are specified in Resolution 15/2004 of the Management Board of the NBP of 13 April 2004, with later amendments, and Resolution 1/2004 of the Monetary Policy Council of 30 March 2004 on the rates of banks' required reserves and on the remuneration rate on the required reserves.

The level of the required reserves stood at 13,970 million zloty on 31 December 2006. It increased by 1,905 mln zloty (15.8%) as compared with the level on 31 December 2005.

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<sup>6</sup> The list of the bank is presented in Annex 3.

*Figure 11. Changes in the level of required and maintained reserves in 2006*



Source: NBP

The increase in required reserves in 2006 was determined by a growth in deposits (by 11.9%) that constitute the basis for calculating their level as well as the expiry of the exemption from the part of reserve requirement by one bank on December the 1<sup>st</sup>, 2006).

The average level of funds in the banks accounts slightly exceeded the level of the required reserves in all the required reserve maintenance periods, by 35 million zloty, i.e. by 0.28%, on average. In individual periods, the excess ranged from 2 million zloty (0.02% in December to 157 million zloty in April (1.27%).

The marginal differences between the maintained and required reserves in the individual maintenance periods result mainly from the fact that the interest on the maintained reserve funds was calculated only the amount of the required reserves as well as from using the instruments that facilitate the management of funds in the NBP accounts by banks (intra-day credit, deposit facility and marginal lending facility if there is a risk that the required reserves will not be maintained).

In 2006, there were 20 cases observed when the required reserves were not maintained on the required level by the banks. It resulted from the unexpected orders performed by banks on the last day of a given required reserve maintenance period. The amounts of the deficiencies were differentiated and ranged from 270 zloty to 27 million zloty. Pursuant to Article 41 of the Act on the NBP, the penalty interest, in the amount of double interest on the marginal lending facility, was calculated on the amount of the required reserve deficiencies. The amount of calculated interest totalled to 836,000 zloty, out of which 646,500 zloty were charged to 9 banks in January 2007 for the non-compliance with the required reserves in the last maintenance period of 2006 ending on 1 January 2007. All the banks paid the penalty interest on time. In the previous year only one of the banks subject to the

recovery programme was partly exempt from the requirement to maintain the required reserves, pursuant to the decision taken by the NBP Management Board in 1999. The exemption amount was 421.7 million zloty and it expired on 1 December 2006.

#### **II.1.4 Standing facilities**

**Standing facilities** are aimed at stabilising liquidity conditions in the interbank market, and reducing fluctuations of the overnight market rates. They are performed on the initiative of commercial banks. Thanks to such operations banks have the possibility to supplement shortage of funds or deposit fund surpluses with the central bank. Standing facilities include the marginal lending and deposit facilities.

**Marginal lending facility** is a source of overnight liquidity for the commercial banks. It is collateralised with the Treasury securities, and its interest rate determines the cost of raising funds with the central bank. In 2006, banks took recourse to the marginal lending facility on four occasions to supplement the shortage of funds mainly on the last days of the required reserve maintenance periods. The average daily use of the marginal lending facility stood at 42.6 million zloty, as compared to 22 million zloty in 2005.

**Deposit facility** enables commercial banks to place their surplus of the liquid funds on the term deposit accounts with the central bank, to be returned on the following operating day. The average daily level of the overnight deposits in 2006 stood at 149.9 million zloty, whereas in 2005 it amounted to 155.9 million zloty.

#### **II.1.5 Other components of NBP monetary policy operational framework**

##### **Intraday credit facility in zloty**

The intraday credit facility is one of the most important components of whole settlement system. It serves to support both the liquidity management by the commercial banks during the operating day, and the interbank settlements with the NBP. It is non-interest bearing and is subject to repayment at the end of the same operating day. It is fully collateralised with the Treasury securities (ownership transfer). In 2006, 86.5% of collaterals were bonds. In 2006, banks used the intraday credit facility on a daily basis, and its average balance stood at 11.0 billion zloty – higher by 48.6% in comparison with 2005. Three banks repaid the intraday credit on the following operating day in the total amount of 45.6 million zloty within the year. In 2006, 43 commercial banks had an access to the intraday credit facility, that was three more than in the previous year.

##### **Intraday credit facility in euro**

The intraday credit facility in euro, granted to the national RTGS participants, ensures the liquidity of settlement in SORBNET-EURO. It is subject to repayment by the end of the operating day on which it is taken out, and is non-interest bearing.

The intraday credit may be collateralised with the Treasury bonds subject to MTS-CeTO fixing, and the principles of securities valuation – against the amounts of the credit granted – are fully compliant with the Eurosystem standards. In 2006 only one bank used the intraday credit facility and its average daily debt with the NBP stood at 0.6 mln euro, compared to 0.3 mln euro in 2005. On one occasion the credit was not repaid, in the amount of 24.9 thousand euro.

### **POLONIA rate**

At the beginning of 2005, the NBP introduced the POLONIA (Polish Overnight Index Average) rate. It is the average overnight rate weighted with the volume of transactions in the interbank deposit market. Its level reflects real interest rates on the short-term interbank deposits. Due to its structure (similar to that of the EONIA rate functioning in the Eurosystem), it makes a better indicator than WIBOR O/N of the actual cost of overnight deposit. The POLONIA rate is published on the Reuters website (NBPS) by the NBP on a daily basis at 5 p.m.<sup>7</sup> Its average deviation from the NBP reference rate amounted to 16 basis points in 2006 (with the NBP reference rate being calculated on the basis of 365 days in a year). The average deviation of WIBOR O/N stood at 10 basis points, which was lower than that one recorded in 2005, when it amounted to 21 basis points.

### **Publishing information on Reuters website**

In 2006, the NBP provided banks with more information about the current liquidity scenario in the market. Therefore, the following data were presented on each operating day on the NBPM page on Reuters website:

- on a monthly basis:

- the required reserve maintenance period,
- the level of the reserves required in a given maintenance period,

- on a weekly basis:

- forecast of the average daily balance on the current account from the day of the NBP bills issue (within basic operations) until the day preceding their maturity.

- on a daily basis:

- the daily balances in the following categories:
  - the current account balances of the commercial banks,
  - the deposit facility used by the commercial banks,
  - the marginal lending facility granted by the NBP to the commercial banks,
  - the average current account balances of the commercial banks, from the beginning of a particular maintenance period to the preceding operating day,

All these data are monitored from the beginning of a particular maintenance period to the preceding operating day.

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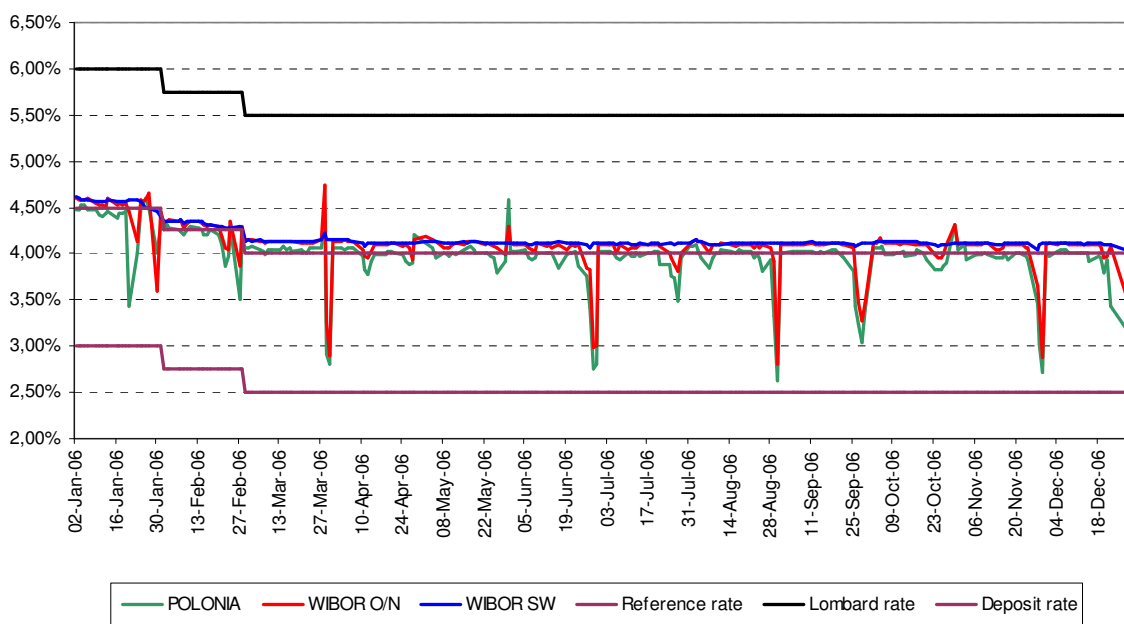
<sup>7</sup> POLONIA fixing is conducted by the NBP on each operating day at 4:45 p.m. Each participant of the fixing is required to submit to the central bank a list of O/N transactions completed with other participants and routed for settlement on a particular day by 4.30 p.m. The list includes the amount of zloty deposits, the rate at which the transaction is concluded, and the name of the bank – counterparty to the overnight transaction.

## II.2 Developments in the interbank money market

The central bank had an influence on the level of the market rate with a maturity of one week (WIBOR SW) by conducting the basic open market operations in 2006. The WIBOR SW rate remained within the fluctuation band determined by the NBP lombard and deposit rates. The average deviation of WIBOR SW from the NBP reference rate in 2006 amounted to 6 basis points, i.e. remained unchanged since 2005 (where the NBP reference rate was calculated on the uniform basis of 365 days in a year). POLONIA and WIBOR O/N fluctuated within a wider band. Due to their shorter maturity, they were more sensitive to changes in the current liquidity developments in the banking sector. For comparison, the average deviation of EONIA (the rate monitored by the ECB) from the ECB base interest rate in 2006 amounted to 8 basis points.

In the averaged required reserve system, commercial banks can flexibly adjust the current account balance on a particular day to their liquidity requirements. As a result, no major fluctuations of the short-term rates can be observed throughout most of the required reserve maintenance period. Major fluctuations of short-term market rates can be observed only in the last days of a required reserve maintenance period, when banks are obliged to meet the requirements related to the maintenance of the average level of the current account balance on a strictly defined minimum level.

*Figure 12. WIBOR and POLONIA fluctuations against NBP interest rates in 2006*

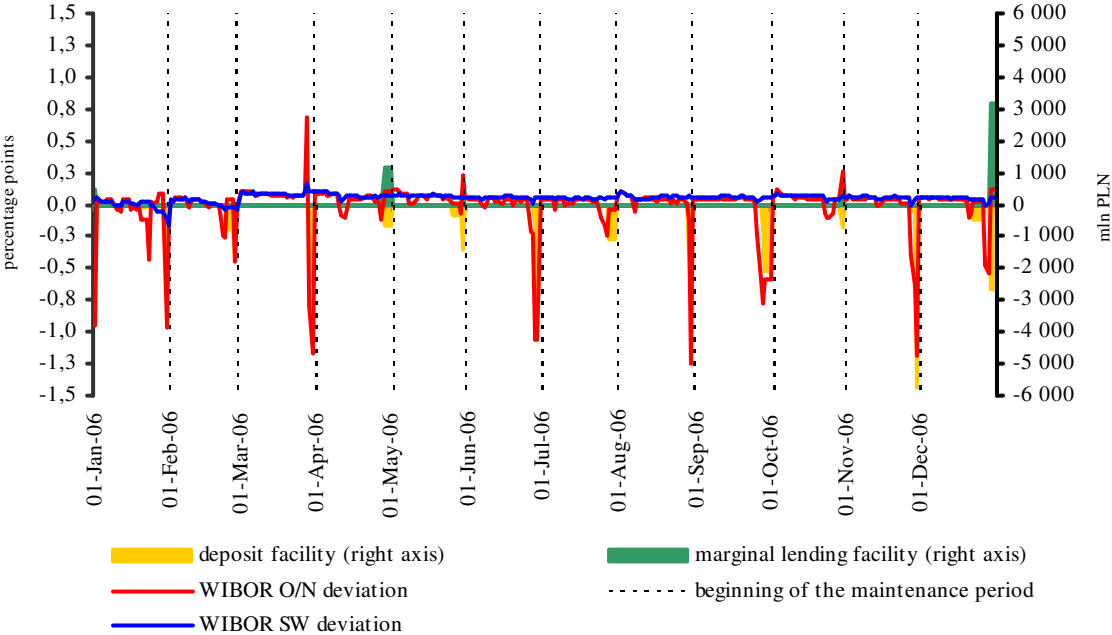


Source: NBP, Reuters.

This period faces the largest financial flows which result in the strongest fluctuations of the commercial banks' current account balances. In such situation banks can use standing facilities with the central bank. If the liquidity surplus occurs in the entire banking system, banks use the deposit facility at the end of the maintenance period. In 2006, such situation took place in every maintenance period and the average level of deposit facility in the individual months fluctuated between 32 million zloty in October and 398 million zloty in December. In the event of the liquidity shortage, commercial

banks may use the marginal lending facility. In 2006 banks used the NBP's marginal lending facility four times apart from using the deposit facility. In the last days of the April and December maintenance period, the amounts related to the marginal lending facility exceeded those related to the deposit facility. These operations are relatively costly (the marginal lending facility determines the ceiling on the cost of the overnight deposits in the market) or entail lost profits (the deposit facility determines the lowest return on overnight deposits).

**Figure 13. Standing facilities offered by the NBP against the deviation of WIBOR rates from the NBP reference rate in 2006**



Negative values on the right axis indicate reduced liquidity of the banking sector (deposits placed at the NBP), whereas positive values indicate provided liquidity (marginal lending facility offered by the NBP).

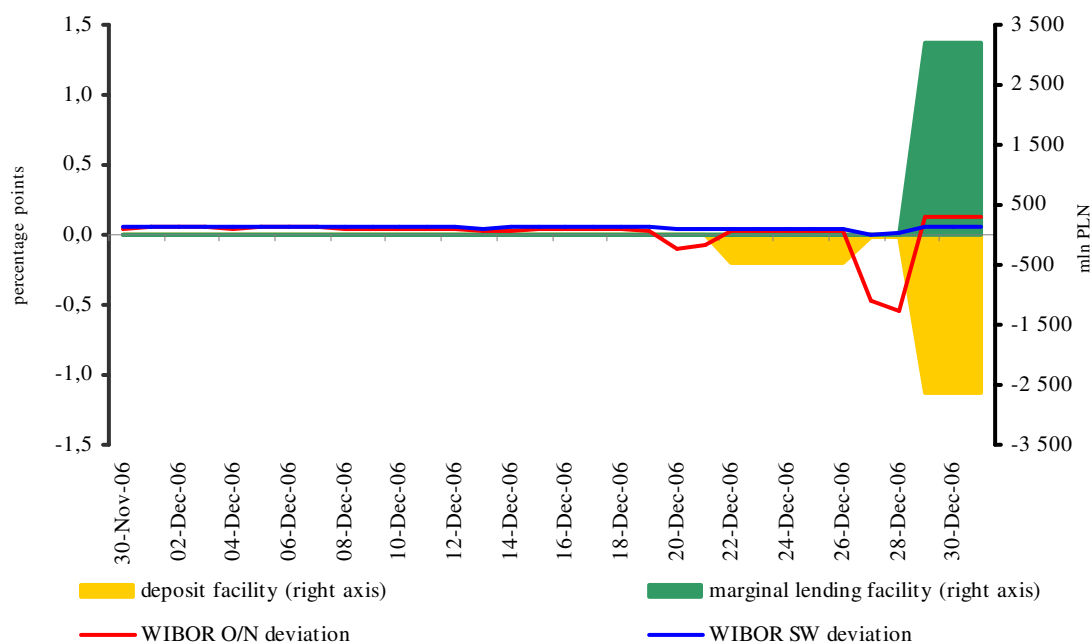
Source: NBP, Reuters.

In December 2006 market faced an unusual situation occurred. December is a month when liquidity on the money market is relatively diversified. The end of the year usually involves the increased transfer of funds related to the necessity to account for the final dates of settlements. Most payments (related primarily to the central budget flows) are effected in the last days of the year, and the ensuing movements in the current account balance effect the changes in the market interest rates. Consequently, the fluctuations spread of the market interest rates is extended.

All those factors gave rise to the difficulties in the settlements in the interbank market. As a result, on 29 December banks used the marginal lending facility and the deposit facility at the same time.



**Figure 14. Liquidity conditions and use of the standing facilities of the central bank in November and December 2006**



Negative values on the right axis indicate reduced liquidity of the banking sector (deposits placed with the NBP), whereas positive values indicate provided liquidity (marginal lending facility offered by the NBP).

Source: NBP, Reuters.

It should be emphasised that despite the observable periodical stronger fluctuations of interest rates in 2006 the average deviation of WIBOR O/N from the NBP reference rate was smaller and stood at 10 basis points, whereas in 2005 it amounted to 21 basis points. The average deviation of WIBOR SW from the NBP reference rate in 2006 amounted to 6 basis points, i.e. at the level similar to that of 2005.

**Annex 1. Absorption of short-term liquidity in operations conducted by the NBP with the banking sector and MF (mln zloty).**

	Average level of NBP bills	Average level of central budget deposits with the NBP	Average level of overnight deposits	Average level of marginal lending facility	Total
2006	1	2	3	4	1+2+3+4
I	19 534	11 031	98	0	30 663
II	18 443	12 300	140	0	30 883
III	21 281	8 632	82	0	29 995
IV	20 038	7 360	86	-146	27 338
V	20 024	7 652	85	-10	27 751
VI	21 523	5 638	156	0	27 317
VII	19 558	7 651	111	0	27 320
VIII	20 255	7 264	153	0	27 672
IX	20 428	8 127	221	0	28 776
X	19 834	10 509	32	-19	30 356
XI	18 233	10 909	209	0	29 351
XII	17 924	8 714	398	-386	26 650

	Share of the average level of NBP bills in liquidity absorption	Share of the average level of central budget deposits with the NBP in liquidity absorption	Share of the average level of overnight deposits in liquidity absorption	Share of the average level of marginal lending in liquidity absorption	Total
2006					
I	63,71%	35,97%	0,32%	0,00%	100,00%
II	59,72%	39,83%	0,45%	0,00%	100,00%
III	70,95%	28,78%	0,27%	0,00%	100,00%
IV	73,30%	26,92%	0,31%	-0,53%	100,00%
V	72,16%	27,57%	0,31%	-0,04%	100,00%
VI	78,79%	20,64%	0,57%	0,00%	100,00%
VII	71,59%	28,01%	0,41%	0,00%	100,00%
VIII	73,20%	26,25%	0,55%	0,00%	100,00%
IX	70,99%	28,24%	0,77%	0,00%	100,00%
X	65,34%	34,62%	0,11%	-0,06%	100,00%
XI	62,12%	37,17%	0,71%	0,00%	100,00%
XII	67,26%	32,70%	1,49%	-1,45%	100,00%

## Annex 2. Tenders for the NBP bills

	Tender date	Payment date	Nominal value of sales offers (m zloty)	Nominal value of offers to buy (m zloty)	Nominal value of accepted offers (m zloty)	Average accepted price (for 10,000 zloty)	Value in sales price (m zloty)	Average yield on bills (annual) (365/360)
1	06-01-06	06-01-06	21 000	26 698	21 000	9991,25	20 982	4,50%
2	06-01-13	06-01-13	21 000	29 626	21 000	9991,25	20 982	4,50%
3	06-01-20	06-01-20	17 500	36 343	17 500	9991,25	17 485	4,50%
4	06-01-27	06-01-27	14 500	28 067	14 500	9991,25	14 487	4,50%
5	06-02-03	06-02-03	16 200	27 961	16 200	9991,74	16 187	4,25%
6	06-02-10	06-02-10	17 300	31 008	17 300	9991,74	17 286	4,25%
7	06-02-17	06-02-17	21 200	32 870	21 200	9991,74	21 182	4,25%
8	06-02-24	06-02-24	22 500	31 582	22 500	9991,74	22 481	4,25%
9	06-03-03	06-03-03	21 400	33 753	21 400	9992,22	21 383	4,00%
10	06-03-10	06-03-10	21 000	33 709	21 000	9992,22	20 984	4,00%
11	06-03-17	06-03-17	21 200	30 841	21 200	9992,22	21 184	4,00%
12	06-03-24	06-03-24	21 000	26 017	21 000	9992,22	20 984	4,00%
13	06-03-31	06-03-31	21 200	27 628	21 200	9992,22	21 184	4,00%
14	06-04-07	06-04-07	19 000	23 863	19 000	9992,22	18 985	4,00%
15	06-04-14	06-04-14	22 000	28 588	22 000	9992,22	21 983	4,00%
16	06-04-21	06-04-21	19 000	29 517	19 000	9992,22	18 985	4,00%
17	06-04-28	06-04-28	18 200	22 635	18 200	9992,22	18 186	4,00%
18	06-05-05	06-05-05	17 500	31 223	17 500	9992,22	17 486	4,00%
19	06-05-12	06-05-12	22 000	31 328	22 000	9992,22	21 983	4,00%
20	06-05-19	06-05-19	20 300	32 625	20 300	9992,22	20 284	4,00%
21	06-05-26	06-05-26	21 500	35 502	21 500	9992,22	21 483	4,00%
22	06-06-02	06-06-02	22 600	33 451	22 600	9992,22	22 582	4,00%
23	06-06-09	06-06-09	24 000	37 335	24 000	9992,22	23 981	4,00%
24	06-06-16	06-06-16	21 500	37 646	21 500	9992,22	21 483	4,00%
25	06-06-23	06-06-23	18 000	32 843	18 000	9992,22	17 986	4,00%
26	06-06-30	06-06-30	19 000	34 304	19 000	9992,22	18 985	4,00%
27	06-07-07	06-07-07	20 500	41 581	20 500	9992,22	20 484	4,00%
28	06-07-14	06-07-14	19 700	46 344	19 700	9992,22	19 685	4,00%
29	06-07-21	06-07-21	18 200	48 220	18 200	9992,22	18 186	4,00%
30	06-07-28	06-07-28	21 500	44 650	21 500	9992,22	21 483	4,00%
31	06-08-04	06-08-04	19 500	40 021	19 500	9992,22	19 485	4,00%
32	06-08-11	06-08-11	21 600	42 424	21 600	9992,22	21 583	4,00%
33	06-08-18	06-08-18	19 000	38 031	19 000	9992,22	18 985	4,00%
34	06-08-25	06-08-25	20 200	41 907	20 200	9992,22	20 184	4,00%
35	06-09-01	06-09-01	20 600	45 272	20 600	9992,22	20 584	4,00%
36	06-09-08	06-09-08	18 700	44 602	18 700	9992,22	18 685	4,00%
37	06-09-15	06-09-15	19 200	49 243	19 200	9992,22	19 185	4,00%
38	06-09-22	06-09-22	21 500	48 485	21 500	9992,22	21 483	4,00%
39	06-09-29	06-09-29	24 500	62 390	24 500	9992,22	24 481	4,00%
40	06-10-06	06-10-06	18 500	47 175	18 500	9992,22	18 486	4,00%
41	06-10-13	06-10-13	17 900	58 890	17 900	9992,22	17 886	4,00%
42	06-10-20	06-10-20	19 600	67 019	19 600	9992,22	19 585	4,00%
43	06-10-27	06-10-27	21 300	61 376	21 300	9992,22	21 283	4,00%
44	06-11-03	06-11-03	16 700	67 621	16 700	9992,22	16 687	4,00%
45	06-11-10	06-11-10	17 800	79 937	17 800	9992,22	17 786	4,00%
46	06-11-17	06-11-17	17 800	91 653	17 800	9992,22	17 786	4,00%
47	06-11-24	06-11-24	19 500	108 486	19 500	9992,22	19 485	4,00%
48	06-12-01	06-12-01	20 800	137 902	20 800	9992,22	20 784	4,00%
49	06-12-08	06-12-08	17 100	140 743	17 100	9992,22	17 087	4,00%
50	06-12-15	06-12-15	17 000	177 981	17 000	9992,22	16 987	4,00%
51	06-12-22	06-12-22	16 300	234 984	16 300	9992,22	16 287	4,00%
52	06-12-29	06-12-29	18 400	26 545	18 400	9992,22	18 386	4,00%
	<b>Total 2006:</b>		1 025 000	2 700 435	1 025 000		1 024 192	

## **Annex 3. Banks – Money Market Dealers in 2006**

### **Box 5. Money Market Dealers**

Since 1 January 2006 the access to the basic open market operations has been granted to any bank which:

- participates in the SORBNET system,
- has an account with the Securities Register maintained with the NBP
- has ELBON application.

The rules for the participation in the basic open market operations are set forth in the *Regulations for the NBP maintenance of securities' accounts and depositories and for the handling of operations on securities and their registration on accounts and depositories thereof* introduced by the way of Resolution No. 29/2003 of the NBP Management Board of 12 September 2003 (as amended).

At the same time it was assumed that the access to the fine-tuning operations would be granted to the most active banks in the money and FX markets, which enter into agreements on performing the function of a Money Market Dealer with the National Bank of Poland.

The other functions of Money Market Dealers are as follows:

- participation in the fixing of WIBOR and WIBID reference rates,
- provision of information to the NBP about the O/N transactions concluded on a given day, on the basis of which the POLONIA rate is fixed,
- provision of information and data to the NBP about the current and forecasted liquidity of the bank and about the condition in the money, FX and bond markets.

Candidates for the Money Market Dealers are evaluated by the NBP on the basis of the uniform criteria of the Dealer Activity Index (IAD), covering the following issues:

- bank's offer and settlement potential,
- bank's activity in the interbank deposit market,
- bank's activity in the repo and sell/buy/back transactions market,
- bank's activity in the interest rate derivatives (FRA, IRS) and in the FX swap markets.

### **Money Market Dealers in 2006 (in alphabetical order):**

1. ABN AMRO Bank (Polska) SA
2. Bank BPH SA
3. Bank Gospodarstwa Krajowego
4. Bank Gospodarki Żywnościowej SA
5. Bank Handlowy w Warszawie SA
6. Bank PEKAO SA
7. Bank Zachodni WBK SA
8. BRE BANK SA
9. Deutsche Bank Polska SA
10. ING Bank Śląski SA
11. Kredyt Bank SA
12. PKO Bank Polski SA
13. Societe Generale SA Oddział w Polsce

#### Annex 4. Daily information (as at month-end)

Items	XII 2005	I 2006	II 2006	III 2006	IV 2006	V 2006	VI 2006	VII 2006	VIII 2006	IX 2006	X 2006	XI 2006	XII 2006
(m zloty)													
<b>CENTRAL BUDGET:</b>													
revenues	183 033,11	18 588,60	33 328,37	48 672,99	65 374,91	79 581,31	93 663,29	111 431,06	130 344,86	146 292,97	164 797,68	182 667,32	201 084,99
experiences	208 481,67	18 994,69	38 924,29	56 251,35	73 608,25	92 796,91	110 159,21	125 619,85	142 896,43	158 937,22	179 489,05	199 026,15	222 956,93
deficit(-)/surplus(+)	-25 448,56	-406,09	-5 595,92	-7 578,37	-8 233,35	-13 215,61	-16 495,92	-14 188,79	-12 551,56	-12 644,25	-14 691,37	-16 358,83	-21 871,94
central budget funds	3 757,38	2 216,17	1 735,40	2 807,74	1 920,00	1 889,07	1 828,32	1 714,25	1 882,55	1 971,54	2 776,95	2 280,50	5 614,87
MF foreign currency account	3 392,37	2 789,82	13 154,11	9 881,64	9 628,24	9 306,28	8 835,98	8 083,25	7 996,44	4 749,99	385,43	1 929,92	1 244,04
MF zloty term deposits	0,00	14 999,91	5 349,91	5 999,91	5 999,91	4 700,41	5 789,41	5 829,41	4 999,41	4 999,41	4 999,41	4 669,41	0,00
<b>CURRENCY IN CIRCULATION</b>	<b>62 596,88</b>	<b>60 218,00</b>	<b>61 122,77</b>	<b>63 437,90</b>	<b>66 524,41</b>	<b>66 390,99</b>	<b>69 885,22</b>	<b>70 466,80</b>	<b>70 478,00</b>	<b>71 518,55</b>	<b>72 378,45</b>	<b>71 430,22</b>	<b>75 377,24</b>
<b>CURRENT ACCOUNT</b>	<b>7 880,96</b>	<b>11 904,91</b>	<b>12 698,14</b>	<b>11 187,61</b>	<b>12 054,00</b>	<b>12 520,23</b>	<b>12 050,36</b>	<b>11 133,23</b>	<b>14 120,92</b>	<b>9 080,40</b>	<b>10 209,05</b>	<b>16 163,85</b>	<b>11 698,61</b>
balance deviation from required reserve	327,12	-210,77	571,91	-1 081,45	181,41	12,57	-505,32	-1 679,40	1 162,67	302,45	-3 102,21	2 247,82	224,11
<b>REFINANCING LOAN</b>	<b>3 055,68</b>	<b>2 604,89</b>	<b>2 616,82</b>	<b>2 498,55</b>	<b>3 674,87</b>	<b>2 544,48</b>	<b>2 442,77</b>	<b>2 417,67</b>	<b>2 429,92</b>	<b>2 348,62</b>	<b>2 324,05</b>	<b>2 335,46</b>	<b>5 440,17</b>
marginal lending	464,00	0,00	0,00	0,00	1 164,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3 186,24
rediscount	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
<b>INTRADAY CREDIT</b>	<b>15 267,90</b>	<b>9 123,45</b>	<b>6 766,92</b>	<b>9 308,17</b>	<b>0,00</b>	<b>10 558,96</b>	<b>13 865,79</b>	<b>12 434,53</b>	<b>13 726,46</b>	<b>17 129,45</b>	<b>14 808,82</b>	<b>15 273,35</b>	<b>16 289,62</b>
DEPOSIT FACILITY	2 581,81	2,60	0,00	0,00	683,31	0,00	2,10	2,20	3,58	2 075,88	10,81	5,82	2 647,74
<b>OPEN MARKET OPERATIONS*/</b>	<b>23 000,00</b>	<b>14 500,00</b>	<b>22 500,00</b>	<b>21 200,00</b>	<b>18 200,00</b>	<b>21 500,00</b>	<b>19 000,00</b>	<b>21 500,00</b>	<b>20 200,00</b>	<b>24 500,00</b>	<b>21 300,00</b>	<b>19 500,00</b>	<b>18 400,00</b>
repo	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-money market bills<7 days	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-money market bills 7 -days	23 000,00	14 500,00	22 500,00	21 200,00	18 200,00	21 500,00	19 000,00	21 500,00	20 200,00	24 500,00	21 300,00	19 500,00	18 400,00
<b>POLONIA**/</b>	<b>3,95%</b>	<b>4,32%</b>	<b>4,15%</b>	<b>4,06%</b>	<b>4,20%</b>	<b>4,02%</b>	<b>4,02%</b>	<b>4,08%</b>	<b>4,02%</b>	<b>3,40%</b>	<b>4,04%</b>	<b>4,00%</b>	<b>5,11%</b>
<b>WIBOR</b>													
O/N	3,61%	4,46%	4,29%	4,14%	4,16%	4,11%	4,10%	4,10%	4,09%	3,47%	4,10%	4,10%	4,18%
T/N	4,60%	4,44%	4,30%	4,14%	4,14%	4,12%	4,10%	4,10%	4,10%	4,10%	4,11%	4,10%	4,11%
SW	4,60%	4,40%	4,27%	4,15%	4,12%	4,11%	4,11%	4,11%	4,11%	4,11%	4,11%	4,11%	4,11%
2W	4,60%	4,40%	4,25%	4,15%	4,12%	4,11%	4,11%	4,11%	4,11%	4,11%	4,11%	4,11%	4,11%
1M	4,60%	4,40%	4,22%	4,15%	4,12%	4,11%	4,12%	4,12%	4,12%	4,13%	4,13%	4,13%	4,12%
3M	4,60%	4,40%	4,16%	4,17%	4,13%	4,15%	4,21%	4,18%	4,19%	4,22%	4,21%	4,20%	4,20%
12M	4,60%	4,37%	4,10%	4,17%	4,20%	4,28%	4,71%	4,55%	4,60%	4,74%	4,61%	4,53%	4,51%
<b>WIBID</b>													
O/N	3,32%	4,21%	4,10%	3,97%	3,97%	3,94%	3,94%	3,94%	3,94%	3,17%	3,95%	3,93%	3,90%
T/N	4,35%	4,20%	4,09%	3,97%	3,97%	3,95%	3,95%	3,95%	3,95%	3,94%	3,96%	3,95%	3,91%
SW	4,40%	4,20%	4,08%	3,97%	3,96%	3,96%	3,96%	3,96%	3,96%	3,96%	3,97%	3,97%	3,94%
2W	4,40%	4,20%	4,05%	3,98%	3,96%	3,96%	3,97%	3,97%	3,97%	3,96%	3,97%	3,97%	3,95%
1M	4,40%	4,20%	4,02%	3,98%	3,97%	3,96%	3,97%	3,97%	3,97%	3,97%	3,98%	3,97%	3,96%
3M	4,40%	4,20%	3,96%	3,99%	3,98%	3,99%	4,03%	4,01%	4,01%	4,03%	4,03%	4,02%	4,01%
12M	4,40%	4,17%	3,90%	3,99%	4,02%	4,09%	4,51%	4,35%	4,40%	4,54%	4,42%	4,33%	4,31%
USD/PLN ( fix )	3,2613	3,1630	3,1768	3,2491	3,0841	3,0671	3,1816	3,0831	3,0651	3,1425	3,0631	2,8911	2,9105
EUR/PLN ( fix )	3,8598	3,8285	3,7726	3,9357	3,8740	3,9472	4,0434	3,9321	3,9369	3,9835	3,8871	3,8166	3,8312
EUR/USD	1,1835	1,2104	1,1875	1,2113	1,2561	1,2869	1,2709	1,2754	1,2844	1,2676	1,2690	1,3201	1,3163
official reserve assets													
(as at the end of the month)													
m zloty	138 837,60	136 648,20	144 566,02	143 837,14	140 011,40	148 844,10	149 275,20	149 309,90	149 310,30	153 023,20	144 502,2	143 060,80	141 113,70
m euro	35 970,20	35 692,40	38 320,00	36 546,80	36 141,30	37 708,80	36 918,20	37 972,00	37 925,80	38 414,30	37 174,80	37 483,80	36 832,80
(-purchase) sale of foreign currency	-426,07	97,75	473,41	-375,00	-160,64	-1 743,44	-794,22	-881,21	-221,03	-2 380,61	509,43	251,26	-657,33

\*/ - Open market operations are reported as at nominal value.

\*\*/ - As of 24 Jan 2005, the NBP calculates POLONIA (POLISH Overnight Index Average) which is the reference rate for O/N deposits accepted or granted among participants of the POLONIA fixing.

**Annex 5. NBP monetary policy instruments in 1990 – 2006.**

Item	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Required reserves																	
Issue of NBP bills																	
Issue/repurchase of NBP bonds																	
Repo/reverse repo																	
Outright																	
Loans for central investments																	
Rediscount loan																	
Marginal lending facility																	
Deposit facility																	
Loan limits																	
Deposits for households																	
Intraday credit																	

## ***Annex 6. Monetary policy operational frameworks of the Czech Republic, Hungary and Slovakia***

The operational frameworks and the conditions for conducting the monetary policy operations by the central banks of the Czech Republic, Slovakia and Hungary share a number of similar features:

- banks use similar range of instruments in order to implement the monetary policy,
- central banks interest rates play the most important role, since they set the yields of the monetary policy operations,
- the averaged required reserve system is aimed at the reduction of volatility of short-term market rates,
- the permissible spread of the fluctuations of the shortest term market rate (overnight) is set by the interest rates on the standing facilities,
- the aim of the open market operations is to manage the banking sector liquidity and to shape short-term market rates so as to meet the level compliant with the main objective of the monetary policy,
- open market operations are of absorbing nature due to the continuous surplus liquidity of the banking sector in all these countries.

Despite the indicated similarities, the operational frameworks for the monetary policies of the discussed countries show certain differences at the same time. They affect the results of monetary policy operations, e.g. different capacity of the individual banks to stabilise the short-term market rates.

### **1. Ceska Narodni Banka (CNB)**

The main instrument used for the management of liquidity of the banking sector and for the shaping of the market rates are the reverse repo operations with a two-week maturity. Their maximum yield is determined by the CNB basic rate.

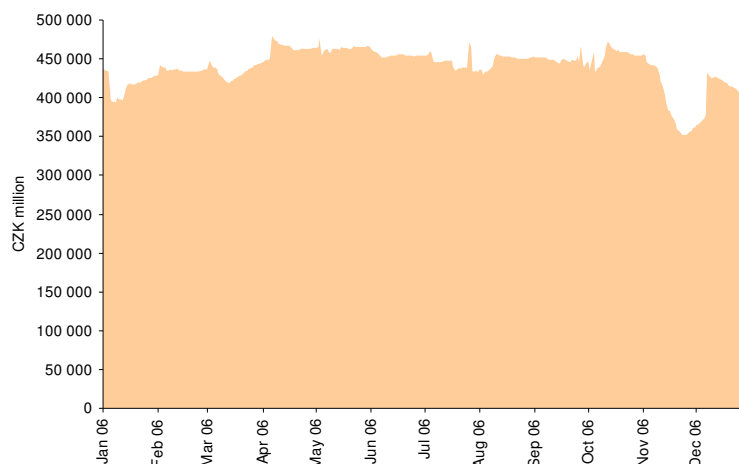
The CNB does not officially announce the rate influenced by the open market operations. One may assume that the rate in question is CZEONIA.<sup>8</sup> This results from the frequency of the open market operations. Since May 2006, the CNB has been carrying out the operations three times a week (on Mondays, Wednesdays and Fridays); prior to that date, the operations were performed on a daily basis. Due to the continuous surplus liquidity of the banking sector, the open market operations are of absorbing nature.

Unlike the other central banks under discussion, the CNB publishes information about the banking sector liquidity (with the forecast of the liquidity on the following operating day and the planned level of the basic operation if applicable inclusive) on a daily basis.

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<sup>8</sup> CZEONIA (Czech Overnight Index Average) is the average overnight rate weighted by the size of operations carried out on the interbank market. It is calculated by the CNB.

**Figure 1. Surplus liquidity of the banking sector in the Czech Republic (daily balance of open market operations)**

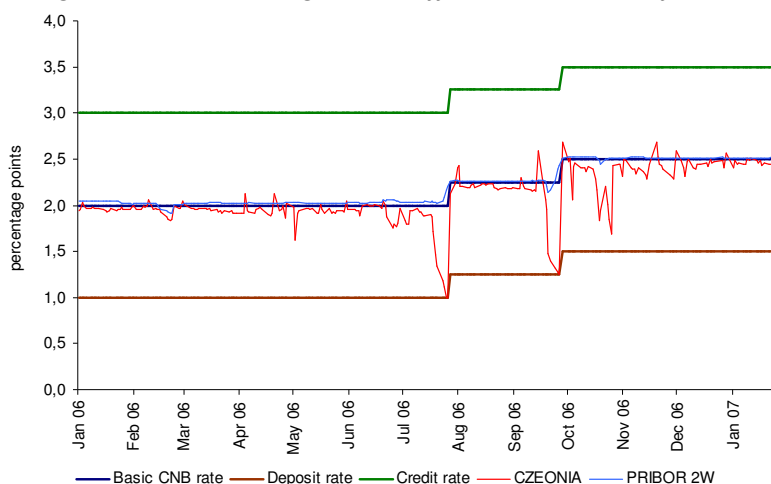


Source: Reuters, CNB.

The CNB enjoys the right to carry out the fine-tuning operations at any moment in order to counteract the unexpected changes in the banking sector liquidity and their impact on the level of the shortest term market rates.

Standing facilities serve for the stabilisation of the liquidity conditions in the market. They allow the banks to eliminate the shortage of the liquidity or to deposit the surplus with the central bank at the end of the operating day. The yields on the standing facilities determine the permissible spread of the fluctuations of the cost of the overnight deposit in the interbank market.

**Figure 2. Market rates against the official interest rates of the CNB**



Source: Reuters, CNB.

The required reserve rate is 2%. The reserve funds bear interest at the level of the CNB basic rate. Required reserve maintenance period begins with every first Thursday of a given month and ends on Wednesday preceding the first Thursday of the following month.



## 2. Narodna Banka Slovenska (NBS)

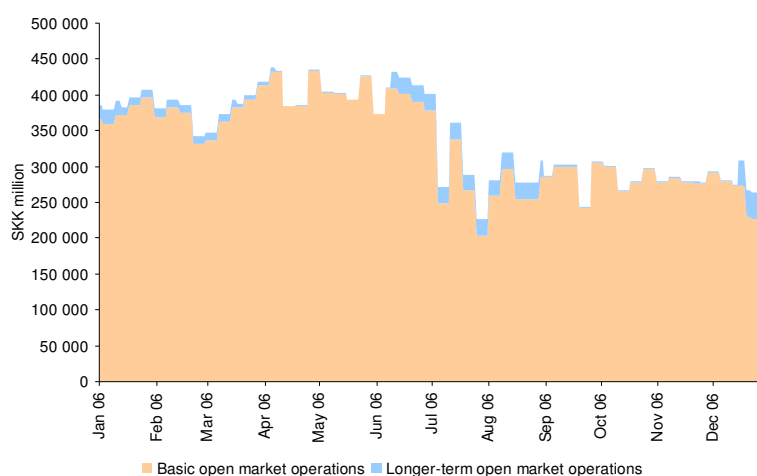
The NBS does not officially announce the market rate influenced by the open market operations.

The main open market operations carried out by the NBS are the reverse repo operations with a two-week maturity. Such operation can be collateralised with Treasury bills and bonds, as well as the securities issued by the central bank for its own portfolio.

The NBS carries out main operations once a week (on Tuesdays), using as a tool of the limit of the maximum yield on tender (equal to the basic rate of the central bank). The characteristic feature of the Slovakian central bank is the fact that the supply on tenders is not published for the basic open market operations. The NBS usually accepts all bids<sup>9</sup>, unless the proposed yields exceed the maximum tender rate. In order to meet these requirements, banks usually submit bids with the maximum possible yields.

In addition, the central bank absorbs the liquidity from the market using the longer term open market operations. They are conducted usually once a week and consist of the NBS bills issue with 3-month maturity. The NBS does not determine the tender yield, it accepts the bids, in whole or in part, with yields proposed by the banks instead. The share of 3-month NBS bills operations in total absorption is diverse and mainly depends on the interest rates submitted by the banks.

*Figure 3. Surplus liquidity of the banking sector in Slovakia (daily balance of open market operations)*



Source: Reuters, NBS.

Apart from the basic and longer-term operations, the NBS may conduct the fine-tuning operations (repo / reverse repo), structural operations (purchase or sales of Treasury securities and securities issued by the NBS), as well as the currency swap operations. In 2006, the NBS did not conduct any of these operations.

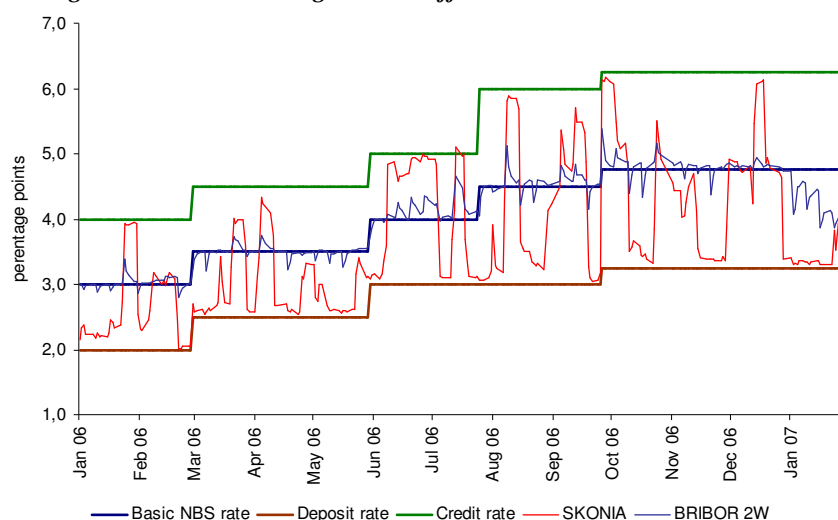
The NBS determines the spread of permissible fluctuations for the O/N market rate with the use of the standing facilities. The O/N credit operations take the form of the collateralised loan with an interest rate exceeding the basic rate of the central bank by 1.5 percentage points. In the event of a surplus of

<sup>9</sup> In 2006 the NBS periodically turned down the part of bids during tenders for basic operations in order to reduce the level of the short-term rates in the market. It was aimed at the reduction of the currency appreciation pressure.

funds, banks may put an uncollateralised O/N deposit bearing interest lower by 1.5 percentage points than the main rate of the NBS<sup>10</sup>. Standing facilities are used on banks' own initiative.

The central bank does not actively influence the liquidity conditions in the banking sector. When conducting the open market operations, the NBS usually accepts the entire demand submitted by banks. This means that the NBS does not usually seek liquidity on the specific level, thus it does not intend to influence the level of the shortest term market rates. As a result, the market rates' volatility is significant. The overnight rate fluctuates within the spread set by the yield on the standing facility operations.

**Figure 4. Market rates against the official NBS interest rates<sup>11</sup>**



Source: Reuters, NBS.

The required reserve ratio has been determined by the NBS at 2% and the interest rate on the required reserve funds equals to 1.5%. Required reserve maintenance period is equal to one calendar month.

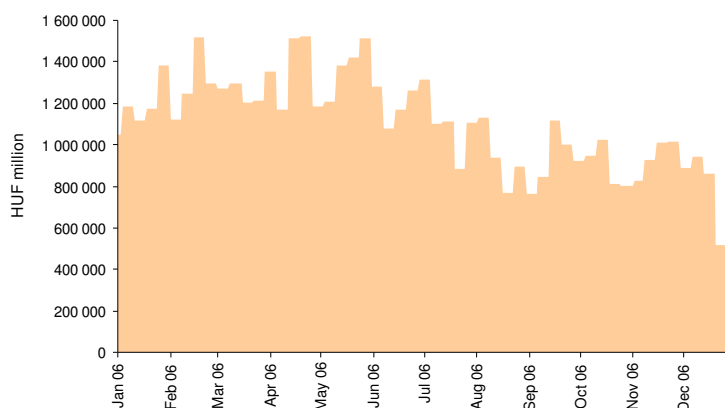
### 3. Magyar Nemzeti Bank (MNB)

The MNB uses two types of operations under its monetary policy. Basic open market operations with the maturity of two weeks are of fundamental importance for the monetary policy. They serve for the sterilisation of the continuous surplus of the liquidity. The volatility of the shortest term market rates is reduced with the help of the standing facilities.

<sup>10</sup> From 1 March to 25 July 2006, the rate corridor between the yields of the standing facilities was narrower and equalled +/- 1 percentage point against the NBP basic rate

<sup>11</sup> SKONIA (Slovak Overnight Index Average) is the average overnight rate weighted by the volume of the operations carried out in the interbank market. It is calculated by the NBS.

**Figure 5. Surplus liquidity of the banking sector in Hungary  
(daily balance of open market operations)**



Source: Reuters, MNB.

In 2006 the MNB provided the banks with the possibility to place a two-week deposit with the central bank on every Tuesday, with the interest rate equal to the MNB's basic rate. Since January 2007, instead of tenders for two-week deposits, the MNB has introduced the issue of its own securities (MNB Bonds) with the two-week maturity. The change was of technical nature and did not introduce any important changes in the manner of conducting the open market operations.

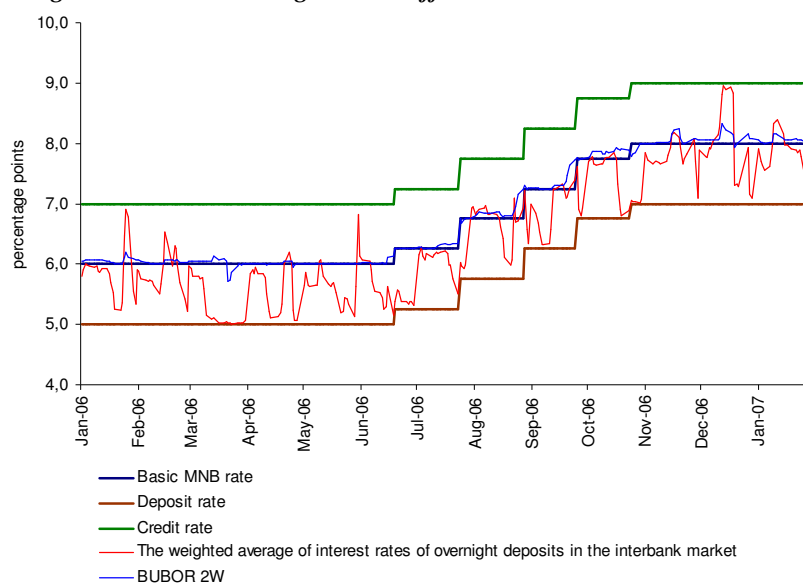
Other forms of the open market operations were not observed in 2006. The Bank has the possibility to purchase or to sell Treasury securities in the secondary market and to issue its own securities with different maturities. The open market operations may be conducted via quick tenders (fine-tuning operations) or standard tenders (basic and structural operations). Quick tenders are settled following the formula "T+0", whereas standard tenders are settled following the formula "T+1".

The rules for the MNB's management of the banking sector liquidity can be described as passive one. The central bank does not inform about the supply for the open market operations, nor it differentiates the yields accepted on tenders. Banks have the right to deposit any amount of liquid funds with the central bank, with the interest rate specified in advance (equal to the basic rate of the central bank). As a result, there is a substantial uncertainty in the market with respect to the liquidity conditions. Forecasts of the banks, on the basis of which the banks specify their liquidity needs, frequent do not include certain flows (such as transactions between the public sector and the central bank).

Official publications of the MNB show that the MNB, when conducting the monetary policy operations, influences the rates in the interbank market with three and six month maturities. Therefore the shaping of shorter term rates is of lesser importance. Their most characteristic feature is high volatility. The spread of fluctuations of the rates is limited by the yield on standing facilities (the interest rate corridor of +/- 1.0 percentage points with respect to the MNB basic rate). Alike the banks described above, these operations are conducted on the initiative of the interbank market participants.

The required reserve ratio is 5% and the interest rate on the reserve funds equals to the MNB basic rate. Required reserve maintenance period is equal to one calendar month.

**Figure 6. Market rates against the official MNB interest rates**



Source: Reuters, MNB.

\* \* \*

**Table 1. Summary of the basic monetary policy operations parameters conducted by the central banks of the Czech Republic, Slovakia, Hungary and Poland (as of 31 December 2006 or the average for 2006)**

	<b>Czech Republic</b>	<b>Slovakia</b>	<b>Hungary</b>	<b>Poland</b>
Basic rate of the central bank	2.5%	4.75%	8.0%	4.0 %
O/N deposit rate of the central bank	1.5%	3.25%	7.0%	2.5%
O/N credit rate of the central bank	3.5%	6.25%	9.0%	5.5%
Average surplus of the liquidity <sup>12</sup>	CZK 437.08 bn PLN 60.89 bn <sup>13</sup>	SKK 341.31 bn PLN 37.85 bn <sup>14</sup>	HUF 1,104.59 bn PLN 16.77 bn <sup>15</sup>	PLN 19.76 bn
Average absolute spread between the O/N market rate weighted by the transaction volume against the central bank's basic rate	12 base points	77 base points	41 base points	13 base points
Average absolute spread between the market rate with maturity comparable to that of basic operations against the central bank's basic rate	3 base points	11 base points	6 base points	11 base points
Basic operations of the central bank	Reverse repo	Reverse repo	Deposit with the central bank	Issue of the NBP bills
Maturity of the basic operations	2 weeks	2 weeks	2 weeks	1 week
Publications of the banking sector liquidity forecasts by the central bank	Yes	No	No	Yes
Required reserve rate	2%	2%	5%	3,5%
Required reserve interest rate	2,5% (equal to the basic rate)	1,5%	8,0% (equal to the basic rate)	3,8% (0.9 of the NBP rediscount rate)

Source: CNB, NBS, MNB, NBP.

<sup>12</sup> Measured by the balance of open market operations in 2006.

<sup>13</sup> Calculated according to the average NBP exchange rate as of 31 December 2006.

<sup>14</sup> Calculated according to the average NBP exchange rate as of 31 December 2006.

<sup>15</sup> Calculated according to the average NBP exchange rate as of 31 December 2006.