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**Monetary Policy and Polish Labour Market in the years 1999 – 2008****Abstract**

*This article sets out to analyse how the monetary policy pursued by the National Bank of Poland (NBP) determined the labour market situation in the country in the decade 1999-2008. The article consists of introduction as well as five sections. Section one discusses NBP's strategy of monetary policy in the defined period against monetary strategies implemented in other countries. Section two uses the growth rates of money supply and of real GDP to verify whether the primary purpose of monetary policy, i.e. the inflationary target, was achieved. Section three generally characterises the country's labour market using the levels and dynamics of employment and of unemployment. Section four discusses major instruments of NBP's monetary policy, mainly analysing changes in the central bank's interest rates and their effect on the economic situation and on the labour market. The article concludes with a summation providing synthetic conclusions.*

**1. Introduction**

Monetary policy can be described as an activity aimed to regulate money supply in such a way as to meet the economy's demand for finance. In almost all economies in the world, this policy is the responsibility of central banks. It is widely believed that a central bank should prevent money supply from being too

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low, as the launching of rational economic projects might be prevented then and economic growth decelerated. This requirement can be called the lower boundary condition. On the other hand, money supply should not exceed its amount beyond which inflation goes up or, say, its high rate persists in the long term – this can be viewed the upper boundary condition (Wilczyński 2000, p. 214-215).

## **2. The monetary strategy of the National Bank of Poland**

Monetary policy in Poland is implemented by the National Bank of Poland. Its activities are regulated by the provisions of the Constitution of the Republic of Poland and of the NBP Act passed in 1997. The key constitutional rules that the central bank has to comply with are provided in article 227 of the Constitution in Chapter X *Public Finances*. According to item 1 of the article, the National Bank of Poland is obligated to secure the value of the Polish currency (*Konstytucja Rzeczypospolitej Polskiej*, art. 227, item 1). Therefore, the central bank's purpose as defined in the Constitution is precise and aligned with the bank's role described in the NBP act. However, article 3 of the act additionally stipulates that the central bank's main function should be performed while supporting the Government's economic policies, insofar as this does not constrain the pursuit of the basic objective of the NBP (*Ustawa z dnia 29 sierpnia 1997 r. o Narodowym Banku Polskim*, art. 3, item 1)<sup>37</sup>.

This suggests that the central bank is somewhat responsible for economic growth and consequently for preventing unemployment. However, the bank cannot be called to account for its effectiveness in realizing the two objectives – it is only liable to possible criticism from the government or influential mass media. The analyses of the discussions conducted by the members of the Monetary Policy Council (the MPC – the main decision making body of the NBP) during their sessions show that the factors they actually consider to decide

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<sup>37</sup> It must be noted that deciding to join the euro area Poland will have to change this provision, as full compatibility between the Polish legislation and the EU's laws will have to be ensured to meet the provisions of art. 109 of the Maastricht Treaty and of the Statute of the European System of Central Banks and of the European Central Bank. The 2008 convergence report shows that the major difference between the Polish legislation and the convergence requirements is that the former lacks a provision prohibiting the Polish central bank to take any external instructions. Moreover, in the opinion of the Community decision-makers the provisions allowing the monetary policy to pursue targets other than inflationary – even when this does not compromise the latter – are also defective (*Convergence Report. May 2008*, p. 242-246).

on interest rates are not only the risk of inflation, but also economic circumstances affecting the labour market situation. For instance, prior to making the decision in June 2009 about bring interest rates down by 25 basis points, the Council's members took account of further deceleration of economic growth in Poland and the risk of global economic activity remaining low for a longer time (*Minutes of the Monetary Policy Council decision-making meeting held on 24 June 2009*, pp. 3-4). Nevertheless, in the next months the interest rates were not adjusted downwards any more, because, as the members argued, better prospects for economic activity appeared (*Inflation Report, October 2009*, p. 55).

However, the discussions about correcting interest rates in response to economic factors were mainly induced by the knowledge that the factors shape employment and unemployment more weakly than inflation, as the latter can fall short or exceed the target formulated by the central bank<sup>38</sup> (*Inflation Report, October 2009*, p. 55). It is worth noting that, according to the NBP, ensuring a relative stability of prices is the main route leading to strong and long-term economic growth bringing the rate of unemployment down (*Monetary Policy Guidelines for the Year 2010*, p. 2).

The unfavourable consequences of inflation (especially economic calculations growing more complicated which discourages investment activity) certainly make this approach very much correct in the long term and being able to distinguish between a long term and a short term is crucial in the economy. An expansionary policy (one reducing interest rates) tends to produce the desired results, but only in the short term, while a restrictive policy (emphasising higher interest rates) frequently turns out to be beneficial in the longer term. Therefore, a frequently unpopular policy of reducing the demand for loans usually brings some short-term costs, such as higher unemployment, but then the long-term benefits offered by a "healthier" and more balanced economy can be reaped.

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<sup>38</sup> Since 2004 it has been defined in Poland as a continuous target of 2.5% annually, allowing for symmetric deviations of +/- 1 percentage point (*Monetary Policy Guidelines for the Year 2010*, p. 1). In the earlier years the inflationary target was somewhat bigger: in 1999 – 6,6-7,8% (*Sprawozdanie z wykonania założeń polityki pieniężnej w 1999 roku*, p. 11), in 2000 – 5,4-6,8% (*Monetary Policy Guidelines for the Year 2000*, p. 1), in 2001 – 6-8% (*Monetary Policy Guidelines for the Year 2001*, p. 6), in 2002 – 5% +/- 1 percentage point (*Monetary Policy Guidelines for the Year 2002*, p. 4), in 2003 – 3% +/- 1 percentage point (*Monetary Policy Guidelines for the Year 2003*, p. 6).

It follows from the above that faced by the never-ending necessity to choose the right strategy of economic policy, the central bank has to deal with a very difficult practical dilemma. Deciding on its policy's objectives, the central bank can pick from a range of available options. One of them may speed up disinflation at the cost of slowing down economic growth, while another may decelerate disinflation to prevent recession or retarded economic growth at least. Theoretically, there are basically no criteria for deciding which option outperforms the others. The choice is frequently political and depends on the government's preferences as well as its view of the socio-economic situation in the country (Fedorowicz 2000, p. 87-89). Consequently, a universal mode of handling the situation does not exist, either, and the actual approach is usually necessitated by many factors that include – besides those mentioned above – also the state of economic theory at the given point of time.

It is worth noting at this point that even if the chosen strategy is successful, the benefits frequently disappear with changing socio-economic circumstances (Ząbkowicz 2005, p. 145). The situation gets even more complicated due to lags that occur between the making of a decision on using a given instrument and the time it ultimately starts affecting the economy and because of the relative difficulty in telling the unavoidable level of recession from that caused by overly restrictive monetary policy, etc. Obviously, the economic reality contains a whole train of economic interrelationships operating within a variable business environment.

Because of the dilemmas, not all countries decide to formulate the monetary policy's target as one having a strictly inflationary character. For instance, the ultimate target for the US 'Fed' (the Federal Reserve System) is having a monetary policy capable of ensuring full employment, price stability and a moderate level of the long-term interest rate (Gerdesmeir, Mongelli, Roffia 2007, pp. 13-14). As already mentioned, the EU's legislation does not make central banks responsible for the level of employment, but only for the rate of inflation. Therefore, a growing number of countries decide to implement a direct inflation targeting (DIT) strategy, while completely abandoning the indirect targets. The NBP chose to adopt the DIT in 1998. Considering the growing integration of the Polish economy into the global economic system, among the arguments in support of its adoption there were the possibility of verifying publicly the direction and effectiveness of the monetary policy, its consequently stronger reputation and more flexible use of particular instruments, among which the interest rates started playing a major role. A clearly defined and generally comprehensible monetary policy target is one of the pillars supporting central bank's functional independence. In addition to the growing reliability of the monetary policy, having a target may also help overcome

inflationary expectations (*Medium-Term Strategy of Monetary Policy 1999-2003*, p. 8-9) that belong to the most important factors affecting the growth rate of the general level of prices.

The analysis below shows that at the outset of the 21<sup>st</sup> c. the Polish central bank managed to constrain inflation and then stabilised it at a relatively low level. On this account, the Monetary Policy Council decided to continue the DIT strategy beyond the year 2003, while abandoning the setting of inflationary targets for the end of the calendar years in favour of pursuing a continuous target extending over a period longer than 12 months. This long-term horizon is expected to fully allow for the lags between the central bank's decisions and their effects and to improve the flexibility and reliability of monetary policy (*Monetary Policy Strategy beyond 2003*, pp. 11-12). As well as being autonomous and responsible, the policy must be transparent too (Noga 2007, p. 213). To ensure transparency, the Monetary Policy Council regularly publishes *Inflation Reports*, *Financial System Stability Reports*, as well as *Monetary Policy Guidelines* and *Reports on Monetary Policy Implementation* (year by year). Besides, the *Minutes of the Monetary Policy Council decision-making meeting*<sup>39</sup> have been published since 2007. The documents present the key issues discussed during the Council's sessions, as well as the arguments the participants put forward (*Report on Monetary Policy Implementation in 2007*, p. 18).

### **3. Inflation, money supply and economic growth in Poland in the years 1999-2008**

As mentioned in the previous section, keeping inflation at a low level is the primary target of monetary policy in Poland. The transition period in the Polish economy was characterised by a distinct disinflationary trend. In the early 1990s, when the government abandoned price control, inflation stood at several hundred percent a year, declining steadily in the next years. Yet, in the first two years of the period analysed in this article, the general level of prices kept ascending at ca. 10% a year, significantly exceeding the inflationary target. The latter was somewhat exceeded also in 2004 and then in 2007. In the other sub-periods, inflation was markedly lower, sometimes even below the lower limit of

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<sup>39</sup> The documents are published following the practice of many central banks. However, the European Central Bank did not decide to issue its *minutes*. Its main point of communication with the public is press conferences organized after the decisions have been made (Blinder, Ehrmann, Fratzscher, De Haan, Jansen, 2008, p. 20).

its fixed band. This can be seen in table 1 presenting inflation rates (annual averages and the December-to-December inflation) and data on the growth in real GDP and in M1 and M3 money supply<sup>40</sup>.

Despite the numerous disputes over the sources of inflation, the contemporary economists essentially agree that inflation manifests itself mainly in the sphere of monetary circulation and that the average level of prices could not grow for a long time without being supported by building-up money supply<sup>41</sup>.

The above opinion seems to be partly corroborated by comparing the growth rates of money supply and of inflation in Poland. Excluding the year 2000 (when M1 is analysed) and 2002 (for M3) money supply definitely outpaced price growth. Throughout the period in question, prices only grew by ca. 1.45 times (less than 4% a year on average), whereas the most liquid monetary components (M1) almost quadrupled (close to 15% a year on average) and broad money (M3) grew almost three times (nearly 12% a year on average).

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<sup>40</sup> The monetary aggregate M1 consists of currency held by the public (without banks' cash) and of deposits in checking accounts (including overnight deposits) owned by households, non-monetary financial institutions, enterprises, non-commercial institutions providing households with services, local government institutions and social insurance funds. The monetary aggregate M3 additionally includes time deposits (with maturity at issue within 2 years and with 3 months' notice, reverse repo transactions and debt securities with maturity at issue to 2 years (*Information Bulletin*, no. 12/2002, p. 92).

<sup>41</sup> For instance, this opinion is supported by M. Friedman (1994, pp. 198-217), K. Lutkowski (1995, p. 470); J. Bauc (1995, p. 451); J. Bauc, M. Dąbrowski, P. Senator (1994, p. 9) and others. A. Wojtyna (1996, p. 50) also considers that the relationship between an increase in money supply and inflation is relatively uncontroversial. He builds his opinion on the McCandless and Weber research, where the coefficients of correlation between the analysed variables for 110 countries in the years 1960-1990 ranged from 0.925 to 0.958 (depending on the monetary aggregates used). S. Albinowski who examined the USA, Japan, the FRG, France, UK and Italy in the years 1960-1993 views the problem differently. According to his investigation, Japan was actually the only country in the sample with a one-way relationship between the growth rate of money supply and the rate of price growth (in dynamic terms), with both the values showing steep downward trends (Albinowski 1993, p. 644-652).

**Table 1. Inflation, real GDP growth rate as well as money supply growth rate in Poland in the years 1999-2008**

| Year | CPI inflation rate (in %) |                      | Deviation from inflation target <sup>a</sup> | Real GDP growth rate (in %) <sup>b</sup> | Money supply growth rate (in %) <sup>c</sup> |       |
|------|---------------------------|----------------------|----------------------------------------------|------------------------------------------|----------------------------------------------|-------|
|      | Average annual            | December-to-December |                                              |                                          | M1                                           | M3    |
| 1999 | 7,3                       | 9,8                  | + 2,0 <sup>d</sup>                           | 4,5                                      | 23,9                                         | 20,1  |
| 2000 | 10,1                      | 8,5                  | + 1,7 <sup>d</sup>                           | 4,3                                      | - 4,4                                        | 11,9  |
| 2001 | 5,5                       | 3,6                  | - 2,4 <sup>e</sup>                           | 1,2                                      | 12,3                                         | 9,6   |
| 2002 | 1,9                       | 0,8                  | - 3,2 <sup>e</sup>                           | 1,4                                      | 17,7                                         | - 1,1 |
| 2003 | 0,8                       | 1,7                  | - 0,3 <sup>e</sup>                           | 3,9                                      | 15,9                                         | 5,8   |
| 2004 | 3,5                       | 4,4                  | + 0,9 <sup>d</sup>                           | 5,3                                      | 11,5                                         | 9,4   |
| 2005 | 2,1                       | 0,7                  | - 0,8 <sup>e</sup>                           | 3,6                                      | 21,2                                         | 13,1  |
| 2006 | 1,0                       | 1,4                  | - 0,1 <sup>e</sup>                           | 6,2                                      | 25,0                                         | 16,0  |
| 2007 | 2,5                       | 4,0                  | + 0,5 <sup>d</sup>                           | 6,8                                      | 21,5                                         | 13,4  |
| 2008 | 4,2                       | 3,3                  | -                                            | 4,9                                      | 4,4                                          | 18,6  |

<sup>a</sup> As of 31.XII, in percentage points.

<sup>b</sup> In relation to previous year, in constant prices.

<sup>c</sup> In relation to previous year, in current prices.

<sup>d</sup> Above the upper limit.

<sup>e</sup> Below the lower limit.

Source: Sprawozdanie z wykonania założeń polityki pieniężnej w 1999 roku, p. 11; Sprawozdanie z wykonania założeń polityki pieniężnej w 2000 roku, p. 5; Monetary Policy Guidelines for the Year 2001, p. 6; Monetary Policy Guidelines for the Year 2002, p. 4; Monetary Policy Guidelines for the Year 2003, p. 6; Monetary Policy Guidelines for the Year 2010, p. 3; [www.stat.gov.pl](http://www.stat.gov.pl), [www.nbp.pl](http://www.nbp.pl); own calculations.

It should be borne in mind, though, that some part of the expanding money supply is usually absorbed by the growing monetary resources of businesses and by the increasing real volume of transactions that also makes GDP grow. According to the monetary theory assumptions, the inflationary processes do not have to occur even if the money supply dynamics is strong provided that the accompanying increase in real output is equally large.

The relationship between money supply and prices is therefore usually disturbed by changes in real GDP. Table 1 shows that the years examined in the article were a period of relatively good economic conditions (excluding the period 2001-2002), especially its last part. Between December 1998 and December 2008, the real national income grew by over 50%, at a rate exceeding

4% a year on average. This suggests that some part of money supply was consumed by expanding production.

However, production clearly lagged behind money supply. In other words, the dynamically growing aggregates M3 and M1 (particularly in 1999 and then in the years 2005-2007) probably partly contributed to price increases. However, from 2002 inflation was usually kept at a level below the inflationary target. The only exceptions were the year 2004, when the so-called „EU effect” occurred<sup>42</sup>, and the period 2007-2008, when demand-supporting circumstances coincided with unfavourable changes in the prices of food products and raw fuels (*Inflation Report, October 2008*, p. 5).

In the other examined years, notwithstanding the usually high increases in money supply, inflation was decelerated by a range of advantageous circumstances, such as appreciation of the zloty vis-à-vis the US dollar and the euro, a growing share of imports from the low-cost countries (mainly Asian) and the intensifying competition from the manufacturers in those countries, as well as the quite high level of interest rates determined by the relatively restrictive monetary policy<sup>43</sup>.

#### **4. General characteristics of the labour market in Poland, years 1999-2008**

Because the analysed period is relatively long, it is not rational to expect that the Polish labour market followed the same trend in all the years. This conclusion is made evident by the data in table 2 that shows unemployment dynamics as well as the rates of registered unemployment by year.

The table allows splitting up the situation in the Polish labour market into two distinctive sub-periods. During the first four years, the conditions were obviously worsening. Between 1999 and 2002 unemployment increased by almost 900,000 persons, i.e. around 37%. At the end of the subperiod, the rate of registered unemployment reached 20% to be one of the highest in Europe.

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<sup>42</sup> According to NBP's calculations, other factors also made inflation grow in May 2004, but the „EU effect” was the strongest, accounting for 44.6%. As for the other factors, the supply effects (produced mainly by the rising motor fuel prices) were estimated at 35.4% and the demand effects at 20% (*Unia Europejska – ceny. Podsumowanie akcji*). It seems, though, that some of the demand effects should also be placed under the heading the “EU effect”, because a large part of the expanding demand (mainly for meat and poultry) came from the former EU-15 countries that now could buy cheaper goods from the new member states without any obstacles.

<sup>43</sup> This aspect is discussed more in detail in section four of the article.

This unfavourable trend started to reverse in 2003 and the number of unemployed workers was declining fast, especially in the years 2006-2008. Consequently, at the end of the examined period there were less than 1.5 million of unemployed job-seekers. Compared with 2002, this number was lower by over 1.74 millions. The rate of unemployment also dropped considerably, to less than 10%.

**Table 2. Unemployed persons, unemployment dynamics as well as unemployment rate in Poland in the years 1999-2008**

| Year | Registered unemployed persons (in thous.) <sup>a</sup> | Unemployment dynamics (previous year = 100) | Registered unemployment rate (in %) <sup>b</sup> |
|------|--------------------------------------------------------|---------------------------------------------|--------------------------------------------------|
| 1999 | 2349,8                                                 | 128,3                                       | 13,1                                             |
| 2000 | 2702,6                                                 | 115,0                                       | 15,1                                             |
| 2001 | 3115,1                                                 | 115,3                                       | 17,5                                             |
| 2002 | 3217,0                                                 | 103,3                                       | A - 18,0<br>B - 20,0 <sup>c</sup>                |
| 2003 | 3175,7                                                 | 98,7                                        | 20,0                                             |
| 2004 | 2999,6                                                 | 94,5                                        | 19,0                                             |
| 2005 | 2773,0                                                 | 92,4                                        | 17,6                                             |
| 2006 | 2309,4                                                 | 83,3                                        | 14,8                                             |
| 2007 | 1746,6                                                 | 75,6                                        | 11,2                                             |
| 2008 | 1473,8                                                 | 84,4                                        | 9,5                                              |

<sup>a</sup> As of 31.XII.

<sup>b</sup> The registered unemployment rate is calculated as the ratio of the number of registered unemployed persons to the economically active civilian population – as of 31.XII.

<sup>c</sup> A – considering persons employed on private farms in agriculture with the use of the results of Agricultural Census of 1996, B – considering persons employed on private farms in agriculture with the use of the results of Population and Housing Census of 2002. In 1999-2001 according to approach A, In 2003-2008 according to approach B.

Source: *Roczniki Statystyczne*: 2000, pp. 130-132, 143; 2001, pp. 139-140; 2003, pp. 107, 147, 160-161; 2005, p. 194, 233, 247-248; 2006, p. 197, 236; 2007, p. 198, 253; *Maty Rocznik Statystyczny*: 2001, p. 139-140; 2006, p. 152-153; 2009, p. 116, 150; *Pracujący w gospodarce narodowej w 2008 roku*, p. 21; [www.stat.gov.pl](http://www.stat.gov.pl); own calculations.

The popular opinion claims that the problem of unemployment became much less severe in Poland owing to the external emigration chosen by the earlier jobless persons who have been able to exercise this option after Poland joined the European Union. For this thesis to be verified, the levels of employment must be explored. Table 3 presents the numbers and dynamics

characterising the employed population as well as employment rates by year of the examined period.

The data clearly show that emigration reducing unemployment only slightly improved the situation in the second half of the analysed period, as declining unemployment co-existed with dynamically expanding employment. Between the final months of 2003 and 2008, the latter grew by almost 1.4 million people. This number is only little different from the outflow from unemployment. The slightly growing rate of employment seemed optimistic too.

**Table 3. Employed persons, employment dynamics as well as employment rate in Poland in the years 1999-2008**

| Year              | Employed persons<br>(in thous.) <sup>a</sup> | Employment dynamics<br>(previous year = 100) | Employment rate (in %) <sup>b</sup> |
|-------------------|----------------------------------------------|----------------------------------------------|-------------------------------------|
| 1999              | 16 008,9                                     | 98,4                                         | 68,3                                |
| 2000              | 15 488,8                                     | 96,8 <sup>c</sup>                            | 66,2                                |
| 2001              | 14 995,6                                     | 96,8                                         | 62,7                                |
| 2002 <sup>d</sup> | A – 14 923,7<br>B – 12 803,3                 | A – 99,5                                     | A – 62,7<br>B – 53,8                |
| 2003              | 12 640,7                                     | 98,7                                         | 52,6                                |
| 2004              | 12 720,2                                     | 100,6                                        | 52,5                                |
| 2005              | 12 890,7                                     | 101,3                                        | 52,8                                |
| 2006              | 13 220,0                                     | 102,6                                        | 54,0                                |
| 2007              | 13 771,1                                     | 104,2                                        | 56,1                                |
| 2008              | 14 037,2                                     | 101,9                                        | 57,1                                |

<sup>a</sup> In 1999 as of 30.IX, in 2000-2008 as of 31.XII.

<sup>b</sup> The employment rate is calculated as the share of employed persons in the working age population.

<sup>c</sup> In 15-month period (between 30.IX.1999 and 31.XII.2000).

<sup>d</sup> A – considering persons employed on private farms in agriculture with the use of the results of Agricultural Census of 1996, B – considering persons employed on private farms in agriculture with the use of the results of Population and Housing Census of 2002. In 1999-2001 according to approach A, In 2003-2008 according to approach B.

Source: *Roczniki Statystyczne*: 2000, pp. 130-132, 143; 2001, pp. 139-140; 2003, pp. 107, 147, 160-161; 2005, pp. 194, 233, 247-248; 2006, pp. 197, 236; 2007, pp. 198, 253; *Mały Rocznik Statystyczny*: 2001, pp. 139-140; 2006, pp. 152-153; 2009, pp. 116, 150; *Pracujący w gospodarce narodowej w 2008 roku*, p. 21; [www.stat.gov.pl](http://www.stat.gov.pl); own calculations.

It is worth noting here that the improving labour market situation as observed in the second half of the examined period was strongly correlated with the economic upturn. It follows from the analysis presented in the previous section that the average rate of economic growth in the years 2004-2008 (ca. 5.4% a year) clearly exceeded the rate observed during the previous five years (approx. 3% a year). In the second case, the real output growth definitely lagged behind labour productivity, contributing to declining employment and rising unemployment.

It seems that the general improvement in business conditions in the second half of the analysed period can be attributed not only to the economic upswing, but also to Poland's membership in the EU, as some enterprises were successful in obtaining considerable funding from Brussels. This allowed some industries increase their output, so total demand also grew bigger. On the other hand, the monetary policy's influence on the economy should not be underestimated. But, as we already mentioned, its effects are short-lived.

### **5. The basic instruments of NBP's monetary policy and their effect on the economic situation**

The set of basic instruments that help regulate money supply in the economy usually contains open market operations, the rate of mandatory reserves and interest rates. The first of the instruments consists in the central bank buying and selling public securities. When securities are sold, their buyers get rid of as much cash as they need to purchase new assets. This "freezes" their cash, decreasing the volume of currency in circulation as well as total demand (Schaal 1996, p. 393). It should be borne in mind, however, that once the securities reach their maturity dates the "frozen" funds plus the interest they bear re-enter the market. Naturally, the purchase of the government-issued securities by the NBP works in the other direction.

As the open market operations only temporarily affect money supply, using them as the monetary policy tool can only produce short-term effects (Czechowska 1999, p. 273) that cannot significantly influence the rate of price growth and the business circumstances in the long run that is analysed in this article. For a long-term analysis, the mandatory reserves policy and changes in the base interest rates seem to be more important.

The mandatory reserves policy is one of the essential instruments that the central bank can use to shape money supply. When the rates of mandatory reserves for particular types of deposits go up, all commercial banks have to increase their reserves, thus limiting the availability of loans (Borowiec, 1994,

p. 278) that are the main source of money creation. This suggests that a central bank wishing to combat inflation should try to lift the rates of mandatory reserves as high as possible. Naturally, the rates cannot be excessively high, as making loans less available, they might become “a brake” on consumer spending and investment outlays and deteriorate the labour market situation.

More relaxed requirements of mandatory reserves additionally make the domestic banking system more competitive, as large reserves favour a large gap between interest rates on loans and deposits (Nowak, Ryc, Żyżyński 1997, p. 452). If the Polish banks were required to maintain much higher rates of mandatory reserves when the financial markets are undergoing progressive liberalisation and globalisation, they would be ultimately lose some of their competitiveness (*Sprawozdanie z wykonania założeń polityki pieniężnej w 1999 roku*, p. 37).

Having the knowledge, the NBP consistently reduced the rates of mandatory reserves in the analysed period. The deepest cut took place in September 1999. The rate applied to the zloty demand deposits was lowered then by 15 percentage points (from 20% to 5%) and for the zloty time deposits by 6 percentage points (from 11% to 5%). The next two cuts were made in the years 2002 (to 4.5% for all types of deposits) and 2003 (to 3.5%, also for all types of deposits) (*Information Bulletin* no. 12/2002, p. 32; *Information Bulletin* no. 12/2004, p. 51). In the years 2004-2008, the rates did not change (*Information Bulletin* no. 12/2008, p. 22).

The above shows that the discussed instrument is applied relatively infrequently. Interest rates, the most important and most popular monetary policy tool in almost all countries, are changed by the central bank much more often. Their levels encourage individuals either to consume or save and they also influence enterprises' investment plans (Cichowicz 2005, p. 161).

The interest rate policy may aspire to achieve some macroeconomic objectives. As already mentioned, preventing inflation is the most important of them under the Polish legislation. However, other interest rates' functions are also frequently mentioned in the literature, such as effective allocation of country's economic resources (Borowiec 1994, p. 274-275), stimulation of domestic savings, improvement of investment effectiveness, controlling domestic demand, attracting new foreign capital, stimulating the demand for financial assets (Walerysiak 1997, p. 793-799), stabilizing the economy and driving structural change (Nowak, Ryc, Żyżyński 1997, p. 443), and even stimulating economic growth. Some of the objectives are strongly correlated with the inflationary target (complementarity), while others, especially the last one, are somewhat substitutive to a stable level of prices, but mainly in a short-term period.

It must be underscored here that total demand, significantly affecting price levels and real GDP, is mainly shaped by interest rates on loans and deposits charged by the commercial banks. On the other hand, their rates are strongly influenced by the interbank rates on deposits and loans that are very sensitive to the central bank's rates<sup>44</sup>.

The NBP operates five official interest rates, i.e. the lombard rate, the rediscount rate, the refinance rate, the deposit rate and the minimum yield on open market operations (a reverse repo rate) (*Information Bulletin* no. 12/2008, p. 22). The last rate, also known as the intervention or reference rate, is recognised as the primary rate.

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<sup>44</sup> Naturally, the transmission mechanism does not take effect immediately. The commercial banks' interest rates usually need time to follow the changes in the interbank rates and the central bank rates. The merchant banks' interest rates usually affect the volumes of loans and deposits shaping total demand also with some delay. ING Barings estimated that all the lags took effect after 6-8 months. This was the period after which the dynamics of lending for enterprises declined. K. Rybiński's investigation covering the years 1993-1999 showed that interest rate increases affected loans the most strongly after approximately 18 months (Rybiński 2000, pp. 68-70). Because loans and savings also need time to influence inflation, interest rates affect price levels at an even later time. This phenomenon was investigated by R. Kokoszczyński, T. Łyziak, M. Pawłowska, J. Przystupa and E. Wróbel (2002, p. 40) for the years 1994-2001. They showed that the strongest reaction occurred after 4-5 quarters (a VAR model) or 8-9 quarters (a structural model).

**Table 4. Reference rate in Poland in the years 1999-2008**

| Year | NBP reference rate (in %) <sup>a</sup> | Real reference rate <sup>b</sup> (in %) |      |
|------|----------------------------------------|-----------------------------------------|------|
|      |                                        | A                                       | B    |
| 1999 | 16,5                                   | 6,1                                     | 7,8  |
| 2000 | 19,0                                   | 9,7                                     | 12,7 |
| 2001 | 11,5                                   | 7,6                                     | 11,9 |
| 2002 | 6,75                                   | 5,9                                     | 4,5  |
| 2003 | 5,25                                   | 3,5                                     | 1,5  |
| 2004 | 6,5                                    | 2,0                                     | 1,2  |
| 2005 | 4,5                                    | 3,8                                     | 4,9  |
| 2006 | 4,0                                    | 2,6                                     | 1,4  |
| 2007 | 5,0                                    | 1,0                                     | 2,6  |
| 2008 | 5,0                                    | 1,6                                     | 2,3  |

<sup>a</sup> Nominal annual rate: in 1999-2002 – minimum yield on 28-day open market operations interest rate, in 2003-2004 – minimum yield on 14-day open market operations interest rate, in 2005-2008 – minimum yield on 7-day open market operations interest rate; as of 31.XII.

<sup>b</sup> Real rate is calculated as: A – real rate =  $(1 + \text{nominal rate} / 1 + \text{December-to-December CPI inflation rate in current year} - 1)$ ; B – real rate =  $(1 + \text{nominal rate} / 1 + \text{December-to-December PPI inflation rate in current year} - 1)$ .

Source: *Information Bulletin*, no. 12/2003, pp. 23, 26; *Information Bulletin*, no. 12/2008, p. 19, 22; Table 1; own calculations.

Table 4 presents the rate's values in the years 1999-2008. In addition to its nominal values, the real values deflated with the CPI and the PPI are shown too. Because the NBP's open market operations have short maturity periods, current inflation was used as the deflator.

According to the table, at the end of the 20<sup>th</sup> c. the NBP's base interest rate was very high, reaching almost 20% in nominal terms. Its real level was also significant, almost 10% at the end of 2000 (its PPI-deflated value was close to 13%). Unfortunately, the high interest rate policy was not followed by decelerating inflation that still oscillated at around 10% in that period (see section 2).

The positive effects of high interest rates on inflation appeared, however, already in the early years of the 21 century. Although they constrained total demand that was declining anyway, they also caused growth in the zloty/euro and zloty/US dollar exchange rates, being another significant factor stimulating disinflation. The weakening inflationary pressure made the Monetary Policy Council reduce interest rates systematically in the period 2001-2003. A number

of cuts were effected then; consequently, the intervention rate was lower by 13.75 percentage points at the end of the subperiod than three years earlier. Following that, its real level also clearly diminished.

After Poland entered the EU in 2004, the rate of inflation rose again (see section 2), making the central bank increase interest rates. Then inflation restabilised at a relatively low level, so new cuts in interest rates became possible and at the end of 2006 the nominal reference rate was only 4%. Because in the years 2007-2008 real inflation exceeded the upper limit of the inflationary target again, the central bank had to increase its rates once more. As a result, at the end of the analysed period the minimum yield on the 7-day open market operations stood at 5%, being 1 percentage point higher than two years before.

It must be noted that the central bank's actions somewhat stabilised from 2002. Even though it changed interest rates relatively frequently, the changes were usually minor, within 25 percentage points per one session of the MPC. Inflation fluctuations occurring in the second half of the analysed period, unavoidable in a dynamically growing economy, did not entail so nervous reactions of the MPC's members as in the previous years. A different thing is that inflation was relatively stable in that period. Although its rate frequently deviated from the fixed band (both upwards, in Decembers 2004 and 2007, and downwards, at the end of 2003, 2005 and 2006), its movements were usually minor and it returned fast to more or less the expected level.

Another notable phenomenon is that during the last three years of analysis the real reference interest rate varied within a relatively band interval 1–2.6%. It seems that this is approximately the level that allows the real interest rate to ensure a „sound” balance between central bank's actions pursuing two contrary short-term objectives of macroeconomic policy, i.e. the combating of inflation or of unemployment, as presented by the classical Philips curve. The favourable business conditions observed in the years 2004-2008 – and a relatively neutral restrictiveness of the monetary policy – definitely improved the labour market situation (see section 3), slightly deteriorating price stability.

Yet, from the perspective of the MPC decisions' impacts on the labour market, the Council's activity in the first part of the analysed period should be viewed differently. Even if we allow for the central bank's paramount objective, it still seems that its monetary policy could be less restrictive then.

For instance, such a conclusion arises in the context of assumptions underlying the Taylor rule, which is a very popular in economics. According to the rule, if inflation exceeds its target or output exceeds its potential level, then interest rates should be kept at relatively high levels. Otherwise, they should be low (Filar 2004; Urbańska 2002, p. 17). The other situation occurred in Poland at the outset of the 21<sup>st</sup> c. The economy grew very slowly between 2001 and

2002 (below 1.5% a year), definitely differing from the growth rate of labour productivity. As a consequence, at the end of 2002 the rate of unemployment reached a record level of 20%. In the same period, as well as in many months in 2003, inflation was below the lower limit of its band.

This situation was preceded by very high real interest rates in the previous months (especially in the years 2000-2001), so one has the inescapable impression that high unemployment at that time was significantly induced by a wrong monetary policy<sup>45</sup>.

## 6. Conclusion

Every central bank has to run its monetary policy under specific economic circumstances that are sometimes difficult to recognise and understand. We need to realise that the central bank's representatives act in a world of imperfect knowledge, which makes it impossible for them to understand the whole spectrum of possible market results or their probability<sup>46</sup>. The complex chain of economic interrelationships existing in a variable economic environment causes that it is not possible to pinpoint the effects of their decisions (Nasiłowski 1995, p. 311).

As demonstrated by the above analysis, it is practically impossible to formulate any explicit conclusions about the influence of NBP's monetary policy on the labour market in the examined period. However, the policy's

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<sup>45</sup> Interestingly, one of the members of the Monetary Policy Council, C. Józefiak, also believed at that time that deeper interest rate cuts were possible, or even necessary. He assumed that adopting a relaxed monetary policy was one of the conditions for accelerated investment activity. However, the relaxation should be accompanied by a fiscal policy tightened by lowering the budget expenditure to national income ratio and not by rising taxes. The decrease in the public finance sector's expenditure should be at least equivalent to the increase in the aggregate demand generated by the interest rate cuts (Józefiak 2002, p. 452, 454). Mr. B. Grabowski, another MPC's representative, tackled the critical comments on the then excessively high NBP's interest rates differently. In his opinion, the restrictiveness of the Polish monetary policy should have been viewed in terms of both real interest rates and nominal rates, because of the strong nominal illusion driving the behaviour of business organizations, and especially of individuals. Given the phenomenon, large cuts in the nominal interest rates could considerably reduce the volume of deposits and increase lending, thus enlarging the private sector's net debt to the banking sector – a negative phenomenon from the perspective of inflation (Grabowski 2002, p. 442).

<sup>46</sup> This is more or less the sense of the statement that the long-standing head of the Fed, Alan Greenspan, made at the conference of the American Economic Association in 2004 (Frydman, Goldberg 2009, p. 4).

significance was unquestionable, because the central bank's decisions shaped enterprises' expansion opportunities, making them better or worse. This means that the decisions largely determined consumer and investment demand (Mucha-Leszko, Kąkol 2009, p. 45). The knowledge of this mechanism seems to justify certain reservations about NBP's policy, especially about its actions taken in the first part of the analysed period. Its overly restrictive policy constrained total demand and production, thus leading to high unemployment. It is also possible that the interest rates were corrected too strongly in response to the „live” data, without the decision makers having the full knowledge of the transmission mechanisms and of the lags occurring between parameter changes and their effects on prices and real processes (Rybiński 2000, p. 56).

The monetary policy pursued in the second half of the period deserves a completely different opinion, though, as the central bank managed then to maintain „sound” balance between the short- and long-term targets<sup>47</sup>. The labour market situation improved considerably in the subperiod, notwithstanding the inflationary target being frequently too high or too low. In most cases, the differences were not big and inflation quickly returned within the fixed band. The reason for the inflationary target to be missed in some of the sub-periods was sometimes the appearance of favourable or unfavourable supply factors that the NBP did not control<sup>48</sup>.

The analyses of the discussions conducted by the MPC's members show that the factors affecting the interest rates' levels are not only current inflation, but also the labour market situation. Yet, the Constitution and the NBP Act leave no doubt which target must be given priority. It may become necessary for the NBP, especially in the years to come, to tighten up its monetary policy, which will probably adversely affect output and employment in the short term.

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<sup>47</sup> It seems that in the analysed years the National Bank of Poland managed to avoid the mistakes made by the US Federal Reserve System (the Fed) whose policy was extremely expansionary between 2002 and 2006. The US interest rates were then fixed (especially between 2003 and 2004) much below the level recommended by the aforementioned Taylor rule (Taylor 2007, p. 5, Figure 1). It is very probable that the policy at least contributed to the global crisis in the years 2008-2009. A broader discussion of the relationship between low interest rates and the crisis can be found, *inter alia*, in: Bednarczyk (2009, p. 68-70), Kacprzyk (2009, p. 81-84), Kasperkiewicz (2009, p. 36-38), Rosati (2009, p. 327-333), Więznowski (2009, p. 156-161).

<sup>48</sup> In addition, the Polish central bank had to struggle with other problems hampering the attainment of the target, such as the aforementioned lack of coordination with fiscal policy, limited monetization, diverse money creation and inflation sources, lags between the making of decisions and their effects, availability of forex loans (Grabia 2009, p. 190-196), variable money demand and money supply, as well as a decreasing share and importance of banks among financial intermediaries (Marszałek 2009, p. 344-349).

Poland's decision to join the euro area may influence monetary policy likewise, because of the obligatory compliance with the prescribed convergence criterion for inflation.

Then, given the economic downturn that became noticeable already in 2009, the labour market situation in Poland will probably deteriorate in a short term. The probability of deterioration is even greater because of the country's aspirations to join the Economic and Monetary Union that require the fulfilment of both monetary and fiscal criteria. In this situation, not only the monetary policy (responsible for inflation), but also the fiscal policy (concerning budget deficit and public debt) would probably have to be made more stringent.

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## Streszczenie

### **POLITYKA PIENIĘŻNA A RYNEK PRACY W POLSCE W LATACH 1999 – 2008**

*Celem artykułu jest analiza wpływu polityki monetarnej Narodowego Banku Polskiego (NBP) na sytuację na rynku pracy w Polsce w ciągu dekady obejmującej lata 1999-2008. Opracowanie składa się z wprowadzenia oraz pięciu części. W pierwszej z nich omówiona została strategia polityki monetarnej NBP w badanym okresie wraz z porównaniem ze strategią przyjmowaną w innych krajach. W części drugiej sprawdzono, czy realizowany był podstawowy cel polityki monetarnej, czyli cel inflacyjny, w kontekście kształtowania się stóp wzrostu podaży pieniądza oraz realnego PKB. W punkcie kolejnym ukazana została ogólna charakterystyka rynku pracy na podstawie kształtowania się poziomu i dynamiki zatrudnienia oraz bezrobocia. W części czwartej omówiono podstawowe instrumenty polityki pieniężnej NBP. Uwaga*

*skoncentrowana została głównie na analizie zmian stóp procentowych banku centralnego oraz ich wpływu na sytuację gospodarczą i rynek pracy. Całość zamknięta została podsumowaniem, w którym zawarto syntetyczne wnioski końcowe.*