Inflation Report
July 2007

National Bank of Poland
Monetary Policy Council

Warsaw, July 2007

The Inflation Report presents the Monetary Policy Council's assessment of the current and future macroeconomic developments influencing inflation. The inflation projection presented in Chapter 4 is based on macroeconomic model ECMOD and has been prepared by a team of NBP economists led by Adam B. Czyżewski, Director of Macroeconomic and Structural Analyses Department. The NBP Management Board has approved the projection to be submitted to the Monetary Policy Council. The inflation projection is one of the inputs to the Monetary Policy Council's decision-making process.

This Inflation Report is a translation of the National Bank of Poland's *Raport o inflacji* **in Polish. In case of discrepancies, the original prevails.**

Contents

Summary

Following the increase in the annual growth of consumer goods and services' prices in the period from November 2006 to March 2007, in 2007 Q2 CPI inflation stabilised at a level close to the NBP inflation target (2.5%). Changes in the structure of price growth seem to support the hypothesis put forward in the previous *Report* that growth in the prices of consumer goods and services is to an increasing, albeit still moderate, extent driven by rising domestic demand.

In 2007 Q2, growth in the prices of food and non-alcoholic beverages continued to have the largest contribution to CPI growth. After the increase in the first months of 2007, in April–June 2007 the annual price growth in this group of products stabilised at a relatively high level, significantly exceeding the current CPI inflation rate.

The past few months saw a further acceleration in the growth of prices of services, which resulted primarily from an increase in the growth rate of prices of market services. This trend may be due, among other things, to the increasing consumption demand amidst rising income of households as well as growing unit labour costs in this sector, supported by the improving situation in the labour market.

Contrary to the prices of services, in 2007 Q2 the prices of goods continued to fall. This was driven by persistently falling prices of goods whose prices are strongly affected by globalisation. A large share of those products is imported from low cost countries and their prices remain largely unaffected by changes in the domestic demand. While the growth rate of prices of those goods has remained stable in the past few months, since the autumn of 2006 the growth of prices of other goods has gradually accelerated.

2007 Q2 saw a further increase in all core inflation measures. However, most of the core inflation indicators remain below the CPI inflation level and below the level of the NBP target (2.5%).

Inflation expectations of individuals, after increasing significantly in May 2007, in the following months stabilised at a level close to the NBP inflation target (2.5%). The rise in inflation expectations in the analysed period was driven by both an increase in the current inflation rate and a rise in the percentage of respondents expecting the growth rate of prices to accelerate. In the period May–July 2007 inflation forecasts of bank analysts over the 11-month horizon slightly increased as compared with the first quarter of 2007. Yet, they continued to run at a level close to the NBP inflation target.

2007 Q1 saw an increase in the growth rate of zloty denominated import prices, despite a considerable drop in import prices of crude oil in annual terms. This resulted from accelerating growth in prices of other imported goods. Following two consecutive months of decline in crude oil prices in the world markets, in 2007 Q2 and at the beginning of

2007 Q3 the prices of this commodity increased. The rise in current spot prices of crude oil was accompanied by an increase in its forecasted prices.

After a rise in the growth rate of producer prices in industry (PPI) in 2007 Q1, 2007 Q2 saw a decline in the annual growth rate of PPI. Similarly to the three previous quarters, the growth in producer prices in industry was largely the result of price increases in the *Manufacturing* section.

The Polish economy is in the period of strong growth encompassing all its main sectors (i.e. services, industry, construction). In line with the expectations presented in the previous *Reports*, the most important factor in GDP growth is a dynamic rise in investment and consumption. Exports continue to rise significantly, yet due to the recovery in domestic demand and concurrent imports acceleration, the contribution of net exports to GDP growth has been negative since 2006 Q3. Strong economic growth has been accompanied by fast growth in employment and falling unemployment. Average wages in the economy are growing faster than labour productivity, which leads to a rise in unit labour costs.

The data released confirm previous assessments that strong economic activity should be sustained for at least the next few quarters, even though the rate of economic growth in the following quarters will be lower than in 2007 Q1. The continuation of fast economic growth in Poland will be supported by strong activity in the world economy and, particularly, the consolidating recovery in the euro area, which is taking place in the conditions of stable inflation.

In 2007 Q1 private consumption growth reached 6.9% *y/y* and was significantly higher than expected in the April *Report*. Accelerating growth of private consumption was, among other things, the result of continuous improvement in the financial standing of households and of positive consumer sentiment, which supported a rapid growth in consumer loans. Persistently high, albeit lower than in 2007 Q1, growth of retail sales in April–June 2007, continuing recovery in the labour market, and optimistic consumer sentiment indicate a high growth of consumption demand in 2007 Q2. Consumption growth was most probably higher that expected in the previous *Report*, though lower than in 2007 Q1. A reduction in disability pension contribution will be an additional, significant factor behind growth in private consumption in the coming quarters.

2007 Q1 saw a considerable acceleration in the growth rate of investment, albeit slightly lower than expected in the April *Report*. Gross fixed capital formation in 2007 Q1 rose in real terms by 29.6% *y/y*. Growing investment activity has been observed in all main sectors of the economy. Fast growth has been recorded in investment expenditure of the central and local government sectors. An improvement has also been observed in housing construction. In the NBP's assessment, in the quarters to come the growth rate of gross fixed capital formation will remain high, at a level close to that expected in the April *Report*, albeit below the record level in 2007 Q1.

On the basis of monthly data for April–June 2007 it may be assessed that the GDP growth in 2007 Q2 fell to about 6% *y/y*, which is consistent with the expectations presented in the April *Report*. In the NBP's view, the mid-term economic outlook remains favourable. In the nearest quarters the high GDP growth can be expected to continue, fuelled (just like in the previous quarters) by the rapidly rising gross fixed capital formation and private consumption. Due to a strong recovery in domestic demand the foreign trade balance will remain a factor diminishing GDP growth.

Demand for labour keeps growing, which has been reflected in the rising number of working persons in the economy and the falling unemployment rate. The number of persons working in services and industry continues to grow at a rapid pace, while there has been a deep decline in the number of people working in agriculture. At the same time, employers are experiencing increasing difficulties in hiring new workers. Important factors exacerbating the workforce problem are the strong growth of labour demand and the emigration of Poles to EU countries. GUS business tendency and NBP economic climate surveys indicate that employment will continue to grow strongly in 2007 Q3. A reduction in disability pension contribution paid by employers from 2008 onwards is another factor that may contribute to further growth in employment.

Strong recovery in the labour market is accompanied by an acceleration in the growth of nominal wages. With a concurrent rise in the growth rate of employment, this is adding to the increased growth rate of aggregate wages, an increase in the income of households and an upturn in aggregate demand. The accelerating economic growth and the ensuing rise in demand for labour may lead to a sustained high level of the growth rate of wages or even to its further increase.

In 2007 Q1 wages were growing faster than labour productivity in the economy and the growth rate of unit labour costs in the economy reached the highest level since 2001 Q1. This increase is adding to the cost pressure and may thus lead to a rise in inflation. In contrast to the situation in the economy as a whole, in industrial enterprises labour productivity in the past few years had been rising faster than nominal wages. However, as a result of an upward trend in the growth rate of unit labour costs from mid-2006 onwards, in recent months the level of unit labour costs has also increased in industrial enterprises.

Market interest rates have risen since the April *Report*. An increase in the money market rates and in two- and five-year bond yields was largely driven by reinforced expectations for NBP interest rate hikes. In the case of long-term interest rates, their increase mostly resulted from the rise in the yields in core markets. However, the decline in the prices of long-term bonds was limited due to a relatively low supply of Treasury bonds, a persistently high demand for domestic securities on the part of pension and investment funds, and also due to improved investment rating and favourable foundations of the Polish economy.

Since the April *Report* the zloty exchange rate appreciated slightly. Over this period, changes in the value of the Polish currency were mostly driven by global factors. Domestic factors, not least the data on economic growth and wages, as well as rising expectations as to the scale of NBP rate hikes, were conducive to appreciation of the zloty exchange rate.

The value of bank loans increases rapidly, with the growth rate of housing loans being by far the highest one. Credit expansion is supported by a strong economic growth, relatively low cost of credit, and facilitated access to bank loans.

During the meeting in April 2007, the Monetary Policy Council decided to raise NBP rates by 0.25 percentage point, in May the Council left the rates unchanged, while in June it decided to increase the rates by 0.25 percentage point once again. In July the Council kept the interest rates unchanged: reference rate at 4.50%, the lombard rate at 6.00%, the deposit rate at 3.00% and the rediscount rate at 4.75%.

During the meetings the Monetary Policy Council discussed the outlook for inflation in the context of the past, current and, primarily, the expected economic situation. Minutes, comprising a more extensive account of the arguments raised during discussions at the

MPC meetings in April, May, and June 2007, each were published individually prior to the subsequent decision-making meeting, as announced in advance by the Council. The contents of those minutes have been once again included in the Chapter *Monetary Policy in April–July 2007* of the current *Report*. The minutes from the July MPC meeting will be published in the week preceding the August decision-making meeting, i.e. on Thursday, 23 August.

At its July meeting, the Council got acquainted with the projection of inflation and GDP prepared by NBP staff and based on the ECMOD model, which is one of the inputs to the Council's decision-making process on NBP interest rates. According to the July inflation projection, in the horizon of eight quarters, the growth rate of consumer prices will be higher than in the April projection. Under constant interest rates, there is a 50-percent probability that inflation will remain within the range of 2.3-3.3% in 2007 Q4 (compared with 1.3-2.6% in the April projection), 2.1-4.1% in 2008 Q4 (compared with 1.6-3.8%) and 2.1-4.5% in 2009 Q4 (compared with 2.1-4.6%).

According to the July ECMOD-based projection, the annual GDP growth rate will remain with a 50-percent probability within the range of 6.2-6.8% in 2007 (compared with 6.0-7.0% in the April projection), 4.3-6.7% in 2008 (compared with 4.0-6.3%) and 4.0-7.2% in 2009 (compared with 4.0-7.0%).

The Council also got acquainted with other forecasts conducted at the NBP.

In the Council's assessment, in the coming quarters, economic growth will most probably continue to exceed the growth of potential GDP. The latest information on labour market developments point to a continuation of a high wage growth and a deterioration in the relation between wage and labour productivity growth. A further build-up in wage pressure and, consequently, inflationary pressure is possible. Nevertheless, the Council assessed that the mid-term inflation growth may be curbed by increase in productivity and a very good financial standing of enterprises. Inflation growth in the medium term may also be constrained by low growth of external prices, related to the monetary policy pursued by major central banks as well as the globalisation process and the ensuing rise in competition in the market of internationally traded goods and services.

In the Council's assessment, in the medium term the probability of inflation running above the inflation target decreased to a certain degree due to the previously implemented monetary policy tightening, though it is still higher than the probability of inflation running below the target. A more comprehensive assessment of the scale of the risk of inflation overshooting the inflation target will only be possible after analysing the data released in the future.

In the months to come, the Council will be closely monitoring the growth and structure of domestic demand, including the degree of the expansionary fiscal policy stance, the relation between wage and labour productivity growth, zloty exchange rate and the impact of globalisation processes on the economy.

Inflationary processes

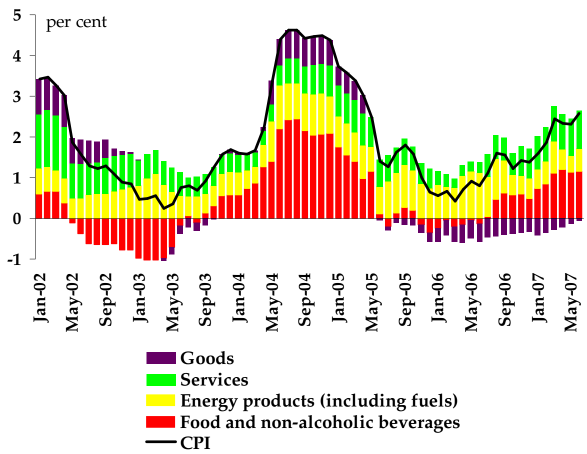
1.1 Inflation indicators

Following the increase in the annual growth of consumer goods and services' prices in the period from November 2006 to March 2007, in 2007 Q2 CPI inflation stabilised at a level close to the NBP inflation target (2.5%) (Figure 1.1). Changes in the structure of price growth seem to support the hypothesis suggested in the previous *Report* that growth in the prices of consumer goods and services is to an increasing, albeit still moderate, extent driven by rising domestic demand.

After the increase in the growth rate of prices of food and non-alcoholic beverages in the first months of 2007, in the period April - June 2007 the annual price growth in this group of products stabilised at a relatively high level, which significantly exceeds the current CPI inflation rate (Figure 1.2). Growth in the prices of food and non-alcoholic beverages continued to have the largest contribution to CPI growth. Changes in food prices continue to be largely determined by supply factors and world market trends (see: box) which remain beyond the influence of monetary policy. The impact of supply factors on the prices of food, and unprocessed food in particular, is reflected in high volatility of the rate of price growth in this group of products (Figure 1.2). Yet, the accelerating growth in prices of processed food, which remain under relatively stronger influence of demand factors, observed since May 2006, may indicate that the relatively high growth of prices of food and non-alcoholic beverages has also been driven by growing consumption demand.

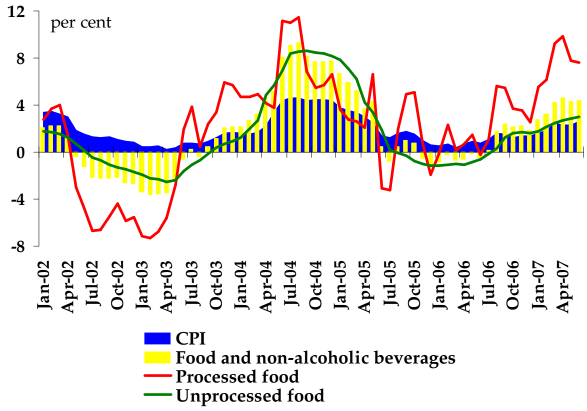
The past few months have seen a further acceleration in the growth of prices of services

Figure 1.1:
CPI and main categories of prices.



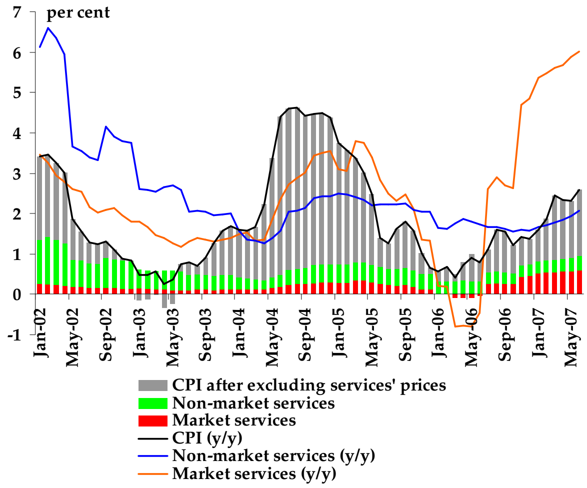
Source: GUS data, NBP calculations.

Figure 1.2:
Price indices of food and non-alcoholic beverages (y/y changes).



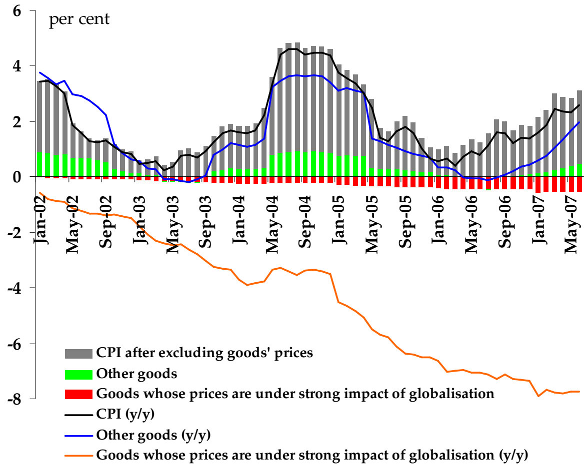
Source: GUS data, NBP calculations.

Figure 1.3:
CPI and main categories of prices – services.



Source: GUS data, NBP calculations.

Figure 1.4:
CPI and main categories of prices – goods.



Source: GUS data, NBP calculations.

which results primarily from higher growth rate of prices of market services (Figure 1.3). Although high growth rate of prices in this category was significantly influenced by statistical effects related to changes in the prices of Internet services[1], even with the prices of Internet services excluded, inflation in the group of services whose prices are determined by market forces was on the rise[2] and ran above the NBP inflation target (2.5%). This trend may be due, among other things, to the increasing consumption demand amidst rising income of households as well as growing unit labour costs in this sector, supported by the improving situation in the labour market.

In 2007 Q2 the prices of goods continued to fall[3]. This was driven by persistently falling prices of goods whose prices are strongly affected by globalisation[4], whose considerable part is imported from low cost countries and whose prices remain largely unaffected by changes in the domestic demand (Figure1.4). While the growth rate of prices of those goods has remained stable in the past few months, since the autumn of 2006 the growth of prices of other goods has gradually accelerated[5]. In the past few months the growth of prices in this group has been primarily driven by an increase in the growth rate of prices of house maintenance materials, which is most probably related to high demand in the housing market.

A slight fall in inflation in the months April - May

[1]For more information on the prices of Internet services see: January *Inflation Report*, p. 12.

[2]The increase in the growth of prices in this category was mostly influenced by growing prices of hotel and restaurant services, which are largely dependent upon household income.

[3]According to the definition adopted in the *Report* the price category *goods* does not include non-alcoholic beverages and energy products (including fuels).

[4]The group of products whose prices are strongly affected by globalisation include: clothing, footwear, audio and television equipment, photographic and IT equipment, musical instruments, games and toys, hobby, sports and camping equipment for outdoor recreation, electronic appliances for personal hygiene

[5]This trend can also be observed after excluding the prices of alcoholic beverages and tobacco products, which largely depend on changes in the excise duties, which are not related to demand.

Change y/y (per cent)	2006						2007					
	Jul	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**
CPI	**1.1**	**1.6**	**1.6**	**1.2**	**1.4**	**1.4**	**1.6**	**1.9**	**2.5**	**2.3**	**2.3**	**2.6**
Core inflation indices excluding:												
Regulated prices	0.1	0.7	1.0	0.9	1.3	1.2	1.5	1.8	2.3	2.6	2.6	2.7
Most volatile prices	0.8	1.0	1.0	0.8	1.0	1.1	1.2	1.5	2.0	1.8	1.9	2.2
Most volatile prices and fuel prices	0.6	0.8	1.1	1.1	1.4	1.5	1.5	1.7	1.9	1.8	1.9	2.2
Food and fuel prices ("net" inflation)	1.3	1.4	1.4	1.3	1.6	1.6	1.5	1.6	1.7	1.5	1.6	1.8
15% trimmed mean	1.0	1.2	1.1	1.1	1.1	1.1	1.1	1.2	1.7	1.9	1.8	2.2
Change m/m (per cent)	**2006**						**2007**					
	Jul	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**
CPI	**0.0**	**0.3**	**0.2**	**0.1**	**0.0**	**-0.2**	**0.4**	**0.3**	**0.5**	**0.5**	**0.5**	**0.0**
Core inflation indices excluding:												
Regulated prices	-0.2	0.3	0.3	0.4	0.1	-0.1	0.4	0.3	0.4	0.5	0.6	-0.2
Most volatile prices	0.7	0.4	0.2	0.3	0.5	0.3	-0.1	0.0	0.3	0.3	- 0.1	-0.4
Most volatile prices and fuel prices	0.6	0.3	0.4	0.5	0.6	0.5	-0.1	0.0	0.0	0.1	-0.2	-0.6
Food and fuel prices ("net" inflation)	0.5	0.1	0.1	0.2	0.1	0.0	0.2	0.0	0.1	0.1	0.2	0.2
15% trimmed mean	0.1	0.2	0.1	0.1	0.1	0.0	0.2	0.1	0.2	0.2	0.2	0.2
Core inflation indices – seasonally adjusted (TRAMO/SEATS):												
CPI	0.3	0.4	0.1	0.0	0.2	0.1	0.3	0.3	0.4	0.1	0.2	0.2
"net" inflation	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2

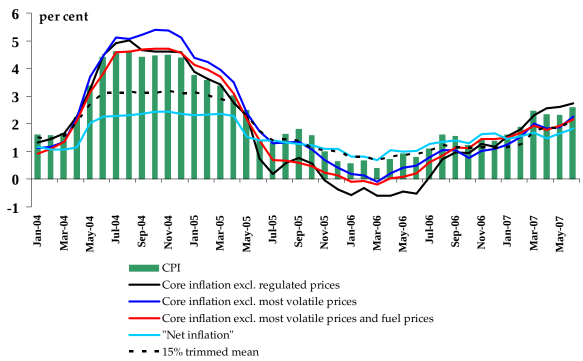
Table 1.1: CPI and core inflation indices.
Source: GUS data, NBP calculations.

2007 was related to a marked decline in the annual growth rate of energy prices.

This was mainly caused by a decline in the growth rate of gas and fuel prices in annual terms; which, however, resulted from the petering out of the statistical base effect only[6]. In fact, in the period analysed the prices of natural gas did not change, while prices of fuels increased considerably. A strong rise in the prices of fuels recorded in June resulted in an increase in the rate of growth of energy prices, which contributed to inflation growth.

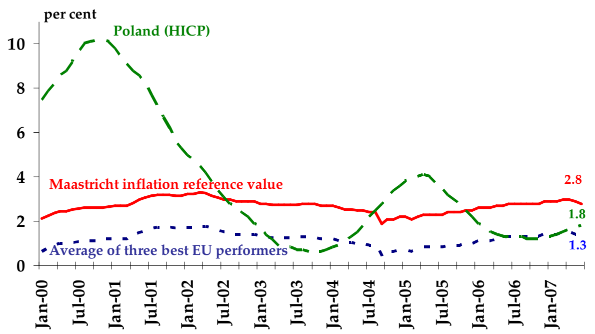
[6]April 2006 recorded a considerable increase in the prices of natural gas and a strong rise in fuel prices. As a result, since April 2007 the base to calculate the annual growth rate of those products prices has been considerably higher than in the previous months.

□ **Figure 1.5:**
CPI and core inflation measures (y/y changes).



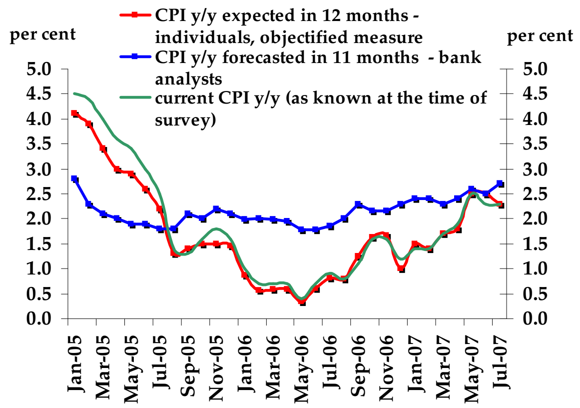
Source: GUS Data, NBP calculations.

⊡ **Figure 1.6:**
Inflation in Poland (HICP 12-month moving average) and the Maastricht criterion (per cent)



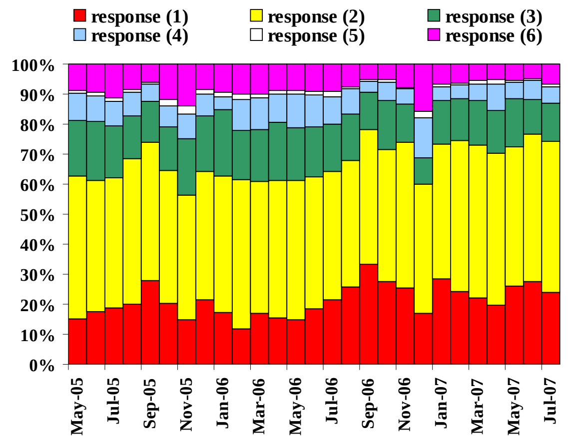
Source: Eurostat data, NBP calculations.

⊡ **Figure 1.7:**
Inflation expectations of individuals and inflation forecasts of bank analysts.



Source: Ipsos, Reuters, GUS, NBP calculations.

⊡ **Figure 1.8:**
Inflation expectations of individuals. Responses to the question asked by Ipsos.



Source: Ipsos data.
Ipsos survey question: "Considering the present situation, do you think that prices during the next 12 months: (1) will grow faster than they do now; (2) will rise at the same rate; (3) will grow at a slower rate; (4) will stay the same; (5) will decrease; (6) it is hard to say?"

2007 Q2 saw a further increase in all core inflation measures (Figure 1.5). However, most of the core inflation indicators remain below the CPI inflation level. Since November 2005 Poland has been complying with the inflation criterion which is one of the conditions of the euro area membership (Figure 1.6)[7]. Moreover, from March 2006 to April 2007 Poland was one of the three countries with the lowest average annual inflation in the EU. However, due to a continuing rise in inflation in Poland, since May 2007 inflation rate in Poland has not been taken into account while calculating the reference value.

1.2 Inflation expectations

In the period May - July 2007 both the inflation expectations of individuals as well as inflation forecasts of bank analysts were running at a level close to the NBP inflation target (2.5%) (Figure 1.7).

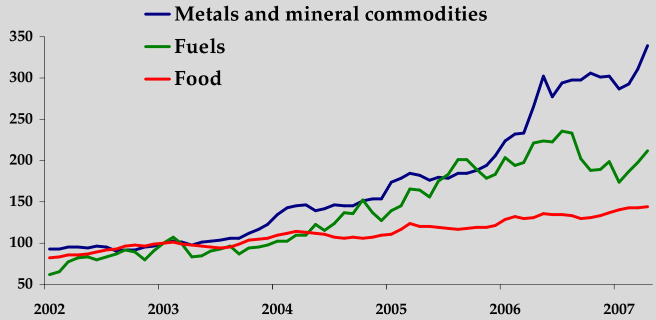
Inflation expectations of individuals are strongly adaptive in nature, which means that changes in inflation expectations closely follow the changes in the current inflation. After an increase in these expectations in May 2007, they stabilised at a level close to the NBP inflation target. The rise in inflation expectations in the period analysed was driven by both an increase in the current inflation rate as well as a deterioration in the structure of responses to the survey question concerning future price growth, as evidenced by the shifts in the structure of responses to the question in monthly Ipsos consumer surveys towards a larger share of respondents expecting an increase in the rate growth of prices (Figure 1.8). In the period May - July 2007 inflation forecasts of bank analysts over the 11-month horizon slightly increased as compared with the first quarter of 2007. Yet, they continued to run at a

[7] In a country intending to adopt the euro, in the reference period, the average annual inflation as measured by the harmonised index of consumer prices (HICP) cannot exceed the reference value determined as the average inflation in the three EU countries with the lowest average annual price growth rate plus 1.5 percentage point (For more information on the Maastricht criteria see: chapter 1.3 of the *Inflation Report* of January 2007).

level close to the NBP inflation target.

Food prices in the world market

The past few years have seen a steady growth of food prices in the world markets. Yet, it is not as spectacular as the growth of the prices of metals or energy commodities which is due to the specific character of the agricultural market: lower sensitivity of demand for food to the economic growth as compared with demand for industrial output, as well as higher responsiveness of supply of agricultural products to growing demand for those products and to price increase. A relatively long-lasting upward trend in food prices may suggest that it is to a greater extent the result of structural changes than short-term adjustments.



Wykres R.1: Changes in the prices of raw materials in the world markets. January 2003 = 100.
Source: World Bank

One of the factors behind the growth in food prices are rising energy prices in the world markets. On the one hand, they fuel growth in the prices of production inputs (mainly fuels, fertilizers and pesticides manufactured with the use of natural gas), whose reduced consumption leads to a reduction in crops and, consequently, additional upward pressure on prices. On the other hand, growing energy prices drive the increase in demand for agricultural raw materials which may be used for energy production (biofuels). Growing demand for biofules not only boosts demand for plants but also strengthens competition for the existing arable and grazing land (which, given the lack of the possibility to increase the area of cultivated land will lead to a reduction in the food production potential based on existing technologies). The measures taken by governments of numerous countries to provide extensive public assistance addressed to farmers producing materials for biofules production are already limiting the area of cultivation of those plants which are not grown for the use as energy sources.

Food prices are also affected by the increased occurrence of weather anomalies in the past few years, which accompany the global warming and significantly reduce crop yields. This results from the fact that agriculture is particularly sensitive to the influence of the climate and the related atmospheric phenomena such as sun exposure, temperature and its changes, precipitations, etc. This determines changes in the range of particular crops, harvesting schedule, cultivation methods, etc.

Apart from supply factors, food prices are also influenced by growing demand. Increasing demand for food is mostly driven by changes in the purchasing power of individuals rather than by demographic boom. Rising affluence results in higher consumption of animal-based products (meat, fish, milk and dairy products), which strongly increases the world consumption of crops used as fodder for domestic animals. Accelerating changes in the consumption model are additionally supported by the increasing similarity uniformisation of consumption patterns being the result of the impact of multinational corporations on the world food sector, urbanisation and migration. As a result, less wealthy consumers are shifting faster than ever towards the consumption of highly processed food and nutrition is improving in terms of quantity of food consumed. On the other hand, developed countries experience growing interest in organic food. In the past few years, there has been a steady increase in spending on healthy food, which is the result of awareness-raising campaigns on the values of organic food conducted in many countries. High unit costs of the production of organic food, resulting in selling prices 2-3 times higher than in traditional farming, constitute an obstacle to growing demand for organic food.

Poland is an important food producer on a regional scale, both given the large size of its domestic market as well as considerable employment in this sector. Yet, due to the rapid increase in the volume of foreign trade in agricultural and food products in Poland observed in the past few years, domestic food production, manufacturing and trading sectors are becoming increasingly related to the situation in the global market. European agricultural commodity markets are more and more often becoming the point of reference for domestic prices. Trends in food prices in the world market may therefore exert growing influence on food price developments in Poland. Both the scale of possible price changes and their distribution in time are difficult to predict. Yet, it cannot be ruled out that the persistence of the upward trend in world food prices will become a new risk factor for global inflation, and as a result – for inflation in Poland.

Determinants of inflation

The Polish economy is in the period of strong growth encompassing all its main sectors (i.e. services, industry, construction). In line with the expectations of the previous *Reports*, the most important factor in GDP growth is a dynamic rise in investment and consumption. Exports continue to rise significantly, yet due to the recovery in domestic demand and concurrent imports acceleration, the contribution of net exports to GDP growth has been negative since 2006 Q3. Strong economic growth has been accompanied by fast growth in employment and falling unemployment. Average wages in the economy are growing faster than labour productivity, which leads to a rise in unit labour costs. The acceleration in GDP growth and further recovery in the labour market are still accompanied by inflation close to the NBP inflation target (2.5%) and a low, though gradually increasing, current account deficit.

The data released confirm previous assessments that strong economic activity should be sustained for at least the next few quarters, even though economic growth in the next quarters will be lower than in 2007 Q1. The continuation of fast economic growth in Poland will be supported by strong activity in the world economy and, particularly, the consolidating recovery in the euro area, which is taking place in the conditions of stable inflation.

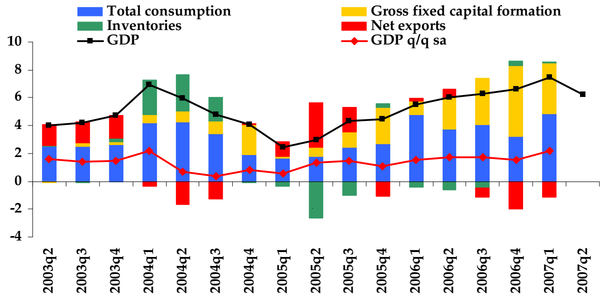
2.1 Demand

In line with the NBP's estimates presented in the April *Report*, in 2007 Q1 the real GDP growth in quarter-on-quarter terms exceeded 2% q/q (Table 2.1[8]), which resulted in a significant acceleration of GDP growth in year-on-year terms (Figure 2.1).

2007 Q1 marked a strong acceleration in the growth rate of gross fixed capital formation, which was connected, among others, with good weather conditions favouring construction works. This was also another consecutive quarter which saw a surge in private consumption, which brought

[8]The *Report* accounts for NBP seasonally adjusted data on national accounts in average annual prices of the previous year and not data that were seasonally adjusted in constant prices of 2000, as released by the GUS. For this reason, the seasonally adjusted growth of GDP and its components presented in the *Report* may differ from that presented by the GUS.

Figure 2.1:
Contribution of aggregate demand components to GDP growth



Source: GUS data, 2007 Q2 – NBP estimates.

Seasonally adjusted (per cent)	04q4	05q1	05q2	05q3	05q4	06q1	06q2	06q3	06q4	07q1
GDP	0.8	0.5	1.3	1.4	1.1	1.5	1.7	1.8	1.5	2.2
Domestic demand	0.0	0.5	0.6	1.3	1.6	1.5	1.8	2.1	2.3	2.0
Total consumption	0.3	0.2	1.3	1.0	1.3	1.3	1.0	1.3	1.1	1.7
Private consumption	0.4	0.0	0.9	0.9	1.2	1.4	1.3	1.6	1.4	1.9
Gross capital formation	-1.7	1.6	-2.1	3.4	3.9	0.9	5.6	5.5	5.7	6.7
Gross fixed capital formation	1.6	0.9	1.7	2.2	4.3	1.6	6.2	6.1	5.7	8.4

Table 2.1: GDP and aggregate demand components growth rates (q/q, per cent, seasonally adjusted)
Source: NBP calculations on the basis of GUS data.

about a real increase in domestic demand by as much as 8.6% y/y. Imports rose faster than exports and for the third consecutive quarter the foreign trade balance was among the factors diminishing GDP growth.

On the basis of preliminary monthly data for April-June 2007 it may be assessed that the GDP growth in 2007 Q2 fell to about 6% y/y, which is consistent with the expectations presented in the April *Report*. In seasonally adjusted terms, GDP growth did not exceed 1% q/q, which is the result of the high reference base, namely the very good 2007 Q1. In the NBP's assessment, the mid-term economic outlook remains favourable. In the nearest quarters to come the high GDP growth can be expected to continue, fuelled (just like in the previous quarters) by the quickly rising gross fixed capital formation and private consumption. Due to a strong recovery in domestic demand the foreign trade balance will continue to be a factor diminishing GDP growth.

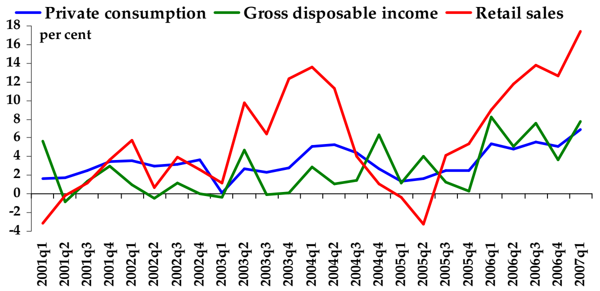
2.1.1 Consumption demand

In 2007 Q1 private consumption growth reached 6.9% y/y and was significantly higher than expected in the April *Report*. Yet, public consumption increased by 1.3% y/y, marking a lower than expected growth.

Accelerating growth of private consumption in 2007 Q1 was, among other things, the result of regular improvement in the financial standing of households (Figure 2.2) and favourable consumer sentiment, which supported fast growth in consumer loans (see chapter 2.5.3 *Credit and money*).

In the NBP assessment, high real growth of household disposable income in 2007 Q1 was mainly driven by strong growth of income from paid employment, and especially by accelerating growth of income in the corporate sector which was a result of higher growth of employment and stronger than in 2006 Q4 increase in average wages (see chapter 2.3 *Labour market*). According to the NBP estimates, fast growth was also recorded in the income from employers' gross operating surplus, income of the self-employed, in old-age and disability pension benefits (mainly as a result of the last year's indexation) and in private transfers of Poles working abroad.

⊡ **Figure 2.2:**
Growth of private consumption, gross disposable income and retail sales (y/y, per cent, constant prices)



Source: GUS data, gross disposable income in 2007 Q1 - NBP estimates.

Rising growth in consumption was also supported by improvement in current consumer confidence observed in 2007 Q1 (a particular improvement was noted in the assessment of the present period considered as appropriate time to make considerable purchases, as well as in the assessment of consumers' own financial condition over the last year). Improvement was also recorded in the consumer sentiment for the coming 12 months, which is reflected in the leading consumer confidence indicators driven , to a considerable degree, by significant abatement of unemployment fear. At the same time, findings of household condition surveys point to a possibility of consumption growth stabilising at a high level. Growing consumption demand was reflected in a strong growth of retail sales of goods.

Persistently high, albeit lower than in 2007 Q1, growth of retail sales observed in the period April-June 2007, sustained recovery in the labour market and optimistic consumer sentiment suggest high growth of consumption demand in 2007 Q2. Consumption growth was most probably higher that expected in the previous *Report*, albeit lower than in 2007 Q1. A reduction in disability pension contribution will be an additional, significant factor behind growth in private consumption in the coming quarters.

2.1.2 Government demand

In line with the preliminary estimates of the Ministry of Finance, in 2007 Q2 the central government budget recorded a surplus[9] amounting to PLN 1.5 billion, which was principally due to high budget revenues. Tax revenues increased by 28.0% y/y in this period. High rate of economic growth and improving situation in the labour market had a positive impact on the revenue position of the central budget. These tendencies can be expected to continue in the second half of 2007, which means that central budget deficit at the end of the year will be probably significantly lower that the envisaged PLN 30 billion.

The favourable economic situation also positively affects the revenues of other units of the general government sector, including primarily the tax revenue of local governments and the contribution revenue of special purpose funds. In consequence, the deficit of the entire general government sector, which according to EU standards (ESA'95 with Open Pension Funds excluded from the sector) should account for 3.4% of GDP[10], may also prove lower than expected. Still, it has to be pointed out that the forecasts of the general government deficit are subject to uncertainty, particularly the amount of investment spending by local governments[11].

The outlook for the fiscal situation in 2008 is subject to heightened risk, mainly due to political situation. The fundamental factor affecting the fiscal policy in the next year will be the reduction in the disability pension contribution in 2007-2008 in the total amount of 7 percentage points, which has been passed by the Parliament. This move, even though favourable for the reduction of tax wedge, which will have a positive impact on the labour market, will diminish the revenues of the general government sector

[9] In Q2 deficits were recorded in previous years.

[10] In line with the *Convergence Programme. Update of November 2006* and the *Fiscal Notification* of April 2007.

[11] In 2006, despite a high growth of tax revenues, local governments recorded a deficit of PLN 3.0 billion, which was the worst result since 2002. This was mainly the consequence of a 35.4% increase in capital expenditure, connected with EU fund utilisation.

by approx. PLN 17.5 billion[12]. This means that in order to achieve the objectives set forth in the *Convergence Programme*, it will be necessary to limit the growth of public spending to a level lower than that recorded in the previous years, which may prove a tough challenge, among others because of the wage demands of public sector workers. It also seems doubtful that the changes in the organisation of the public finance sector and the control over public spending, as written in the draft of a new act on the public finance, could significantly contribute to public expenditure in any significant degree.

2.1.3 Investment demand

2007 Q1 saw a considerable acceleration in the investment growth, albeit slightly lower than expected in the April *Report*. Gross fixed capital formation in 2007 Q1 rose in real terms by as much as 29.6% y/y and, consequently, the ratio of investment to GDP in the last four quarters increased to 20.3% (Figure 2.3).

Growing investment activity has been observed in all main sectors of the economy (Figure2.4). Fast growth has been recorded in investment expenditure of the central and local government sectors. An improvement has also been observed in housing construction.

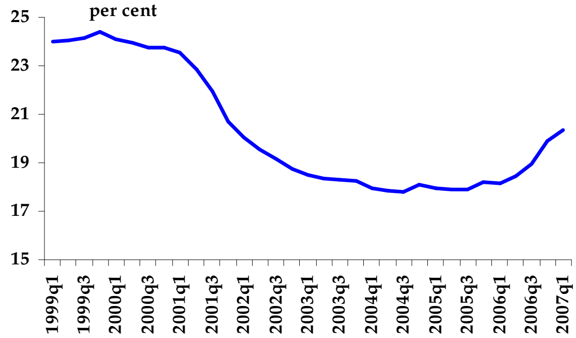
In 2007 Q1 investment in the sector of non-financial enterprises (employing over 49 employees) grew faster than investment in the economy as a whole. Those enterprises increased their fixed capital formation by as much as 48.7% y/y in constant prices[13] marking the highest growth rate since 1996. The increase in y/y growth has been record-ed in all types of investments. Expenditure on land, buildings and structures have grown the fastest, which found reflection in changes in the decomposition of corporate investment by type[14]. Yet, as a result of slower growth in the housing construction expenditure, the share of

[12]Government estimates.

[13]In the absence of the investment price index in the corporate sector in Q1, the fixed capital formation in the whole economy price index was used as a deflator.

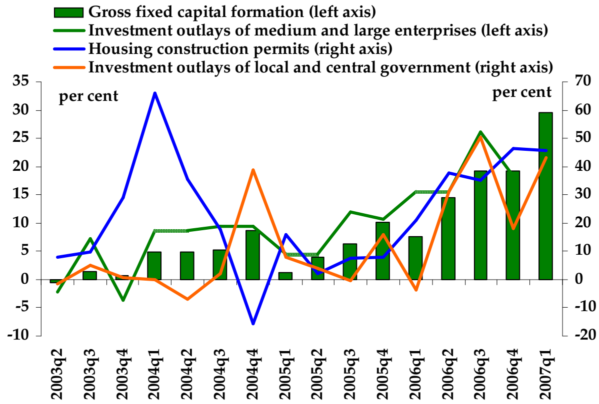
[14]According to GUS data based on F-01 questionnaires, the share of expenditure on land and buildings and structures in total corporate investment amounted to 31,7% in

Figure 2.3:
Investment to GDP ratio (gross fixed capital formation to GDP, annualized).



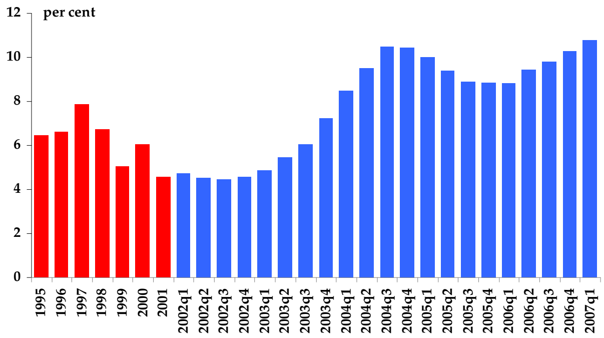
Source: GUS data, NBP calculations.

Figure 2.4:
Annual growth of gross fixed capital formation in the economy and entreprises, investment outlays of local and central government and housing construction permits.



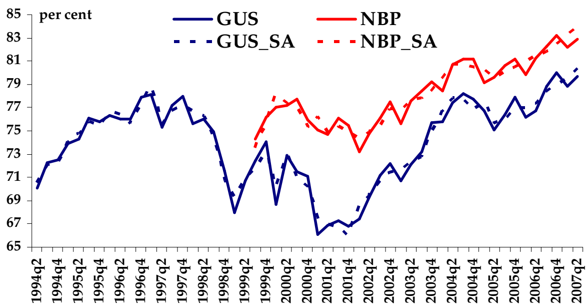
Source: GUS data, Ministry of Finance data, NBP calculations

Figure 2.5:
Return on capital employed in enterprises.



Source: GUS data, NBP estimates.
Return on capital employed calculated as operational profit to total assets minus short-term liabilities: annual data and quarterly data (cumulated over last 4 quarters)
Data for enterprises with at least 49 employees.

Figure 2.6:
Production capacity utilisation in industry (GUS) and in the corporate sector (NBP) (per cent)



Source: GUS data, NBP business survey.
The production capacity utilisation obtained from the GUS business survey is significantly lower from one obtained from the NBP business survey. However, the changes in this indicator are similar in both surveys. The difference is due to the fact that the two surveys are based on different enterprise samples. The GUS sample includes ca. 3500 enterprises from manufacturing excluding waste processing. The NBP sample in June 2007, in turn, included 809 enterprises from the whole corporate sector. The difference may also reflect the over-representation of big enterprises in the NBP sample, while the GUS sample is representative with respect to enterprise size.

expenditure on buildings and structures in total investment in the whole economy did not change significantly[15].

The coming period is expected to bring sustained strong investment activity in the corporate sector, albeit lower than in 2007 Q1[16]. Financial standing of enterprises continues to be very good which combined with improving loan availability[17] (see: Chapter 2.5.3. *Credit and money*), the inflow of foreign direct investment and EU funds creates favourable conditions for investment financing. The sustained high investment outlays is also supported by high rate of return on investment. (Figure 2.5). As suggested by the results of the NBP Economic Climate Surveys[18], investment activity of enterprises will mainly be connected with the need to increase production capacity which is suggested by very high and persistently growing rate of production capacity utilisation (Figure 2.6), amidst optimistic demand forecasts. Deterioration of financial results of enterprises (mainly due to higher labour costs) may constitute a risk for fast investment growth. In the medium term, the reaction of enterprises to labour shortage and growing labour costs may include increased share of investment in labour saving production technologies in total investment.

Growing inflow of EU funds contributes to persistently promising outlook for investment activity in the central and local government sector. Further improvement should be expected in housing construction which is supported, among other things, by the growth in the number of issued building permits significantly higher than

2007 Q1 (compared to 29,3% in 2006 Q1), and share of production capital – 57,7% (compared to 60,3%)

[15] According to Eurostat data, the share of expenditure on buildings and structures in total investment in the whole economy amounted to 46,0% in 2007 Q1 (compared to 46,1% in 2006 Q1), and production capital – 50,0% (compared to 49,1%)

[16] Deceleration in the investment growth will be driven by the fading impact of favourable weather conditions behind considerable acceleration of investment in 2007 Q1.

[17] The easing of corporate loan terms and criteria is suggested by the NBP findings of the surveys to the chairs of credit committees in commercial banks.

[18] *Information Concerning the Condition of the Corporate Sector and the Economic Climate in 2007 Q3*, NBP.

the growth in the number of dwellings under construction and completed dwellings. As a result, in the NBP's assessment, the quarters to come should see a persistently high growth of gross fixed capital formation at a level close to that expected in the April *Report* (albeit lower than the record level in 2007 Q1).

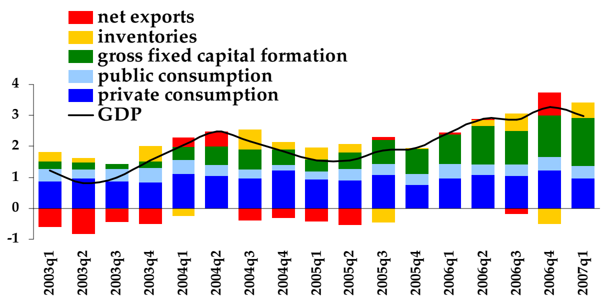
2.1.4 External demand and the current account of the balance of payments

EU-15 countries, which are Poland's largest export market[19], saw a relatively high growth rate of GDP in 2007 Q1. Yet, as compared with 2006 Q4 the structure of this growth changed - i.a., the impact of net exports which was an important factor behind acceleration of GDP growth in 2006 Q4, proved neutral in 2007 Q1. (Figure 2.7).

2007 Q1 saw a continued decline in the growth rate of EU-15 external trade (Figure 2.8). Lower export growth was mainly the result of the decline in the growth rate of EU-15 external demand and euro appreciation, while the weakening of import growth was mainly driven by lower growth of demand of the export sector. Despite the weakening import growth in all main groups of products, the highest growth continued to be recorded in the imports of intermediate goods, which in turn constitute a significant part of EU-15 imports form Poland. In consequence, the growth rate of EU-15 imports from Poland exceeded that of total imports[20].

Economic outlook for EU-15 countries and, consequently, for Polish exports to that market seems optimistic now. According to the forecasts of the European Commission published in May 2007, the economic growth in EU-15 countries in 2007 will be robust and only slightly lower in comparison with the previous year. Relatively encouraging forecasts for the EU-15 major trading partners indicate that the growth rate of exports

Figure 2.7:
Decomposition of EU-15 GDP growth



Source: Eurostat data.

Figure 2.8:
Changes in the value of external exports and imports of EU-15

Source: Eurostat data

[19]In 2007 Q1 the EU-15 countries accounted for 64.9% of Polish exports.

[20]In 2007 Q1 the value of EU-15 external imports (in current prices) rose by 5.3% y/y (against 8.1% y/y in 2006 Q4) while the value of imports from Poland stepped up by 15.3% y/y (against 25.7% y/y in 2006 Q4).

	04q4	05q1	05q2	05q3	05q4	06q1	06q2	06q3	06q4	07q1
Export prices / Unit labour costs*										
y/y	7.6	-7.3	-16.5	-6.8	-6.8	-1.0	4.9	7.2	7.6	9.4
q/q	-0.8	-6.2	-0.6	0.8	-0.8	-0.3	5.3	3.0	-0.5	1.4
Import prices / domestic producer prices										
y/y	-10.5	-11.8	-13.7	-3.2	-2.2	-2.0	3.3	0.7	0.6	2.0
q/q	-2.5	1.8	-4.1	1.6	-1.5	2.0	1.1	-0.9	-1.6	3.4
REER ULC*										
y/y	8.7	20.5	18.5	13.4	7.7	2.2	1.3	-0.1	1.6	0.1
q/q	4.2	7.8	-0.7	1.7	-1.0	2.3	-1.6	0.2	0.7	0.7

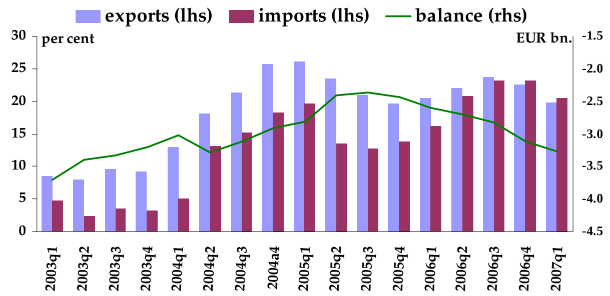
Table 2.2: Polish export and import competitiveness measures (change in per cent)
Notes:
* Unit labour cost index is calculated as the ratio of payroll growth to the labour productivity dynamics, measured as output (volume) in manufacturing per person employed in this sector,
** Esminates on the basis of monthly GUS data and ECB data. REER ULC – real effective exchange rate deflated with unit labour costs in manufacuring. Minus denotes depreciation.
Source: Own calculations based on NBP, GUS, EC, ECB and Eurostat data.

as well as that of imports in the coming quarters of 2007 will be higher than in 2007 Q1.[21]

The decline in the growth rate of EU-15 imports from Poland contributed to the decline in the Polish exports growth rate[22]. A slow-down was also recorded in the growth of Polish imports[23]. Yet, similarly to 2006 Q4 the growth of imports exceeded that of exports which caused the deepening of the deficit in the Polish foreign trade (Figure 2.9). This was driven mainly by the decline in surplus in the trade with EU-15 and the growth of deficit in the trade with third-party countries (among other things, persistently strong growth in the deficit in the trade with China).

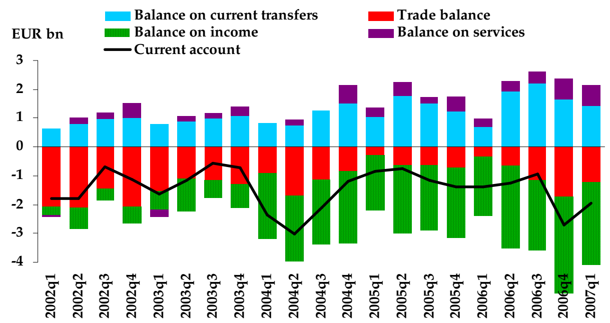
The rise, as compared to 2006 Q1, in deficit in the balance on goods and in the balance on income[24]

□ **Figure 2.9:**
Polish external trade in 2003-2007 in EUR, data cumulated over last 4 quarters (exports, imports: y/y per cent; balance: EUR bn.)



Source: GUS data

□ **Figure 2.10:**
Current account balance (EUR bn.)



Source: NBP data.

[21]The forecast of the European Commission published in May 2007 assumes that the economic growth in EU-15 countries will reach 2.7% (2.2% in the November 2006 forecast). The same forecast suggests the growth of exports in 2007 by 6.6% (against 6.1% assumed in the November 2006 forecast) and that of imports by 6.6% (against 5.9%).

[22]In 2007 Q1 the value of Polish exports increased by 14.9% y/y against 17.8% y/y in 2006 Q4, while the decline in the growth of the value of exports was driven by lower growth rate of their volume. In 2007 Q1 the volume of Polish exports increased by 8.9% y/y (against 11.0% y/y in 2006 Q4).

[23]In 2007 Q1 the value of Polish imports grew by 15.9% y/y (against 20.6% y/y in 2006 Q4).

[24]The deepening of the negative income balance was

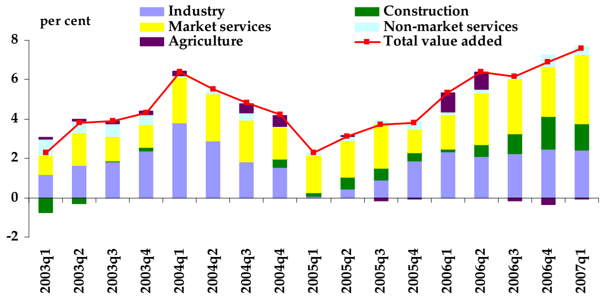
contributed to the deepening of the current account deficit (Figure 2.10). Yet as measured in relation to GDP it remained at a relatively low level, reaching in 2007 Q1 2.5% in annual terms.

2.2 Output

Consistently with expectations presented in the previous *Report*, 2007 Q1 brought further acceleration in the annual growth rate of gross value added (Figure 2.11).

Record high growth in value added in quarter-on-quarter terms was observed in construction, which was, to a large extent, connected with weather conditions more favourable than a year before. In comparison to the previous quarter, there was a faster rise in the valued added in market services, while the growth rate of value added in industry declined (Table 2.3). The value added growth rate in non-market services was significantly lower than in other categories.

Figure 2.11:
Sector contribution to annual gross value added growth (per cent)



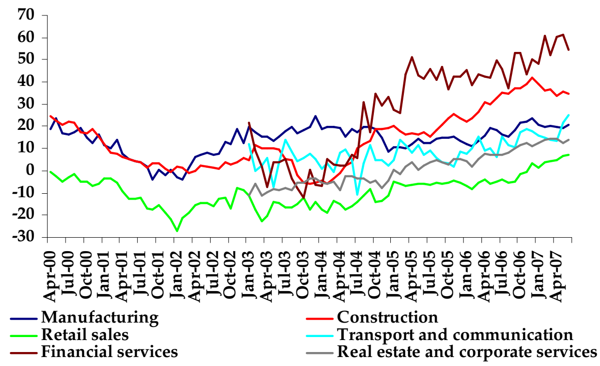
Source: NBP calculations on the basis of GUS data.

Seasonally adjusted (per cent)	04q4	05q1	05q2	05q3	05q4	06q1	06q2	06q3	06q4	07q1
Value added – total	0.8	0.4	1.3	1.3	0.9	1.8	2.2	1.1	1.7	2.4
Industry	0.2	0.2	2.3	1.3	3.3	1.8	2.4	1.5	3.3	1.6
Construction	3.1	1.6	2.1	1.6	2.2	0.7	7.1	6.3	7.0	10.8
Market services	1.1	0.8	0.6	1.1	0.8	1.1	1.7	1.5	1.6	2.0

Table 2.3: Value added and its components (q/q seasonally adjusted)
Source: NBP calculations on the basis of GUS data.

In 2007 Q2 the positive impact of weather conditions faded away and, consistently with NBP estimates, the growth rate of value added fell to just over 6% y/y, i.e. the level recorded in 2006. In the NBP's assessment, in subsequent quarters the outlook for economic growth will remain favourable and close to that presented in the previous *Report*, which is, among others, confirmed by economic climate surveys for all the main sections of the economy Figure 2.12).

Figure 2.12:
Indicators of future economic activity in selected sections



Source: GUS data.

driven by the increase in transfers of direct investment revenues (dividends, reinvested profits)

2.3 Labour market

2.3.1 Employment and unemployment

Since 2003 Q2 a steady growth in demand for labour has been observed, leading to a growing number of working persons in the economy (Figure 2.13 and Table 2.4). Starting from 2006 Q2 there has been a surge in the number of persons working in services and industry, with a concurrent deep decline in the number of people working in agriculture. The largest contribution to the rise in the number of working persons is still made by the service sector (increase of 449 thousand persons y/y in 2007 Q1).

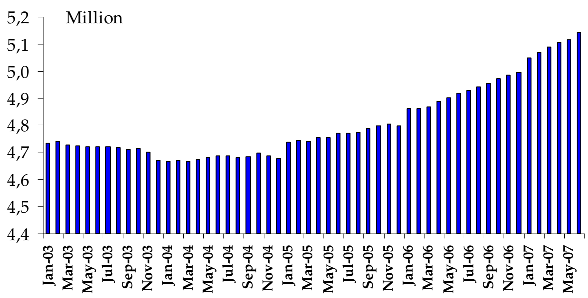
The growth in demand for labour has been reflected in a persistently high growth in average employment in enterprises (Figure 2.14), accelerated decline of unemployment (Figure 2.15) and a significant increase in vacancies reported to Labour Offices[25]. At the same time, there are signs that employers experience increasing difficulties in acquiring employees[26]. Important factors contributing to growing workforce problems include the strong increase in labour demand in the home economy and the emigration of Polish workers to European countries following Poland's entry to the EU[27].

Since the beginning of 2006 the growth in the number of working persons and decreasing unemployment have been accompanied by a fall in the number of the economically active (in 2007 Q1 by 0.4% y/y). The fall in the number of the economically active recorded in 2006 was partly the effect of methodological changes introduced to BAEL survey in 2006[28] Yet, the main factors behind the decline in the number of economically active persons include the deactivation of

Figure 2.13:
Working persons in the economy (according to BAEL) and in entities with more than 9 employees

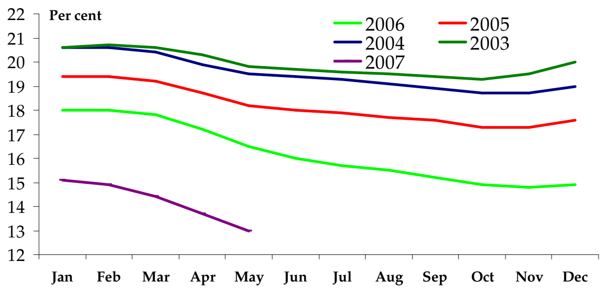
Source: GUS data

Figure 2.14:
Employment in the enterprise sector (thousands)



Source: GUS data

Figure 2.15:
Registered unemployment according to labour office data (per cent)



Source: GUS data

[25] In May 2007 the average monthly number of vacancies reported by employers to Labour Offices rose by 7.8% y/y.

[26] According to GUS business tendency survey, in construction the shortfall of skilled employees was declared in June 2007 by 55.4% of employers (as compared with 35.6% one year before), while in industry in 2007 Q2 27.8% of employers reported such problems (as compared with 12.7% one year earlier).

[27] The impact of this emigration on the Polish economy has been discussed in detail in the box: *Channels of impact of emigration on the Polish economy* in the April *Report*.

[28] See footnote 21 on page 25 of the April *Report*.

	Working persons in 2007q1		Growth in 2006q4		Growth in 2007q1		Growth in 2006q4	Growth in 2007q1
	thousands	structure	y/y thousands	y/y (percent)	y/y thousands	y/y (percent)	q/q seasonally adjusted (percent)	q/q seasonally adjusted (percent)
Total	14839	100	521	3.6	741	5.3	1.2	1.6
Total excluding private agriculture	12798	86.2	726	6.0	762	6.3	1.2	1.2
Place of residence								
urban areas	9230	62.2	320	3.6	504	5.8	1.1	1.3
rural areas	5609	37.8	201	3.6	237	4.4	0.9	1.3
Economic sector								
agriculture	2214	14.9	-203	-8.2	-4	-0.2	-1.0	0.2
industry	4446	30.0	317	7.6	295	7.1	1.5	1.7
services	8174	55.1	409	5.3	449	5.8	1.3	1.2
Ownership sector								
public	4215	28.4	74	1.7	-53	-1.2	-0.2	-0.8
private	10624	71.6	449	4.4	793	8.1	1.3	3.1
Employment status								
hired employees	11310	76.2	679	6.3	723	6.8	1.3	1.4
employers and self-employed	2905	19.6	-61	-2.1	3	0.1	0.0	-0.3
contributing family workers	624	4.2	-96	-13.4	15	2.5	-4.6	8.4
Type of job contract								
fixed-term contract	3116	27.5	330	11.6	422	15.7	2.6	3.8
permanent	8195	72.5	349	4.4	302	3.8	1.2	0.5

Table 2.4: Working population according to BAEL in selected sections
BAEL data were seasonally adjusted with TRAMO/SEATS on a sample beginning 1995q1, with an exception of number of persons working in the public sector, which was adjusted on a sample beginning in 2000q1.
Source: BAEL data, NBP calculations.

people acquiring rights for early retirement benefits and the economic migrations of Poles to other EU countries. The observed fall in the number of the economically active contributes to limiting the supply of labour and may, consequently, be conducive to increasing the wage pressure.

The continuation of a high growth rate of employment in 2007 Q3 is indicated both by GUS business tendency and NBP economic climate surveys[29]. Further growth in employment may also be driven by a reduction in disability pension contribution paid by employers starting from 2008[30].

[29]See: *Preliminary Information Concerning the Condition of the Corporate Sector and the Economic Climate in 2007 Q3*, NBP.

[30]In its first stage of implementation on 1 July 2007 disability pension contribution paid by employees was reduced by 3 percentage points. Starting from 1 January 2008, dis-

2.3.2 Wages and productivity

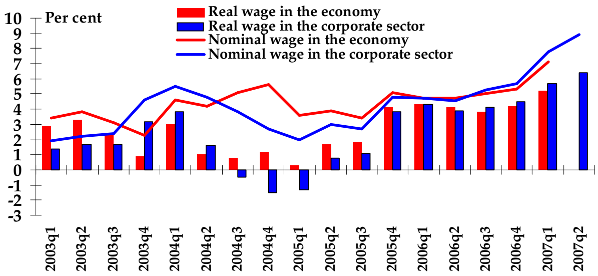
Strong recovery in the labour market is accompanied by an acceleration in the growth of nominal wages, which is indicated both by quarterly data from the economy as a whole and monthly data from the enterprise sector (Figure 2.16). With a concurrent stepping-up in the growth rate of employment, this is adding to the increased growth rate of aggregate wages, an increase in the income of households and an upturn in aggregate demand.

In 2007 Q1 wages were growing faster than labour productivity in the economy[31]. As a result, the growth rate of unit labour costs in the economy increased (to 4.9% y/y from 2.4% y/y in 2006 Q4 – Figure 2.17)[32]. It should be noted that this is the highest growth rate of unit labour costs in the economy since 2001 Q1. This increase is adding to the cost pressure on price growth and may consequently drive up inflation.

In contrast to the situation in the economy as a whole, in industrial enterprises labour productivity in the past few years has been rising faster than nominal wages. Yet, as a result of the upward trend in the growth rate of unit labour costs observed in industry since mid-2006[33], in this group of enterprises unit labour costs have also increased in the past few months (Figure 2.18).

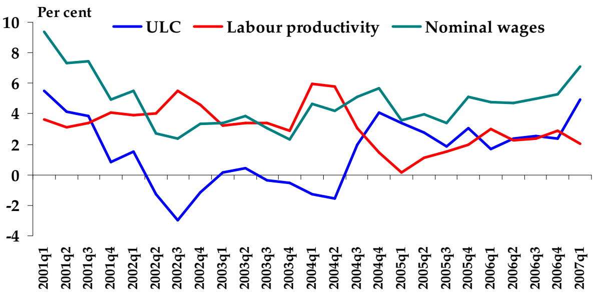
The accelerating economic growth and the ensuing rise in demand for labour may be leading to continued high level or even further stepping-up in the growth rate of wages. This was confirmed i.a. by the findings of the NBP economic climate

Figure 2.16:
Annual percentage growth of wages in the economy and in the corporate sector (nominal and real)



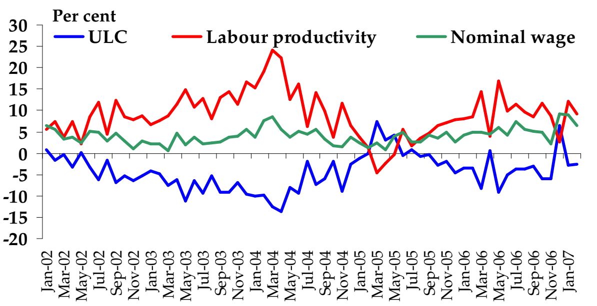
Source: GUS data, NBP calculations.

Figure 2.17:
Annual percentage growth of unit labour costs (ULC), labour productivity and nominal wages in the economy



Source: GUS data, NBP calculations.

Figure 2.18:
Annual growth of labour productivity and wages in industry



Source: GUS data, NBP calculations.

ability pension contribution will be reduced by another 4 percentage points – by 2 percentage points in the part paid by employees and by 2 percentage points in the part paid by employers.

[31] Labour productivity in the economy: GDP in constant average annual prices from the previous year per one person working in the economy according to the BAEL.

[32] Unit labour costs in the economy: nominal aggregate wages in the economy (average nominal wage in the economy multiplied by the number of people working in the economy according to the BAEL) to GDP (in constant average annual prices from the previous year).

[33] Unit labour costs in industry: the ratio of the average gross nominal wage in industry to the labour productivity in industry (labour productivity in industry: the ratio of industrial output in constant prices to the average employment in the sector).

surveys[34], which reported a growing percentage of enterprises declaring to implement pay rises in 2007 Q3 as compared with the corresponding period last year. Moreover, wage growth will be additionally fuelled by the growing problems of enterprises with finding employees signalled in GUS and NBP survey studies. 2007 Q2 saw further signs of growing wage pressure in part of the public sector. In turn, a reduction in disability pension contribution paid by employees will have various impact on gross wages. On the one hand, the related increase in disposable income will be conducive to growing demand in the goods market, and, consequently, growing demand for labour, which will, in turn, lead to an upward wage pressure. On the other hand, growing net wages should lead to an increase in labour supply and reduced wage pressure[35].

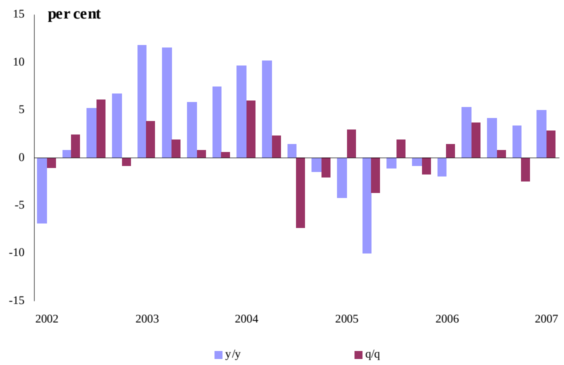
2.4 Other costs and prices

2.4.1 External prices

2007 Q1 saw an increase in the growth rate of zloty denominated import prices (Figure 2.19), despite a considerable drop in import prices of crude oil in annual terms. This resulted from accelerating growth in prices of other imported goods, mainly manufactured goods classified by raw material[36] as well as machinery and transport equipment.

Following two consecutive months of decline in crude oil prices in the world markets, in 2007 Q2 and at the beginning of 2007 Q3 the prices of this commodity increased (Figure 2.20), which

Figure 2.19:
Annual percentage change in the zloty denominated import prices.



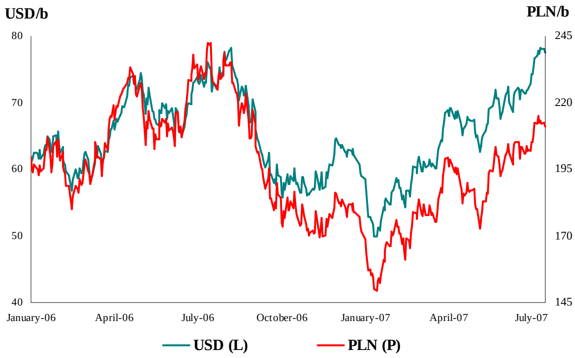
Source: GUS data.

[34]See: *Preliminary Information Concerning the Condition of the Corporate Sector and the Economic Climate in 2007 Q3*, NBP.

[35]The channels of the impact of reduced disability pension contributions of employees and employers and their total impact on inflation, accounted for in ECMOD model, have been discussed in chapter *Inflation projection and GDP*.

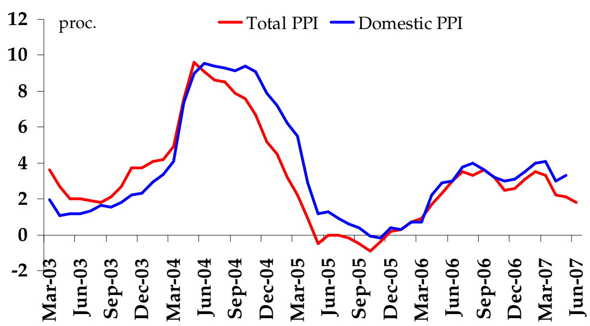
[36]This is a group of commodities in external trade listed according to SITC classification. It is comprised of leather articles, rubber articles, wooden products, paper and cardboard, textile yarn and textile articles, articles of non-metallic minerals, iron and steel, non-ferrum metals and metal articles.

☐ **Figure 2.20:**
Brent crude oil prices in USD and PLN.



Source: USD crude oil prices - the US Department of Energy (www.eia.doe.gov) and official USD/PLN exchange rate - NBP (www.nbp.pl).

☐ **Figure 2.21:**
Producer prices in industry (PPI). Total PPI and domestic PPI (y/y).



Source: GUS data.

was mainly caused by a decline in the stock of fuel in the USA, reduction in crude oil supplies from Nigeria as well as concerns about the supplies continuity from Iran. Although in March 2007 the majority of analysts had forecasted a rise in crude oil prices, the scale of this increase largely exceeded the expectations. The beginning of 2007 Q3 saw a further strong rise in crude oil prices, which was primarily accounted for by rising activity of speculative funds.

The rise in current spot prices of crude oil was accompanied by an increase in the forecasted oil prices and prices of futures contracts. According to many analysts, the factors behind the recent rise in crude oil prices may contribute to keep oil prices high also in the coming months. The rise in the forecasted oil prices is mainly driven by the expected growth in demand for this commodity in the world economy amidst plans of oil output reduction by non-OPEC countries. In this situation, OPEC supply policy will be of key importance for the development of crude oil prices.

2.4.2 Producer prices

After a rise in the growth rate of producer prices in industry (PPI) in 2007 Q1, Q2 2007 saw a decline in the annual growth rate of PPI (Figure 2.21). In May 2007 the pace of growth of producer prices in the domestic market was higher than the total price growth[37]. In turn, the annual growth of export prices in this period declined.

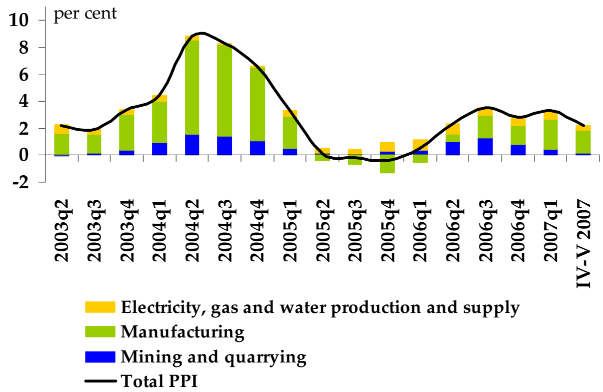
The decline in the growth rate of PPI resulted primarily from the fading of the statistical 'base effect'[38]. Similarly to the three previous quar-

[37]Total producer prices in industry and in three main sections (ie. *Mining and quarrying, Manufacturing* and *Production and supply of electricity, gas and water*) referring to a specific month are published in the next calendar month, while the prices in particular divisions of *Manufacturing* and producer prices in the domestic market are available with a longer time lag (of about two months). This is the reason why the time span of the analysis is not the same for all the discussed categories.

[38]April 2006 was marked by considerable price increases in all sections (in *Mining* as a result of rises in copper prices, and in *Production and supply of electricity* as a result of increases in crude oil prices), while April 2007 saw a considerable price increase in *Mining and quarrying* only. Compared to April 2006, low price increases in

ters, in April and May 2007 the growth in producer prices in industry was largely the result of price increases in the section *Manufacturing* (Figure 2.22). The contribution of this section to the growth of producer prices in industry has been on the rise since 2006 Q2 while the impact of other sections of industry on PPI has been decreasing.

□ **Figure 2.22:**
Producer prices in industry (PPI). Contribution of producer prices growth in PPI total annual growth.



Source: GUS data.

2.5 Financial markets

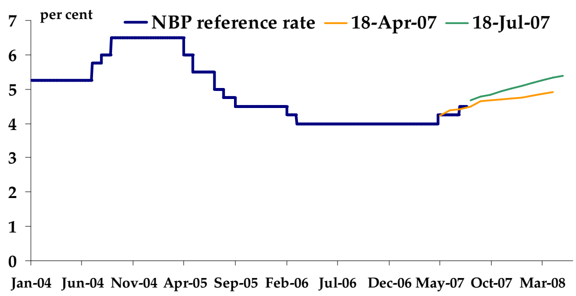
2.5.1 Asset prices / Interest rates[39]

Short-term interest rates

In 2007 Q2, the Monetary Policy Council raised the interest rates on two occasions, in April and June, by 25 basis points each time. The April rise was fully priced in by the market. The date of the second rise, in contrast, came as a surprise for most investors, who expected a hike in July 2007. However, the fact that this decision was in line with the expected monetary tightening limited the yield curve adjustment, which shifted in the short end by ca. 10 basis points. Since 28 June 2007 the reference rate of the NBP has been at 4.50%. Among others, due to the fact that the second interest rate hike came faster than expected by the market, as well as the high growth rate of wages and rising inflation in May and June, there was an increase in expectations as to the scale and pace of NBP interest rate rises in the second half of 2007. The consolidation of expectations of interest rate hikes found reflection in the changes of the money market curve (Figure 2.23). When the work on this *Report* was finished, market participants believed that the reference rate would rise to 5.00% by the end of the year and to 5.25-5.50% in twelve months' time.

In line with market expectations, in 2007 Q2 the Federal Open Market Committee (FOMC) did not change its interest rates, which remain at the level of the late June 2006 (i.e. at 5.25%).

□ **Figure 2.23:**
Monetary policy expectations in Poland - actual developments and expected NBP interest rate.

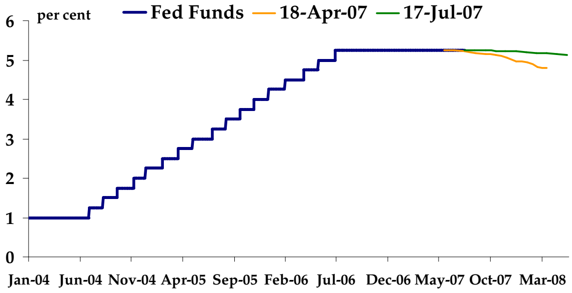


Source: Reuters, NBP calculations.

Manufacturing and *Production and supply of electricity* caused the annual price index to fall in April 2007 by over 1 percentage point as compared with March 2007.

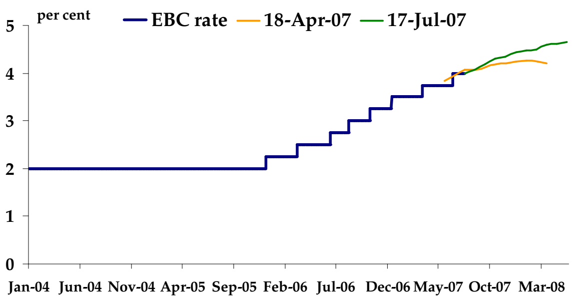
[39]The cut-off date for the data presented in this chapter is 18 July 2007.

□ **Figure 2.24:**
Monetary policy expectations in the United States - actual developments and expected Fed Funds rate.



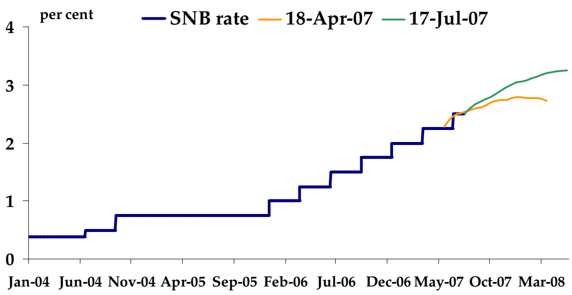
Source: Bloomberg, NBP calculations.

□ **Figure 2.25:**
Monetary policy expectations in the euro area - actual developments and expected ECB interest rate.



Source: Bloomberg, NBP calculations.

□ **Figure 2.26:**
Monetary policy expectations in Switzerland - actual developments and expected SNB rate.



Source: Bloomberg, NBP calculations.

□ **Figure 2.27:**
Change in the yields of the Polish benchmark bonds

Source: Reuters

Declarations of the Fed, alongside the signals pointing to the good labour market situation and a lowering, in the market assessment, risk of a slowdown in economic growth, led to the fading of expectations for interest rate cuts in the United States in the nearest future (Figure 2.24).

The European Central Bank (ECB) raised its repo rate by 25 basis points in June and left it unchanged in July at the level of 4.00%. These decisions were consistent with the expectations of markets, which envisage two, or possibly three more rises, of 25 basis points on each occasion, over the next six quarters (Figure 2.25). In the market assessment such a scenario is confirmed by the comments made by ECB representatives indicating that interest rates in the euro area can still be raised, primarily in connection to the sustained economic recovery, and also due to the high level of production capacity utilisation, which may pose a risk for price stability.

The Swiss National Bank (SNB) raised its interest rate by 25 basis points in June 2007, to the level of 2.50%. In the opinion of the SNB, the high production capacity utilisation in the Swiss economy creates risk of inflation growth, which is an indication of possible further rate increases. Market expectations point to three rises of SNB interest rates, by 25 basis points on each occasion, over the next three quarters, and possibly another one in the second half of 2008 (Figure 2.26).

Long-term interest rates and the equity market

The past few months saw increased yields on Polish Treasury bonds (Figure 2.27). The rise in the yields on two- and five-year bonds mainly resulted from reinforced expectations for interest rate rises in Poland. The increased yields on long-term bonds resulted, to a larger extent, from a rise in yields in core markets (Figure 2.28). In the United States the yields rose in response to a drop, in the market assessment, in the probability of a recession in that country, which led i.a. to a relaxation of expectations for Fed interest rate cuts. The rise in the yields in the euro area, in turn, resulted from heightened expectations concerning future economic growth rate and thus also the higher future ECB interest rates.

The spread between the yields on Polish 10-year Treasury bonds and German 10-year government bonds shrank and at the beginning of June temporarily reached its historical low of approx. 90 basis points. Relatively low levels of the long-term spread, despite heightened expectations for interest rate increases, can be linked to the relatively low, in comparison to the previous years, supply of Treasury bonds, a persistently high demand for domestic securities on the part of pension and investment funds and also to favourable foundations of the Polish economy and improved investment rating[40].

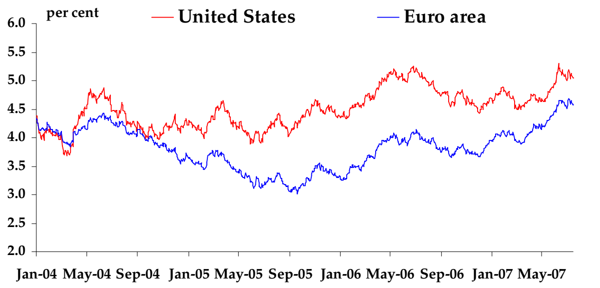
Among the countries of the Central and Eastern Europe (CEE-4), a similar to Poland's rise in bonds yields was recorded in the Czech Republic and in Slovakia. In contrast, in Hungary the yields on Treasury bonds declined, which was primarily the result of a rise in expectations for the central bank's interest rate cuts and a drop in the risk premium required by investors, further followed by the beginning of a series of interest rate cuts in June (Figure 2.29).

In March-May 2007 there was an increase in the value of Treasury bond portfolio held by non-residents (Figure 2.30). The share of non-residents in the total of wholesale and indexed bonds issued in the domestic market remained at a relatively stable level.

In turn, the participation of foreign investors in the Polish equity market till the end of February 2007 has been declining slowly but steadily (Figure 2.31), even though the main indices of the Warsaw Stock Exchange rose significantly after a temporary drop at the end of February, making up for previous losses and gradually reaching ever new highs (Figure 2.32). The changes of Warsaw Stock Exchange indices were strongly affected by the developments in foreign stock exchange indices, which also hit record levels, favourable data on the Polish economy, and a considerable inflow of the households' money to

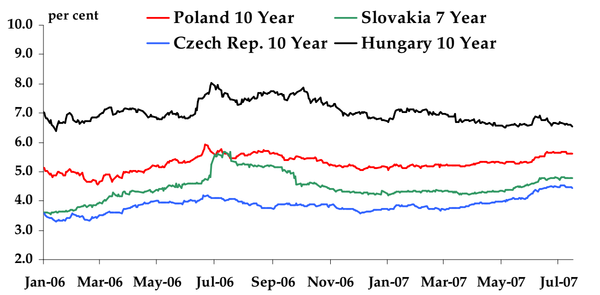
[40]In January Fitch raised Poland's long-term investment rating from BBB+ to A-. In March the same change was introduced in S&P rating.

Figure 2.28:
Change in the yields of 10-year bonds.



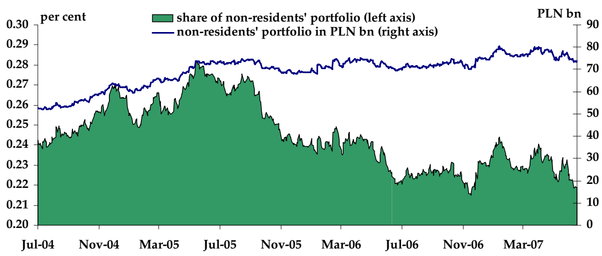
Source: Bloomberg.

Figure 2.29:
Change in the yields of the long-term bonds in the CEE-4 countries



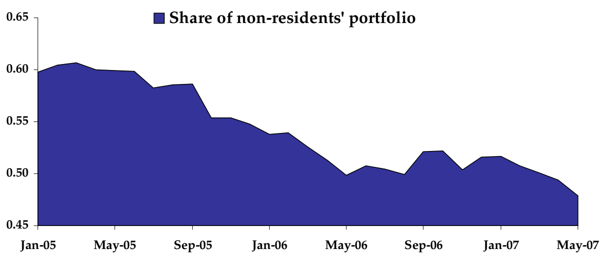
Source: Reuters

Figure 2.30:
Non-residents' participation in the Polish Treasury bond market



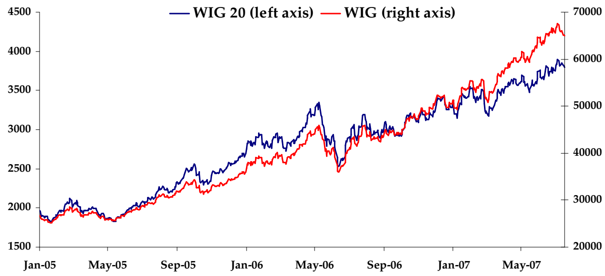
Source: National Depository for Securities (KDPW).

Figure 2.31:
Share of non-residents in the Polish equity market - on the basis of market value of stocks.



Source: NBP.

□ **Figure 2.32:**
WIG and WIG 20 stock exchange indices



Source: Reuters

investment funds and directly to the stock market (for more information on this see section *Credit and money*).

Home prices

The major real property markets in Poland, i.e.: Warsaw, Cracow, Wroclaw, Tricity (Gdansk, Gdynia, Sopot), Poznan and Lodz, and in other voivod-

	XII 2004 y/y (per cent)	XII 2005 y/y (per cent)	XII 2006 y/y (per cent)	III 2007 y/y (per cent)	VI 2006 q/q (per cent)	IX 2006 q/q (per cent)	XII 2006 q/q (per cent)	III 2007 q/q (per cent)	III 2007 Average price (PLN/m^2)
	Primary market								
Poland (total)	9.1	7.9	51.5	53.3	5.7	23.2	11.6	5.5	6517.5
Most important housing markets in Poland*	8.9	12.6	56.1	67.4	11.0	22.9	12.8	8.7	7401.1
Capitals of voivodships**	9.1	15.0	45.2	59.1	8.8	21.5	11.9	7.5	6917.2
Small and medium towns**	10.6	7.0	10.4	10.9	1.4	9.3	0.2	34.5	4378.0
Warsaw	12.8	12.9	54.3	56.1	15.5	8.4	15.8	7.6	8170.3
Cracow	13.1	22.3	67.4	58.2	7.7	35.7	4.8	3.3	7351.4
Wroclaw	4.8	17.9	101.2	85.4	22.4	16.4	34.1	-2.9	6742.6
Gdansk	12.0	15.7	63.7	74.2	11.5	25.4	18.7	5.0	5877.0
Gdynia	6.6	8.5	46.0	61.8	1.8	18.0	7.1	25.8	6933.3
Poznan	8.9	3.0	18.9	80.0	5.5	8.2	0.4	57.1	6344.2
Lodz	4.7	-5.3	67.4	91.9	6.3	-2.3	51.0	22.3	5387.6
	secondary market								
Poland (total)	0.9	8.7	77.6	90.2	7.0	19.8	31.9	12.5	5642.6
Most important housing markets in Poland*	7.2	-1.6	84.1	92.0	9.0	31.4	22.6	9.3	7342.0
Capitals of voivodships**	2.2	4.5	82.2	87.8	7.1	26.2	29.6	7.3	6177.2
Small and medium towns**	7.4	9.6	49.4	77.0	6.1	6.6	20.0	30.4	4173.6
Warsaw	6.9	15.1	55.6	60.9	12.5	18.2	11.3	8.7	8837.9
Cracow	12.5	31.3	62.4	68.6	21.0	22.9	5.9	7.0	8020.0
Wroclaw	16.6	13.8	74.8	72.3	12.3	21.4	15.9	9.0	7072.2
Gdansk	6.5	18.9	82.5	95.8	4.0	27.6	28.2	15.1	6543.1
Gdynia	10.5	17.7	77.8	82.0	1.7	38.2	20.4	7.6	6520.8
Poznan	14.8	4.5	49.4	78.2	7.9	6.9	26.3	22.3	5720.6
Lodz	4.9	3.9	74.5	115.2	5.8	20.6	29.9	29.8	4336.6

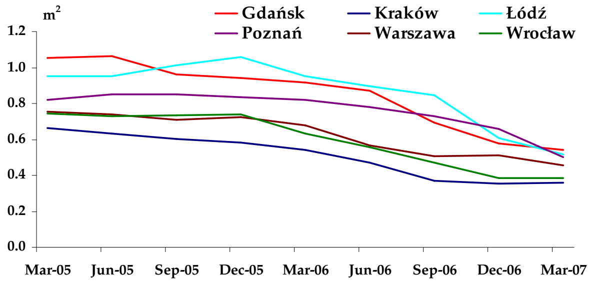
Table 2.5: Change in the average price of a flat in selected local markets. Primary and secondary market in 2004-2006.
* Warsaw, Cracow, Wroclaw, Gdansk, Gdynia, Poznan, Lodz. The selection was based, among other things, on the number of transactions, the housing construction volume and the potential for development.
** Average weighted with the number of offers in the sample (cities' weigts vary depending on the size of the sample).
Source: NBP estimates based on the data from the *PONT Info Nieruchomości* offered price database.

ship capitals saw a significant slowdown in the growth rate of the prices of flats in the first months of 2007 as compared to the second half of 2006 (Table 2.5). By contrast, there was a significant stepping-up in the price growth in both the primary and secondary market in small towns and medium-sized cities. It has to be borne in mind, however, that the accumulated growth of flat prices in small towns and medium-sized cities over the past few years was significantly lower than in the largest conurbations. Therefore, the present processes may be a partial correction of these phenomena, they can also result, to some extent, from a low representativeness of the sample of prices of flat for the group of small towns and medium-sized cities. The accelerated growth in the prices of building plots continues, mainly in the suburbs of the largest cities, which is connected with the improving relation of house construction costs to flat purchase costs, with the prices of flats rising faster than the prices of plots and houses, especially in the second half of 2006.

In the group of cities representing the largest housing and mortgage markets in Poland, there was a significant slowdown in the growth of prices in Crakcow and Wroclaw. In both these cities, the indices of availability of apartments and credit availability of apartments[41] record their lowest values and in the past few quarters their previous falling tendency was halted (Figures 2.33, 2.34, 2.35). This stable level reached by the availability indices may mark the point of short-term equilibrium in the housing market, which would mean that a further growth of average prices in these cities in the nearest future should be consistent with the rise of local wages and creditworthiness of households. In other cities under analysis the availability indices range higher, which may indicate that there is still potential for further limited price growth outpacing the growth of wages and creditworthiness. Supply limita-

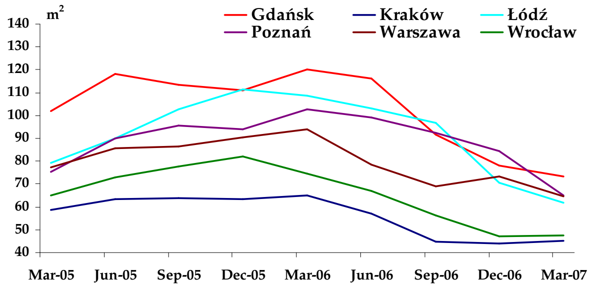
[41] *Availability of apartments*: number of square meters of a flat that can be purchased for local average gross monthly salary in corporate sector at average price in primary and secondary housing market; *credit availability of apartments*: number of square meters of a flat the purchase of which can be financed with a PLN-denominated housing loan, given the income equals local average salary adjusted for the social minimum).

Figure 2.33:
Availability of apartments (number of square meters of a flat that can be purchased for local average gross monthly salary in corporate sector at average price in primary and secondary housing market)



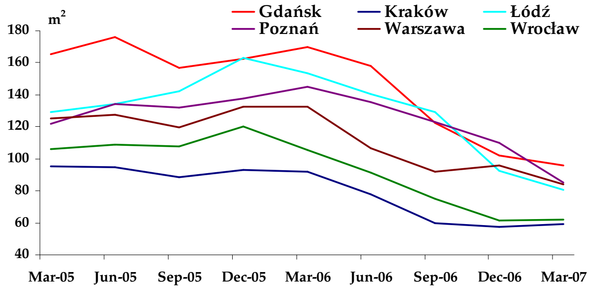
Source: NBP, GUS

Figure 2.34:
PLN credit availability of apartments (number of square meters of a flat the purchase of which can be financed with a PLN-denominated housing loan, given the income equals local average salary adjusted for the social minimum)



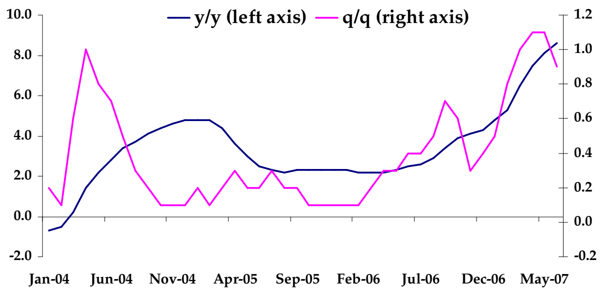
Source: NBP, GUS

Figure 2.35:
CHF credit availability of apartments (number of square meters of a flat the purchase of which can be financed with a CHF-denominated housing loan, given the income equals local average salary adjusted for the social minimum)



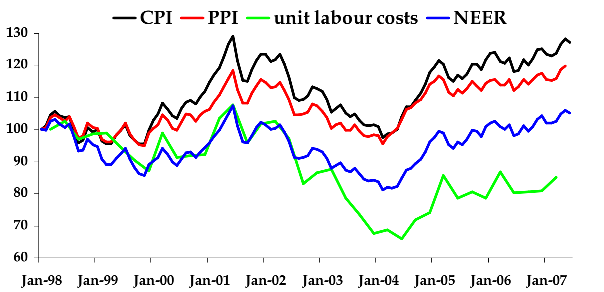
Source: NBP, GUS

□ **Figure 2.36:**
Prices of construction and assembly production



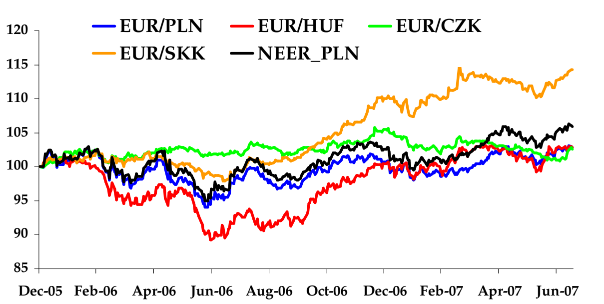
Source: GUS data

□ **Figure 2.37:**
Zloty real (CPI, PPI, and ULC-deflated) and nominal effective exchange rate. Increase denotes appreciation.



Source: NBP, European Commission, and EcoWin data.
Note: For unit labour costs (in manufacturing): quarterly data, NBP estimates based on GUS, ECB, and European Commission data.

□ **Figure 2.38:**
Nominal exchange rates of Central European (CEE-4) currencies against the euro. Increase denotes appreciation.



Source: EcoWin.

tions, among others connected with underdeveloped infrastructure, remain the fundamental factor responsible for the growth of flat prices.

There was also a further growth in the price index of construction and assembly output, which maps the cost developments in the whole construction sector (Figure 2.36). However, the data submitted by construction enterprises and the opinions of analysts indicate that the surge in costs of construction materials observed since the beginning of 2007 has, to a large extent, been curbed through imports and the use of simple reserves.

2.5.2 Exchange rate

Since the April *Inflation Report* the nominal effective zloty exchange rate has strengthened slightly, including the exchange rate of the zloty against the euro. Similarly slight appreciation was recorded in the case of the exchange rates of the Hungarian forint and the Slovak koruna (Figure 2.37). By contrast the Czech koruna depreciated slightly, which was probably connected with its use as a carry trade funding currency, due to a low level of interest rates in the Czech Republic.

To a large extent, shifts in the zloty exchange rate in the analysed period were driven by global factors. The April appreciation of the zloty, for the most part, resulted from a global drop in risk aversion and from capital flows leading to the strengthening of emerging market currencies. In turn, the temporary weakening of the zloty in May was connected with the rise in the bond yields in the core markets. From mid-June onwards, the zloty, similarly to currencies of most developing countries, started to gain strength again. The zloty appreciation in the period under review to some extent also resulted from domestic factors, such as data on economic growth and wages, and rising expectations as to the scale of NBP rate hikes.

The available data for the period through May 2007 indicate that since the beginning of 2005 a slight appreciation trend of the nominal and real effective zloty exchange rate had been accompanied by only slight fluctuations of the value of the Polish currency (Figure 2.38). It should be expected that, on account of low interest rate disparity between Poland and the euro-area, in the coming months the EUR/PLN exchange rate volatility will also remain moderate. However potential sources of increased fluctuations of the zloty exchange rate, such as changes in sentiment in the global financial markets or an increase in political risk, cannot be excluded. In the mid-term, a slight appreciation of the zloty real exchange rate and its limited volatility may be expected to continue, this view being supported by the still relatively low current account deficit (even after accounting for its likely increase), the inflow of foreign direct investment and EU transfers, as well as a positive economic outlook.

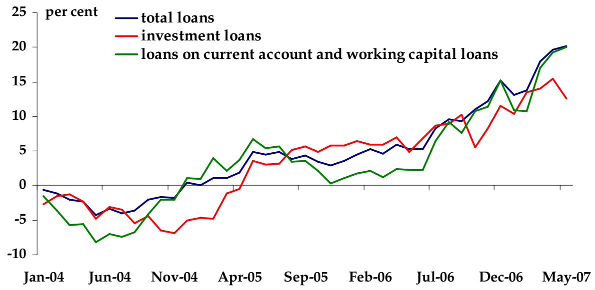
2.5.3 Credit and money

Credit

The value of loans granted by banks is on a fast increase. Credit expansion is favoured by fast economic growth, relatively low prices of loans and liberalisation of conditions for granting loans by banks. Loans for the purchase of real property have been rising at definitely the fastest rate.

The growth in the value of bank loans to enterprises has been accelerating. In May the annual growth rate of total loans to enterprises exceeded 20%. The growing enterprises' interest in loans is reflected in surveys addressed to commercial banks in which they report rising demand for loans on the part of enterprises[42]. Loans for financing current business activity, often with relatively short maturities (up to 1 year), have been growing faster than investment loans, whose growth rate has stabilised (Figure 2.39). This corresponds with the findings of survey studies of entrepreneurs conducted by the NBP, which, apart from growing interest of enterprises in taking out loans, point to a change in the structure of loan debt. Starting from the second half of 2006, there was a halt to the rising tendency

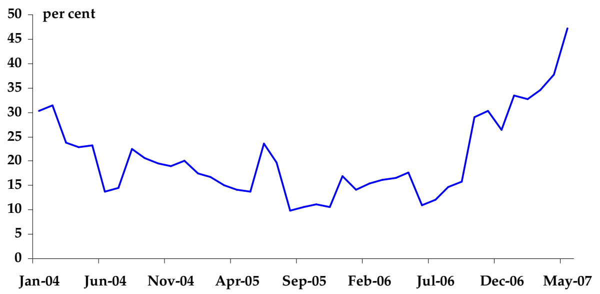
Figure 2.39:
Loans to enterprises (y/y change in per cent)



Source: NBP data

[42] *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions (2nd Quarter 2007)* – available at www.nbp.pl

Figure 2.40:
Loans to enterprises for the purchase of real estate (y/y in per cent.)

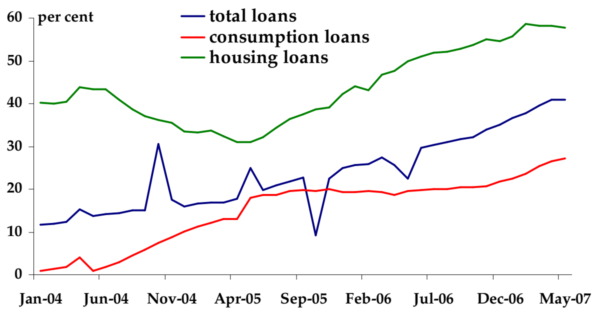


Source: NBP data

	05q2	05q4	06q2	06q4	07q1
non-trade loans	-1.3	11.4	11.9	21.9	21.8
trade loans	10.9	23.9	25.4	13.8	17.3

Table 2.6: Foreign loans of Polish enterprises (EUR y/y change in per cent)
Source: NBP data.

Figure 2.41:
Loans to households (y/y change in per cent)



Source: NBP data

of the share of enterprises declaring to finance their new investments with bank loans, while the significance of own funds started to rise[43]. For a year now growth rate of loans granted to enterprises for the purchase of real property have been on the rise (Figure 2.40) – in May 2007 the y/y growth approached the values recorded for housing loans to households. The foreign indebtedness of enterprises is also rising dynamically (Table 2.6). This rising loan debt (both domestic and foreign) of enterprises is a confirmation of their good economic standing and positive expectations for the future.

The continuously fast increase in loans to households is a resultant of a very robust growth in housing loans and a steep increase in consumer loans (Figure 2.41). Following a period of stabilisation in 2005 and 2006, the annual growth rate of consumer loans has been stepping up since the beginning of 2007. The increase in loans to households is favoured by their good economic situation, continuing improvement of the situation on the labour market and positive expectations concerning the economic climate in the future, which is reflected, among others, in the growth of GUS indicators of consumer sentiment[44]. In the case of housing loans, an important role in their dynamic growth is played by demographic factors[45] and the policy of commercial banks offering easy access to loans. The commercial banks surveyed by the NBP in April 2007 reported, among others, a weakening demand of households for housing loans. This, however, was not reflected in a lending slowdown.

The April rise of NBP interest rates of 0.25 percentage points found reflection in a comparable rise in average interest charged on loans to enterprises and consumer loans (Table 2.7). The average interest on housing loans to households

[43] *The Condition of Non-financial Enterprises in the Second Quarter of 2007*, www.nbp.pl/publikacje/koniunktura (Polish version)

[44] *Consumer Sentiment Survey. June 2007*, GUS. Both the coincident and leading indices, despite a drop in June 2007, remain at high levels.

[45] Young people born in boomer year are entering the labour market, which makes them receive income qualifying for loans to finance the purchase of flats.

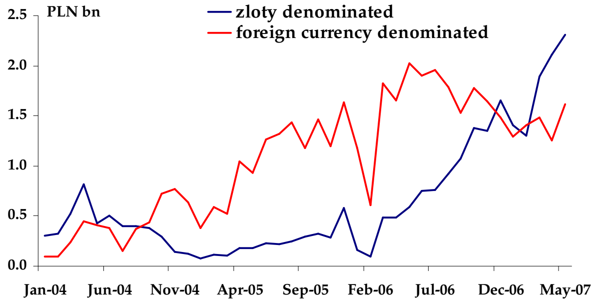
	Sep06	Oct06	Nov06	Dec06	Jan07	Feb07	Mar07	Apr07	May07
				Households					
Total deposits	3.3	3.4	3.4	3.3	3.4	3.4	3.4	3.4	3.5
Total loans	5.8	5.8	5.8	5.6	5.8	5.8	5.7	5.9	5.9
Consumption loans	14.1	14.2	14.2	13.9	14.7	14.5	13.9	13.9	14.2
Housing loans in PLN	5.7	5.7	5.7	5.6	5.6	5.6	5.6	5.8	5.7
Housing loans in CHF	-	-	-	-	3.8	3.9	3.9	3.9	3.9
				Enterprises					
Total deposits	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.8
Total loans	5.8	5.8	5.8	5.6	5.8	5.8	5.7	5.9	5.9
loans in EUR	4.7	4.7	5.0	5.0	5.1	5.4	5.6	6.1	5.5

Table 2.7: Average weighted interest rates in commercial banks (per cent): new PLN denominated loans and deposits and selected foreign currency loans (major currencies)
Source: NBP data.

has been practically unchanged since the beginning of the year, which confirms the competition in the housing loan market is very strong. No changes in the interest of housing loans have further narrowed an already very narrow gap between their interest and WIBOR rate, which is the basis for determining the cost of credit in case of most housing loans. Therefore, it may be expected that the reaction of the interest charged on housing loans to the rise of NBP interest rates of another 0.25 percentage point in June 2007 should be stronger than the so far observed reaction to the April rise, even though it may be revealed in data with some delay.

In the housing loan market, there are possibilities of a relatively easy substitution of ever more expensive PLN loans with loans denominated in foreign currencies, mainly in CHF. In this context, it may be expected that considerable increases of NBP interest rate might be conducive to households losing interest in zloty loans, the cost of which is growing, in favour of foreign currency loans. At the moment, however, the interest in zloty housing loans is still rising (Figure 2.42), which reflects a shrinking gap between the interest on PLN and CHF loans, on the one hand,

⊡ **Figure 2.42:**
Housing loans to households (m/m changes in PLN bn)



Source: NBP data

and banks' implementation of regulations specified in *Recommendation S*, on the other.

In the nearest future, it may be expected that the fast lending growth will continue both in the enterprise and household sector. In line with the findings of NBP surveys addressed at enterprises, at the end of June 2007 the index of loan debt forecasts[46] achieved very high values. This dynamic growth in loans should also be fuelled by the fast economic growth and positive expectations on the future economic climate development – on the part of households and enterprises. Moreover, commercial banks declare they would be liberalising their loan granting policy[47].

Deposits and monetary aggregates

The stepping up in lending to enterprises is matched by a high growth rate of their bank deposits, which amounted to approx. 25% y/y in the last few months. This strong increase in deposits of enterprises points to their considerable possibilities of co-financing investments with own funds.

The value of deposits of households, following a one-off surge at the turn of 2006 and 2007[48] has been falling since March 2007. At the same time, there is a considerable inflow of households' funds to investment funds and also directly to the capital market (Table 2.8). The fast rise in the value of households' assets accumulated in investment funds and directly in shares was also connected to the bullish capital market in the first half of 2007. The funds of households accumulated in investment funds, shares, life assurance provisions, bonds and other Treasury instruments, and also in the form of deposits

[46]The index of loan debt forecasts is calculated as the difference between the percentage of enterprises expecting a rise in their loan indebtedness in the next quarter and the percentage of enterprises expecting their debt to drop

[47]*Senior Loan Office Survey on Bank Lending Practices and Credit Conditions (2nd Quarter 2007)*, www.nbp.pl/en/SystemFinansowy/kredytowy2_2007_en.pdf

[48]Bank deposits of households rose in February 2007 by PLN 15 billion (6.2%) in relation to November 2006. This rise was most probably connected with increased transfers of earnings of Poles working abroad in the Christmas season.

	Dec04	Dec05	Dec06	Jan07	Feb07	Mar07	Apr07	May07
	Outstanding amounts (PLN bn)							
bank deposits	209.8	220.8	239.4	242.9	245.4	243.9	241.7	239.2
deposits with Credit Unions (SKOK)	3.9	5.0	5.6	5.6	5.7	5.7	5.7	5.7
units of investment funds	34.5	57.9	94.0	102.1	103.1	112.1	117.7	126.8
government securities	20.4	16.9	12.9	12.9	12.7	12.3	12.0	11.7
life assurance provisions	35.2	41.8	53.0	54.6	56.1	57.6	59.2	60.2
equities	–	25.8	45.6	49.0	46.0	50.4	53.0	56.5
	Annual rate of growth (per cent)							
bank deposits	-1.3	5.2	8.4	10.2	10.9	8.7	8.3	6.9
deposits with Credit Unions (SKOK)	26.6	26.7	11.3	11.6	11.5	10.4	10.1	10.2
units of investment funds	13.9	67.7	62.5	65.8	56.6	63.0	60.7	75.5
government securities	7.0	-17.2	-23.7	-22.9	-22.7	-22.0	-18.8	-17.5
life assurance provisions	16.4	18.8	26.8	28.0	29.2	30.3	31.4	31.1
equities	-	-	77.0	70.7	54.9	63.7	55.9	82.8

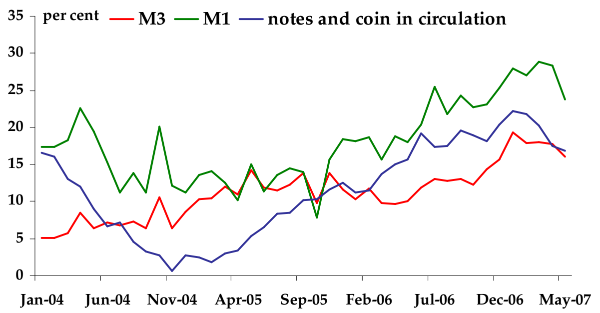
Table 2.8: Households' bank deposits and financial savings (Outstanding amounts in PLN bn and y/y changes in per cent, data not adjusted for the impact of exchange rate fluctuations)
Source NBP, KNF, GUS, MF.

at Credit Unions, IN May 2007 accounted for 109.9% of bank deposits of households.

The rise in the average interest paid on deposits has so far lagged behind the increase of interest rate in the interbank market (Table 2.7). At the same time, some of the banks that were the most active in winning customers offered interest above the rates prevailing in the interbank market and also raised the interest rates on deposits faster than the average. This phenomenon reflects fierce competition for the households' funds needed to finance dynamic lending and mainly refers to banks entering the market or those which have only operated in the market for a relatively short time.

The growth rate of the main monetary aggregates has declined over the past few months (Figure 2.43). This may be connected with the robust growth and growing popularity of alternative forms of holding financial assets, other than bank deposits and cash.

Figure 2.43:
M1, M3 and notes and coin in circulation (y/y change in per cent)



Source: NBP data.

Monetary policy in April–July 2007[1]

During the meeting in April 2007, the Monetary Policy Council decided to raise NBP rates by 0.25 percentage point, in May the Council left the rates unchanged, while in June it decided to increase the rates by 0.25 percentage point once again. In July the Council kept the interest rates unchanged: reference rate at 4.50%, the lombard rate at 6.00%, the deposit rate at 3.00% and the rediscount rate at 4.75%.

What follows in the next part of the chapter are the minutes from the decision-making meetings of the Council in April, May and June 2007 and the grounds for the July decision.

April

During the meeting the Monetary Policy Council discussed the outlook for inflation in the context of the past, current and, primarily, expected economic situation.

The Council paid considerable attention to the prospects of economic growth. Council members pointed out that the Polish economy is in the stage of strong economic growth and that the high GDP growth may be expected to be sustained in the medium term, at least. The factors supporting robust economic growth should be the inflow of foreign direct investment and EU funds, as well as optimistic expectations of enterprises regarding future economic situation, additionally boosted by the prospect of Poland hosting the European Football Championships in 2012. In the opinion of some Council members, high economic growth in the coming years will be favoured by strong economic growth in EU countries.

Most Council members considered the current GDP growth to be higher than the potential output growth. However, the Council members differed in their assessment of the magnitude of the impact this factor may have on inflationary pressure.

Some members of the Council believed that there is a significant risk that a demand growth exceeding the growth of potential GDP would lead to a rise in costs and, consequently, to higher inflation and widening external imbalance. They pointed out that, in the medium term, inflation running above the inflation target would result in Polish economy gradually losing its price competitiveness.

[1] Starting from the present *Report* the chapter *Monetary policy* will be replaced with previously published minutes from the three last decision-making meetings of the Council and the justification for the latest decision of the MPC.

Other members of the Council emphasised that the structure of the current economic growth is favourable for low inflation, as over the past several quarters the contribution of investment to GDP growth has been rising, which should be conducive to increasing the potential output and limiting inflationary pressure. Moreover, they assessed that the high GDP growth in 2007 Q1 was to some extent the result of favourable weather conditions, which most strongly affected the construction output. The disappearance of these one-off factors in the next quarters, they argued, may reduce the risk of inflation increase.

Another issue discussed at the meeting was the impact of the European Football Championships, which is to be co-hosted by Poland in 2012, on the outlook for economic growth and inflation. Council members assessed that the organisation of the championships should help sustain the high rate of economic growth in the years to come. Some discussants pointed out that the rise in potential output related to hosting the event will be lower than demand growth and also that it will be delayed in time, which should lead to inflation increase. Furthermore, the discussants argued that the investment connected with the championships will be to a large extent financed with public funds, thus creating the risk of a further deepening of the public finance imbalance.

The Council paid significant attention to the situation in the labour market and its impact on inflation outlook. In the opinion of the majority of Council members, a significant risk factor of inflation growth is the currently observed acceleration in wage growth in the corporate sector. They emphasised that the following factors will contribute to wage growth acceleration: significant decline in unemployment, structural mismatch in the labour market and the emigration of Polish workers to other EU countries, as well as wage convergence between Poland and EU countries. They also argued that the currently observed fast economic growth is strengthening employees' expectations for wage growth acceleration.

Some Council members pointed out that it remained uncertain to what extent the recently observed wage growth acceleration in enterprises was the result of permanent tendencies and to what extent it was fuelled by one-off factors and, therefore, should be seen as a temporary development. Thus, they were convinced that a more comprehensive assessment of the scale of wage pressure strengthening will only be possible after more labour market data are released. These Council members assessed that the rise of unit labour costs will still be constrained by a dynamic increase in investment outlays in the enterprise sector, which should be conducive to sustaining high growth of productivity in this sector. It should also be supported by the structure of employment changing towards a greater share of young workers with relatively higher productivity, yet also higher wage expectations, in relation to the persons who retire. Some discussants pointed out that the wage growth will still be curbed by globalisation processes and the ensuing increase in international competition. They argued that the wage growth acceleration does not necessarily have to lead to inflation growth due to the very good financial standing of enterprises which makes it possible for them to partially absorb wage increases without the need to raise their prices. Moreover, some Council members emphasised that the rising growth of wages may be partially related to acceleration in the process of Polish wages converging to those in other EU countries, which should be taken into account in monetary policy.

The members of the Council also discussed the impact of the zloty exchange rate on inflation. In this context, some Council members tended to pay more attention to fundamental factors, including the inflow of foreign direct investments and EU funds, while others put greater emphasis on developments in the international financial markets.

During the meeting, the Council also addressed the April projection of inflation and GDP presented by NBP analysts and based on the ECMOD model. The projection is one of the inputs to the decision-making process on NBP interest rates. The April projection indicates that, assuming constant interest rates, there will be a gradual inflation increase in the monetary policy transmission horizon. According to the central projection path, inflation, after a temporary fall in 2007 Q3, will gradually rise and, in the second half of 2009, it will approach the upper limit for deviations from the inflation target.

The discussion revealed three different assessments of the April projection. Some Council members accepted the inflation outlook outlined in the April projection as probable. Other discussants, however, assessed that inflation may prove higher than that indicated by the projection, due to the projection's possible underestimation of wage and GDP growth. Finally, other members of the Council pointed out that, in line with the April projection based on the ECMOD model and other forecasts prepared at the NBP, in the short term inflation will be running clearly below the inflation target, while in the longer term it will be lower than it is outlined in the projection.

Most Council members were of the opinion that it is necessary to tighten monetary policy, yet there were different views on the right timing of the interest rates increase.

In the opinion of some Council members, the assessment of the balance of risks for future inflation did not provide clear grounds for tightening the monetary policy at the present meeting. They pointed to the uncertainty as to the duration and scale of wage growth acceleration. They also underlined that inflation expectations have remained low, not creating risk for inflation growth. They also indicated that the recently observed acceleration in CPI inflation was primarily the result of supply-side and statistical factors. At the same time, they argued, core inflation has remained low. Additionally, they highlighted that, according to the majority of forecasts, in the short term inflation will be most probably running below the inflation target. Raising the interest rates, they maintained, may boost expectations of their further increases. Moreover, a monetary policy tightening may, in their opinion, lead to lowering economic growth and, thus, the decision to raise the interest rates should only be taken when more evident risks to achieving the inflation target arise.

The majority of Council members assessed that in order to keep inflation close to the target in the medium term, it is necessary to tighten the monetary policy at the present meeting. These members believed that increasing the interest rates would send a signal that monetary authorities are committed to achieve the inflation target, which would strengthen the credibility of the pursued monetary policy, lead to the stabilisation of inflation expectations and ease the pressure on wage growth. These members also assessed that a slight monetary policy tightening should have only slight, if any, impact on economic growth. They pointed out that postponing the decision to raise the interest rates may contribute to rising macroeconomic imbalances and inflation. In such a situation, the cost of a monetary policy tightening aimed at bringing inflation back to the target would be significantly higher than the cost of preventing inflation growth by a pre-emptive adjustment of monetary policy parameters, especially amid the globalisation-related weakening of a short-term link between output gap and inflation.

At the meeting, a motion to raise the key NBP interest rates by 25 basis points was put forward and passed. The Council raised the interest rates to the following levels: the reference rate 4.25%, the lombard rate 5.75%, the deposit rate 2.75%, the rediscount rate 4.50%.

The Council discussed the appropriate way in which this decision should be communicated to the public.

May

During the meeting, the Monetary Policy Council discussed the outlook for inflation in the context of the past, current and, primarily, expected economic situation.

The Council addressed the prospects of economic growth and their impact on inflation.

Some Council members emphasised that the structure of the current economic growth is favourable to low inflation. They pointed out that the robust growth in investment and its structure, characterised by a relatively low share of construction projects, will contribute to fast growth in potential output, thus curbing inflationary pressure. Strong growth in potential output will also be facilitated by a large inflow of foreign greenfield investment supporting increase in productivity. Furthermore, some Council members indicated that the April data concerning industrial production and retail sales as well as business indicators in manufacturing, construction and retail sales might suggest a possible minor slowdown in economic growth in 2007 Q2.

Other members of the Council emphasised that GDP is still rising faster than potential output, leading to a widening of the output gap and a rise in inflationary pressure. In their opinion, in the subsequent quarters the high economic growth will be sustained, primarily due to fast increase in domestic demand supported by rapid growth in the wage fund and lending activity. Those members emphasised that investment growth will boost potential output only in the longer term. They assessed that there is a considerable risk that in the medium term the GDP growth exceeding the growth of potential output will lead to a rise in inflation above the inflation target. Moreover, they argued that although the increase in imports and price competitiveness related to globalisation will limit the influence of domestic output gap on inflation, the scale of the impact of those factors might be insufficient to maintain inflation at the target level.

During its meeting, the Council discussed the situation in the labour market. Council members agreed that the developments in the labour market were the main risk factor for inflation increase. However, they differed in their interpretation of the inflowing data and their assessment of the impact of the current situation in the labour market on inflation.

Some Council members assessed that GUS data concerning the growth of wages in the corporate sector in April 2007 and wages in the economy as a whole in 2007 Q1 confirmed that wage growth has been accelerating. They pointed out that dynamic wage growth was observed in all major groups of enterprises. Some members of the Council signalled that strong wage growth in enterprises was accompanied by increasing wage pressure in the public sector, which is reflected in numerous industrial actions. They indicated that the rapid growth of wages was driving a considerable – and significantly higher than suggested by the NBP April projection – increase in unit labour costs in the economy. Moreover, some Council members pointed at a very fast – and higher than suggested by the April projection – decline in the unemployment rate recorded in the BAEL data, which may fuel further wage growth. Council members assessed that rapid wage growth, by raising costs and disposable income, improving consumer sentiment and increasing demand, may contribute to acceleration in price growth.

Other Council members emphasised that April saw a decline in the growth rate of wages in the corporate sector. They pointed out that for a few years the share of labour costs in the costs of large and medium enterprises has been decreasing and that in 2007 Q1 the rapid wage growth was accompanied by considerable improvement in the profitability of enterprises amidst stable inflation. Those members also observed that despite a considerable fall in unemployment, it still remains relatively high, which suggests the presence of significant 'free' labour force in the economy. Some members of the Council noted that accelerating wage growth does not necessarily have to lead to a rise in inflation due to increase in competitive pressure driven by globalisation and a very good financial standing of enterprises allowing them to partially absorb wage increases without the need to change their goods and services prices. Furthermore, they pointed out that inflationary pressure might also be constrained by rising efficiency related to high investment growth and enterprises' restructuring.

Referring to current inflation indicators, some Council members assessed that the April decline in net inflation and in the growth rate of producer prices in industry, which accompanied the decrease in CPI inflation, might signal low inflationary pressure. However, other members of the Council noted that the April decline in net inflation was mainly the result of the statistical base effect. They also emphasised that given the growing importance of global factors in determining domestic inflation developments, an important indicator of domestic inflationary pressure is the growth rate of services prices, which has been gradually rising since mid-2006 and which now significantly exceeds the growth rate of prices of consumer goods and services. Some Council members pointed out that the increase in inflation expectations is a risk factor for inflation. They observed that in April inflation forecasts of bank analysts exceeded the level of the inflation target for the first time for more than two years.

Some discussants emphasised that domestic inflation is to an increasing extent determined by global factors. They pointed out that due to high credibility of monetary policy conducted by major central banks, global inflation can be expected to remain at a low level which would be conducive to the stabilisation of domestic inflation. However, they also indicated that a possible increase in the world food prices resulting from supply factors is a new global risk factor for inflation.

One of the issues discussed at the meeting was the impact of the zloty exchange rate on inflation. In this context, the influence of fundamental factors as well as trends in the international financial markets was considered.

One of the issues addressed at the meeting was the situation in the public finance sector. Some Council members assessed that lower than expected general government deficit will partly offset rising demand in the private sector and mitigate its effect on inflation. Yet, other members of the Council argued that the observed improvement of the situation in public finances is a cyclical phenomenon and as such is not a factor which will limit price growth in the monetary policy transmission horizon.

At its meeting the Council also discussed developments in monetary and credit aggregates. Some Council members assessed that the persistently high growth in lending will support strong increase in private consumption, and consequently, in aggregate demand and inflation. They pointed out that as a result of the pro-cyclical nature of credit growth, in the coming months a further rapid increase in household and corporate indebtedness in the banking sector can be expected. Those members also indicated that for a few months the share of consumer loans in the credit structure has been rising and that those loans might be directly translated into growing demand and inflationary pressure. Other members of the Council assessed that apart from a slight, in their opinion, change in the lending structure, the monetary and credit developments are a continuation of the hitherto observed trends and should not constitute a risk for inflation growth.

During the meeting the Council also discussed the levels of real interest rates and their impact on inflation. Some Council members noted that the economic recovery observed in Poland started and has been reinforced in a situation when real interest rates were markedly higher than today. They therefore assessed that the current level of interest rates probably does not prevent widening of the output gap and rise in inflationary pressure. Moreover, those members pointed out that amidst the globalisation-related weakening of a short-term link between economic activity and inflation, the cost of a monetary policy tightening aimed at bringing inflation back to the target would be considerably higher than the cost of preventing inflation growth. However, other members of the Council pointed out that the level of real interest rates is still relatively high, especially when compared to other countries in the region. In this context, Council members exchanged their opinions concerning the future path of the NBP interest rates.

At the meeting a motion to raise the key NBP interest rates by 25 basis points was put forward and rejected. The Council kept the interest rates unchanged: the reference rate at 4.25%, the lombard rate at 5.75%, the deposit rate at 2.75% and the rediscount rate at 4.50%.

June

During its meeting, the Monetary Policy Council discussed the outlook for inflation in the context of the past, current and, primarily, expected economic situation.

The main issue discussed at the meeting was the prospects of economic growth and their impact on inflation.

Some Council members pointed out that the rate of GDP growth in Poland still exceeds the growth rate of potential output, leading to a widening of the output gap and a build-up in inflationary pressure. They assessed that in the nearest future the high rate of domestic demand growth will be sustained. Strong growth in demand will be supported by a considerable rise in nominal wages and employment, the inflow of transfers of earnings by people working abroad, strong lending growth, including accelerating rise in consumer loans, and an increase in disposable income of households due to a cut in disability pension contributions. Those members assessed that in the conditions of the currently high production capacity utilisation, the dynamic growth of domestic demand creates a significant risk of inflation growing above the inflation target in the medium term.

Other Council members emphasised that the structure of the current economic growth is still advantageous, with a growing share of investment, including greenfield foreign direct investments, which raises the economy's innovativeness. This should lead to an increase in labour productivity and production potential of the economy and therefore constrain the inflationary pressure related to swift economic growth. These members also pointed out that the growth in disposable income of households does not necessarily have to lead to consumption growth, if it will be accompanied by a rise in this sector's savings. They also assessed that a part of domestic demand growth will be absorbed by growing imports, which should limit the pressure for price growth. Moreover, those members pointed out that a drop in industrial production, construction and assembly production and retail sales, which was recorded in May, is a sign of a lower GDP growth in 2007 Q2. Some members of the Council also assessed that in the case of the expected lower rate of economic growth and a strong surge in potential output, GDP growth should not outpace the growth of potential output in the nearest future.

During its meeting the Council also discussed the labour market situation.

Some Council members pointed to a continually high rate of wage growth and to a very fast drop in unemployment, facilitating a further strong rise in wages. They indicated that strong wage growth in enterprises is accompanied by increasing wage pressure in the public sector, which is reflected in industrial actions. Those members pointed out that, despite the uncertainty concerning the unit labour costs, all available estimates of these costs obtained with the use of various calculation methods, indicate a worsening relationship between wage and labour productivity growth, which could lead to inflation increase. Those members pointed out that acceleration in price growth should also be fuelled by the rise in households' disposable income resulting from the increase in wages, which should support the growth of consumption demand. They argued that, in the coming period, the rise in households' income related to an increase in aggregate wages will be strengthened by the cut in disability pension contributions, which will additionally contribute to net wage growth, fostering a relatively higher growth in consumption.

In the course of the discussion, it was pointed out that, by leading to net wage growth, the reduction of disability pension contributions should limit the pressure for further gross wage and labour cost increases in the longer term. Some Council members pointed out that, despite a considerable decrease, the unemployment rate in Poland is still high, which should also contain wage growth. Moreover, they assessed that the growth in unit labour costs should be constrained by the continuation of high productivity growth related to increased investment outlays, enterprises' restructuring and improving quality of the labour force. According to those Council members, at the moment it is difficult to assess whether the May slowdown in labour productivity growth in industry will prove permanent. Moreover, those members emphasised that a rise in unit labour costs does not have to lead to inflation growth, as the increase in competition connected, among other things, with the globalisation processes reduces enterprises' pricing power and, thus, their ability to pass the rising costs onto customers. They also pointed out that the observed high wage growth creates incentives to work for inactive people, which may contribute to an increase in labour supply and potential output. Those members also indicated that growing labour costs, amid the persistently high demand, might encourage enterprises to undertake investments aimed at replacing labour-intensive technologies with capital-intensive ones. They assessed that owing to, among others, a very good financial situation, enterprises have a considerable ability to undertake this kind of restructuring measures.

The discussion also concerned the public finance situation.

Some Council members indicated that one of important risk factors for inflation growth is a pro-cyclical fiscal policy, which is reflected, among others, in the reduction in the disability pension contribution. They assessed that the rise of wage pressure in the public sector poses risk to sustaining the budget anchor. Those members emphasised that an overly expansive fiscal policy in the conditions of increasing inflationary pressure could lead to a policy-mix which is unfavourable from the point of view of long-term economic growth. Other Council members pointed out that the situation of the state budge is very favourable at the moment and that future fiscal policy is subject to considerable uncertainty related, among others, to the Government's response to increased wage pressure in the public sector. They pointed out that, despite a significant risk of a fiscal policy loosening, at present it is difficult to assess the impact of this policy on inflation in the medium term.

Referring to current inflation indicators, some Council members indicated that, despite the rapid economic growth, core inflation has remained low for a long time, which might be an indication of a low inflationary pressure. It was also pointed out that in the next few months inflation will most probably decrease. Other Council members, however, emphasised that there is a lag between a rise in economic activity and inflation growth. Furthermore, they pointed out that keeping CPI inflation at the inflation target might require core inflation to run at a lower level.

Another issue discussed at the meeting were monetary developments. Some Council members pointed out that a very fast credit growth may contribute to further growth in domestic demand and accumulation of inflationary pressure, among others, in the asset market. Other members of the Council assessed that the relation of credit to GDP is still low in Poland and that the observed rapid growth in lending is to a large extent the result of the process of Poland's catching up with countries at a higher level of development.

One of the topics addressed at the meeting was the impact of zloty exchange rate on inflation. In this context, the influence of fundamental factors as well as trends in the international financial markets was considered, including, among others, interest rate disparity, current account balance, outlook for economic growth, inflow of foreign direct investment, EU funds and transfers of earnings made by economic migrants as well as global liquidity and investment strategies of world financial market participants. In this context, some Council members indicated that raising NBP interest rates could give rise to appreciation pressure, which, in turn, might contribute to weakening exports and deepening the foreign trade deficit. Other members disagreed with this opinion and pointed to a low interest rates disparity in relation to the ECB rate. To substantiate this claim, they indicated that the April hike did not bring about appreciation pressure.

Some discussants pointed out that one of the factors that should favour inflation stabilisation in Poland is a bright outlook for global inflation resulting from a credible monetary policy pursued by the largest central banks. At the same time, they quoted the rise of commodity and food prices in the world markets, related to the impact of structural factors, as a risk factor for the growth of global inflation.

In the assessment of some Council members, the current interest rate of the NBP has probably been below the natural rate and thus it has not prevented the build-up of inflationary pressure. They pointed out that many central banks are raising their interest rates at the moment. Other members of the Council, however, argued that the estimates of the natural interest rates are subject to a considerable uncertainty.

Among Council members the opinion prevailed that, due to the accumulation of factors leading to inflationary pressure building up in the economy, sustaining inflation at a level consistent with the target in the medium term requires a monetary policy tightening in the nearest future. The members of the Council, however, differed in their views concerning the optimal moment for the interest rate rise. In the opinion of some Council members, the assessment of the balance of risks for future inflation did not provide clear grounds for tightening the monetary policy at the current meeting. They argued that the NBP inflation projection to be published in July 2007 could be a useful tool in assessing the inflation outlook in the monetary policy transmission horizon. It was also pointed out that an NBP interest rate hike that would come earlier than expected by the market could give rise to expectations for faster and higher interest rate rises, which could result in a stronger decrease in the rate of economic growth than necessary for stabilising inflation at the target level in the medium term. Other Council members, however, assessed that the potential costs of delaying the interest rate rise outweighed possible benefits related to postponing the decision to change monetary policy parameters. In particular, it was emphasised that in the conditions of a globalisation-related weakening of the short-term relation between domestic economic activity and domestic inflation and amid the adaptive nature of inflation expectations in Poland, the cost of a monetary policy tightening which would ensure the return of inflation to the target would be considerably higher than the cost of preventing inflation growth. Moreover, some Council members assessed that a monetary policy tightening in the face of alarming signals from the public finance sector would strengthen the credibility of the pursued monetary policy.

During the meeting, a motion to raise the key NBP interest rates by 25 basis points was put forward and passed. The Council raised the interest rates to the following levels: the reference rate to 4.50%, the lombard rate to 6.00%, the deposit rate to 3.00% and the rediscount rate to 4.75%.

July

At its July meeting, the Council got acquainted with the projection of inflation and GDP prepared by NBP staff and based on the ECMOD model, which is one of the inputs to the Council's decision-making process on NBP interest rates. According to the July inflation projection, in the horizon of eight quarters, the growth rate of consumer prices will be higher than in the April projection. Under constant interest rates, there is a 50-percent probability that inflation will remain within the range of 2.3-3.3% in 2007 Q4 (compared with 1.3-2.6% in the April projection), 2.1-4.1% in 2008 Q4 (compared with 1.6-3.8%) and 2.1-4.5% in 2009 Q4 (compared with 2.1-4.6%).

According to the July ECMOD-based projection, the annual GDP growth rate will remain with a 50-percent probability within the range of 6.2-6.8% in 2007 (compared with 6.0-7.0% in the April projection), 4.3-6.7% in 2008 (compared with 4.0-6.3%) and 4.0-7.2% in 2009 (compared with 4.0-7.0%).

The Council also got acquainted with other forecasts conducted at the NBP.

In the Council's assessment, in the coming quarters, economic growth will most probably continue to exceed the growth of potential GDP. The latest information on labour market developments point to a continuation of a high wage growth and a deterioration in the relation between wage and labour productivity growth. A further build-up in wage pressure and, consequently, inflationary pressure is possible. Nevertheless, the Council assessed that the mid-term inflation growth may be curbed by increase in productivity and a very good financial standing of enterprises. Inflation growth in the medium term may also be constrained by low growth of external prices, related to the monetary policy pursued by major central banks as well as the globalisation process and the ensuing rise in competition in the market of internationally traded goods and services.

In the Council's assessment, in the medium term the probability of inflation running above the inflation target decreased to a certain degree due to the previously implemented monetary policy tightening, though it is still higher than the probability of inflation running below the target. A more comprehensive assessment of the scale of the risk of inflation overshooting the inflation target will only be possible after analysing the data released in the future.

In the months to come, the Council will be closely monitoring the growth and structure of domestic demand, including the degree of the expansionary fiscal policy stance, the relation between wage and labour productivity growth, zloty exchange rate and the impact of globalisation processes on the economy.

Projection of inflation and GDP

The inflation and GDP projection has been prepared with the use of the macroeconomic model ECMOD by a team of NBP economists led by the Director of the Macroeconomic and Structural Analyses Department Adam B. Czyżewski. The projection is an outcome of an iterative process in the course of which the paths of some of the model's variables are adjusted if they diverge from NBP experts' economic intuition informed with the general state of knowledge on economic processes. The NBP Management Board has approved the projection to be submitted to the Monetary Policy Council. Inflation projection is prepared with the assumption of constant NBP interest rates and is one of the inputs to the Monetary Policy Council's decision-making process on possible rate changes. The cut-off date for the assumptions of the current projection was 22 June 2007. In particular, the projection was based on the NBP's estimates of the developments of macroeconomic categories in 2007 Q2 (*the starting point for the projection*).

4.1 Introduction

Before the July forecast, minor changes were introduced in some equations of the ECMOD model, connected mainly with the GUS (CSO) revision of data on disposable income of households. The changes consisted in re-estimation of the equations of consumption and income from property, and a slight modification and re-estimation of exports and imports equations.

These changes to the model helped to limit the scale of expert adjustments applied to the raw forecast of the model. In the present projection, expert interferences were focused on smoothing the paths of some variables and involved, in particular:

- lowering the path of investments in the first quarters of the projection and rising it over the longer horizon,
- raising the path of private consumption throughout the projection horizon,
- lowering the path of exports in the medium and longer projection horizon.

As a result of applying these expert adjustments the projection of GDP has been slightly lowered in 2007-2008 and raised in 2009. However, the expert adjustments have not affected the inflation path in any significant way.

With the exception of the last two quarters of 2009, the CPI inflation path in the current projection lies above the path from the April projection. Higher CPI inflation in the short projection horizon results from a faster growth of food and fuel prices and – from the end of 2007 through the first half of 2009 – also from higher path of net inflation.

The shifting of net inflation path between the projections is the resultant of two factors, mainly, i.e. changed assessment of labour market situation at the starting point of the projection and accounting for the reductions of disability pension contribution (the one introduced in July 2007 and also that scheduled for January 2008).

With the rate of economic growth in Poland and abroad consistent with the April expectations, the scale of labour market recovery proved much larger. The current estimates on 2007 Q2 point to a much stronger rise in wages and the number of working persons than it was forecasted in April. This is conducive to raising the path of inflation in relation to the April projection.

On the other hand, lower inflation is favoured by the reduction of disability pension contribution, which makes it possible to reduce labour cost and increase net wages at the same time. The reduction of labour costs is offsetting the cost pressure, positively affecting the profits of enterprises and the level of employment. In turn, higher net wages lead to increased labour supply and, consequently, higher potential output. The reduction of disability pension contribution involves a change of profit distribution between the private (households and enterprises) and public sectors, which with the "budget anchor" in place means a corresponding reduction in public sector spending in relation to expenditure which would have been implemented had the disability pension contributions remained unchanged. As a result, the rise in private demand (mainly private consumption ensuing from the increased income of households) generated by the reduction of wage wedge is, to a large extent, offset by reduced state expenditure. Thus, the overall macroeconomic effect of the cut in disability pension contributions is reduction of inflation.

Having accounted for the effects of a higher wage growth, a higher number of working persons at the starting point and a reduction in wage wedge, the current inflation projection initially overshoots the April projection and then moves back close to it at the end of 2009.

4.2 Assumptions for the projection of inflation and GDP

External demand and inflation

The annual GDP growth rate in the euro area in 2007 Q1 was 0.3 percentage point higher than accounted for in the April projection and stood at 3.0% y/y. The current sentiment of consumers and entrepreneurs is very good, and in the nearest future the high investment growth, decline in unemployment rate and growth in disposable income are expected to continue. Taking this into consideration, the assumed GDP growth in the euro area in 2007 has been raised, in relation to the April forecasting period, to 2.6% y/y (up from 2.2% y/y). The observed labour market improvement and handsome profits of enterprises point to a high probability that the GDP growth in the euro area will be sustained at the level above 2% over the projection horizon. As a result, for the years 2008-2009, it has been assumed that the euro area economy will grow at the rate of 2.1-2.2%.

The projection is subject to the following risks. On the one hand, a faster than expected growth of euro-area GDP in 2007-2009 might result from acceleration of domestic demand, connected with a further improvement in the labour market and structural reforms conducive to sustaining the high growth of productivity. Additionally, a faster than assumed growth in the euro area would also occur in case of boosted domestic demand in Asian economies, as this would lead to sustaining increased exports from euro-area countries. On the other hand, the possibility of correction of a high US current account deficit remains an important risk of a lower GDP growth in the euro area, especially if this correction would lead to a significant appreciation of the euro. A negative impact might be also exerted by a noticeable slowdown in the US economy, which would be accompanied by global decline in equity prices, increased risk valuation in the financial markets and a drop in real property prices.

Basing on the analysis of the above factors it was assumed that, throughout the projection horizon, the probability of economic growth running below the central forecast is slightly higher than 50%.

In 2007 Q1 the annual growth rate of GDP deflator in the euro area rose to 2.5% as compared to 1.7% in 2006 Q4. There are also signals pointing to the possibility that inflation will grow in the medium term, such as a high growth rate of producer prices of intermediate goods and high production capacity utilisation. Apart from that, also the improvement in labour market situation may be conducive to the emergence of wage pressure, even though the increasing growth rate of labour productivity should be limiting the growth in unit labour costs. As a result, we assume that the inflation of GDP deflator in the euro area will grow from 1.8% in 2006 to 2.4% in 2007 (2.0% in the April projection), and in 2008-2009 it will run at 2.0% (no change in relation to the April projection).

Higher inflation of GDP deflator may be brought about by a higher than expected wage growth, rising commodity prices, intensified protectionist measures and raised prices of products manufactured in Asian countries. On the other hand, the risks of a lower GDP-deflator inflation include further appreciation of the euro, growing competition in the services market and a clear slowdown of the global growth.

In our assessment, the balance of the above factors indicates that, throughout the projection horizon, the probability of GDP-deflator inflation running above the forecast path exceeds 50%.

Foreign interest rates

In comparison to the previous forecasting round, the outlook for the world's economic growth has improved and the expected level of interest rates in the core markets has been raised. The interest rates forecast, as compared to the April forecasting period, is for the euro area higher approx. by 0.25 percentage point in 2007 Q3 and by 0.5 percentage point in 2009 Q4, for the United States higher by approx. 0.3-0.4 percentage point, and for the United Kingdom higher by 0.3-0.5 percentage point. As regards the United Kingdom, there is a risk that the increases of interest rates of the Bank of England may be higher than currently expected.

Crude oil and fuel prices

Crude oil prices

As in the previous projections, the oil price forecast in the July projection is based on the forecasts of the US Department of Energy[1].

The increase of current prices (as well as upwards adjustments of forecasts prepared by external centres and a rise in futures quotations), which has taken place since March 2007, raised the path of oil prices throughout the forecast horizon. The current forecast assumes that the average oil price will reach 66.6 USD/b in 2007 (as compared with 62.1 USD/b assumed in the April projection), 66.5 USD/b in 2008 (as compared with 63.5 USD/b) and 64.5 USD/b in 2009 (as compared with 63.0 USD/b).

This persistently high oil prices throughout the projection horizon are due to the expected relatively high increase in the world demand for oil both in the second half of 2007 and in 2008, which may be conducive to further decline in inventories. The supply policy of the OPEC will be crucial for sustaining stability in the fuel market. No reaction on the part of the OPEC (i.e. keeping the output at its current level) and the persistent high geo-political risk in the regions of oil extraction may generate further oil prices pressure.

The current forecast assumes an asymmetrical upward balance of risks, which means a greater probability of higher oil prices.

Fuel prices

In the current forecast, the growth of fuel prices is higher until mid-2008 and then a slightly lower than compared to the April projection.

This shift in the path of fuel prices is primarily the result of accounting for higher actual fuel prices in 2007 Q2 and the changed forecast of oil prices. The assumptions concerning indirect tax rates have not been modified. The basis sources of uncertainty of fuel price forecast are oil prices developments and movements of the exchange rate. The dynamics of fuel prices will also depend on the growth in domestic demand, the stage of bio-fuel market development and its impact on the mineral fuel market, the imposition of the requirement on fuel market operators to create higher reserves, and also on the Government-announced diversification of supply sources of energy commodities. It can be assessed that, both in the short and longer period, it is more probable that the path of fuel prices will be slightly above the forecast central path.

Absorption of EU funds

The July projection, similarly to the previous ones, assumes a constant increase in the scale of Poland's utilisation of EU structural and cohesion funds. Starting from 2007,

[1]The forecast for 2007-2008 is based on the forecast of WTI oil prices published in *Short-Term Energy Outlook*, Energy Information Agency, June 2007 (of 12 June 2006). The expected level of prices in 2009 has been adopted on the basis of the last value of the forecast for 2008. Additionally, this forecast has been adjusted throughout the horizon for the difference between the prices of Brent oil and WTI oil resulting from the futures market quotations during the two weeks preceding the publication of the forecast of the US Department of Energy (i.e. 28 May-11 June 2007).

apart from the allocation for 2004-2006, it will be possible to start utilising the funds from the 2007-2013 allocation. However, because of the problems in the use of the cohesion fund and the delayed utilisation of funds under the new Financial Perspective for 2007-2013, the central path for 2007 has been lowered in relation to the April projection. The forecast for the following years remains unchanged. The expected level of annual fund utilisation in subsequent years is as follows: (in EUR billion): 3.15 in 2007 (1% of GDP), 4.4 in 2008 (1.33% of GDP), 4.9 in 2009 (1.34% of GDP).

As regards the use of funds under the Common Agricultural Policy, in the July forecasts the estimated utilisation level for 2007 has been increased from EUR 2.09 billion to EUR 2.32 billion (0.75% of GDP). The expected annual utilisation of CAP funds for subsequent years has remained unchanged at EUR 2.45 billion in 2008 and EUR 2.58 billion in 2009.

Situation in the public finance sector

The July projection has accounted for the reduction of the disability pension contribution of 7 percentage points, which will have a significant impact on the situation in the public finance sector in the years to come. In line with the estimates of the Ministry of Finance, this will diminish the revenues of the sector by approx. 0.3% of GDP in 2007 and approx. 1.5% of GDP in the following years. Moreover, in the coming years the revenue of the general government sector will be affected by the factors already accounted for in the previous projections, i.e. VAT rate increases in 2008 and introduction of two PIT rates in 2009.

At the same time, the projection has retained the Government-declared "anchor" (in the form of a central budget deficit at the constant level of PLN 30 billion) as the fundamental benchmark of the fiscal policy, determining the level of expenditure in 2008-2009.

The fiscal projection prepared under these assumptions is subject to heightened risk of growth of the general government sector deficit. Sustaining the budget anchor, with a concurrent cut of the disability pension contribution, will require limiting the growth of central budget expenditure. There is a risk that in the course of further works on the draft budget act for 2008 this assumption will not be met and, consequently, the public finance sector deficit will overshoot the level accounted for in the projection. An important factor raising this risk are the wage demands of public sector workers and the passing of bills which would permanently increase the expenditure of the sector or cut its revenues (such as the announced considerable increase of the pro-family tax deduction and the introduction of personal income tax deduction for private medical treatment).

Prices of food and non-alcoholic beverages

In 2007 Q1 the growth of prices of food and non-alcoholic beverages in quarter-on-quarter terms was higher in than estimated in the April projection (2.2% against 2.0%). The difference was mainly the result of a higher than assumed growth of poultry prices in March 2007.

Taking into consideration the new data on expected crops in the new business year (higher than average harvest of cereals and vegetables, strong reduction of the supply of fruit), the forecasts of a considerable fall in the supply of meat and the price trends in the world market of dairy products, the forecast of food price growth throughout the coming 4 quarters has been significantly raised (by the average of 1.3 percentage point, y/y) above the level accounted for in the April projection.

The largest change in the quarterly growth rate in relation to the April projection occurred in 2007 Q2 (currently 2.4% q/q compared with 1.3% q/q in the April forecasting). In turn, high growth of food prices in 2008 Q2 is, among others, the outcome of the rise in VAT rate on non-possessed food from 3 to 7% in May next year.

The most important risk factor for the central path of food prices in the new business year will be the agro-meteorological conditions until harvest of the next year. It is assessed that the impact of unfavourable conditions on the volume of crops and, indirectly, on food price growth may be considerably stronger than the significance of favourable conditions. In turn, in the meat market, the expected transition to the falling phase of pork production may cause more rapid increases of meat price than accounted for in the central path. For this reason, the uncertainty about food prices in the forecast horizon is assessed as being asymmetrically upward.

Demographic situation[2]

Number of economically active

In our assessment the decline in economic activity and in the number of economically active persons observed in the last few quarters results both from economic migration of Poles and outflow from the labour market of persons at pre-retirement age. We assume the continued uncertainty as regards the terms and conditions of taking early retirement in the future may be conducive to massive departure from the labour market before the attainment of statutory retirement age, at least until the end of 2007. Yet, the expected high economic growth and higher than in the previous years increase in real wages over the projection horizon will contribute to growing economic activity in other age groups. We expect that the improved labour market situation will also limit the scale of economic migrations. Consequently, from 2007 Q4 the economic activity indicator will gradually rise. In the years 2008 and 2009 the annual growth rate in the number of the economically active will reach 0.6% and 0.7% respectively.

In the July forecast of the number of the economically active the assumed uncertainty band is symmetric, and similarly to the previous forecast, it is relatively large, already at the beginning of the forecasting period. The possibility of a lower actual number of economically active persons results also from potential delays in the introduction of limits on taking early retirement or the extension of the catalogue of professions entitled to outflow from the labour market before reaching the statutory retirement age. On the other hand, amidst persistently growing demand for labour a faster increase in the number of economically active persons than accounted for in the central path may be observed. The doubts whether migration processes have been appropriately accounted for in the BAEL survey and, consequently, whether the number of the economically active persons in the BAEL survey is correct, constitute the source of uncertainty.

[2] Starting from the April projection, the quarterly forecasts of the number of persons working in private farming have been replaced with yearly forecasts (prepared during model re-estimation) of the share of this category in the number of the economically active.

Number of old-age and disability pensioners

In 2007 Q1 the number of old-age and disability pensioners markedly exceeded the April forecast, mainly as a result of growing number of persons taking early retirement in non-agricultural social insurance system. It is believed that this increase most probably results from heightened uncertainty about the possibility of taking early retirement in the future, urging the eligible persons to take advantage of this opportunity. As a result, the July projection assumes the increase in the number of old-age and disability pensioners of 1.0% y/y in 2007, as compared with the decrease of 0.3% y/y accounted for in the April projection. From 2008 the number of old-age and disability pensioners should start to fall at the average annual rate of approx. 0.5%, thus slightly faster than assumed in the previous forecasting round (0.4%). At the end of the projection horizon, the number of the old-age and disability pensioners will decline to 9.1 million persons.

Similarly to the April projection, the uncertainty band assumed in the present forecasting round is symmetric. Yet, as a result of higher uncertainty about the final form of legal regulations on the conditions of the outflow from the labour market before reaching the statutory retirement age, in the July forecast the uncertainty band of the projection in 2007 has been widened.

4.3 Projection of inflation and GDP

The forecasts of the external variables affecting Polish economy have not been subject to any significant revisions in relation to the previous forecasting round. The July projection has been prepared with the assumption of a moderate growth of external GDP and low external inflation, which is believed to be the most likely scenario. Prices of oil are expected to range above the path accounted for in the April projection, though without a noticeable impact on the economic activity. Similarly, slightly higher expected foreign interest rates are not a significant factor affecting the differences in the assessment of economic activity between the projections.

Economy in the first half of 2007

In the first half of 2007 the developments of Polish economy were consistent with the expectations of the April projection. The main factor fuelling growth was domestic demand. Investment was growing at a rate close to that anticipated in the previous projection while private consumption grew faster than expected. Strong exports growth has continued, yet, due to domestic demand revival imports grew faster; as a result, the foreign trade balance had a negative contribution to the GDP growth.

Strong economic growth had brought steady improvement in the labour market. Yet, growing demand for labour was not accompanied by increased participation in domestic labour market, thus driving strong drop in unemployment rate. The building-up imbalance between demand and supply on the labour market led to a faster increase in average wages. The ongoing recovery in the labour market has exceeded the expectations presented in the April projection and constitutes a major factor behind the inflation path running higher in the short- and mid-term horizon of the current projection.

Growth in employment and wages was the main factor behind significant rise in the disposable income of households. Money transfers from Polish emigrants working abroad are also believed to be an important factor pushing up the households' disposable income growth. Improved current and expected income of households and liberalised access to bank loans translated into private consumption growth. Demand for flats was also growing which, given the supply barriers, fuelled the strong growth in flat prices.

The ongoing economic recovery made it impossible to meet the demand with the existing production capacities in enterprises, thus leading to strong investment growth. Important factors affecting the growth rate of investment outlays include strong inflow of foreign direct investment, which additionally strengthens the supply side of the economy through the transfer of modern technologies and the growing absorption of EU structural funds.

Projection for 2007-2009

In line with the present projection, the GDP growth in 2007 will amount to 6.4% and in subsequent years will reach approx. 5.5%. The rate of economic growth forecast for 2007 is in line with the expectations of the April projection, and that forecast for 2008-2009 slightly higher.

In 2007 investment growth will be above 20% and in subsequent years it will markedly exceed 10%. High investment demand on the part of enterprises will be rooted in favourable outlook for sales amid a relatively low cost of capital. Investment growth will be additionally supported by the inflow of capital from abroad in the form of direct investment and the inflow of funds from the EU.

The bright prospects of economic growth will also be the main factor behind the growing demand for labour. The growth rate of the number of working persons according to BAEL will be approx. 4% in 2007, and in the subsequent years it will stabilize slightly below 2%. As a result, the rate of unemployment will fall more strongly than it was forecast in April and will settle at approx. 8% in the last quarter of 2009. The fast reduction in unemployment will translate into rising wage pressure, and as a result, throughout the projection horizon the growth rate of real wages will exceed the growth in labour productivity in the economy (per one person working outside private farming).

The reduction in disability pension contribution will partly ease the upward wage pressure. Also the reduction of personal income tax (PIT) planned to be implemented in 2009 will have a similar impact, though the effect of those changes will be relatively limited in the current projection horizon. The reduction in the wage wedge is reflected in a lower path of the equilibrium unemployment rate (NAWRU) which will, however, continue to run above the actual unemployment rate.

The expected growth in average nominal gross wages will be approx. 7% in 2007, will increase to approx. 7.5% in 2008 and will finally fall to approx. 6.5% in 2009. The currently forecast gross wage growth in the first half of the projection horizon is markedly higher than it was the case in the April projection, which results mainly from higher starting point and stronger drop in unemployment. In the second half of the projection horizon, however, the rate of growth of gross wages is slightly lower than forecast in April which is connected with the reduction in the wage wedge. The reduction in wage wedge will also translate into significantly faster growth of net wages.

A high increase in employment and net wages will translate into fast growth in private consumption (average growth by approx. 6% y/y in the projection horizon). Apart from the revenues from hired labour, the rise in consumption will also be driven by increased income of private businesses.

The increase in investment and consumption translates into the domestic demand growth of approx. 8.5% in 2007 and on average by 7% in 2008-2009. Domestic demand growth is close to that expected in the April projection.

Similarly as expected in April, unchanged interest rates and the concurrent rise in inflation will lead to a fall in real interest rate and a gradual depreciation of the nominal exchange rate of the zloty and its stabilisation towards the end of the projection horizon. The main factors adding to the depreciation will be the higher growth of domestic prices in relation to external prices as well as narrowing and then persistently low disparity of interest rates. According to current projection, import prices growth in 2007 will be faster, and in subsequent years close to the expectations of the April projection.

Similarly as in the April projection, foreign trade turnover is expected to grow dynamically. The high growth rate of exports (of approx. 9.3% y/y on average) will be positively affected by good economic climate in main trading partners and lower labour costs, while the dynamic growth of imports (of approx. 12.8% y/y on average) will be the result of economic recovery in Poland. Net contribution of exports to GDP growth will be negative throughout the projection horizon and starting from the end of 2007 – slightly higher than expected in April.

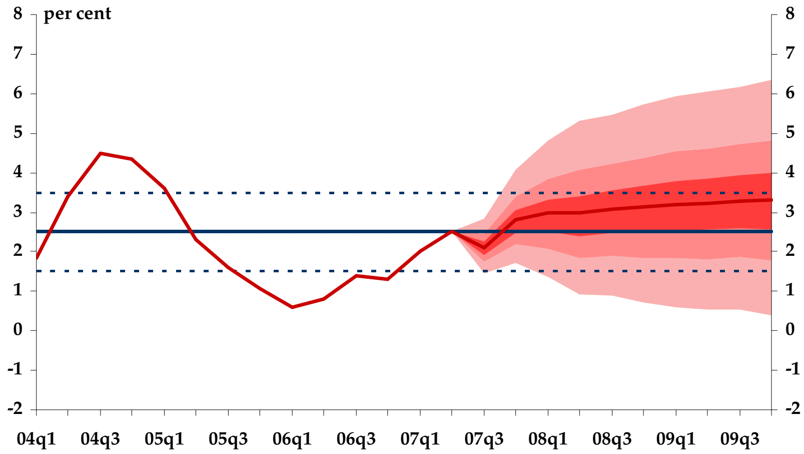
In 2007-2009 significant acceleration is expected in the growth rate of potential output, which will be rooted in a gradual growth in capital stock (following a strong investment recovery) and a growth in effective labour supply (due to decline in the NAWRU and a slight increase in the labour participation ratio). However, till the end of 2008 the growth rate of potential output will be lower than GDP growth rate, which finds reflection in a widening, and then slight narrowing of the output gap.

The consequence of the labour market developments presented above will be a strong growth in unit labour costs (ULC), which is the major factor determining net inflation in the projection. The growth rate of ULC (outside private farming) is expected to reach 5.6%, 4.2% and 3.7% in 2007, 2008 and 2009, respectively. Weakening growth of unit labour costs in the longer projection horizon is related to the growth of supply in the labour market, resulting, among other things, from the reduction of the wage wedge.

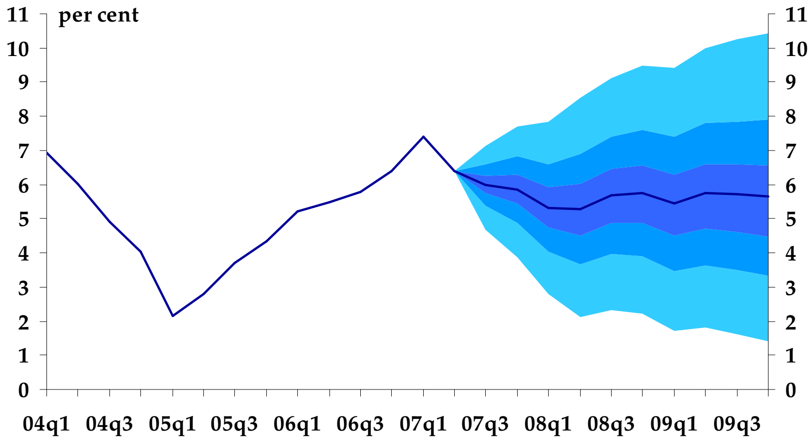
The CPI inflation path at the starting point of the July projection is by 0.6 percentage point higher than expected in the April projection. Until 2008 Q1 the difference between the projections is gradually widening (to 0.8 percentage point) and then steadily narrowing in the subsequent months. In the second half of 2009 the central CPI paths coincide. At the starting point of the projection, the net inflation is the same as expected in April; higher CPI inflation results from higher growth rate of food prices (the impact of 0.4 percentage point) and fuel prices (the impact of 0.2 percentage point). In the short projection horizon, the main reasons behind the higher CPI inflation as compared to April projection also include higher prices of food (average impact in the first four quarters of the projection of approx. 0.3 percentage point) and fuel (approx. 0.3 percentage point). From end-2007 on the net inflation path is also markedly higher than in the April projection.

According to the current projection, given the unchanged interest rates of the NBP, the CPI inflation will exceed the inflation target starting from 2007 Q4. Until the end of the projection horizon, CPI inflation will remain within the tolerance range for deviations from the target, approaching its upper limit at the end of 2009.

The presented projection of inflation and GDP, just like in the case of any mapping of future economic processes, is subject to significant uncertainty. Fan charts (Figures 4.1, 4.2) represent those sources of uncertainty whose significance may be measured, with the assumption that the utilised model correctly maps the economic processes. The quantifiable sources of uncertainty stem from the inaccuracy of statistical mapping of the relationships holding among macroeconomic variables in the model and the uncertainty surrounding the future paths of variables exogenous to the model. The remaining sources of uncertainty are discussed in the next section.



⊡ **Figure 4.1:** Projection of inflation and MPC's inflation target
Source: NBP.



⊡ **Figure 4.2:** Projection of GDP
Source: NBP.

In the short term the most important source of uncertainty of the inflation projection is the uncertainty connected with food price developments. Other significant factors include the uncertainty of a random component in net inflation equation[3] and the uncertainty of the path of crude oil prices. To a lesser extent, the uncertainty of CPI

[3]Uncertainty of a random component is the uncertainty resulting from unpredictability of those factors determining "net" inflation which are not included in the net inflation equation in the form of explanatory variables

inflation is affected by equations of the exchange rate and fuel prices.

Likewise, in the medium term the uncertainty largely results from food prices, oil prices and the uncertainty of the random component in the net inflation equation, however, their relative significance is getting smaller. At the same time, factors which affect inflation with a certain time lag are getting more important. They include GDP deflator, export and import prices, exchange rate and labour market variables. Moreover, at the end of the projection horizon a growing impact of the uncertainty connected with the random component in the investment equation is observed.

In the short term the uncertainty of GDP projection is most significantly affected by the uncertainty of variables directly determining economic growth. In particular, this applies to imports and exports, but a considerable uncertainty is also connected with the random component in the investment equation. A less pronounced role in explaining the uncertainty of GDP projection in the short term is played by the random components not accounted for in the inventories equation.

In the medium term the impact of uncertainty connected with the random component in export and import equations on GDP projection is slightly less significant. Yet, the impact of the uncertainty connected with the investment equation remains largely unchanged.

A comprehensive picture of the outlined sources of uncertainty of the projection of inflation and GDP is presented in the fan charts[4].

The table below presents the most important characteristics of inflation probability distributions obtained in the July projection.

	Probability of inflation:				
	below 1.5%	below 2.5%	below 3.5%	below central projection	within (1.5%; 3.5%)
2007q3	0.06	0.82	1	0.52	0.94
2007q4	0.02	0.36	0.84	0.53	0.81
2008q1	0.07	0.34	0.71	0.53	0.64
2008q2	0.13	0.38	0.67	0.53	0.54
2008q3	0.12	0.35	0.64	0.52	0.51
2008q4	0.14	0.35	0.61	0.51	0.47
2009q1	0.15	0.34	0.59	0.51	0.44
2009q2	0.15	0.34	0.57	0.51	0.42
2009q3	0.15	0.33	0.56	0.51	0.41
2009q4	0.16	0.33	0.55	0.51	0.39

[4]Information on the method of constructing and interpreting the fan charts was presented in Box "How should fan charts be interpreted?" in the previous editions of the *Report* (page 85 in the *Inflation Report. January 2007*)

4.4 Risk of change in central projection

Every projection is subject to uncertainty, which can be observed *ex post* as projection errors. In the *ex ante* analysis of uncertainty two situations may be distinguished. In the first, we assume that we only make random errors in our forecasts. This assumption allows us to construct a fan chart accounting for the sources of uncertainty with the assumption of the adequacy of the model itself. In the second situation, we are not certain if the model is accurate in replicating the economic reality and we take into account the possibility of making a systematic error entailing underestimating or overestimating the forecast inflation path. This kind of errors may be caused by problems with a correct mapping of future economic processes accounted for in the model (e.g. due to changes in the structure of the economy, data adjustments), but also by the impact exerted on the economy by phenomena not accounted for in the model. Below we present these sources of uncertainty that may bias the central path of the projection.

The main source of projection uncertainty remains the *situation in the labour market*. In the July projection the wage growth rate in 2007-2008 is significantly higher than expected in the April projection. Thus, the risk of increased tensions in the labour market has materialised just as it was signalled in the previous quarter (and in previous projections). At the same time, the wage pressure in the projection, especially in the longer horizon, is offset by the reduction in the disability pension contribution, which is partly curbs wage demands thanks to increased net wages and reduces costs of enterprises. However, there is large uncertainty as to the extent to which the reduction of the wage wedge will actually translate into alleviating labour market tensions and, consequently, into price changes. Another important source of risk remains the pass-through intensity of the economic recovery on the rise of effective labour supply (the number of the economically active and the NAWRU). Even though it is difficult to determine the direction and impact of the above mentioned risks, their resultant seems to indicate a possibility of the occurrence of stronger tensions in the labour market than accounted for in the projection.

The uncertainty connected with the use of *BAEL (Labour Force Survey) data* in the model remains high. The studies conducted at the NBP indicate that, due to the fact that migrations have not been fully accounted for, the growth rate in the number of working persons according to the BAEL has been overvalued in the past few years. As a result, the historic growth of unit labour costs and, consequently, the cost pressure can be overestimated at the starting point.

The capacity of entrepreneurs to pass growth in costs onto prices of their products in the conditions of globalisation should still be treated as an important source of uncertainty. It is assessed that this risk has not changed in comparison to the previous projection.

The risk persists of errors occurring in the projection as a result of an *unfulfilled assumption of no policy changes* over the projection horizon. It is assessed that because of the reduction of the disability pension contribution, which is quite costly for the public finance, this risk increased in relation to the April projection.

There still exists the risk of projection error connected with a *slowdown in the global economy*. Nevertheless, it seems that the probability of a "hard landing" is currently lower than it was assessed in the previous projection.

Due to difficulties with forecasting the *exchange rate of the zloty*, there is a high risk of significant deviations of its future course from the projected path. The forecast depreciation of the nominal zloty exchange rate is mainly connected with a faster growth of prices in Poland than abroad, given the NBP interest rates remaining unchanged and foreign rates increasing. Leaving aside the problems with the cohesion of such a scenario, it is estimated that the risk surrounding the currently forecast path of the exchange rate is distributed roughly symmetrically.

Discussion of data released after 22 June 2007

After the cut-off date for the assumptions for the projection the rising tendency of oil prices continued. Ultimately, the average Brent oil price in 2007 Q2 amounted to 68.7 USD/b (0.7 USD/b more than accounted for in the projection). The surge in geopolitical risk following the attempts of terrorist attacks in United Kingdom and insufficient supply of fuels in the US market to meet the rising demand pushed the prices of oil to the level of 77.5 USD/b, i.e. the highest in eleven months. Strong growth of current prices also raised price forecasts. The forecast of the US Department of Energy released on 10 July 2007 (adjusted for the difference of futures contracts prices of Brent and WTI oil) suggests that the average annual oil prices may be 67.9 USD/b in 2007 (i.e. USD 1.3 more than accounted for in the projection), 68.6 USD/b in 2008(USD 2.1 more) and 66.3 USD/b in 2009 (USD 1.8 more). The changes in the oil market also result in retail prices of fuels in the domestic market running higher than accounted for.

After the cut-off date for the projection assumptions the European Commission issued a permission to prolong, till the end of 2010, the period of reduced VAT rates on some goods and services in new EU member states, including unprocessed food in Poland. This may be conducive to lowering the growth rate of food prices in 2008 Q2 in relation to that accounted for in the projection.

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The distribution of risks in the fan chart of the July inflation projection is almost symmetrical. Among the factors not accounted for in this chart which can be conducive to higher than projected inflation the most prominent ones include: probably higher growth in labour market tensions, more expansive fiscal policy and faster growth of oil and fuel prices. On the other hand, factors pointing to a lower than the projected inflation path include: probable biasing of BAEL data, weaker pricing power of enterprises in the conditions of globalisation and the risk of a slowdown in the world economy. Considering all the uncertainty factors, it can be estimated that the rise of future inflation deviating from the central path of the July projection is roughly symmetrical.

Annex

The voting of the Monetary Policy Council members on motions and resolutions adopted in March–May 2007

- **Date:** 28 March 2007

  Subject matter of motion or resolution:
  Motion to raise NBP interest rates by 0.25 percentage point

  MPC decision:
  The motion was not passed (due to tie vote, the Chairman's casting vote was decisive)

  Voting of the MPC members:

For:		Against:	
	D. Filar		S. Skrzypek
	M. Noga		J. Czekaj
	A. Sławiński		S. Nieckarz
	H. Wasilewska-Trenkner		S. Owsiak
	A. Wojtyna		M. Pietrewicz

- **Date:** 24 April 2007

  Subject matter of motion or resolution:
  Resolution on approving the *Annual Financial Report of the National Bank of Poland* prepared as of 31 December 2006

  Voting of the MPC members:

For:			Against:
	S. Skrzypek	S. Owsiak	
	J. Czekaj	M. Pietrewicz	
	D. Filar	A. Sławiński	
	S. Nieckarz	H. Wasilewska-Trenkner	
	M. Noga	A. Wojtyna	

- **Date:** 25 April 2007

  Subject matter of motion or resolution:
  Resolution on the level of the reference rate, lombard rate, deposit rate and rediscount rate of the National Bank of Poland

MPC decision:
The MPC increased the level of all interest rates by 0.25 percentage point

Voting of the MPC members:

For:		**Against:**
J. Czekaj		S. Skrzypek
D. Filar		S. Nieckarz
M. Noga		S. Owsiak
A. Sławiński		M. Pietrewicz
H. Wasilewska-Trenkner		
A. Wojtyna		

- **Date:** 16 May 2007

  Subject matter of motion or resolution:
  Resolution on approving the *Report on monetary policy implementation in 2006*

  Voting of the MPC members:

For:		**Against:**
S. Skrzypek	S. Owsiak	
J. Czekaj	M. Pietrewicz	
D. Filar	A. Sławiński	
S. Nieckarz	H. Wasilewska-Trenkner	
M. Noga	A. Wojtyna	

- **Date:** 16 May 2007

  Subject matter of motion or resolution:
  Resolution on the evaluation of the activities of the NBP Management Board as regards the implementation of the *Monetary Policy Guidelines for the Year 2006.*

  Voting of the MPC members:

For:		**Against:**
S. Skrzypek	S. Owsiak	
J. Czekaj	M. Pietrewicz	
D. Filar	A. Sławiński	
S. Nieckarz	H. Wasilewska-Trenkner	
M. Noga	A. Wojtyna	

- **Date:** 16 May 2007

  Subject matter of motion or resolution:
  Resolution on approving the *Report on the Operations of the National Bank of Poland in 2006*

  Voting of the MPC members:

For:		**Against:**
S. Skrzypek	S. Owsiak	
J. Czekaj	M. Pietrewicz	
D. Filar	A. Sławiński	
S. Nieckarz	H. Wasilewska-Trenkner	
M. Noga	A. Wojtyna	

- **Date:** 30 May 2007

  Subject matter of motion or resolution:
  Motion to raise NBP interest rates by 0.25 percentage point

  MPC decision:
  Motion did not receive a majority vote

  Voting of the MPC members:

For:	D. Filar	**Against:**	S. Skrzypek
	M. Noga		J. Czekaj
	H. Wasilewska-Trenkner		S. Nieckarz
	A. Wojtyna		S. Owsiak
			M. Pietrewicz
			A. Sławiński