Inflation Report
April 2007

National Bank of Poland
Monetary Policy Council

Warsaw, April 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

Since November 2006 the annual CPI growth gradually increased. As a result, since January 2007 the annual inflation rate returned to the band of deviations from the inflation target (2.5% +/-1 percentage point) and in March it stood at the target. Changes in the structure of price growth may indicate that the rising CPI inflation amidst the fast economic growth is increasingly, albeit still to a moderate extent, driven by growing domestic demand.

In the period January–March 2007 the increase in inflation was primarily accounted for by a rise in the growth rate of prices of food and non-alcoholic beverages. The accelerating growth in prices of processed food, observed since August 2006, may indicate that in the recent period the increase in food prices has been driven not only by supply factors, but also by growing consumption demand.

Since the second half of 2006 inflation rate has been increasingly affected by rising prices in services, which is the result of an acceleration in the price growth of market services. This may be due, among other things, to increasing demand amidst accelerating economic growth and rising income of households, as well as faster growth in unit labour costs in this sector, brought about by improving situation in the labour market.

Contrary to the prices of services, prices of goods have been falling. This has been on account of declining prices of goods whose prices are strongly affected by globalisation and whose considerable part is imported from low cost countries. The impact of changes in domestic demand on prices of those goods is limited. As regards other goods, however, since 2006 Q4 there has been a gradual acceleration in the growth of their prices, though it is still low.

Acceleration in the growth rate of consumer prices has been accompanied by a pickup in core inflation indicators. In the period January–March 2007, all core inflation measures increased, albeit they remained below the CPI inflation.

In February - April 2007 inflation expectations of individuals slightly increased, which was driven by the rise in the current inflation rate, and stood close to the lower band of deviations from the NBP inflation target. At the same time, in February, March, and April 2007 there was a fall in the percentage of respondents expecting the growth rate of prices to increase. Despite changes in the current inflation rate, since autumn 2006 inflation forecasts of bank analysts over the 11-month horizon remained largely stable and were slightly below the NBP inflation target.

2006 Q4 saw a continued growth in import prices (in Polish zloty). However, their rise in year-on-year terms was slower than in the two preceding quarters, which was mostly

due to the decline in crude oil prices. After continued falls in oil prices in 2006 Q2, since mid-January 2007 prices of this commodity started to rise again.

The annual growth of producer prices in industry (PPI) increased in 2007 Q1 and was primarily accounted for by an acceleration in the prices in *manufacturing*. Prices in manufacturing continued to rise from 2006 Q2 onwards, despite the fall in oil prices in 2006 H2. This means that the increase in the producer price inflation is, to a large extent, the likely result of the rise in domestic demand amidst fast economic growth.

Since 2005 Q2 the rate of economic growth in Poland has been steadily increasing. GUS data on the GDP in 2006 Q4 has confirmed that the Polish economy continues to expand briskly and that the consolidating recovery is present in all sectors of the economy. In line with expectations of the January *Report*, the most important factor in GDP growth is a strong rise in investment and consumption. Exports continue to grow at a rapid pace, yet due to recovery in domestic demand and concurrent import acceleration, the contribution of net exports to GDP have been negative since 2006 Q3. Strong economic growth is accompanied by accelerating employment growth and decline in unemployment. Average wages in the economy have been growing faster than labour productivity, which has led to a rise in unit labour costs. The acceleration in GDP growth and further recovery in the labour market are still accompanied by a low, though growing, inflation and a low, though gradually increasing, current account deficit.

Private consumption continued to rise at a rapid pace in 2006 Q4 (5.2% y/y), which was only slightly lower than that expected in the January *Report*. Strong consumption growth was supported by a further increase in the current income of households. A continuing fast pickup in consumer loans was another factor conducive to the sustained robust growth in consumption. High growth rate in retail sales, in conjunction with a sustained recovery in the labour market and optimistic consumer sentiment, indicate that consumption demand continued to grow rapidly in 2007 Q1 and its pace was probably higher than that expected in the previous *Report*.

Gross fixed capital formation keeps growing strongly. In 2006 Q4, the real growth of gross fixed capital formation amounted to 19.3% y/y and was close to the expectations presented in the January *Report*. Growing investment activity has been observed in all main sectors of the economy. It may be expected that the growth rate of investment in 2007 Q1 continued to rise, which was driven, apart from good economic climate, by good weather conditions that were favourable to construction works. The current forecast of fixed capital formation growth is higher than that presented in the January *Report*. Strong investment revival is expected to continue in the quarters to come.

On the basis of preliminary data for January–March 2007, it may be assessed that the growth of GDP in 2007 Q1 significantly exceeded 7.0% y/y, markedly outpacing the expectations presented in the January *Report*. In the NBP opinion, such a strong GDP growth was driven, similarly to previous quarters, by a rapid growth in fixed capital formation and private consumption. Strong recovery in domestic demand brought about further deterioration in the foreign trade balance.

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. An important factor exacerbating the workforce problem is the emigration of Poles to European countries. GUS business tendency and NBP economic climate surveys indicate that employment will continue to grow strongly in 2007 Q2.

Robust recovery in the labour market has been accompanied by an acceleration in the growth of nominal wages. In conjunction with a pickup in the growth rate of employment, it leads to the rise in the growth rate of aggregate wages, which increases the income of households and thus fuels an aggregate demand. The accelerating economic growth and the ensuing rise in the demand for labour may be leading to a further increase in wage inflation.

2006 Q4 saw a pickup in the growth of labour productivity in the economy. As a result, the growth rate of unit labour costs in the economy declined, which should be easing the cost-driven price inflation. Moreover, the continued fall in unit labour costs in industrial enterprises should improve their competitiveness.

Market interest rates have increased since the January *Report*, prompted by reinforced expectations for NBP interest rate hikes. A relatively low supply of Treasury bonds limited the drop in prices of these securities. Other factors that proved supportive to the bond market were an upgrade in the Poland's credit rating by S&P and a lower sensitivity of the zloty exchange rate to shifts in the value of emerging markets' currencies, as a result of which their depreciation at the turn of February and March 2007 was not accompanied by a sell-out of the zloty-denominated assets, and thus was not followed by a rise in the yields on Polish Treasury securities.

Since the January *Report* the zloty exchange rate appreciated. An increase in the value of the Polish currency stemmed mostly from domestic factors, not least an upgrade in the Poland's credit rating by S&P and awarding Euro 2012 to Poland and Ukraine. By contrast, the effect of global factors on the value of the Polish currency weakened, which should be conducive to stabilization of the zloty exchange rate.

Loans to households and corporate loans continued to grow rapidly. The rate of growth of housing loans hit a record high in the recent months, which is related to the strong demand growth in the housing market. Loans granted for consumption purposes were also growing fast. Corporate loans have accelerated for more than six months, however their rate of growth remains much below that of loans to households.

At its meetings in January, February and March 2007, the Council decided to keep interest rates unchanged, i.e.: reference rate at 4.00%, the lombard rate at 5.50%, the deposit rate at 2.50% and the rediscount rate at 4.25%. At the April meeting, the Council decided to increase interest rates by 0.25 percentage points to the following level: reference rate to 4.25%, the lombard rate to 5.75%, the deposit rate to 2.75% and the rediscount rate to 4.50%.

During its meetings, the Monetary Policy Council discussed the outlook for future inflation in the context of the past, current and anticipated economic situation. The Council considered, in particular, the possible impact of the following factors on inflation in Poland: economic outlook and the structure of economic growth, labour market developments, growth of import prices and monetary aggregates, and the developments of inflation expectations.

According to the January inflation projection, prepared by the NBP staff, inflation was to rise gradually over the monetary policy transmission horizon. In line with the central projection, inflation was expected to return to the inflation target in the first half of 2007, continue to rise in 2008, and breach the upper limit for deviations from the target in the second half of 2009. During the Council's meetings the MPC members expressed various opinions on the outlook for inflation presented in the January projection. These diverse views were expressed in the course of discussion at the meetings.

During the April meeting, the Council got acquainted with the projection of inflation and GDP, prepared by the 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 April ECMOD-based projection, the annual GDP growth will remain with 50-percent probability within the range of 6.0-7.0% in 2007 (compared with 4.9-6.7% in the January projection), 4.0-6.3% in 2008 (compared with 3.6-6.4%) and 4.0-7.0% in 2009 (compared with 3.5-6.5%).

According to the April inflation projection, the growth of consumer prices will be lower than in the January projection over the whole projection horizon. Under constant interest rates, there is a 50-percent probability that inflation will remain within the range of 1.3-2.6% in 2007 Q4 (compared with 2.1-3.8% in the January projection), 1.6-3.8% in 2008 Q4 (compared with 2.2-4.5%) and 2.1-4.6% in 2009 Q4 (compared with 2.4-5.2%). The Council also got acquainted with other forecasts conducted at the NBP.

In the Council's assessment, in the second half of 2007 CPI inflation will temporarily decrease markedly below the inflation target of 2.5%, which is also indicated by the April inflation projection.

In the Council's assessment, in the medium term, the probability of inflation running above the target is larger than the probability of its running below the target, which persuaded the Council to tighten the monetary policy. The Council assessed that the high growth of domestic demand, which most probably outpaces the growth of potential GDP, will be sustained in the next quarters, which should be conducive to a gradual increase in wage and inflationary pressures.

In the coming months, the Council will be closely observing the relation between wage growth and the growth of labour productivity, zloty exchange rate, the impact of globalisation on the economy and other factors.

Inflationary processes

1.1 Inflation indicators

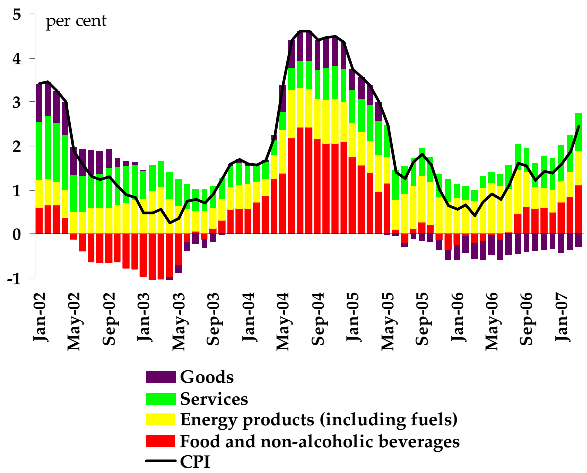
Since November 2006 the annual CPI growth gradually increased (Figure 1.1). As a result, since January 2007 the annual inflation rate returned to the band of deviations from the inflation target (2.5% +/-1 percentage point) and in March it stood at the target. Changes in the structure of price growth may indicate that the rising CPI inflation amidst the fast economic growth is increasingly, albeit still to a moderate extent, driven by growing domestic demand.

In the period January-March 2007 the acceleration in the price growth was primarily driven by an increase in the growth rate of prices of food and non-alcoholic beverages. While in the period from the end of 2005 to mid-2006 the decline in food prices was conducive to a sustained low level of inflation, since August 2006 prices in this group of products have been rising faster than inflation. Changes in food prices continue to be largely determined by supply factors which remain beyond the influence of monetary policy. Yet, the accelerating growth in prices of processed food, observed since August 2006, may indicate that in the recent period the increase in prices of food and non-alcoholic beverages has also been driven by growing consumption demand (Figure 1.2).

Since the second half of 2006 the inflation has been increasingly driven by price increase in services. This increase results from an acceleration in the price growth of market services while the rate of growth of prices in non-market services[1]

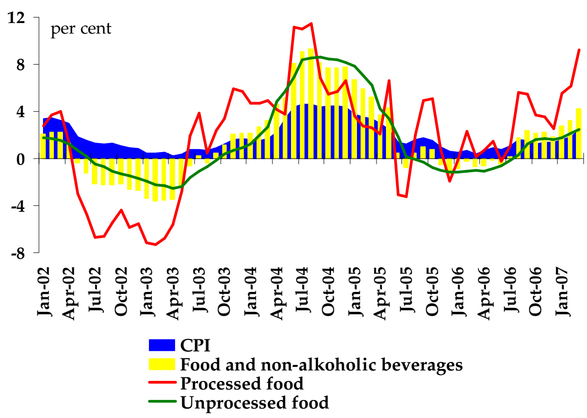
[1]Non-market services comprise house or flat maintenance costs, costs of medical services, education, nursery, transportation services, communication services and other

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



Source: GUS data, NBP calculations.

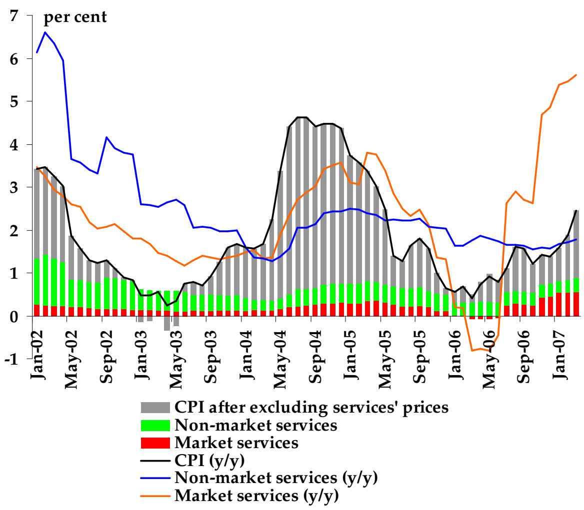
	share in CPI	2006 Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2007 Jan	Feb	Mar
CPI	100.0%	0.7	0.9	0.8	1.1	1.6	1.6	1.2	1.4	1.4	1.6	1.9	2.5
Food and non-alcoholic beverages	26.2%	-0.6	-0.2	-0.5	0.2	1.8	2.4	2.2	2.2	1.8	2.8	3.2	4.3
Energy products (including fuels)	16.1%	7.0	7.6	7.3	6.4	6.5	5.0	3.2	2.9	3.1	3.0	3.5	4.8
Goods whose prices are under strong impact of globalisation	6.8%	-7.0	-7.1	-7.1	-7.1	-7.3	-7.1	-7.3	-7.3	-7.3	-7.9	-7.7	-7.8
Other goods	23.6%	0.0	0.0	-0.1	-0.1	0.0	0.1	0.2	0.4	0.4	0.6	0.7	1.0
Market services	10.0%	-0.8	-0.8	-0.5	2.6	2.9	2.7	2.6	4.7	4.9	5.4	5.5	5.6
Non-market services	17.3%	1.9	1.8	1.7	1.7	1.7	1.6	1.5	1.6	1.6	1.7	1.7	1.8

Table 1.1: CPI decomposition (y/y, per cent)
Source: GUS data, NBP calculations.

has remained stable since the beginning of 2006 (Figure 1.3). The growth rate of prices in the services sector was significantly influenced by statistical effects related to changes in the prices of Internet services[2]. After accounting for those effects, the growth rate in the prices of market services is considerably lower and does not exceed the NBP target (2.5%). Yet, even with the prices of Internet services excluded, inflation in the group of services whose prices are shaped by market forces is on the rise. This may be due, among other things, to increasing demand amidst accelerating economic growth and rising income of households as well as growing unit labour costs in this sector, brought about by improving situation in the labour market.

Contrary to the prices of services, prices of goods[3] are falling. Inflation continues to be driven down by a fall in the prices of goods whose prices are strongly affected by globalisation[4], whose consid-

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



Source: GUS data, NBP calculations.

services: insurance, state administration, radio and television subscription fee

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

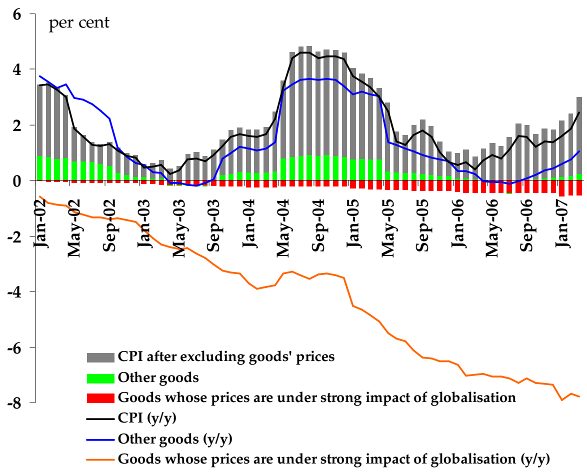
[3]According to the definition adopted in the *Report* the price category 'goods' does not contain food and non-alcoholic beverages and energy products (including fuels)

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

erable part is imported from low cost countries and whose prices remain largely unaffected by changes in domestic demand (Figure 1.4). As far as other goods are concerned, since 2006 Q4 a gradual acceleration in the growth of their prices can be observed[5]. This is another factor which may indicate growing demand pressure in the Polish economy.

The discrepancy between the growth rate of prices of services and prices of goods, which is observed in Poland, is primarily due to the fact that the services sector is characterised with lower labour productivity growth than that observed in manufacturing and that this sector is to a lesser extent subject to international competition which limits the pricing power of entrepreneurs. The above mentioned differences in labour productivity growth tend to be the most pronounced in such countries as Poland which are catching-up to more advanced economies. Higher inflation in services may also be the result of changes in preferences which lead to a growing share of services in consumption in countries recording fast improvement in the living standards[6].

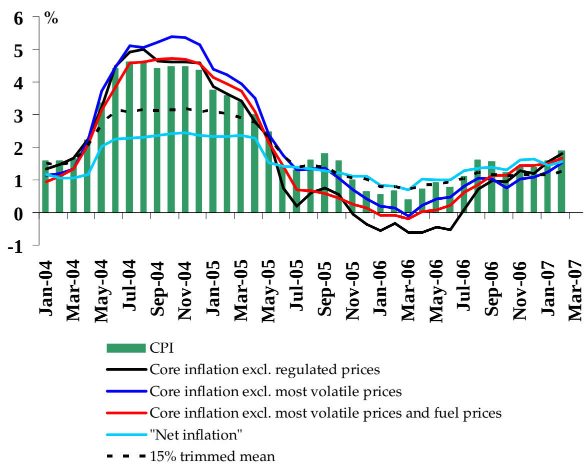
□ **Figure 1.4:**
CPI and main categories of prices – goods.



Source: GUS data, NBP calculations.

In 2006 Q4 and the first two months of 2007, the contribution of energy prices to the CPI growth was stable and it increased in March due to a considerable acceleration in the growth of fuel prices (Figure 1.1). In the period January - March 2007 the sustained high growth rate of prices of natural gas and hot water was coupled with a fall in the growth rate of prices of electric power.

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



Source: GUS Data, NBP calculations.

Acceleration in the growth rate of consumer prices has been accompanied by growth in core inflation indicators (Figure 1.5). In the period January - March 2007, all core inflation measures increased, albeit, they remained below the CPI inflation.

Since November 2005 Poland has been complying with the inflation criterion which is one of the

giene.

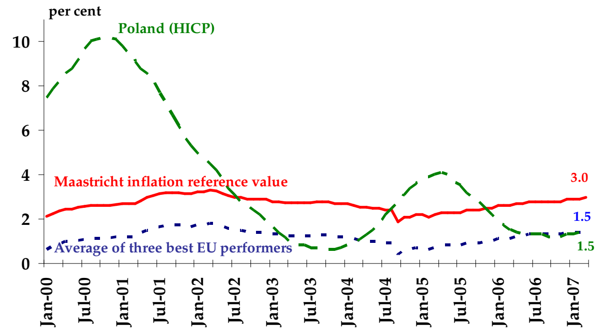
[5]This trend may also be observed after excluding the prices of alcoholic beverages and tobacco products, which largely depend on changes in the excise duties, which are not related to demand.

[6]In Poland, for example, the share of services in the CPI basket increased from 33.2% in 2001 to 36.7% in 2007.

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

Table 1.2: CPI and core inflation indices.
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.

conditions of the euro area membership[7] (Figure 1.6). Moreover, since March 2006 Poland has been one of the three countries with the lowest average annual inflation in the EU. Consequently, inflation in Poland has been taken into consideration while computing the reference value.

[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 on the Maastricht criteria see: chapter 1.3 of the *Inflation Report*of January 2007).

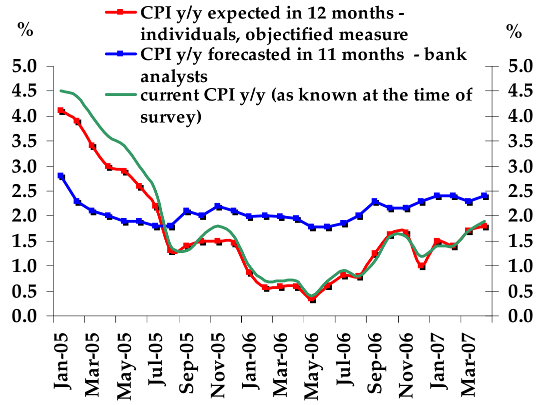
1.2 Inflation expectations

Since 2005 both inflation expectations of individuals[8] as well as inflation forecasts of bank analysts have been running below the NBP inflation target (2.5%) (Figure 1.7).

Inflation expectations of individuals in Poland are strongly adaptive in nature, which means that changes in inflation expectations closely follow the changes in the current inflation. In February - April 2007 inflation expectations of individuals slightly increased, which was driven by the rise in the current inflation rate, and stood close to the lower band of deviations from the NBP inflation target. At the same time, there was an improvement in the structure of responses to the survey question concerning the future price growth (Figure 1.8). In February, March and April 2007 there was a fall in the percentage of respondents expecting the growth rate of prices to increase. In this period more that half of the surveyed individuals did not expect any changes in the rate of price growth.

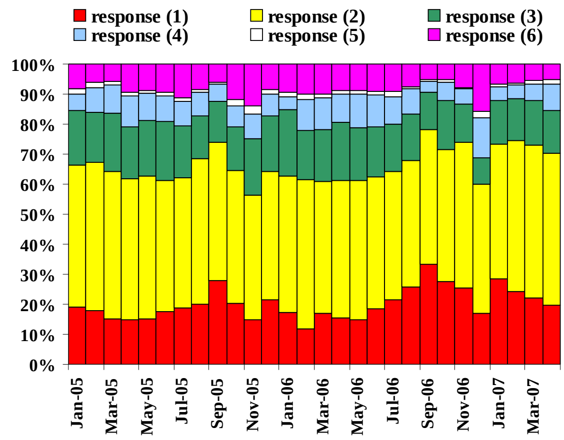
Despite changes in the current inflation rate, since autumn 2006, inflation forecasts of bank analysts over the 11-month horizon remained largely stable and were slightly below the NBP inflation target. This suggests that the monetary policy enjoys a relatively high degree of credibility among bank analysts which is also supported by the findings of empirical studies[9].

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?"

[8]Indicator of inflation expectations of individuals is a function of the structure of responses to the survey question and the current inflation rate constituting a point of reference for respondents in formulating their estimates of future inflation. Current inflation rate is defined here as the inflation rate known to respondents at the time of the survey, which is lagged 2 periods to the month in which the respondents are surveyed.

[9]See: T. Łyziak, J. Mackiewicz, E. Stanisławska (2007), *Central Bank Transparency and Credibility: The Case of Poland, 1998-2004*, European Journal of Political Economy, no. 23, p. 67-87.

Determinants of inflation

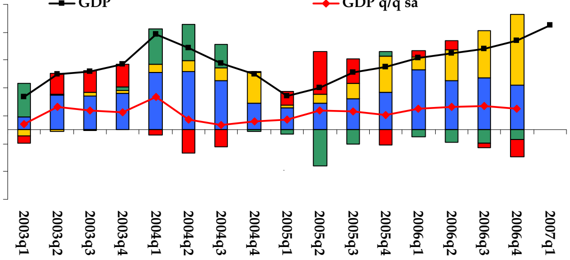
Since 2005 Q2 the rate of economic growth in Poland has been steadily increasing. GUS data on the GDP in Q4 confirmed that the Polish economy is currently undergoing a strong and constantly consolidating recovery encompassing all sectors of the economy (i.e. services, industry, construction). In line with expectations of the January *Report*, the most important factor in GDP growth is a dynamic rise in investment and consumption. Exports have been on a sharply rising path, yet due to the recovery in domestic demand and concurrent import acceleration, the contribution of net exports to GDP have been negative since 2006 Q3. Strong economic growth is accompanied by accelerating employment growth 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 low, though growing, inflation and a low, though gradually increasing, current account deficit.

2.1 Demand

2006 Q4 saw persistently high growth rate of real GDP in quarter-on-quarter terms (Table 2.1[10]), which was conducive to further acceleration of GDP growth in year-on-year terms (Figure 2.1).

[10]The *Report*accounts for national accounts data seasonally adjusted by the NBP, expressed in average annual prices of the previous year, rather than seasonally adjusted data in constant prices from 2000, as they are presented by the GUS. As a result, the seasonally adjusted growth rate of GDP and its components presented in the *Report* may differ from the growth rate presented by the GUS. Besides, the national accounts data presented in the *Report* do not account for GUS adjustment of 23 April 2007

⊡ **Figure 2.1:**
Contribution of aggregate demand components to GDP growth



Source: GUS data, 2007 Q1 – NBP estimates.

Seasonally adjusted (per cent)	04q3	04q4	05q1	05q2	05q3	05q4	06q1	06q2	06q3	06q4
GDP	0.3	0.6	0.7	1.4	1.3	1.0	1.5	1.6	1.7	1.5
Domestic demand	0.2	-0.1	0.6	0.5	1.3	1.6	1.3	1.6	1.9	2.0
Total consumption	0.4	0.2	0.4	1.2	0.9	1.1	1.4	0.7	1.2	1.1
Private consumption	0.3	0.3	-0.2	1.0	0.9	1.1	1.9	1.0	1.4	1.0
Gross capital formation	-1.5	-1.6	1.6	-2.0	3.1	3.5	1.6	4.0	3.9	3.9
Gross fixed capital formation	1.2	1.6	0.8	1.8	2.3	4.1	3.7	5.1	4.8	4.2

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.

This was another consecutive quarter marked by a strong growth in gross fixed capital formation and individual consumption which was conducive to domestic demand increase in real terms by as much as 7.7% y/y. Imports grew faster than imports and for two quarters now, the foreign trade balance has been a factor slowing down GDP growth rate. Economic growth rate and its structure in 2006 Q4 were consistent with the estimates presented in the January *Report*.

On the basis of preliminary data for January-March 2007, it may be assessed that the growth of GDP in 2007 Q1 significantly exceeded 7.0% y/y, markedly overshooting the expectations presented in the January *Report*. In seasonally adjusted terms, GDP growth reached approx. 2% q/q. In the NBP opinion, such a strong growth rate of GDP was driven, similarly to previous quarters, by a rapid growth in fixed capital formation and private consumption. Strong recovery in domestic demand brought about further deterioration in the foreign trade balance.

2.1.1 Consumption demand

In 2006 Q4 private consumption continued to rise at a rapid pace (5.2% y/y) which was only slightly lower than that expected in the January *Report*. Public consumption increased by 2.5% y/y, registering higher growth rate than that resulting from prior estimates by GUS.

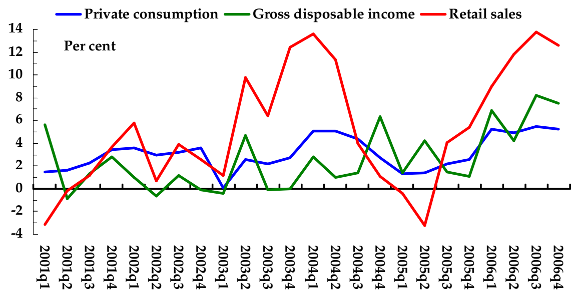
Rapid consumption growth was supported by further increase in current income of households (Figure 2.2). Sustained consumption growth was also driven by continuing fast pickup in consumer loans (see chapter 2.5.3 *Credit and money*).

High real growth of disposable income was due to continued accelerating growth of income from paid employment, improved income from property and self-employment as well as considerable increase in private transfers of Poles working abroad. Higher growth rate of income from paid employment was brought about by accelerating growth in employment and increase in nominal wages (see chapter 2.3 Labour market).

Growth in consumption was also supported by very positive sentiment among consumers (as suggested by the findings of household condition surveys) whose assessment of changes in their own financial condition during the last year improved significantly, as well as further improvement in consumers' expectations concerning their financial condition during the year to come. Further abatement of fears of unemployment, conducive to pickup in consumer sentiment, was observed. Growing consumption demand was reflected in a strong growth of retail sales of products.

High growth rate in retail sales observed since the beginning of 2007, sustained recovery in the labour market and optimistic consumer sentiment suggest that the strong growth in consumption demand continued in 2007 Q1 and its pace was probably higher than that expected in the previous *Report*.

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 2006 Q4 - NBP estimates.

2.1.2 Government demand

In 2007 Q1 the central government deficit amounted to PLN 4.8 billion and was clearly lower than in the first quarter of the previous years which was largely driven by high central government revenues. Tax revenues increased in this period by 15.3% y/y. The high economic growth was a driving force behind high central government revenue.

According to the current *Fiscal notification* in the whole of 2007 the government deficit calculated according to EU standards (ESA95 with mandatory pension funds classified outside general government) should reach 3.4% of GDP, as

General government sector balance and business cycle

The balance of the general government sector to a large extent depends on the business cycle. Economic boom is characterised with dynamic growth of tax revenues and a decline in some categories of public expenditure connected with an improved economic situation of agents. In turn, during an economic slowdown the opposite situation occurs. Thus, the budget balance may be temporarily better (in the time of recovery) or weaker (during a downturn) than the level that would be observed if the impact of the business cycle on finances was neutral, i.e. if the economy was developing at a pace consistent with the growth of the potential output.

For this reason, in order to appropriately assess the state of public finances and the scale of fiscal policy tightening or easing, the public finance balance is adjusted for the impact of the business cycle, producing the so-called cyclically adjusted balance. This measure is commonly used to assess the public finance position, especially in the countries of the European Union. The Stability and Growth Pact, which is binding for EU countries, refers to the changes in the level of the cyclically adjusted balance as the fundamental measure of fiscal policy tightening. The Pact recommends that the countries with an excessive public finance imbalance reduce their cyclically adjusted deficit in relation to GDP at the rate of at least 0.5 percentage point a year. Poland, being subject to the excessive deficit procedure, is obliged to reduce its cyclically adjusted deficit at precisely this rate.

Calculations of the cyclically adjusted budget balance, however, should be treated cautiously, as this measure is based on the estimates of the potential output and output gap, which are unobservable. The estimates of output gap and cyclically adjusted balance may differ depending on the used calculation method. Still, it is worth pointing out that these different methods, while giving varying results of the level of the cyclically adjusted balance, often lead to similar conclusions as to the direction and scale of its change and thus provide information on the prospects of public finances and the impact the fiscal policy exerts on the economy.

The estimates of the cyclical component of the budget balance, as presented in the update to the Convergence Programme of November 2006, were calculated with the use of a traditional method utilised, among others, by the OECD and European Commission, wherein the impact of the business cycle on public finance is estimated with the use of the output gap. There also exists an alternative approach, the so-called disaggregated method, used within the European System of Central Banks[1]. This approach does not rely on the output gap but rather on separately calculated series of the trend and gaps for particular tax bases. Such an approach makes is possible to account for the structure of economic growth while assessing its impact on public finances - e.g. an economic recovery resulting from a rise in private consumption translates into an improvement in unadjusted public finance balance to a greater extent than a recovery resulting from net export acceleration.

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[1] This method is described in detail in Bouthevillain et al., Cyclically Adjusted Budget Balances: An Alternative Approach, ECB Working Paper 2001.

compared to the estimated realised deficit at 3.9% in 2006. In accordance with the *Convergence Programme. Update of 2006*, in 2007 the public finance deficit adjusted for the impact of cyclic fluctuations will change to follow the same direction and scale as the nominal deficit (see: Box *General government sector balance and business cycle*).

The currently observed strong economic growth creates convenient conditions for the implementation of reforms which would permanently reduce the public finance imbalance. The constraining of public finance imbalance would allow meeting the fiscal convergence criteria and would be conducive to accelerating the long-term economic growth. Measures aimed at reducing public revenues[11] without simultaneous cuts in public expenditure, might be an obstacle to meeting the obligations under the Stability and Growth Pact, in particular, considering the proposed increase in burden on public finance, arising, among other things, from the introduction of annual indexation of old-age and disability pensions by the CPI index increased by 20% of real growth of wages in the economy. Despite the currently proposed changes in the organisation of the public finance sector and control over the spending of public funds, the scale of the ensuing savings might not be sufficient for the considerable and sustainable narrowing of public finance deficit.

2.1.3 Investment demand

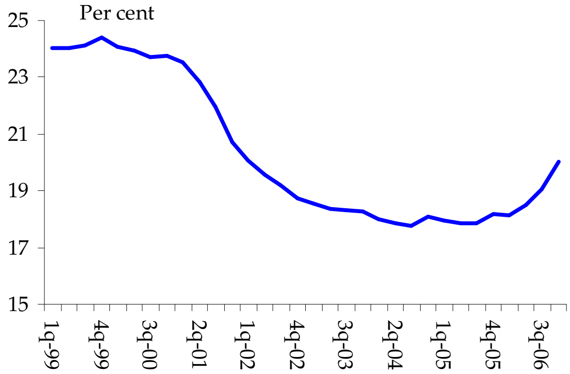
High growth rate of gross fixed capital formation has been sustained. In 2006 Q4 the real growth of gross fixed capital formation reached 19.3% y/y and was close to the expectations presented in the January *Report*. 2006 saw a rise in gross fixed capital formation by 16.7% y/y. As a result investment rate (i.e. the ratio of investment to GDP) rose to 20.0% (Figure 2.3). Growing investment activity has been observed in all main sectors of the economy (Figure 2.4).

High growth rate of outlays on fixed capital formation in the corporate sector has continued. In the NBP assessment, 2006 Q4 saw a sustained two-digit growth in investment outlays of the central and local government sector. A regular improvement has also been observed in housing construction.

Among corporate outlays in 2006 the purchases of means of transport and machinery and equip-

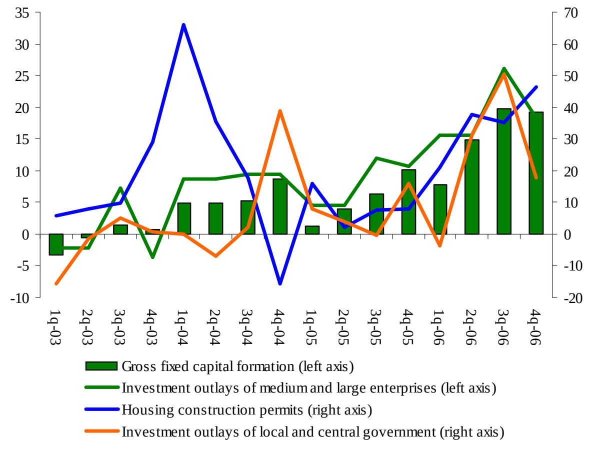
[11] There are plans to reduce disability pension contribution by 3 percentage points from July 2007 and by another 4 percentage points from January 2008. Besides, in accordance with the 2006 Act, two rates of income tax from natural persons (18% and 32%) are to be introduced in 2009.

Figure 2.3:
Investment to GDP ratio (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.



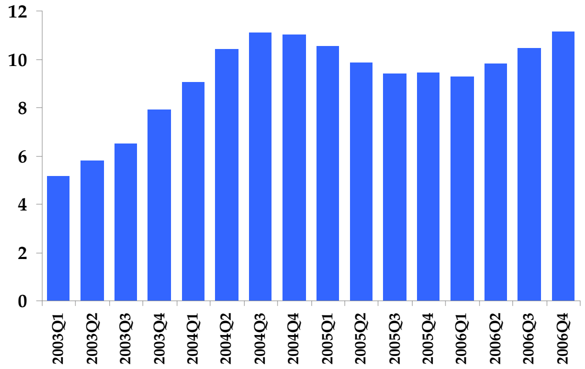
Source: GUS data, MinFin data, NBP calculations ment saw the fastest growth, while the expenditure on buildings and structures grew at a relatively slower pace. Consequently, the outlays enabling a rapid increase of production capacity are growing. Yet, in the economy as a whole, the investment structure is not changing significantly[12], due to a strong growth in demand of the central and local government sector directed mainly to infrastructure projects.

It may be expected that the growth rate of investment in 2007 Q1 continued to rise which was driven, apart from good economic climate, by good weather conditions favourable to construction works. The current forecast of fixed capital formation growth is higher than that presented in the January *Report*.

The quarters to come are expected to bring sustained strong investment revival in the corporate sector. This is suggested i.a. by the continued high rate of return on fixed assets (Figure 2.5), amidst relatively low cost of capital, favourable demand outlook and very high level of production capacity utilisation (Figure 2.6).

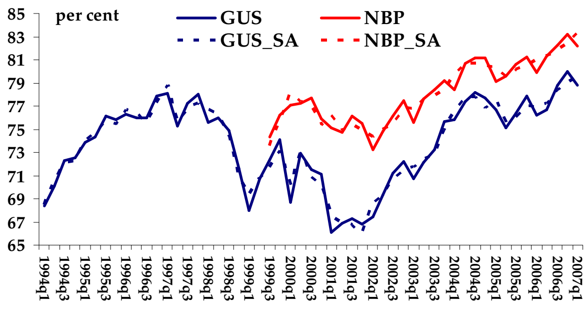
The sustained high investment activity is supported by systematically growing calculated value of commenced investment projects. Similar conclusions may be drawn from the results of the NBP Economic Climate Surveys [13]. Expectations of demand growth among the surveyed enterprises are record high; at the same time, as signalled by the enterprises, this growth is increasingly sustained. Additionally, enterprises have very good possibilities of financing development which is indicated by dynamic growth in corporate deposits at banks and greater availability of corporate loans [14] and their low cost (see. Chapter 2.5.3. *Credit and money*). Corporate investment will also be driven by growing inflow of EU funds whose effective utilisation will be con-

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 (in annual terms)
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 March 2007, in turn, included 869 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.

[12] Analysis of the investment structure may be helpful to assess the growth rate of potential product. See: box in the January *Report*, p. 26-27.

[13] *Preliminary Information Concerning the Condition of the Corporate Sector and the Economic Climate in 2007 Q2*, NBP.

[14] The easing of loan terms and criteria are suggested by the findings of surveys to the chairs of credit committees. Increased loan availability is also signalled by enterprises, as indicated by the NBP business survey results.

ditioned upon the funds distribution system being further streamlined. In the NBP assessment, the inflow of EU funds will be also the main factor driving further growth of investment in the central and local government sector.

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

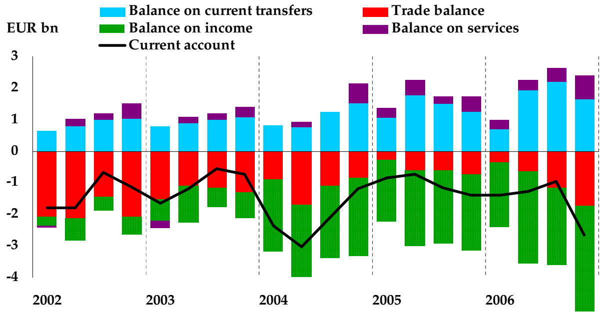
According to the NBP data, in 2006 Q4 the current account deficit increased to reach its highest level since 2004 Q2 (Figure 2.7), although remained relatively low (as compared with 2.3% in 2006) in relation to GDP (over the period of 4 quarters).

According to GUS data, 2006 Q4 saw Polish foreign trade deficit rise both as compared with the previous year as well as in relation to the previous quarter. The deficit on the trade in goods widened primarily as a result of the growth of imports volume being maintained at the previous quarter's level and the growth of exports volume falling simultaneously. [15].

Analysis of changes in the balance of trade according to Poland's major trade partners shows that deficit growth in 2006 Q4 as compared with the previous quarter was mainly driven by further widening of the deficit in the trade with third countries, primarily China [16] (Wykres 2.8).

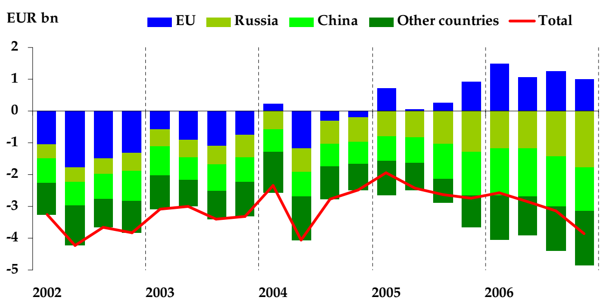
The Polish trade balance was also negatively affected by a decrease of the surplus in the trade with the EU countries. In contrast, the deficit in the trade with Russia narrowed and the surplus

Figure 2.7:
Current account balance (EUR bn.)



Source: NBP data

Figure 2.8:
Balance of the Polish foreigh trade



Source: GUS data

[15]In 2006 Q4 the imports volume increased by 15.9% y/y (similarly to Q3), whereas the exports volume rose by 11.0% y/y (as compared to 15.9% growth in Q3). The impact of imports volume growing faster than exports volume was somewhat subdued as a result of the improved *terms of trade*. Export transaction prices expressed in EUR increased in 2006 Q4 by 6.1% y/y (as compared to 6.3% y/y in 2006 Q3), while the import prices picked up by 4.0% y/y (as compared with 5.9% y/y in Q3). As a result of those changes in volume and prices, the value of exports in EUR increased in 2006 Q4 by 17.8% y/y, while that of imports grew by 20.6% y/y

[16]This was caused by a high growth of imports from China - which account for 45% of Polish trade deficit. In 2006 Q4 the value of imports from China increased by 40.7%. In that period China was Poland's third supplier and its share in Polish imports increased to reach 7.1%.

	04q3	04q4	05q1	05q2	05q3	05q4	06q1	06q2	06q3	06q4
Export prices / Unit labour costs*										
y/y	12 .8	7 .7	-8 .2	-16 .8	-6 .9	-6 .3	-0 .4	5 .1	7 .3	6 .6
q/q	-10 .5	2 .0	-13 .0	4 .8	0 .1	2 .7	-7 .5	10 .5	2 .2	2 .0
Import prices / domestic producer prices										
y/y	-8 .2	-10 .5	-11 .8	-13 .7	-3 .2	-2 .2	-2 .0	3 .3	0 .7	0 .6
q/q	-9 .4	-2 .5	1 .8	-4 .1	1 .6	-1 .5	2 .0	1 .1	-0 .9	-1 .6
REER ULC*										
y/y	-1 .2	10 .9	26 .8	20 .9	13 .0	6 .4	0 .5	1 .0	-1 .0	1 .9
q/q	9 .6	3 .4	16 .4	-8 .3	2 .4	-2 .6	9 .9	-7 .8	0 .4	0 .2

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, 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.

in the trade with other CIS grew. The narrowing of the deficit in the trade with Russia was driven, on the one hand, by accelerating growth of exports from Russia and, on the other hand, by a slow-down in the imports growth.

The deepening negative balance of trade with the euro area is indicated by Eurostat data. In 2006 Q4 the deficit of Polish trade with the euro area reached EUR 4.5 billion, although Polish exports were growing faster than imports. Continuing high growth of euro area imports from Poland was driven not only by persistently high growth of import demand in the euro area [17], but also by accelerating growth of euro area imports reaching the highest level in the last six year period. Considerably higher growth of imports from Poland as compared with imports from other countries was conducive to further increase of Poland's share in the euro area imports (up to 3.2%).

[17] Euro area imports, according to the national accounts statistics presented by Eurostat, grew by 7.3% y/y in 2006 Q4

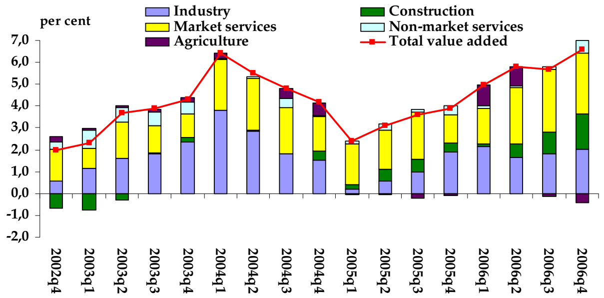
2.2 Output

Consistently with expectations presented in the previous *Report*, 2006 Q4 brought further acceleration in the annual growth rate of gross value added (Figure 2.9). In comparison to the previous quarter, the pace of value added growth was faster in industry and construction. The growth rate of gross value added in market services remained high (Table 2.3). A significant rise in value added was also recorded in non-market services.

The NBP assesses that in 2007 Q1 the growth rate of gross value added rose once again exceeding 7.0% y/y and 2.0% q/q (in seasonally adjusted terms). An important reason for further stepping-up of value added growth were, apart from a surge in demand, exceptionally good weather conditions in the first months of 2007, which had the effect of a soar in value added in construction[18] and construction suppliers from the industrial and service sectors.

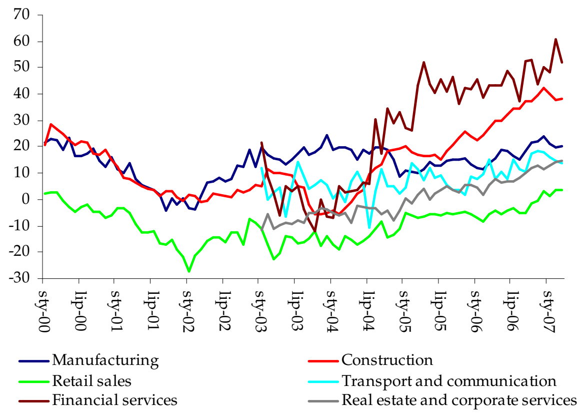
In the NBP's assessment, value added growth rate in the subsequent quarters of the year should not be as high as it was in 2007 Q1. Even so, the outlook for economic growth in the next few quarters is brighter than that presented in the previous *Report*. This scenario is supported by a fast growth in output, not only in sectors connected with construction, and favourable results of economic climate surveys for all the sections of the economy.

Figure 2.9:
Sector contribution to annual gross value added growth (per cent)



Source: NBP calculations on the basis of GUS data

Figure 2.10:
Indicators of future economic activity in selected sections



Source: GUS data

Seasonally adjusted (per cent)	04q3	04q4	05q1	05q2	05q3	05q4	06q1	06q2	06q3	06q4
Value added – total	0.6	0.6	0.6	1.3	1.1	0.9	1.6	2.0	1.0	1.8
Industry	-0.8	0.3	0.5	2.5	1.1	3.2	1.2	1.7	1.4	3.2
Construction	1.4	3.2	1.1	2.2	1.8	1.5	5.0	4.6	3.5	4.1
Market services	0.7	1.0	0.9	0.6	1.0	0.8	1.3	1.5	1.5	1.4

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

[18] According to GUS business tendency surveys, in January-March 2007 weather conditions were indicated as a barrier to business activity by the average of 27% of construction companies compared with 57% one year before.

	Working persons in 2006q3		Growth in 2006q2		Growth in 2006q3		Growth in 2006q2	Growth in 2006q3
	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	14 911	100	547	3.8	521	3.6	0.9	0.9
Total excluding private agriculture	12 810	85.9	783	6.6	726	6.0	1.7	1.2
Place of residence								
urban areas	9 154	61.4	395	4.6	320	3.6	1.1	1.0
rural areas	5 757	38.6	151	2.7	201	3.6	1.0	0.8
Economic sector								
agriculture	2 279	15.3	-246	-9.2	-203	-8.2	-3.3	-0.9
industry	4 495	30.2	341	8.2	317	7.6	2.2	1.5
services	8 132	54.6	451	6.0	409	5.3	1.4	1.3
Ownership sector								
public	4 320	29.0	112	2.7	74	1.7	0.5	0.2
private	10 592	71.0	435	4.3	449	4.4	1.2	1.0
Employment status								
hired employees	11 380	76.3	711	6.7	679	6.3	2.0	1.3
employers and self-employed	2 911	19.5	-67	-2.3	-61	-2.1	-0.8	0.0
contributing family workers	621	4.2	-96	-11.4	-96	-13.4	-3.4	-4.7
Type of job contract								
fixed-term contract	3 171	27.9	444	15.9	330	11.6	7.0	-1.2
permanent	8 209	72.1	268	3.5	349	4.4	1.2	1.3

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.

2.3 Labour market

2.3.1 Employment and unemployment

⊡ **Figure 2.11:**
Working persons in the economy (according to BAEL) and in entities with more than 9 employees

Source: GUS data

Since 2003 Q2 a steady growth in the demand for labour has been observed, leading to a growing number of working persons in the economy (Figure 2.11 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.

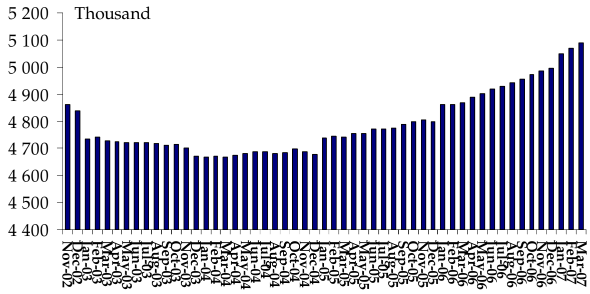
The growth demand for labour has been reflected in a steadily accelerating increase in employment in enterprises (Figure 2.12), accelerated decline of unemployment and a significant increase in vacancies reported to Labour Offices[19]. At the same time it can be observed that employers are experiencing increasing difficulties in acquiring employees[20]. An important factor contributing to growing workforce problems is the emigration of Polish workers to European countries following Poland's entry to the EU (see Box *Channels of impact of emigration on the Polish economy*).

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 (of 1.7% y/y in 2006 Q4). This fall was partly the effect of methodological changes introduced to BAEL survey in 2006 Q1[21]. Additionally, the decline in the number of economically active persons might have been the result of the deactivation of people acquiring rights for early retirement benefits and the economic migrations of Poles to other EU countries.

The observed shifts in the number of the economically active may be conducive to limiting the supply of labour and, consequently, to increasing the wage pressure.

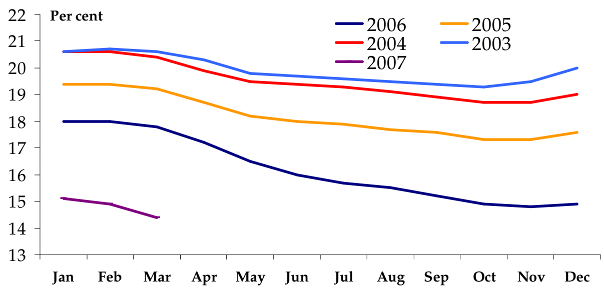
The continuation of a high growth rate of employment in 2007 Q2 is indicated both by GUS business tendency and NBP economic climate surveys[22].

⊡ **Figure 2.12:**
Employment in the enterprise sector (thousands)



Source: GUS data

⊡ **Figure 2.13:**
Registered unemployment according to labour office data (per cent)



Source: GUS data

[19] In February 2007 the average monthly number of vacancies reported by employers to Labour Offices rose by 19.5% y/y.

[20] According to GUS business tendency survey, in construction the shortfall of skilled employees was declared in March 2007 by 50.8% of employers (compared with 20.8% one year before), while in industry in 2007 Q1 25.4% of employers reported such problems (compared with 12.2% one year earlier)

[21] In 2006 Q1 GUS introduced a new, narrower definition of a working person. As a result some working persons were classified as economically inactive. Apart from that, GUS changed the way of generalising the findings of the survey onto the general population, which is probably one of the factors responsible for the recorded drop in the number of economically active.

[22] See: *The condition of non-financial enterprises in the second quarter of 2007*, NBP.

Channels of impact of emigration on the Polish economy

After Poland's entry to the EU there was a surge in the number of Poles leaving the country to work abroad. At the same time, Poland remains a potential destination for economic migrants, mainly the citizens of countries situated behind the eastern border. Both the emigration and the immigration have a significant impact on the labour market. Nonetheless, it has to be emphasised that due to the fact that domestic workers are not fully substituted with immigrants, from the point of view of the labour market these two flows do not have to compensate each other. It is estimated that at present the labour market is more affected by emigration.

With no full statistical data available, the precise scale of the emigration from Poland cannot be assessed. The most precise data on the number of people living abroad are to be found in general censuses, the last of which was carried out in Poland in 2002, and so its findings are not applicable in the assessment of the scale of emigration following 1 May 2004.[1]

There are three main sources of data on the number of Poles leaving the country: current population data of the GUS, the Ministry of Labour's data on the employment of Polish citizens in other countries of the European Economic Area and Switzerland, a part of BAEL (LFS) study about migrations (see Table R1, data in thousands). It has to be underlined that none of these sources fully shows the actual scale of Polish emigration, either because of the definitions or data sourcing methods used therein.

Table R1: Estimates of emigration from Poland (thousand people)

	2002	2003	2004	2005	2006
Emigration according to GUS	24.5	20.8	18.9	22.2	51.0[1]
Emigration accoring to BAEL (LFS) (annual averages)	178	206	253	298	405
of which economic emigration	140	156	208	261	368
Information on the number of issued work permits or numbers in registration systems					
United Kingdom (WRS)	-	-	71.0[2]	127.3	159.9
Ireland (PPS)	-	-	25.3b	65.1	72.9[3]
Germany[4]	259.6	271.9	286.6	272.8	218.6[5]

[1] Preliminary GUS estimate; [2] Data on May-December 2004; [3] Data on 2006 Q1-Q3; [4] Number of seasonal contracts; [5] Data on January-September 2006.

1. **GUS data on population** – include people, who went abroad and registered out of the permanent place of residence in Poland.

2. **Migration survey of the BAEL (LFS)** – in view of the objective and methodology of this survey the information on the people staying abroad for longer than 2 months is incomplete and unrepresentative.

3. **Ministry of Labour data on employment of Polish citizens in other countries of European Economic Area and Switzerland** – because of different registration systems in particular countries and the fact, that leaving labour markets in those countries is often not registered, these data may be treated only as an indicator of interest of Polish citizens with foreigh labour markets. The numbers for particular countries should not be summed up. The most popular destinations of emigration for Poles after 1 May 2004 are Great Britain, Ireland, and, despite still binding labour market restrictions, Germany. The numbers of Poles registered in Great Britain and Ireland, especially for 2004, most probably partly reflect the legalisation of earlier stay and employment. In Germany over 95% of work permits related to seasonal work.

Available data and studies indicate that the majority of emigrants from Poland are young people (under 35-year-old) and relatively well educated, with a significant proportion of them taking on jobs below their qualifications. Moreover, this is mainly a short-term emigration (shorter than 12 months).

Given the lack of full and reliable data on the scale of emigration, a quantitative assessment of its impact on economic growth or inflation is not possible. The only assessment possible is a qualitative analysis of potential channels through which emigration may affect economic growth, potential output and inflation.

Economic emigration from Poland leads to a reduction in working-age population. If the people leaving the country are mainly those already economically active, then the emigration results both in the reduction of labour supply and in the deterioration of labour force quality. Research reveals that emigrants relatively more often display more advantageous characteristics (in terms of age, experience and qualifications) from the point of view of their productivity in the domestic labour market than the population average. As a result, economic emigration is conducive to slowing the rate of economic growth and potential output in the medium term. In this time horizon, the already existing labour supply shortages and structural mismatches may emerge or deepen. The long-term effects of emigration depend on how long emigrants stay abroad. If the emigration proves to be permanent, it should be conducive to reducing economic growth and potential output also in the long term. If, however, the emigration is predominantly short-term in nature, then taking on jobs in Poland by former emigrants, who have gained experience and new skills, may compensate the short-term lowering of the economic growth. In the long term, the rate of economic growth and potential output is additionally slowed down by the emigration of economically inactive persons of working age, as it diminishes the potential pool of people who could become economically active. At the moment it is impossible to determine what proportion of the observed emigration will prove short- or long-term. It should be expected that the scale of returns of emigrants will depend on the rate at which the situation in the domestic labour market will be improving and particularly on the growth of real wages and the demand for labour.

Emigration,by affecting the supply and demand factors, may also influence inflation. Diminishing supply of labour and the ensuing increase in structural mismatches in the labour market contribute to strengthening the wage pressure. In the absence of appropriate improvement in labour productivity and with other factors unchanged, this leads to inflation growth. The impact of emigration on the demand factors which determine the level of inflation is not unambiguous. By reducing the size of population, emigration may result in a drop in consumer spending in the country of outflow. At the same time, however, a part of the income obtained by emigrants from their work abroad is transferred to households back in their country of origin. According to the balance of payments data for 2006, the total inflow of compensation of employees and workers' remittances[2] to Poland was PLN 13.45 billion (Table R2, data in billions of PLN).

Table R2: Transfers from Poles working abroad: compensation of employees and workers' remittancies in 2002-2006 (balance of payments inflows, PLN bn)

	2002	2003	2004	2005	2006
Compensation of employees and workers' remittancies	8.11	10.33	9.7	11.5	13.45

Source: NBP.

These transfers raise the disposable income of households and, consequently, most probably they also increase consumer spending. Moreover, during several-month-long stays abroad, some emigrants save up their earnings and put off consumption until they return to Poland. This kind of behaviour may increase the inflationary pressure in the short and medium term. The long-term effects depend on the character and scale of emigration. Currently it is impossible to determine the net effect of emigration on the size of domestic demand.

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[1] The GUS has scheduled the next general census of population for 2011.

[2] Compensation of employees comprises wages, salaries and other benefits earned by individuals in other economies for work carried out for (and paid for by) residents of those economies. This item only includes the compensation of employees working abroad for a short term (usually up to one year) whose economic interests lie primarily in their own economies. In turn, workers' remittances cover transfers of earnings by persons working abroad for a period longer than one year, whose economic interests are mainly in the country in which they work. This item comprises the part of earnings which is transferred to family in the country of origin rather than the whole compensation obtained.

2.3.2 Wages and productivity

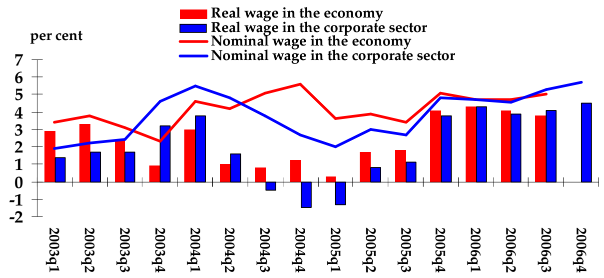
Strong recovery in the labour market is accompanied by an acceleration in the growth of nominal wages, which is indicated both by quarterly data from the economy as a whole and monthly data from the enterprise sector. (Figure 2.14). With a concurrent stepping-up in the growth rate of employment, this is adding to the increased growth rate of aggregate wages, which is conducive to increasing the income of households and an upturn in aggregate demand.

2006 Q4 saw an acceleration in labour productivity in the economy[23]. As a result, the growth rate of unit labour costs in the economy declined (to 2.5% y/y from 3.0% y/y in 2006 Q3 - Figure 2.15)[24]. The decline in the growth rate of unit labour costs in the economy should be easing the cost pressure on price growth.

In turn, in industrial enterprises unit labour costs have continued falling (by 2.0% y/y in 2006 Q4) – Figure 2.16)[25], which supports improvement in their competitiveness and mitigates cost pressure on price growth in this sector.

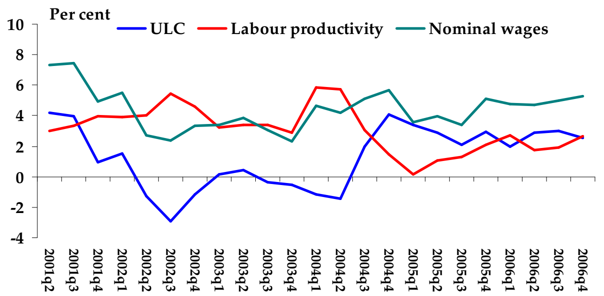
The accelerating economic growth and the ensuing rise in the demand for labour may be leading to further stepping-up in the growth rate of wages. The expected rise in the growth rate of wages is also confirmed in the findings of NBP economic climate surveys[26], which recorded a growing share of enterprises declaring to implement pay rises in 2007 Q2 in comparison to the same quarter of the preceding year. 2007 Q1 also saw a continuation in the signals of rising wage demands in part of the public sector.

Figure 2.14:
Annual percentage growth of wages in the economy and in the corporate sector (nominal and real)



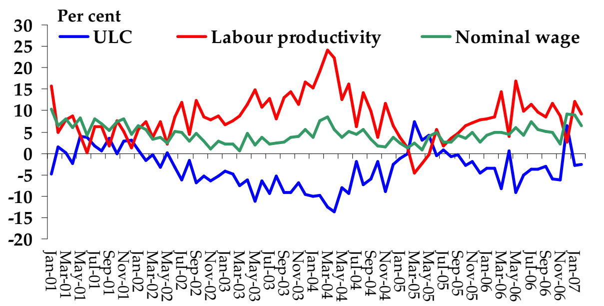
Source: GUS data, NBP calculations.

Figure 2.15:
Annual percentage growth of unit labour costs (ULC), labour productivity and nominal wages in the economy



Source: GUS data, NBP calculations.

Figure 2.16:
Annual growth of labour productivity and wages in industry



Source: GUS data, NBP calculations.

[23] 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.

[24] 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).

[25] 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.)

[26] See: *The Condition of the Non-financial Enterprises in the Second Quarter of 2007*, NBP.

Moreover, wage growth will be additionally fuelled by the growing problems of enterprises with finding employees signalled in GUS and NBP survey studies.

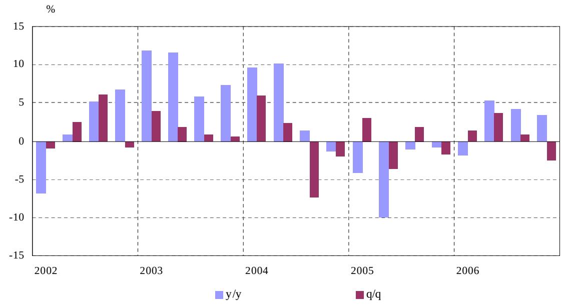
2.4 Other costs and prices

2.4.1 External prices

In 2006 Q4 zloty denominated import prices increased, although their rise in year-on-year terms was slower than in the two preceding quarters (Figure 2.17). The decreasing rate of import price growth was mainly driven by a drop in crude oil prices.

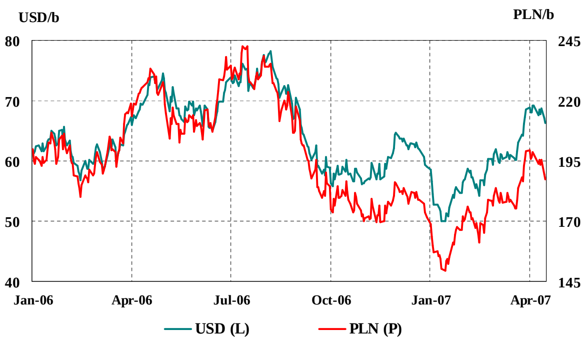
After a considerable decline in crude oil prices in the beginning of January 2007, which was related to weather conditions, the prices of this commodity started to increase again (Figure 2.18). A vast majority of forecasts, as well as futures market quotations, point to a possible further rise in oil prices in 2007 Q2 and Q3[27]. The future path of oil prices will be strongly influenced by the growth in demand for this commodity, especially in developed countries, and a possible further decline in the stock of fuel in this group of countries. The plan of oil output reduction implemented by OPEC and the increasing concerns about the safety of future oil supplies from the Middle East may also act towards a rise in oil prices. All of the above factors have contributed a renewed pickup in the interest of investment funds in oil futures, which may increase the volatility of the prices of this commodity.

Figure 2.17:
Annual percentage change in the zloty denominated import prices.



Source: GUS data.

Figure 2.18:
Brent crude oil prices in USD and PLN.



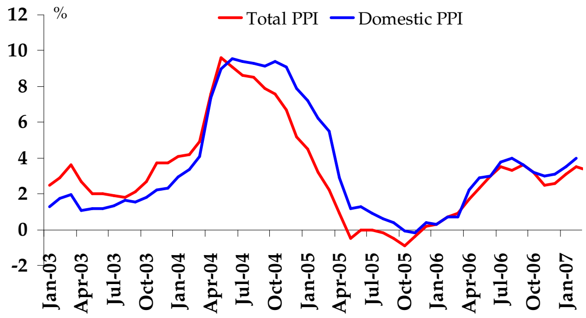
Source: USD crude oil prices - the US Department of Energy (www.eia.doe.gov) and official USD/PLN exchange rate - NBP (www.nbp.pl).

2.4.2 Producer prices

After a temporary decline in the annual rate of growth of producer prices in industry (PPI) in

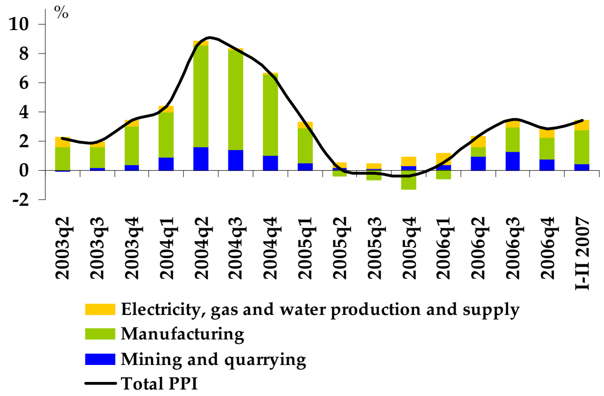
[27] According to the survey conducted by Reuters among analysts of investment banks (published on 14 April 2007) the price of a Brent oil barrel will amount to USD 60.2 in 2007 Q2 and USD 62.8 in 2007 Q3. A similar trend is indicated by the April forecast of the US Department of Energy (published on 10 April). According to this forecast, the average WTI oil price will be 65.3 USD/b in 2007 Q2 and 65.8 USD/b in 2007 Q3

□ **Figure 2.19:**
Producer prices in industry (PPI). Total PPI and domestic PPI (y/y).



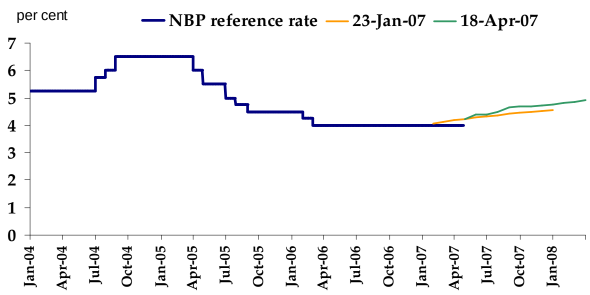
Source: GUS data.

□ **Figure 2.20:**
Producer prices in industry (PPI). Contribution of producer prices growth in PPI total annual growth.



Source: GUS data.

□ **Figure 2.21:**
Monetary policy expectations in Poland - actual developments and expected NBP interest rate.



Source: Reuters, NBP calculations.

2006 Q4, in 2007 Q1 the growth rate of these prices rebounded (Figure 2.19). In February 2007 the pace of growth of producer prices in the domestic market[28] was higher than that of PPI. In turn, the annual growth of export prices in this period did not exceed 1%.

The acceleration in the price growth rate in industry resulted primarily from a rise in the pace of growth of prices in *Manufacturing* (Figure 2.20). This rise has been observed since 2006 Q2, despite a drop in the prices of crude oil recorded in the second half of 2006. This indicates that the acceleration in the growth of producer prices is probably driven to a large extent by the rise in domestic demand associated with fast economic growth. As opposed to *Manufacturing*, since 2006 Q4 the growth rate of PPI is to a decreasing extent affected by prices changes in *Mining and quarrying*, which largely depend on the behaviour of commodity prices. In turn, the contribution to the growth of producer prices in industry exercised by the price growth in the section *Production and supply of electricity, gas and water* remained stable.

2.5 Financial markets

2.5.1 Asset prices / Interest rates[29]

Short-term interest rates

In 2007 Q1 the Monetary Policy Council decided that the reference rate be maintained at 4.0%, which was in line with market expectations. In the analysed period, however, there was a rise in the expectations for NBP interest rate hikes, primarily as regards the scale of interest rate increases in the second half of 2007 (Figure 2.21).

[28]Total producer prices in industry and in three main sections (i.e. *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 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.

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

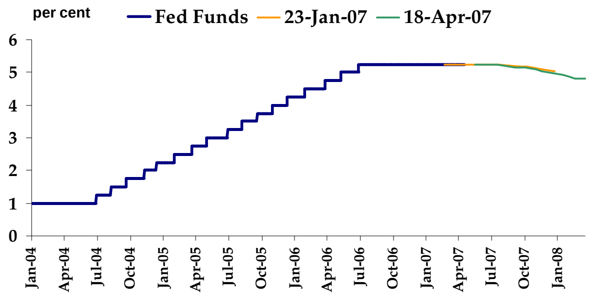
Among other things, this was the result of the released data pointing to a strong upturn in industrial output, retail sales and wages, and also indicating a rise in the rate of inflation. An increase in expectations of interest rate hikes was reflected in the changes of the money market curve. In mid-April, market participants believed that the NBP reference rate would rise by 50-75 basis points by the end of 2007.

In line with market expectations, in 2007 Q1 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%). Comments made by FOMC representatives and signals pointing to a growing risk of a decline in the rate of economic growth in the United States reinforced expectations of interest rate cuts (Figure 2.22). Market expectations of the federal funds rate indicated that it should be lowered in December 2007 and March 2008, on both occasions by 25 basis points.

The European Central Bank (ECB) raised its repo rate by 0.25 percentage points in March to 3.75%. This decision was consistent with market expectations, which envisage the next rise of 25 basis points at the end of 2007 Q2. At the same time, market participants believed that there was an increase in the probability of yet another hike of 0.25 percentage points at the turn of 2007 and 2008 (Figure 2.23). In their opinion, such a scenario is confirmed by the comments made by ECB representatives indicating that interest rates in the euro area are still to be raised, primarily in connection to the improving economic situation, and also due to the rapid credit growth in the monetary union. These expectations were reinforced by the release of positive data on the euro-area economy.

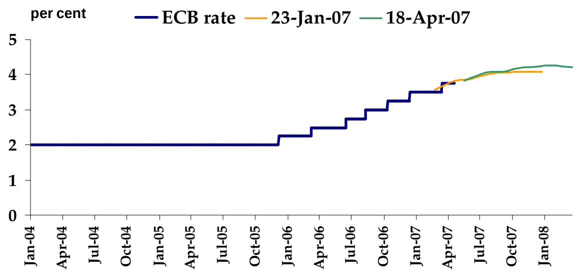
The Swiss National Bank (SNB) raised its interest rate by 25 basis points in March, to the level of 2.5%. In mid-April market participants expected two more hikes, each of 0.25 percentage points, at the end of 2007 Q2 and 2007 Q4 respectively (Figure 2.24).

Figure 2.22:
Monetary policy expectations in the United States - actual developments and expected Fed Funds rate.



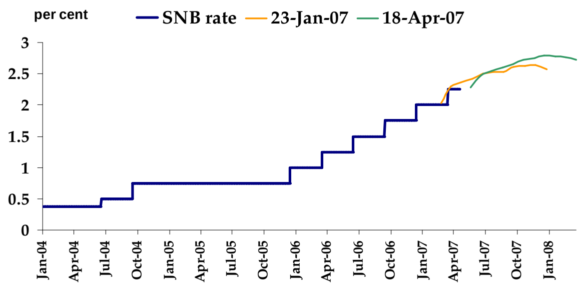
Source: Bloomberg, NBP calculations.

Figure 2.23:
Monetary policy expectations in the euro area - actual developments and expected ECB interest rate.



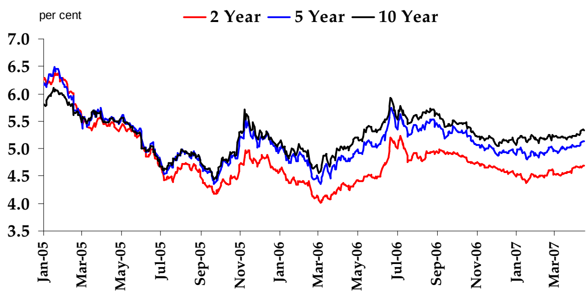
Source: Bloomberg, NBP calculations.

Figure 2.24:
Monetary policy expectations in Switzerland - actual developments and expected SNB rate.



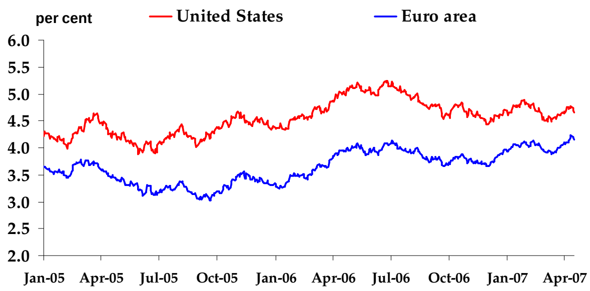
Source: Bloomberg, NBP calculations.

□ **Figure 2.25:**
Change in the yields of the Polish benchmark bonds



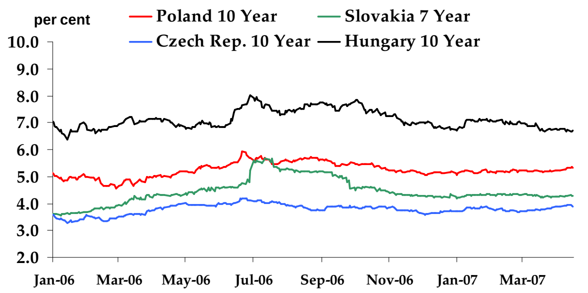
Source: Reuters

□ **Figure 2.26:**
Change in the yields of 10-year bonds.



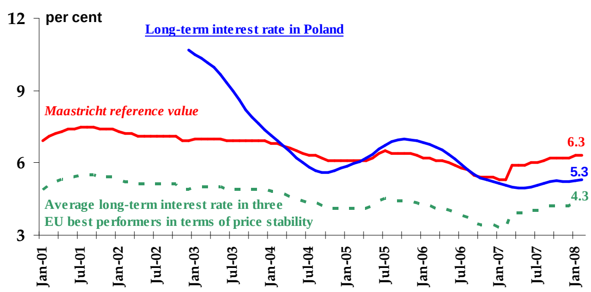
Source: Bloomberg.

□ **Figure 2.27:**
Change in the yields of the long-term bonds in the CEE-4 countries



Source: Reuters

□ **Figure 2.28:**
Average annual yield (12-month moving average) for long-term Treasury bonds in Poland versus the reference value for the Maastricht criterion.



Source: NBP estimates based on Eurostat data.

Long-term interest rates and the equity market

In the analysed period, the consolidation of expectations for interest rate hikes led to an increase in the yields on Polish Treasury bonds, primarily those of two- and five-year maturity (Figure 2.25). However, a relatively low supply of Treasury bonds limited the drop in prices of these securities. Other factors that proved supportive to the bond market were an upgrade in the Poland's credit rating by S&P and a lower sensitivity of the zloty exchange rate to shifts in the value of emerging markets' currencies, as a result of which their depreciation at the turn of February and March 2007 was not accompanied by a sell-out of the zloty-denominated assets, and thus was not followed by a rise in the yields on Polish Treasury securities (see Section *Exchange rate*).

Since the January *Report* the yields on US Treasury bonds decreased. It was connected with the heightened risk of deterioration in the country's economic situation, which led to lowering market expectations of the future federal funds rate. As regards the euro area, the yields on bonds moved up, which reflected the rise in market expectations of the ECB interest rates (Figure 2.26). As a result, the spread between the yields on Polish 10-year Treasury bonds and German 10-year government bonds remained at the level of circa 120 basis points.

Among the Central and Eastern European countries (CEE-4), an increase in the bond yields, though lower than that in Poland, occurred only in the Czech market. In turn, Slovakia experienced a limited and Hungary a significant drop in the Treasury bond yields, which was mainly the outcome of reinforced expectations for monetary policy easing in these countries (Figure 2.27).

The yields on the Polish long-term bonds in average-annual terms, used to verify the compliance with the Maastricht interest rate criterion, have risen slightly. Since August 2005 Poland has complied with the interest rate criterion (Figure 2.28), which is one of the conditions for euro-area membership[30]. Over the analysed period the reference

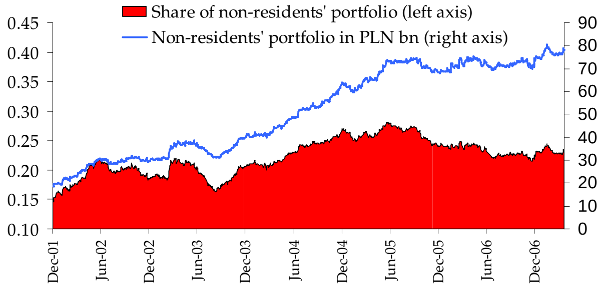
[30] A given country complies with this criterion when its

value for this criterion rose as well. In view of the fact that since March 2006 Poland has been in the group of the reference countries (due to its low inflation level - see Section 1.1 *Inflation indicators*), yields on Polish Treasury bonds are considered in determining the interest rate criterion.

Over the first two months of 2007 the value of Treasury bond portfolio held by non-residents increased, temporarily hitting a record high in January 2007 (Figure 2.29). At the same time, a rise in the supply of debt securities (though lower than in the corresponding period of the preceding year) resulted in keeping the share of non-residents in the total of wholesale and indexed bonds at an unchanged level.

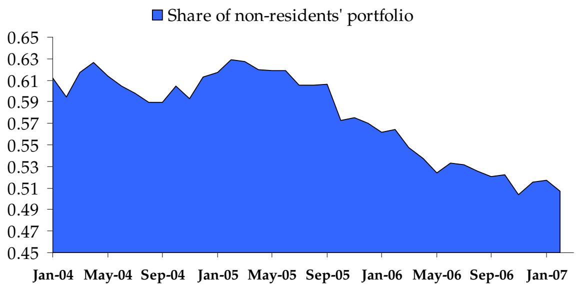
In turn, the participation of foreign investors in the Polish equity market has declined since the end of October 2006 (Figure 2.30). It was due to the sell-out of Polish securities in the period when Warsaw Stock Exchange (WSE) indices were hitting their new historical highs (Figure 2.31). Shifts in the WSE indices were largely driven by changes in the foreign stock markets indices[31], which too hit their record levels, and also by positive data on the Polish economy.

Figure 2.29:
Non-residents' participation in the Polish Treasury bond market



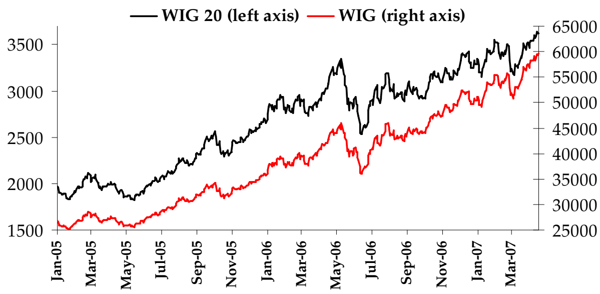
Source: National Depository for Securities (KDPW).

Figure 2.30:
Share of non-residents in the Polish equity market - on the basis of market value of stocks.



Source: NBP.

Figure 2.31:
WIG and WIG 20 stock exchange indices



Source: Reuters

Flat prices

At the end of 2006, the most important real property markets in Poland, i.e. in Warsaw, Cracow, Wroclaw, Tricity (Gdansk, Gdynia, Sopot), Poznan and Lodz, all saw a continued growth in the prices of flats. In the property markets in small and medium-sized towns the growth rate of house prices is significantly lower than in voivodship cities (provincial capitals) (Table 2.5). In

average yield on long-term Treasury bonds over the past 12 months (calculated on the basis of average yields recorded in these months) does not exceed thus determined average arithmetic yield on bonds of three EU countries with the most stable prices by more than 2 percentage points. For more information about the Maastricht criteria see: *Report on the Costs and Benefits of Poland's Adoption of the Euro*, NBP, 2004.

[31] A strong, though temporary, drop in the WIG index at the end of February 2007 was the result of global factors, which pushed the majority of stock markets into a correction.

the second half of 2006 the growth rate of prices of building plots accelerated, especially in the suburbs of the largest cities, which can be linked to the improved ratio of house construction costs to flat purchase costs that occurred in this period due to the fast rise in flat prices.

2006 saw a very significant increase in the level of prices of flats in the largest Polish cities. In the NBP's assessment this led to a reduction in the availability of flats for households, despite a

	XII 2004	XII 2005	XII 2006	VI 2006	IX 2006	XII 2006	XII 2006
	y/y (per cent)	y/y (per cent)	y/y (per cent.)	q/q (per cent)	q/q (per cent)	q/q (per cent)	Average price (PLN/m^2)
	Primary market						
Poland (total)	9.07	7.91	51.52	5.72	23.24	11.57	6 180.4
Most important housing markets in Poland*	8.91	12.62	56.10	11.00	22.95	12.81	6 808.1
Capitals of voivodships**	9.06	14.97	45.18	8.84	21.49	11.89	6 431.7
Small and medium towns**	10.62	6.97	10.40	1.44	9.30	0.24	3 253.9
Warsaw	12.84	12.94	54.32	11.52	25.36	18.71	7 590.9
Cracow	13.07	22.34	67.43	1.85	17.96	7.10	7 114.7
Wroclaw	4.83	17.95	101.24	7.66	35.68	4.83	6 945.6
Gdansk	12.00	15.71	63.69	6.32	-2.30	51.02	5 597.9
Gdynia	6.59	8.51	46.03	5.49	8.20	0.39	5 513.5
Poznan	8.92	3.05	18.86	15.53	8.39	15.78	4 038.8
Lodz	4.67	-5.26	67.40	22.37	16.42	34.07	4 405.0
	secondary market						
Poland (total)	0.92	8.68	77.60	7.03	19.82	31.89	5 016.7
Most important housing markets in Poland*	7.23	-1.61	84.07	9.03	31.37	22.57	6 714.9
Capitals of voivodships**	2.24	4.53	82.23	7.05	26.19	29.58	5 756.7
Small and medium towns**	7.35	9.56	49.36	6.05	6.62	20.03	3 200.4
Warsaw	6.95	15.12	55.60	3.98	27.62	28.22	8 133.5
Cracow	12.49	31.29	62.37	1.73	38.16	20.40	7 494.7
Wroclaw	16.57	13.84	74.78	21.04	22.90	5.90	6 487.2
Gdansk	6.45	18.88	82.55	5.80	20.61	29.95	5 684.5
Gdynia	10.51	17.66	77.84	7.93	6.90	26.34	6 062.6
Poznan	14.78	4.47	49.40	12.53	18.22	11.33	4 678.0
Lodz	4.90	3.90	74.53	12.30	21.38	15.92	3 340.8

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.

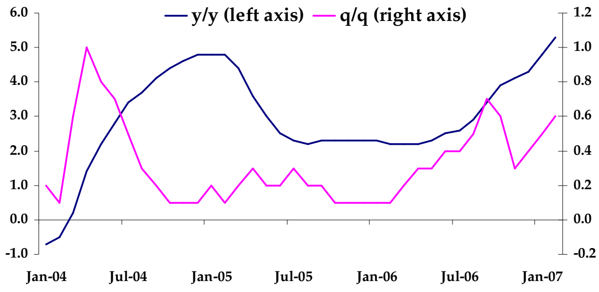
** Average weighted with the number of offers in the sample (cities' weigts vary depending on the size of the sample).

Source: NBP estimates based on the data from the *PONT Info Nieruchomości* offered price database.

rise in household incomes and accessibility of housing loans. In consequence, a slow reduction of interest in the purchase of flats on the part of households may be observed, though yet it is difficult to determine the sustainability of this tendency. The growth of flat prices is still driven by significant supply limitations, among others connected with underdeveloped infrastructure.

Over the past few months a rise in the prices of construction and assembly output (Figure 2.32). On the one hand, this rise will translate into the growth of costs of building a house or a flat. On the other hand, however, this does not have to mean a proportional growth of prices of flats sold by developers, especially given the indications of a weakening demand for flats. Developers have the possibility of absorbing growing costs by cutting on their margins, which are very high at the moment.

□ **Figure 2.32:**
Prices of construction and assembly production



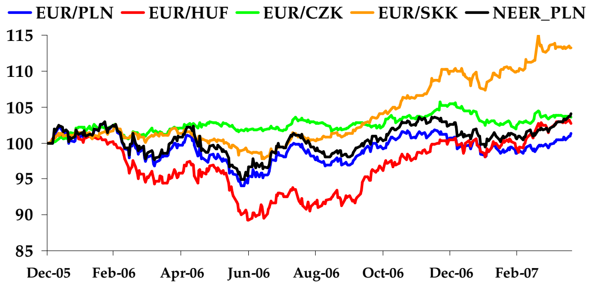
Source: GUS data

2.5.2 Exchange rate

Since the January *Report* the zloty exchange rate strengthened against the euro (Figure 2.33). Higher appreciation of the nominal effective exchange rate of the Polish currency (Figure 2.34) was due to weakening of the US dollar on world markets. Among other currencies of the CEE-4 countries, the Hungarian forint and the Slovak koruna strengthened more than the zloty (Figure 2.34). An increase in the value of the Slovak currency resulted to a large extent from market expectations of revaluation of the ERM II central parity, which took place on the 16 March 2007 and amounted to 8.5%.

Appreciation of the zloty stemmed mostly from domestic factors, not least an upgrade in the Poland's credit rating by S&P and awarding Euro 2012 to Poland and Ukraine. By contrast, in the period under review the effect of global factors on the value of the Polish currency was on the decline. The outflow of capital from the emerging markets at the turn of February and March 2007, which was related to closing the positions in "carry trade" investment strategies[32], had little

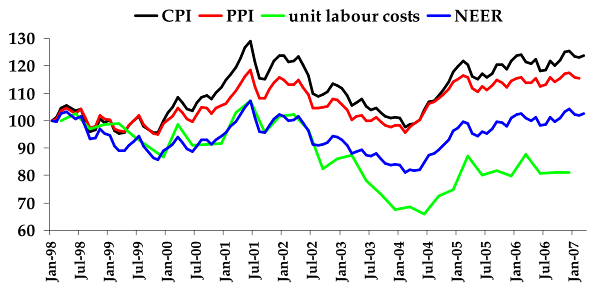
□ **Figure 2.33:**
Nominal exchange rates of Central European (CEE-4) currencies against the euro. Increase denotes appreciation.



Source: EcoWin.

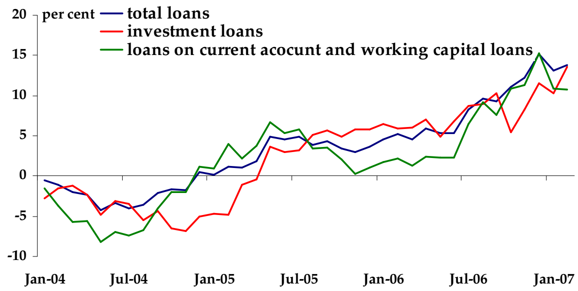
[32]Carry trades involve borrowing in low interest rate currencies (e.g. the Swiss franc or the Japanese yen) and investing in higher interest rate currencies (e.g. the Brasilian

⊡ **Figure 2.34:**
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 2.35:**
Loans to enterprises (y/y change in per cent)



Source: NBP data

	05q2	05q4	06q2	06q4
non-trade loans	-1.3	11.4	12.0	20.0
trade loans	10.9	23.9	24.5	11.8

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

impact on the zloty exchange rate. It indicates that the role of the zloty in such strategies is small, which is probably linked to closing interest rate gap between Poland and the euro area. Weakening of the influence of global factors on the value of the Polish currency should be conducive to stabilization of the zloty exchange rate.

Available data for the period ending in February 2007 show that over the last year, the stabilization of the zloty nominal exchange rate was accompanied by similar tendencies in the real effective exchange rate (Figure 2.33). It is to be expected that, on account of low disparity between Polish and euro area interest rates, in the coming months the EUR/PLN exchange rate fluctuations will be moderate. In the mid-term horizon, the stabilization of the zloty real exchange rate should be supported by the still safe current account balance (in spite of a likely increase of deficit), including growing remittances from Polish emigrants, inflow of direct investment and EU funds, as well as a positive economic outlook.

2.5.3 Credit and money

Corporate loans

The first months of 2007 saw a continuation of dynamic lending to the enterprise sector. The annual growth rate of total loans rose to approx. 15%. A similar pace of growth is observed in the major components of this category: investment loans, working capital loans and loans on current account (Figure 2.35). The foreign debt of enterprises is rising dynamically too. Balance of payments data for 2006 Q4 indicate a step-up in the growth rate of non-trade loans (Table 2.6). The growing interest in financing economic activity by means of bank loans is a confirmation of the good condition of enterprises[33], as well

real or Hungarian forint). Closing the position entails the sale of the higher interest rate currency, which leads to its depreciation.

[33]The NBP's survey studies show that banks most often granted loans to enterprises which assessed their economic situation as good and did not have problems with liquidity or timely payment of loan liabilities and trade payables. More on this subject in: *The Condition of Non-financial Enterprises in the First Quarter of 2007*, English version available at www.nbp.pl shortly

	Jun06	Jul06	Aug06	Sep06	Oct06	Nov06	Dec06	Jan07	Feb07
Households									
Total deposits	3.5	3.6	3.6	3.5	3.6	3.5	3.5	3.5	3.6
Total loans	11.2	10.9	11.1	10.8	9.6	10.4	8.8	10.6	11.1
Consumption loans	14.36	14.2	14.1	14.1	14.2	14.2	13.9	14.7	14.5
Housing loans (PLN)	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.6	5.6
Housing loans (CHF)	-	-	-	-	-	-	-	3.8	3.9
Enterprises									
Total deposits	3.5	3.5	3.5	3.48	3.5	3.5	3.5	3.5	3.5
Total loans	5.7	5.7	5.8	5.8	5.8	5.8	5.6	5.8	5.8

Table 2.7: Average weighted interest rates on new PLN denominated loans and deposits in commercial banks
Source: NBP data.

as the intensification of their investment activity and positive expectations concerning future developments.

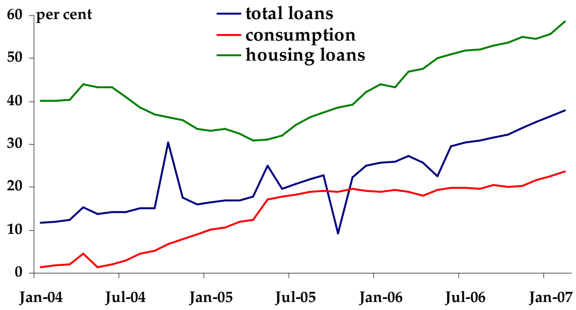
The interest on corporate loans at the beginning of 2007 remained at the level close to that observed in the second half of the previous year (Table 2.7), which resulted from stable WIBOR rates constituting the reference for bank interest rates. Banks' lending margins did not undergo significant changes either.

In the nearest future a relatively high growth rate of corporate debt is to be expected. This is signaled, among others, by positive forecasts of economic situation as well as liberalization of commercial banks' lending policy [34]. Also the enterprises themselves inform about plans of increasing the level of loan debt, as evidenced, i.a. by the results of survey studies conducted by the NBP[35].

[34] *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions (1st Quarter 2007)*, available at www.nbp.pl

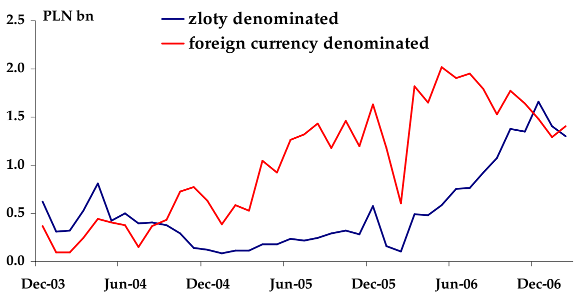
[35] In the 2007 Q1 there was an increase in the debt forecast ratio (in seasonally adjusted terms) to the highest level for the last six years. More on this subject in: *The Condition of Non-financial Enterprises in the First Quarter of 2007*, www.nbp.pl

Figure 2.36:
Loans to households (y/y change in per cent)



Source: NBP data

Figure 2.37:
Housing loans to households (m/m changes in PLN bn)



Source: NBP data

Loans to households

Lending to households has been on the accelerating increase. The annual growth rate approached 40% in the first months of 2007 (Figure 2.36). The main driving force behind the rise in lending for households are housing loans. Also loans granted for consumption purposes have been growing rapidly. 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 growing values of GUS Consumer Sentiment indicators[36]. In the case of housing loans, an important impact is exerted by demographic factors[37] and expectations concerning the future financial situation of households as well as the further possible increase in flat prices. The policy of commercial banks has also contributed the high rate of growth by increasing the accessibility of loans through easing the credit standards. However, the very fast rise in flat prices observed in 2006, exceeding by a wide margin the current growth rate of household income, may in the nearest future result in diminished demand for housing loans. Such a possibility was pointed out by commercial banks surveyed by the NBP[38].

The interest rate on zloty loans in recent months has remained stable, which – similarly as in the case of enterprises – is due to the lack of changes in the interest rates by the NBP and to banks keeping stable profit margins. The interest rates on foreign currency loans, the majority of which are denominated in CHF, are growing due to interest rates increases by the Swiss National Bank and the ECB (Table 2.7).

Since the beginning of 2006 housing loans in zloty have become increasingly popular. (Figure 2.37). It is the effect of a shrinking difference between the interest rates on loans in zloty

[36] *Consumer Sentiment Survey. February 2007*, GUS

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

[38] *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions. 1st Quarter of 2007*, www.nbp.pl

and foreign currencies, as well as the implementation by banks of regulations stipulated in *Recommendation S* (more on this issue in *Inflation Report. January 2007*).

Deposits and monetary aggregates

The dynamic lending in the enterprise sector is accompanied by the increasing growth of bank deposits of this sector, which reached 30% in February 2007. It is another confirmation of the good financial situation of enterprises and their significant capacity for co-financing investment processes from their own funds.

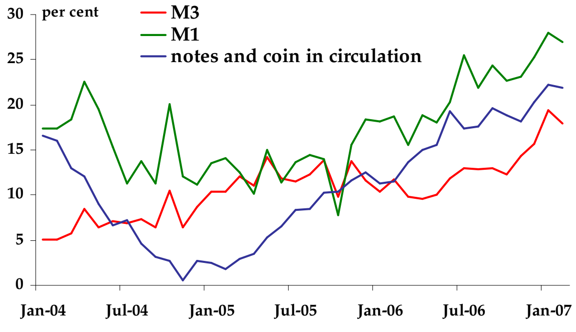
The growth rate of bank deposits of households is also increasing, however it still remains much lower than in the case of enterprises (it amounted to 10.7% in February). Households accumulate their financial savings also in other forms, of which the most popular are investment fund units. Household assets accumulated in investment funds, bonds and other treasury instruments as well as in deposits in Credit Unions, constituted 49.5% of their bank deposits in February 2007. The growth of household assets in investment funds significantly exceeds the rate of growth of their bank deposits (Table 2.8), which results as much from the intensive inflow to the funds as from the rapid growth of stock market indices.

The tendencies in the loan and deposit market find reflection in the growth of the main monetary aggregates (Figure 2.38). The annual growth rate of broad M3 money exceeded 15% at the beginning of 2007. The fastest growth has been recorded in most liquid components of M3, including notes and coin in circulation.

	Dec05	Jun06	Dec06	Feb07
bank deposits	5.2	5.3	8.4	10.9
deposits with Credit Unions (*SKOK*)	26.7	18.3	11.3	11.8
units of investment funds	67.7	74.4	62.5	56.6
government securities	-17.2	-27.6	-23.7	-22.5

Table 2.8: Households' bank deposits and financial savings (y/y change in per cent, data not adjusted for the impact of exchange rate fluctuations)
Source: NBP data.

Figure 2.38:
M1, M3 and notes and coin in circulation (y/y change in per cent)



Source: NBP data.

Monetary policy
in January-April 2007

During its meetings, the Monetary Policy Council discussed the outlook for future inflation in the context of the past, current and anticipated economic situation. The Council considered, in particular, the possible impact of the following factors on the inflation outlook in Poland: prospects and structure of economic growth, labour market developments, growth of import prices and monetary aggregates and the developments of inflation expectations.

At its meetings in January, February and March 2007, the Council decided to keep interest rates unchanged, i.e.: reference rate at 4.00%, the lombard rate at 5.50%, the deposit rate at 2.50% and the rediscount rate at 4.25%. At the April meeting, the Council decided to increase interest rates by 0.25 percentage point to the following level: reference rate to 4.25%, the lombard rate to 5.75%, the deposit rate to 2.75% and the rediscount rate to 4.50%.

The January inflation projection (prepared with the cut-off date of 8 January 2007) expected inflation to rise gradually in the monetary policy transmission horizon. In line with the central projection, inflation was expected to return to the inflation target in the first half of 2007, continue to rise in 2008, and break the upper limit for deviations from the target in the second half of 2009. During the Council meetings its members expressed various opinions on the outlook for inflation presented in the January projection. These diverse opinions found reflection in the course of discussion at subsequent Council's meetings.

January

One of the problems discussed at the meeting was the development of current inflation. Some Council members pointed out that a low growth of consumer prices had continued for a longer period, which indicated that the low inflation resulted not only from temporary factors. They emphasised that the core inflation had remained below the current inflation target ever since 2002, independently of the business cycle position. In their opinion this might have indicated a globalisation-related weakening of the link between economic growth and inflation, which was also visible in other countries. Other members, on the other hand, argued that for the past seven months 'net' inflation had reported a marked increase. These members also pointed out that in the whole 2006, except for 2 months, 'net' core inflation had run higher than CPI inflation, which could signal a rise in CPI inflation in the future.

At the meeting, the Council also discussed import price developments. Some Council members remarked that import prices had begun to rise and the rise started in the period of exchange rate strengthening. They argued that, with a potential exchange rate depreciation, the rise of those prices would be stronger, which would lead to inflation acceleration. In the opinion of other discussants it should not be expected that the prices of goods imported from low cost countries would start rising, given that some of those countries were experiencing deep structural changes consisting, among others, in moving production to locations with cheaper labour force, which could be conducive to sustaining the fall of these prices. Moreover, these members argued that the path of import prices should not be foreseen solely on the basis of their current developments but in view of the business cycle developments in the global economy. Additionally, in their opinion there were many factors speaking for a strong zloty exchange rate, including an extremely high demand for the assets of emerging markets (Poland included).

At the meeting, the Council paid a lot of attention to the assessment of the current and expected economic growth. Some Council members underlined that the economy was in a period of strong growth. Moreover, they pointed out that in 2006 Q4 Polish economy displayed record high growth rate of domestic demand, employment, aggregate wages and monetary aggregates, with the rate of GDP growth slightly exceeding the projected level. They assessed that a higher than forecast economic growth could be conducive to increased inflationary pressure.

Other members stressed that the structure of economic growth was favourable for low inflation, with a significant share in GDP represented by investments, which increase the potential output, which should be containing inflationary pressure resulting from fast economic growth. Those members argued that a rapid investment growth would be raising the capital-labour ratio, which should be contributing to the rise in labour productivity and, consequently, offsetting the cost pressure on price growth. They also pointed out that the contribution of investment in GDP in Poland was still the lowest among EU countries and so the currently observed dynamic investment growth favoured bridging the gap in development levels between Poland and those countries.

Apart from that, the Council discussed the impact of the situation in the labour market on the growth of wages, unit labour costs and inflation. In the view of most Council members, a significant threat to inflation could be potential acceleration in wage growth, particularly in the context of substantial economic emigration of Poles. Some members were of the opinion that the unemployment rate was below the Non-Accelerating Wage Rate of Unemployment, which contributed to accelerating wage growth. Other members shared the view that the labour market situation was one of the most important factors that could potentially lead to inflation growth in the future, yet they did not agree that the current unemployment rate was below the NAWRU. They pointed out that the structure of the unemployed was improving towards a greater share of people with higher qualifications and greater mobility, which was conducive to lowering the NAWRU.

The Council also considered the question of future inflation against the inflation projection presented by the NBP's analysts. Some Council members agreed with the scenario drafted in the inflation projection, signalling inflation growth in the medium term to the level markedly above the inflation target.

Other members believed that the projection results in 2009 horizon should be approached with caution, as forecasting economic developments in so distant future is subject to significant uncertainty. In their opinion the probability of inflation overshooting the target in the final projection horizon was lower than accounted for in the projection. They expressed doubts connected with the fact that there was not a significant change in the path of forecast inflation in the medium term in January in relation to October 2006, despite a significant decline of inflation at the projection initial point, lower growth rate of fuel and import prices and a stronger zloty exchange rate. Moreover, they believed that the impact of globalisation on inflation processes had not been appropriately accounted for in the projection. They pointed out that at the end of 2006 inflation was markedly lower than had previously been forecast, while GDP growth overshot the forecasts. This could suggest, they argued, that the changes in economic mechanisms, including the weakening of the dependence between the domestic economic growth and inflation, could not be sufficiently accounted for in the main forecasting model. They also emphasised that the uncertainty as to whether a faster than expected GDP growth was a cyclical phenomenon or, rather, it followed from a faster than so far estimated growth of potential output.

Apart from considering the inflation projection, the Council got also acquainted with the results of other forecasts conducted at the NBP. The results indicated that, in the transmission horizon of monetary policy instruments, inflation could be lower than in the January projection. Some members claimed that the outlook for inflation presented in these forecasts was more likely than the scenario envisaged in the inflation projection. Other discussants argued that the forecasts based on those models did not account for the labour costs, which are one of the most important risk factors for inflation, nor did they take into consideration equilibrium exchange rate developments. As a result, they reasoned, these forecasts could undervalue the expected inflation.

The Council also discussed the developments in monetary aggregates. In the view of some Council members the currently observed fast build-up in borrowing amid a relatively high wage growth would be favouring a strong rise in private consumption and, consequently, in aggregated demand and inflation. According to some discussants, the majority of EU member states, apart from the Czech Republic and Slovenia, were experiencing significant imbalances, which found reflection in a high level of inflation or a considerable current account deficit. At the same time, all these countries displayed a high growth rate of monetary aggregates. For this reason, they claimed, the high growth rate of monetary aggregates in Poland was a manifestation of a macroeconomic imbalance emerging in the Polish economy.

Other members pointed out that the major part of the increase in loans to households in Poland were housing loans, which did not have a direct impact on the prices of consumer goods. Additionally, the rising indebtedness of households was expected to increase in the income of households the share of expenses for the servicing and repayment of loans, which would be curbing spending on consumer goods. Those members also emphasised that the credit to GDP ratio in Poland was still low as compared to the developed countries and so the observed dynamic credit build-up was partially the result of the process of catching up with these countries.

In the view of most Council members, the then state and prospects of the economy did not give grounds to change the monetary policy parameters. However, some Council members remarked that some adjustment in interest rates could be necessary in the near future. They believed that a monetary policy tightening could be recommended as the appropriate monetary policy should be countercyclical, while the economy is currently growing strongly, exceeding the rate of growth of potential output. At the same time, it was pointed out that a monetary policy tightening in Poland could be to a certain extent substituted by a slowdown in the growth of the world economy. However, the discussants observed that the scale of the global economy's slowdown remained unknown. Some Council members expressed the view that if the monetary policy tightening coincided with unfavourable developments in the economy, it could lead to a strong economic deceleration in Poland.

In the press release after the meeting the Council claimed that, in the short term CPI inflation would be considerably lower than in the January projection, as the oil and food prices would most probably be lower then in the projection. The core "net" inflation may also be markedly lower than in the projection

The Council judged that in the medium term, despite the fact that economic growth was expected to slow down somewhat, the growth of wages may gradually increase, thus leading to higher inflation. The Council believed that this increase in inflation would be probably moderate if the strong productivity growth and low growth of external prices associated with globalisation and the ensuing increased competition in the market of internationally traded goods and services was to continue.

The Council judged that the then level of NBP interest rates was conducive to keeping inflation close to the target of 2.5% in the medium term. However, maintaining inflation close to target and thus creating conditions for sustainable long-term economic growth may require monetary policy tightening. Future decisions of the Council were to depend on the incoming information about economic developments in Poland and the world and also on their impact on the inflation outlook in Poland

February

Having considered the assessment of the economic situation prepared by the NBP staff, the Council discussed possible changes in the balance of risks for future inflation in relation to the January projection of inflation and GDP as well as to its own assessments of the outlook for inflation made a month before.

The majority of members agreed that in the coming quarters, the economic growth was likely to be higher than forecast in the January projection.

Some members indicated that the currently observed positive household and corporate sentiment could be conducive to consolidating higher than anticipated economic growth. Additionally, it was pointed out although the likelihood of US economy slowdown was rising, its impact on the economic growth in Poland should be moderate. In their opinion, the limited impact of the US economic slowdown on the economic situation in Poland resulted from the fact that the Polish economy relied much more on the European economy than on the American one, whereas the outlook for economic growth in Europe was positive. As some participants in the discussion pointed out, an important factor behind the investment acceleration was the inflow of EU funds - allocated mainly to investment in infrastructure, human resources and environmental protection. This situation may, in their opinion, retard the supply-side effects of those investments. For this reason, current and expected high investment growth may not be driving the increase in the aggregate supply in the horizon of the monetary policy transmission as fast as before - and thus, it may not curb inflationary pressure to the same extent as before. According to the discussants, in the absence of structural reforms, it was difficult to identify other factors behind sustainable acceleration of economic growth than the inflow of EU funds. In their opinion, this meant that the current rate of economic growth was higher than the rate of potential output growth and would lead to a rise in inflation.

Other members of the Council emphasised that the structure of the currently observed fast economic growth was favourable for low inflation since investment grew faster than consumption, and this should, in turn, limit the impact of economic recovery on inflation. In addition, a very important factor behind acceleration of economic growth in the longer run was, in their opinion, a very positive outlook for the inflow of foreign direct investment. This factor should, in turn, curb inflationary pressure connected with fast economic growth. At the same time, they pointed out that although the macroeconomic data for January suggested high economic growth, they did not provide sufficient basis to establish whether the economic growth throughout 2007 would exceed the projection. Those MPC members claimed also that the accelerating economic growth had been so far accompanied by low inflation. In their opinion, the above would thus suggest that the impact on inflation of such factors as the international competition, imports from low cost countries, increase in labour productivity and stable exchange rates was strong.

The Council paid a lot of attention to the developments in monetary aggregates. Some discussants claimed that fast expansion of lending in conjunction with the observed significant increase in asset prices, particularly visible in the real estate market as well as equity prices indicated the possibility of an asset bubble in Poland, i.e. asset prices being higher than justified by fundamentals. Furthermore, in their opinion, the developments in Poland, i.e. a high growth in monetary aggregates and in retail sales were similar to the situation in some new EU Members where inflation grew from a low to a relatively high level (e.g. in Lithuania). They also claimed that in case asset prices stabilised at a high level, the income growth would not be allocated to purchase assets any longer but would find reflection in growing demand for consumer goods instead, this being conducive to increasing inflation.

By contrast, other disputants deemed it difficult at present to assess whether the increase in asset prices was excessive. Some members of the Council also indicated that it was difficult to determine what an appropriate monetary policy reaction should be to potential signs of imbalance in the asset market. They pointed out that the bursting of the bubble, if any, would probably result in inflation running lower not higher as in response to decline in asset prices, consumers may increase their savings and reduce consumption, and this could drive inflation down. Besides, in their view, the fast growth in lending stems, to some extent, from the so-called "catching-up process", and therefore it should not generate any risk of a substantial inflation increase. Moreover, according to those members, the relation of monetary aggregate growth to GDP growth in Poland was relatively low as compared with the corresponding figure in the euro area. They also argued that it was difficult at the moment to determine the growth of lending which, if exceeded, may be deemed excessive and generating a risk of inflation growth above the inflation target. They pointed out that based on the findings of the research conducted for a number of countries, it is difficult to establish the correlation between the monetary aggregates and inflation in the short term. While referring to the quoted examples of inflation growth in other new EU Member States, those members mentioned that the situation in Lithuania escaped a direct comparison with the situation in Poland. Another type of exchange regime is effective in Lithuania, i.e. the currency board, whereby it is impossible to pursue an independent monetary policy.

The Council also discussed the labour market situation and its impact on the outlook for inflation. Some Council members pointed out that in the recent years wage increases had been moderate in comparison to increase in labour productivity, thus significantly improving the financial standing of enterprises. The members signalled that, for this reason, wage growth rate could soon step up in order to make up for its earlier lower rate of growth. They also pointed out that the migration of Polish employees to other EU member states and the convergence of wages in Poland and other EU countries will be conducive to a faster wage growth. Other discussants indicated that the global competition should continue to support the growth in labour productivity while at the same time curbing excessive wage growth, and thus mitigate upward inflationary pressures. They also pointed out that a high growth in productivity, exceeding wage growth, continued in industry, which was still conducive to low inflation. Apart from that, the data on the GDP, the number of working persons and wages in the economy in 2006 Q4 indicated that the growth of unit labour costs in the economy was significantly lower than accounted for in the forecasts. This may suggest that also in the longer projection horizon the cost pressure on wage growth will be lower than that envisaged in the projection.

Some Council members noted that the growth rate of the prices of services had accelerated significantly over the preceding two quarters, which could signal an intensification of the so-called Balassa-Samuelson effect. Other members of the Council, however, indicated that it was difficult to assess the changes in the strength of Balassa-Samuelson effect in Poland based on the observations from two previous quarters. Additionally, in their opinion, the faster growth in the prices of services than in the prices of goods, did not necessarily indicate a strong Balassa-Samuelson effect, as different growth rates of the prices of services and goods had been observed in a number of countries.

The Council also discussed the situation and prospects of the public finance. Some Council members concluded that that data for 2006 and for January 2007 suggested that the position of the central budget was very good and should remain so throughout 2007. Others indicated that despite the good budget position, the impact of the fiscal policy on the economy was currently pro-cyclical, this being confirmed by the increase in the cyclically adjusted public finance deficit in 2006 in relation to the previous year.

Some Council members indicated that both current and forecast oil prices were lower than those assumed in the projection, which indicated that inflation should be lower than envisaged by the projection. Other members indicated that oil prices are subject to significant fluctuations and it could not be ruled out that they would rise, e.g. due to political instability rising in the Middle East.

Some Council members assessed that the available data, in particular the results of the January inflation projection, inflation forecasts prepared by some external centres, fast growth in monetary aggregates, faster than forecast economic recovery and growing probability of further wage increases pointed to a growing risk of inflation rate rising over the inflation target in the medium term. In their opinion, this gave grounds for tightening the monetary policy at the February meeting. They said that, since the monetary policy had a delayed impact on the economy and inflation, it may be inappropriate to postpone the decision tightening the monetary policy and future decisions to increase the interest rates may in fact come too late.

Some Council members assessed that since the last meeting, the risk of inflation growing above the inflation target had increased and therefore, the moment of monetary policy tightening had come closer, nevertheless it was not necessary - in their view - to take a decision to increase interest rates at that meeting. They emphasised that in order to maintain price stability it is very important to safeguard the credibility and anti-inflation reputation of the central bank. In their opinion, building this reputation had generated a macroeconomic cost in the past. In view of the above and also taking into account the accelerating economic growth, they believed some monetary policy tightening should be considered in the coming months.

Some members were convinced that it was not necessary to tighten monetary policy in the nearest future, as they saw no risk of inflation rising above the inflation target. They also pointed to the latest short-term inflation forecast which implied that the next inflation forecast may be lower than the January one.

A motion to raise the NBP interest rates by 25 percentage points was put forward. The motion did not pass.

In the press release after its meeting, the Council claimed that, in the short term CPI inflation would be considerably lower than in the January projection. The core "net" inflation may also prove markedly lower than in the projection.

In the medium term the growth of wages may gradually increase, leading to higher inflation. The Council believes that this increase in inflation will be probably moderate provided that the strong productivity growth and low growth of external prices are sustained, the latter being associated with globalisation and the ensuing increased competition in the market of internationally traded goods and services

The Council judged that the then level of NBP interest rates made it possible for inflation to be kept close to the target of 2.5% in the medium term. However, maintaining inflation close to target and thus creating conditions for sustainable long-term economic growth may require monetary policy tightening. Future decisions of the Council were to depend, to a large extent, on whether rising economic activity proves more permanent. It was also to depend on other economic developments in Poland and in the world and also on their impact on the inflation outlook in Poland.

March

After getting acquainted with the assessment of the economic situation prepared by the NBP economists, the Council discussed the changes in the balance of risks for future inflation as compared with the January projection of inflation and GDP and its own assessment of inflation outlook formulated in the previous month.

Members of the Council agreed that in the light of the latest data the economic growth in Poland in 2007 Q1 had probably accelerated and reached a higher level than expected in the January inflation projection. According to some members of the Council, retail sales data for February 2007 evidenced changes in the structure of the economic growth towards increasing role of domestic demand in fuelling GDP growth. They reasoned that in the quarters to come GDP growth should probably reach the level clearly exceeding the available estimates of the growth rate of potential GDP which might, in turn, be conducive to increasing inflationary pressure.

Other members of the Council emphasised the fact that for a few quarters now, GDP growth in excess of the forecasts, had been accompanied by inflation that was lower than or consistent with the expectations. Considering relatively short time lags between changes in GDP growth and their strongest impact on inflation, this may, in their opinion, suggest that the growth rate of potential GDP in Poland is higher than anticipated, which should ease the upward pressure on prices in the medium term. They also pointed at the sustained high growth rate of investment, expected to continue in the quarters to come, which should, with a certain delay, fuel the growth rate of potential GDP. They also emphasised the fact that in 2006 the share of purchases of such assets (among other things, machinery, plant and means of transport) which tend to boost potential output growth relatively rapidly, increased in investment expenditure of large and medium-size enterprises.

The Council paid a lot of attention to inflation expectations developments. Some members of the Council pointed out that since the beginning of 2007 there had been a certain improvement in the structure of responses to the survey question concerning inflation expectations of households, which is a factor behind lowering of expectations. In their opinion, the decline in the expectations in 2007 Q2 may be brought about by a possible fall in food prices in the 2007 Q3. They also pointed out that expectations of enterprises in the manufacturing and retail sales sector concerning predicted selling prices for the next three months, had been stable. In their opinion, the growing impact of inflation expectations of construction companies on the outlook for inflation is limited as the changes in the prices of construction output do not directly affect the developments of the CPI index.

Other members signalled out that, in the light of the empirical study results, inflation expectations in Poland are adaptive in nature. As a result, the expected increase in current inflation indicator in the medium term should be accompanied by an increase in inflation expectations. Those members argued that owing to the weakening of the short-term relationship between inflation and unemployment, supported by the empirical study results, a relatively high growth of unemployment rate may be necessary to reduce the heightened inflation expectations and bring down inflation.

At its March meeting, the Council discussed again the impact of the observed growth of wages and unit labour costs on the outlook for inflation. Some members pointed out that although wages in the corporate sector grew considerably in January and February, the annual growth of wages in those months was on the decline. They also indicated that changes in the unit labour costs in the whole economy, accounted for in the forecasting model, may lead to overestimating the cost-induced upward pressure on price increase since in certain sectors (non-market services) wages do not directly affect consumer price developments. Other members pointed out that in accordance with the results of the NBP survey studies, more than 50% of enterprises planned to raise prices of their own products which might, in the members' opinion, be indicative of a growing wage pressure. They pointed out that after adjustment for the impact of one-off factors, the growth of wages in enterprises in February 2007 remained at a heightened level, already recorded in January 2007 and December 2006. In their opinion this meant that accelerating growth of wages in the corporate sector may be permanent.

Another issue raised during the discussion was the impact of changes in inventories on the outlook for inflation. Discussants pointed out that while the 2005 negative contribution of inventories to GDP was most probably the result of enterprises' uncertainty about the scale and sustainable growth of external demand, continuing negative contribution of inventories in 2006 could have been brought about by economic activity growth which was higher than expected by the enterprises. In their opinion, in the case of continuing rapid demand growth, the necessity to rebuild inventories, accompanied with growing pricing power of enterprises may fuel inflationary pressure. Other participants in the discussion pointed at the global improvement of business processes, including optimisation of inventories management. In their view, the generally observed improvement in inventories management might, to a certain extent, account for the negative contribution of inventories to GDP growth in Poland recorded in the years 2005 and 2006.

Some members reasoned that in order to keep inflation at a level close to the target in the medium term, it would be necessary to tighten the monetary policy at the present meeting. They pointed out that in the medium term inflation running above the target would lead Polish economy to lose its price competitiveness. In their view, the loss of price competitiveness reflected in the deteriorating balance of trade would pose a threat of fast economic growth not being sustained in the medium term. They judged that monetary policy tightening would have a signalling effect, reflecting commitment of monetary authorities to meet the target and, consequently, would be a factor limiting the upward pressure on wages. Those members emphasised that in the light of the results of research on the monetary transmission mechanism, a slight tightening of monetary policy would, to a small extent, be conducive to reducing economic growth. Yet, they reasoned that delaying the decision to raise interest rates might entail the necessity to raise interest rates on a larger scale in the future.

In the opinion of other members of the Council, however, the assessment of the balance of risks for future inflation does not provide clear premises to tighten the monetary policy at the present meeting. They signalled out that in the short term both current as well as forecasted indicators of CPI and 'net' core inflation would probably run below the inflation target. In their opinion, the growth of unit labour costs in the economy stood at a level which did not threaten the meeting of the inflation target. Those members emphasised that the fast economic growth observed in Poland provides the opportunity to narrow the developmental gap between Poland and the advanced countries. Therefore, in their opinion, monetary policy should be tightened only in case the meeting of the inflation target is clearly threatened. They also pointed out that the decision to raise interest rates should be based on a prior, more thorough assessment of the medium term outlook for inflation which will be possible after the results of the April inflation projection are known.

A motion to raise the NBP interest rates by 25 percentage points was put forward. The motion did not pass.

In its information on the meeting, the Council stated that in the short-term both CPI inflation and net core inflation would be markedly lower than in the January projection.

The Council reasoned that in the medium term, gradual increase in wage growth was likely to be sustained, which may lead to higher inflation. The Council believed that this increase in inflation would be probably moderate, provided that the strong productivity growth and low growth of external prices are sustained, the latter being associated with globalisation and the ensuing increased competition in the market of internationally traded goods and services.

The Council concluded that maintaining inflation close to target of 2.5% and thus creating conditions for sustainable long-term economic growth may require monetary policy tightening in the near future. The scale of the tightening would depend, to a large extent, on whether the incoming data confirm the expectations that high growth of domestic demand, which most probably outpaces the growth of potential GDP, is sustained in the next few quarters. Future decisions were also to depend on other economic developments in Poland and in the world and on their impact on future inflation in Poland..

Similarly as in January and February, the Council assessed that the currently observed strong economic growth creates convenient conditions for the implementation of reforms which would permanently reduce the public finance imbalance. The Council maintained its belief that it would be the most favourable for Poland to adopt an economic strategy focused on creating conditions that would guarantee the introduction of the euro at the earliest possible date. The restraining of public finance imbalance would per se and by creating conditions for the introduction of the euro contribute to accelerating long-term economic growth.

April

The Council got acquainted with the April 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 April ECMOD-based projection, the annual GDP growth will remain with 50-percent probability within the range of 6.0-7.0% in 2007 (compared with 4.9-6.7% in the January projection), 4.0-6.3% in 2008 (compared with 3.6-6.4%) and 4.0-7.0% in 2009 (compared with 3.5-6.5%).

According to the April inflation projection, the growth of consumer prices will be lower than in the January projection over the whole projection horizon. Under constant interest rates, there is a 50-percent probability that inflation will remain within the range of 1.3-2.6% in 2007 Q4 (compared with 2.1-3.8% in the January projection), 1.6-3.8% in 2008 Q4 (compared with 2.2-4.5%) and 2.1-4.6% in 2009 Q4 (compared with 2.4-5.2%). The Council also got acquainted with other forecasts conducted at the NBP.

In the Council's assessment, in the second half of 2007 CPI inflation will temporarily decrease markedly below the inflation target of 2.5%, which is also indicated by the April inflation projection.

In the Council's assessment, in the medium term, the probability of inflation running above the target is larger than the probability of its running below the target, which persuaded the Council to tighten the monetary policy. The Council assessed that the high growth of domestic demand, which most probably outpaces the growth of potential GDP, will be sustained in the next quarters, which should be conducive to a gradual increase in wage and inflationary pressures.

In the coming months, the Council will be closely observing the relation between wage growth and the growth of labour productivity, zloty exchange rate, the impact of globalisation on the economy and other factors.

As announced by the Council in its press relase of 31 January 2007, starting from May 2007 the Council will give, on a monthly basis, a more extensive account of the arguments raised during discussions at the Council meetings. The minutes be published on Thursday in the week preceding the subsequent decision-making meeting of the Council. The account of the discussions held at the last three decision-making meetings of the Council, preceding the decision-making meeting at which the *Inflation report* is adopted, will also be included in the *Report* in lieu of the previously published chapter *Monetary policy.*

Projection of inflation and GDP

The inflation 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. The cut-off date for the assumptions of the current projection was 23 March 2007. In consequence, the projection has been based on NBP estimates concerning macroeconomic categories in 2007 Q1 (the starting point for the projection).

2.1 Introduction

Before preparing the April projection, the ECMOC model was re-estimated, as every year, to account for data through 2006 Q4. Additionally, a number of changes were introduced into the model, among which the endogenisation of the Non-Accelerating Wage Rate of Unemployment should be seen as the most important. In the present version of the model, the NAWRU is no longer a variable that is set by experts outside the model, but is dependent on the path of other macroeconomic values, including the level of business activity and fiscal policy[1].

The endogenisation of the NAWRU was connected with the modifications in the specification of the fiscal module, which was introduced in order to extend the coupling between fiscal variables and the other segments of the model. Other important changes to the model included the re-definition of the series of capital stock[2] and the replacement of identity generating inventories with an estimated equation. Additionally, a new

[1]A detailed account of the concept of NAWRU endogenisation is to be found in K. Budnik's *Non-accelerating wage inflation rate of unemployment in Poland* (soon to be published as NBP *Working Paper*)

[2]In the present version of the model, capital is defined as a gross value of fixed assets, which in the opinion of the NBP better approximates the resource of production property in the economy than the previously used net value. This change in the definition of capital reduced its vulnerability to investment

procedure was introduced into the process of compilation and seasonal adjustment of national accounts data (GDP and its components) in order to ensure that the seasonally adjusted components sum up to the aggregate with the changes in volumes, current prices values and price deflators balanced up. In the opinion of the authors of the model, the introduced modifications have improved its cohesion and enriched its simulation properties. The results of new estimations of the model's equations and standard impulse-responses are presented in a separate text available at `www.nbp.pl`.

The changes introduced to the model and its re-estimation led to a reduction in expert adjustments applied to the raw model forecast. In the present projection expert interventions were mainly aimed at:

- weakening the impact that the very high growth rate of GDP at the projection's starting point, partially resulting from favourable weather conditions, exerted on the path of GDP in subsequent quarters,
- accounting for the adjustment of data on households' disposable income in 2006, that was available only after the re-estimation of model
- embedding the favourable outlook for the inflow of foreign direct investment (a factor not accounted for in the model) into the investment developments.

As a result, the growth rate of investments was lowered in the first quarters of the projection and raised in its longer horizon. In the short projection perspective the private consumption and imports were adjusted upwards..

The changes in the model, in particular the change of estimated parameters of the net inflation equation and the endogenisation of the NAWRU constitute the main reason for lowering the current inflation projection in relation to the path presented in the January projection. Due to the effected re-estimation, the initial disequilibrium between the level of prices and their cost determinants has been reduced as well as the rate at which this imbalance is being eliminated. The recovery in the labour market is currently to a larger extent connected with supply factors. This feeds into a faster decline of the NAWRU and in some easing of the wage pressure, as compared to January projection. Greater labour market flexibility also finds reflection in a steeper growth of labour force participation ratio than it was accounted for in January. Out of the remaining exogenous assumptions, the greatest impact on reducing the inflation projection was exerted by the stepping-up in the growth rate of total factor productivity (TFP) and – in the first quarters of the projection – also a lower path of fuel prices and a lower starting point of net inflation.

In turn, the main reason for differences between the current and January GDP paths is the high level of economic activity at the projection's starting point and particularly a stronger than expected growth in investment demand. The economic growth faster

fluctuations. Too strong transmission of investment outlays onto capital formation was signalled as one of important risks for the January projection (cf. the January *Report*, pp 88-89) than accounted for in the previous projection is conducive to higher inflation, this effect, however, its impact is weaker than the joint impact of the factors discussed in the above paragraph.

2.2 Assumptions for the projection of inflation and GDP

External demand and inflation

The annual GDP growth rate in the euro area in 2006 Q4 rose to the level of 3.3% compared to 2.7% recorded in Q3. This was mainly the result of a major acceleration in the growth rate of exports and a higher growth rate of investment demand. Additionally, in Q4 a stepping-up was observed in private consumption, which, however, might have resulted from the shift in demand connected with VAT rate changes in Germany. Given a higher than expected GDP growth in the last quarter of 2006 and short-term tendencies, such as the very good sentiment of consumers and entrepreneurs, high growth rate of industrial output and a drop in unemployment rate, the assumed GDP growth in the euro area in 2007 was raised in relation to the January forecasting period to 2.2% y/y (from 2.1% y/y). The observed labour market improvement and sumptuous 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 years 2008-2009, it has been assumed that the euro area economy will grow at 2.1%.

The possibility of correction of a high US current account deficit remains an important risk factor for a lower growth in the euro area in 2007-2009, especially in case of a significant euro exchange rate appreciation. A negative impact might be also exerted by a noticeable slowdown in the US economy, which would be accompanied by a global fall in equity prices and a drop in real property prices. In turn, a faster than expected euro zone GDP growth might result from further increase in domestic demand stemming from continuous improvement in the labour market and structural reforms which would be conducive to sustained high productivity. Additionally, a faster than assumed growth in the euro zone could also occur in the case of boosted demand in Asian economies, as this would lead to sustaining increased exports of euro zone countries.

Based on the analysis of the above factors, it was assumed that, in the projection horizon, the probability of external growth path running below the central forecast is higher than 50%, remaining a risk factor for projection that is not embedded in the model-based analysis.

In 2006 Q1 the annual growth rate of GDP deflator in the euro area slid to 1.5% as compared to 1.8% in the previous quarter. However, during the first two months of 2007 there was a rise in core inflation – from 1.5% in December 2006 to 1.9% in February. There are also signals pointing to the possibility of inflation growth in the medium time horizon, such as, among others, a high growth rate of producer prices of intermediate goods exceeding 6% y/y from mid-2006 and a high level of production capacity utilisation, which – according to the European Commission's data – in 2007 Q1 exceed its average level by 2.6 percentage points. Apart from that, also the improvement in labour market situation may be conducive to the emergence of wage pressure, though the increasing growth rate of labour productivity should be limiting the growth in unit labour costs. In consequence, it has been assumed that the GDP deflator inflation in the euro area will rise from 1.7% in 2006 to 2.0% in 2007-2009.

Foreign interest rates

In comparison to the previous forecasting, forecast foreign interest rates have been ranging higher: a rise of approx. 0.1 percentage point in the euro area starting from 2007 Q3 and of approx. 0.1-0.2 percentage point in the United Kingdom starting from 2007 Q2. The path for the US interest rates has not been changed, yet the outlook for the interest rate developments in the United States is subject to a greater uncertainty than in the case of the euro area and the United Kingdom.

Crude oil and fuel prices

Crude oil prices

As in the previous projections, the oil price forecast used for the April projection was based on the forecasts of the US Department of Energy available at the cut-off date for the projection[3]. It also accounts for the forecasts of other major analytical centres (among others the International Energy Agency and the OPEC).

The exceptionally warm winter in many areas of the Northern Hemisphere at the beginning of 2007 in conjunction with some weakening in political tensions brought about such a pronounced oil price drop in January that, despite the increases in February and March, the average price of this commodity in 2007 Q1 proved lower (by approx. 9%) than assumed for the pervious projection. The current forecast expects the average oil price in 2007 to be 4.5% lower than accounted for in the January projection – mainly due to lower prices in the first half of the year. However, given the temporary nature of disruptions at the beginning of 2007 and because US Department of Energy assessments of the demand for oil proved the highest in three years, it is expected that in 2008 the paths of both projections will be already running close (the currently forecast average price is approx. 1 USD/b higher), while in 2009 the price of oil will be 5% higher than the one assumed in the January projection[4].

In seems that in the short term the main source of forecast risk are political factors, especially connected with the situation in Iran. Oil prices may also be affected by the

[3]The forecast for 2007-2008 is based on the forecast published in *Short-Term Energy Outlook*, Energy Information Agency, March 2007 (from 6 March 2007). The expected level of prices in 2008 was adopted on the basis of the latest value of the forecast for 2008. The US Department of Energy published its new oil price forecast on 10 April 2007, i.e. already after the cut-off date.

[4]The difference results from the fact that in the January projection the 2009 price was assumed on the basis of the long-term forecast of the US Department of Energy.

path of the US reserves of petrol (the latest data point to their faster decline than in the previous years). These factors increase the risk of oil prices ranging, in this perspective, above the levels accounted for in the projection, especially that they can be conducive to increased demand for oil futures on the part of investment funds. Apart from that, short-term forecasts of oil prices are currently characterised by large volatility, which is an additionally source of risk in this horizon.

In the medium and longer horizon, experts assess that the growth rate of global demand for fuels will have the greatest impact on the level of oil prices – particularly in the developed countries. As regards the supply side, in contrast to the previous projection, it is currently assumed that the OPEC will not fully fulfil its declarations on reducing the level of oil output. If, however, the OPEC continued to reduce its output in the subsequent months to the level scheduled back in 2006 Q4, then it may turn out that the rise in the global supply will not keep up with the growth of demand (also due to probably lower increase the output of non-OPEC countries).

Fuel prices

Due to the lower than forecasted prices of crude oil in 2007 Q1, the actual growth rate of fuel prices in this period will probably turn out lower than expected in the January projection.

The shifted, as compared to the January projection, path of fuel prices assumed for the April projection was primarily the result of accounting for a lower actual prices of fuels in 2007 Q1 and changes in the forecast of oil prices (lowering the path in 2007 and raising it in 2008-2009). The assumptions concerning indirect tax rates have not been modified. As a result, in comparison to the January projection, the fuel price path assumed in the April projection anticipates (in year-on-year terms) a lower growth of fuel prices in 2007 and their slightly higher increase in the farther horizon of the forecast.

The main sources of risk for the fuel prices forecast are the future paths of oil prices and the exchange rate. The growth rate of fuel prices will also depend on the pace of the demand growth in Poland, the development of the bio-fuel market and its impact on the mineral fuel market[5], the obligation on fuel operators to create higher fuel reserves than it has been necessary so far and on the government-announced diversification of supply sources of energy commodities.

It can be assessed that, both in the short and longer period, the forecast of fuel prices is more likely to run slightly above the central path.

[5]The prospects of the development of the bio-fuel market depend, among others, on tax and non-tax instruments supporting this market and also on the path of prices of energy carriers which may be substituted by bio-fuels.

Absorption of EU funds

The April projection, similarly to the previous ones, envisages a steady growth in the scale of Poland's utilisation of EU funds (both structural and cohesion funds). Starting from 2007, apart from the allocation for 2004-2006, it will be possible to start utilising the funds from the 2007-2013 allocation. Although the April forecast accounts for the updated amount of fund utilisation in 2007 Q1[6], the utilisation of funds in subsequent quarters of 2007 has been modified so that the forecast annual amount of funds utilised in 2007 remains at the level of the January projection. At the moment there is no indication for adjusting the forecast. It is only the level of fund utilisation in 2007 Q2 together with the assessment of Poland's preparation to implement EU funds under the Financial Perspective 2007-2013 that will indicate whether it is necessary to adjust the assumed utilisation for the whole of 2007, or possibly for the next years. Thus, the yearly forecasts for 2007-2009 remain unchanged in relation to the January projection at EUR 3.5 billion in 2007, EUR 4.4 billion in 2008 and EUR 4.9 in 2009.

The utilisation of funds under the Common Agricultural Policy (CAP) in 2007 Q1, according to the NBP's data (by the end of March 2007), was slightly above the level accounted for in the January projection. That is why, in the April forecast the amount of fund utilisation in 2007 Q1 has been updated without changing the forecasts for the remaining quarters. As the April projection allows for a rise in payments made under the CAP in subsequent years, their expected levels are: EUR 2.09 billion in 2007, EUR 2.45 billion in 2008 and EUR 2.58 billion in 2009.

The level of the actual absorption of all EU funds primarily depends on the efficiency of the central and local administration in this area. There is an ever more pronounced increase in the risk connected with the preparation of projects qualifying for being co-financed with the new perspective funds and also with technical limitations to their implementation (problem with contractors, construction materials etc.). For the year 2009, the assessment of risk connected with the Common Agricultural Policy must take into account the necessity to implement the full cross-compliance instrument, which is a precondition for obtaining direct payments. At present, farmers must meet the two requirements, i.e. keep their farmyards in good agricultural condition and preserve the area of permanent pasture. Beginning from 2009, they will have to meet a third condition, concerning the so-called statutory requirements of farm management (involving, among others, protection of the natural environment).

Situation in the public finance sector

In the April projection, the assumptions concerning expenditure of the public finance sector in 2007 were adopted in accordance with the Budget Act for 2007, passed by the Parliament. For the years 2008-2009 the projection assumes maintenance of the

[6] According to NBP data, the current utilisation of EU funds (as at 19 March 2007) amounted to EUR 500 million in Q1 (compared with the January projection forecast of EUR 800 million).

"anchor" declared by the government (in the form of the central budget deficit fixed at a constant level of PLN 30 billion)[7] being the fundamental benchmark to fiscal policy.

The projection has taken account of systemic changes to be implemented in the years 2008-2009 which will considerably affect the tax revenue of that sector, such as the rise in the VAT rates in 2008 and the introduction of two rates of personal income tax in 2009.

The fiscal projection is subject to risk. It does not take into account the reduction of disability pension contribution by 7 percentage points envisaged by the Ministry of Finance, which will be implemented in two stages, on 1 July 2007 (reduction by 3 percentage points) and subsequently, at the beginning of 2008 (4 percentage points). This proposal, if accepted, would bring about a decrease in the revenue of the public finance sector of approx. 0.2% of GDP this year and by more than 1% of GDP in subsequent years. Combined with a decrease in the personal income tax revenue in 2009 resulting from the introduction of a two-level tax scale, this would threaten the central budget deficit being maintained at the level of PLN 30 bn. in the years to come. The passing of the acts increasing public spending by the Parliament would be another risk factor in the projection horizon.

Prices of food and non-alcoholic beverages

The growth of food and non-alcoholic beverages in 2006 Q4 proved weaker than accounted for at the starting point of the January projection, mainly as a result of atypically low price growth rate in January 2006[8].

In line with the January projection, 2007 Q1 has seen a continuously low supply of crop production resulting from the summer 2006 drought and unfavourable impact of the warm winter on fruit and crops storage conditions. On the other hand, a relatively high supply of animal-based products, especially pork, has been noted. High and steady growth rate has been recorded in retail sales of food and non-alcoholic beverages, which considering the growing trade surplus in food products and persistently high growth of exports, evidences further growth in demand for the sector products. The above information has confirmed experts' expectations on the trends in the food market. The growth rate of prices in the April projection does not show any significant deviations from the price growth accounted for in the January projection, and slight adjustments were intended to ensure that the forecasted price increases are spread differently between quarters and thus better adjusted to the current information.

According to the current projection, the food price growth in 2007 Q1 will be higher than in the January projection, mainly due to faster than expected growth of prices of

[7] Additionally, an assumption has been made that the balance of other entities of the public finance sector will be close to zero in 2008-2009. As a result, the deficit of the whole sector in these years has been assumed at the level of PLN 30 billion.

[8] For the first time since 1989, that month recorded a decline in food prices, while the prices of other food products ranged below that month's average figures

bread and cereals, poultry and vegetables in January and February 2007. According to the current projection, majority of price increases anticipated for the first half of 2007 should take place in the first months of the year. 2007 Q2 will see the annul growth in food prices stabilise at a high level reached in 2007 Q1. The forecast of the annual price growth for the first half of 2007 is similar to the one accounted for in the previous projection[9] and is based on the assumption of crop production coming back to average levels. 2008 Q1 is expected to see further decrease of the annual growth rate of food prices to a level slightly lower than that recorded in 2006 Q3, resulting partly from the statistical base effect[10].

Agro-meteorological conditions affecting the amount and quality of crop production including, among other things, the consequences of warm winter for the vegetation of crops, trees and fruit bushes remain an important risk factor throughout the whole projection horizon. Over the projection horizon, the growth in food prices may differ from the expected level also as a result of the currently observed exceptionally low profitability of swine breeding[11], high instability of prices in the poultry market and recurring threat of bird flu virus. In 2007 Q1 and Q2 the forecast uncertainty is assessed to asymmetrically upward.

Demographic situation

Number of economically active

The April projection of the number of the economically active is based on the BAEL data adjusted by experts for methodological changes introduced in the BAEL survey in 2006[12].

Due to the anticipated high economic activity in Poland and higher than in the previous year increase in real wages, economic activity is expected to pick up over the projection horizon. The forecasted improvement in the labour market will result in increased economic activation, especially among older persons, and a decreasing scale of economic migration. As a result, in 2007 Q1 the rate of fall of the labour force participation ratio, observed since 2006 Q1, will gradually fade out, to mark a slight increase starting from 2007 Q4. In the years 2008 and 2009, the annual growth rate of the economically active persons will reach 0.5% and 0.7% respectively.

In the April forecast of the number of economically active persons, the assumed uncertainty band is symmetric, and corresponding to the previous forecasting, those assumptions are subject to relatively large uncertainty, already at the beginning of the projection period. The doubts whether migration processes have been appropriately

[9] Starting from 2007 Q3 i.e. from the new business year in agriculture, the forecasts is based on the assumption of average level of crops.

[10] 2006 Q3 recorded a significant acceleration of the drought-induced annual growth of food prices

[11] This may accelerate and sharpen the cyclical limitation of the scale of swine production.

[12] A new, narrower definition of the economically active person and a new method of BAEL data generalisation based on the respondents' exact date of birth was introduced

accounted for in the BAEL survey and, consequently, whether the number of the economically active persons in the BAEL survey is correct, constitute the basic source of uncertainty. The forecast's uncertainty results also from potential delays in the introduction of limits on taking early retirement or the extension of the catalogue of professions entitled to early economic deactivation which may result in lower variable[13].

Persons working in private farming

Similarly to the economically active persons, the April projection of persons working in private farming is based on BAEL data adjusted by experts for methodological changes introduced by the GUS to the BAEL survey in 2006. According to the projection, the rate of change of the variable throughout the whole projection horizon will remain at the level of -4.6% y/y. Growing demand for labour in non-farming sectors will be conducive to reduction in labour hoarding in the farming sector through workers moving from farming to other sectors.

The slower drop in the number of people working outside private farming may be the effect of the inflow of EU funds increasing the profitability of work in agriculture. On the other hand, part of EU funds supports the restructuring of this sector and improvement in labour productivity, which in conjunction with the rise in employment in non-farming sectors, expected in the projection horizon, may lead to a faster decline in the number of people working in private farming.

Number of old-age and disability pensioners

In the April forecast, the assumptions with reference to the rate of changes in the number of old-age and disability pensioners adopted in the October forecast remained unchanged. In accordance with the projection, in 2007 the average annual rate of decline in the number of old-age and disability pensioners will reach approx. 0.33% y/y, and in the period from 2008 Q1 to 2009 Q4 the rate of change of this variable will be maintained at the level of approx. -0,25% y/y. The number of old-age and disability pensioners at the end of the projection horizon falls to 9.05 million people.

Similarly to the January projection, the assumed uncertainty band is symmetric. Yet, the band was widened twice, namely to 2.4% in 2009 Q4. In the previously assumed very narrow band of the projection's uncertainty, given the observed fluctuation in the number of old-age and disability pensioners, individual observations lay outside the assumed band despite continuation of the trend consistent with the central projection path. It has to be emphasised that in the forecast horizon the actual number of old-age and disability pensioners will mostly depend on institutional changes in terms of legal conditions for early economic deactivation.

[13]Data-related risk factors include subsequent methodological changes in the BAEL survey anticipated for the years 2007 and 2008.

2.3 Projection of inflation and GDP

The forecast of the external variables affecting Polish economy have not been subject to any significant revisions in relation to the previous forecasting round. The April projection has been prepared with the assumption of a moderate growth of external GDP and low external inflation, which is currently believed to be the most likely scenario. Prices of oil are expected to range slightly above the path accounted for in the January 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 at the beginning of 2007

With similar impact of external factors, at the beginning of 2007 the Polish economy has been growing markedly faster than it was assessed back in January. This has not resulted from the exceptionally favourable weather conditions only. The main factor fuelling growth has been domestic demand. Investment has been growing markedly faster than anticipated in the previous projection and private consumption has continued to rise at a high rate, which was consistent with what was expected. Strong exports growth has continued, yet, due to domestic demand revival imports have been growing faster; as a result, the foreign trade balance has been a factor decreasing GDP growth.

Strong economic growth has brought steady improvement in the labour market. Yet, growing demand for labour has not been accompanied by increased participation in domestic labour market (among other things, as a result of Polish migration to the old EU countries), thus driving strong drop in unemployment rate. The building-up imbalance between demand and supply on the labour market leads to steady increase in average wages. The ongoing recovery in the labour market is consistent with the expectations presented in the January projection.

Growth in employment and wages is the major factor behind significant rise in the disposable income of households. Money transfers from Polish emigrants working abroad are also an important factor pushing up the households' disposable income growth. Improved current and expected income of households and liberalized access to bank loans translate into increase in private consumption. Demand for flats has also been growing which, given the supply barriers, fuels the strong growth in their prices.

The ongoing economic recovery has made it impossible to meet growing 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 by the transfer of modern technologies and the growing absorption of EU structural funds.

Projection for 2007-2009

In line with the present projection, the rate of GDP growth in 2007 will reach 6.4% and in subsequent years will be markedly higher than 5%. The forecast rate of economic growth is higher than expected in the January projection. The main source of a higher than expected economic growth in 2007 is a stronger investment recovery and, in the following years, a faster increase in private consumption.

In 2007 investments will growth at approx. 20% and in subsequent years investment will exceed 10%. As a result, the share of investment in GDP will reach approx. 25%, i.e. above the record level of 1999. High investment demand on the part of enterprises will be rooted in favourable perspectives of sales amid a relatively low cost of capital. The rise in investments will be additionally supported by the inflow of capital from abroad in the form of direct investments 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. 3% in 2007, stabilising in the subsequent years at the level of approx. 2%. As a result, despite a faster growth in labour force participation rate in 2008-2009, the rate of unemployment will fall more strongly than it was forecast in January and will settle below 9% in the last quarter of 2009. The fast reduction in unemployment will translate into wage pressure increase – throughout the projection horizon, the growth rate of real wages will visibly exceed the growth in labour productivity in the economy (per one person working outside private farming).

The expected growth in average nominal wages will be approx. 6% in 2007, and in the subsequent years it will stabilise at approx. 7%. Thus, the currently forecast wage growth towards the end of the projection horizon is lower than it was the case in the January projection, which to some extent results from the lower growth of prices, however the main factor behind is a higher flexibility of the labour market. Starting from 2008 the NAWRU will be dropping faster than accounted for in January (though the NAWRU will be running clearly above the actual unemployment rate throughout the projection horizon). Increase in the labour force participation will also be slightly higher than expected previously.

A high increase in employment and real wages will translate into fast growth in private consumption at the average rate of approx. 5.5% y/y till mid-2008 and then exceeding 6% y/y. Apart from the revenues from hired labour, the rise in consumption will also be supported by increased income of private businesses. A positive fiscal impulse in 2009 will be the expected reduction in the rates of personal income tax.

As regards fiscal policy stance, similarly as in the previous projections, a fixed nominal anchor for general government deficit of PLN 30 billion has been assumed for the years 2008-2009. As a result, the increased inflow of tax revenues attributable to the positive macroeconomic situation will not cause the decline in the deficit but instead will serve to increase the expenditure proportionally. Amid relatively high rate of economic growth, securing the general government deficit to GDP ratio in the range 2-2.5% in years 2007-2009 will lead to the increase in the cyclically adjusted general government deficit.

The increase in investment and consumption is equivalent to domestic demand growth of 8% in 2007 and 7% in 2008-2009. Domestic demand growth is higher than in the January projection.

Similarly as expected in January, the nominal exchange rate of the zloty will be gradually depreciate to stabilise in the final period of the projection. The main factors adding to the depreciation will be the stepping growth rate of domestic prices in relation to external prices as well as a narrowing interest rate disparity, though the role of the latter factor diminished after the re-estimation. In line with the current projection, import prices will grow faster in 2007 and in subsequent years – close to the expectations of the January prognostic period.

The currently forecast growth rate of foreign trade turnover is higher than in the January projection. The high growth rate of exports (of approx. 9% on average) will be positively affected by good economic climate in main trade partners, while the dynamic growth of imports (of approx. 13% 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 2008 – lower than expected in January.

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 an improvement in the labour supply (mainly reflected in a fast decline of the NAWRU). However, till the end of 2008 the growth rate of potential product will be lower than GDP growth rate, which finds reflection in a fast widening, and then stabilisation, of the output gap.

A consequence of the labour market developments presented above will be a fast growth in unit labour costs (ULC), which are the major factor determining net inflation in the projection. The growth rate of ULC (outside private farming) is expected to be 3.6%, 4.7% and 4.2% in 2007, 2008 and 2009, respectively. Weakening growth of unit labour costs towards the end of the projection horizon is related to the above mentioned rise in labour market flexibility, reflected in a quick drop of the NAWRU and, consequently, a slight narrowing of the gap in unemployment.

The CPI inflation path in the April projection runs below the path of the January projection throughout the projection horizon. Particularly large differences are visible in the first two years of the projection (0.7 percentage point on average) and smaller ones – in its final year (0.4 percentage point). The mean reason behind the lower CPI inflation path is a lower path of net inflation in comparison to the January projection. This was connected with the changes in the model, described in the *Introduction* above, and also changes of assumptions exerting direct influence on the path of potential output, namely raising the growth rate of total factor productivity and increasing the number of economically active in 2008-2009 in comparison to the assumptions for the January projection. In the short horizon of the projection the path of net inflation has also been decreased by its starting point value, which was 0.4 percentage point lower. An important factor responsible for 2007 CPI inflation differences between the projections is also the path of fuel prices, which is currently lower (the impact of this assumption on CPI inflation is almost 0.3 percentage point).

According to the current projection, CPI inflation will remain below the target until mid-2008. However, starting from the end of 2007 inflation will grow steadily and at the end of the projection horizon will approach the upper tolerance limit for deviations.

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 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 include the uncertainty 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, connected with incomplete adequacy of the model used for describing the operation of the economy are discussed in the next section.

In the short term the most important source of uncertainty of the inflation projection is the uncertainty connected with the behaviour of food prices. Other significant factors include the uncertainty of a random component in net inflation equation[14] and the uncertainty of the path of crude oil prices. To a lesser extent, the uncertainty of CPI inflation is affected by an increased random component in equations of the exchange rate and fuel prices. Thus, the presented set of factors responsible for the uncertainty of the inflation projection in the short term encompasses variables which either directly affect inflation (i.e. net inflation, food prices, prices of fuels) or influence it indirectly with a certain time lag (oil prices, exchange rate).

In the medium term the uncertainty connected with food prices is still the most important component of inflation uncertainty. The rest of the uncertainty results, in similar proportion, from the uncertainty as to the path of oil prices (though its impact is diminishing in the projection horizon) and from the uncertainty of the random component in equations of net inflation, GDP deflator, exchange rate and import prices.

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, but a considerable uncertainty is also connected with the random component in the inventories equation. A less pronounced role in explaining the uncertainty of GDP projection in the short term is played by the random components of investment, exports and consumption equations.

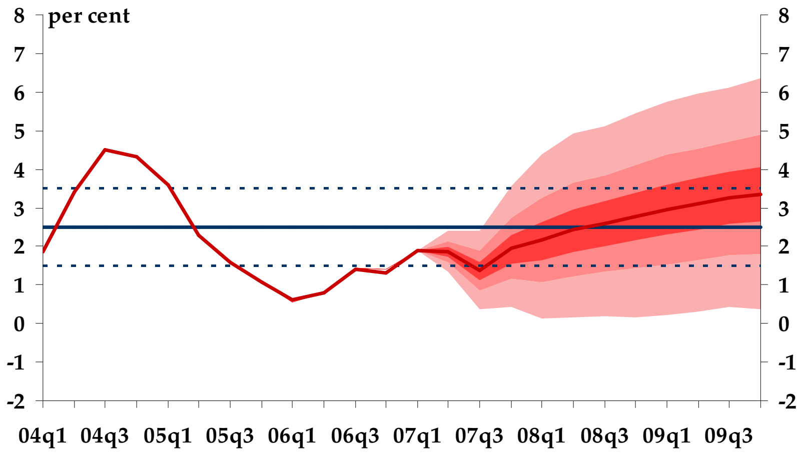
In the medium term the factors affecting the GDP growth rate with a delay are becoming more significant. In particular, there is a rise in the significance of the uncertainty surrounding the behaviour of factors unaccounted for in the investment equation in

[14]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

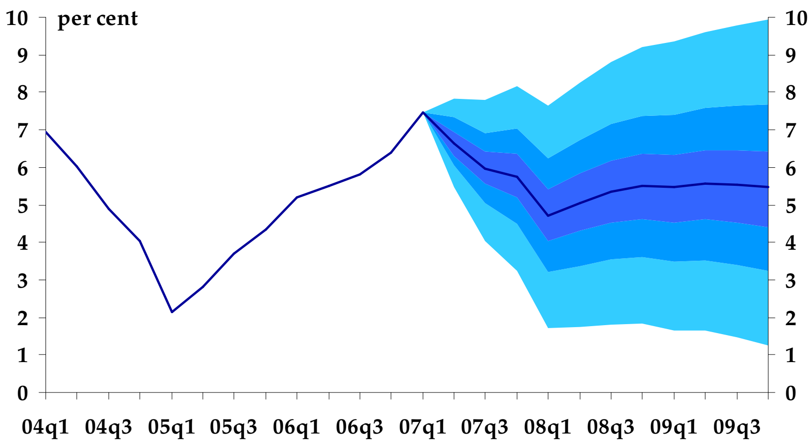
explaining the uncertainty of GDP projection. Still significant is the impact of the uncertainty connected with imports, though its relative importance is slightly smaller than in the short term.

A comprehensive picture of the outlined sources of uncertainty of the projection of inflation and GDP is presented in the fan charts[15].

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



⊡ **Figure 2.1:** Projection of inflation and MPC's inflation target
Source: NBP.



⊡ **Figure 2.2:** Projection of GDP
Source: NBP.

[15]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 January *Report*)

	Probability of inflation:				
	below 1.5%	below 2.5%	below 3.5%	below central projection	within (1.5%; 3.5%)
2007q2	0.12	0.97	1.00	0.51	0.88
2007q3	0.59	0.96	0.99	0.51	0.41
2007q4	0.33	0.72	0.94	0.51	0.62
2008q1	0.31	0.61	0.85	0.51	0.54
2008q2	0.26	0.53	0.77	0.52	0.51
2008q3	0.23	0.48	0.73	0.51	0.50
2008q4	0.21	0.43	0.68	0.50	0.46
2009q1	0.19	0.39	0.63	0.50	0.43
2009q2	0.18	0.36	0.59	0.50	0.42
2009q3	0.16	0.33	0.56	0.50	0.40
2009q4	0.15	0.32	0.53	0.50	0.38

2.4 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. In the second situation, we are not certain to what extent the model is adequate and we account for 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 revisions), but also by variables and phenomena not accounted for in the model. Below we analyse the sources of uncertainty that may bias the central path of the projection.

Risk of projection errors due to changes in labour market

Further developments in the labour market are one of the main sources of the projection uncertainty. According to the projection, continued revival in labour demand will be accompanied with growing flexibility of the labour market reflected in increased effective labour supply (increased labour participation and a fall in the NAWRU). Although, similarly to the January projection, the labour market is expected to experience significant tensions, the ensuing wage pressure in the longer time horizon is lower. Should the increase in effective labour supply (e.g. as a result of intensification of economic migrations) be slower than in the projection or the NAWRU reaction to changes in the level of economic activity weaker, the wage growth would be faster than assumed in the projection. The playing out of this scenario would entail a rise in inflation.

There still persists uncertainty connected with the BAEL data, which was signalled in the previous projections. This uncertainty not only makes it difficult to assess the situation in the labour market but also constitutes an important source of uncertainty for the estimations of potential output. The 2006 BAEL data show a very strong growth in the number of working persons causing the recorded productivity increase in the economy to be relatively low. At the same time, the BAEL data show a decline in the number of the economically active. The assumption of low productivity in the economy and a decline in the number of the economically active leads to assessing the potential product growth at a low level and, as a result, to the closing of the output gap already in mid-2006. This is in contrast with the January projection according to which the output gap should close at the beginning of 2007. There is a risk that the true growth in the number of working persons in 2006 was lower and a fall in the economic activity ratio did not take place, and consequently, the actual imbalances in the labour and goods markets at the starting point of the projection are smaller than it results from the available data.

Risk of projection errors due to inadequacy of mapping of inflation determinants

As a result of the re-estimation of the model, the risk that the actual transmission of the rise in labour costs on inflation is weaker than indicated by the projection, signalled in the January projection, decreased markedly. Still, the model-inherent assessment of the possibility of entrepreneurs passing their increased costs onto the prices of final products remains an important source of uncertainty. As in the January projection, also in the model used to prepare the April projection the rise in labour costs leads to a gradual inflation growth, though at a slower pace than it was the case in the January projection. It is likely that the currently observed low inflation, despite growing labour costs, is to a large extent the effect of global competition, which on the one hand deters companies from raising their prices, and on the other motivates and facilitates the reduction of the remaining production and investment costs, which allows companies to increase their output and profits. If this is really the case, a future increase in labour costs amid exhausted possibilities of reducing other costs may not only lead to price increases (as suggested in the projection), but also to limiting output.

Risk of projection errors connected with slowdown in world economy

There still exists a risk of projection error connected with a slowdown in the global economy. Possible consequences of this scenario playing out are discussed in detail in the description of the previous projection. It is estimated that the probability of a *hard landing* of the world economy is currently lower than in the January.

Risk of projection error connected with non-compliance with no-policy-change assumption over projection horizon

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 estimated that in relation to the January projection the level of this risk has not changed in any significant way. The most probable consequences of possible changes in the economic policy were pointed out in the description of the January projection.

Risk of projection errors connected with exchange rate path

Due to objective difficulties in linking exchange rate fluctuations to macroeconomic factors, in every projection exchange rate developments are subject to a significant uncertainty. In the January projection it was assessed that the exchange rate was more probable to run stronger than accounted for in the projection. The currently forecast depreciation of exchange rate is smaller than in the January projection. Therefore, this time it is assessed that distribution of risks around the exchange rate path is more symmetrical, though still strengthening with respect to central path is deemed more probable.

Discussion of data released after 23 March 2007

After the cut-off date for the assumptions for the projection (23 March 2007) the US Department of Energy released a new oil price forecast, in which it sees the average price of this commodity in 2007 approx. 2.7% higher than the assumed level, even though this effect will disappear after 2008 Q1 – oil price will return to the path accounted for in the projection. Both the published data on inflation in March and a higher path of oil prices indicate that the growth rate of fuel prices in the nearest future may prove slightly higher than it was assumed. Also the current information concerning the behaviour of prices in the agricultural and food markets and the latest forecast of these prices issued by the Agricultural Market Agency point to the possibility of a slightly faster price growth, especially in the perspective of 2007 Q3, which may cause a slightly higher (than that accounted for in the projection) growth in the level of food and alcoholic beverage prices over the horizon of the coming year.

The March data on the growth rate of average wages in the enterprise sector proved markedly higher than expected. This means that the wage growth in the economy assumed at the projection's starting point is probably underestimated, which will have consequences for this category in the short projection horizon.

The revised yearly national accounts data for the years 1993-2006 published by GUS point to the GDP growth rate in 2006 higher (by 0.3 percentage points) than previously announced. This was mainly due to a rise in public consumption and a build-up in inventories, accompanied by a decline in net exports contribution to GDP growth. Data revisions for the earlier years were relatively slight. The revision increases the uncertainty of GDP estimation at the starting point of the projection by the scale difficult to define as the revised data for the particular quarters of 2006 are still unknown. After the projection was prepared it was announced that Poland and Ukraine had been chosen to host the Euro 2012 Football Cup. At present the impact of this decision on inflation processes over the projection horizon is difficult to determine and will be analysed in one of the next *Reports*.

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The distribution of risks in the fan chart of the April inflation projection is almost symmetrical. In the short term, however, the factors not accounted for in the chart raise the probability of price growth rate running slightly above the central path. This is mainly supported by the possibility of oil, fuel and food prices running above the path accounted for in the projection.

In the balance of risks for the January projection it was assumed that inflation was more probable to run below the central path. The main premises for this assessment included the risk of overestimating the cost pressure at the projection's starting point, the risk of overstating the priceing power of enterprises and the risk of a stronger exchange rate path. As a result of changes in the model and due to its re-estimation, which shifted the central path of the projection downwards, the above risks were significantly reduced. In consequence it is assessed that the risk of future inflation deviating from the central path of the present projection is roughly symmetrical in the medium and long projection horizon. The probably faster than indicated in the projection growth of wages will be accompanied by an equally probable process of reducing other production cost and a growth in the effectiveness of investments, which will be hindering price growth. Conducive to higher inflation, on the other hand, may be the risk connected with a deepening imbalance of the public finance. In turn, the exchange rate path is more probable to strengthen than to weaken in relation to the path in the projection, which will be contributing to lower inflation. There is also the risk of a slowdown in world economy, which may result in easing inflationary pressure.

Considering the full picture of the projection, i.e. the central path together with the balance of risks ascribed to it, the differences between the April and January projection are significantly smaller than it would follow from a mere comparison of the central paths.

Annex

The voting of the Monetary Policy Council members on motions and resolutions adopted in December 2006-February 2007

- **Date:** 19 December 2006

  Subject matter of motion or resolution:
  Resolution on creating and unwinding provisions against the FX risk of the zloty against foreign currencies at the National Bank of Poland

  Voting of the MPC members:

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

  J. Czekaj was absent.

- **Date:** 19 December 2006

  Subject matter of motion or resolution:
  Resolution to approve the Financial Plan of the National Bank of Poland for the Year 2007

  Voting of the MPC members:

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

  J. Czekaj was absent.

- **Date:** 19 December 2006

  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:	L. Balcerowicz	**Against:**	S. Nieckarz
	D. Filar		S. Owsiak
	M. Noga		M. Pietrewicz
	H. Wasilewska-Trenkner		A. Sławiński
			A. Wojtyna

  J. Czekaj was absent.

- **Date:** 28 February 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
			S. Owsiak
			M. Pietrewicz
			A. Sławiński
			A. Wojtyna