

Inflation Report February 2008

National Bank of Poland
Monetary Policy Council

Warsaw, February 2008

The *Inflation Report* presents the Monetary Policy Council's assessment of the current and future macroeconomic developments influencing inflation. The projection of inflation and GDP presented in Chapter 4 was prepared at the Economic Institute of the National Bank of Poland. The projection was prepared with the use of the ECMOD macroeconomic model. Content-related supervision over the works on the projection was entrusted to a member of the NBP's Management Board, Mr. Zbigniew Hockuba. The NBP Management Board approved the submission of the projection to the Monetary Policy Council. The inflation projection is one of the inputs to the Monetary Policy Council's decision-making process.

In *Monetary Policy Guidelines for the Year 2008* the Monetary Policy Council announced that the frequency of *Inflation Reports* publications will be reduced. In line with this announcement, since 2008 *Inflation Reports* will be published three times a year – i.e. in February, June and October.

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.

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Summary

Following the temporary decline in the annual index of the prices of consumer goods and services in 2007 Q3, in 2007 Q4 inflation rose to the upper limit of the tolerance band for deviations from the NBP inflation target (3.5%). CPI inflation showed a marked growth in all months of 2007 Q4 – from 3.0% in October 2007 to 4.0% in December 2007. According to the preliminary GUS data, annual CPI inflation increased in January 2008 to 4.3%. The inflation growth in 2007 Q4 was primarily stimulated by the rise in the growth of prices of food and non-alcoholic beverages as well as the growth of the prices of fuels, although the growth of prices of other groups of goods and services also showed a rising tendency.

In 2007 Q4 rising domestic demand and cost pressures resulting from further improvement in the labour market were still contributing to a rise in inflation. Rise in inflation was also fuelled by some global factors reflected, *i.a.*, in rising prices of commodity – especially energy products – and increasing prices of food. On the other hand, the disinflationary impact of decreases in prices of goods imported from low cost countries persisted. Conducive to curbing inflation was also the nominal appreciation of the PLN exchange rate observed in that period.

In 2007 Q4, the increase in the annual CPI inflation coincided with the growth in all core inflation measures. In December 2007, four out of five measures exceeded the inflation target, two of them standing above the upper limit of the tolerance band for deviations from the NBP inflation target. The annual 'net' core inflation was the only one of the core inflation indices, which stood close to the lower limit of the tolerance band for deviations from the NBP inflation target.

2007 Q4 saw an increase in bank analysts' inflation forecasts over the 11-month horizon. In January and February 2008, these stabilized on the level exceeding the NBP inflation target, yet below the upper limit of the tolerance band for deviations from NBP inflation target. In the period October 2007-February 2008 the opinions of respondents of Ipsos consumer surveys concerning the future price growth were relatively stable, with the exception of January 2008, when a temporary surge in the fraction of respondents expecting the price growth to pick up as compared to the growth observed at the moment of the survey was observed.

2007 Q3 was the second consecutive quarter, which saw a decline in import prices expressed in PLN. This resulted both from the further decrease in year-on-year oil prices and a drop in the prices of most other main groups of imported goods (*i.a.* in the major group of imports which includes machinery and transport equipment). The appreciation of the zloty exchange rate observed in 2007 Q3 contributed to those decreases. However, amidst the strong rise in crude oil prices in the world markets in 2007 Q4 and at the

beginning of 2008, further appreciation of the zloty exchange rate only partially weakened the impact of the growth in oil prices expressed in USD.

2007 Q4 brought an increase in the annual growth of the Producer Price Index up to 2.3% y/y. The growth rate of producer prices in the domestic market in October and November 2007 outpaced the overall producer price growth by over 2 percentage points which was connected with export price decline in that period. This decline was the result of the appreciation of the nominal effective zloty exchange rate.

The Polish economy is in the period of strong growth encompassing all its main sectors (i.e. services, industry and construction). According to the GUS preliminary estimates, GDP grew in 2007 by 6.5% in annual terms, reaching the highest growth rate in the past 10 years. In line with the expectations of the previous *Report*, the most important factor in GDP growth is a dynamic rise in investment and consumption. Exports continue to rise significantly, yet due to the recovery in domestic demand and the accompanying imports acceleration, the contribution of net exports to growth has been negative since 2005 Q4. Strong economic growth has been accompanied by fast growth in employment and falling unemployment. Average wages in the economy are growing faster than labour productivity, which leads to a rise in unit labour costs. The high level of economic activity and labour market recovery are accompanied by a rise in inflation and a growing current account deficit.

The data released confirm previous expectations that high level of economic activity should be sustained for at least next few quarters, although 2008 is expected to see a decline in GDP growth as compared with 2007. Since the publication of the previous *Report* the risk of a substantial slowdown in the world economy increased, though it is currently difficult to assess this risk or its impact on economic growth in Poland. An additional factor increasing the uncertainty as to the of the global and consequently Polish economy growth is the increased volatility in the financial markets that has been observed over the recent period.

In 2007 Q3 the real GDP growth reached, similarly to 2007 Q2, 6.4% y/y, thus exceeding the expectations of the previous *Report*. According to preliminary GDP estimate for 2007 published by the GUS, GDP growth in 2007 Q4 amounted to approx. 6.2% y/y. In 2007 Q3 private consumption growth (5.2% y/y) remained close to the one observed in 2007 Q2 and was in line with the expectations of the October *Report*. Public consumption growth in 2007 Q3 (0.8% y/y) was slightly lower than in 2007 Q2 and fell below the expectations. Data for 2007 Q4 implied from GUS preliminary estimates for 2007 indicate that the retail sales growth has fallen and the public consumption growth has not changed significantly as compared with the 2007 Q3. 2007 Q3 saw persistently strong growth in gross fixed capital formation (growth of 19.8% y/y in real terms), although, in line with the expectations, slightly weaker than in 2007 Q2. The growth in gross fixed capital formation in 2007 Q4 implied from the GUS preliminary annual estimates reached approx. 18.4% y/y.

The growth of gross value added in the economy in 2007 Q3 amounted to 6.2% y/y, thus exceeding the expectations of the previous *Report*. According to GUS preliminary estimates for 2007 the implied growth of gross value added in 2007 Q4 continued at the level of approx. 6.3% y/y. In 2007 Q3 the contribution of major sections of the economy (industry, construction and market services) to the total gross value added growth remained at the 2007 Q2 level. According to the implied data, 2007 Q4 brought a decline in the contribution of non-market services to the total gross value added growth combined with

a simultaneous increase in the contribution of industry and the absence of changes in construction and market services.

2007 Q3 saw the growing negative balance on the trade of goods in relation to 2006 Q3, which was accompanied by the rising income deficit and the narrowing of the positive balance of transfers, with the simultaneous increase of the surplus in the trade in services. As a result there has been a further deepening of the current account deficit, which in 2007 Q3 amounted to 3.7% of GDP.

According to preliminary estimates of the Ministry of Finance, in 2007 the central government deficit ran at the level of PLN 16.9 billion and was therefore considerably lower than the amount of PLN 30 billion written in the Budget Act, and the lowest since 2001. The negative balance of the central government budget in the whole of 2007 was largely determined by the central government deficit in 2007 Q4. That deficit amounted to PLN 17.1 billion and was significantly higher than in the corresponding period of previous years, which resulted to a large extent from the accelerated growth of budget expenditure.

In 2007 Q4 the number of working persons in the economy rose faster than in 2007 Q3 albeit at a slower pace than in 2007 Q2. The high demand for labour has been reflected in a high growth in average employment in enterprises and a further decline in unemployment. At the same time there has been a constant rise of the percentage of employers who are experiencing difficulties in hiring employees. Since the beginning of 2006 the growing number of working persons and the decreasing rate of unemployment had been accompanied by a fall in the number of the economically active. However, in 2007 Q4 this decrease came to a halt.

In 2007 Q4 nominal wages in the economy showed a continued rapid growth, albeit slower than in the preceding quarter (8.9% y/y in Q4 as compared with 9.7% y/y in Q3.), while the growth of nominal wages in the corporate sector did not decline as compared with the preceding quarter. In 2007 Q4 wages in the economy were growing markedly faster than labour productivity. The growth of unit labour costs in the economy stayed at a level close to that recorded in the preceding quarter (6.9% y/y against 6.7% y/y in 2007 Q3), still one of the highest levels since 2000 Q4.

The fourth quarter of 2007 and the beginning of 2008 saw an increased volatility of prices of financial assets and a rise in risk aversion in the world markets, leading to a significant decline yields on Treasury bonds in the United States and the euro area. The persisting turmoil in international financial markets and a rise in current and forecast inflation in Poland have led to a rise in yields of the Polish Treasury bonds since October 2007. In turn, the performance of the domestic equity market reflected sentiment on international markets. Since the publication of the previous *Report* there has been a very strong decline in share prices of companies listed on the WSE.

Since the end of October 2007, there has been a significant revision of expectations concerning the future path of US and euro area interest rates. According to forward market quotations, over a six-month horizon, the federal funds rate is currently expected to be cut to 2.00-2.50% and euro area rate to 3.50%. In Poland market expectations embedded in FRA rates indicate the total scale of reference rate increases could range from 50 to 75 basis points, to 5.75-6.00% over a one-year horizon.

The first half of 2007, similarly to 2006, was characterised by a surplus of demand over supply of flats which led to a strong rise in prices. The rise gradually declined and prices

levelled out in the second half of 2007. The growth of offered prices in the second half of 2007 dropped significantly, both in the secondary and primary market.

Since the October *Inflation Report* the zloty has appreciated against the euro and even more significantly against the US dollar.

In the last months of 2007, the growth of loans to enterprises remained high. Loans for financing current business activity continued to rise faster than investment loans. Despite a deceleration of growth in comparison to 2007 Q3, the fastest growth was observed in loans to enterprises for the purchase of real estate. In 2007 Q4, total lending to households continued to grow strongly which was an outcome of a very dynamic growth of housing loans and the fast build-up of consumer loans.

During the meeting in October and December 2007, the Monetary Policy Council left the NBP interest rates unchanged. In November 2007 and in January 2008 the Council decided to raise NBP rates by 0.25 percentage points on each occasion. During the meeting in February 2008 the Council decided to raise again the NBP interest rates by 0.25 percentage points to the level of: the reference rate 5.50%, the lombard rate 7.00%, the deposit rate 4.00% and the rediscount rate 5.75%.

Minutes of the MPC decision-making meeting held in October, November, December 2007 and January 2008 together with *the Information from the meeting of the Monetary Policy Council* in February 2008 are presented in chapter "Monetary policy in October 2007 – February 2008". *Minutes* from the MPC meeting held in February will be published on 20 March 2008 and so will be included in the next *Report*.

Chapter 4 of the *Report* presents the projection of inflation and GDP prepared by the NBP staff and based on the ECMOD model, which is one of the inputs into the Council's decision-making process on the NBP interest rates. The annual growth of consumer prices forecast in the February projection is significantly higher than expected in the October projection till mid-2009, while in the second half of 2009 it is close to that forecast in the October projection. Under constant interest rates, there is a 50-percent probability that inflation will remain within the range of 3.6-4.7% in 2008 (compared to 2.2-3.5% in the October projection), 2.6-4.9% in 2009 (compared to 2.5-4.6%) and 2.1-4.8% in 2010 (the October projection did not cover the year 2010). According to the February ECMOD-based projection, the annual GDP growth will remain, with 50-percent probability, within the range of 4.4-5.8% in 2008 (compared to 4.4-6.2% in the October projection), 3.5-6.1% in 2009 (compared to 3.8-6.7%) and 3.6-6.9% in 2010.

Inflationary processes

1.1 Inflation indicators

Following the temporary decline in the annual index of the prices of consumer goods and services in 2007 Q3, in 2007 Q4 inflation rose to the upper limit of the tolerance band for deviations from the NBP inflation target (3.5%) (Figure 1.1). CPI inflation showed a marked growth in all months of 2007 Q4 – from 3.0% in October 2007 to 4.0% in December 2007. According to the preliminary GUS data, annual CPI inflation increased in January 2008 to 4.3%¹. The rise in annual inflation in January as compared to December 2007 was mainly caused by the acceleration of growth in prices of services related to the flat maintenance².

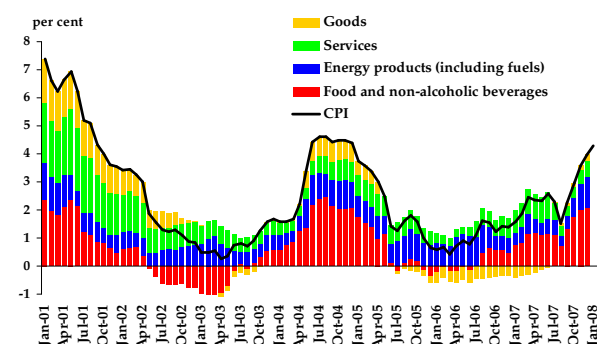
The inflation growth in 2007 Q4 was primarily stimulated by the rise in the growth of prices of food and non-alcoholic beverages as well as the growth of the prices of fuels, although the growth of prices of other groups of goods and services also showed a rising tendency. The annual growth in prices of food and non-alcoholic beverages in Poland may remain relatively high in the nearest future, which to a considerable degree results from the situation prevailing in the international markets. In the coming period, high growth in prices of food and fuels will be conducive to sustaining CPI inflation at a level above the NBP inflation target.

¹Inflation data published by GUS have the preliminary character and may be subject to revisions due to the changes in CPI basket, carried out at the beginning of each year. The final data for January 2008 will be published in March 2008.

²Due to the limited availability of information concerning the developments in particular groups of consumer prices in January, the cut-off date for the analysis included in the *Inflation Report* is the end of 2007 Q4

Figure 1.1:

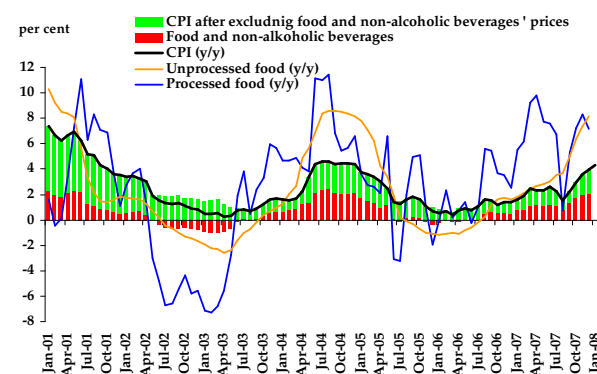
CPI and main categories of prices.



Source: GUS data, NBP calculations.

Figure 1.2:

CPI and main categories of prices – food and non-alcoholic beverages.



Source: GUS data, NBP calculations.

In 2007 Q4 rising domestic demand and cost pressures resulting from further improvement in the labour market were still contributing to a rise in inflation. Rise in inflation was also fuelled by some global factors reflected, i.a., in rising prices of commodity – especially energy products – and increasing prices of food. On the other hand, the disinflationary impact of decreases in prices of goods imported from low cost countries persisted. Conducive to curbing inflation was also the nominal appreciation of the PLN exchange rate observed in that period.

Prices of food and non-alcoholic beverages

In particular months of 2007 Q4, the growth of prices of food and non-alcoholic beverages was on a relatively high level, and remained on a rising path. A significant stepping-up of prices occurred in nearly all categories of food products – both processed and unprocessed. The observed rising growth of food prices resulted mainly from global factors, among which of crucial importance were changes in the global demand for food and unfavorable global supply conditions observed last year. The primary factor behind the change in demand for agricultural and food products was the accretion of disposable income in the developing countries and the rise in demand for agricultural commodities from the producers of bio-fuels³. It should be emphasized that the above mentioned factors were also conducive to the growth in food prices in a number of other countries, which was reflected in the increase in the indices of prices of consumer goods and services in those countries (Table 1.1).

Services prices

2007 Q4 also saw a decline in the annual growth of prices of services, driven by the fall in the growth of prices of market services (Figure 1.3).

³See box: *Food prices in the world market* in the July Report, p. 13–14.

Table 1.1: Year-on-year CPI inflation – selected countries

Change y/y (per cent)	2007											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
USA	2.1	2.4	2.8	2.6	2.7	2.7	2.4	2.0	2.8	3.5	4.3	4.1
Austria	1.6	1.6	1.8	1.8	2.0	2.0	2.1	1.7	2.1	2.8	3.1	3.6
Belgium	1.7	1.8	1.8	1.8	1.3	1.3	1.4	1.1	1.5	2.2	2.9	3.1
Finland	2.3	2.2	2.6	2.6	2.4	2.4	2.6	2.3	2.6	2.7	2.9	2.6
France	1.2	1.0	1.2	1.3	1.1	1.2	1.1	1.2	1.5	2.0	2.4	2.6
Greece	2.7	2.7	2.6	2.5	2.6	2.6	2.5	2.5	2.9	3.1	3.9	3.9
Spain	2.4	2.4	2.5	2.4	2.3	2.4	2.2	2.2	2.7	3.6	4.1	4.2
Netherlands	1.4	1.5	1.8	1.8	1.8	1.7	1.5	1.1	1.3	1.6	1.9	1.9
Ireland	5.2	4.8	5.1	5.1	5.0	4.9	5.0	4.8	4.6	4.8	5.0	4.7
Luxembourg	2.3	2.0	2.1	2.1	1.9	2.0	1.9	1.9	2.1	2.9	3.2	3.4
Germany	1.6	1.6	1.9	1.9	1.9	1.8	1.9	1.9	2.4	2.4	3.1	2.8
Portugal	2.6	2.4	2.3	2.7	2.4	2.4	2.4	2.1	2.1	2.6	2.8	2.7
Italy	1.7	1.8	1.7	1.5	1.5	1.7	1.6	1.6	1.7	2.1	2.4	2.6
Danmark	1.8	1.9	2.0	1.7	1.8	1.4	1.2	1.1	1.2	1.7	2.5	2.3
Norway	1.2	0.8	1.1	0.3	0.3	0.4	0.4	0.4	-0.3	-0.2	1.5	2.8
Sweden	1.9	2.0	1.9	1.9	1.7	1.9	1.9	1.8	2.2	2.7	3.3	3.5
United Kingdom	2.7	2.8	3.1	2.8	2.5	2.4	1.9	1.8	1.8	2.1	2.1	2.1
Poland	1.6	1.9	2.5	2.3	2.3	2.6	2.3	1.5	2.3	3.0	3.6	4.0
Czech Republic	1.3	1.5	1.9	2.5	2.4	2.5	2.3	2.4	2.8	4.0	5.0	5.4
Slovakia	3.0	2.7	2.7	2.7	2.3	2.5	2.3	2.3	2.8	3.3	3.1	3.4
Slovenia	2.7	2.1	2.3	2.6	2.9	3.6	3.8	3.5	3.5	5.1	5.7	5.6
Hungary	7.8	8.8	9.0	8.8	8.5	8.6	8.4	8.3	6.4	6.7	7.1	7.4
Estonia	5.1	4.7	5.7	5.5	5.7	5.8	6.4	5.7	7.2	8.5	9.1	9.6
Lithuania	4.0	4.3	4.6	4.8	4.8	4.8	5.1	5.5	7.1	7.6	7.8	8.1
Latvia	7.1	7.3	8.5	8.9	8.2	8.8	9.5	10.1	11.4	13.2	13.7	14.1
Turkey	9.9	10.2	10.9	10.7	9.2	8.6	6.9	7.4	7.1	7.7	8.4	8.4
Chile	2.8	2.7	2.6	2.5	2.9	3.2	3.8	4.7	5.8	6.5	7.4	7.8

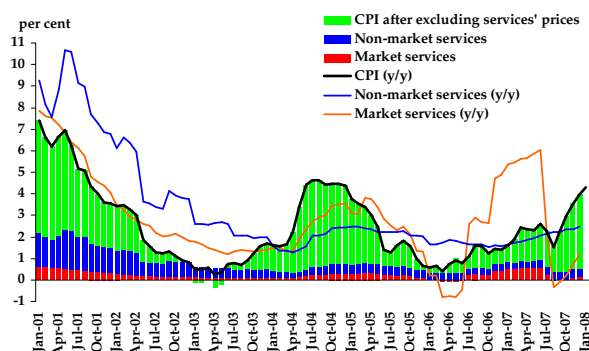
National indices are not fully comparable due to the methodological differences (including different weighting systems and different methods of measurement).

Source: Eurostat, GUS, domestic statistical offices data.

The annual growth rate of prices of services excluding the prices of Internet services⁴ in De-

⁴August 2007 saw a pronounced decline in the prices of Internet services (by 31.8% m/m), due to the promotional price reduction of Internet services by one of the Internet operators. In 2007 Q4, the annual price index of Internet services continued to inhibit the growth rate of the CPI index. Despite a small share of prices of Internet services in the CPI basket, changes in the prices of those services observed since 2005 are large enough to cause considerable ups and downs of the whole inflation index as well as its components under which those services are classified. Changes in the prices of Internet services and their impact

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

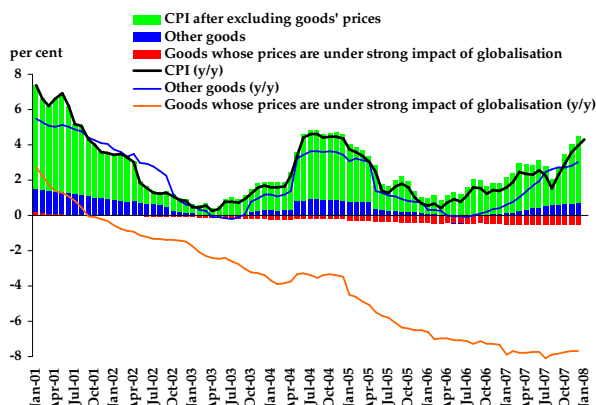


Source: GUS data, NBP calculations.

cember 2007 rose to 2.9% and that of market services to 3.7%. The increase in the prices of market services was primarily encouraged by the further price growth in the group of restaurant and hotel services and in services related to recreation, largely dependant on the fluctuations in the income of households. The increase in prices of market services may reflect the growing consumption demand and accelerated growth of unit labour costs in this sector. At the same time, the growth in the prices of non-market services - observed since 2006 Q4 - pursued a steadily rising path (and came up to 2.5% y/y in December 2007). The rise in growth of prices of non-market services was mainly fuelled by the rising prices of services related to flat maintenance. The annual growth of prices also rose in the group of healthcare, education and transport services.

Goods prices

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



Source: GUS data, NBP calculations.

In 2007 Q4 the growth of prices of goods accelerated⁵. At the same time, the pronounced fall in prices (in annual terms) persisted in the group of goods largely affected by globalization⁶, whose considerable part is imported from low cost countries and whose prices remain largely unaffected by changes in domestic demand (Figure 1.4). Since mid-2006, the growth in the prices of other goods has gained momentum. In the analysed period, the growth of prices in this group was primarily driven by the rising prices of tobacco products, which is the result of higher excise tax imposed on those products in January 2007, spread over time. However, even after excluding the tobacco products from the group of other goods, the growth of prices in this group accelerated. The growth of the prices of goods

on inflation were also discussed in the previous *Inflation Reports*.

⁵In accordance with the definition adopted in the *Report* the category *goods* does not include food and non-alcoholic beverages and energy products (including fuels).

⁶This group of goods includes: clothing, footwear, audio and television equipment, photographic equipment, IT equipment, musical instruments, games and toys, hobby, sports and camping equipment for outdoor recreation, electric appliances for personal hygiene.

Table 1.2: CPI and core inflation indices

Change y/y (per cent)	2007											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CPI	1.6	1.9	2.5	2.3	2.3	2.6	2.3	1.5	2.3	3.0	3.6	4.0
Core inflation indices excluding:												
Regulated prices	1.5	1.8	2.3	2.6	2.6	2.7	2.3	1.4	2.2	2.9	3.4	3.7
Most volatile prices	1.2	1.5	2.0	1.8	1.9	2.2	2.0	1.6	2.1	2.9	3.5	4.1
Most volatile prices and fuel prices	1.5	1.7	1.9	1.8	1.9	2.2	1.9	1.7	2.1	2.6	3.0	3.4
Food and fuel prices ("net" inflation)	1.5	1.6	1.7	1.5	1.6	1.8	1.5	1.2	1.2	1.4	1.5	1.7
15% trimmed mean	1.1	1.2	1.7	1.9	1.8	2.2	2.3	2.1	2.4	2.9	3.2	3.4
Change m/m (per cent)	2007											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CPI	0.4	0.3	0.5	0.5	0.5	0.0	-0.3	-0.4	0.8	0.6	0.7	0.3
Core inflation indices excluding:												
Regulated prices	0.4	0.3	0.4	0.5	0.6	-0.2	-0.5	-0.6	1.0	0.8	0.7	0.3
Most volatile prices	-0.1	0.0	0.3	0.3	-0.1	-0.4	0.5	0.1	0.7	0.8	1.1	0.8
Most volatile prices and fuel prices	-0.1	0.0	0.0	0.1	-0.2	-0.6	0.5	0.1	0.7	0.9	1.0	0.9
Food and fuel prices ("net" inflation)	0.2	0.0	0.1	0.1	0.2	0.2	0.2	-0.3	0.2	0.3	0.2	0.2
15% trimmed mean	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.3	0.3	0.2
Core inflation indices – seasonally adjusted (TRAMO/SEATS):												
CPI	0.2	0.3	0.4	0.2	0.3	0.3	0.1	0.0	0.5	0.4	0.6	0.4
"net" inflation	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2

Source: GUS data, NBP calculations.

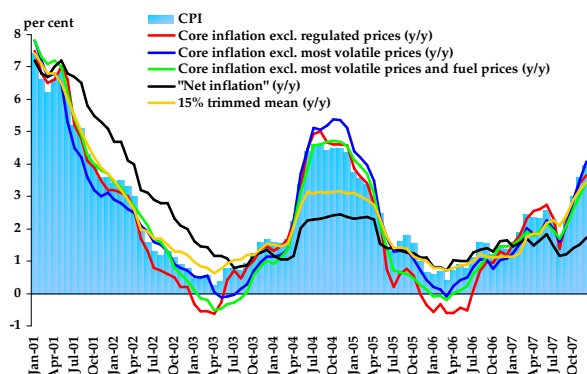
related to the maintenance and furnishing of flats levelled off.

Prices of energy products

In 2007 Q4, a considerable acceleration was also observed in the annual growth of prices of energy products, resulting mainly from a marked increase in the prices of fuels, largely caused by the statistical base effect⁷. The annual price growth of other energy products – liquid gas and

⁷In the period under analysis, the prices of fuels rose considerably only in November 2007, and by contrast, in the corresponding period of 2006, this category reported a significant decline.

□ **Figure 1.5:**
CPI and core inflation measures.



Source: GUS Data, NBP calculations.

heating – increased as well. The scheduled increases of regulated prices give grounds to expect that the growth in prices of energy products will accelerate in 2008 Q1.

Core Inflation

In 2007 Q4, the increase in the annual CPI inflation coincided with the growth in all core inflation measures (Figure 1.5). In December 2007, four out of five measures exceeded the inflation target, two of them standing above the upper limit of the tolerance band for deviations from the NBP inflation target. The annual 'net' core inflation (i.e., inflation excluding food and non-alcoholic beverages prices and fuel prices) was the only one of the core inflation indices, which stood close to the lower limit of the tolerance band for deviations from the NBP inflation target (See Box *Core Inflation*).

Core inflation

Core inflation indices serve to assess the mid- and long-term trend of the overall price level. Despite differences in the definitions of core inflation that can be found in the literature, it is usually assumed that core inflation is the part of headline inflation which is related to inflation expectations and demand pressure, and is independent of supply shocks.

From the point of view of the central bank, the most important features of core inflation seem to be the following:

- It approximates the mid- and long-term trend of growth in the prices of consumer goods and services in the economy.
- It illustrates the trends in prices adjusted for periodical and seasonal changes as well as changes resulting from supply shocks which are usually of temporary character.
- It points to this component of inflation whose link with the monetary policy pursued is stronger than with the remaining components and which is consequently more sensitive to the monetary policy decisions.
- Its changes enable the (ex post) assessment of the direction and scale of the impact of the pursued monetary policy on inflation.
- Its indices are usually characterised by a smaller volatility in time than CPI inflation indices.

The above-mentioned features of core inflation make it a useful monetary policy tool.

There are various measures of core inflation. At least three groups of core inflation measurement methods can be distinguished: mechanical methods, based on excluding a fixed basket of goods, statistical methods and methods based on formal theoretical models. The National Bank of Poland calculates and publishes five indices of core inflation. These indices are calculated by means of mechanical methods (core inflation excluding regulated prices, excluding the most volatile prices, excluding the most volatile prices and fuel prices, 'net' inflation excluding food and non-alcoholic beverages prices and fuel prices) and statistical methods (15% *trimmed mean*)¹.

The 'net' inflation index is a measure of core inflation, which is often mentioned in economic discussions in Poland (which stems, among others, from the fact that this measure is indirectly

used in the NBP inflation projection). Since August 2007, however, a widening discrepancies could be observed between the 'net' inflation and the remaining four indices of core inflation. These discrepancies in December 2007 were significant and amounted to 1.7–2.3 percentage points. The 'net' inflation was the only core inflation index which in this period undershot the inflation target of 2.5%. On account of the different behaviour of this index, it is worth to consider its properties.

The 'net' inflation belongs to the group of measures constructed by the exclusion from the CPI basket of goods and services of a fixed basket of goods, whose prices are characterized by strong distortions or which are not representative due to other causes. The advantages of this index include simple calculation, clear interpretation which allow for clear communication with the public. However, it has certain features which in specific circumstances may reduce its applicability for the assessment of long-term changes in the overall price level.

First, when shocks in certain markets are persistent, the 'net' inflation, similarly to other indices calculated by the exclusion of a fixed set of goods or services from the inflation index, may omit some information on the long-term trend in the price growth. Such situation may be taking place now with regard to food and fuel prices, whose rise to a large extent depends on global factors and is of persistent character.

Second, the 'net' inflation does not take fully into account the effects of globalisation remaining outside the influence of domestic monetary policy. The 'net' inflation index excludes the impact of these global price developments, which recently have been contributing to the general rise of inflation, e.g. the growth of food and fuel prices. In turn, it does not exclude the impact of factors, which in the last several years have been the source of a strong falling trend in the prices of highly processed imports. The prices of these goods, i.e. goods under a strong disinflationary influence of globalisation², lowered the 'net' inflation in December 2007 by 0.8 percentage points. Taking this into consideration, one should not fully identify this measure with the index of inflation resulting from the domestic demand pressure. On account of the bi-directional impact of globalisation processes on inflation in Poland, it seems justified to use the index of 15% trimmed mean, which treats the factors behind strong increases and decreases in prices in a symmetrical way.

Third, the composition of the Polish 'net' inflation index is slightly different from that applied in other countries, e.g. the euro area and the United States³. The Polish index excludes from inflation only the fuel prices, not all energy products (such as electrical energy, gas, heating, etc.). In the face of expected liberalisation of energy prices in Poland in the coming years, this index may run at higher levels than measures constructed in a similar way as in the United States and the euro area, i.e. with the exclusion of all energy products. Additionally, the Polish index excludes a whole group of food prices, while in the food consumption the majority is constituted by processed goods, whose prices are determined to a larger extent by factors typical for other manufactured products than it is the case with non-processed goods.

The core inflation indices allow an in-depth assessment of inflationary processes in the economy. Yet, these indexes are not free of shortcomings and it is currently difficult to indicate, which of the core inflation measures reflects best the medium-term trend of price growth. In various economic conditions, particular measures of core inflation may approximate with varying degree of accuracy the non-observable trend of the overall price level. The applicability of these measures (in particular of the 'net' inflation) depends to a large extent on the character of shocks affecting the prices of the categories excluded from the particular measures of core inflation. If these shocks are transitory, reservations concerning measures of core inflation lose their significance. If, on the other hand, these shocks are permanent, then making the assessment of inflationary processes on the basis of the measures of core inflation, one should remember the already mentioned limitations of these measures.

¹ Detailed information concerning the above-mentioned methods of core inflation measurement, the methodology of calculating core inflation by the NBP, as well as the advantages and shortcomings of the particular measures of core inflation can be found in the file *methodology.pdf* on the site dedicated to the core inflation at the www.nbp.pl domain.

² These goods include: clothing, footwear, radio and television equipment, photographic and IT equipment, musical instruments, games, toys, sports and camping equipment and electric appliances for personal hygiene.

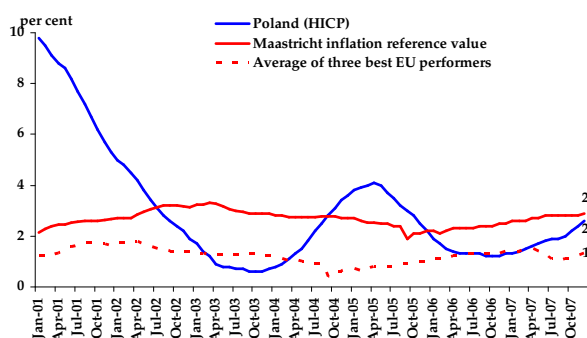
³ There are two indices of core inflation widely used in the euro area: inflation excluding the prices of non-processed food and energy (used by the European Central Bank) and a narrower index: inflation excluding the prices of food and non-alcoholic beverages, alcoholic beverages and tobacco products as well as energy. In the United States an inflation index excluding food and energy prices is used as the main index of core inflation.

Selected systematic reviews:

- R. Cristadoro *et al.* (2005), *A Core Inflation Index for the Euro-Area*, "Journal of Money, Credit and Banking", vol. 37, 539–560,
- C. Morana (2000), *Measuring core inflation in the Euro area*, Working Paper Series No. 36, European Central Bank,
- R. Rich, Ch. Steindel (2005), *A review of core inflation and an evaluation of its measures*, Staff Reports No. 236, Federal Reserve Bank of New York,
- I. Roberts (2005), *Underlying Inflation: Concepts, Measurement and Performance*, RBA Research Discussion Papers No. rdp2005-05, Reserve Bank of Australia,
- S. Roger (1998), *Core inflation: concepts, uses and measurement*, Reserve Bank of New Zealand Discussion Paper Series No. G98/9, P. Wośniak (2002), *Inflacja bazowa*, Wyd. CeDeWu, Warsaw (publication co-financed by the National Bank of Poland),
- M.A. Wynne (1999), *Core inflation: a review of some conceptual issues*, Working Paper Series No. 5, European Central Bank.

□ **Figure 1.6:**

Inflation in Poland (HICP 12-month moving average) and the Maastricht criterion (per cent).



Source: Eurostat data, NBP calculations.

Inflation and the Maastricht criterion

In 2007 Q4 Poland continued to comply with the Maastricht inflation criterion, which is one of the conditions of the euro area membership (Figure 1.6). Since the beginning of 2007 the gap between 12-month moving average HICP inflation in Poland and the reference value for the Maastricht inflation criterion has shrunk considerably (from 1.6 percentage points in January 2007 to 0.2 percentage points in December 2007).

1.2 Inflation expectations

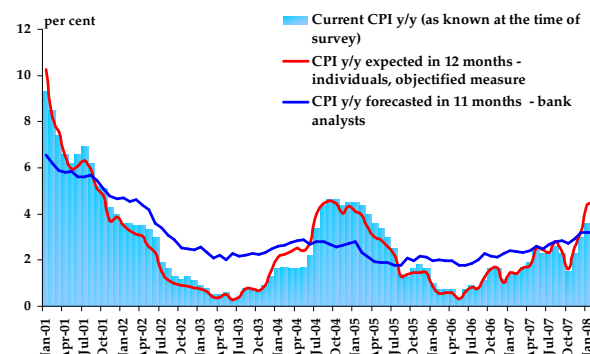
2007 Q4 saw an increase in bank analysts' inflation forecasts over the 11-month horizon (Figure 1.7). In January and February 2008, these stabilized on the level exceeding the NBP inflation target, yet below the upper limit of the tolerance band for deviations from NBP inflation target.

In the period October 2007-February 2008 the opinions of respondents of Ipsos consumer surveys concerning the future price growth were relatively stable (Figure 1.8), with the exception of January 2008, when a temporary surge in the fraction of respondents expecting the price

growth to pick up as compared to the growth observed at the moment of the survey was observed. The shifts in the quantified measure of inflation expectations of individuals resulted mainly from changes in current inflation (except January). In result, in January and February 2008 the quantified measure of inflation expectations was above the upper limit of the tolerance band for deviations from NBP inflation target.

□ **Figure 1.7:**

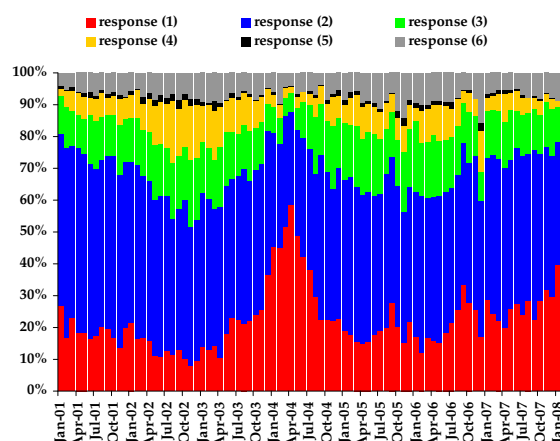
Inflation expectations of individuals and inflation forecasts of bank analysts.



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?"

Determinants of inflation

The Polish economy is in the period of strong growth encompassing all its main sectors (i.e. services, industry and construction). According to the GUS preliminary estimates, GDP grew in 2007 by 6.5% in annual terms, reaching the highest growth rate in the past 10 years. In line with the expectations of the previous *Report*, the most important factor in GDP growth is a dynamic rise in investment and consumption. Exports continue to rise significantly, yet due to the recovery in domestic demand and the accompanying imports acceleration, the contribution of net exports to growth has been negative since 2005 Q4. Strong economic growth has been accompanied by fast growth in employment and falling unemployment. Average wages in the economy are growing faster than labour productivity, which leads to a rise in unit labour costs. The high level of economic activity and labour market recovery are accompanied by a rise in inflation and a growing current account deficit.

The data released confirm previous expectations that high level of economic activity should be sustained for at least next few quarters, although 2008 is expected to see a decline in GDP growth as compared with 2007. Since the publication of the previous *Report* the risk of a substantial slowdown in the world economy increased, though it is currently difficult to assess this risk or its impact on economic growth in Poland. An additional factor increasing the uncertainty as to the of the global and consequently Polish economy growth is the increased volatility in the financial markets that has been observed over the recent period.

2.1 Demand⁸

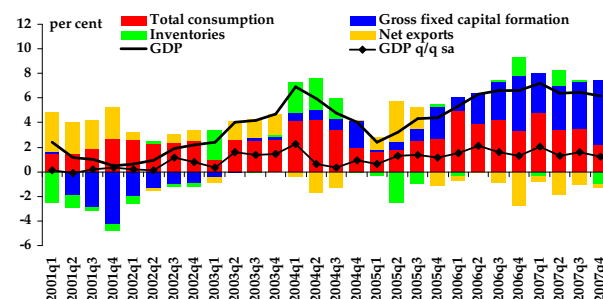
In 2007 Q3 the real GDP growth reached, similarly to 2007 Q2, 6.4% y/y, thus exceeding the expectations of the previous *Report* (see Table 2.1⁹, Figure 2.1). According to preliminary GDP

⁸Assessments of GDP and its components for 2007 Q4 presented in the *Report* are based on preliminary estimate of GDP for 2007 published on 30 January 2008. The implied data for 2007 Q4 assume no revision in the national accounts for 2007 Q1-Q3. It should be emphasized that the available GUS data are incomplete (the data refer to the year as a whole – there are no detailed data on Q4 – and they concern certain categories only). Therefore, the assessment of the economic situation in 2007 Q4 made on the basis of these data should take into account the above reservations.

⁹The *Report* accounts for the NBP seasonally adjusted data on national accounts in average annual prices of the previous year and not data that were seasonally adjusted

Figure 2.1:

Contribution of aggregate demand components to GDP growth.



Source: GUS data, 2007 Q4 – data implied by GUS preliminary estimates for the year 2007 (NBP estimates).

estimate for 2007 published by the GUS, GDP growth in 2007 Q4 amounted to approx. 6.2% y/y.

Table 2.1: GDP and aggregate demand components growth rates.

Change q/q seasonally adjusted (per cent)	2006				2007			
	q1	q2	q3	q4	q1	q2	q3	q4
GDP	1.5	2.1	1.6	1.3	2.0	1.3	1.6	1.2
Domestic demand	2.0	1.7	2.2	2.3	1.5	2.0	1.7	1.9
Total consumption	1.4	1.2	1.2	1.0	1.4	0.6	1.2	1.0
Private consumption	1.1	1.4	1.4	1.2	2.0	0.7	1.3	1.1
Gross capital formation	3.5	4.5	5.8	5.8	3.5	5.6	2.8	3.2
Gross fixed capital formation	1.8	6.3	4.4	4.4	5.9	3.3	4.3	3.5

Source: NBP calculations on the basis of GUS data, 2007 Q4 – data implied by GUS preliminary estimates for the year 2007 (NBP estimates).

2007 Q3 and Q4 marked a persistently high growth in gross fixed capital formation. Fast investment growth combined with a surge in private consumption brought about a considerable increase in domestic demand (by 7.4% y/y in 2007 Q3 and by approx. 6.3% y/y in 2007 Q4). Imports rose faster than exports which resulted in the continued negative contribution of net exports to GDP growth.

In the NBP's assessment, the mid-term economic outlook remains favourable, although 2008 is expected to bring a decline in GDP growth as compared to 2007. In the quarters to come high GDP growth may be expected to continue, fuelled (just like in the previous quarters) by strongly rising gross fixed capital formation and steadily rising private consumption. Due to a strong recovery in domestic demand and the accompanying rise in imports, the negative foreign trade balance will continue to be a factor diminishing GDP growth.

2.1.1 Consumption demand

In 2007 Q3 private consumption growth (5.2% y/y) remained close to the one observed in 2007 Q2 and was in line with the expectations of the *October Report*. Public consumption growth in 2007

in constant prices of 2000, as released by the GUS. For this reason, the seasonally adjusted growth of GDP and its components presented in the *Report* may differ from that presented by the GUS.

Q3 (0.8% y/y) was slightly lower than in 2007 Q2 and fell below the expectations.

The continuation of the high growth of private consumption in 2007 Q3 resulted from the steadily improving economic situation of households, in particular the considerable growth of household disposable income (Figure 2.2) connected with favourable trends in the labour market, including further reduction of unemployment. High growth in consumption demand was additionally fuelled by a fast increase in consumption loans (see chapter 2.5.3 Credit and money), favoured by favourable consumer sentiment (Figure 2.3) and improved assessment of the present period considered as appropriate to make considerable purchases. Growing consumption demand was reflected in the continuously high, albeit lower than in the previous quarter, growth of retail sales.

Data for 2007 Q4 implied from GUS preliminary estimates for 2007 indicate that the retail sales growth has fallen and the public consumption growth has not changed significantly as compared with the 2007 Q3.

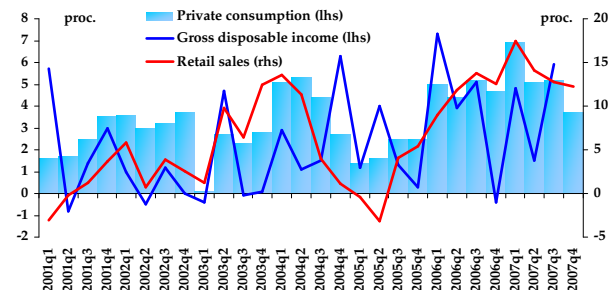
Based on the data on average wage growth in the corporate sector in the period October-December 2007 it may be assessed that in 2007 Q4 the real aggregate wage growth in the economy declined as compared with 2007 Q3. Also the retail sales growth showed a slight decline. Yet, this does not indicate such a marked slowdown in private consumption growth in 2007 Q4 as suggested by the implied data from GUS preliminary estimates of GDP in 2007. At the same time, the household condition survey in 2007 Q4 suggest further improvement in consumer confidence indicators. Therefore, private consumption should continue to be one of the key factors driving GDP growth in the quarters to come, despite the signs of private consumption growth being slightly lower than previously expected.

2.1.2 Government demand

According to preliminary estimates of the Ministry of Finance, in 2007 the central government budget revenues amounted to PLN 236 billion and expenditure to PLN 252.9 billion, and the

Figure 2.2:

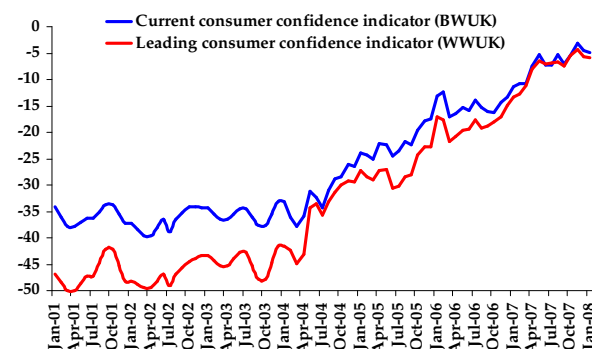
Growth of private consumption, gross disposable income and retail sales (y/y, constant prices).



Source: GUS data, 2007 Q4 – data implied by GUS preliminary estimates for the year 2007 (NBP estimates).

Figure 2.3:

Consumer confidence indicators.



Source: GUS, NBP data.

Since January 2004 surveys have been conducted on the monthly basis (previously quarterly).

deficit ran at the level of PLN 16.9 billion¹⁰. The central government deficit was therefore considerably lower than the amount of PLN 30 billion written in the Budget Act, and the lowest since 2001. This significantly better than expected performance of the central government budget was due, on the one hand, to high central government revenues, related to high economic growth and further improvement of the situation in the labour market, and on the other hand, to a low realisation of central budget expenditure driven, among others, by lower than envisaged expenditure on co-financing of investment from EU funds and on the Common Agricultural Policy.

The negative balance of the central government budget in the whole of 2007 was largely determined by the central government deficit in 2007 Q4. That deficit amounted to PLN 17.1 billion and was significantly higher than in the corresponding period of previous years, which resulted to a large extent from the accelerated growth of budget expenditure. Budget expenditure in this period increased by 22.3% y/y (against the average growth in the first three quarters of 2007 at the level of 10% y/y).

The favourable economic situation positively affected also the revenues of other units of the general government sector. In 2007 Q4, similarly as in the previous years, local government units reported a deficit despite high tax revenues. However, on account of the high budgetary surplus recorded by those units after the first three quarters of 2007¹¹, the local government budget recorded a surplus in the whole of 2007, according to preliminary data from the Ministry of Finance. The favourable balance of local government budget resulted from high tax revenues and probably from incomplete realisation of expenditure planned for 2007, mainly on projects co-financed with EU funds. Special purpose funds probably also recorded a budgetary surplus in 2007 due to dynamic growth of revenues from

¹⁰Central budget revenues and expenditure were respectively 19.4% and 13.6% higher in 2007 than in the previous year.

¹¹From January to September 2007, the local government units recorded a budgetary surplus amounting to PLN 13.8 billion, while in the corresponding period in the years 2004 to 2006 that surplus amounted to ca. PLN 6 billion.

contributions accompanied by moderate growth of expenditure¹².

As a result of higher than envisaged revenues and lower than assumed public expenditure, according to the estimates of the Ministry of Finance, the deficit of the general government sector in 2007 amounted to ca. 2.5% of GDP according to EU standards (ESA'95 with Open Pension Funds excluded from the sector). It was therefore lower than 3% of GDP assumed in the *Convergence Programme, Update of October 2007* and significantly lower than the deficit of 2006 (3.8% of GDP).

It should be noted that the improvement of the public finance situation recorded in 2007 was mainly related to strong economic growth. The fiscal policy in 2008 and in the following years is subject to large uncertainty, particularly in the context of strong wage demands in the public sector.

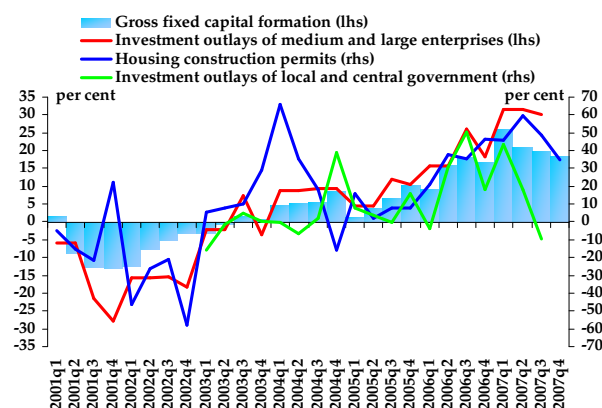
2.1.3 Investment demand

2007 Q3 saw persistently strong growth in gross fixed capital formation (growth of 19.8% y/y in real terms), although, in line with the expectations, slightly weaker than in 2007 Q2 (Figure 2.4). In consequence, the ratio of investment to GDP also increased reaching 21.1% (Figure 2.5). The growth in gross fixed capital formation in 2007 Q4 implied from the GUS preliminary annual estimates reached approx. 18.4% y/y, which means further growth in the ratio of investment to GDP¹³.

In 2007 Q3 growing investment activity was observed mainly in the corporate sector (Figure 2.4). Considerable improvement was recorded in housing construction while investment expenditure of the central and local government sectors showed a decline.

Similarly to 2007 Q2, investment in the sector of non-financial enterprises (employing over 49

Figure 2.4:
Investment in the economy (y/y).



Source: GUS data, Ministry of Finance data, NBP calculations, 2007 Q4 – data implied by GUS preliminary estimates for the year 2007 (NBP estimates).

* Due to lack of data on investment outlays of enterprises in Q1 and Q2 of each year, the chart presents the growth for the first half of a year.

¹²At the moment of the publishing of this *Report* the data on the financial condition of special purpose funds in 2007 were not available.

¹³A more detailed analysis of investment demand in 2007 Q4 will be possible only after detailed data concerning, among other things, its structure have been released.

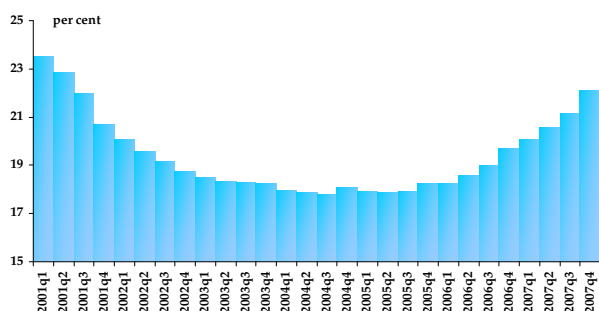
Table 2.2: Decomposition of gross fixed capital formation in Poland.

Contribution (per cent)	2006				2007		
	q1	q2	q3	q4	q1	q2	q3
Products of agriculture, forestry and fisheries	0.0	0.0	0.1	0.1	0.2	0.1	0.2
Metal products and machinery	32.0	29.1	29.7	28.6	33.8	28.9	28.6
Transport equipment	13.4	14.3	14.0	11.4	13.0	14.0	13.9
Construction work: housing	20.9	20.7	18.8	13.1	18.4	17.8	17.8
Construction work: other constructions	30.2	31.2	33.5	43.0	31.6	35.6	35.7
Other products	3.6	4.7	3.9	3.7	3.0	3.6	3.8

Source: Eurostat data.

Figure 2.5:

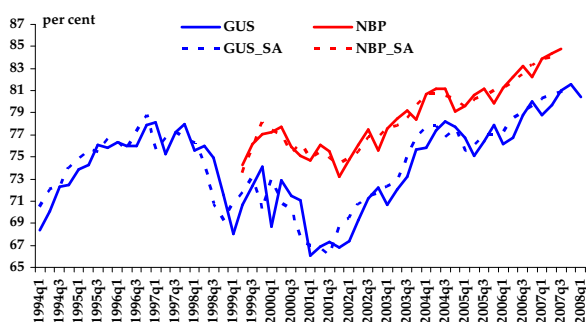
Investment to GDP ratio (gross fixed capital formation to GDP, annualized).



Source: GUS data, NBP calculations, 2007 Q4 – data implied by GUS preliminary estimates for the year 2007 (NBP estimates).

Figure 2.6:

Production capacity utilisation in industry (GUS) and in the corporate sector (NBP).



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 December 2007, in turn, included 864 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.

employees) grew considerably faster than in the economy as a whole. In 2007 Q3 these enterprises increased their fixed capital formation by 27.3% y/y¹⁴, with the highest growth of outlays for real estate and land. This may suggest that those enterprises have exhausted the possibilities to increase their production capacity through fleet development and modernization and that new industrial facilities and areas are necessary to allow further potential increase.

The coming quarters are expected to bring sustained strong investment activity in the corporate sector. The results of the NBP Economic Climate Surveys point to high and persistently growing rate of production capacity utilization in enterprises¹⁵ (Figure 2.6), which amidst still optimistic sales outlook constitutes to be one of key factors driving investment activity. The sustained high investment outlays are also supported by continuously high rate of return on capital employed in enterprises. (Figure 2.7). At the same time, very good financial standing of enterprises¹⁶ create favourable conditions for investment financing. Further growth in investment outlays will also be supported by the inflow of foreign funds, both in the form of structural funds (the allocation of funds granted to Poland within EU financial perspective 2007-2013 may soon be started) and foreign direct investment. According to the NBP Economic Climate Surveys, re-

¹⁴NBP estimates based on GUS data.

¹⁵The rate of production capacity utilization in enterprises is constantly growing, *Information Concerning the Condition of the Corporate Sector and the Economic Climate in 2008 Q1*, NBP.

¹⁶In 2007 Q3 enterprises generated PLN 21.8 billion of net profit as compared with PLN 23.8 billion in 2007 Q2

duced loan availability to large enterprises¹⁷, growing costs of labour, energy, materials and raw materials as well as growing costs of capital and rising prices of investment goods may have a negative impact on investment. There is also persisting uncertainty about the impact of the slowdown in the world economy on investment decisions of Polish enterprises.

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

2.1.4 External demand and current account balance of payments¹⁸

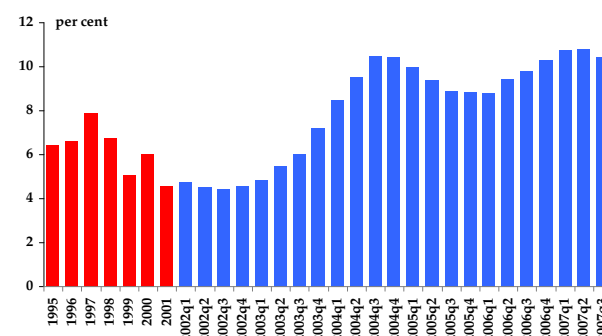
The euro area, which is Poland's largest export market, saw an acceleration of economic growth in 2007 Q3 in comparison with 2007 Q2. It was mainly due to a higher contribution of net exports than in the preceding two quarters (Figure 2.8).

The increase in net exports contribution to GDP growth was accompanied by rising trade in the euro area (Figure 2.10). A slight increase in the exports growth was mainly driven by high demand in the external environment of the euro area, in particular in the new EU countries and in oil exporting countries. The increase of exports to these countries compensated for the decline in sales to non-European developed countries (in particular to the USA and Japan). The increase in exports growth contributed at the same time to the increase in the demand of the export sector in the euro area, which was reflected in the acceleration of input imports. The continued appreciation of the euro was an important factor,

¹⁷Further tightening of the credit policy with respect to large enterprises is suggested by the findings of the NBP surveys *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions (2008 Q1)*

¹⁸Export and import data presented in this chapter refer to values expressed in EUR.

Figure 2.7:
Return on capital employed in enterprises.

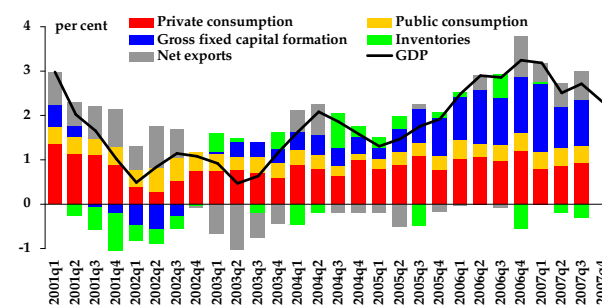


Source: GUS data, NBP estimates.

Return on capital employed calculated as operational profit to total assets minus short-term liabilities: annual data and quarterly data (cumulated over last 4 quarters)

Data for enterprises with at least 49 employees.

Figure 2.8:
Decomposition of euro area GDP growth.



Source: Eurostat data.

Change (per cent)	2005				2006				2007		
	q1	q2	q3	q4	q1	q2	q3	q4	q1	q2	q3
Export prices / Unit labour costs*											
y/y	-7.7	-16.8	-6.6	-5.9	0.7	7.2	8.7	9.5	7.9	-0.6	-2.9
q/q	-5.5	-1.2	1.2	-0.4	1.1	5.2	2.6	0.4	-0.4	-3.0	0.2
Import prices / Domestic producer prices**											
y/y	-11.8	-13.7	-3.2	-2.2	-2.0	3.5	0.9	0.5	2.1	-2.8	-3.9
q/q	1.8	-4.1	1.6	-1.5	2.1	1.3	-0.9	-1.8	3.6	-3.6	-2.0
REER ULC***											
y/y	20.6	18.4	13.3	7.7	2.6	0.9	0.1	3.0	1.7	9.2	10.5
q/q	8.0	-0.9	1.7	-1.0	3.0	-2.6	0.9	1.8	1.7	4.6	2.1

Table 2.3: Polish export and import competitiveness measures.

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,

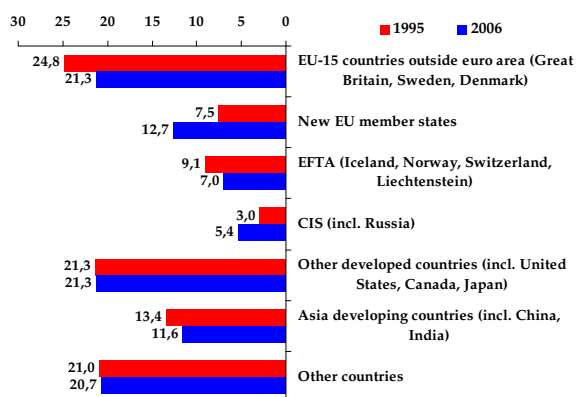
** Domestic PPI in manufacturing.

*** Estimates on the basis of monthly GUS data and ECB data. REER ULC – real effective exchange rate deflated with unit labour costs in manufacturing. Minus denotes depreciation.

Source: Own calculations based on NBP, GUS, EC, ECB and Eurostat data.

Figure 2.9:

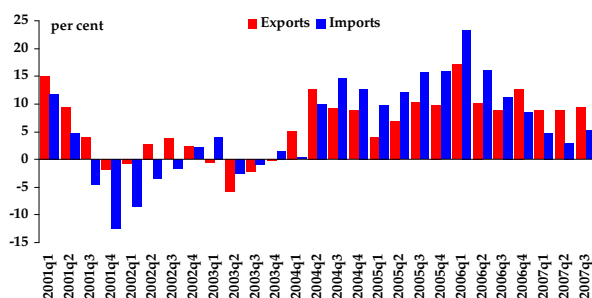
Regional structure of euro area exports.



Source: Eurostat data.

Figure 2.10:

External exports and imports of euro area (y/y).



Source: Eurostat data.

which caused the acceleration of imports also in the group of consumer goods.

According to Eurostat preliminary estimates GDP growth in the euro area in 2007 Q4 decreased to 2.3% y/y. Since the previous *Report* there has also been a pronounced downward revision of economic growth forecasts for this region¹⁹. The slowdown of growth is signalled by deteriorating assessments of economic situation both from the perspective of enterprises and households. At the same time, forecasts of growth for the main trading partners of the euro area have been revised downwards, which may indicate the decline in the future exports and imports growth of the region. A negative impact on exports of the euro area may be exerted mainly by the decline of demand on the part of the United States and the United Kingdom, which, apart from the euro appreciation against the dollar, is prompted by the dampening of economic activity in those countries²⁰.

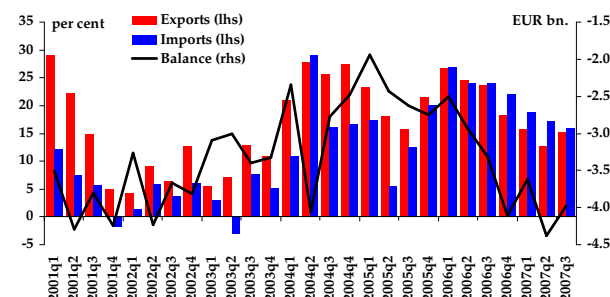
¹⁹The consensus published by *The Economist* in February 2008 assumes that the economic growth in the euro area in 2008 will amount to 1.8% (against 2.2% forecasted in October 2007).

²⁰In 2007 Q4 the American GDP grew by 2.5% y/y (0.2% q/q) and the import demand by 1.4% y/y (0.1% q/q)

The growth in Polish exports to the euro area recorded in 2007 Q3 (reaching 12.6% y/y against 9.6% y/y in 2007 Q2) and accompanying acceleration of exports to countries outside the European Union contributed to averting the falling trend in the Polish exports growth²¹ (Figure 2.11). Concurrently, the decline in the growth of the imports value continued²². However, the rise in imports was still higher than the rise in exports, which resulted in higher Polish foreign trade deficit in 2007 Q3 as compared to the corresponding period of the previous year.

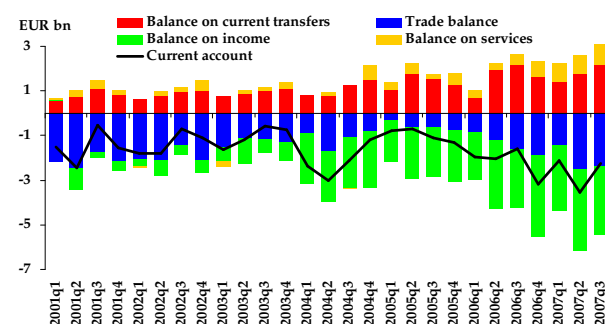
In 2007 Q3 the growing negative balance on the trade of goods in relation to 2006 Q3 was accompanied by the rising income deficit and the narrowing of the positive balance of transfers, with the simultaneous increase of the surplus in the trade in services. As a result there has been a further deepening of the current account deficit (Figure 2.12), which in 2007 Q3 amounted to 3.7% of GDP.

Figure 2.11:
Polish external trade (exports, imports: y/y).



Source: GUS data.

Figure 2.12:
Current account balance.



Source: NBP data.

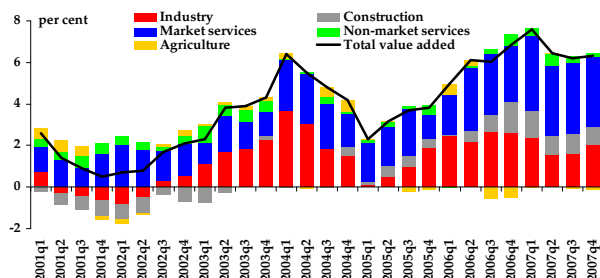
against respectively 2.8% y/y (1.2% q/q) and 1.7% y/y (1.1% q/q) in 2007 Q3. At the same time, the consensus published by *The Economist* in February 2008 assumes that the economic growth in the United States in 2008 will amount to 1.6% (against 2.2% forecasted in October last year). In 2007 Q4 the GDP in the United Kingdom grew by 2.9% y/y (0.6% q/q) against respectively 3.3% y/y (0.7% q/q) in 2007 Q3. At the same, the consensus published by *The Economist* in February 2008 assumes that the economic growth in the United Kingdom in 2008 will amount to 1.7% (against 2.1% forecasted in October last year).

²¹This was mainly due to higher growth of transaction prices in exports (reaching 8.3% y/y in 2007 Q3, against 5.5% y/y in 2007 Q2). At the same time the growth of exports volume continued to decline (to 6.4% y/y against 7.0% y/y).

²²The decline in the growth of the imports value was due to the slower growth of its volume (11.6% y/y in 2007 Q3 against 14.6% y/y in 2007 Q2).

Figure 2.13:

Sector contribution to annual gross value added growth.



Source: NBP calculations on the basis of GUS data, 2007 Q4 – data implied by GUS flash estimates for the year 2007 (NBP estimates).

2.2 Output

The growth of gross value added in the economy in 2007 Q3 amounted to 6.2% y/y, thus exceeding the expectations of the previous *Report*. According to GUS preliminary estimates for 2007 the implied growth of gross value added in 2007 Q4 continued at the level of approx. 6.3% y/y (Figure 2.13).

In 2007 Q3 the contribution of major sections of the economy (industry, construction and market services) to the total gross value added growth remained at the 2007 Q2 level. According to the implied data, 2007 Q4 brought a decline in the contribution of non-market services to the total gross value added growth combined with a simultaneous increase in the contribution of industry and the absence of changes in construction and market services.

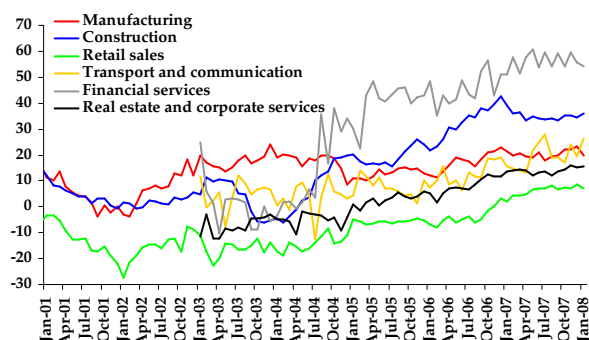
Table 2.4: Value added and its components.

Change q/q seasonally adjusted (per cent)	2006				2007			
	q1	q2	q3	q4	q1	q2	q3	q4
Value added – total	1.5	2.3	1.3	1.6	2.1	1.3	1.1	1.7
Industry	2.2	3.3	1.9	2.0	2.2	0.7	1.6	2.9
Construction	3.3	7.5	3.4	5.1	4.3	3.0	1.8	2.9
Market services	1.3	2.0	1.3	1.4	2.2	1.5	1.5	1.6

Source: NBP calculations on the basis of GUS data, 2007 Q4 – data implied by GUS flash estimates for the year 2007 (NBP estimates).

Figure 2.14:

Indicators of future economic activity in selected sections.



Source: GUS data.

In the NBP's assessment in 2008 the growth of value added will be lower than in 2007 although the outlook for growth remains favourable which finds support in the GUS economic climate survey for all sections of the economy. (Figure 2.14).

2.3 Labour market

2.3.1 Employment and unemployment

In 2007 Q4 the number of working persons in the economy rose faster than in 2007 Q3 albeit at a slower pace than in 2007 Q2. (Figure 2.15 and Table 2.5). The high growth in the number of working persons in services and industry was sustained, while, a continued drop was noted in

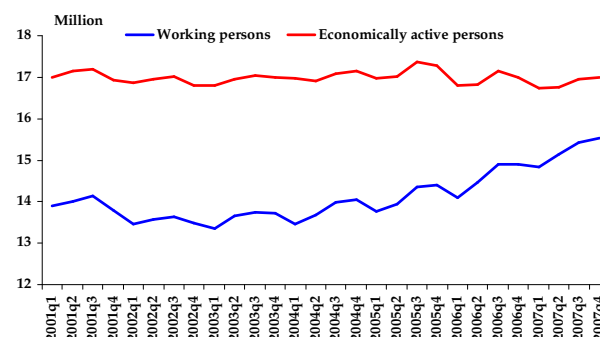
the number of working persons in agriculture. The largest contribution to the rise in the number of working persons in the economy is still made by the service sector.

The high demand for labour has been reflected in a high growth in average employment in enterprises (Figure 2.16) and a further decline in unemployment (Figure 2.18). The rate of unemployment according to the BAEL (Labour Force Survey) fell to the lowest level since the survey started in 1992 (8.5% in 2007 Q4). Persistent increase has been noted in vacancies reported by employers to labour offices although it has been lower than in the first half of 2007²³. At the same time there has been a constant rise of the percentage of employers who are experiencing difficulties in hiring both skilled employees²⁴, and workforce in general²⁵.

As a result of the unsatisfied demand for workers, the share of unfilled vacancies reported to labour offices has been growing²⁶. One of the reasons for these workforce difficulties is Poland's shrinking labour supply resulting, among other factors, from the withdrawal of people entitled to early retirement from the labour market and the emigration of Polish workers to EU countries²⁷.

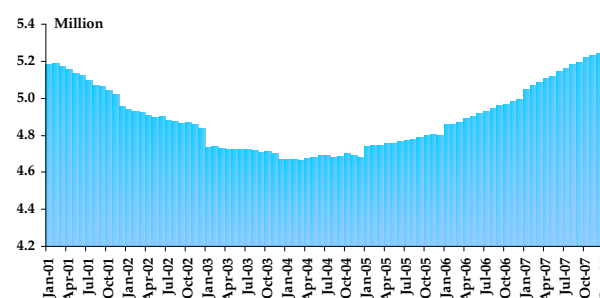
Since the beginning of 2006 the growing num-

□ **Figure 2.15:**
Working persons in the economy and the economically active in the economy (according to BAEL)



Source: GUS data

□ **Figure 2.16:**
Employment in the enterprise sector (thousands)



Source: GUS data

²³In 2007 Q4 the number of vacancies rose by 4.6% y/y, as compared with an average increase of 19.6% y/y in the first half of 2007

²⁴According to the GUS business tendency survey, in February 2008 in construction the shortfall of skilled employees was declared by 56.0% of employers (as compared to 53.0% a year before), while in manufacturing in 2008 Q1 such problems were reported by 30.7% of employers (as compared to 25.4% one year earlier).

²⁵In 2008 Q1 problems in finding workforce in general were reported by 13.4% of manufacturing companies as compared to 9.6% a year before.

²⁶In January 2008 as many as 64% of vacancies reported to labour offices remained unfilled at the end of the month, compared to 56% a year before.

²⁷According to GUS estimates, at the end of 2006 the number of Poles residing temporarily abroad for a period exceeding two months reached 1950 thousand persons as compared with 1000 thousand persons at the end of 2004 and 786 thousand in May 2002 when the National Census was taken. The impact of economic emigration on the Polish economy is discussed in detail in the box *Channels of impact of emigration on the Polish economy* in the April 2007 Report, p. 26–27.

	Working persons in 2007q4		Growth in 2007q3		Growth in 2007q4		Growth in 2007q3	Growth in 2007q4
	thousands	structure	y/y thousands	y/y (percent)	y/y thousands	y/y (percent)	q/q sea- sonally adjusted (percent)	q/q sea- sonally adjusted (percent)
Total	15,538	100.0	526	3.5	627	4.2	0.5	1.2
Total excluding private agriculture	13,543	87.2	638	5.0	241	5.7	1.3	1.5
Place of residence								
urban areas	9,582	61.7	403	4.4	428	4.7	0.9	1.1
rural areas	5,956	38.3	125	5.0	199	5.7	0.0	1.4
Economic sector								
agriculture	2,171	14.0	-127	-5.2	-108	-4.7	-1.4	-0.7
industry	4,858	31.3	286	6.3	363	8.1	2.4	2.2
services	8,508	54.8	370	4.6	376	4.6	1.1	1.1
Ownership sector								
public	4,299	27.7	-55	-1.3	-21	-0.5	0.1	-0.1
private	11,239	72.3	581	5.5	647	6.1	0.5	1.5
Employment status								
hired employees	12,001	77.2	544	4.8	621	5.5	1.2	1.4
employers and self-employed	2,942	18.9	58	2.0	31	1.1	0.2	-0.1
contributing family workers	595	3.8	-76	-10.2	-26	-4.2	-2.4	-0.5
Type of job contract								
fixed-term contract	3,403	28.4	164	5.1	232	7.3	1.7	2.3
permanent contract	8,598	71.6	380	4.7	389	4.7	1.2	1.6

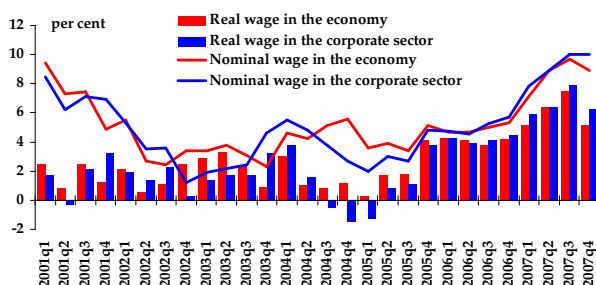
Table 2.5: Working population according to BAEL in selected sections

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: GUS data, NBP calculations.

Figure 2.17:

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



Source: GUS data, NBP calculations.

ber of working persons and the decreasing rate of unemployment had been accompanied by a fall in the number of the economically active²⁸. However, in 2007 Q4 this decrease came to a halt (0.0% y/y, compared to a fall of 1.0% y/y in 2007 Q3).

In line with the findings of both GUS business tendency and NBP economic climate surveys²⁹ the favourable outlook for employment is sustained for 2008 Q1, especially in construction and services.

²⁸In 2006 the drop in the number of the economically active resulted partly from methodological changes introduced into the BAEL survey starting from 2006 Q1. See footnote 21 on page 28 of the April 2007 Report

²⁹See: *Information Concerning the Condition of the Corporate Sector and the Economic Climate in 2008 Q1*, NBP.

2.3.2 Wages and productivity

In 2007 Q4 nominal wages in the economy showed a continued rapid growth, albeit slower than in the preceding quarter (8.9% y/y in Q4 as compared with 9.7% y/y in Q3.), while the growth of nominal wages in the corporate sector did not decline as compared with the preceding quarter (10.0% y/y in Q3 and Q4, Figure 2.17)³⁰. Yet, due to a rise in inflation in 2007 Q4 the growth in real wages in this quarter was lower than in the previous one.

In 2007 Q4 wages in the economy were growing markedly faster than labour productivity³¹. Due to accelerating growth in the number of working persons combined with the GDP growth probably slowing down, labour productivity growth in 2007 Q4 was lower than in 2007 Q3 (2.1% y/y against 2.8% y/y). At the same time wage growth slowed as well (8.9% y/y against 9.7% in 2007 Q3). Consequently, the growth of unit labour costs in the economy stayed at a level close to that recorded in the preceding quarter (6.9% y/y against 6.7% y/y in 2007 Q3)³², still one of the highest levels since 2000 Q4 (Figure 2.19).

Since May 2007 growth has been noted also in unit labour costs in industrial enterprises (Figure 2.20)³³. The upsurge in growth of unit labour costs is conducive to increasing cost pressure in enterprises and may lead to inflation rise. Continued very good financial results of enterprises may be a factor limiting the impact of rising unit labour costs inflation.

According to the NBP Economic Climate Survey³⁴ the average amount of pay rise planned

³⁰In January 2008 nominal wages in the corporate sector rose by 11.5% y/y.

³¹Labour 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 data.

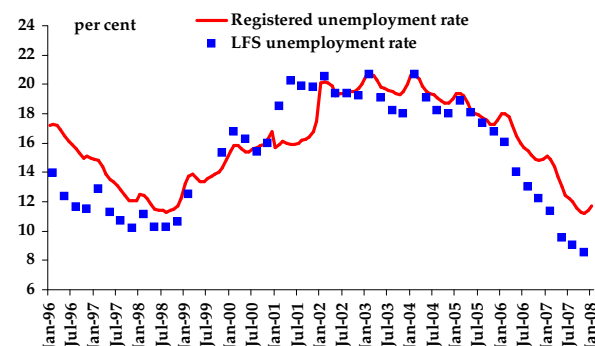
³²Unit labour costs in the economy: nominal aggregate wages in the economy (average nominal wage in the economy multiplied by the number of people working in the economy according to the BAEL data) in relation to GDP (in constant average annual prices of the previous year).

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

³⁴See: *Information Concerning the Condition of the*

□ **Figure 2.18:**

Unemployment rate - registered by labour offices and BAEL (Labour Force Survey) (per cent)



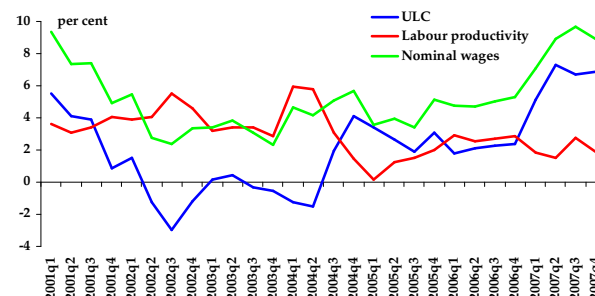
Source: GUS data

Data in the whole sample adjusted for the results of the 2002 National Census

There are two reasons for the differences between the unemployment rate according to BAEL and the registered unemployment rate: (1) Different definition of unemployed person. Persons registered as unemployed in Labour Offices do not necessarily comply with the definition of unemployment used in the BAEL survey (unemployed, actively seeking employment and able to undertake employment immediately); on the other hand, not all the BAEL unemployed get registered in Labour Offices. According to historical data, in the periods of lower unemployment the registered unemployment rate was higher than the BAEL unemployment rate which may suggest that amidst higher demand for labour there is a growing number of persons failing to meet the criteria of unemployed person according to BAEL registered by Labour Offices. (2) Different definition of population to which the number of the unemployed is referred. While calculating the BAEL unemployment rate the number of economically active consists of the number of unemployed together with the number of persons qualified as employed in the BAEL survey. While calculating the registered unemployment rate the number of the unemployed is divided by the GUS estimated number of the employed in a particular month.

□ **Figure 2.19:**

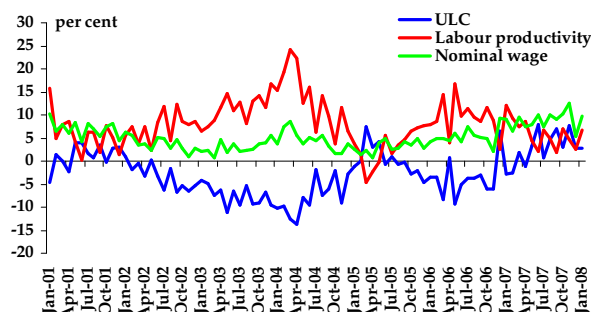
Annual percentage growth of unit labour costs (ULC), labour productivity and nominal wages in the economy



Source: GUS data, NBP calculations.

□ **Figure 2.20:**

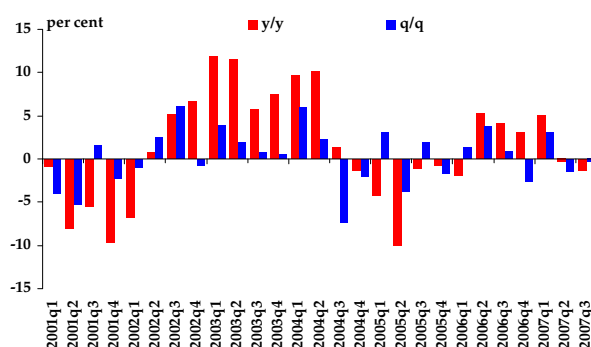
Annual growth of labour productivity and wages in industry



Source: GUS data, NBP calculations.

□ **Figure 2.21:**

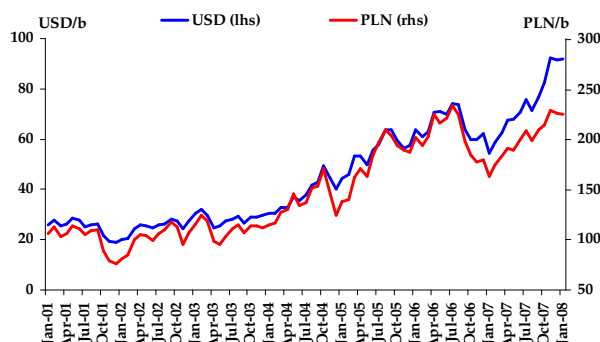
Percentage change in the zloty denominated import prices.



Source: GUS data.

□ **Figure 2.22:**

Brent crude oil prices in USD and PLN.



Source: The US Department of Energy (www.eia.doe.gov) data, NBP calculations).

for 2008 Q1 remained at the previous quarter's level³⁵. Moreover, as compared with the previous survey, the number of enterprises in which the wage rise will constitute the main driving force behind price increases has grown, although it still remains low. The expected wage growth may also be driven by escalating wage demands in the public sector.

2.4 Other costs and prices

2.4.1 External prices

2007 Q3 was the second consecutive quarter, which saw a decline in import prices expressed in PLN (Figure 2.21). This resulted both from the further decrease in year-on-year oil prices and a drop in the prices of most other main groups of imported goods (i.a. in the major group of imports which includes machinery and transport equipment). The appreciation of the zloty exchange rate observed in 2007 Q3 contributed to those decreases.

The decline in zloty-denominated oil prices in 2007 Q3 was caused by zloty appreciation against the US dollar. However, amidst the strong rise in crude oil prices in the world markets in 2007 Q4 and at the beginning of 2008³⁶, further appreciation of the zloty exchange rate only partially weakened the impact of the growth in oil prices expressed in USD (Figure 2.22). The surge in oil prices was stimulated by a considerable drop in oil stocks in the developed countries on the back of the slow growth in oil supply. Further upward pressure on the prices of this commodity was exerted by the lingering high geopolitical risk in the major oil-producing countries (i.a. Nigeria, Iraq, Iran) as well as by strong activ-

Corporate Sector and the Economic Climate in 2008 Q1, NBP.

³⁵The median of the planned pay rises in the group of enterprises which envisage them was at the level of 5.0%, while the average planned pay rise reached 6.9%.

³⁶In 2007 Q4 oil prices expressed in USD were 46.1% higher in comparison to 2006 Q4. On 20 February 2008 oil prices reached its new historical high. Brent oil prices exceeded the level of 99 USD/b, whereas WTI oil prices of 101 USD/b, respectively.

ity of speculative funds in the commodity futures markets.

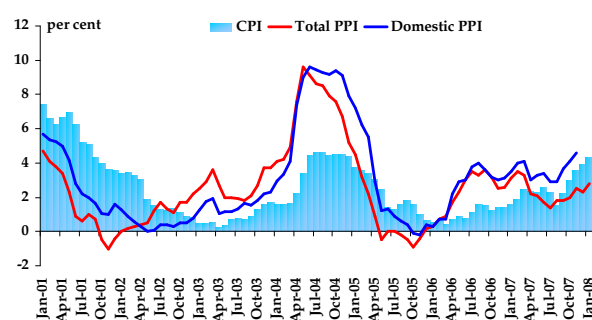
The rise in current oil prices was accompanied by an upward adjustment of oil price forecasts. In the near term, the high level of oil prices should be primarily sustained by the anticipated considerable increase in the world demand for oil. However, compared with the previous issue of *The Inflation Report*, the risk that the world economic growth may weaken is higher, which in turn may contribute to lowering the growth rate of the demand for oil and, consequently, to a price drop.

2.4.2 Producer prices

2.4.3 Producer prices in industry³⁷

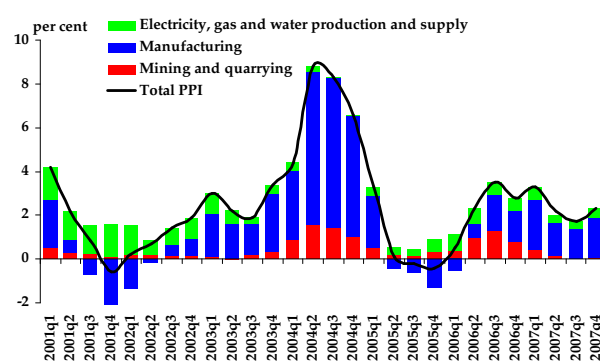
2007 Q4 brought an increase in the annual growth of the Producer Price Index up to 2.3% y/y (Figure 2.23). The growth rate of producer prices in the domestic market in October and November 2007 outpaced the overall producer price growth by over 2 percentage points which was connected with export price decline in that period. This decline was the result of the appreciation of the nominal effective zloty exchange rate. 2007 Q4 saw an increase in the growth rate of producer prices in the sections *Manufacturing* and *Mining*. Due to a large share of *Manufacturing* in industry, this section continued to have the highest contribution to the total PPI growth (Figure 2.24).

Figure 2.23:
CPI, total PPI and domestic PPI (y/y).



Source: GUS data.

Figure 2.24:
Contribution of producer prices growth in PPI total annual growth.



Source: GUS data.

³⁷Total 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.

2.5 Financial markets³⁸

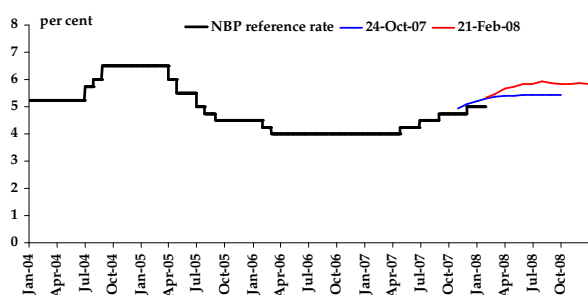
2.5.1 Asset prices and interest rates

Short-term interest rates

Since the publication of the previous *Report* the Monetary Policy Council has raised the reference rate twice - to 5.25%. The increases, each by 25 basis points, were effected in November 2007 and January 2008, and at the meetings in October and December 2007 the Council decided to leave interest rates unchanged. Both the November 2007 and January 2008 interest-rate increases and no change at the October and December 2007 meetings had been expected by most analysts.

Analysts surveyed by Reuters in February 2008 expected the reference rate to be raised to 5.75% in 2008. Analysts' expectations of the NBP interest rates in 2008 increased by 50 basis points, as compared to their expectations of October 2007. These expectations of a rise in domestic interest rates were shaped under the influence of higher-than-expected data on consumer and producer prices, dynamics of sold production of industry and dynamics of wages and salaries in enterprise sector.

□ **Figure 2.25:**
Monetary policy expectations in Poland – actual developments and expected NBP interest rate.



Source: Reuters data, NBP calculations.

Market expectations embedded in FRA rates indicate the total scale of reference rate increases could range from 50 to 75 basis points, to 5.75-6.00% over a one-year horizon. The above-expectations data for January, published in February, especially those on inflation and wages, have contributed to a rise in the expected target level of NBP interest rates at the end of 2008. Temporarily, increases by 25-50 basis points to 5.50-5.75% within a one-year period were priced into FRA rates in January. The January fall in FRA rates could have resulted from a rise in the risk of a recession in the United States, which led to significantly lower market expectations of the level of the Federal Reserve official interest rates and to the emergence of expectations of ECB interest-rate cuts. It seems that worse prospects

³⁸The cut-off date for the data presented in this section is 22 February 2008.

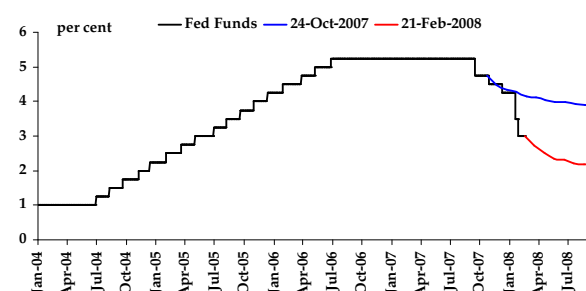
for economic growth in the euro area, stemming from the rising probability of a recession in the US may have, in the opinion of investors, adversely translated into the prospects for GDP growth in Poland. Therefore, there has been a decrease in the expected target level of NBP interest rates. 2.25).

Since the publication of the previous *Report* the Federal Reserve has reduced the target federal funds rate by a total of 175 basis points to 3.00%. The two recent cuts followed in short succession - the first, by 75 basis points, on 22 January and the second, by 50 basis points, on 30 January. The cut of 22 January was decided during an unscheduled meeting. Thus, the Federal Reserve's decision and the size of the interest-rate cut exceeded by far market expectations. This decision was substantiated by sustained financial-market turmoil and an increased risk of a recession in the US economy.

Expectations of the future path of US interest rates have been significantly downgraded since the end of October 2007. According to forward market quotations the federal funds rate is currently expected to be cut to 2.00-2.50% over a six-month horizon (Figure 2.26).

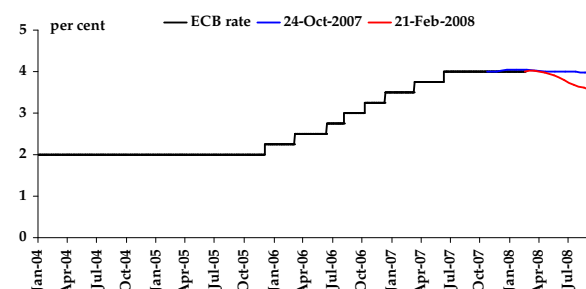
Since June 2007 the ECB has left its repo rate unchanged at 4.00%. Its decision of 7 February 2008 to keep the interest rate unchanged was consistent with market expectations, which had been reduced since October 2007. The current forward market quotations suggest expectations of cuts in euro area interest rates to the level of 3.50% over a six-month horizon (Figure 2.27). Signals of a possible economic downturn in the euro area (the risk of a negative impact of the economic downturn in the US, drops in confidence indicators, a downturn in the property market in some regions of the euro area) may persuade the ECB to lower interest rates over the horizon of the next six months. High current inflation and the persisting risks of a rise in inflation in the euro area in the medium term (improving situation on the labour market and a high level of capacity utilization) are factors supporting the opinion that one cannot rule out the possibility of ECB leaving interest rates unchanged or, which is less probable, raising them.

□ **Figure 2.26:**
Monetary policy expectations in the United States – actual developments and expected Fed Funds rate.



Source: Bloomberg data, NBP calculations.

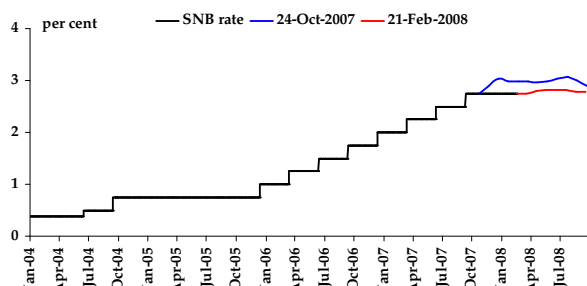
□ **Figure 2.27:**
Monetary policy expectations in the euro area – actual developments and expected ECB interest rate.



Source: Bloomberg data, NBP calculations.

Figure 2.28:

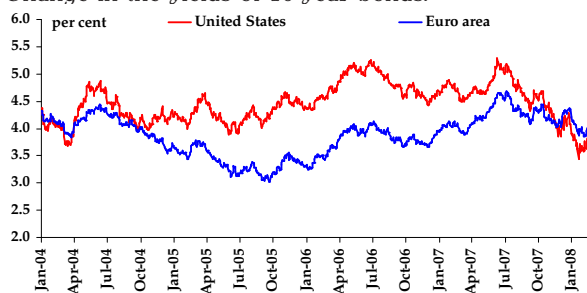
Monetary policy expectations in Switzerland – actual developments and expected SNB rate.



Source: Bloomberg data, NBP calculations.

Figure 2.29:

Change in the yields of 10-year bonds.



Source: Bloomberg data.

Figure 2.30:

Change in the yields of the Polish benchmark bonds.



Source: Reuters data.

Since the publication of the previous *Report* the Swiss National Bank (SNB) has kept interest rates unchanged at 2.75%. In the opinion of the SNB the Swiss economy remains strong despite the turmoil in international financial markets and the risk of a weakening of global growth. Market expectations point to SNB leaving interest rates on unchanged over the horizon of the next six months. (Figure 2.28).

Long-term interest rates and the equity market

The fourth quarter of 2007 and the beginning of 2008 saw an increased volatility of prices of financial assets and a rise in risk aversion in the world markets. Changes in investor preferences involved the selling of riskier financial assets (for instance shares and bonds of developing countries) and investing the withdrawn funds in the safest securities, i.e. Treasury bonds of developed countries, as a result of which the yields on Treasury bonds in the United States and the euro area declined significantly (Figure 2.29). In the opinion of markets, the probability of a recession in the US and its negative impact on the economic situation in the euro area has also increased. This led, among others, to a lowering of short-term interest rates in the US and a strengthening of the expectations of their further cuts, as well as a clear weakening of the expectations of ECB rate hikes or even to the emergence of expectations of interest-rate cuts. The transitory rise in yields in the US and the euro area in December 2007 resulted from a partial alleviation of the shaky situation in the financial markets and a decline in risk aversion among global investors.

The persisting turmoil in international financial markets and a rise in current and forecast inflation have led to a rise in yields of the Polish Treasury bonds since October 2007 (Figure 2.30). The transitory fall in yields on Polish debt securities in January 2008 resulted from a growing concern about the possibility of a euro area slowdown spilling over to Poland and from a fall in expected NBP target interest rate. A concurrent rise in yields in the domestic market and a sig-

nificant drop in the yields in the core markets resulted in a widening of spreads - e.g. the gap between the yields on Polish and German 10-year Treasury bonds grew to 190 basis points in February 2008.

The yields on Polish long-term bonds in average annual terms, used to verify the compliance with the Maastricht interest rate criterion, have stayed practically unchanged since April 2007 (Figure 2.31). Since the end of 2005 Poland has been complying with the interest rate criterion.

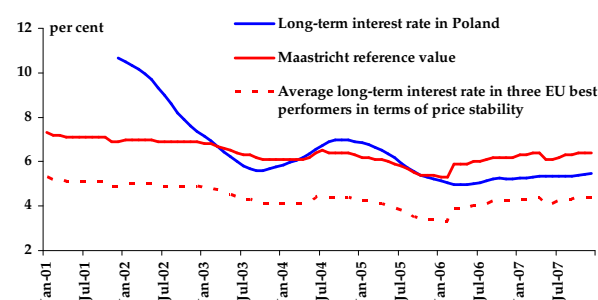
In September - December 2007, the value of Treasury bond portfolio held by non-residents was increasing. The rise in their involvement was mainly seen at the end of October and the beginning of November 2007. (Figure 2.32).

In September - December 2007 the participation of foreign investors in the Polish equity market slightly increased in relation to August 2007. (Figure 2.33).

The performance of the domestic equity market reflected sentiment on international markets. Since the publication of the previous *Report* there has been a very strong decline in share prices of companies listed on the WSE (Figure 2.34). Temporarily, in September and October 2007, Polish stock exchange indices, like indices across the world, recorded an increase resulting from the stabilisation measures taken by the major central banks in August and, in particular, the Fed's reduction of its rediscount rate and main interest rate. The rise in indices was supported by the September cut in Fed interest rates. In parallel, a slight outflow of foreign short-term investments from Poland was observed in this period. November saw a new rise in fears about the condition of the US banking sector and the resulting strong declines in prices on stock exchanges across the world. In consequence, indices on the Warsaw Stock Exchange went down significantly despite the fact that foreign short-term investors reduced their portfolios in that month only slightly. In December 2007 share prices rose briefly only to return to the bearish trend in the second half of the month. Foreign investors bought only a small number of Polish shares in this period. In January 2008, shares plummeted again on the WSE, which broadly

Figure 2.31:

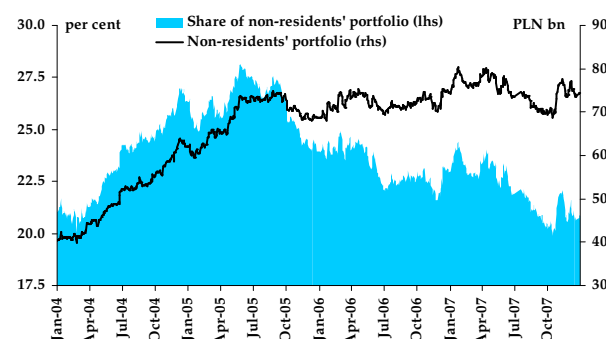
Average annual yield (12-month moving average) for long-term Treasury bonds in Poland versus the reference value for the Maastricht criterion.



Source: NBP estimates based on Eurostat data.

Figure 2.32:

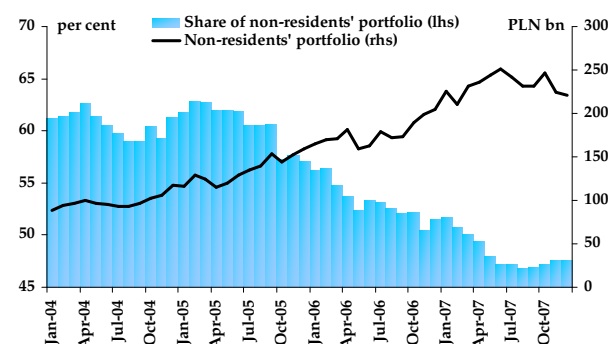
Non-residents' participation in the Polish Treasury bond market.



Source: National Depository for Securities (KDPW) data.

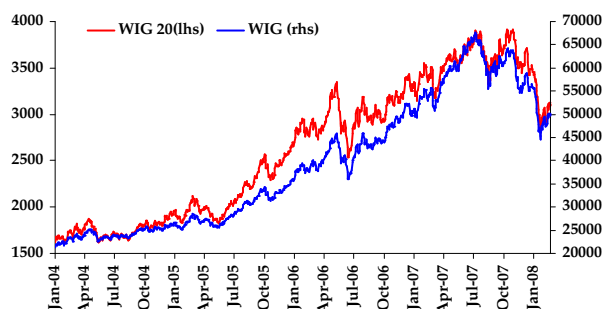
Figure 2.33:

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



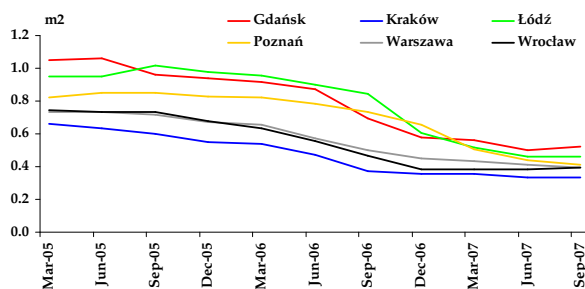
Source: NBP data.

□ **Figure 2.34:**
WIG and WIG 20 stock exchange indices.



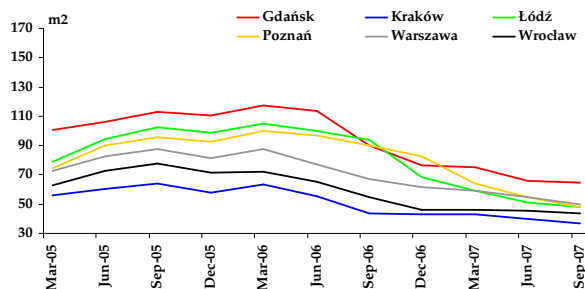
Source: Reuters data.

□ **Figure 2.35:**
Availability of apartments (number of square meters of a flat that can be purchased for local average gross monthly salary in corporate sector at average price in primary and secondary housing market).



Source: NBP, GUS data.

□ **Figure 2.36:**
PLN credit availability of apartments (number of square meters of a flat the purchase of which can be financed with a PLN-denominated housing loan, given the income equals local average salary adjusted for the social minimum).



Source: NBP, GUS data.

reflected the massive selling of shares on the world's largest stock exchanges. This was triggered by further adverse information from the subprime loan market and data reflecting a slowdown in the US economy.

Home prices

The first half of 2007, similarly to 2006, was characterised by a surplus of demand over supply of flats which led to a strong rise in prices. The rise gradually declined and prices levelled out in the second half of 2007. According to real-estate developers and agents, there was a significant drop in transactions and the supply of flats exceeded demand.

Market information confirmed the drop in transaction prices with offered prices stable, both in the secondary and primary market. In the primary market, the offered price growth in 2007 H2 slowed down significantly, mainly in small towns and medium-sized cities, but declines were also observed in the largest cities. (Table 2.6).

The price growth in the secondary market gradually decreased from the beginning of 2007 to go down below zero in the last quarter of 2007. In small and medium-sized cities prices remained at an unchanged level in 2007 H2.

In 2007 Q3, the indices of availability of flats and credit availability of flats (Figures 2.35, 2.37, 2.36) stabilised. It may be assumed, taking into account preliminary figures for property prices in December 2007, that the seven housing markets analysed have reached a short-term equilibrium. Flat prices will further be determined by the forecasted growth of wages and creditworthiness of households and their propensity to invest in the housing market in the situation of uncertainty in the domestic and global capital markets. The main factors limiting the supply and concurrently affecting the level of the prices of flats remain the limited availability of land for construction and the quick rise in its prices taking advantage of the rise in flat prices, underdeveloped infrastructure and workforce deficits in the construction industry, as well as the rising credit cost and the risk of its further rise.

Table 2.6: Change in the average price of a flat in selected local markets.

	Dec 2004	Dec 2005	Dec 2006	Dec 2007	Mar 2007	Jun 2007	Sep 2007	Dec 2007	Dec 2007
	y/y (per cent)	y/y (per cent)	y/y (per cent)	y/y (per cent)	q/q (per cent)	q/q (per cent)	q/q (per cent)	q/q (per cent)	Average price (PLN/m ²)
Primary market									
Poland (total)	9.1	7.9	51.5	21.1	5.5	13.6	2.9	-1.8	7481
Most important housing markets in Poland ^{††}	8.9	12.6	56.1	19.7	8.7	7.7	2.5	-0.2	8149
Capitals of voivodships [‡]	9.1	15.0	45.2	22.7	7.5	11.9	3.5	-1.5	7892
Small and medium towns [‡]	10.6	7.0	10.4	95.7	34.5	33.3	14.0	-4.3	6368
Warsaw	12.8	12.9	54.3	13.1	7.6	2.6	4.1	-1.7	8586
Cracow	13.1	22.3	67.4	15.7	3.3	12.5	2.9	-3.2	8233
Wroclaw	4.8	17.9	101.2	8.1	-2.9	8.3	-4.3	7.4	7506
Gdansk	12.0	15.7	63.7	22.6	5.0	28.2	1.0	-9.8	6863
Gdynia	6.6	8.5	46.0	48.5	25.8	5.2	6.0	5.8	8185
Poznan	8.9	3.0	18.9	119.2	57.1	22.4	12.2	1.6	8854
Lodz	4.7	-5.3	67.4	37.8	22.3	14.5	-0.6	-1.0	6072
Secondary market									
Poland (total)	0.9	8.7	77.6	10.9	12.5	1.1	0.3	-2.7	5565
Most important housing markets in Poland ^{††}	7.2	-1.6	84.1	4.6	9.3	3.4	1.1	-8.5	7023
Capitals of voivodships [‡]	2.2	4.5	82.2	3.6	7.3	0.2	-0.3	-3.4	5963
Small and medium towns [‡]	7.4	9.6	49.4	47.7	30.4	11.6	1.0	0.4	4726
Warsaw	6.9	15.1	55.6	14.5	8.7	9.1	4.9	-7.8	9314
Cracow	12.5	31.3	62.4	8.4	7.0	2.4	1.9	-2.8	8126
Wroclaw	16.6	13.8	74.8	11.1	9.0	-0.3	3.8	-1.5	7205
Gdansk	6.5	18.9	82.5	24.2	15.1	5.1	-4.4	7.4	7063
Gdynia	10.5	17.7	77.8	10.4	7.6	6.3	-6.5	3.3	6693
Poznan	14.8	4.5	49.4	36.7	22.3	13.0	1.7	-2.7	6396
Lodz	4.9	3.9	74.5	47.3	29.8	7.2	2.2	3.5	4920

[†]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' weights vary depending on the size of the sample).

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

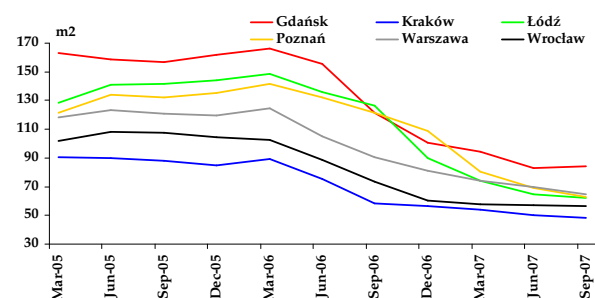
In line with expectations, the rapid growth in costs of construction materials observed from 2006 Q3 has been curbed, which was reflected by a slight drop of the price index of construction and assembly output.

2.5.2 Exchange rate

Since the October *Inflation report* the zloty has appreciated against the euro and even more significantly against the US dollar. At the same time the value of the Slovak koruna has not changed, whereas the Hungarian forint has de-

□ **Figure 2.37:**

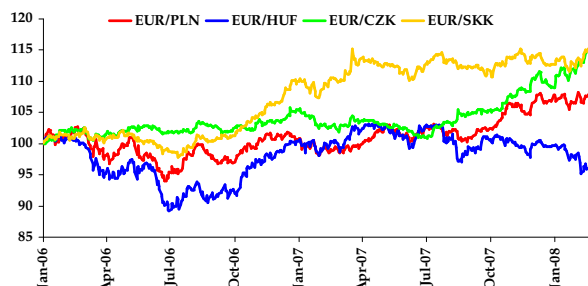
CHF credit availability of apartments (number of square meters of a flat the purchase of which can be financed with a CHF-denominated housing loan, given the income equals local average salary adjusted for the social minimum).



Source: NBP, GUS data.

□ **Figure 2.38:**

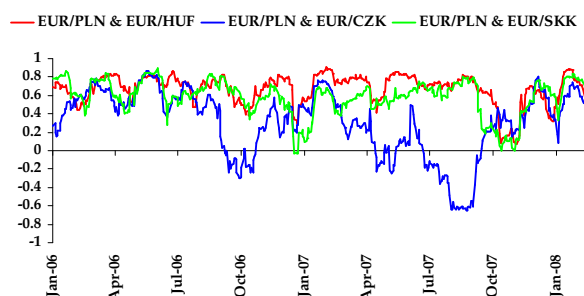
Zloty real (CPI, PPI, and ULC-deflated) and nominal effective exchange rate. Increase denotes appreciation.



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

□ **Figure 2.39:**

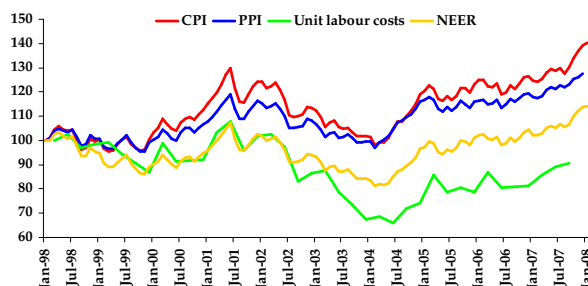
Correlation between daily changes of the EUR/PLN exchange rate and daily changes of the EUR/HUF, EUR/CZK and EUR/SKK exchange rates (monthly rolling window).



Source: NBP calculations based on Bloomberg data.

□ **Figure 2.40:**

Nominal exchange rates of Central European (CEE-4) currencies against the euro. Increase denotes appreciation.



Source: EcoWin data.

preciated and the Czech koruna appreciated visibly against the euro. (Figure 2.38). The correlation of changes of the above-mentioned exchange rates with the EUR/PLN exchange rate has increased significantly since the publication of the previous Report (Figure 2.39).

The shifts in the zloty exchange rate in the period analysed were determined to a similar degree by global and domestic factors. The depreciation of the Polish currency in November 2007 was to a large extent due to the worsening situation in world credit markets and to the increase in risk aversion. In turn, the appreciation of the zloty in December 2007 and in January-February 2008 was caused both by global factors, in particular the changes of the dollar's value against the euro, and domestic factors. The domestic factors contributing to the appreciation of the zloty included the sustained high economic growth in Poland and the increase in the interest rates disparity between Poland and the euro area. On the other hand, data and expectations regarding the worsening current account balance could have been conducive to the depreciation of the zloty.

The data available for the period through January 2007 indicate that since the beginning of 2005 a slight appreciation tendency of the real zloty exchange rate has been observed (Figure 2.40).

2.5.3 Credit and money³⁹

Credit

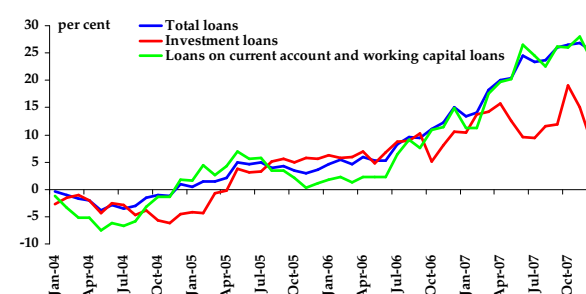
In the last months of 2007, the growth of loans to enterprises remained at the rate of over 25% y/y. Loans for financing current business activity continued to rise faster than investment loans (Figure 2.41). Despite a deceleration of growth in comparison to 2007 Q3, the fastest growth was observed in loans to enterprises for the purchase of real estate (Figure 2.42). The foreign indebtedness of enterprises is also rising fast (Table 2.7). The fundamental factor stimulating the growth of lending reported in NBP survey studies⁴⁰ is the growing demand of enterprises for loans. The results of surveys in commercial banks point to increased demand for long-term credit in 2007 Q4 (primarily in the segment of large enterprises) and just a minor growth in demand for short-term credits. This is probably related to the fact that enterprises undertake investment activities (according to survey studies, own resources are to be the main funding source of the investment activities with bank credit reported as the second important source). The enterprises' index of loan debt forecasts in NBP surveys of the economic climate (adjusted for seasonal fluctuations) remained at a very high level in 2008 Q1. This is consistent with the expectations of banks which anticipate further strong growth in demand for loans to enterprises in 2008 Q1.

In 2007 Q4, total lending to households continued to grow strongly which was an outcome of a very dynamic growth of housing loans and the fast build-up of consumer loans. (Figure 2.43). However, the results of survey studies addressed at senior loan officers point to a significant drop of demand for housing loans in 2007 Q4 and, at the same time, a strong growth in demand for consumer loans. According to the surveyed banks, the weakening demand for housing loans is driven by expectations of a decline in flat prices

³⁹Data on credit and money presented in this charter refer to values adjusted for the impact of zloty exchange rate fluctuations.

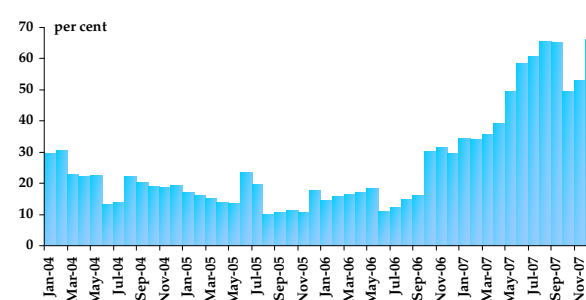
⁴⁰*Information Concerning the Condition of the Corporate Sector and the Economic Climate in 2008 Q1*, NBP and Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions (2008 Q1), www.nbp.pl

Figure 2.41:
Loans to enterprises (y/y).



Source: NBP data.

Figure 2.42:
Loans to enterprises for the purchase of real estate (y/y).



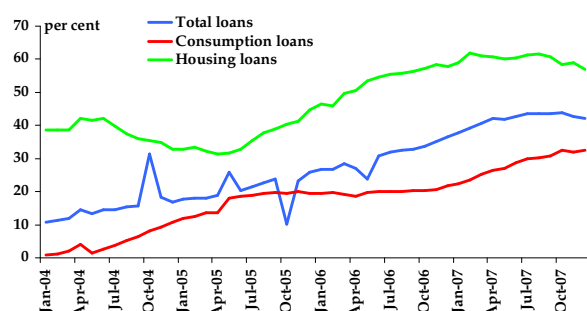
Source: NBP data.

Table 2.7: Foreign loans of Polish enterprises (EUR).

Change (y/y) per cent	05q2	05q4	06q2	06q4	07q2
non-trade loans	-2.6	11.7	12.7	22.3	25.4
trade loans	11.2	23.2	25.4	14.1	16.1

Source: NBP data.

□ **Figure 2.43:**
Loans to households (y/y).



Source: NBP data.

and the tightening of banks' lending policies in this segment in 2007 Q3. On the other hand, still high demand may be favoured by sustained improvement in households' incomes related to favourable trends in the labour market. The factors stimulating the growth of consumer loans are, in addition to a good economic situation of households, the increased demand for financing the purchase of consumer durables and the easing of standards and terms of granting loans. Banks anticipate that in 2008 Q1 the trends observed in 2007 Q4 will continue. This may indicate that a strong competitive pressure present in the housing loans segment is being transmitted to the consumer loan market, which is consistent with the slight easing of banks' lending policies in respect of consumer loans declared in 2008 Q1.

Since June 2007, a decline of zloty denominated loans has been observed in the monthly increases of households housing loans, which may have been influenced by the appreciation of the domestic currency against the Swiss franc⁴¹ observed last year. However, the annual growth of loans denominated in the domestic currency continues to be significantly higher than the growth of loans denominated in foreign currencies and the proportion of zloty loans in total indebtedness is rising (this trend has been observed since *Recommendation S* was implemented in July 2006).

The rise in NBP interest rates in November 2007 was accompanied by a similar increase in average interest on loans to enterprises and housing loans to households (Table 2.8). With regard to consumer loans, some banks have cut interest

⁴¹The most popular foreign currency denominated loans to households are those denominated in CHF.

Table 2.8: Average weighted interest rates in commercial banks (per cent): new PLN denominated loans and deposits and selected foreign currency loans (major currencies).

per cent	2007											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Households												
Total deposits	3.4	3.4	3.4	3.4	3.5	3.6	3.8	3.8	4.0	4.0	4.1	4.2
Total loans	10.6	11.1	10.5	9.6	9.9	10.2	10.9	11.4	11.2	11.5	11.7	11.6
Consumption loans	14.7	14.5	13.9	13.9	14.2	14.1	14.4	14.4	14.1	14.2	14.3	13.7
Housing loans in PLN	5.6	5.6	5.6	5.8	5.7	5.9	6.1	6.3	6.4	6.6	6.7	6.9
Housing loans in CHF	3.8	3.8	3.9	3.9	3.9	4.0	4.3	4.3	4.6	4.5	4.5	4.6
Enterprises												
Total deposits	3.5	3.5	3.5	3.5	3.8	3.9	4.1	4.0	4.2	4.4	4.5	4.2
Total loans	5.8	5.8	5.7	5.9	5.9	6.0	6.3	6.2	6.6	6.4	6.7	7.2

Source: NBP data.

significantly due to offering seasonal promotion of cash loans in December 2007. The reduction of margins in this segment may be connected with a rise of competition pressure on the consumer loans market.

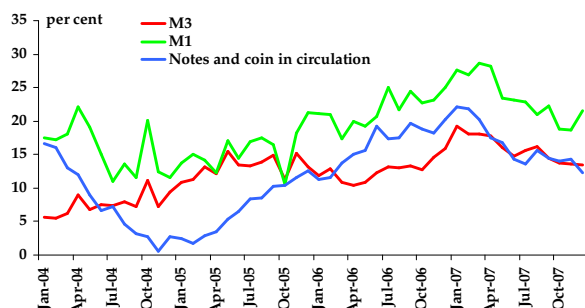
Deposits and monetary aggregates

The accelerating growth in loans to enterprises is matched by a diminishing growth of their bank deposits. This may indicate increased usage of enterprises' own funds in financing current and investment activities, which in the former case is consistent with a weakening growth of demand for short-term loans observed by banks in 2007 Q4.

In the last months of 2007, the annual growth of households' bank deposits increased and their rise in 2007 Q4 amounted to over PLN 16 billion. In 2007 Q4, the value of shares in households portfolios decreased by PLN 5,2 billion, and the value of investment funds assets dropped by PLN 5,7 billion. The growth in the volume of bank deposits was related to a more cautious investing in investment funds resulting from the decline in Warsaw Stock Exchange indices observed in that period. The increased popularity of bank deposits as an alternative for non-bank saving forms may have been triggered by the rise in interest on deposits. Practice shows that the NBP

□ **Figure 2.44:**

M1, M3 and notes and coin in circulation (y/y).



Source: NBP data.

interest rate hikes have been accompanied by a similar-scale rise (though lagged) in the interest paid on deposits at commercial banks (Table 2.8). The growing need signalled by banks to provide funding their lending activities should favour the decrease in the differential between the interest charged on deposits and WIBOR rates .

In 2007, a gradual decline in the growth of the major monetary aggregates was observed. Since the publication of the previous *Report* the growth of M3 has remained at a stable level (13.6% y/y in 2007 Q4). Components of M3 that are relatively more liquid still grow at the fastest rate (in 2007 Q4, M1 growth stood at 19.7% y/y). This is reflected in the increased ratio of M1 to M3 (Figure 2.44). The growth of notes and coins continues to decline, which may be connected with the popularity of alternative payment forms.

Monetary policy in October 2007 – February 2008

During the meeting in October and December 2007, the Monetary Policy Council left the NBP interest rates unchanged. In November 2007 and in January 2008 the Council decided to raise NBP rates by 0.25 percentage points on each occasion. During the meeting in February 2008 the Council decided to raise the NBP interest rates again by 0.25 percentage points to the level of: the reference rate 5.50%, the lombard rate 7.00%, the deposit rate 4.00% and the rediscount rate 5.75%.

What follows in the next part of the chapter are *Minutes of the MPC decision-making meeting* held in October, November, December 2007 and January 2008 together with *the Information from the meeting of the Monetary Policy Council* in February 2008.

Minutes of the MPC decision-making meeting held on 31 October 2007

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

The discussion at the meeting focused on: changes in the environment of the Polish economy, exchange rate and food prices developments and the outlook for economic growth. The Council discussed the influence of these factors on the future inflation in Poland in view of the October inflation projection.

While discussing the changes in the environment of the Polish economy, it was pointed out that considerable uncertainty persisted as to the assessment what effects the turmoil in international financial markets would have on the outlook for growth and inflation in the global and Polish economies. It was emphasised that there had been a downward revision of the forecast of economic growth in the United States and, to a lesser degree, in the euro area, and that the sentiment of euro-area consumers and producers was less optimistic. It was pointed out that in the past, in the period of low economic growth, Western European countries had reported increased demand for relatively cheap products from Poland. However, the recently observed appreciation of the zloty might result in a decrease of exports due to the deteriorated competitiveness of Polish products. As a consequence, economic slowdown of Poland's main trade partners would translate into a weakened economic activity in Poland. It was also pointed out that in the face of turmoil in international financial markets some central banks decided to ease or restrain further monetary policy tightening despite mounting inflationary pressure.

Some Council members argued that the impact of the disruptions in the US real estate market on economic growth may prove weaker than expected, due to the continuously stable net value of the assets held by US households. Moreover, the discussants pointed

out that the situation in international financial markets had stabilised to some extent. It was emphasised that, despite persistent uncertainty as to the impact of turmoil on global economic growth, some central banks had raised interest rates over the recent period, which was related to rising inflationary pressure observed in those economies. It was also argued that one of the factors that contributed to the recently observed turmoil in international financial markets, was lax monetary policy previously pursued by major central banks.

The members of the Council devoted a lot of attention to the zloty exchange rate. In this context, the influence of fundamental factors as well as tendencies in the international financial markets were considered. Some Council members also pointed to the possible impact of the parliamentary election outcome in Poland on exchange rate developments. It was emphasised that the zloty had appreciated since the previous meeting of the Council. Some Council members argued that the zloty appreciation would limit price growth. Those members pointed out that in Poland, just like in other small open economies, foreign exchange movements are an important factor influencing economic situation and inflation. Other Council members, however, indicated that, at the moment, it was difficult to assess the sustainability of the factors that had been conducive to zloty appreciation.

While commenting on the current inflation, some Council members pointed out that the average 12-month HICP for Poland, which is considered in the assessment of the compliance with the inflation Maastricht criterion, had been steadily rising since the end of 2006. At the same time, it was argued that there was a considerable risk that in the next few quarters Poland might cease to comply with the Maastricht inflation criterion. Other members emphasised that net inflation continued at a low and stable level and that the rise in CPI inflation in September 2007 resulted primarily from a rise in food prices, which was independent from the monetary policy.

At the meeting, the Council also discussed food price developments. Growth of these prices may continue in the longer term as it stems, to a large extent, from structural factors connected with increased demand for food in developing countries. At the same time it was pointed out that in Poland food still accounted for a considerable part of the consumption basket of households. As a result, a significant price increase in this group of products may be conducive to increasing inflation expectations and, consequently, to further build-up of wage pressure. Some Council members, however, claimed that the risk of second-round effects connected with food price growth was not high, as further acceleration of wage growth was rather unlikely considering the appearing symptoms of weakening economic growth.

While discussing the influence of global factors on the inflation outlook, some Council members concluded that inflation was still being curbed by a decline in prices of goods imported from countries of low production costs. However, an ever increasing pressure on growth of prices should be expected due to rising demand of those countries, which is already visible in the food and commodity markets. This means that the impact of globalisation factors on inflation may be reverted. Other members pointed out that in the face of rising demand an increase in food output might occur, which would mitigate the pressure on price growth. The same members indicated that, at the moment, it was difficult to assess the joint effect of globalisation factors on future inflation.

The members of the Council also discussed labour market developments. Some Council members pointed out that the currently observed fast wage growth was connected

with permanent factors such as the shortage of qualified workers and the ongoing process of Polish wages converging to the level of more developed EU countries. It was emphasised that the wage pressure may be additionally increased by possible second-round effects connected with the rising food prices. Discussants underlined that wage growth was still being fuelled by increased emigration of Polish workforce to EU countries. In turn, some Council members assessed that, most likely, the main emigration wave had already passed and that enterprises were beginning to adjust to labour market developments. The same members argued that the results of survey studies of enterprises indicated that a relatively small group of enterprises intended to raise wages, while in September 2007 the wage growth in the enterprise sector had recorded some deceleration. It was also emphasised that wage growth exceeding the rise in labour productivity would be limited in time, as the decelerating growth of the output and sales of enterprises would limit the possibility of pay rises. Additionally, it was argued that the growth of unit labour costs in the economy calculated on the basis of BAEL (LFS) data may be overestimated.

While discussing the issue of economic growth in Poland, it was noticed that in October 2007 GUS data on GDP growth in the first half of 2007 had been revised downwards. Moreover, it was emphasised that the macroeconomic data for September 2007 suggested a slowdown in economic growth (there was a decline in the growth of industrial production, retail sales and wages in the enterprise sector and also in money supply and loans to households). Nevertheless, some Council members argued that the latest data did not indicate the substantial economic slowdown which would reduce inflationary pressure, as there had not been any significant change of trends of those macroeconomic variables. Moreover, it was noticed that the lowering of economic growth had been anticipated and was accounted for in the October inflation projection.

The Council also discussed the outlook for inflation as outlined in the inflation projection based on the ECMOD model. Some members of the Council pointed out that, in line with the central projection, in 2009, CPI inflation and core net inflation will breach the upper limit for deviations from the inflation target. They also emphasised that the projection did not fully cover the risk of inflation overshooting the target. It was argued that the forecasted lowering of wage growth was rather unlikely amid continuing surge in demand and decreasing rate of unemployment, which, in their assessments, was running below the NAWRU. At the same time, those members pointed out that, due to the procyclicality of labour productivity, it was hard to expect it to accelerate amid the forecasted lowering of GDP growth. In consequence, they argued, the growth of unit labour costs may prove higher than forecast in the projection. It was also pointed out that the projection forecast a considerable acceleration of potential GDP growth, which was faster than suggested by experiences of other countries. Moreover, it was emphasised that the projection did not fully account for the risk of a permanent rise of food price dynamics and the risk of second-round effects. Other Council members, on the other hand, pointed out that the level of the zloty exchange rate accounted for at the starting point of the projection was weaker than that observed; at the same time a nominal exchange rate depreciation was forecasted in the projection horizon. It was argued that if the exchange rate of the zloty sustained at an unchanged level, inflation might be significantly lower than in the projection.

While addressing the situation of the public finance, some Council members emphasised the fact that the state budget deficit in 2007 should be considerably lower than envisaged and at the same time, its ratio to GDP would decreased in relation to the

previous year. It was pointed out that in 2008 the ratio of the deficit to GDP should not increase and might even decrease. Some discussants, however, claimed that 2008 would bring a rise in the structural deficit of the public finance sector, which meant that the fiscal policy would have a procyclical impact on the economy.

As a result of the discussion some members concluded that the assessment of the inflation outlook based of the ECMOD-based October inflation projection and considering factors not accounted for in the projection indicated that the probability of inflation overshooting the target in the projection horizon was significant and warrant raising interest rates at the October meeting. Other Council members, however, were convinced that the recently observed appreciation of the zloty exchange rate limited the rise of inflation and that the inflation outlook would be affected by future developments in the foreign exchange market. They also pointed to the symptoms of an economic weakening.

A motion to raise the key NBP interest rates by 25 percentage points was put forward at the meeting. The motion did not pass. The Council kept the interest rates unchanged: the reference rate at 4.75%, the lombard rate at 6.25%, the deposit rate at 3.25% and the rediscount rate at 5.00%.

Minutes of the MPC decision-making meeting held on 28 November 2007

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

The discussion at the meeting focused on: changes in the environment of the Polish economy, current inflation developments, the outlook for economic growth and the prospects of public finance in 2008 and in subsequent years. The Council discussed the influence of these factors on the future inflation in Poland.

While discussing the changes in the environment of the Polish economy, it was pointed out that there were downward revisions of the forecasts of economic growth in the United States and the European Union and that there was a risk of a deceleration in worldwide economic growth, which may slow the growth of Polish exports and the inflow of direct investments and, consequently, reduce the rate of economic growth in Poland. Nevertheless, it was argued that in the past, in the period of low economic growth, some Western European countries had reported increased demand for relatively cheap products from Poland, which complicated the assessment of the actual impact of the world economic slowdown on Poland's economic growth. Moreover, it was pointed out that the current GDP growth was primarily driven by rising domestic demand (i.e. consumption and investment).

Some Council members emphasised that, in the face of the deteriorating situation in international financial markets and the dampening prospect of economic growth, major central banks were expected to ease their monetary policy. Other Council members pointed out that those central banks which did not raise their interest rates or lowered them despite rising inflation are precisely the banks of the countries directly affected by the financial market turmoil.

In this context, it was pointed out that the low interest rates that had been observed until recently had led to the creation of excessive global liquidity, which was not reflected in the inflation of consumer prices, but caused a significant rise in asset prices instead.

For two years now, the prices in the world markets of some assets have been falling, and so it is currently hard to assess the direction in which the liquidity surplus will be moving.

While discussing the economic growth in Poland in the years to come, some Council members emphasised that GDP growth should gradually decrease in the next years, which would be easing the demand pressure. Moreover, a fast growth in investments of enterprises, which is indicated by the data for the first three quarters of 2007, should be favouring the growth in potential output. Both these factors will be conducive to limiting the inflationary pressure. Other members of the Council pointed out that the October data on industrial production and retail sales did not signal a weakening of economic activity in Poland. It was emphasised that the high growth of domestic demand was supported by rapid increase of wages and very good financial results of enterprises. Moreover, those members also believed that even though the GDP growth would probably slow down in the coming years, it would remain at a relatively high level.

While addressing the situation in the labour market, it was pointed out that the high wage growth led to a considerable increase in unit labour costs in the economy. It was argued that the wage growth in the economy in 2007 Q3 was higher than expected in the October projection. The continuation of the high growth of wages is also suggested by record-high data on corporate wages in October and the continuously falling rate of unemployment. Some Council members pointed out that the wage differentials between the private and the public sector may be rising, which would lead to the outflow of skilled public sector workers to private companies and thus increase the wage pressure in the public sector. Some discussants indicated that, due to the high wage growth in 2007 Q3, the rise in remuneration costs outpaced the growth of enterprises' revenues for the first time in a long time, which may be an indication that the falling trend of the relation of labour costs to revenues had been reversed.

In the opinion of other Council members, however, the rise in unit labour costs had not so far translated into rising inflationary pressure due to high profits of enterprises. Moreover, the growth of unit labour costs may be expected to go down in the monetary policy transmission horizon due to the expected acceleration in labour productivity resulting from fast growth in investments. It was also emphasised that a potential deceleration in the global economy, including Western European economies, might lead to lower emigration of Polish workers, which would limit the wage pressure.

While addressing the current inflation, it was pointed out that following a long period of inflation running below the inflation target, in October the annual growth of consumer price exceeded the inflation target of 2.5%. Some Council Members emphasised that the rise in CPI inflation in October was to a large extent the result of a surge in food and fuel prices, while the core inflation net of those prices remained at a relatively low level. The same members pointed out that it was difficult to assess at the moment whether the factors responsible for inflation rise would prove permanent. Other Council members, however, pointed out that all measures of core inflation had risen since the previous month and the increase in core inflation net of food and fuel prices was significant as compared to the changes of this indicator over the past year. They believed this suggested that the inflationary pressure that had been building for some time was beginning to be reflected in the growth of prices.

The Council discussed the usefulness of the indicator of core inflation net of food and

fuel prices as a measure for assessing inflationary pressure. Some Council members were of the opinion that in the light of empirical studies for the United States core inflation is a good gauge of the price level trend. Other Council members, however, pointed out that the net core inflation in the United States in the past ten year had been lower on average than CPI inflation and so it failed to fully reflect the movements of consumer prices. It was also emphasised that net core inflation accounted for the supply-side globalisation effects of disinflationary nature (decline in the prices of goods imported from low production costs countries), but only to a limited degree - for the demand-side globalisation effects of inflationary nature (growing prices of energy commodities and food).

While discussing future inflation, some members of the Council pointed out that the price growth in the coming quarters was already determined to some extent. Those members believed that inflation would be temporarily increased, which would primarily be the result - just like in many other countries - of increased food and fuels prices, i.e. factors beyond the control of monetary policy. Other Council members emphasised that the October inflation projection pointed to the continuation of high inflationary pressure throughout the projection horizon, among others due to the growth in domestic demand above GDP growth rate as well as wage growth outpacing the rise in labour productivity.

The discussants pointed out that an increase in inflation, particularly when it is triggered by a surge in food and fuel prices, which significantly affect the perception of inflation by consumers, may lead to increased inflation expectations and thus pump up the pressure for the growth of wages. The risk of second-round effects is higher than in 2004 due to the tight labour market, including a markedly lower unemployment. On the other hand, it was argued that the current risk of second-round effects was significantly lower than at the time of oil shocks in the 1970s.

At the meeting, the Council also discussed the growth of food prices in the world markets, which is currently stepping up inflation both in Poland and in the majority of other countries. Some discussants assessed that the increased growth of food prices may continue in the longer term. At the same time, it was argued that the food price increase would mean changing the relative prices and a rise in the food expenditures of households. As a result, there may be a lowered demand for other goods, which would limit the rise of the overall price level. Other Council members pointed out that the increase in food prices in international markets could be transitory and result from negative supply shocks. In the context of the food price developments, the question was raised of a possible increase of VAT rates on unprocessed food and catering services in 2008 and of its impact on inflation.

The Council devoted a lot of attention to the outlook for the public finance. It was emphasised that due to the low actual state budget deficit till the end of October 2007 and, at the same time, the restated announcement that this year's deficit would be implemented at the expected level, there was a risk of a considerable accumulation of public expenditure in the last two months of 2007, which would be conducive to raising inflationary pressure. Moreover, it was pointed out that, on the one hand, there appeared announcements of tax cuts and, on the other, the wage growth in the budget sector would be most probably higher than accounted for in the draft Budget Act for 2008. It was also emphasised that some acts passed by the previous Parliament before its dissolution could increase the public finance imbalance for many years to come.

While discussing the issues related to the exchange rate, it was pointed out that since September 2007 the zloty had significantly appreciated. On the one hand, appreciation of the zloty limits the impact of high oil prices on inflation in Poland, on the other, however, it dampens the competitiveness of the Polish economy, contributing to rising external imbalance. Still, it was emphasised that the export enterprises to a large extent use imported goods in their production, which limits the negative impact of the appreciation of the zloty on their financial situation. It was also argued that the zloty appreciation was decreasing the zloty-denominated value of EU subsidies to the Polish agriculture and the value of Polish emigrants' remittances, which is conducive to lower domestic demand. Similarly, it was indicated that at the moment it was difficult to assess the sustainability of the factors that had been conducive to the recent zloty appreciation.

In conclusion of the discussion it was agreed that the sustained fast growth of demand, the tight labour market, the significant increase in current inflation and the risk of the related second-round effects, as well as the expected considerable surge in demand of the public finance sector until the end of 2008, all warranted the assessment that the probability of inflation overshooting the inflation target over the monetary policy transmission horizon was significant and this necessitated an interest rate increase at the November meeting.

A motion to raise the key NBP interest rates by 25 basis points was put forward and passed. The Council raised the interest rates to the following levels: the reference rate at 5.00%, the lombard rate at 6.50%, the deposit rate at 3.50% and the rediscount rate at 5.25%.

Minutes of the MPC decision-making meeting held on 19 December 2007

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

The discussion at the meeting focused on: current inflation developments, including food price changes, situation in the labour market, the outlook for economic growth and the level of interest rates in Poland and abroad. The Council discussed the influence of these factors on the future inflation in Poland.

While discussing current inflation, the Council analysed the causes of the annual growth of consumer prices in November running above the NBP inflation target of 2.5% and exceeding the upper limit for deviations from the target set at 3.5%. It was pointed out that CPI growth in November was primarily driven by the accelerated growth of food and fuel prices; while net core inflation recorded just a minor rise and remained at a relatively low level. In the opinion of some Council members, low level of net core inflation indicated low inflationary pressure driven by demand. At the same time, it was emphasised that high growth of food and fuel prices and the ensuing growth in CPI inflation were related to global developments which are beyond the scope of the domestic monetary policy. In turn, some discussants, pointed out at the continuing price increases of some services and at falling disinflationary impact of declining prices of goods imported from low-cost countries.

While addressing food price developments, the Council discussed the sustainability of their increased growth. Some members of the Council believed that high growth of food prices was a temporary phenomenon as it was, to a large extent, driven by supply

shocks in the global markets. It was also pointed out that high prices of certain agricultural commodities might be partly related to speculation of financial institutions in the futures markets and that there had already been signals of a decline in the prices of some of commodities. Other discussants assessed that high growth of food prices may be sustained over a longer period, as it is largely determined by the persistently growing world's demand for food, while the supply shortages on the global scale may be more frequent than before, among other things, due to climate changes. The possible impact of abandoning the Russian embargo on Polish food exports on the growth of food prices in Poland was also discussed.

Some discussants assessed that the forecasted rise in net core inflation and the continuing high growth of food and fuel prices might result in CPI inflation remaining above the inflation target at the end of 2008. At the same time they emphasised that, due to the specific nature of shocks leading to price increases, CPI inflation was likely to stay above net core inflation over a longer period. It was also pointed out that considerable uncertainty persisted about the scale of the declared increases in gas and energy prices in 2008. Other members of the Council argued that future inflation might be lower than in the October projection due to higher level of zloty exchange rate than accounted for in the projection.

It was pointed out that even though Poland continued to meet the Maastricht price stability criterion in November 2007 the rise in inflation might pose risk of inflation exceeding the reference value in the coming future.

Some members of the Council indicated that the rise in current CPI inflation was likely to boost inflation expectations. They emphasised that the risk of rising inflation expectations is particularly high when inflation increase is driven by a strong growth in the prices of food, i.e. frequently purchased goods having high share in the CPI basket. It was pointed out that rising inflation expectations might add to wage pressure. Moreover, some discussants argued that the rise in current inflation - unlike in 2004 - took place amidst strong economic growth and tight labour market which increased the likelihood of rising inflation expectations and of the so-called second-round effects. Other Council members, however, believed that the risk of second-round effects was moderate due to institutional changes that had taken place in the labour markets in Poland and in other countries.

While discussing the labour market situation, it was pointed out that wage growth in the economy in 2007 Q3 had exceeded the level accounted for in the October projection, wage growth in the corporate sector in November had been very high and the pressure on significant wage increases in the public sector persisted. It was indicated that wage growth continued to exceed labour productivity growth, which was conducive to growing inflationary pressure. Some discussants argued that high wage growth was likely to be sustained also in the months to come due to labour shortage in the domestic market, and that wages would grow faster than assumed in the October inflation projection. Those discussants assessed this would further boost unit labour costs which would, in turn, lead to worsening the financial results of enterprises and to reducing investment in the economy. In the opinion of those discussants, tensions in the labour market reflected in the plunge of unemployment rate and the rising current inflation resulted in the risk of second-round effects being higher than in 2004. They also argued that the scale of economic migration would not decrease significantly in the years to come due to persisting high differences in income levels between Poland and Western European countries.

Other members of the Council argued that there might arise factors that would be curbing wage and unit labour cost growth. They believed that wage growth in the corporate sector might be restrained by concerns about deteriorating financial results of enterprises. These members pointed out that significant pay rises in the public finance sector were rather unlikely as they had not been provided for in the draft Budget Act for 2008. Attention was drawn to the fact that the growth of unit labour costs in the economy outside private farming in 2007 Q3 was lower than assumed in the October projection. It was also pointed out that the unemployment rate in Poland continued to exceed levels recorded in other countries and that tensions in the labour market might soon diminish as wage growth in Poland and zloty appreciation should reduce the scale of Polish labour migration.

While discussing the outlook for economic growth in Poland, some members of the Council pointed out that GDP growth in 2007 Q3 had been higher than assumed in the October projection and that economic growth in 2007 Q4 had probably continued at a high level. It was also indicated that a continued growth in demand would be supported by the fast growth in lending. Other members of the Council pointed to the expected decline in world economic growth, which might impede the growth of Polish exports and the inflow of foreign direct investment and, as a result, weaken the economic growth of Poland. Moreover, some members of the Council argued that despite high GDP and wage growth the structure of GDP did not suggest increased demand pressure: growth in total consumption, private consumption and imports in 2007 Q3 were slower than assumed in the projection, whereas exports were rising faster. It was emphasised that stronger than projected investment growth in 2007 Q3 suggested the possibility of faster growth in potential output and weakening inflationary pressure in the medium term.

The Council paid a lot of attention to assessing the monetary policy conditions in Poland. Some members of the Council pointed out that NBP interest rate increases in 2007 combined with the appreciation of zloty exchange rate contributed to maintaining high level of monetary policy restrictiveness. Those members also indicated that the level of the real interest rate in Poland was relatively high as compared to other countries of the region. Other discussants pointed out that the level of the real interest rate had fallen in 2007 as a result of CPI inflation rising stronger than the nominal interest rates. They argued that the differences in the level of real interest rates between countries resulted, among other things, from the differences in the level of their natural interest rate. Those discussants also pointed out that the assessment of changes in the level of monetary policy restrictiveness should take into account the appreciation of the equilibrium exchange rate related to the convergence process. They also indicated that it was difficult to assess the sustainability of factors behind the recent appreciation of the zloty.

Some members of the Council argued that certain central banks had decided to lower their interest rates in the recent period. Other members, however, pointed out that interest rate cuts had taken place mainly in countries directly affected by the financial market turmoil and that some banks had tightened their monetary policy at that time.

The majority of the Council members argued that high level of current inflation and the ensuing risk of rising inflation expectations, as well as tight labour market, constituted a major risk to price stability. Some members of the Council believed that counteracting inflation risk within the monetary policy horizon would require interest rates to be raised at the Council meeting in December. Those members argued that globalisation

processes in the past few years had led to weakening the impact of monetary policy on domestic inflation, thus requiring stronger response of central banks to the growing inflationary pressure. They assessed that rises of interest rates should not lead to any significant slowdown of economic growth in Poland, yet it would help to stabilise it at a level consistent with the potential growth.

Other members of the Council pointed out that it was difficult to assess inflationary inertia. They also argued that a monetary policy tightening would increase interest rate disparity between Poland and the euro area and the United States. This could encourage the inflow of short-term capital to Poland and contribute to the appreciation of zloty exchange rate, which would, in turn, weaken the competitiveness of the Polish economy and led to further increase of external imbalance. Moreover, those members pointed out that the pace of monetary policy tightening so far was sufficient from the point of view of stabilising inflation at the target level in the medium term. It was indicated that at its December meeting the Council had at its disposal less information on economic developments than usual and that a more comprehensive assessment of the risk of inflation remaining at a high level would be possible at the Council's next meeting.

A motion to raise the key NBP interest rates by 25 basis points was put forward. The motion did not pass. The Council kept the interest rates unchanged: the reference rate at 5.00%, the lombard rate at 6.50%, the deposit rate at 3.50% and the rediscount rate at 5.25%.

Minutes of the MPC decision-making meeting held on 30 January 2008

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

The discussion at the meeting focused on: current inflation developments, including food price changes, situation in the labour market, the outlook for economic growth and the level of interest rates in Poland and abroad. The Council discussed the influence of these factors on the future inflation in Poland.

While discussing current inflation, the Council analysed the causes of the annual growth of consumer prices in December increasing and remaining both above the NBP inflation target of 2.5% and the upper limit for deviations from the target set at 3.5%. It was pointed out that CPI growth in December was primarily driven by the further acceleration of food and fuel prices growth that resulted from global developments. It was emphasized that those developments were beyond the control of domestic monetary policy and that a rise in inflation driven by accelerating growth of food and fuel prices was also observed in many other countries. It was pointed out that in December net core inflation recorded a minor rise and remained relatively low. At the same time, it was emphasised that the remaining four core inflation measures also increased in December. In the opinion of some Council members, the upward trend in net core inflation recorded in the last months of 2007 reflected rising demand pressure. It was also indicated that the rise in inflation in December 2007 resulted also, among other things, from continuing high growth of prices of some services.

While discussing food price developments, some members of the Council indicated that the scale of food price acceleration and the ensuing rise in CPI inflation in Poland and in many other countries significantly exceeded expectations. It was pointed out

that accelerating food price growth was driven by external factors, mainly by increased demand for food on the part of rapidly developing emerging economies and a rise in production of biofuels. Some Council members assessed that increased growth of food prices might continue over a longer period due to, among other things, persistently growing demand for food and limited possibilities to augment food supply in the short term. They pointed to the fact that changes in the growth rate of food prices were previously treated as temporary shocks. In the present situation they might prove to be relatively permanent and act asymmetrically, i.e. leading to persistently relatively high inflation. In the opinion of those members, net core inflation is currently less useful an indicator of inflationary pressure than in the situation when shocks on the food markets are relatively short-lived and symmetrical. Other members of the Council indicated that it was difficult to assess the sustainability of the increased growth rate of food prices.

While addressing the future inflation, some members of the Council assessed that in the months to come a rise in net core inflation should be expected, primarily as a result of growth of regulated prices, in particular energy prices, as well as accelerating growth of prices of certain services. Those members assessed that the rise in net core inflation and the continuing high growth of food prices will probably result in CPI inflation remaining above the inflation target throughout 2008. In this context, some Council members pointed out that accelerating inflation resulting from increased growth of food prices and a rise in regulated prices is beyond the scope of domestic monetary policy. Other members, however, emphasized that a rise in CPI inflation might boost inflation expectations. Moreover, they indicated that certain deterioration in inflation expectations had already been observed. Attention was drawn to the fact that the deterioration in inflation expectations had come about amidst low unemployment rate and tight labour market, which might increase the likelihood of the so-called second round effects.

Some members of the Council assessed that Poland is likely to cease fulfilling the Maastricht price stability criterion within a short time. Other members, however, pointed out that meeting the price stability criterion would become relevant only after the scheduled date of Poland's joining the euro area had been fixed.

While discussing the labour market situation, it was pointed out that wage growth in the corporate sector in December 2007 was lower than in the preceding months, and its decline as compared with November 2007 was stronger than it might result from the statistical effect of the dates of bonus payments in certain sectors being different than in 2006. In the opinion of some Council members, this might suggest that wage pressure in the corporate sector was likely to diminish. Moreover, those members assessed that labour productivity growth in the enterprise sector should follow an upward trend in the coming period due to investments made in the past as well as employment growth lower than in 2007, which would be conducive to reducing unit labour costs in this sector. They also argued that high wage growth did not have to lead to growing inflationary pressure given the good financial standing of enterprises. In this context, they pointed out that, as suggested by the findings of enterprise surveys, the scale of wage increases scheduled for 2008 Q1 in the enterprise sector was moderate and that the wage rises would lead to price increases only in a small part of the surveyed enterprises. They also estimated that considerable pay rises in the public finance sector were rather unlikely as this would require amendments to the Budget Act for 2008.

Other members of the Council pointed out that in December the annual wage growth in the corporate sector continued to outpace labour productivity growth, which was

conducive to rising consumption demand and inflationary pressure. Moreover, some members indicated that the recent period had been marked by intensifying wage demands in the public finance sector. They emphasised that a considerable rise in wages in this sector would lead to increasing domestic demand as well as demands of wage increases in other sectors of the economy, which would be conducive to growing inflationary pressure.

In the opinion of some members of the Council, tight labour market reflected in the rapid decline in unemployment rate and a swift labour demand growth would not diminish significantly in the time to come due to economic emigration of Poles and persisting differences in the level of wages between Poland and Western European countries. Other members argued that the expected slowdown in the economic growth in Western European countries might result in certain emigrants returning to Poland, which would be conducive to diminishing wage pressure.

While addressing the changes in external factors affecting the Polish economy, the discussants pointed at further deterioration in the outlook for economic growth in the United States. It was indicated that this increased the likelihood of a slowdown in the world economy, in particular in Great Britain and, consequently, the euro area. Attention was drawn to the simultaneous increase in the uncertainty about the outlook for growth in the world economy. It was argued that considerable drops in equity prices in the global financial markets might - similarly to 2001 - become one of the factors contributing to a deterioration in investor expectations and weakening economic growth in Europe.

While discussing the outlook for economic growth in Poland, it was pointed out that December data on industrial output and retail sales were significantly below expectations. In the opinion of some Council members, those data might point at a gradual decline in the economic growth in Poland, which would ease the demand pressure and, consequently, inflationary pressure. Those members pointed out that the likely slowdown in the world economy might lead to a slowdown in economic growth in Poland. They indicated that the turmoil in the global financial markets in January 2008 also affected the Warsaw Stock Exchange and emphasised that the resulting possible deterioration in investor expectations might contribute to weakening the economic growth in Poland.

Other members of the Council thought it was currently difficult to assess whether the December data suggested a decline in economic activity in Poland and that only the data referring to the subsequent months would allow an assessment whether there was a decline in GDP growth. Those members pointed out that in 2007 Q3 domestic demand continued to grow faster than GDP suggesting an increase in inflationary pressure. In the opinion of those members, the increase in domestic demand was driven by high growth in lending. Moreover, they assessed that high growth in corporate lending indicated that investment growth might be sustained at a high level, which would be conducive to maintaining fast economic growth. Some discussants pointed out that the fast growth in bank deposits might possibly result in increased lending growth and stronger demand pressure. Moreover, some members of the Council indicated that the slowdown in economic growth in the United States would affect the economic activity in the euro area, and consequently in Poland, after a certain time lag. Those members assessed that the economic slowdown in emerging economies will have a smaller scale than in the United States and the euro area and that the weakening economic growth in Poland would not significantly reduce the labour market tensions.

While discussing exchange rate developments, some Council members pointed out that in 2007 the zloty exchange rate both against the US dollar and against the euro had appreciated, and that in January 2008 the nominal effective exchange rate had been stronger than accounted for in the October projection, which was conducive to diminishing inflationary pressure. It was emphasised that despite the turmoil in the international financial markets observed in January the zloty exchange rate remained stable. On the other hand, some discussants indicated that zloty appreciation might stem from the appreciation of the real equilibrium exchange rate related to the convergence process. Moreover, it was pointed out that it was currently difficult to assess the sustainability of factors which had led to zloty appreciation in the previous period. It was also argued that slump in the global financial markets might increase the likelihood of capital outflow from emerging markets which might be conducive to zloty exchange rate depreciation.

While addressing monetary policy, it was pointed out that in January 2008 interest rates were lowered considerably in the United States and further lowering of interest rates was expected, and that, as anticipated by financial markets, interest rates in the euro area would probably also be reduced. Some Council members indicated that certain central banks eased monetary policy despite high inflation being observed in those countries.

Some members of the Council emphasised that the real interest rate in Poland was high as compared with other countries of the region, and that interest rate increases by the NBP in 2007 were accompanied by zloty appreciation. They pointed out that in January 2008 zloty exchange rate continued to be stronger than accounted for in the October inflation projection. In the opinion of those members, as compared with other countries of the region, monetary conditions in Poland remained tight. They argued that monetary policy tightening increased interest rate disparity between Poland and the United States and the euro area, which might encourage the inflow of short-term capital to Poland and be conducive to zloty exchange rate appreciation. In the opinion of those members, this would weaken the competitiveness of the Polish economy and lead to further increase of external imbalance. Moreover, they pointed out that increasing interest rate disparity would lead to a growing share of loans denominated in foreign currency in total loans, which might weaken the impact of domestic monetary policy on domestic demand. Other Council members argued that as compared with other countries of the region, the share of foreign currency denominated loans in total loans in Poland remained relatively low.

On the other hand, the discussants pointed out that in 2007 the rise in CPI inflation in Poland was stronger than the growth of nominal interest rates, and thus the real interest rate decreased. Some of them also emphasised that in certain countries real interest rates were currently higher than in Poland. At the same time, it was pointed out that the reason for monetary policy easing by certain central banks was the expected economic slowdown and the financial market turmoil of January 2008.

While discussing the interest rates decision, the majority of the Council members believed that it was necessary to contain the risk of sustained increased CPI inflation and curb the expected growth in net core inflation and a possible boost in inflation expectations. In the opinion of some Council members, the inflation outlook justified a significant increase in interest rates at the January meeting. In the opinion of the majority of the Council, monetary policy tightening should be measured and proceed gradually due to, among other things, the increased uncertainty about the outlook for

economic growth in Poland and abroad as well as uncertainty about the potential impact of interest rate increases on zloty exchange rate. In this context, the future path of interest rates in Poland was also discussed.

A motion to raise the key NBP interest rates by 50 basis points was put forward. The motion did not pass. A motion to raise the key NBP interest rates by 25 basis points was put forward and passed. The Council raised the interest rates to the following levels: the reference rate to 5.25%, the lombard rate to 6.75%, the deposit rate to 3.75% and the rediscount rate to 5.50%.

Information from the meeting of the MPC held on 26-27 February 2008

The Council decided to increase the NBP interest rates by 0.25 percentage point to the level: the reference rate 5.50%, the lombard rate 7.00%, the deposit rate 4.00% and the rediscount rate 5.75%.

The Polish economy is still in the period of strong growth encompassing all its sectors. Preliminary data on national accounts indicate that economic growth in 2007 was consistent with the expectations of the October *Inflation Report*. Macroeconomic data released since the last meeting of the Council point at the continuation of strong economic growth in Poland at the beginning of 2008. Uncertainty persists as to the prospects of growth of the global and consequently Polish economy.

According to GUS preliminary data, in January the annual growth of consumer prices in Poland reached 4.3%, thus remaining above the NBP's inflation target of 2.5% and also above the upper limit for deviations from the target set at 3.5%. This rise in inflation was largely driven by growing prices of services connected with house maintenance and energy. As in many other countries, increased inflation has been largely sustained by strong annual growth of food and fuel prices. Another factor increasing inflation was the growth in the prices of some services. In the Council's assessment, in the near future inflation will remain above the upper limit for deviations from the inflation target, which may also, to a large extent, be the result of the expected further rise of regulated prices.

The Council got acquainted with the projection of inflation and GDP based on the ECMOD model, which has been prepared by the Economic Institute of the NBP. The projection is one of the inputs into the Council's decision-making on the NBP interest rates. The annual growth of consumer prices forecast in the February projection is significantly higher than expected in the October projection till mid-2009, while in the second half of 2009 it is close to that forecast in the October projection. Under constant interest rates, there is a 50-percent probability that projected inflation will remain within the range of 3.6-4.7% in 2008 (compared to 2.2-3.5% in the October projection), 2.6-4.9% in 2009 (compared to 2.5-4.6%) and 2.1-4.8% in 2010 (the October projection did not cover the year 2010).

According to the February ECMOD-based projection, the annual GDP growth will remain, with 50-percent probability, within the range of 4.4-5.8% in 2008 (compared to 4.4-6.2% in the October projection), 3.5-6.1% in 2009 (compared to 3.8-6.7%) and 3.6-6.9% in 2010.

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

In the Council's assessment, in the coming quarters economic growth will most probably continue to exceed the growth of potential GDP. The latest information on labour

market developments points to persistently high growth in wages and deteriorating relation between wage and labour productivity growth. It is quite probable that the wage pressure and, consequently, inflationary pressure will persist. The period of temporarily increased inflation results from the expected increased growth of regulated prices and the food and fuel price growth observed in the world economy and also affecting the Polish market. This creates a risk of inflation expectations staying high and, consequently, feeds the risk of the so-called second-round effects. Moreover, based on preliminary information on 2007 central budget implementation and the 2008 Budget Act adopted by the Parliament, the budget deficit can be expected to be higher this year than in 2007.

In the medium term inflation may be curbed by the continuing very good financial results of enterprises and high investment growth conducive to productivity growth. Inflation may also be constrained by globalisation and the ensuing increased competition in the market of internationally traded goods and services as well as the relative stability of zloty exchange rate. The inflationary pressure may also be reduced by a slowdown of the global economy. Nevertheless, the Council assessed that the impact of those factors may prove insufficient to bring inflation down to the target over the monetary policy transmission horizon.

Considering the above factors and taking into consideration the results of the February inflation projection, the Council assessed the probability of inflation overshooting the inflation target in the medium term to be higher than the probability of inflation running below the target and decided to raise the NBP's interest rates. The Council will strive to bring inflation down to the level consistent with the inflation target in the medium term.

The Council will be closely monitoring the growth and structure of domestic demand, including the degree of the expansionary fiscal policy stance, the relation between wage and labour productivity growth in the enterprise sector and wage growth in the public finance sector, zloty exchange rate, developments of the current account balance and the impact of globalisation on the economy and on food prices. The Council will also analyse changes in the external factors affecting the Polish economy and their impact on the outlook for economic growth and inflation in Poland.

The Council has adopted the February 2008 *Inflation Report*.

Projection of inflation and GDP

The inflation and GDP projection has been prepared at the Economic Institute of the National Bank of Poland. The content-related supervision over works on the projection has been entrusted to a member of the NBP's Management Board, Mr. Zbigniew Hockuba. The Management Board of the NBP approved the projection to be submitted to the Monetary Policy Council.

The works on the projection was coordinated by the Bureau of Macroeconomic Forecasts of the Economic Institute. The projection was prepared with the use of the structural macroeconomic model ECMOD. The projection was an outcome of an iterative process, in the course of which some of the variables were adjusted if they diverged from NBP experts' economic intuition based on the general state of knowledge of economic processes. The projection was prepared under the assumption of constant NBP interest rates and is one of the inputs to the Monetary Policy Council's decision-making process. The projection took into account data available before 25 January 2008.

External conditions

The projection of inflation and economic growth in Poland is based on a scenario of a short-term and relatively shallow global slowdown in 2008, concentrated mainly in the US economy. The turmoil on the financial markets and the fall in prices on the property market will negatively affect economic growth in the United States. Yet, the planned fiscal stimulation and a considerable reduction of interest rates will help to avoid a recession. The slowdown in the US economy will have a minor impact on European and developing economies. The decline in the euro area economy will be slight. In turn, the rate of growth in the United Kingdom will decrease relatively strongly. Starting from 2009, gradual economic recovery is expected both in the United States and Europe.

The projection assumes that the cycle of interest rate cuts in the United States and in the United Kingdom will continue in 2008. Starting from 2009, combined with the expected economic recovery and concerns about rising inflation, the monetary policy will be gradually tightened. In 2008 the euro area is expected to see a decline in market interest rates to 3.6% (for LIBOR 3M) and their slight increase starting from mid-2009.

Despite the moderate slowdown in the world economy, the currently observed high demand for crude oil will continue. It will be mainly driven by the high demand for the commodity in the developing countries. The projection assumes that the average oil price in the period 2008-2010 will remain in the range from 80 to 90 USD/barrel. Stabilization of oil prices will be supported by the projected gradual strengthening of the US dollar against the euro, which will follow its expected depreciation at the beginning

of 2008. Due to considerable growth of prices of energy and food commodities on the world market at the turn of 2007 and 2008, global inflation will remain high in 2008, despite deteriorating outlook for growth.

Aggregate demand

The growth rate of the domestic demand in Poland in 2008 will slow down slightly as compared with the previous year. In the subsequent years the domestic demand growth will level off at the rate close to 6.0% y/y. Deceleration in the domestic demand as compared to 2007 will be due to a slower rise in gross fixed capital formation and slightly lower growth of individual consumption. Yet, domestic demand will continue to be the key driving force of the economic growth.

The uncertainty concerning the possible slowdown of the world economy, tightening of the monetary policy in Poland and increasing costs of energy commodities, infringing the economic outlook of enterprises, will contribute to the slowdown of investment demand in 2008. Still, the investment growth will be markedly exceeding GDP growth throughout the projection horizon. The steady increase in the investment rate will be supported by the relatively low and stable user cost of capital, inflow of foreign direct investment and structural funds. Remittances from Poles working abroad, which are expected to be allocated largely to residential investment, will be a significant source of investment financing as well.

Temporary slowdown in the individual consumption growth in the first quarters of 2008 will be tied to a relatively low increase in the real disposable income of households at the end of the previous year. The growth rate of the real disposable income was negatively affected by, among other things, the strong growth in food prices at the end of 2007. In the subsequent quarters the growth in disposable income will markedly accelerate, supported by: the recovery on the labour market, changes in the fiscal policy encompassing a reduction in the disability contribution in 2007 and 2008, unfreezing of personal income tax thresholds and introduction of a family tax relief in 2008, lowering of personal income tax rates in 2009, increase in social transfers as a result of old-age and disability pension indexation (which is expected to be particularly substantial in 2008 due to cumulated indexation for the two past years) and inflow of remittances from persons working abroad. As a result, the growth rate of the private consumption in the years 2008-2010 will remain at the level exceeding 5.0% y/y.

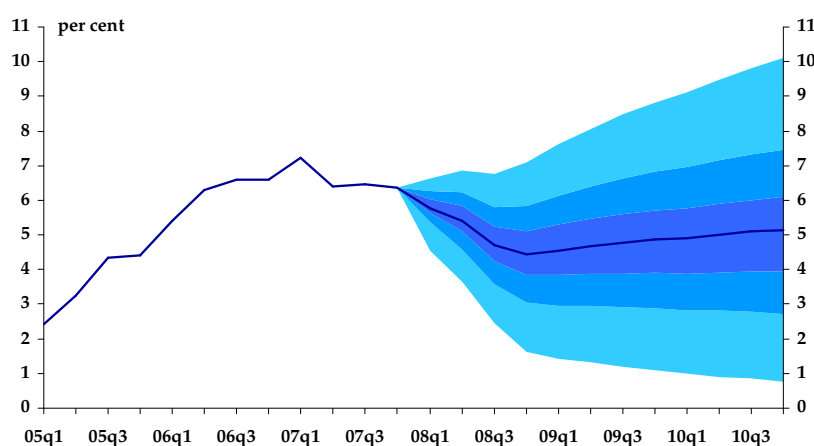
Relatively high economic activity will translate into strong growth in the imports demand. At the turn of 2008 and 2009, due to the expected slowdown in the global economy, the growth of exports will temporary decline below 10% y/y. The subsequent quarters will be marked by a gradual increase in exports growth. The contribution of net exports to GDP growth will remain negative throughout the projection horizon, with the largest negative contribution to GDP growth at the end of 2008.

Macroeconomic equilibrium

The central path of GDP projection points to a slowdown in the economic growth in the second half of 2008 to below 5.0%, followed by a gradual increase to approx. 5.0% at the end of the projection horizon (Figure 4.1). GDP growth rate will stay close to or

slightly below the growth rate of the potential output, which will on average amount to 5.5% y/y over the projection horizon. The high growth rate of the potential output will be supported by a significant accumulation of the capital stock and a reduction in the equilibrium unemployment rate (NAWRU), partly explained by increasing productive capacity. Additionally, both the already implemented and announced reductions in the tax wedge will contribute to the fall in the NAWRU.

□ **Figure 4.1:** Central projection and fan chart of GDP.



Source: NBP.

The output gap will remain positive throughout the projection horizon and will be gradually narrowing from the mid-2008. Considerable deviation of the GDP from its potential level at the beginning of 2008 is mainly a reflection of the marked tensions on the labour market. Persistently high growth of labour demand and the accelerating growth rate of real wages observed last year was not accompanied by a significant increase in the labour supply. In 2007 the unemployment rate fell by two percentage points, while the participation rate decreased. The decline of the participation rate was recorded in all age groups and was most probably the outcome of three factors: strong migration outflows, early retirement policy and withdrawal of workers from the labour market facilitated by improving economic conditions of the households. In the years to come the decline in the participation rate is expected to be reversed, migratory outflows reduced and the difference between the actual unemployment rate and the NAWRU reduced. As a result, the growth rate of real wages will get closer to that of labour productivity.

In line with the ongoing recovery in the economy, the external imbalance will worsen. The current and capital account balance in 2008 and 2009 will decrease slightly below -4.0% GDP, and then remain at this level.

Cost pressure

The cost pressure will increase considerably at the beginning of 2008, mainly due to the currently observed increase in prices of oil and agricultural products on the world market. High oil prices will translate into a rise in production costs and fuel prices on the domestic market. Food prices will continue to grow at a relatively high pace,

reflecting strong growth of agricultural products' prices on the global market. An additional factor fueling the cost pressure will be an increase in electricity prices in February 2008.

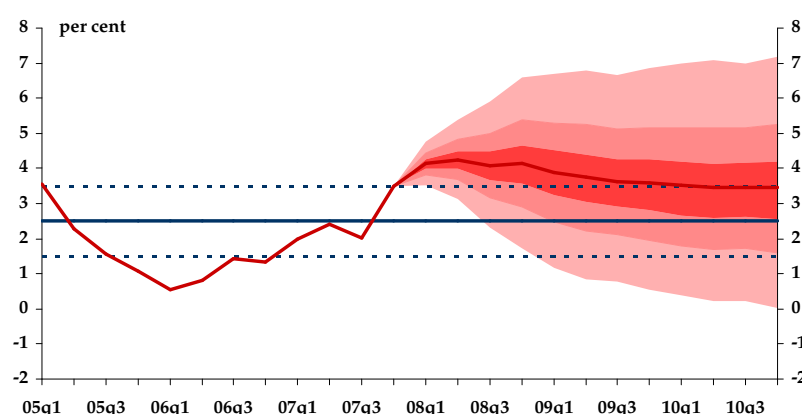
The cost shocks fade over the medium and long projection horizon. However, through their impact on inflation expectations and wage bargaining, they influence the growth rate of prices to a significant degree also in the second half of 2008 and in 2009.

In the coming years the real wage growth will exceed the productivity growth. However, a gradual narrowing of the gap between the actual unemployment and the natural unemployment rate will be conducive to rebalancing of the relation between real wages and labour productivity. As a result, the growth of the unit labour costs over the projection horizon will be lower than in 2007. The stabilisation of inflation will be supported by the appreciation of the real exchange rate. Import prices will rise at a slower pace than domestic prices, which will mitigate the impact of the rising labour costs on the total production costs.

Inflation

The growth of consumer prices measured by the CPI index will significantly accelerate at the beginning of 2008, which will be mainly driven by the high growth of food, electricity and fuel prices. Since mid-2008 the inflation rate will be gradually declining. The central path of the projection indicates that under constant interest rates inflation will return to the tolerance band for deviations from the target in 2010 (Figure 4.2). The probability of inflation remaining within the tolerance band (2.5% +/- 1 percentage point) stabilizes at the level of approx. 0.35 in 2009-2010. At the same time, the probability of inflation remaining above the inflation target (2.5%) gradually decreases from over 0.90 in the first quarters of the projection to over 0.65 in the last year of the projection.

□ **Figure 4.2:** Central projection, inflation fan chart and MPC's inflation target



Source: NBP.

According to the central projection, in the first quarters of 2008 the core inflation will accelerate significantly. The expected rise in the core inflation will be determined to a large extent by high growth of electricity prices in the first quarters of the projection. Moreover, the acceleration of the core inflation will be fueled by a relatively high growth

of labour costs at the turn of 2007 and 2008. In the subsequent years, the core inflation will remain slightly above 3.5%, given the continued recovery in the labour market and diminishing impact of the supply shocks.

Over the whole projection horizon, the growth of food prices will remain relatively high. The relative food prices (as referred to prices of other consumer goods) will remain significantly higher than in the previous years. In turn, high growth of fuel prices in the first quarters of 2008 is expected to decelerate gradually to a level close to zero in 2010.

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

Table 4.1: Probability of forecasted inflation

	Probability of inflation:				
	below 1.5%	below 2.5%	below 3.5%	below central projection	within (1.5%; 3.5%)
2008q1	0.000	0.000	0.044	0.507	0.044
2008q2	0.000	0.005	0.137	0.507	0.137
2008q3	0.007	0.072	0.297	0.506	0.290
2008q4	0.035	0.132	0.338	0.505	0.303
2009q1	0.074	0.205	0.412	0.506	0.338
2009q2	0.105	0.248	0.453	0.507	0.348
2009q3	0.114	0.267	0.478	0.509	0.364
2009q4	0.136	0.293	0.496	0.514	0.360
2010q1	0.158	0.319	0.519	0.520	0.361
2010q2	0.173	0.338	0.531	0.523	0.358
2010q3	0.169	0.331	0.525	0.518	0.355
2010q4	0.186	0.344	0.528	0.518	0.342

February projection against October projection

The February projection indicates that until mid-2009 CPI inflation will be running above the path projected in October, mainly due to stronger growth of food prices than assumed in the last forecasting round and increases in electricity prices. Even though the impact of tensions on the labour market on inflation will be more significant than expected in the October projection, it will to a large extent be compensated by the stronger exchange rate. At the same time, as a consequence of a bleaker economic outlook abroad, higher oil prices and the rise in interest rates in Poland, the GDP growth will be lower than forecasted in the previous quarter.

In comparison with the October projection, the GDP growth in the February projection is slightly lower in 2008 (by 0.2 pp.) and noticeably lower in 2009 (by 0.6 pp.). The main reason for the lower GDP projection is slower than expected in October growth of the global economy, related to the expected worsening of the economic situation in the United States. Bleaker global market outlook and high oil prices will lead to a weakening of investment demand, as well as labour demand, resulting in lower consumption growth. Labour productivity in the last quarter of 2007 is assessed to have been significantly higher than envisaged in October, which, given only a slightly faster than

expected rise in wages, translated into lower growth rate of the unit labour costs. However, since mid-2008 the unit labour costs will be growing faster than in the October projection. Higher pace of growth of the unit labour costs reflects a wider imbalance on the labour market, measured by the deviation of the actual unemployment rate from the NAWRU. Tensions on the labour market will be additionally exacerbated by a lower than in the October round number of labour market participants. An important factor distinguishing the current projection from the last one is a stronger exchange rate, leading to lower import prices. The stronger exchange rate to some extent can be attributed to the monetary policy tightening in Poland which has taken place since the last projection, coupled with lower interest rates abroad.

High growth of food and fuel prices is the main reason why the CPI inflation in the 2007 Q4 is by 0.9 percentage points higher than forecasted in the October inflation projection. Higher growth rates of food and fuel prices are reflected in the current projection of the CPI inflation remaining clearly above the October projection in the first three quarters of 2008. Although in 2007 Q4 the core inflation was in line with the October projection, it will be running higher than in the previous forecasting round until 2009 Q1. To a large extent acceleration of inflation is tied to the significant increase in electricity prices in February 2008. Excluding the impact of these increases, the core inflation in the February projection is close to the forecasted path from the previous projection. The lion's share of the impact of stronger growth of the unit labour costs on the core inflation is counterbalanced by the lower import prices.

Main areas of uncertainty

The scale and nature of economic slowdown

The scenario presented in the projection suggests a temporary economic slowdown, restricted mainly to the United States and originating from problems in the mortgage credit markets and accompanying turbulences in the financial markets. However, if the slowdown in the United States was to prove deeper and persistent, spreading over developing countries (including Asian economies) and the euro area, a stronger slowdown could be expected also in Poland. The situation in the labour market would deteriorate, the decrease in the rate of unemployment would be reversed, as would be the growth of the unit labour costs. These developments would be conducive to lowering of inflation. The scale of the decrease in the inflation rate would also depend on the response of the zloty exchange rate. With strongly accommodative monetary policy in the euro area and in the United States and with the scenario of foreign investors withdrawing capital from the emerging countries failing to materialize, the zloty would remain stable, and could even slightly appreciate, which would push inflation even lower. However, the appreciation of the exchange rate could be prevented by a rise in investment risk connected with a possible deterioration of the situation in the public finance.

Using BAEL data to assess the situation in the labour market

In comparison with the October projection, the uncertainty related to the use of the BAEL data has increased. Doubts concerning adequate accounting for migration outflows after 2004 still seem justified. If the BAEL population overestimates the number of

Polish residents, estimates of the number of persons employed in the national economy and of the unit labour costs used in the projection are consequently biased upwards. As a result, the inflation path in the medium horizon of the projection may be overestimated.

Due to significantly lower figures of the number of labour market participants in 2007 Q2 and Q3, the forecast of the variable has been lowered over the whole horizon of the present projection. The low number of labour market participants in 2007 is mainly related to the GUS revision of the BAEL population. However, there is an issue in assessing the reliability of that revision. If the low estimate of the number of economically active persons is not related to real developments in the economy and is only of a statistical nature, the risk of overestimating inflation in the long horizon and underestimating the growth of the potential GDP in the short horizon of the projection rises. At the same time, however, the GUS revision of the BAEL population with employment rate unrevised would lower the risk of overestimating inflation in the short projection horizon.

Developments in the labour market

The future developments on the labour market are still an important source of uncertainty. This uncertainty is mainly related to the intensity and the nature of migratory flows, the scale of the impact of the economic recovery on effective labour supply (the number of labour market participants and the NAWRU) and to the impact of the already introduced or probable changes in fiscal and regulatory policies on the labour market. The uncertainty related to fiscal and regulatory policies includes changes in the legislation concerning early retirement benefits, changes of the minimal wage, pressure on the increase of expenditure on the health care sector as well as the effects of lowering the disability pension contribution and changes in the personal income tax (PIT). The uncertainty related to the developments in the labour market translates into the risk of higher inflation and slightly lower GDP growth over the longer horizon of the projection.

Transmission of labour costs on inflation

In view of very good financial results of enterprises, it is still highly probable that the assessment of the cost pressure at the starting point of the projection is too pessimistic. The scale of the costs pass-through to prices of goods produced by enterprises, given ongoing globalisation, is subject to uncertainty. The above-mentioned risk factors are conducive to a lower inflation path than presented in the projection.

Uncertainty relating to the weakening growth of food prices

The risk of a significant global slowdown, affecting also Asian countries, would result in dampening of the demand for food in India and China, which in turn could lead to a weaker growth of prices of agricultural commodities. This would favour lower food prices than forecasted. Independently of the global demand developments, the possibility of a significant decline in the growth of food prices in the coming years is supported by their currently high level. High relative prices of food may trigger stronger adjustments of the volume and structure of supply in the longer term. This,

in turn, could be conducive to levelling off or a fall in relative food prices in the coming years.

On the other hand, higher than expected global economic growth, particularly in developing countries, would favour continuously high demand for agricultural products, which might lead to further growth of prices of agricultural commodities in the global market. Similarly, the gradual weakening of the high growth of food prices may be impeded by policies increasing subsidies to biofuels, particularly in the United States.

Overall, the risk of food prices running below the inflation projection in its longer horizon is estimated as significantly higher than the probability of food prices running above it.

The zloty exchange rate

Due to difficulties in forecasting the zloty exchange rate, there is high risk of significant deviations of its future course from the projected path. It is assessed that the uncertainty related to the exchange rate forecast has remained at a level close to the October projection, and the risks around the forecasted path are distributed in an approximately symmetrical way.

Discussion of data released after 25 January 2008

The preliminary estimates of the GDP growth in the United States in 2007 Q4 turned out to be lower than expected, which taken together with weak data on employment in January indicates risk of a deeper slowdown in the American economy. Current estimates suggest that the interest rates in the euro area and in the United Kingdom may run lower than assumed in the projection for 2009 and 2010 by 0.1 – 0.3 percentage points.

Data on retail prices of fuels in the domestic market indicate that their growth in 2008 Q1 may be slower than assumed in the projection. Lower fuel prices result from falling prices of oil and oil products, as well as from appreciation of the exchange rate of the zloty against the US dollar. The motion submitted by the Polish Oil and Gas Company (PGNiG) to the Energy Regulatory Office suggests the risk of higher than forecasted in the projection gas prices. If the requested scale of gas price rises is approved, then inflation in the short projection horizon may be higher than forecasted.

Compared to assumptions underlying the projection, the preliminary estimates of the GDP in 2007 published by the Central Statistical Office (GUS) on 30 January imply lower growth of consumption, higher growth of investment and lower foreign trade deficit, with the GDP growth broadly in line with expectations. As the data published by the GUS are preliminary and available only on an annual basis, they constitute a relatively weak argument for increased probability of the output gap closing slightly faster in the coming quarters, while the external imbalance growing at a slower pace than presented in the projection. In turn, the results of the Labour Force Survey (BAEL) for 2007 Q4 released by the GUS on 25 February point to a higher rise in the number of employed and a stronger drop in the rate of unemployment than assumed in the projection. In view of the reliability of the BAEL data, the GUS estimates may indicate only a slightly increased probability of higher inflationary pressure in the medium term horizon of the projection.

Summary of risks to inflation projection external to the model

The most significant factor conducive to higher inflation than in the projection are plausibly stronger tensions on the labour market. On the other hand, the possibility of inflation running below the projection is indicated by: the risk of a deeper slowdown in the global economy, overestimation of the cost pressure at the beginning of the projection, lower capability of enterprises to pass increased costs into higher prices and a more pronounced deceleration of the food prices growth. Considering the uncertainty factors which are not accounted for in the model, it can be assessed that the projection risk over the short projection horizon is symmetrical, while over the long projection horizon there is a slightly higher probability of inflation running below the central projection path.

Table 4.2: The central path of the GDP and inflation projection.

	2007	2008	2009	2010
CPI (per cent y/y)	2.5	4.2	3.7	3.5
Food prices (per cent y/y)	4.8	6.1		
"Net" inflation (per cent y/y)	1.5	3.2	3.8	3.6
Fuel prices (per cent y/y)	4.1	10.0	2.6	-0.8
GDP (per cent y/y)	6.6	5.1	4.7	5.0
Domestic demand (per cent y/y)	7.7	6.4	5.8	5.8
Private consumption (per cent y/y)	5.6	5.4	5.5	5.2
Public consumption (per cent y/y)	1.4	1.8	1.9	1.6
Gross fixed capital formation (per cent y/y)	19.6	11.9	9.4	10.3
Contribution of net exports (percentage points)	-1.2	-1.4	-1.2	-1.0
Exports (per cent y/y)	9.2	9.5	9.5	9.9
Imports (per cent y/y)	11.8	12.4	11.6	11.1
Average nominal gross wages (per cent y/y)	8.7	7.9	6.5	6.8
Number of working persons according to BAEI (per cent y/y)	4.1	1.4	1.3	1.0
Unemployment rate according to BAEI (per cent)	9.9	8.9	8.1	7.5
NAWRU (per cent)	15.4	14.0	12.4	11.0
Number of economically active according to BAEI (per cent y/y)	-0.4	0.3	0.4	0.4
Labour productivity (per cent y/y)	2.4	3.7	3.4	4.0
Unit labour costs (per cent y/y)	6.2	3.6	3.0	2.7
Potential output (per cent y/y)	3.6	5.1	5.7	5.7
Output gap (percentage of potential output)	3.3	4.6	3.6	2.9
Oil prices (USD\b)	72.7	86.4	82.0	80.4
Foreign price level (per cent y/y)	2.3	2.1	2.2	2.2
Foreign GDP (per cent y/y)	2.6	1.8	2.2	2.3
Current account and capital account balance (percentage of GDP)	-2.8	-3.8	-4.3	-4.2
WIBOR 3M (per cent)	4.72	5.4	5.4	5.4

Source: Economic Institute of the NBP.

Notes: Seasonally adjusted data, except for 2007 – ULC and labour productivity for 2007 calculated on the basis of raw data presented in the table. Food prices until 2008 Q4 forecast by experts. In the model food price growth starting from 2009 Q1 is equal to net inflation. In 2008 Q3 and Q4 food prices included in the model in CPI inflation are the weighted average of expert price forecasts (with weights of 50% and 25%, respectively) and net inflation. Data on the number of the economically active, the rate of unemployment and the number of working persons in 2007 have been seasonally adjusted and modified by expert adjustments of the changes in BAEI survey methodology.

Annex

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

- **Date:** 25 September 2007

Subject matter of motion or resolution:

Resolution on establishing the upper limit for liabilities incurred by the National Bank of Poland by way of loans from foreign banking and financial institutions

Voting of the MPC members:

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

- **Date:** 26 September 2007

Subject matter of motion or resolution:

Resolution on adopting the *Monetary Policy Guidelines for 2008*

Voting of the MPC members:

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

- **Date:** 31 October 2007

Subject matter of motion or resolution:

Motion to raise NBP interest rates by 0.25 percentage point

MPC decision:

Motion did not receive a majority vote

Voting of the MPC members:

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

- **Date:** 27 November 2007

Subject matter of motion or resolution:

Resolution amending the resolution on the principles of conducting open market operations

Voting of the MPC members:

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

- **Date:** 28 November 2007

Subject matter of motion or resolution:

Resolution on the level of the reference rate, lombard rate, deposit rate and re-discount rate of the National Bank of Poland

MPC decision:

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

Voting of the MPC members:

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

- **Date:** 18 December 2007

Subject matter of motion or resolution:

Resolution to approve the Financial Plan of the National Bank of Poland for the Year 2008

Voting of the MPC members:

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

- **Date:** 19 December 2007

Subject matter of motion or resolution:

Motion to raise NBP interest rates by 0.25 percentage point

MPC decision:

Motion did not receive a majority vote

Voting of the MPC members:

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