Inflation Report
January 2007

National Bank of Poland
Monetary Policy Council

Warsaw, January 2007

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

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

Contents

Summary

In 2006 Q4 CPI inflation was slightly lower than in 2006 Q3 (1.3% y/y compared with 1.4% y/y). As a result, it was below the lower limit for deviations from the inflation target (2.5% +/-1 percentage point) and markedly below the level in the October inflation projection. A drop in the annual inflation in this period as compared with September 2006 was primarily driven by falling growth of regulated prices resulting from a decline in fuel prices. The period was also marked by a slight decrease in the annual growth of prices of food and non-alcoholic beverages coupled with an increase in the growth of prices of other consumer goods and services.

The analysed period, despite a drop in annual CPI inflation (in relation to September), saw a slight increase in four out of five measures of core inflation. Still, however, core inflation measures remained at low levels (in December they stayed in the range of 1.1-1.6% y/y), which indicates contained inflationary pressure.

Between November 2006 and January 2007, there was a decrease in inflation expectations of individuals (from 1.6% in October 2006 to 1.5% in January 2007). In contrast, the annual inflation in 11 months as forecast by bank analysts increased (from 2.2% in October 2006 to 2.4% in January 2007).

In 2006 Q3 import prices in zloty terms continued to rise, a trend started already in 2006 Q2 (4.2% y/y according to GUS data). This slightly lower price growth, in relation to 2006 Q2, mainly resulted from a slower growth of fuel prices, even though fuels still recorded high price growth in year-on-year terms.

The annual growth of producer prices in industry (PPI) in December 2006 fell to 2.8% (compared with 3.6% in September). This drop in PPI dynamics was primarily driven by decreasing prices of commodities in the world markets (mainly prices of copper and crude oil) and zloty exchange rate appreciation.

2006 Q3 saw further acceleration in real GDP growth (to 5.8% y/y). There was a strong build-up in gross fixed capital formation (19.8% y/y). Since the beginning of 2006 a singificant increase in private consumption has continued (5.5% y/y in Q3), while public consumption has been constantly slowing down (1.1% y/y in Q3). Exports grew strongly (by 14.8% y/y), but the recovery in domestic demand brought about import acceleration (to 15.3% y/y). In consequence, net exports ceased to be a factor supporting GDP growth (its contribution to GDP growth became negative at -0.3 percentage points).

The rise in private consumption was higher than expected in the October *Report*. Sustained high growth of private consumption resulted from continued rising growth of real gross disposable income of households which took place despite inflation running higher than in the previous quarter. Accelerating consumption growth was also driven by continuing fast pickup in consumer loans.

The growth rate of gross fixed capital formation in the economy continued to accelerate in 2006 Q3 (up to 19.8% y/y). Investments in the enterprise sector were rising at a constantly growing rate. NBP economic climate surveys indicate that a further advance in investment activity of the surveyed enterprises should be expected in 2007. Over the next few quarters investment growth will be encouraged by a very good economic condition of companies. Financing of corporate investments will also be encourage by continuously rising utilisation of EU funds.

In the longer term, investment growth will hinge on the improvement of legal and institutional conditions for business activity of enterprises. Particularly important will be the amendment of the act on freedom of economic activity and introduction of unequivocal interpretations of legal provisions. Still important for increasing the absorption of EU funds is the improvement of administrative and legal system regulating access to these funds. In turn, the advance of housing construction will be largely conditional on passing spatial development plans and solving the problem of availability of developed land for construction.

On the basis of preliminary monthly data for October-December 2006 on industrial output, construction and assembly production, retail and wholesale sales and other indicators, it may be assessed that the growth of GDP in 2006 Q4 significantly exceeded the level of 6.0% y/y, which represents a rise of approx. 1.5% q/q (in seasonally adjusted terms). According to the NBP's estimates, the strong growth in fixed capital formation and private consumption continued through 2006 Q4, while the contribution of net exports to GDP growth further declined. Current estimates of GDP growth in 2006 Q4 significantly exceed the expectations presented in the October *Report*. According to a preliminary GUS estimate, in the whole 2006 real GDP grew by 5.8%.

According to BAEL (LFS) data, the number of working persons continued to accelerate in 2006 Q3 (to 3.9% y/y). The greatest contribution to the rise in the number of working persons was made by the service sector, slightly smaller – by industry. The rise in employment in enterprises has also been stepping up steadily (4.1% in December 2006). Accelerating employment growth is accompanied by stepping up decline in the unemployment rate. In December 2006, the unemployment rate registered by Labour Offices amounted to 14.9% (which, in year-on-year terms, constitutes a decrease of 2.7). In turn, according to BAEL data, the unemployment rate in 2006 Q3 was 13.0% (a drop of 4.4 percentage points in year-on-year terms). NBP economic climate and GUS business tendency surveys indicate that the high rate of employment growth should be sustained in 2007 Q1.

2006 Q3 saw a rise in nominal wage growth, both in the economy (to 5.0% y/y) and in the corporate sector (to 5.3% y/y). In 2006 Q4 enterprises recorded further acceleration in annual wage growth (to 5.7% y/y). Keeping an unchanged rate of productivity growth in the economy amid accelerating growth of wages had the effect of stepping up growth of unit labour costs (to 3.2% y/y, and outside private farming – to 6.2% y/y). In industry, on the other hand, unit labour costs continued to fall (by 3.5% y/y in 2006 Q3 and 2.0% y/y in 2006 Q4).

In October 2006 – January 2007 the situation in the Polish financial market was affected by both global and regional factors. The exchange rate of the zloty appreciated against the euro, though the scale of this appreciation was smaller than in the other countries of the region.

The yields on Treasury bonds were decreasing throughout the analysed period, and the spread between the interest levels of Polish and German Treasury bonds was also shrinking. An important factor exerting negative impact on the yields on Polish Treasury bonds was a drop in risk premium confirmed, among others, by upgraded Fitch long-term foreign currency Issuer Default rating of Poland in January 2007. Polish debt market was additionally supported by incoming data on the Polish economy, in particular those concerning sustained low inflation and a lower than assumed in the Budget Act actual level of central budget deficit in 2006.

The data released on the Polish economy confirming that low inflation was sustained (including, in particular, inflation figures below market expectations) and international conditions conducive to debt and foreign exchange market stabilisation had the effect of lowering the market-expected path of future NBP interest rate in comparison to October 2006.

In December 2006 the indebtedness of non-financial sector in the banking sector was growing at the rate of 23.8% y/y. The growth of households' indebtedness with banks has been constantly accelerating. In December the loans of households were rising at the rate of 35.2% y/y. Housing loans have still been the main source of this sector's lending growth. Additionally, the rise in household indebtedness is to a large extent driven by consumer loans. The dynamic increase in lending to households is accompanied by stepping up growth in both bank deposits and non-bank forms of financial savings of this sector. Since 2006 H2 there has been a sustained recovery in the corporate credit market. The rate of growth of this sector's indebtedness with commercial banks rose in December to 14.5% y/y. Remarkable growth in the volume of lending to the corporate sector is matched with a further growth of this sector's deposits.

At its meetings in October, November, December 2006 and January 2007, the Monetary Policy Council decided to keep interest rates unchanged, i.e.: the reference rate at 4.00%, the lombard rate at 5.50%, the deposit rate at 2.50% and the rediscount rate at 4.25%.

Starting from this issue of the *Report* the Council will present a modified format of the chapter on monetary policy. The account of discussions and problems considered at the decision-making meetings is now more detailed than it used to be the case in the previous *Reports*. The chapter on monetary policy offers a chronological record of discussion over the main points raised during the decision-making meetings of the Council (in subsequent months).

During its meetings, the Monetary Policy Council discussed the outlook for inflation developments in the context of the past, current and anticipated economic situation. The Council considered, in particular, the possible impact of the following factors on the inflation outlook in Poland: path of foreign exchange rate of the zloty, trends in the labour market, perspectives and structure of economic growth, growth rate of monetary aggregates and the financial standing of enterprises. In this context the Council assessed whether the current level of interest rates supported a sustainable return of inflation close to the target (2.5%) in monetary policy transmission horizon.

The October inflation projection prepared by NBP analysts envisaged a gradual inflation growth over the monetary policy transmission horizon, which in 2007 Q1 would bring inflation back to target (2.5%). The projection showed that inflation would continue to rise gradually in 2008 and in the second half of 2008 its level would be close to the upper limit for deviations from the inflation target. During the Council meetings, its members voiced various opinions on the outlook for inflation presented in the October projection. These diverse opinions found reflection in the course of discussion at subsequent Council meetings. Data released in November and December 2006 indicated that in the short term inflation may run lower than in the October projection, but keeping inflation close to the target in the medium term may require a monetary policy tightening.

The Council got acquainted with the projection of inflation and GDP prepared by NBP staff. In line with the projection, the annual GDP growth will be – with a 50-percent probability – in the range of 4.9-6.7% in 2007 (compared with 4.1-6.2% in the October projection), 3.6-6.4% in 2008 (compared with 4.5-7.0%) and 3.5-6.5% in 2009.

According to the January inflation projection consumer price growth will in the short term be lower, and in the longer term – close to that expected in the October *Report*. Under constant interest rates, there is a 50-percent probability that inflation will be within the range of 2.1-3.8% in 2007 Q4 (as compared with 1.9-3.8% in the October projection), 2.2-4.5% in 2008 Q4 (as compared with 2.2-4.6%) and 2.4-5.2% in 2009 Q4.

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

In the Council's assessment, in the short term CPI inflation will be considerably lower than in the January projection, as the oil and food prices will most probably be lower then in the projection. The core "net" inflation may also be markedly lower than in the projection. In the medium term, despite the fact that economic growth is expected to slow down somewhat, the growth of wages may gradually increase, thus leading to higher inflation. The Council believes that this increase in inflation will be probably moderate if the strong productivity growth and low growth of external prices associated with globalisation and the ensuing increased competition in the market of internationally traded goods and services continues.

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

Inflationary processes

1.1 Inflation indicators

In October, November and December 2006[1] the CPI y/y inflation (CPI[2]) ran at 1.2%, 1.4% and 1.4%, respectively (as compared with 1.6% in September). As a result, the annual price growth in 2006 Q4 stood slightly below the level recorded in 2006 Q3 (1.3% y/y against 1.4% y/y)[3]. As a result, the annual inflation continued to run below the lower band of deviations from the inflation target (2.5% +/-1 percentage point) and clearly below the inflation level anticipated in the October inflation projection. In the period October–December 2006 inflation was also slightly below the expectations of bank analysts. A drop in the annual inflation rate in this period as compared with September 2006 was primarily driven by falling growth rate of regulated prices resulting from a decline in fuel prices. The period was also marked by a slight decrease in the annual growth rate of prices of food and non-alcoholic beverages coupled with an increase in the growth rate in the group of other consumer goods and services. (Figure 1.1).

The period October–December 2006 marked a downward trend in the prices of food and non-alcoholic beverages in annual terms (the weight of food and non-alcoholic beverages in the CPI amounts to 27.2%) to 1.8% (as compared with 2.4% recorded in September 2006). The decline in the annual growth rate of food prices was driven by a marked decline in the growth of vegetable and fruit prices[4]. On the other hand, positive impact on food prices was exerted by rising annual growth rate of bread and meat prices (despite a slump in meat prices in month-on-month terms)[5].

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[1]The time horizon of the analysis presented in the *Inflation Report* is conditioned by the availability of macroeconomic data. In turn, the periodisation of the analysis (breakdown into sub-periods) is conditioned by the paths of particular variables

[2]CPI –*Consumer Price Index*.

[3]The following abbreviations will be used throughout *Inflation Report* :
y/y -analysed period compared with the corresponding period last year,
q/q - quarter compared to the previous quarter,
m/m - month compared to the previous month.

[4]Favourable weather conditions in September and October partially offset the losses caused by unfavourable agrometeorological conditions in the summer months

[5]The rise in bread prices resulted from growing cereal prices. In the case of meat, however, (despite a slump in prices in month-on-month terms caused by high supply on the market) the annual growth rate of prices was rising in response to the base effect due to strong decreases of meat prices in 2005.

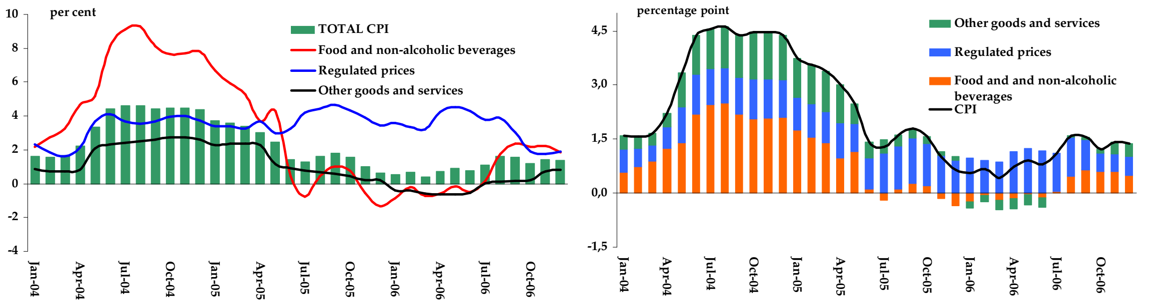

Figure 1.1: Consumer price index CPI. Left panel: CPI and main categories of prices. Right panel: CPI breakdown.
Source: GUS data, NBP calculations.

In the period October–December 2006 the annual growth in regulated prices (the weight of regulated prices in the CPI amounts to 27.5%) decreased to 1.9% (against 3.0% in September 2006). In the analysed period the most important factors shaping developments of growth rate of regulated prices were further decrease in the growth of fuel prices resulting from fuel price fall in the world markets (the annual growth rate of fuel prices fell to -6.3% in December as compared with -1.1% in September) and zloty appreciation. The annual growth rate of gas price declined as well in response to the fading statistical base effect[6].

The period October–December 2006 saw a rise in the annual growth rate of prices of other consumer goods and services[7] (the weight of other consumer goods and services in the CPI basket amounts to 45.3%), rose to 0.8% (as compared with 0.2% recorded in September). Acceleration in price growth in this group was largely due to strong growth in prices of services. In the analysed period the annual growth rate of prices of services increased to 3.6% in December 2006 (as compared with 2.5% in September 2006), mainly as a result of accelerating annual growth rate of prices of Internet services[8] and the prices of services at restaurants and hotels. However, the rise of the prices of other goods and services was still being curbed by dropping prices of non-food products - though this drop was smaller than in the previous period (-1.1% y/y in December against -1.5% y/y in September). The decline in the prices of non-food products in annual terms was driven mainly by continuing slump in the prices of clothing and footwear and electronic equipment i.e. goods that are in a large part imported from

[6]Statistical base effect was caused by gas price increase resulting from the changes in tariffs in October 2005.

[7]The group of other consumer goods and services comprises those goods and services which are affected mainly by market mechanisms (excluding food) i.e. it does not include goods with regulated prices.

[8]The annual growth in prices of Internet services (growth from 3.0% y/y in September 2006 to 55.3% y/y in December 2006) was brought about by strong statistical effects connected with sales promotion offered by one of service providers started in November 2005 and terminated in July 2006. The fading of the above mentioned effects in July 2007 will be exerting negative pressure on the annual growth of prices of Internet services, and thus also on consumer prices and core inflation in this period.

low cost countries. At the same time, the drop in the prices of non-food products was contained by growing prices of heating fuel and flat repair and maintenance materials.

From the time the price shock in the aftermath of Poland' accession to the EU faded in 2005 Q3, the growth rate of prices of services (in the group of other goods and services) has exceeded the prices of goods. Prices of goods which are strongly impacted by globalisation [9] have seen a downward trend for over 5 years; in December 2006 their annual growth rate reached -7.3%. On the other hand, the prices of services (exclusive of the prices of Internet services) have been on the rise, and their annual growth rate reached 2.5% in December 2006. This may indicate that Poland's low inflation in the past few years was partly due to globalisation processes, [10] including the impact of those processes on the price mark-up developments (see box *Competition, business cycle and mark-ups in the Polish economy in 1997-2004*).

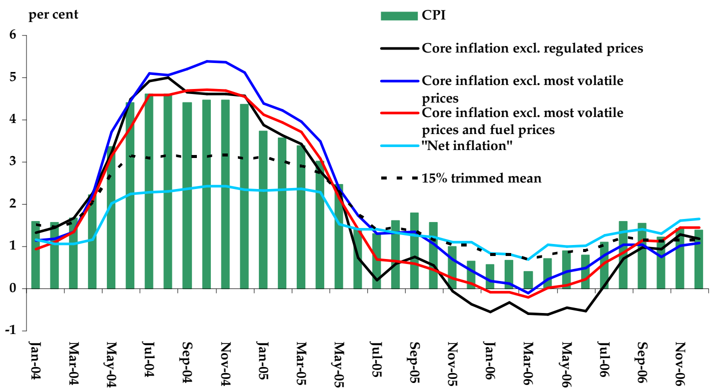

Figure 1.2: CPI and core inflation measures (y/y changes, per cent)
Source: GUS Data, NBP calculations.

Despite a fall in the CPI annual inflation, the period October–December 2006 (as compared with September) saw a slight rise in four out of five core inflation measures (15% trimmed mean remained unchanged) (Figure 1.2). However, core inflation measures were still low, indicating contained inflationary pressure. In the analysed period "net" inflation was higher than CPI inflation, which was caused by deep slumps in fuel prices, only partially offset by faster than CPI inflation growth of prices of food and non-alcoholic beverages. This means that, on the one hand, the simultaneous shifts in food and fuel prices were containing inflation growth and, on the other, that the prices of other (apart from food and fuel) goods and services were moving up faster than the CPI.

[9] The groups of goods whose prices are strongly impacted by globalisation include: clothing; footwear; telecommunications equipment; radio and television equipment, photographic and IT equipment; musical instruments, games, toys, hobby, sports equipment for outdoor recreation; electrical articles for personal hygiene.

[10] See also Allard, C., 2006, *Inflation in Poland: How Much Can Globalization Explain?*, the article presented at CEPR/ESI conference held at September 2006 at the NBP.

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

Change m/m (per cent)	2006											
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
CPI	**0.2**	**0.0**	**-0.1**	**0.7**	**0.5**	**-0.3**	**0.0**	**0.3**	**0.2**	**0.1**	**0.0**	**-0.2**
Core inflation indices excluding:												
Regulated prices	0.0	0.0	-0.1	0.3	0.5	-0.4	-0.2	0.3	0.3	0.4	0.1	-0.1
Most volatile prices	-0.3	-0.2	-0.1	0.1	0.0	-0.7	0.7	0.4	0.2	0.3	0.5	0.3
Most volatile prices and fuel prices	-0.1	-0.1	-0.1	-0.2	-0.2	-0.7	0.6	0.3	0.4	0.5	0.6	0.5
Food and fuel prices ("net" inflation)	0.3	-0.1	0.0	0.4	0.0	0.1	0.5	0.1	0.1	0.2	0.1	0.0
15% trimmed mean	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.0
Core inflation indices – seasonally adjusted (TRAMO/SEATS):												
CPI	0.1	0.1	0.0	0.3	0.2	0.0	0.3	0.5	0.0	-0.1	0.1	0.1
"net" inflation	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.2

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

Competition, business cycle and mark-ups in the Polish economy in 1997-2004

The monopolistic power of companies plays an important part in the process of price formation. One of the measures of this power is the size of the mark-up, defined as the ratio of price and marginal cost (the cost of manufacturing an additional unit of product). Monopolistic power may be the result of the barriers to entry to the market, which may, among other things, result from economies of scale, which are often connected with high fixed costs of production. The analysis of factors influencing mark-up variability offers a wider view of inflationary processes in the economy.

The basic factor affecting the size of mark-up is the level of internal competition (the number of competing companies) and external competition (imports of goods competitive to the products of a given sector). The significance of internal competition for the mark-ups is emphasised, for example, by Rottemberg & Woodford (1999). The relationship between mark-up size and the level of competitive pressure has been also confirmed in many empirical studies (cf. e.g. Abraham, Koning & Vanormelingen 2006, which explores this relationship for Belgium). Factor which affects mark-up changes in time is the business cycle. Neither theoretical nor empirical literature, however, determine the direction of the economic cycle's effect on mark-ups. According to some theoretical models (e.g. Green & Porter 1984) and empirical studies (e.g. Small 1997 – study for the Great Britain), mark-ups change pro-cyclically (i.e. in the same direction as economic activity – they rise when economic growth accelerates and fall when the growth slows down). Nevertheless, there are some theoretical (e.g. Rotemberg & Saloner 1984) and empirical studies (e.g. Martins and Scarpetta 1999 - study for OECD countries) pointing to the anti- cyclicality of mark-ups.

The studies conducted in the NBP (Gardzewicz & Hagemejer 2006a) on the basis of individual data on costs and revenue of enterprises (adjusted for the valued of paid taxes) point to the existence of sizable mark-ups (over 10%) in many sectors of the Polish economy, which suggests that the structure of the market in these sectors significantly deviates from perfect competition. For example, this is the case in manufacturing of food products, tobacco products, products of wood and paper, in the mineral industry, transport and real estate and business-related activities. Economies of scale are very important for the production in many branches, .e.g.manufacturing of textiles,publishing and paper industry, chemical, mineral and metal industry, which may point to the existence of barriers to entry in these industries. The estimates of average price margins in 1997-2004 (expressed as the percentage of the markup on marginal costs) and their volatility measured by the standard deviation have been presented in Table R.1.

The study of Gradzewicz and Hegemejer (2006b) confirms a significant negative impact of domestic competition on the level of mark-ups (the more stringent the competition the lower the mark-ups). The relation between the number of competing companies and the mark-ups is of non-linear nature – increasing the number of companies in a given industry from 2 to 3 decreases mark-ups by the average of 11 percentage points, and for industries with 10 competing companies the entry of another competitor results in a drop of mark-up of 0.6 percentage point, on average. In very competitive industries the effect of the entry of new competitors on the level of mark-ups is insignificant. The influence of foreign competition on the level of mark-ups is statistically significant as well – increasing the import penetration[2] by 1 percentage point results in a drop of mark-ups of 0.4 percentage point. In turn, 1-percentage-point higher export intensity[3] raises average mark-ups by 0.17 percentage point. Thus, the net effect of an even growth of imports and exports is a gradual decline in mark-ups and prices. This may suggest that globalisation processes (which consist in increasing trade integration) are reducing inflationary pressure.

Due to the emergence of sectoral shocks (e.g. shifts in production costs in one sector, changes in the demand for a sector's products) the changes in output in particular sectors within the business cycle is often inconsistent with the development of the business cycle at the level of national economy in Poland. The reaction of mark-ups to the changes in the sectoral and macroeconomic business cycle is also divergent. The deviation of the level of value added of a given sector by 1% from the trend results in a mark-up rise of 0.13 percentage points (on average), which points to the pro-cyclicality of price margins with respect to the sectoral cycle. In turn, a 1% deviation of GDP from the trend brings about a drop in mark-ups of 1.3 percentage points (on average) and so there occurs anti-cyclicality of mark-ups with respect to the macroeconomic cycle[4].

		Mark-up (%)	
	NACE	**mean**	**std. dev.**
Manufacturing	**D**	9.1	7.5
food products and beverages	15	22.4	12.5
tobacco products	16	15.8	9.2
textiles	17	10.8	2.3
wearing apparel and furriery	18	5.4	8.3
leather and leather products	19	7.1	5.8
wood and wood products	20	18.5	4.7
pulp, paper and paper products	21	18.2	8.3
publishing, printing	22	21.3	4.2
coke and refined petroleum products	23	6.2	10.4
chemicals and chemical products	24	13.0	1.9
rubber and plastic products	25	16.5	2.0
other non-metalic mineral products	26	24.4	3.6
produkcja metali	27	5.4	6.0
basic metals	28	16.7	3.0
machinery and equipment n.e.c.	29	7.3	7.9
office machinery and computers	30	0.9	11.9
electrical machinery and apparatus	31	14.6	5.7
radio, tv and communication equipment	32	4.6	5.7
medical instruments	33	26.8	13.2
motor vehicles, trailers and semi-trailers	34	6.0	3.0
other transport equipment	35	-9.2	23.7
furniture, manufacturing n.e.c.	36	8.6	4.2
recycling	37	11.2	11.0
Trade adn repair	**G**	3.3	1.5
Hotels and restaurants	**H**	8.9	12.3
Transport, storage and communication	**I**	32.2	10.8
Real estate, renting and business activities	**K**	22.3	17.5

Table R.1: Average margins and their volatility in Polish economy in 1997-2004;
NACE – European Classification of Activities.
Source: Gradzewicz, M., Hagemejer, J., 2006a.

Assuming the existence of nominal rigidities in the process of price formation and the limited resources of production factors in the short term, the anti-cyclicality of price margins with respect to the macroeconomic cycle is the consequence of demand disturbances. In order to meet the growing demand enterprises make a more intensive use of available factors of production, which leads to a rise in marginal costs and, amid sluggish adjustment in sales prices, a drop in mark-ups.

The sectoral pro-cyclicality of mark-ups may be accounted for by the emergence of sectoral disturbances which do not affect the overall macroeconomic business conditions. Increased demand for the output of a given sector changes relative prices, but does not affect the overall level of wages and cost of capital (due to the possibility of cross-sectoral reallocation and a limited impact of sectoral disturbances on the level of interest rates), leaving marginal costs unaffected and resulting in an increase of mark-ups. In turn, positive sectoral supply shocks (e.g. increased productivity in a given sector) pull down the marginal costs of production and, with unchanged price relations (due to unchanged macroeconomic conditions), also lead to increased mark-ups.

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[1] Overview of theoretical literature and empirical studies can be found in Gradzewicz, M., Hagemejer, J. (2006a), Gradzewicz, M., Hagemejer, J. (2006b.).
[2] Import pentetration is defined as the value of imports in relation to the value of total supply of goods to the domestic market.
[3] Export intensity is measured by the value of exports in relation to the value of global output.
[4] The amplitude of GDP deviations from the trend in the sample is approx. 2.2%, but in the case of sectoral cycles it is several times higher, which explains its lower elasticity.

1.2 Inflation expectations

Inflation expectations of individuals

Inflation expectations of individuals in Poland are strongly adaptive in nature, which means that changes in inflation expectations closely follow the changes in the current inflation. In November 2006–January 2007 inflation expectations of individuals[11] fell to 1.5% in January (from 1.6% in October 2006). They continue to run below the NBP inflation target (2.5%) (Figure 1.3).

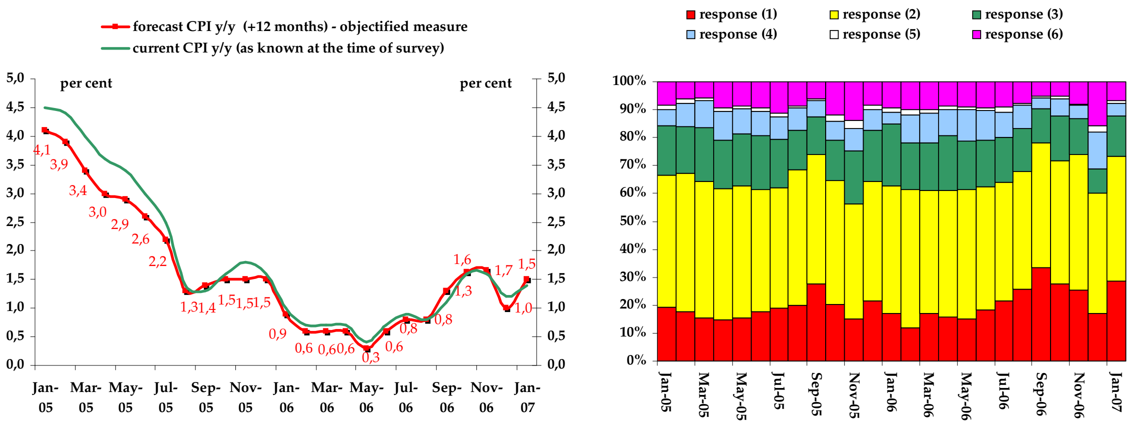

Figure 1.3: Inflation expectations of individuals. Left panel: Inflation expected in 12 months. Right panel: Responses to the question asked by Ipsos.
Source: GUS data, NBP estimates on the basis of Ipsos data.
Ipsos survey question: "Considering the present situation, do you think that prices during 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?"

The results of an additional survey conducted in December 2006[12] indicate that in the opinion of respondents the main (most often indicated) factors contributing to price increases over the next 12 months may include (in order of importance): growing prices of fuels, energy, gas and heating fuel; convergence of price levels between Poland and

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

[12] In the survey, the respondents who expected prices to rise over the next twelve months (faster than so far, at the same rate, slower) were asked two questions concerning the reasons for the price rise they envisaged. The first one was an open question, while the other was a multiple-choice question: *"In your opinion, which of the following factors may result in overall growth in the level of prices over the next 12 months? Please indicate three most important reasons for the expected price growth. (1) Central budget deficit; (2) Levelling off of prices in Poland and EU countries; (3) Expected movements in the exchange rate of the zloty; (4) Growing wages, demand; (5) Weather conditions; (6) Fuel prices; (7) Prices of flats (purchase/rental); (8) Other (what?)"*.

other EU countries as well as the central budget deficit. In the respondents' opinion, important causes of the general price growth might also include increases of flat prices (purchase, rental) as well as growing wages and demand.

Inflation forecasts of bank analysts

In the period November 2006–January 2007 the annual inflation in 11 months as forecast by bank analysts increased from 2.2% to 2.4% (Figure 1.4, right-hand panel). At the same time, the dispersion of forecasts of future price growth diminished, which was reflected in the narrowing gap between the maximum and minimum level of inflation forecast in 11 months' time (Figure 1.4, right-hand panel).

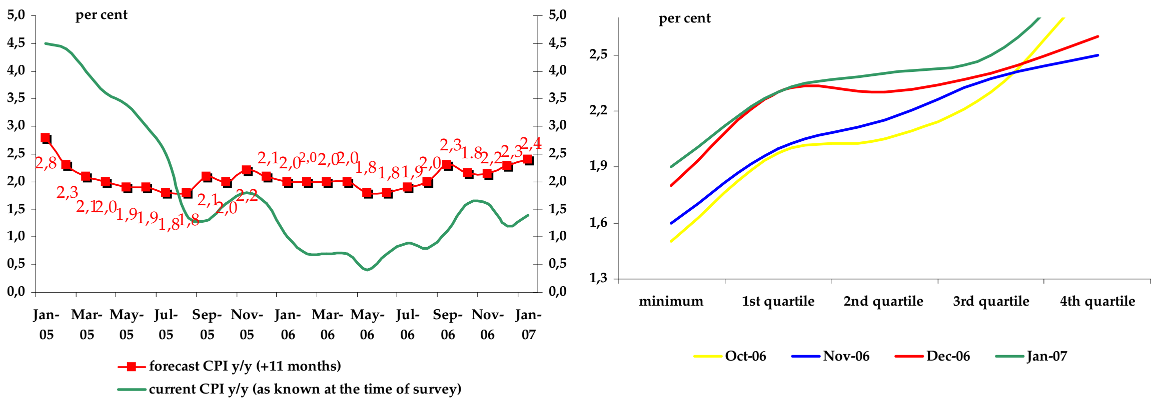

Figure 1.4: Inflation forecasts of bank analysts. Left panel: Inflation forecasted in 11 months and inflation forecast for December 2006. Right panel: Distribution of bank analysts' inflation forecasts of the annual inflation rate in 11 months.
Source: GUS data, Reuters data, NBP calculations.

1.3 Inflation and the Maastricht criterion

In a country intending to adopt the euro, the average annual inflation in the reference period [13] as measured by the harmonised index of consumer prices (HICP) published by Eurostat [14] (see box *Reasons for differences between the HICP and CPI inflation* in the July 2006 *Inflation Report*) cannot exceed the reference value determined as the average inflation in the three EU countries with the lowest average annual (and not calculated in relation to the corresponding period of the previous year) price growth rate plus 1.5 percentage point (see Box *Maastricht reference value*). As a result of inflation growth following its accession to the EU, Poland failed to comply with the Maastricht inflation criterion in the period from August 2004 to October 2005 (Figure 1.5). Starting from

[13] Average inflation in the previous 12 months
[14] *Harmonised Index of Consumer Prices*

May 2005, the average annual HICP level began to slide down and ever since November 2005 Poland has again been complying with the inflation criterion. Moreover, since March 2006 Poland has been one of the three countries with the lowest average annual inflation in the EU. Consequently, inflation in Poland has been taken into consideration while computing the reference value.

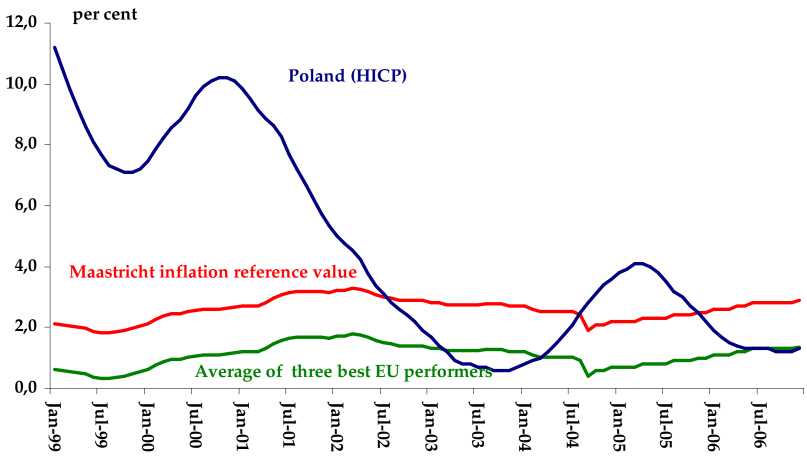

Figure 1.5: Inflation in Poland (HICP 12-month moving average) and the Maastricht criterion (per cent)
Source: Eurostat data, NBP calculations.
In December 2006 the reference value for inflation was calculated on the basis of the average inflation in Finland, Poland and Sweden where the average annual growth of prices stood at 1.3%, 1.3% and 1.5% respectively.

Maastricht reference value

The assessment whether a given country may be included into the group of countries with most stable prices or not is, in each individual case, performed by the European Commission and the European Central Bank (ECB). According to the position taken by the Commission, presented in the *2004 Convergence Report* countries which have recorded deflation are excluded from the reference group. In turn, the ECB does not condition the exclusion of a given country from the reference group on whether this country experienced deflation, but rather on whether its average annual inflation differs significantly from the price growth rate recorded in other countries. Figure1.5 presents estimates of the reference value on the assumption that countries with a zero or very low average annual inflation rate could be included into the group of countries with the most stable prices. For more information about the Maastricht see: *Report on the Costs and Benefits of Poland's Adoption of the Euro*, NBP, 2004.

Determinants of inflation

Since 2005 Q2 the rate of economic growth in Poland has been steadily increasing to reach 5.8% y/y in 2006 Q3. GUS data on GDP in Q3 confirmed that the Polish economy is currently undergoing a strong and constantly consolidating recovery encompassing all sectors of the economy (i.e. services, industry, construction). In line with expectations of the October *Inflation Report*, the most important factor in GDP growth is the dynamic growth in consumption and investment. The sustainability of fast investment growth will depend on cyclical, structural and institutional factors, which determine the investment climate. This climate depends mainly on, the outlook for public finance, including the scale of total fiscal burden, efficiency of safeguarding the ownership rights, the level of enforcing contracts and the regulations restricting economic freedom, the quality and scope of economic infrastructure, including communications infrastructure, as well as the cost and quality of labour. Exports have been on a sharply rising path, yet due to the recovery in domestic demand and concurrent import acceleration, net exports have ceased to increase GDP growth. Strong economic growth is accompanied by accelerating employment growth and decrease in unemployment. Fast growth in labour productivity in industry amid a relatively slower wage growth is decreasing the unit labour costs in the sector. By contrast, wages in the economy as a whole are growing faster than labour productivity, which leads to a rise in unit labour costs. The ever faster GDP growth is still accompanied by low inflation and low current account deficit.

2.1 Demand

2006 Q3 saw further acceleration in real GDP growth (5.8% y/y compared with 5.5% in 2006 Q2). GDP growth also stepped up in seasonally adjusted quarter-on-quarter terms (to 1.7%) (Table 2.2)[15]. The rate of economic growth in 2006 Q3 exceeded the expectations presented in the October *Report*.

2006 Q3 saw a strong growth in gross fixed capital formation (19.8% y/y as compared with 14.8% y/y in 2006 Q2) reaching the highest growth rate since 1997. Since the

[15] The *Report* accounts for national accounts data seasonally adjusted by the NBP expressed in average annual prices of the previous year, rather than seasonally adjusted data in constant prices from 2000, as they are presented by the GUS. As a result, the seasonally adjusted growth rate of GDP and its components presented in the *Report* may differ from the growth rate presented by GUS.

beginning of 2006 a strong increase in private consumption has continued (5.5% y/y in Q3 compared with 4.9% in Q2), while public consumption has been constantly slowing down (1.1% y/y versus 1.5% y/y in Q2). Domestic demand rose in 2006 Q3 by 6.1% y/y (compared with 4.8% y/y in Q2) and its growth rate was, similarly as in the previous quarter, negatively affected by a change in inventories. Exports grew strongly (by 14.8% y/y), but the recovery in domestic demand brought about import acceleration (to 15.3% y/y). In consequence, net exports ceased to be a factor supporting GDP growth (its contribution to GDP growth became negative at -0.3 percentage points compared with 0.6 percentage points in Q2).

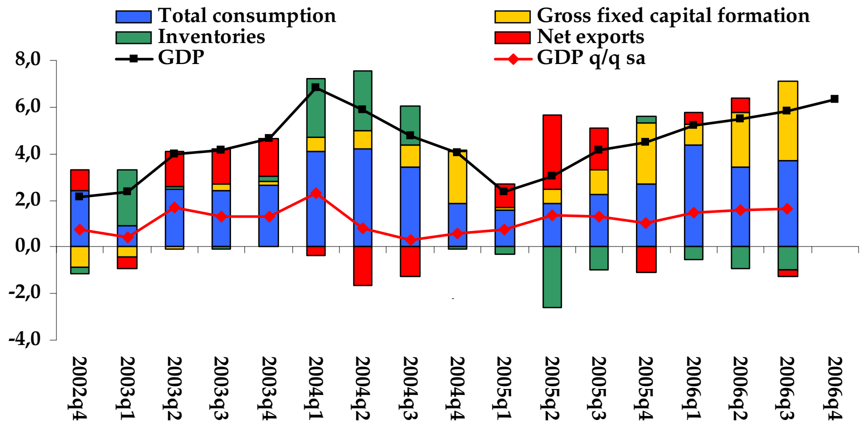

Figure 2.6: Contribution of aggregate demand components to GDP growth
Source: GUS data, 2006 Q4 – NBP estimates.

Seasonally adjusted (per cent)	04q2	04q3	04q4	05q1	05q2	05q3	05q4	06q1	06q2	06q3
GDP	0.8	0.3	0.6	0.8	1.3	1.3	1.0	1.5	1.6	1.7
Domestic demand	1.3	0.2	-0.1	0.6	0.5	1.2	1.8	1.1	1.4	1.7
Total consumption	0.8	0.6	0.4	0.4	1.1	0.8	1.1	1.3	0.8	1.2
Private consumption	1.0	0.3	0.3	-0.2	1.0	0.9	1.0	1.9	1.0	1.4
Gross capital formation	3.4	-1.5	-1.6	1.9	-2.3	2.9	4.1	0.9	3.6	2.9
Gross fixed capital formation	0.6	1.2	1.6	0.8	1.8	2.4	4.0	3.8	5.3	5.0

Table 2.2: GDP and aggregate demand components growth rates (q/q, per cent, seasonally adjusted)
Source: NBP calculations on the basis of GUS data.

On the basis of preliminary monthly data for October–December 2006 on industrial output, construction and assembly production, retail and wholesale sales and other indicators, it may be assessed that the growth of GDP in 2006 Q4 significantly exceeded 6.0% y/y, which means a rise of approx. 1.5% q/q (in seasonally adjusted terms). According to the NBP's estimates, the strong growth in fixed capital formation and private consumption continued through 2006 Q4, while the contribution of net exports to GDP growth further declined. The current estimate of GDP growth in 2006 Q4 markedly overshoots the expectations presented in the October *Report* (see Section 4.3 Projection of inflation and GDP). According to the preliminary GUS estimate, in the whole 2006 GDP grew by 5.8%[16].

2.1.1 Consumption demand

2006 Q3 saw a high growth of private consumption observed since the beginning of 2006 (5.5% y/y against 4.9% y/y in 2006 Q2 and 5.2% y/y in 2006 Q1). The rise in private consumption was higher than expected in the October *Report*. Sustained high growth of private consumption resulted from continuously rising growth of real gross disposable income of households which took place despite higher inflation (1.4% y/y as compared with 0.8% y/y in 2006 Q2). Accelerating consumption growth was also driven by continuing fast pickup in consumer loans (see Section 2.5.3. *Credit and money*). In 2006 Q3 the households' savings ratio (i.e. the ratio of savings to personal income) did not change since the previous quarter and stayed higher than a year ago.

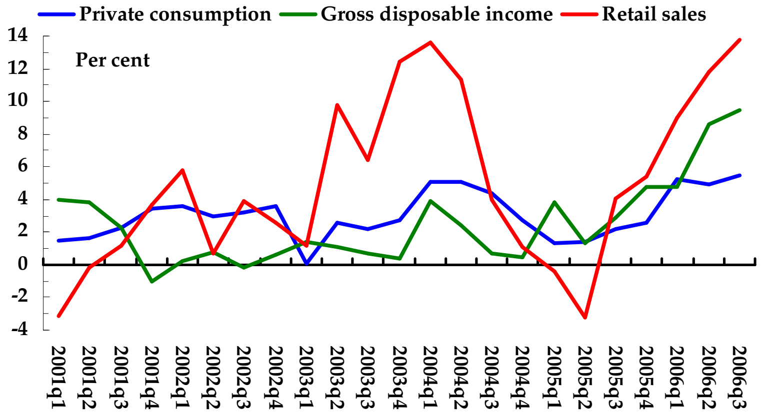

Figure 2.7: Growth of private consumption, gross disposable income and retail sales (y/y, per cent, constant prices)
Source: GUS data, gross disposable income - NBP estimates.

According to the NBP estimates, the real growth of disposable income of households in 2006 Q3 amounted to 9.5% y/y (as compared with 8.6% in 2006 Q2 and 5.0% in 2006 Q1). The rise in the growth rate of disposable income was due to accelerating growth of income from paid employment, income from property as well as considerable increase in the EU transfers for farmers and private transfers of Poles working abroad. Higher growth rate of nominal income from paid employment in 2006 Q3 (reaching, according to the NBP estimates, 7.6% as compared with 7.1% y/y recorded in 2006 Q2) was brought about by continued revival in business activity, which is conducive to a strong recovery

[16]Other data on national accounts presented in the *Report* do not include the preliminary estimate of GDP in 2006 published by GUS on 29 January 2007.

in the labour market (accelerating growth of employment, sustained relatively high growth of nominal wages - see Section 2.3 *Labour market*) which - according to the NBP estimates - applies also to small-size enterprises.

Strong growth in consumption demand was reflected in further acceleration of retail sales (13.8% y/y in 2006 Q3 as compared with 11.8% y/y in Q2 and 9.0% y/y in Q1). The highest sales growth (exceeding 20%) was recorded in the group of furniture, radio and television equipment, household appliances and cars and motorcycles, i.e. products with prices characterised by a low rate of growth.

In 2006 Q3 the growth rate of public consumption reached 1.1% y/y (as compared with 1.5% in 2006 Q2). Low annual growth of public consumption was the result of a considerable growth of this category a year before (by 4.6% y/y).

The GUS Consumer Sentiment Survey indicates that in 2006 Q4, households' assessments of their current financial condition did not change significantly as compared with the previous quarter and continued to be very optimistic. At the same time, there was an improvement in the households' assessment of their future financial condition. This improvement was driven mainly by further abatement of fears of unemployment. Most of consumer sentiment indicators have been ranging high. Monthly data for October-December 2006 indicate that 2006 Q4 saw a continued acceleration in the employment growth and wages in the corporate sector. Coupled with sustained high growth in retail sales this signals that private consumption in 2006 Q4 continued to grow as strongly as in the previous quarters.

2.1.2 Government demand

According to preliminary data of the Ministry of Finance, in 2006 Q4 the central budget deficit was close to the previous year's level (PLN 10.5 billion as compared with PLN 10.6 billion in 2005 Q4). In the whole of 2006 it reached PLN 25.1 billion, representing the lowest level since 2001. This relatively low level of deficit was driven by good central budget revenues connected with rapid economic growth as well as the absence of certain expenditure (mainly under specific purpose provisions).

In 2006 Q4 the central budget revenues increased by 14.5% y/y in nominal terms (in the whole of 2006 - by 10.0% y/y). This rise was driven by a considerable increase of all kinds of taxes. Higher personal income tax was due to the increase of taxation base resulting from rapid growth of employment and wages. On the other hand, the increase in corporate income tax was due to very good financial standing of enterprises and financial institutions. Indirect income tax revenues were also higher than a year before which was mainly the result of high growth in retail sales.

In 2006 Q4 the central budget expenditure increased by 11.6% y/y in nominal terms (as compared with 6.3% y/y in 2006 Q3). The expenditure increase resulted, among other things, from higher growth of capital expenditure (mainly investment expenditure) and higher than anticipated transfers to ZUS (Social Insurance Institution) (for repayment of part of bank debts). In the whole of 2006 the central government expenditure was by 7.0% higher than in 2005.

In the NBP's assessment, 2006 Q4 saw a sustained good revenue situation in other general government entities (i.e. apart from the central government). High dynamics of wages and growth in employment contributed to a considerable increase in revenues from social contributions to the state social contributions funds - especially to the Social Security Fund, the Labour Fund and the National Health Fund, which coupled with sustained moderate growth in those funds' expenditure, might have brought their surplus. On the contrary, local government entities - similarly to the previous years - could have run a high deficit in 2006 Q4 despite high own revenues connected, among other things, with good income from direct taxes)[17]. Its level was largely dependent on the expenditure on, among other things, investment projects co-financed with the EU funds and the amount of statutory increase in expenditure (in the period September - October 2006) on family allowances and social benefits.

As a result of substantial general government revenue and probably lower than anticipated general government expenditure, the 2006 cash deficit of the public finance sector was lower than in 2005 (according to the NBP's estimates it might have reached approx. 2.4% of GDP i.e. 0.2 percentage point less than in 2005). According to the NBP's forecasts, the 2007 cash deficit of the public finance sector will reach 2.3% of GDP. Lower general government deficit to GDP ratio in the years 2006 and 2007 is mainly related to fast economic growth. This is suggested by the NBP's estimates of the cyclically adjusted deficit[18]. According to those estimates, in 2006 the general government deficit to GDP ratio increased by 0.7 percentage point (from 1.6% of GDP in 2005 to 2.3% of GDP) and may grow by another 0.4 percentage point in 2007 (to 2.7% of GDP).

The currently observed high economic growth provides favourable conditions for the implementation of reforms leading to sustainable reduction of public finance imbalance. The restraining of public finance imbalance would allow to meet convergence criteria and would accelerate the long-term economic growth.

[17] At present, no data concerning financial standing of local government entities in 2006 Q4 are available. In 2006 Q3 the surplus of local government entities fell to PLN 0.07 billion (from PLN 6.1 billion in the first half of 2006) which resulted from accelerating growth of expenditure (in 2006 Q3 it reached 18.8% y/y as compared with 13.4% y/y in 2006 Q2 and 10.7% y/y in 2006 Q1

[18] This category is also sometimes referred to as structural deficit, but it is assumed in the literature that structural deficit additionally includes the adjustment of budget balance for the impact of extraordinary and one-off factors. The above presented levels of cyclically adjusted deficit were estimated as cash deficit of the general government sector minus a cyclical component calculated with the use of the so-called disaggregated method. This method is used within the European System of Central Banks and has been described in: Cyclically Adjusted Budget Balances: an alternative approach, ECB Working Paper 2001. The method involves estimation of separate gaps for respective macroeconomic variables related to corresponding categories of general government revenue and expenditure. This allows the method to take into account the structure of GDP growth while assessing the impact of the business cycle on public finance.

2.1.3 Investment demand

2006 Q3 saw a continued acceleration in the growth rate of gross fixed capital formation in the economy. The real growth of gross fixed capital formation reached 19.8% y/y as compared with 14.8% in 2006 Q2 and 7.7% y/y in 2006 Q1. This has been the highest growth rate recorded since 1997.

An acceleration was recorded in fixed capital formation in the corporate sector[19], whose real growth rate reached 26.0% y/y in real terms in 2006 Q3, as compared with 15.6% y/y in the first half of 2006. Similarly to the previous quarter, accelerating investment growth in the corporate sector was largely the result of intensified investment activity of financial intermediation companies (nominal growth of 85.4% y/y). As far as sections of activity are concerned, investment acceleration was mainly driven by increased purchases of means of transport, which grew by 89.9% y/y. A rapid growth was also recorded in investment in machinery and equipment and buildings (by 21.9% y/y and 14.0% y/y, respectively).

2006 Q3 saw an increase in the calculated value of enterprises' commenced investment projects (nominal growth by 45.0% y/y as compared with 19.4% y/y in the first half of 2006), which is indicative of possible continuation of investment revival in the quarters to come. At the same time, there was a drop in the number of commenced investment projects (by 29.1% y/y as compared with an increase of 27.3% y/y in the first half of 2006), which suggests that enterprises tend to embark on increasingly larger investment projects.

Changes in the investment structure and the potential output growth

Over the past few quarters the economy is undergoing changes which may affect the structure of fixed capital and the growth rate of potential product. The changes include: still increasing inflow of EU funds and direct foreign investment as well as strong recovery in the housing market.

The inflow of the EU funds and a very good economic climate in the housing market brings about a change in the structure of fixed capital formation. It can be expected that in the next few years the share of infrastructural and housing investment[1] in the total investment will grow continuously[2]. Such a change in the structure of investment expenditure is likely to affect the growth rate of potential output. The effects of infrastructural investment in the form of increased production and streamlined economic processes usually become evident with a considerable time lag. In contrast, supply effects of investment in machinery and equipment or means of transport are usually observed faster. Moreover, the above changes in the structure of investments may lower the average cost of capital utilisation. First, infrastructure is characterised with a lower rate of depreciation. Second, the cost of financing infrastructural investments from EU funds is lower than the cost of financing them with a bank loan. In

[19] The corporate sector comprises all enterprises keeping books of account and employing more than 49 employees

line with the theory of capital[3], a reduction in the cost of capital will increase capital stock, which will then raise the stream of services it generates. However, this rise of the stream will be smaller than the rise of capital stock (average stream of services generated by one unit of capital will decrease). Finally, certain expenditure classified as investment expenditure (e.g. housing expenses) do not contribute to increasing production assets and thus do not increase potential output. Taking the above arguments into account, in the years to come the impact of investment on potential output may be weaker than in the past.

On the other hand, potential output growth is increasingly driven by investment in knowledge (innovations, human capital), usually not accounted for in investment statistics, rather than by gross fixed capital formation alone. Indeed, part of EU funds is expected to be allocated to investment in the knowledge base. According to the GUS recent surveys, almost all areas of economy record a gradual increase in the use of modern Information and Communications Technologies (ICT)[4], constituting - as indicated by the most recent studies - an important source of productivity growth. The intensive inflow of new technologies is also brought about by foreign direct investment with both their growing volume and improving structure (increased share of projects requiring highly skilled employees, such as in the case of financial services, research and development centres). What is more, direct foreign investment may bring about positive external effects increasing the effectiveness of production factor utilisation for the economy as a whole. These effects consist in improving the quality of products and services provided by enterprises cooperating with companies which receive foreign capital or in ”forced” improvement of quality or effectiveness of the production of products offered by competitors of these companies[5]. Dynamic growth of exports observed in the last few years indicates that the inflow of direct foreign investments contributed to increasing the potential product in Poland. It may be expected that in the coming years this inflow will – together with the above listed factors – be still acting towards increasing the potential product.

At present it is difficult to assess the net effect of the above mentioned changes in investment structure and type on the potential output growth rate.

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[1] Including investment in environmental protection to which Poland committed itself and which constitutes a condition of further use of certain EU funds.

[2] Until now, the process has not been reflected in statistical data due to the expansionary phase in the business cycle, in which high production capacity utilisation urges enterprises to increase gross fixed capital formation (machinery and equipment and means of transport) allowing a rapid growth in production capacity.

[3] Cf. Jorgenson, D.W. Griliches, Z. ”The explanation of productivity change”, Review of Economic Studies, Vol. 43 (1967).

[4] Cf. ”Wykorzystanie technologii informacyjno-telekomunikacyjnych w 2006 r” [The Use of Information and Communications Technologies in 2006], GUS, 2006

[5] Cf. studies on Polish economy: Gradzewicz, M., Kolasa, M., ”Napływ bezpośrednich inwestycji zagranicznych a wzrost gospodarczy w Polsce”, Ekonomista 4/2005 and Kolasa M. ”How does FDI inflow affect productivity of domestic firms? The role of horizontal and vertical spillovers, absorptive capacity and competition”, Materiały i Studia NBP, nr 42 (2007, submitted for publication).

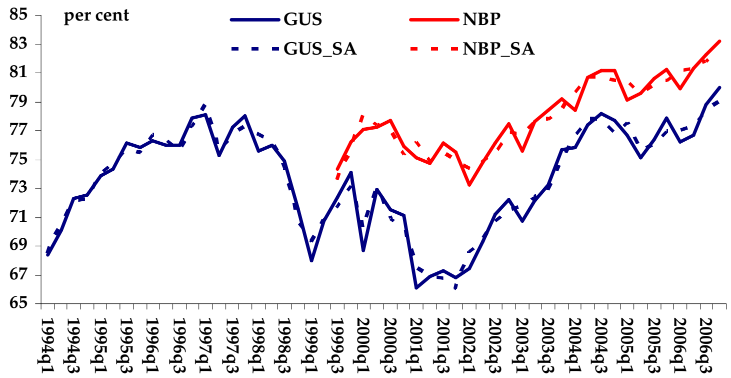

Figure 2.8: Production capacity utilisation in industry (GUS) and in the corporate sector (NBP) (per cent)
The production capacity utilisation obtained from the GUS business survey is significantly lower from one obtained from the NBP business survey. However, the changes in this indicator are similar 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 2006, in turn, included 824 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.
Source: GUS data, NBP business survey.

2006 Q3 brought a nominal decrease in investment outlays in general government sector of 55.0% y/y (as compared with an increase of 34.1% y/y in 2006 Q2).This high growth rate of outlays resulted from a significant rise in the expenditure of local governments (of 60.0% y/y) and slightly slower growth in investment outlays financed from the central budget (a rise of 34.1% y/y).

The sustained high demand is driving an ongoing recovery in residential construction. In 2006 Q4 the number of building permits increased by 46.3% y/y, while the number of dwellings under construction rose by 3.9% y/y at the end of this period. The number of completed dwellings rose by 6.3% y/y, while the total floor area of dwellings – by 5.5% y/y.

The results of the NBP business survey[20], suggest that 2007 will see a further increase in investment activity of the surveyed enterprises. The main factor driving investment growth is the high level of production capacity utilisation (Figure 2.8), amidst sustained high demand for products manufactured by enterprises[21]. In the coming quarters investment growth will be supported by good economic condition of enterprises. 2006 Q3 saw a rapid increase in corporate income and improvement of enterprises' financial results (rate of return and financial liquidity). These developments both improve the possibilities of financing investment with enterprises' own funds and increase the availability of external financing. Yet, until now corporate debt is growing slower than

[20] *Information Concerning the Condition of the Corporate Sector and the Economic Climate in 2007 Q1*, NBP

[21] According to the NBP business condition survey, in 2007 the growth of production potential will be the main investment objective of enterprises and exporters in particular.

corporate deposits at banks (see: Chapter 2.5.3 *Credit and money*). Financing corporate investment is also made easier due to improving access to the EU funds, the use of which is growing steadily.

An improvement in legal and institutional conditions for business activity will be an important factor ensuring investment growth in the longer run. In particular, a factor of key importance will be the amendment of the Act on Freedom of Economic Activity and the introduction of a uniform interpretation of legal regulations. It will be essential to improve administrative and legal systems related to the access to the EU funds in order to ensure higher absorption of these funds. In turn, the development of the housing construction sector will be largely conditioned on the urban development plans being passed and the problem of the availability of developed construction sites.

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

According to the NBP data, 2006 Q3 saw a slight improvement in the current account deficit (fall to EUR 0.9 billion, which accounted for 1.9% of GDP computed for the four quarters i.e. from 2005 Q4 to 2006 Q3.). As compared with the corresponding period last year, the deficit decreased by EUR 0.3 billion, marking the first decline in annual terms after three consecutive quarters of deficit growth (Figure 2.9). The reduction of the deficit in annual terms was mainly driven by the increase in the surplus of transfers and services. Yet, widening trade deficit and a negative income balance were the factors contributing to deficit growth.

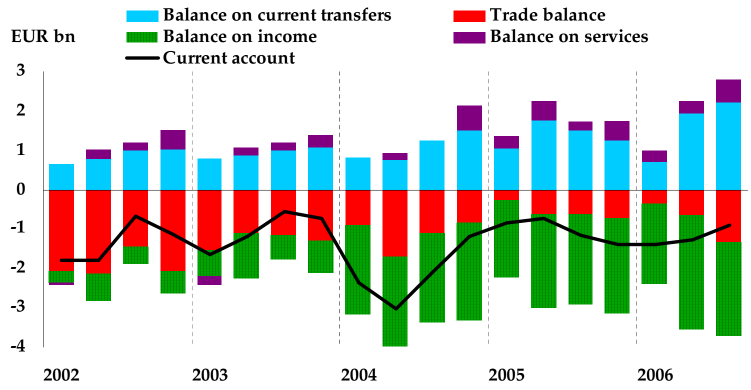

Figure 2.9: Current account balance (EUR bn.)
Source: NBP data.

The deficit on trade in goods widened amidst continuing rapid growth of exports and imports. According to the GUS data, 2006 Q3 saw a growth in the value of exports (in EUR) by 22.1% y/y (as compared with 23.9% in 2006 Q2) and that of imports by 21.2% y/y (as compared with 21.7% y/y in 2006 Q2). The increase in the value of trade in 2006

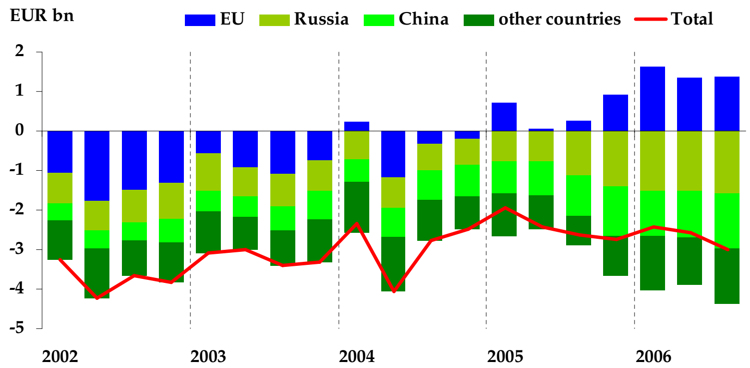

Figure 2.10: Balance of the Polish foreigh trade.
Source: GUS.

Q3 was mainly driven by an increase in the trade volume[22], and to a lesser extent by price increase [23].

In 2006 Q3 the Polish foreign trade deficit was running at EUR 3.0 billion (growth by EUR 0.4 billion y/y). The main factor contributing to the deficit growth in annual terms was further widening of the trade deficit with third countries (including Russia and China) (Figure 2.10) - to EUR 4.4 billion (growth by EUR 1.5 billion y/y). Yet, the surplus was maintained in the trade with the EU member states (EUR 1.4 billion, i.e. growth by EUR 1.1 billion y/y). The improvement in the balance of trade with the EU member states was mainly driven by considerable narrowing of the deficit in trade with the euro area countries and a further increase of the surplus in the trade with the Central and East European countries.

The improvement in the balance in trade with the euro area was favoured by continuing relatively high economic growth in the region (growth of the euro area GDP in 2006 Q3 by 2.7% y/y as compared with 2.8% y/y in 2006 Q2). Although the value of the total euro area imports was growing slower than in the previous quarter (10.1% y/y against 14.1% y/y in 2006 Q2), the growth rate of the imports from Poland increased (29.0% y/y against 23.9% y/y in 2006 Q2). Polish exports to the new EU member states continued to record a rapid growth (by 30.8% y/y in 2006 Q3), which was driven by both continuing fast economic growth in those countries[24], as well as by a further increase in corporate links between Poland and those countries resulting from foreign investment in Central Europe.

In 2006 Q3 the competitive position of Polish exporters, as measured by the ratio of

[22]In 2006 Q3 exports volume increased by 14.8% y/y (as compared with 15.0% y/y in 2006 Q2), while the imports volume stepped up by 14.3% y/y (against 8.9% y/y).

[23]Export prices (in EUR) stepped up by 6.4% y/y in 2006 Q3 (against 7.8% y/y in 2006 Q2), and import prices increased by 6.0% y/y (against 11.7% y/y).

[24]Economic growth in the EU new member states weighted by the structure of Polish exports in 2006 Q3 amounted to 6.6% y/y.

transaction export prices to unit labour costs in manufacturing improved in comparison with the previous quarter (Table 2.3). This was mainly driven by an increase in transaction export prices as compared with 2006 Q2 and the absence of changes in unit labour costs in this sector. The real effective exchange rate (deflated with unit labour costs in manufacturing) has not changed since the previous quarter.

	04q2	04q3	04q4	05q1	05q2	05q3	05q4	06q1	06q2	06q3
Export prices / Unit labour costs*										
y/y	32.6	12.8	7.7	-8.2	-16.8	-6.9	-6.3	-0.4	5.0	7.1
q/q	15.6	-10.5	2.0	-13.0	4.8	0.1	2.7	-7.5	10.4	2.2
Import prices / domestic producer prices										
y/y	1.7	-8.2	-10.5	-11.8	-13.7	-3.2	-2.2	-2.0	3.4	0.7
q/q	-2.0	-9.4	-2.5	1.8	-4.1	1.6	-1.5	2.0	1.2	-1.0
REER ULC*										
y/y	-15.5	-1.0	11.1	26.8	21.1	13.1	6.5	0.6	1.0	-1.0
q/q	-3.9	9.6	3.4	16.4	-8.2	2.3	-2.5	9.9	-7.9	0.4

Table 2.3: Polish export and import competitiveness measures (change in per cent)
Notes:
* – Unit labour cost index is calculated as the ratio of payroll growth to the labour productivity dynamics, measured as output (volume) in manufacturing per person employed in this sector,
REER ULC – real effective exchange rate deflated with unit labour costs in manufacuring. Minus denotes depreciation.
Source: Own calculations based on NBP, GUS, EC, ECB and Eurostat data.

The NBP business survey results[25], indicate that the exchange rate and its fluctuations continued to be one of the main barriers negatively affecting enterprises' economic condition over the period of next 6 months (in 2006 Q4 it was indicated as the main growth barrier by 15.2% of the surveyed enterprises as compared with 11.2% in 2006 Q3).

2006 Q3 witnessed a slight deterioration in the competitive position of Polish producers, which is signalled by a fall of 1.0% q/q in the ratio of the transaction import price index to the domestic producer price index.

In 2006 Q3 the inflow of foreign direct investment continued to exceed the current account deficit which resulted in maintaining the surplus in the balance of payments. This surplus was additionally boosted by the inflow of EU funds.

In 2006 Q3 all warning indicators used for the assessment of the external imbalance remained at a safe level (Table 2.4).

[25] *Information Concerning the Condition of the Corporate Sector and the Economic Climate in 2007 Q1*, NBP

Warning indicator	04q4	05q1	05q2	05q3	05q4	06q1	06q2	06q3
Current account balance* / GDP calculated annually	-4.2%	-3.3%	-2.2%	-1.7%	-1.7%	-1.9%	-2.0%	-1.9%
Current account balance* + capital account balance / GDP calculated annually	-3.8%	-2.7%	-1.6%	-1.3%	-1.4%	-1.6%	-1.7%	-1.4%
Trade balance / GDP calculated annually	-2.2%	-1.8%	-1.3%	-1.0%	-0.9%	-0.9%	-0.9%	-1.2%
Direct investment* / Current account deficit*	111.4%	123.2%	149.7%	210.4%	126.2%	134.7%	139.2%	149.4%
(Current account balance* + capital account balance + direct investment*)/GDP	0.9%	1.4%	1.6%	2.2%	0.8%	0.9%	1.1%	1.4%
Foreign debt service / Revenue from export of goods calculated annually	35.4%	40.2%	40.4%	38.6%	32.3%	29.3%	28.0%	27.8%
Foreign reserves** expressed in terms of monthly import of goods and services	4.0	4.2	4.8	4.7	4.7	4.5	4.4	4.3

Table 2.4: Main warning inidicators (caculated over four consecutive quarters)
* Current account balance and direct investment in 2005 and 2006 include estimates of reinvested profits in direct investment enterprises.
** Foreign reserves as at the end of period.
Source: GUS data, NBP data, NBP calculations.

2.2 Output

The total value added in 2006 Q3 increased by 5.7% y/y against 5.8% y/y in 2006 Q2. Value added growth was mainly driven by a surge in output in market services and, to a smaller degree, in industry and construction.

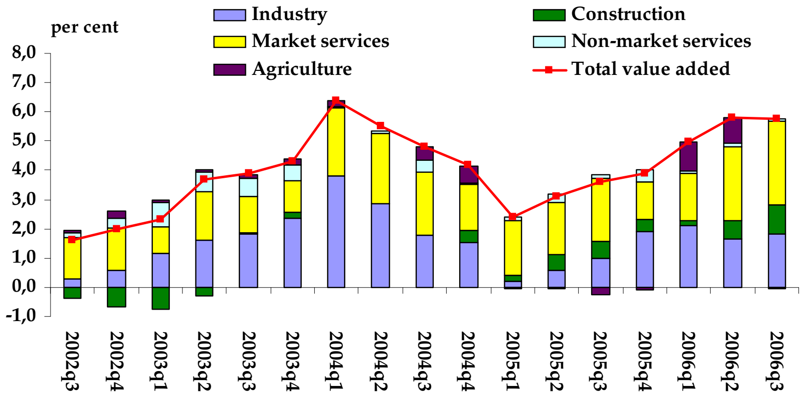

Figure 2.11: Sector contribution to annual gross value added growth (per cent)
Source: NBP calculations on the basis of GUS data.

On the basis of preliminary data for October- December 2006 it can be assessed that the annual value added growth in Q4 exceeded 6.0% y/y and in seasonally adjusted terms amounted to approx. 1.5% q/q (Table 2.5).

Seasonally adjusted (per cent)	04q2	04q3	04q4	05q1	05q2	05q3	05q4	06q1	06q2	06q3
Value added – total	0.6	0.6	0.6	0.6	1.3	1.0	0.9	1.7	2.1	1.0
Industry	0.7	-0.9	0.6	0.4	2.3	0.9	3.8	1.0	1.5	1.0
Construction	-0.2	1.1	3.2	1.7	1.5	0.9	2.4	1.8	4.3	4.2
Market services	1.0	0.7	1.0	0.9	0.6	1.0	0.8	1.3	1.5	1.4

Table 2.5: Value added and its components (q/q seasonally adjusted)
Source: NBP calculations on the basis of GUS data.

2006 Q3 marked a continuation in high quarter-on-quarter growth in market services (Table 2.5), while the annual value added growth in this section amounted to 5.7%. Similarly as in the preceding quarters, the rise in output was mainly connected with the continued recovery in trade and repairs amid ever more robust performance of other sections of services. Preliminary data for October–December suggest that the favourable tendencies in market services were also sustained in 2006 Q4. This is evidenced by a high growth of retail and wholesales sales and the sale of transport services. Good economic climate is also continued in the other sections of market services, particularly in real estate activities and services connected with business activity as well as in financial intermediation. In view of the favourable assessments formulated by the enterprises polled in economic climate surveys, it should be expected that the favourable tendencies in market services will continue in the coming months.

In 2006 Q3 the rise in gross value added in industry was in year-on-year terms (7.4% y/y) consistent with that recorded in the previous quarter and slightly lower in quarter-on-quarter terms. Preliminary data for October–December 2006 point to acceleration in the quarterly growth rate of value added in industry in 2006 Q4, even though due to a high point of reference one year before (the so-called base effect) its annual growth rate declined.

Favourable developments in production have been continued in industries with a high share of export sales: there persist strong rising tendencies in rubber and chemical industries, the manufacture of metal products and manufacture of machinery and equipment and also in the automotive industry and manufacture of radio, television and telecommunications equipment; after the period of strong growth the level of output in the manufacture of furniture and the manufacture of electrical machinery and apparatus is stabilising. The observed revival in construction is accompanied by a dynamic growth in the manufacture of non-metallic mineral products. The rising trend in the food industry has been sustained, the growth in metallurgy and coke and refining industries have slowed down. The output in the garment industry continues at a stable level. Economic climate surveys point to a continuation of favourable tendencies in industry. Rising output should be favoured by a gradual increase in production capacities connected with the steadily rising investment by industrial enterprises. On the other hand, some threat to the output growth may be posed by the a larger slowdown of growth in the world economy than it is currently expected by analytical centres.

A high quarter-on-quarter rise in construction output was sustained in Q3, while the annual growth in this sector's value added (14.8%) reached its highest level since 1996. Preliminary data on construction and assembly output in October–December 2006 indicate that in 2006 Q4 growth in value added in construction might have been even higher. This industry's strong recovery was supported by faster implementation of projects financed by the EU (mainly in central and local government sectors) and favourable weather conditions at the end of 2006. The outlook for growth in construction output in subsequent quarters is still quite positive, as suggested by the optimistic surveys of economic climate, improving absorption of EU funds earmarked for infrastructural projects and a still high growth rate of activities of construction site development companies.

2.3 Labour market

2.3.1 Employment and unemployment

According to BAEL data, in 2006 Q3 the growth in the number of working persons kept on accelerating (3.9% y/y against 3.7% y/y in 2006 Q2). There were 567 thousand working persons more than a year before, which means the largest surge in the survey history[26] (i.e. since 1992) (Figure 2.12). In seasonally adjusted terms, the number of working persons in 2006 Q3 increased by 1.0% q/q.

The upward trend in the growth rate of working persons in 2006 Q3 resulted primarily from the accelerated rise in the number of people working outside private farming (6.7% y/y as compared with 5.3% y/y in 2006 Q2)[27] – the growth rate in the number of people working in services and industry accelerated, while, at the same time, the number of people working in agriculture significantly declined (Table 2.6). The services sector contributed the largest to the growth of number of working persons (a rise of 460 thousand people y/y, i.e. of 6.1% y/y), while industry slightly less – (a rise of 347 thousand people y/y, i.e. of 8.3% y/y).

The number of persons working on a fixed term contract is still rising fast (16.0% y/y in 2006 Q3 compared with 11.8% y/y in 2006 Q2), though at the same time the rate of growth in the number of employees working on a permanent contract basis is stepping up (3.6% in 2006 Q3 compared with 2.4% y/y in 2006 Q2). This tendency may result from the expiry of previously concluded fixed term contracts and their obligatory replacement with permanent contracts. The rise in permanent contracts may also be

[26] In 2006 Q1 the GUS modified BAEL definition of a working person. As a result, paid employees who have not performed work for a period exceeding 3 months and in this period received remuneration equal to or lower than 50% of their previous wages, were included into the category of economically inactive. According to the NBP's estimates, in comparable terms, i.e. using the definition of a working person used until 2005 Q4, the year-on-year growth in the number of working persons as recorded by the BAEL in 2006 Q3 was even higher and amounted to 4.4%

[27] The annual growth rate in the number of persons working outside private farming also hit its highest point in the history of BAEL survey.

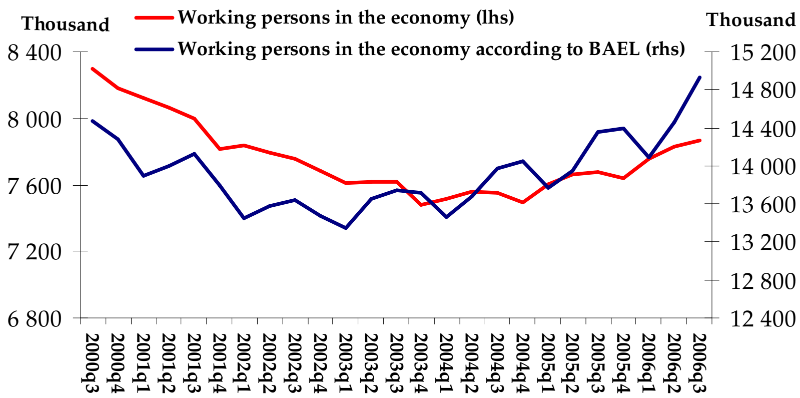

Figure 2.12: Working persons in the economy (according to BAEL) and in entities with more than 9 employees
Source: GUS data.

	Working persons in 2006q3		Growth in 2006q2		Growth in 2006q3		Growth in 2006q2	Growth in 2006q3
	thousands	structure	y/y thousands	y/y	y/y thousands	y/y	q/q seasonally adjusted	q/q seasonally adjusted
Total	14 926	100%	512	3.7%	567	3.9%	1.1%	1.0%
Total excluding private agriculture	12 677	84.9%	620	5.3%	796	6.7%	2.0%	1.8%
Place of residence								
urban areas	9 080	60.8%	388	4.6%	407	4.7%	1.5%	1.3%
rural areas	5 847	39.2%	124	2.3%	161	2.8%	0.9%	1.1%
Economic sector								
agriculture	2 434	16.3%	-95	-4.0%	-240	-9.0%	-2.2%	-3.0%
industry	4 513	30.2%	196	4.7%	347	8.3%	2.1%	2.7%
services	7 974	53.4%	412	5.6%	460	6.1%	1.8%	1.5%
Ownership sector								
public	4 298	28.8%	61	1.4%	117	2.8%	1.0%	1.3%
private	10 628	71.2%	450	4.6%	450	4.4%	1.4%	1.3%
Employment status								
hired employees	11 274	75.5%	497	4.8%	723	6.9%	1.8%	2.0%
employers and self-employed	2 905	19.5%	54	1.9%	-60	-2.0%	-1.7%	-2.7%
contributing family workers	748	5.0%	-40	-5.6%	-94	-11.2%	0.0%	-3.2%
Type of job contract								
fixed-term contract	3 231	28.7%	313	11.8%	446	16.0%	6.5%	7.0%
permanent	8 043	71.3%	185	2.4%	277	3.6%	0.4%	1.2%

Table 2.6: Working population according to BAEL in selected sections
Source: BAEL data, NBP calculations.

connected with the employers' desire to employ or retain skilled employees in the face of increasing difficulties in finding skilled workforce. According to GUS business tendency survey, in construction the shortfall of skilled employees was declared in December 2006 by 51.7% of employers (compared with 20.8% one year before), while in industry 22.7% of employers reported such problems in 2006 Q4 (compared with 13.6% one year earlier). These increasing workforce deficits most probably stem from intensive emigration of Polish employees to EU countries following Poland's entry to the European Union accompanied with a rising demand for labour.

The rise in employment in enterprises has also been stepping up steadily (Figure 2.13). In December2006, the annual growth of average employment in the corporate sector amounted to 4.1% y/y (compared with 3.8% in November 2006), which was the highest growth rate since the beginning of the 1990s.

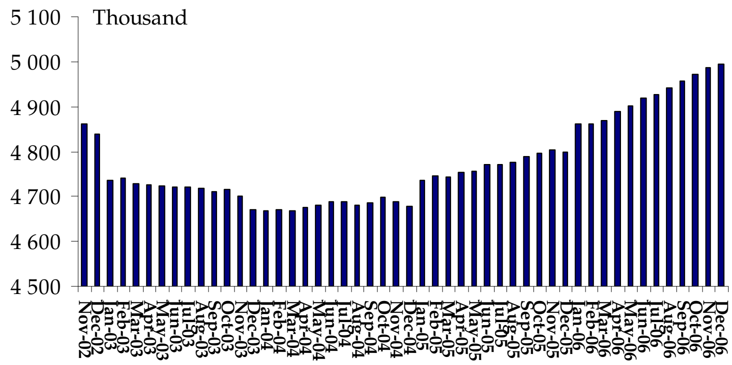

Figure 2.13: Employment in the enterprise sector (thousands)
Source: GUS data.

Another confirmation of the rising demand for labour is an increased number of vacancies reported to Labour Offices. In 2006 Q4, the average number of vacancies registered by employers increased by 25.3% y/y.

The decline in the unemployment rate has also accelerated. In December 2006, the rate of unemployment registered by Labour Offices amounted to 14.9%, which constitutes a drop of 2.7 percentage points in year-on-year terms (Figure 2.14). In turn, according to BAEL data, the unemployment rate in 2006 Q3 was 13.0%, i.e. as much as 4.4 percentage points lower than a year before.

Since the beginning of 2006 the growth in the number of working persons and decreasing unemployment have been accompanied by a fall in the number of the economically active. 2006 Q2 and Q3 marked a fall in the number of the economically active by 1.1% and 1.2% y/y, respectively. As a result, in 2006 Q2 the economically active ratio fell by 0.9 percentage point y/y and in 2006 Q3 – by 1.2 percentage point y/y. This marked decrease in economic activity was partly driven by methodological changes introduced into the BAEL in 2006 Q1[28].

[28] According to the NBP's estimates, in comparable terms, i.e. taking into account the previous definition

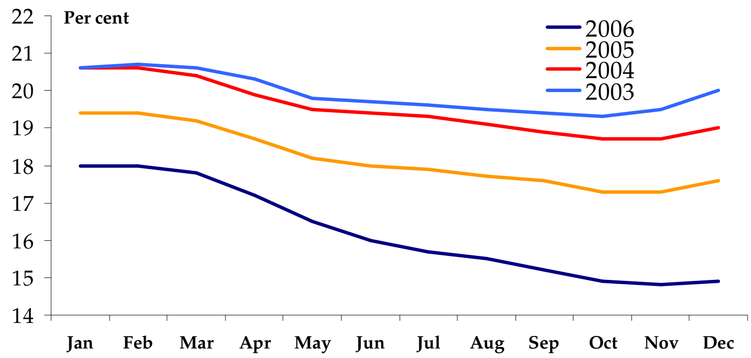

Figure 2.14: Registered unemployment according to labour office data (per cent)
Source: GUS data.

GUS business tendency surveys indicate that the high rate of employment growth should continue in subsequent months of 2007 Q1. Further employment growth in the enterprise sector is also signalled by the NBP's economic climate surveys[29], which suggests that in 2007 Q1 the positive balance of employment forecasts[30] was the highest, in seasonally adjusted terms, in the survey history (i.e. since 2001).

2.3.2 Wages and productivity

2006 Q3 brought acceleration in the wage growth, both in the economy (to 5.0% y/y from 4.7% y/y in 2006 Q2) and in the corporate sector (to 5.3% y/y from 4.5% y/y). In combination with the stepped up employment growth in enterprises this lead to increasing the growth rate of the nominal aggregate wages in this sector (to 9.0% y/y compared with 7.7% y/y in 2006 Q2) (Table 2.7). In 2006 Q4 corporate sector saw further acceleration of average wages growth (5.7% y/y) and of aggregate wages growth (9.5% y/y). High volatility of year-on-year growth of wages and aggregate wages in corporate sector in particular months of 2006 Q4 resulted from different than a year before schedule of payments of additional remuneration components in some sections.

In 2006 Q3 growth of labour productivity in the economy[31] remained stable (1.7% y/y compared with 1.8% y/y in 2006 Q2). The continuation of labour productivity growth amid the rising wage growth resulted in a rise in unit labour costs in the whole economy (to 3.2% y/y from 2.9% y/y in 2006 Q2 - Figure 2.16, left-hand panel, and outside private

of a working person, the annual drop in the number of the economically active reached 0.7 percentage point in 2006 Q2 and 0.8 percentage point in 2006 Q3. Migration is also a major obstacle in assessing the BAEL results.

[29] See: *The Condition of the Non-financial Enterprises in 2007 Q1*, NBP.

[30] Balance of employment forecasts meaning the difference between the percentage of companies declaring intentions to raise employment and the percentage of those declaring employment reduction

[31] Labour productivity in the economy is calculated as GDP in constant prices per one person working in the economy according to the BAEL.

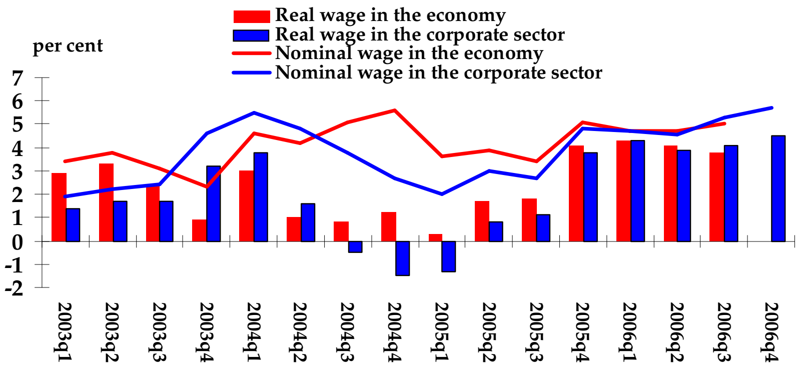

Figure 2.15: Annual percentage growth of wages in the economy and in the corporate sector (nominal and real)
Source: GUS data, NBP calculations.

Growth rate y/y (enterprise sector)	Feb 06	Mar 06	Apr 06	may 06	Jun 06	Jul 06	Aug 06	Sep 06	Oct 06	Nov 06	Dec 06
Nominal wage	**4,8%**	**5,4%**	**4.0%**	**5,2%**	**4,5%**	**5.6%**	**5.3%**	**5.1%**	**4.7%**	**3.1%**	**8.5%**
excluding one-off events	4,8%	5,4%	4.0%	5,2%	4,9%	5.6%	5.3%	5.1%	5.6%	5.7%	6.2%
Real wage	**4,1%**	**4,9%**	**3,3%**	**4,3%**	**3,6%**	**4.5%**	**3.6%**	**3.5%**	**3.6%**	**1.6%**	**7.0%**
excluding one-off events	4,1%	4,9%	3,3%	4,3%	4,0%	4.5%	3.6%	3.5%	4.2%	4.3%	4.8%
Nominal wage fund	**7,3%**	**8,2%**	**6,9%**	**8,4%**	**7,7%**	**9.1%**	**9.0%**	**8.8%**	**8.5%**	**7.0%**	**13.0%**
excluding one-off events	7,3%	8,2%	6,9%	8,4%	8,1%	9.1%	9.0%	8.8%	9.4%	9.7%	10.6%
Real wage fund	**6,6%**	**7,8%**	**6,2%**	**7,4%**	**6,9%**	**7.9%**	**7.3%**	**7.1%**	**7.2%**	**5.5%**	**11.4%**
excluding one-off events	6,6%	7,8%	6,2%	7,4%	7,3%	7.9%	7.3%	7.1%	8.1%	8.2%	9.0%

Table 2.7: Wages and wage fund in corporate sector (y/y growth rates)
Source: GUS data, NBP calculations.

farming to 6.2% y/y compared to 4.5% y/y in 2006 Q2)[32].

In industrial enterprises the labour productivity rose in 2006 Q3 by 9.8% y/y with the wage growth at 6.0% y/y, which brought about a drop in unit labour costs of 3.5% y/y. In 2006 Q4 unit labour costs in this sector dropped by 2.0% y/y, which was connected with a 7.7% year-on-year rise in labour productivity accompanied with a 5.5% year-on-year increase in wages – Figure 2.16, right-hand panel)[33].

In the light of NBP surveys of economic climate[34], 2006 Q4 saw a rise in the percentage

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

[33]Unit labour costs in industry: average nominal wage in industry divided by labour productivity in industry (labour productivity in industry: industrial output in constant prices divided by average employment in this sector.)

[34]See: *The Condition of the Non-financial Enterprises in 2007 Q1*, NBP.

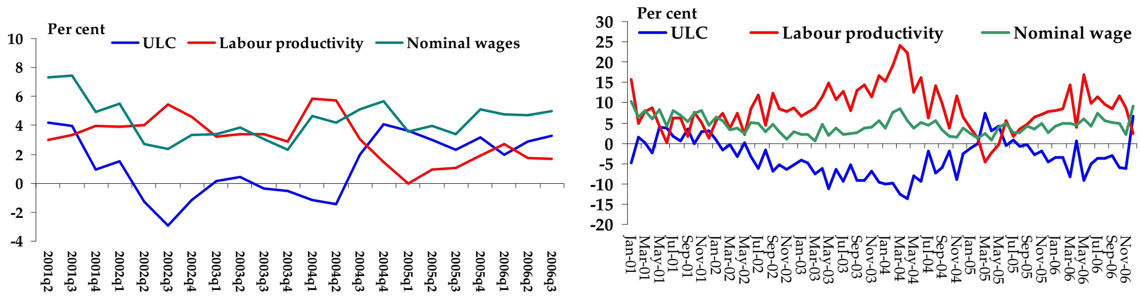

Figure 2.16: Annual percentage growth of unit labour costs (ULC), labour productivity and nominal wages – seasonally adjusted. Left-hand panel: Economy. Right-hand panel: Industry.
Source: GUS data, NBP calculations.

Annual rate of growth	04q2	04q3	04q4	05q1	05q2	05q3	05q4	06q1	06q2	06q3
Unit labour costs	-1.4%	2.0%	4.1%	3.6%	3.0%	2.3%	3.2%	2.0%	2.9%	3.2%
Labour productivity	5.7%	3.1%	1.5%	0.0%	0.9%	1.1%	1.9%	2.7%	1.8%	1.7%
Nominal wages	4.2%	5.1%	5.6%	3.6%	3.9%	3.4%	5.1%	4.7%	4.7%	5.0%

Table 2.8: Annual growth of labour productivity, wages and unit labour costs (ULC) in the economy)
Source: GUS data, NBP calculations.

of enterprises observing increased wage pressure (18.0% compared with 6.7% one year before). There was also a rise in the percentage of enterprises declaring to increase wages in 2007 Q1 (up to 35.4% from 23.0% one year before). In 2006 Q4 the declarations of wage increases as well as signals of rising wage demands persisted in some parts of the public sector. Moreover, enterprises surveyed by both the GUS and NBP signal growing problems with finding employees, which may be one of the factors conducive to wage increases[35].

2.4 Other costs and prices

2.4.1 External prices

The zloty denominated import prices in 2006 Q3 followed an upward trend started in 2006 Q2 (4.2% y/y compared with 5.3% y/y in 2006 Q2 according to GUS data). The fact that price growth in 2006 Q3 proved slightly lower in comparison to 2006 Q2 was

[35]The NBP's economic climate surveys suggest that the entities which report problems with finding employees declare intensions to increase wages over twice as frequently as other companies.

mainly the result of a slower growth of fuel prices, even though fuels still recorded high price growth in year-on-year terms[36].

Price growth was also recorded in import prices of other goods (excluding fuel prices). Import prices of these goods in 2006 Q3 rose by 2.6% y/y compared with a rise of 3.5% y/y recorded in 2006 Q2, yet price shifts varied substantially across categories of imports. Supply goods for industry (due to their large share in imports – of almost 40%) contributed to the largest extend to the rise in import prices of other goods. Import prices in this category rose in 2006 Q3 by 5.9% y/y (compared with 2.3% y/y in 2006 Q2). This was primarily driven by further rise in prices of metals in the world markets.

The largest acceleration in import price growth in relation to 2006 Q2 was recorded in food and beverage imports (a rise of 6.6% y/y compared with 1.0% y/y in 2006 Q2). Within this group of goods the strongest prices growth was observed in non-processed food imports (of 11.7% y/y).

As regards consumer goods, their import prices continued to fall, although slower than in the two preceding quarters of 2006 (a drop of 1.6% y/y compared with a decline of 7.0% y/y in 2006 Q2). The weakening of the falling trend in this group was primarily related to a significant price rise in durable goods (of 18.4% y/y), even though the prices of other consumer goods continued to decrease.

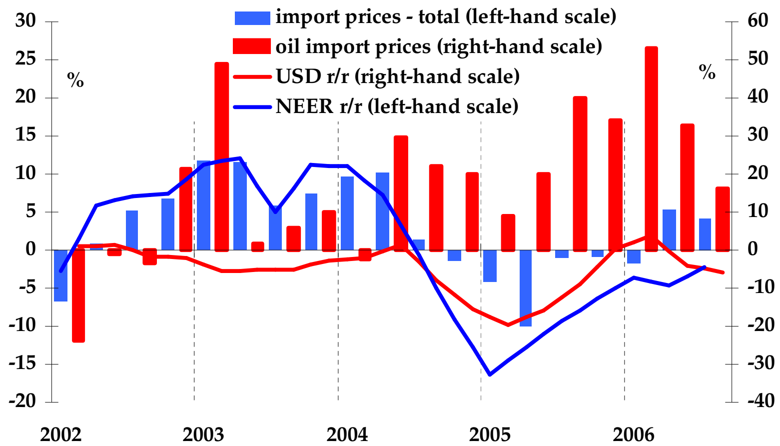

Figure 2.17: Annual percentage change in the zloty denominated import prices, crude oil prices. NEER y/y, USD r/r - positive growth denotes deppreciation (year-on-year).
Source: GUS Data, NBP calculations.

In 2006 Q4 import prices might have fallen in view of the drop in year-on-year prices of oil. In 2006 Q4 the average price of Urals crude oil was 167 PLN/b, which was 5.1% lower than in 2005 Q4. The zloty denominated price decreases were driven by the zloty exchange rate appreciation against the US dollar and lowering annual growth of oil prices in the world markets.

[36]In 2006 Q3 the prices of imported fuels rose by 17.0% y/y (compared with 25.3% y/y in 2006 Q2). The weakening of fuel price growth was related to the slower rise of the zloty crude oil prices.

On the other hand, the annual growth of non-energy commodity prices (expressed in USD) remained consistent with the levels of 2006 Q3. The growth deceleration in metal prices (down from 73.5% y/y in Q3 to 63.3% y/y in Q4) was accompanied by growth acceleration in food prices (from 7.8% y/y to 20.7% y/y)[37]. At the same time, this was the strongest growth in food prices in international markets ever since 2004 Q3.

In 2006 Q4 the world prices of crude oil[38] were 9.8 USD/b (i.e. approx. 14.2%) lower than in 2006 Q3. After another historic high was hit at the beginning of August 2006, contracts for oil were strongly revised downward. The decrease, though markedly weaker than in August-September, also extended to October. In November the oil price drop was halted. This was primarily the result of the OPEC declarations to reduce output[39]. In turn, a stronger price growth was avoided primarily as a result of a warm beginning of the heating season coupled with the still relatively high stocks of oil and its products held in the developed countries. What is more, 2006 Q4 did not witness any serious disruptions in the supply of oil.

The fall of oil prices in 2006 Q4 led the majority of analytical centres reduce (since the release of the October *Inflation Report*) their oil price forecasts for 2007. However, the scale of the revision for most forecasts was smaller than the drop in spot oil prices.

According to expectations of external forecasters analysing the fuel market[40], the demand for oil in 2007 will grow faster than in 2006. It is estimated that the expected growth slowdown of US economy will not have a significant effect on the demand for fuels in the USA[41]. At the same time, the rise of the demand for oil will be connected with the anticipated high economic growth in the developing countries (according to forecasts these countries will generate the largest share of the global surge in the demand for oil in 2007.).

The plausibility of oil prices remaining at a relatively high level may be additionally supported by the reduction of output by OPEC countries. In these circumstances, the rise in the supply of crude oil by non-OPEC countries will be of crucial importance for the balance in the world oil market. Analysts are not unanimous as far as the scale of these countries' output growth is concerned. However, if the output growth in these countries will prove at least as large as the growth of world demand for oil, as seen by some forecasts, a further limited reduction of the prices of this commodity may be expected.

The impact of lower oil prices on the retail prices of petrol has largely contributed to the inflation decline in the two biggest world economies – the United States and the

[37] *Hamburg Institute of International Economics* data.

[38] Average price of Brend, Dubai and WTI crude oil varieties.

[39] In 2006 Q4 the cartel declared to reduce its output on two occasions in order to prevent further decrease in crude oil prices. In October the supply was cut by 1.2 million b/d, and in December by another 0.5 million b/d. These were the first decisions to reduce output quota since April 2004.

[40] The forecasts of the US Department of Energy, International Entergy Agency and the OPEC.

[41] Forecasts for the USA point to the continuation of petrol demand growth at a level similar to that of 2006, which is related to the fact that consumers' habits are relatively constant in the short term. This should also be favoured by the stabilisation of fuel retail prices in the American market.

euro zone. In the United States (CPI) inflation slid from 3.3% y/y on average in 2006 Q3 to 1.9% y/y in 2006 Q4, and (HICP) inflation in the euro area fell from 2.1% y/y to 1.8%, respectively[42]. The fall in headline inflation was not accompanied by a significant lowering of core inflation. In the United States core inflation measure (index excluding energy and food prices) fell form 2.8% y/y in 2006 Q3 to 2.6% y/y in 2006 Q4, while in the euro area it remained at an unchanged level of 1.5% y/y.

2.4.2 Producer prices

The annual growth of producer prices in industry in December 2006 fell to 2.8% (compared with 3.6% in September). The drop in the Producer Price Index (PPI) growth was primarily the result of decreases in the commodities' prices in the world markets (mainly of copper and crude oil) and zloty exchange rate appreciation. The level of producer price index in the domestic market[43] in year-on-year terms in September and October did not differ substantially form the total PPI growth. As regards export prices, their growth rate did not change significantly in the reviewed period.

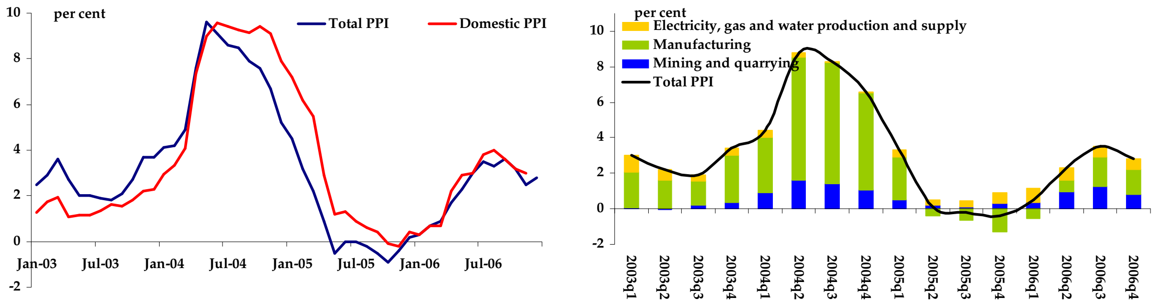

Figure 2.18: Producer prices in industry (PPI). Left panel: Total PPI and domestic PPI. Right panel: Contribution of producer prices growth in PPI total annual growth.
Source: GUS data.

In relation to the previous *Report*, the decomposition of price growth in industry has not changed significantly. In October–December, the greatest contribution to the growth of producer prices in industry, due to the weight of this component in the index, was still made by price increases in the section *Manufacturing* (the growth of 1.7% y/y in December). Considerable impact on PPI growth was also exerted by prices in *Mining*

[42]Stronger impact of oil price shifts on retail prices of fuels and consequently on the US inflation rate in comparison to the euro area results from the fact that the share of taxes in the retail price of petrol is lower in the USA (in November 2006 taxes accounted for 20% of petrol prices in the United States, and for 64% in euro-area countries).

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

and quarrying (Figure 2.18, right-hand panel). In *Manufacturing* the strongest year-on-year price growth was recorded in the division *manufacture of metals* (a rise of 23.3%). In subsequent months of 2006 Q4, however, the rise in the price growth rate was halted. In *Mining and quarrying* in 2006 Q4 prices decreased in month-on-month terms. Prices were falling in mining of metal ores, which was related to falling copper prices in the world commodity markets. The reduction of producer price growth in 2006 Q4 was also connected with falling oil prices in the world markets. In September 2006, for the first time since mid-2002, deflation of producer prices was recorded in the division *manufacture of coke and refined petroleum products* (in year-on-year terms), while in December 2006 the prices were 2.0% lower than in the previous year.

GUS business tendency surveys in manufacturing indicate that entrepreneurs in this section expect price growth acceleration in subsequent months. However, the recent price decreases of some commodities (oil, copper) in the world markets coupled with the expected stabilisation of these prices in the coming months amid a strong exchange rate of the zloty justify expectations that producer prices in 2007 Q1 may remain stable and that PPI annual growth in the subsequent months of 2007 should not diverge from the currently observed figure.

2.5 Financial markets

2.5.1 Asset prices / Interest rates[44]

In the period October 2006 – January 2007 the situation in the Polish financial market was affected by both global and regional factors. The zloty appreciated against the euro, yet the scale of this strengthening was smaller than in the other countries of the region (i.e. in the Czech Republic, Slovakia and Hungary). The yields on Treasury bonds were decreasing throughout the analysed period, and the spread between the interest levels of Polish and German Treasury securities was also shrinking. The exchange rate appreciation of the Central European currencies resulted, to a large extent, from a drop in global aversion to risk, though the impact of country-specific factors was also significant. An important factor conducive to lowering yields on Polish Treasury bonds was the reduced risk premium, which was reflected i.a. in the upgrading of issuer-default rating on Poland's foreign-currency debt by Fitch in January 2007. Polish debt market was additionally supported by incoming data regarding the state of Polish economy, in particular those concerning the continuation of low inflation and a lower than assumed in the Budget Act actual level of central budget deficit in 2006. The lower inflation figures than had been expected by the market and international conditions stabilising the situation in the debt and foreign exchange market brought about the lowering of the market-expected path of future NBP interest rate in comparison to October 2006. This, in turn, found reflection in decreasing money and debt markets rates.

[44] The cut-off date for the data presented in this chapter is 23 January 2007.

Short-term interest rates

In the period under review, i.e. starting from 19 October, the NBP' reference rate – in line with analysts' expectations – remained unchanged at the level of 4.0%. This period saw a decrease in the market expectations as to the scale and pace of NBP rate increases in 2007, which was mainly connected with the data published on domestic inflation, which over the last three months fell short of the expectations of market participants. Additionally, the expectations for MPC interest rate increases were curbed down due to zloty exchange rate appreciation in 2006 Q4 stemming from favourable international conditions. Lower expectations for the interest rate growth in 2007 were reflected in a flattening money market yield curve (Figure 2.19). Short-term interest rates (1M-WIBOR and 3M-WIBOR) proved relatively stable, while the one year interest rate reported a fall of 27 basis points (Figure 2.20).

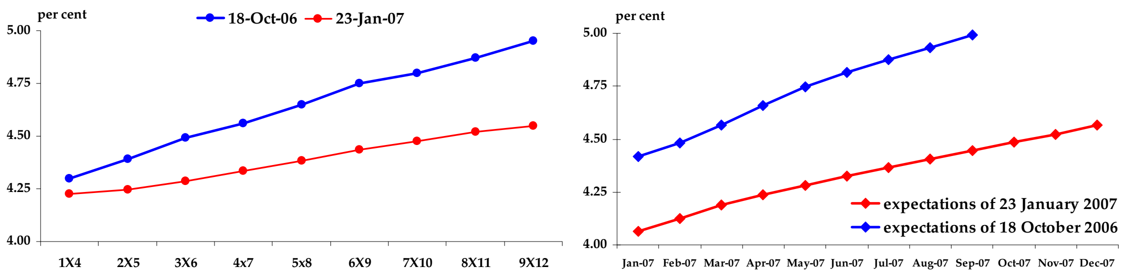

Figure 2.19: Three month forward curves (left-hand panel) and expected changes in NBP reference rate on the basis of FRA contracts (right-hand panel).
Source: Reuters data.

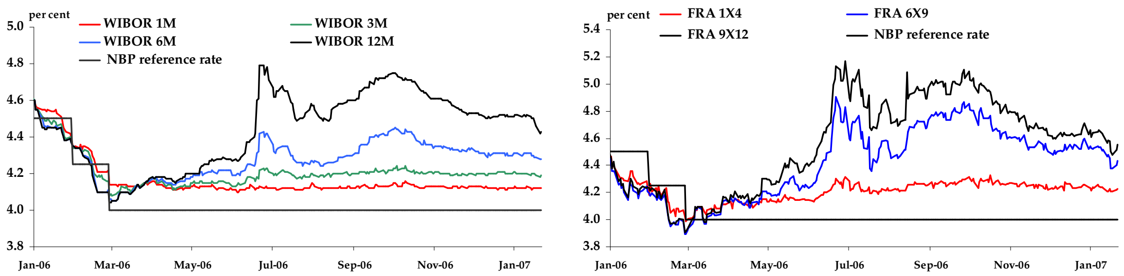

Figure 2.20: NBP reference rate and interest on interbank deposits (left-hand panel) and NBP reference rate and interest on FRA contracts for 3M WIBOR (right-hand panel).
Source: Reuters data.

The results of the January survey of Reuters (from 9 January 2007) indicated that the majority of bank analysts allowed for NBP interest rate increases in 2007, with 44% of respondents expecting a rise of 0.5 percentage point and 33% envisaging a rise of 25 percentage points. In relation to the survey referred to in the previous *Report* the analysts opinions revealed decrease of the probability of a rise of 0.5 percentage point in 2007 and a concurrent increase of the probability of a rise of 0.25 percentage point.

It was the first time since the first half of 2006 that market participants' expectations of future interest rates, as reflected in the prices of FRA contracts (Figure 2.19), were consistent with the forecasts of analysts surveyed by Reuters. This may indicate a smaller uncertainty of market participants of the scale of monetary policy tightening in 2007.

Long-term interest rates

A falling trend of yields was observed in the Polish Treasury bonds market (Figure 2.21). The domestic Treasury bonds price growth was driven by both global and domestic factors, the former represented by a positive attitude towards emerging markets on the part of foreign investors and the latter connected with a favourable course of economic indicators.

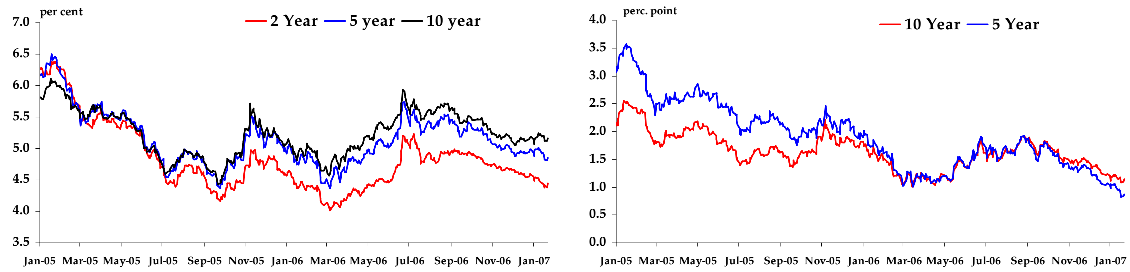

Figure 2.21: Change in the yields of the benchmark bonds (left-hand panel) and differences in yields between German and Polish T-bonds (right-hand panel)
Source: Reuters.

The positive attitude of foreign investors to the Central and Eastern European countries (CCE-4) remained unchanged despite the fact that market expectations concerning the outlook for US economy in 2007 were rather volatile in the period. One of possible explanations for the stable situation in the emerging markets was investors' conviction that the positive economic tendencies observed in the euro area and Japan in 2006 Q4 should be offsetting negative global effects of the expected economic slowdown of the USA. As a result, in the analysed period the CEE-4 region saw reductions in the spreads in relation to 10-year German government bonds. For instance the falls in Hungary and Czech Republic were 43 and 19 basis points respectively. This points to a decrease in investment risk premium in Central European countries over the analysed period.

In the reviewed period the spread between Polish 10-year Treasury bonds and 10-year German government bonds shrank by 39 basis points reaching the level of 114 basis points, which was last observed in May 2006. Among domestic factors significantly affecting the growth in Treasury bond prices were a lower than expected by the market level of inflation and upgrading of issuer-default rating on Poland's foreign-currency debt by Fitch from $BBB+$ to $A-$. Inflation figures for October, November and December, which had positively surprised market participants, contributed to limiting the scale

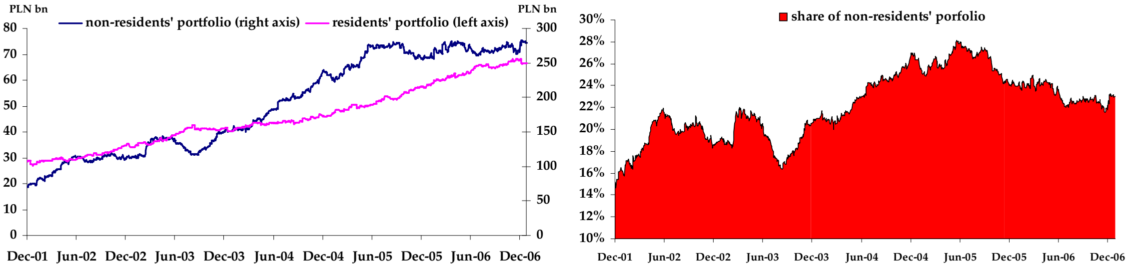

Figure 2.22: Share of non-residents in the Polish treasury securities market in PLN bn (left panel) and in per cent (right panel)
Source: Ministry of Finance data.

and pace of market-expected rises of the NBP's interest rates. The upgrade of Poland's rating by Fitch confirmed sound fundamentals of the country's macroeconomic situation. Both factors were important stimuli for the growing trend of bond prices. The debt market was additionally backed up by the data published on the execution of the central budget below the planned level of deficit of PLN 30.5 billion. The estimates announced by the Ministry of Finance at the beginning of January 2007 indicated that the deficit might have reached PLN 25-26 billion contributed further to a drop in Treasury bond yields.

Non-residents' participation in the Treasury bond market in 2006 Q4 increased by approx. PLN 2.3 billion, which could have been stimulated by an increased supply of Polish Treasury securities on auctions in October and November 2006 and progressively diminishing expectations with regard to scale of monetary tightening in 2007 (Figure 2.22). In mid-December the value of non-resident portfolio hit its all-time high exceeding PLN 75 billion. In relative terms non-residents' share in the Treasury bond market reached approx. 23%.

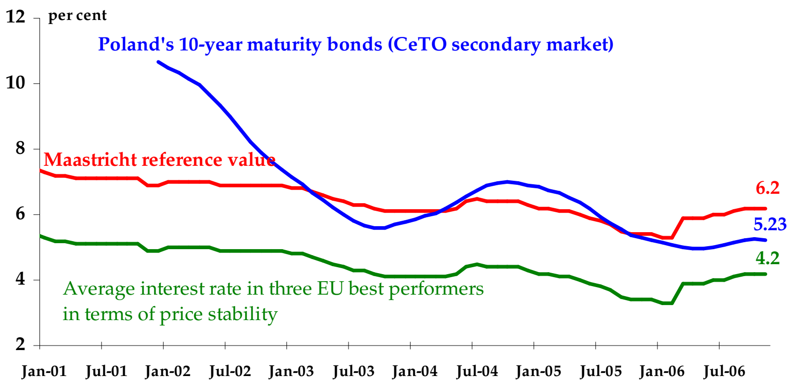

Figure 2.23: Average annual yield (12-month moving average) for long-term Treasury bonds in Poland versus the reference value for the Maastricht criterion
Source: NBP estimates based on Eurostat data.

The yields on Polish long-term bonds in average annual terms, used to verify the compliance with the Maastricht interest rate criterion, have risen since October 2006. This happened despite a falling trend in current yields recorded in that period (Figure 2.21). However in spite of increased yields in average annual terms Poland has been complying with the interest rate criterion (Figure 2.23), which is one of the conditions for euro-area membership[45]. Poland's inclusion to the group of reference countries (due to low level of domestic inflation – see Section 1.3 *Inflation and the Maastricht criterion*), resulted in increasing the reference value for this criterion.

Equity market

The indices of the Warsaw Stock Exchange remained on a rising trend for the most of 2006 Q4 (Figure 2.24). On 19 January 2007 WIG-20 hits its all-time high at 3458 points. Between 18 December 2007 and 10 January 2007 a temporary weakness was recorded, with WIG 20 down by 8.2%, mainly due to a price correction in the raw material markets. Over entire period under review, i.e. from October 19, WIG-20 gained 6.7%, which turned out to be the third score among the CEE–4 stock exchanges: Hungarian BUX and Czech PX reported 8.0% growth each. Out of WSE components the greatest gains were recorded by construction companies, banks and telecommunications and ICT companies. In contrast, the lowest profit was made by shares of fuel companies. One of the main reasons behind the growing indices of the region's stock exchanges were increases in the bourses of the developed countries. Since October 19, the US Dow Jones Index rose by 4.5% , the German DAX by 8.6% and the Japanese NIKKEI by 5.8%.

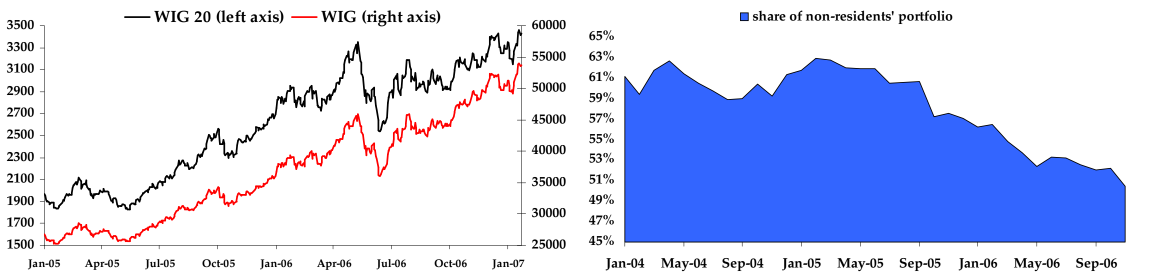

Figure 2.24: WIG and WIG 20 stock exchange indices (left panel) and share of non-residents in Polish equity market – on the basis of market value of stocks (right panel)
Source: Reuters.

The share of non-residents in the Polish stock market[46] edged down from 52.55% at the

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

[46]The share is computed based on the value of Polish equities in exchange in the regulated markets, owned by non-residents. The data is collected on a monthly basis from all market participants, i.e. banks-

end of August[47] to 50.40% at the end of November[48] (Figure 2.24). Non-residents' portfolios were dominated by the shares of the largest companies included in the WIG 20 index – 67.3% at the end of November.

House prices

The analysis of prices offered for flats reveals that 2006 Q3 brought a further significant acceleration in the growth of house prices in cities, both in the primary market (in September the prices in this market rose at the rate of 41.81% y/y, compared to 16.64% y/y in June 2006) and in the secondary market (price growth of 45.39% y/y in September, compared with 18.53% y/y in June 2006). The largest increases were once again recorded in the largest Polish cities (Table 2.9). The level of prices in the cities strongly exceeds the costs of construction and as such is a reflection of supply limitations.

Trends in international financial markets

The level of Federal Fund rate has remained unchanged since the beginning of October 2006. The Fed interest rate, having been raised by 25 basis points in June 2006, is currently at the level of 5.25%. The decisions of the Federal Open Market Committee (FOMC) to keep the interest rates unchanged have been consistent with market expectations. In the period from the beginning of October till the second half of January 2007 the yields on US Treasury bonds fluctuated in the horizontal trend with periods of clear yield rises and drops. In the first half of October and throughout the period from December 2006 till the second half of January 2007 the yields tended to increase, while the period between mid-October and the end of November 2006 was characterised with yield decreases. In result, from beginning of October till the second half of January 2007 a 30-basis-point rise in the yields on 2-year bonds, a 26-basis-point increase in the yields on 5-year bonds, and a 20 basis points increase in the yields on 10-year bonds were recorded. The increases observed from beginning of December 2006 till the second half of January 2007 were a correction after a period of clear drops in yields on US Treasury bonds between mid-October and the end of November 2006. In the January 2007 second half the yields on 2-year bonds settled in the area of 4.95%, while the yields on 5- and 10-year bonds at the end of 2006 amounted to approx. 4.81%. In the whole of

custodians and brokers, and encompass equities issued exclusively by residents registered in the National Depository for Securities (*KDPW*). In the same vein, the capitalisation of the market is also computed based on equities issued by residents.

[47]The method of calculating the value of securities in non-resident portfolio has been modified in relation to the October *Inflation Report*; so far the value of securities not listed due to the lack of a market price has been calculated according to their face value. Now the value of non-traded securities is determined at the same price as in the case of quoted securities issued by a given company.

[48]The data on non-resident portfolio are submitted on a monthly basis by banks holding securities accounts and by entities performing brokerage activities. The data, due to the deadlines for their submission to the NBP set by the law and also because they need to be verified, are only available with a 1.5-month lag.

Period	XII. 2003	XII. 2004	XII. 2005	VI. 2006	IX. 2006	IX. 2006
Per cent increase in relation to:	XII of the previous year			VI. 2005	IX. 2005	Average price (PLN/m^2)
	Primary market					
Poland (total)	16.28	9.07	7.91	16.64	41.81	5 539.28
Selected most important housing markets in Poland* **(Warszawa, Kraków, Wrocław, Gdańsk, Gdynia, Poznań, Łódź)**	17.04	8.91	12.62	20.33	48.97	6 035.23
Capitals of voivodships**	17.95	9.06	14.97	17.15	42.07	5 748.32
Small and medium towns**	-5.32	10.62	6.97	6.16	14.16	3 246.26
Warszawa	1.55	12.84	12.94	30.86	45.09	6 556.22
Kraków	9.75	13.07	22.34	36.22	76.19	6 787.12
Wrocław	6.91	4.83	17.95	42.58	62.22	5 180.54
Gdańsk	-2.43	12.00	15.71	31.13	41.98	4 715.42
Gdynia	25.64	6.59	8.51	21.37	38.64	5 148.20
Poznań	-12.39	8.92	3.05	9.52	20.37	4 023.22
Łódź	9.36	4.67	-5.26	8.02	18.83	2 916.92
	Secondary market					
Poland (total)	9.37	0.92	8.68	18.53	45.39	3 803.63
Selected most important housing markets in Poland* **(Warszawa, Kraków, Wrocław, Gdańsk, Gdynia, Poznań, Łódź)**	7.64	7.23	-1.61	21.14	59.58	5 478.21
Capitals of voivodships**	9.58	2.24	4.53	18.05	51.17	4 442.46
Small and medium towns**	6.99	7.35	9.56	15.69	29.05	2 666.47
Warszawa	13.94	6.95	15.12	36.25	51.19	7 306.01
Kraków	7.50	12.49	31.29	47.86	72.00	7 077.34
Wrocław	9.93	16.57	13.84	35.31	66.98	5 596.24
Gdańsk	7.93	6.45	18.88	42.37	50.21	4 433.27
Gdynia	8.21	10.51	17.66	47.72	67.96	5 035.51
Poznań	16.52	14.78	4.47	20.91	26.20	3 702.79
Łódź	6.31	4.90	3.90	17.30	34.76	2 570.92

Table 2.9: Change in the average price of a flat in selected local markets. New housing market and second-hand housing market in 2003-2006.
* Selection was based, among other things, on the number of transactions, the housing construction volume and the potential for development.
** Average weighted with the number of offers in the sample (cities' weigts vary depending on the size of the sample).
Source: NBP estimates based on the data from the *PONT Info Nieruchomości* offered price database.

2006 the yields on US Treasury bonds grew by 48, 39 and 33 basis points, respectively, on 2-year, 5-year, and 10-year securities.

According to the Bloomberg survey conducted at the beginning of January 2007, the majority of analytical centres do not expect any changes in the Fed's monetary policy by the end of 2007 Q1. The median of expectations of analytical centres points to the maintenance of an unchanged Federal Fund rate at 5.25% through 2007 Q1, followed by a Fed rate cut to 5.00% at the end of 2007 Q2 and a further 25-basis-point decrease to 4.75% at the end of 2007 Q4. However, market expectations for Fed rate shifts as reflected in the prices of Fed Fund Futures point to a slightly different course of future actions of the FOMC. Futures quotations from second half of January 2007 suggest that the level of 5.25% will remain unchanged till the end of July 2007 and then the Federal Fund rate level will be lowered gradually to 5.00% in December 2007 and then maintained till the end of 2007 (Figure 2.25). Thus, the futures market is pricing in one 25-basis-point cut of the Federal Fund rate in 2007.

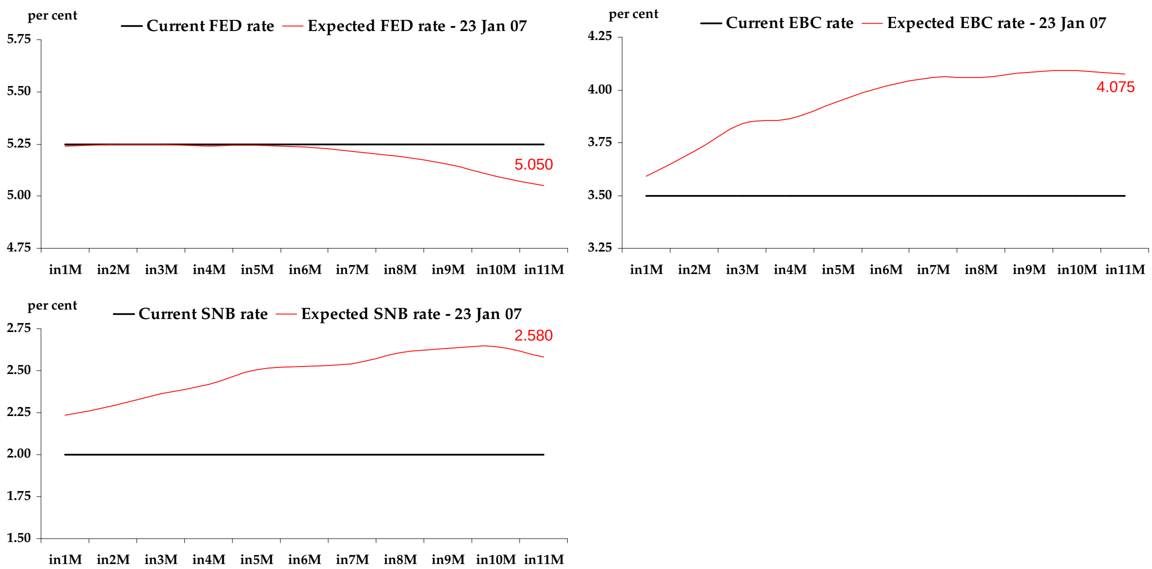

Figure 2.25: Expectations on the interest rate changes. Left upper panel: Fed, on the basis of Fed Funds Futures; right upper panel: ECB, on the basis of EONIA swaps (overnight index swaps); left bottom panel: Swiss National Bank, on the basis of forward yield curve for CHF 3M LIBOR.
Source: Bloomberg data.

On 5 October and 7 December 2006 the European Central Bank decided to raise its refinancing rate (*minimum bid rate*) by 25 basis points on each occasion. During the meetings of 2 November 2006 and 11 January 2007 the rate was kept unchanged. Since the beginning of 2006 the ECB refinancing rate has been raised by the total of 125 basis points and now stays at 3.50%. The ECB's decisions have been consistent with market expectations. The first half of October 2006 saw a continuation of the rising trend of yields on European Treasury bonds. In the period between mid-October and the end of November 2006 these yields retreated to the levels from early October 2006 and then, starting from the beginning of December 2006 till the second half of January

2007, they were clearly rising to approx. 3.94%, 3.99% and 4.02% in the case of 2-year, 5-year and 10-year bonds, respectively. Thus, in October 2006 – January 2007 second half the yields on 2-year bonds grew by about 38 basis points, on 5-year bonds - by about 39 basis points, while the yields on bonds with a 10-year maturity rose by approx. 34 basis points. In the whole of 2006 the yields grew by 103, 82 and 62 basis points, respectively, on European bonds with 2-year, 5-year and 10-year maturities.

According to the Bloomberg survey from the second half of January 2007, the majority of analytical centres expects the ECB to raise its interest rate at the end of 2007 Q1 by 25 basis points to the level of 3.75%, and then by further 25 basis points to 4.00% at the end of 2007 Q3. The median of analytical centres' forecasts indicates that 4.00% will remain unchanged till the end of 2007. Similar ECB rate moves are expected by the market, as EONIA swap contract rates quoted in January 2007 second half point to the ECB's interest rate hike in March 2007 to the level of 3.75% and then to 4.00% in July 2007, which level is to be kept till the end of the year (Figure 2.25).

The Swiss National Bank (SNB) decided on 13 December 2006 to raise its interest rate (CHF 3M LIBOR *mid-point target*) by 25 basis points to the level of 2.00%. The SNB's decision was consistent with market expectations. According to the Reuters survey from the end of 2006, most analytical centres are expecting another 25-basis-point SNB interest rate hike to the level of 2.25% at the end of 2007 Q1 and that this level will be kept till the end of 2007 (median of expectations). The findings of the survey estimate the probability of a 25-basis-pint hike in March 2007 at 80%. A slightly different picture of the future decisions of the SNB follows from forwards yield curve for CHF 3M LIBOR from the second half of January 2007, according to which the market discounts a 25-basis-point rise to 2.25% in March 2007 and hike of 25 basis points to 2.50% in June 2007 – this level to be kept till the end of 2007 (Figure 2.25).

2.5.2 Exchange rate

In October–December 2006 the average monthly nominal effective exchange rate of the Polish zloty appreciated by 4.9% as compared with September 2006 (Figure 2.26, left-hand panel). The appreciation tendency of EUR/PLN exchange rate which had begun in late June 2005 also continued in the period between 18 October and 15 December, when the zloty strengthened against the euro by 3.0% (from 3.90 to 3.79). Later on, between 15 December and 23 January, the EUR/PLN exchange rate depreciated 1.9% (from 3.79 to 3.86). As regards the exchange rate of the zloty against the US dollar, the depreciation of the American currency in world markets led to USD/PLN rate strengthening by 4.6% (from 3.11 to 2.97) in the period from 18 October to 23 January.

In October and November the correlation between EUR/PLN exchange rate fluctuations and the exchange rate of the euro against main Central European countries of (CEE-4) remained high. In the period between 18 October and 1 December the exchange rate of the Hungarian forint, Polish zloty and Slovak and Czech korunas appreciated against the euro by 4.2%, 2.8%, 3.3% and 1.4%, respectively (Figure 2.26, right-hand

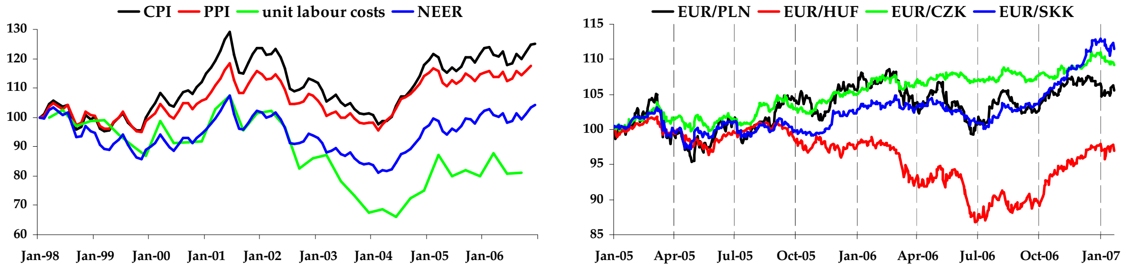

Figure 2.26: Zloty real effective exchange rate (left-hand panel) and nominal exchange rates of Central European currencies against the euro (right-hand panel). Increase denotes appreciation.
Source: NBP, European Commission and EcoWin data.
Note: For unit labour costs (in manufacturing): quarterly data, NBP estimates based on GUS, ECB and European Commission data.

panel). This appreciation to the large extent resulted from a global drop in aversion to risk. Between 1 December 2006 and 23 January 2007 the correlation weakened. In this period the zloty lost 1.7% against the euro, while the Hungarian forint and Slovak and Czech korunas strengthened in relation to the single European currency by 1.0%, 2.2% and 0.1%, respectively.

Apart from global and regional factors, the changes in the value of the Polish currency in the past few months have also been influenced by domestic factors. The factors conducive to zloty appreciation included macroeconomic data pointing the acceleration of economic growth, in particular the very high growth rate of investment demand, a decline in the unemployment rate and continuously stable and low level of current account deficit. On the other hand, zloty depreciation was probably favoured by changes in the nominal interest rate disparity versus euro area: in the period under review interest rates remained unchanged, while the ECB's rates rose by 50 basis points. As a result, on 23 January 2007 the interest rates of the ECB were 0.5 percentage point lower, while the Fed interest rates were 1.25 percentage point higher than NBP rates. Additionally, in the period under review political developments, and particularly the uncertainty surrounding the appointment of a new President of the National Bank of Poland, might have exerted negative influence on the evaluation of the Polish currency.

Data available until December 2006 reveal that shifts in nominal exchange rate were accompanied by similar tendencies in the path of real exchange rate deflated with CPI (REER CPI – Figure 2.26, left-hand panel). In the near term the value of the zloty may be shaped mainly by global factors affecting currency evaluation in the emerging markets. The evens in the Polish political arena and interest rate movements both in Poland and abroad will also play important role. In the horizon of the next few years, the safe current account balance, EU fund inflows, transfers from Poles working abroad and a good outlook for economic growth supporting inflow of direct investments should all be conducive to the stabilization of the real exchange rate of the Polish currency at its current level or its moderate strenghtening.

2.5.3 Credit and money

The growth in bank lending has accelerated. In December 2006 the debt of non-financial sector at commercial banks increased by 23.8% y/y. The credit growth has been driven primarily by households which use bank loans mainly to finance house purchases. Corporate loans have also been rising fast.

Corporate sector

Since the middle of 2006 lending to enterprises has seen a continued revival. The growth of the corporate sector's debt at commercial banks increased from 8.7% y/y in August to 14.5% y/y in December 2006.[49] Data adjusted for the impact of exchange rate fluctuations indicate that in December the annual growth rate of corporate lending reached 15.1% y/y, as compared to 9.6% y/y in August (Figure 2.27, right-hand panel)[50].

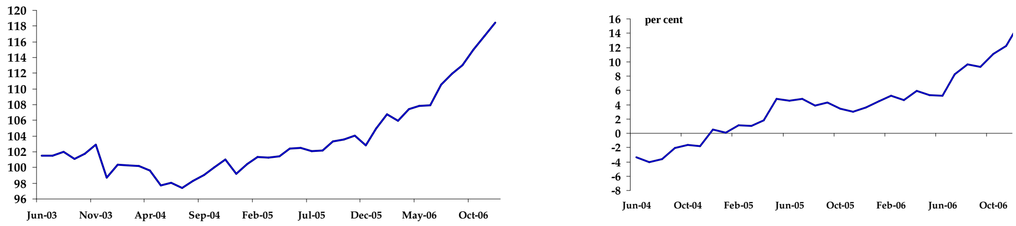

Figure 2.27: Loans to enterprises, data adjusted for the exchange rate fluctuations. Left panel: outstanding loans (index, Dec 2002 = 100). Right panel: y/y changes (per cent).
Source: NBP data.

The growth rate of corporate investment loans increased from 9.0% y/y in August to 9.9% y/y in December 2006 (Figure 2.28). The significant decline in the value of investment loans recorded in October resulted from the fact that at that time one of the banks reclassified part of its investment loans to loans for the purchase of real property. This is reflected in a strong growth of this type of loans - their growth rate reached 32.4% y/y in December as compared with 14.6% y/y in August 2006 (Figure 2.28). As the purchase of non-housing real estate contributes to an increase in enterprises' production assets, the analysis of lending to the corporate sector should take into account developments in the aggregate value of investment loans and non-housing real estate loans. In December the growth rate of these loans reached 16.5% y/y, as compared with 10.5% y/y in August 2006. The analysed period saw continually growing interest of enterprises in loans on current account and working capital loans, whose growth rate reached 15.3% y/y in December, as compared with 9.2% y/y recorded in August 2006.

[49]The *Report* covers the period August - December 2006.

[50]All quantitative data on changes in loans to enterprises and households and their deposits presented further is this section refer to data adjusted for the impact of zloty exchange rate fluctuations, unless otherwise indicated

The driving forces behind the rise in lending in the corporate sector included, among other things, high economic growth, dynamic growth of investment and liberalisation of banks' corporate lending policy.

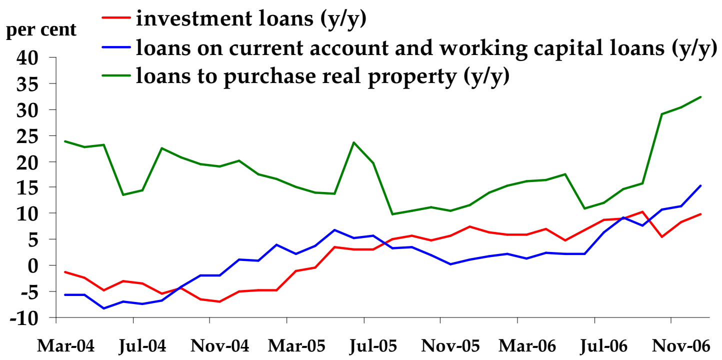

Figure 2.28: Loans to enterprises on current account and working-capital, investment loans and loans to purchase real property (y/y growth in per cent, data adjusted for the impact of exchange rate movements). **Source:** NBP data.

NBP surveys do not provide any firm conclusions concerning the situation on the corporate loan market at the beginning of 2007. On the one hand, findings of the NBP surveys concerning the situation on the loan market[51] indicate that in 2007 Q1 banks expect the tendency of corporate lending policy liberalisation to continue and the corporate demand for loans to grow, which should create conditions conducive for a further acceleration in commercial bank loans to enterprises. On the other hand, the results of the NBP business condition surveys for 2007 Q1[52] indicate that corporate lending should see only a slight increase in the months to come. The balance of enterprises' forecasts of changes in their bank loans weighted by the number of employed in those enterprises is slightly above zero, which indicates that corporate credit growth can be expected. However, the considerable drop in this index as compared with the last three quarters of 2006 suggests a likely deceleration in the growth of corporate lending.

The balance of payment data for 2006 Q3 indicate that the growth in corporate lending in the banking sector was accompanied by a considerable growth of enterprises' foreign debt. The growth rate in non-trade loans increased from 11.7% y/y in 2006 Q2 to 17.5% y/y in 2006 Q3, driven mainly by the growth in loans from direct investors. The growth of trade loans fell from 23.6% y/y in 2006 Q2 to 16.7% y/y in 2006 Q3.

In the period from August to November 2006 no significant changes in retail interest rates on corporate deposits and loans were recorded (Table 2.10). This results from the fact that both 1M WIBOR and 3M WIBOR, which are the reference rates for bank

[51] *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions, 2007 Q1* - the survey was administered at 24 banks whose total share of corporate and household debt in the banking sector portfolio stands at 76.6%, analysis available at: www.nbp.pl.

[52] *Information Concerning the Condition of the Corporate Sector and the Economic Climate in the First Quarter of 2007, www.nbp.pl.*

interest rates, have remained stable.

Period	Apr06	May06	Jun06	Jul06	Aug06	Sep06	Oct06	Nov06
Loans in total	5.9%	5.7%	5.7%	5.7%	5.8%	5.8%	5.8%	5.8%
Deposits in total	3.6%	3.6%	3.5%	3.6%	3.6%	3.5%	3.6%	3.5%

Table 2.10: Average weighted interest rates on new PLN denominated loans and deposits of the corporate sector in commercial banks.
Source: NBP data.

Considerable growth in lending to enterprises has been accompanied by a continued growth in deposits in the corporate sector. In December, the growth of these deposits reached 26.5% y/y, against 23.5% y/y in August 2006. These data indicate at good economic conditions of enterprises and their considerable ability to finance investment with their own funds.

Household sector

The growth rate of household debt in the banking sector has further accelerated. The growth rate of the nominal value of bank credit and loans granted to households increased from 30.2% y/y in August to 34.5% y/y in December 2006 (Figure 2.29, left-hand panel). After adjustments for the impact of zloty exchange rate fluctuations, the rate of growth of household loans reached 35.2% y/y in December as compared with 31.0% y/y in August 2006.

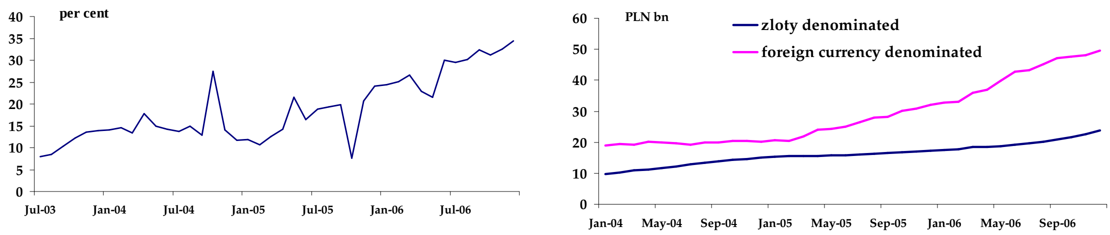

Figure 2.29: Loans to households in nominal terms, with no adjustment for the impact of exchange rate fluctuations. Left panel: total loans to households (y/y growth in per cent). Right panel: outstanding amount of housing loans to households – currency breakdown.
Source: NBP data.

Housing loans remain the main source of the growth of lending to households. In the period from August to December 2006 the value of housing loans grew by 16.9%, and their annual growth rate increased from 52.2% y/y to 54.6% y/y (Figure 2.30, left-hand panel). Findings of the NBP surveys [53] indicate that, according to the surveyed banks, expectations of further price increases on the housing market and improved financial

[53] *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions, 2007 Q1*

standing of households were the main driving forces behind the rise in households' demand for housing loans.

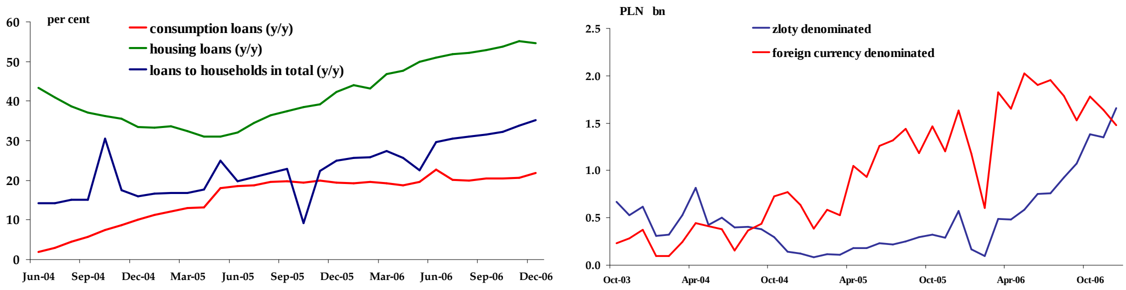

Figure 2.30: Loans to households – data adjusted for the impact of eschange rate fluctuations. Left panel: y/y rate of growth. Right panel: monthly changes of zloty denominated and foreign currency denominated housing loans.
Source: NBP data.

In the past few months zloty denominated loans have accounted for a growing share of newly granted housing loans. As a result, since July 2006 the share of foreign currency loans in the total volume of housing loans has decreased to reach 63.8% in December against 66.5% in August 2006 r. Diminishing significance of foreign currency housing loans might have been brought about by banks' tightening of their foreign currency loan granting criteria after the implementation of *S Recommendation*[54]. This may be evidenced by the fact that in the second half of 2006 a rise in the average disposable income of bank clients to whom foreign currency loans were granted was higher than in the case of clients borrowing in zloty. An important factor behind the decline in the value of newly granted foreign currency loans could have been the gradual increase in CHF LIBOR rates, observed in the past few months, leading to a decreasing disparity between interest rates on loans in Polish zloty and in Swiss francs, which is the currency accounting for the majority of foreign currency loans.

Apart from housing loans, consumer loans remain an important source of growth in household lending. Their annual growth rate increased from 19.9% y/y in August to 21.8% y/y December 2006.

The NBP survey concerning the situation on the loan market[55] indicate that banks anticipate a liberalisation of the lending policy in the segment of consumer loans and a further increase in households' demand for this kind of loans in 2007 Q1. In the housing loan segment there are expectations that banks will tighten loan granting criteria. Furthermore, banks expect household demand for housing loans to decline, which may

[54] *S Recommendation* is a document setting codes of good practice in the area of mortgage-secured credit exposures, which was prepared by the Commission for Banking Supervision. It requires that while granting foreign currency loans banks should assess borrower's creditworthiness under the assumption that the interest rate on foreign currency loans is not lower than the interest rate on zloty denominated loans and that the loan principal is 20% higher than that to be granted.

[55] *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions, 2007 Q1*

be associated with a rapid increase in house prices limiting the possibilities of financing flat purchases with bank loans.

In the period from August to November 2006 the interest rates on deposits as well as housing and consumer loans granted to households and non-profit institutions serving households remained stable (Table 2.11).

Period	Apr06	May06	Jun06	Jul06	Aug06	Sep06	Oct06	Nov06
Loans								
Housing	5.7%	5.6%	5.7%	5.7%	5.7%	5.7%	5.7%	5.7%
Consumption	14.5%	14.4%	14.4%	14.2%	14.1%	14.1%	14.2%	14.2%
Total	11.8%	11.6%	11.2%	10.9%	11.1%	10.8%	9.6%	10.4%
Deposits								
Total	3.4%	3.3%	3.3%	3.4%	3.3%	3.3%	3.4%	3.4%

Table 2.11: Average weighted interest rates on new PLN denominated loans and deposits of households and non-profit institutions serving households in commercial banks.
Source: NBP data.

A rapid growth in household lending was accompanied by a considerable growth in the value of household bank deposits and financial savings outside the banking sector, which was driven by the improving financial condition of households. In December, the annual growth rate of households' financial assets[56] stood at 18.5% y/y as compared with 15.2% y/y in August. A significant growth was recorded in households' bank deposits. Their annual rate of growth increased from 6.1% y/y in August to 9.0% y/y in December. Yet, the fastest growth was observed in the value of investment fund units held by households. In the period from August to December 2006 it stepped up by 20.6%, and its annual growth rate reached 62.5% y/y in December, which was supported by the bullish stock market. As a result of growing interest in this form of saving, in December 2006 investment fund units held by households accounted for 19.7% of their financial assets as compared with 14.3% a year before.

Monetary aggregates

The trends observed in the loan market find reflection in the developments of major monetary aggregates. Accelerating bank lending was accompanied by a rapid growth in broad money M3, whose rate of growth increased from 12.9% y/y in August to 15.6% y/y in December 2006 (Figure 2.31). The fastest growth continued to be recorded in M3 components with relatively high liquidity. In December, the growth rate of M1 reached

[56] The value of those assets is calculated as the sum of households' bank deposits, notes and coin in circulation, the value of investment fund units and treasury bonds and bills held by households as well as their assets held in life insurance institutions.

25.3% y/y. The growth in notes and coin in circulation remained high, reaching 20.3% y/y in December as compared with 17.6% y/y in August 2006.

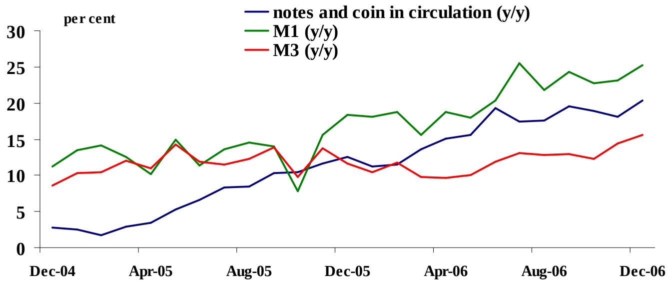

Figure 2.31: M1, M3 and notes and coin in circulation (nominal y/y growth in per cent).

Source: NBP data.

Monetary policy in October 2006-January 2007

An important component of a monetary policy pursued within the framework of direct inflation targeting is communication of the central bank with its environment. The communication consists in presenting the assessments of the current state of the economy and the future course of economic developments. The most important instruments of the Council's communication with the public are *Inflation Reports*, press releases and press conferences held after its meetings. In an effort to achieve even greater monetary policy transparency, in its *Monetary Policy Guidelines for the Year 2007* the Council announced that it would strive to more widely expound the arguments raised during discussion at its meetings. In compliance with this announcement, starting from this issue of the *Report* the Council will present the Chapter "Monetary policy" in a modified format. It now offers a more detailed account of discussions and problems considered at the decision-making meetings than it used to be the case in the previous *Reports*. The more transparent monetary policy should help to improve its predictability and, consequently, increase its effectiveness. The Council will strive to further improve its communication with the public.

The chapter on monetary policy offers a chronological record of discussions over the main points raised during the decision-making meetings of the Council (in subsequent months). Such format makes it possible to present the assessments formulated during Council meetings against the background of changing economic developments. This should allow a better understanding of policy reaction to developments in the economy. The new format of the Chapter "Monetary Policy" is very similar to the minutes of the meetings of decision-making bodies published by many central banks.

During its meetings, the Monetary Policy Council discussed the outlook for future inflation path in the context of the past, current and anticipated economic situation. The Council concentrated on the possible impact of the following factors on the inflation outlook in Poland: path of exchange rate of the zloty, trends in the labour market, perspectives and structure of economic growth, growth rate of monetary aggregates and financial standing of enterprises. In this context the Council assessed whether the current level of interest rates was conducive to a sustainable return of inflation close to the inflation target (of 2.5%) within the monetary policy transmission horizon.

The October inflation projection (prepared on the basis of data available as at 28 September 2006) anticipated that inflation would rise gradually over the monetary policy transmission horizon to return to the inflation target (2.5%) in 2007 Q1. The projection showed that inflation would continue to rise gradually in 2008 and in 2008 Q2 its level would be close to the upper tolerance limit for deviations from the inflation target. During their meetings Council members expressed different views on the outlook for inflation which had been presented in the October projection. These views found reflection in the direction of discussion at subsequent meetings.

Data published in November and December 2006 indicated that in the short term inflation could range at a lower level than expected in the October projection, but keeping inflation close to the inflation target in the medium term could require monetary policy tightening.

At its meetings in October, November, December 2006 and January 2007 the Monetary Policy Council decided to keep interest rates unchanged, i.e.: the reference rate at 4.00%, the lombard rate at 5.50%, the deposit rate at 2.50% and the rediscount rate 4.25%.

October

During the discussion at the October meeting the members of the Council paid a lot of attention to the outlook for the zloty exchange rate. The October projection provided for a gradual depreciation of the nominal effective exchange rate of the zloty in the projection horizon, which would be conducive to inflation growth. The weakening of the zloty forecast in the projection was to some extent the result of the current exchange rate returning to the level consistent with medium-term path of the real exchange rate of the zloty as accounted for in the projection, and partly the result of the projected decline in the real interest rate disparity.

Some members believed that the scenario of zloty depreciation which was presented in the projection should not be treated as the most probable scenario. They assessed that in the medium-term perspective the exchange rate of the zloty would in fact be stronger than accounted for in the October projection. These members of the Council pointed out that, in the projection horizon, the zloty should be strengthened by low current account deficit, inflows of foreign direct investment and EU funds, transfers connected with economic emigration of Poles and a swift increase in foreign currency reserves recorded so far. If the zloty exchange rate stronger than that accounted for in the projection would not be accompanied by appreciation of the medium-term equilibrium rate, it could be expected that inflation in the projection horizon would run slightly below the projected level. To support this hypothesis the members quoted the results of an analysis on the sensitivity of inflation projection to an exchange rate impulse consisting in the assumption of a stronger (than in the projection) nominal effective exchange rate of the zloty and an unchanged medium-term path of real zloty exchange rate. The members emphasised that due to the difficulties with assessing equilibrium exchange rate it was difficult to assess to what extent the strengthening of the nominal effective exchange rate of the Polish currency in relation to the path accounted for in the projection might be offset by a medium-term exchange rate of the zloty running above its projected level.

Other members, on the other hand, pointed out that a possible appreciation of the zloty exchange rate in relation to the path expected in the projection would most probably reflect structural changes underway in the economy, contributing to strengthening the medium-term equilibrium exchange rate. In such circumstances, it could be expected that a stronger zloty exchange rate than that anticipated in the October projection would not be conducive to inflation undershooting the path accounted for in the projection. To support this view these members quoted the results of the analysis of the sensitivity of inflation projection to an exchange rate impulse assuming a stronger (than in the projection) nominal effective exchange rate of the zloty with a simultaneous rise in the medium-term path of real zloty exchange rate. Moreover, the members pointed out that a potential consolidation of the zloty in relation to the projection which would not be accompanied by a change in the rate of medium-term equilibrium, should not be inconsistent with the pursuit of the inflation target, as according to the projection inflation expected in the medium-term horizon will overshoot the inflation target.

The Council also discussed the impact of the situation in the labour market on the growth of wages, unit labour costs and inflation. According to some MPC members, in the longer term we can expect a fast and higher growth rate of wages and unit labour costs in the economy than that accounted for in the projection. They argued that wage growth faster than expected in the projection would be induced by the sustained swift growth in the number of working persons in the economy with a concurrent drop in relation to previous expectations of the economically active figure. These members anticipated that due to a relatively low, in relation to many EU countries, level of wages in Poland, in the medium term economic migrations would still be contributing to lowering the index of economic activity of population, which with a rising demand for labour would lead to building the wage pressure. In their opinion, other factors pointing to the risk of wages growing faster than in the projection included findings of survey studies conducted by the NBP, which signalled a growing wage pressure in enterprises, considerable financial liquidity of enterprises allowing them to meet wage demands and a probable drop in the rate of unemployment below the Non-Accelerating Wage Rate of Unemployment.

In the opinion of other members of the Council, however, the assessment of the current and future situation in the labour market did not allow an assertion that wage growth in monetary policy transmission horizon would be higher than expected in the October projection. These members pointed out that the findings of empirical studies provided different answers to the question what the optimal NAWRU for Poland was, and consequently the high unemployment rate in Poland could be contributing to limiting the pressure on pay increases for some time still. At the same time, they assessed that in the medium term the drop in the natural rate of unemployment might be deeper than the drop in the registered rate of unemployment, due to a growing share of younger people among the total jobless figure, in case of whom the likelihood of fining a job is relatively high. In the opinion of these members in the medium term the growth rate of wages will be also curbed by the possibility of transferring production from Poland to countries with low production costs, where wages are lower than in Poland, but the contribution of human capital to the production and product offer are similar. It was argued that in the long run the significance of these countries for the global labour market would be gradually increasing, which should favour keeping low wage pressure in the developed countries and in Poland. These members of the Council argued that the strength of this factor's impact may be confirmed by the sustained moderate wage growth and low inflation in countries at different stages of development, despite a rapid increase in energy prices. It was also emphasised that wage growth in exporting companies and also in small and medium-sized enterprises with limited possibilities of passing production costs into prices the growth of wages will be most probably consistent with productivity growth due to intense price competition.

In the information released after its October meeting, the Council emphasised that in 2006 Q3 both current and net inflation had overshot the level anticipated in the July projection. In this way, current inflation moved close to the lower tolerance limit for deviations from the inflation target. In the Council's assessment the new data and the October inflation projection suggested that in the medium-term inflation could prove higher than assessed at the September meeting.

November

Having considered the assessment of economic situation prepared by NBP staff, the Monetary Policy Council discussed possible changes in the balance of factors affecting future inflation in relation to the October inflation and GDP projections.

The members of the Council discussed the outlook for economic growth and the impact of its structure on future inflation. According to some members of the Council, the fact that the rate of GDP growth in Q3 was probably higher than accounted for in the October projection indicated that the output gap would close sooner than it had been anticipated in the projection. Moreover, the changing structure of GDP, with a gradually rising contribution of investment to growth, was also emphasised. These members assessed that such GDP structure may be more inflationary in nature than a structure characterised by a relatively high contribution of net exports to growth. In their opinion, in the medium term, investment acceleration generates mainly demand-side effects, and supply-side effects are lagging behind. It was also argued that a very important factor in the assessment of inflation outlook was the investment structure. It was emphasised that in the case of infrastructural investments, which predominate in the Polish investment structure, the lag between the demand- and supply-side effects of these investments was relatively large.

Other members of the Council pointed at the favourable supply-side effects that were to emerge as a result of the observed investment acceleration. They pointed out that the inflow of foreign direct investments is usually accompanied by the inflow of new technologies and modern management methods, which supports the rise in labour productivity and helps to keep inflation close to the inflation target. In the opinion of these Council members this view found support in the results of studies conducted in the developed countries which revealed that productivity grew in economic upturn periods. In the opinion of these Council members the pro-cyclical nature of labour productivity allowed the conclusion that lags between the rise in investment outlays and productivity increase are not significant. On this basis it was argued that the change in GDP structure should be conducive to increasing the growth of potential GDP and bringing down inflationary pressure already in the medium term.

The Council also paid a lot of attention to the impact of decreasing unemployment on inflationary pressure. The disputants pointed at the results of empirical studies which put the NAWRU in Poland at a relatively high two-digit level. In their opinion, it could be assumed that the decline in current unemployment rate was not accompanied by a correspondent fall in the NAWRU. They argued that with the assumption of an unchanged NAWRU in the projection horizon it could be expected that the rate of current unemployment would fall below the NAWRU and that, in connection to that, the pressure on wage increases would increase. In the opinion of some Council members it was very probable that already in 2006 the unemployment rate had run lower than the NAWRU, which contributed to raising the growth rate of wages and unit labour costs in the economy.

While addressing the problem of the natural unemployment rate, other members pointed out that structural processes ongoing in the Polish economy made it difficult to estimate the actual NAWRU in Poland. They assumed that in the light of available knowledge on the relationship between the actual and natural unemployment rate it was impossible to assess the extent to which the unemployment drop expected in the monetary policy transmission horizon would be fuelling wage pressure. It was also pointed out by those members that the unemployment rate was markedly higher in Poland than in countries of the region at a similar stage of development. This difference, it was argued, could be an indication that the natural rate of unemployment in Poland may continue to run below the current unemployment rate for some time still.

The Council also discussed the assessment of inflationary risk connected with gradual acceleration in the growth rate of unit labour costs. In line with preliminary BEAL data and GDP assessments, in Q3 the growth rate of unit labour costs outside farming rose significantly and ran markedly higher than accounted for in the October projection. Some Council members believed that inflationary risk connected with stepped up growth of unit labour costs should be assessed against the financial standing of enterprises. In their opinion good financial condition of enterprises was making it possible to compensate the rise in unit labour costs by cutting margins and profits of enterprises. Moreover, it was pointed out that unit labour costs were falling in industry, which favoured price stabilisation in the economy. According to these members the so far observed growth rate of unit labour costs was not posing any significant risk to achieving the inflation target. They judged that such risk could in fact emerge in the case of a sudden acceleration of unit labour cost growth.

Other members pointed out that periods of economic recovery are usually marked by heightened inflation. This, they argued, might indicate that potential margin cuts did not fully compensate for unit labour cost growth. The disputants pointed out that rapid economic growth, outstripping the rate of potential GDP growth together with closing output gap increased the probability that the building wage pressure would be accompanied by growth of prices rather than a drop of margins in enterprises.

Some Council members pointed to the high rate of growth of monetary aggregates and the ensuing risk of increase in inflation. Other members, on the other hand, argued that monetary aggregates had been rising from low levels and that their rise did not have to lead to inflation growth.

In the Council's opinion, the latest data signalled that the year-on-year CPI inflation in 2006 Q4 could prove lower than expected in the October projection, while "net" inflation would be consistent with the projection. Despite the fact that the level of CPI inflation in 2006 Q4 would most probably prove lower than expected, the Council assessed that the medium-term outlook for inflation had not significantly changed in relation to the October assessment.

December

After getting acquainted with the assessment of the economic situation prepared by the NBP's analysts, the Council discussed possible changes in the balance of factors affecting future inflation as compared to the October projection of inflation and GDP and in relation to this balance assessment at the MPC meeting in November.

At its December meeting the Council again discussed the impact on inflation exerted by a possible appreciation of the nominal effective exchange rate of the zloty as compared with the path accounted for in the October projection. Some members supported their argument advanced at the Council's previous sessions that owing to the impact of factors favouring zloty appreciation, the nominal exchange rate of the zloty in the monetary policy horizon will most probably be stronger than the one assumed in the October projection. These members also recognised the likelihood of the medium-term path of the real exchange rate of the zloty getting stronger than the path assumed in the projection, which might, to a certain degree, offset anti-inflationary impact of a stronger than assumed in the projection nominal exchange rate of the zloty. Yet, they pointed out that the possible strengthening of the medium-term exchange rate would be accompanied with favourable structural changes contributing to faster growth in labour productivity and higher growth rate of potential GDP, which would, in turn, allow to increase GDP growth without rising the inflationary pressure. As stated, one of the region's highest growths in labour productivity recorded in Poland may substantiate the argument that the strengthening of the equilibrium rate of the zloty is accompanied with favourable supply effects.

Other members of the Council paid attention to the fact that the increase in the upward pressure on demand anticipated in the monetary policy horizon may prove strong enough to prevail over the favourable supply effects accompanying the appreciation of the equilibrium rate of exchange. It was argued that a growing likelihood of this scenario playing out was also suggested by a gradual increase in the growth rate of unit labour costs, a fall - as compared with the previous expectations - in the growth rate of the total factor productivity in 2006, strong growth of domestic demand and fast growth of monetary aggregates. Besides, the participants in the discussion emphasised that the observed expansion of monetary aggregates will be most probably sustained in the longer run which constitutes a considerable inflationary risk factor despite the absence of short-term relation between changes in monetary aggregates and inflation.

The discussion at the Council's meeting also focused on the experience of the Baltic States where inflation had risen considerably and was running above the inflation level recorded in Poland and some other countries of the region. Some members pointed out that the pick up in inflation in those countries was driven by the combined effect of factors which, albeit to lesser extent, were present in Poland: falling labour supply related to economic migrations, fast growth in credit aggregates and wages and the inflow of foreign direct investment. In their opinion, a strong increase in inflationary pressure in those countries may indicate that in the short-term investment growth will bring about mainly demand effects, while supply effects putting a downward pressure on inflation may be observed with a certain time lag.

Other members emphasised that due to the fixed exchange rate regime or currency board system used by the Baltic States, the importance of those country's experience in the assessment of the outlook for inflation in Poland is considerably limited. They advanced arguments that as those countries were unable to pursue an independent monetary policy, their economic recovery led to a rise in inflation and a drop in real interest rates to the negative level, making it impossible to curb growing inflationary pressure. They also pointed out that the growth rate of GDP and credit aggregates that had been continuing in the Baltic States was much faster than in Poland.

The Council paid considerable attention to the medium-term outlook for inflation. Members of the Council agreed that due to the time lag between changes in interest rates and their strongest impact on inflation, the assessment of the balance of risk factors for future inflation, should take little account of the fact that in the short term inflation will most probably run below the level assumed in the October projection. Some members of the Council emphasised that faster than assumed in the projection GDP growth recorded in 2006 Q3 and most probably also in 2006 Q4, gradual increase in unit labour costs amidst growing labour demand coupled with falling labour supply and sustained high growth of monetary aggregates support the opinion presented in the projection according to which at the end of the projection horizon the inflation will run much above the inflation target. They held a view that such an opinion was also supported by core net inflation running at the level consistent with the projection.

In the opinion of other members of the Council, the assessment of factors affecting inflation in the medium term did not allow the conclusion that inflation would significantly exceed the inflation target within the monetary policy horizon. They agreed that the high economic growth, demand to supply ratio in the labour market and increased lending create a risk of a gradual upward trend in inflation, which might entail the need of monetary policy adjustment. Yet, they paid attention to structural factors which might mitigate the impact of supply pressure on prices. In the opinion of the Council members, globalisation processes reduce the enterprises' possibility to fix prices at their discretion which may confirm the limited impact of higher prices of raw materials on the prices of consumer goods in countries at a different stage of development. Those members emphasised that globalisation processes had the effect of diminishing the significance of domestic output gap as compared with the gap in the world economy, which is reflected in the downward slope of the Phillips curve. In their opinion, the conclusions find support in the findings of empirical studies which point to growing correlation between global and domestic inflation recorded in the past few years in certain developed countries.

In the opinion of the Council, the latest data indicated that CPI inflation (y/y) in 2007 Q4 would be lower than indicated in the October projection and net core inflation would run close to the path expected in the projection. The Council assumed that in 2007 some factors might arise which could be temporarily pulling CPI inflation down in some periods. The analysis of inflation outlook indicated that maintaining inflation close to the target of 2.5% in the medium term might require monetary policy tightening.

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

January

After getting acquainted with the assessment of the economic situation prepared by the NBP's analysts, the Council discussed the outlook for economic growth and inflation.

The Council got acquainted with the projection of inflation and GDP prepared by NBP staff, which will be presented in the January Inflation *Report*. In line with the projection, the annual GDP growth will be – with a 50-percent probability – in the range of 4.9-6.7% in 2007 (compared with 4.1-6.2% in the October projection), 3.6-6.4% in 2008 (compared with 4.5-7.0%) and 3.5-6.5% in 2009.

According to the January inflation projection consumer price growth will in the short term be lower, and in the longer term - close to that expected in the October *Report*. Under constant interest rates, there is a 50-percent probability that inflation will be within the range of 2.1-3.8% in 2007 Q4 (as compared with 1.9-3.8% in the October projection), 2.2-4.5% in 2008 Q4 (as compared with 2.2-4.6%) and 2.4-5.2% in 2009 Q4.

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

In the Council's assessment, in the short term CPI inflation will be considerably lower than in the January projection, as the oil and food prices will most probably be lower then in the projection. The core "net" inflation may also be markedly lower than in the projection.

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

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

Projection of inflation and GDP

The projection of inflation and GDP has been prepared with the use of the macroeconomic model ECMOD by a team of NBP economists led by the Director of the Macroeconomic and Structural Analyses Department Adam B. Czyżewski. The projection is an outcome of an iterative process in the course of which the paths of some of the model's variables are adjusted if they diverge from NBP experts' economic intuition embracing the general state of knowledge on economic processes. The NBP Management Board has approved the projection to be submitted to the Monetary Policy Council. The inflation projection is one of the inputs to the Monetary Policy Council's decision-making process. The cut-off date for the assumptions of the current projection was 8 January 2007. In consequence, the projection has been based on NBP estimates concerning macroeconomic variables in 2006 Q4 (as projection starting point).

4.1 Introduction

Before the January forecasting round the ECMOD model underwent several modifications. They were aimed at improving the functioning of the model in areas, which were pointed out in previous *Reports*, mainly the external sector and the labour market.

First, on the basis of estimates of equilibrium exchange rate done outside the model, its medium-term path was shifted towards appreciation. At the same time, the equations for import and export prices were modified in such a way (in accordance with the notion of the equilibrium exchange rate) that the exchange rate adjustment did not affect the level of foreign trade volume. Second, on the basis of recently observed tendency mirroring a higher than expected effect of foreign trade creation prompted by Poland's accession to the EU, the long-term export and import volumes were raised. Third, in response to doubts concerning labour market related variable paths generated by the model, the equations of the number of persons working, wages and the GDP deflator were adjusted. The change in the working persons equation was conducted by means of a re-estimation of the level of Total Factor Productivity on the basis of new data, which led to raising the labour and capital intensity of production (i.e. now the manufacturing of a given product requires *ceteris paribus* increased labour and capital outlays). The adjustment of the wage and GDP deflator equations, on the other hand, was introduced as a change of the equilibrium level linking these variables (on the basis of current data); with the deflator equation having also its short-term dynamics changed.

In the assessment of the authors of the model and experts, after the modification the model mirrors in a better way the currently observed processes in the labour market and the external sector. In particular, due to the alterations made, the model does not generate such a strong exchange rate depreciation, significant decrease of export and import growth rate, pronounced fall in the number of working persons or dynamic wage increase as it was the case with its previous version. As a result, the introduced changes allowed to decrease the number and scale of expert adjustments introduced to the raw solutions of the model.

The main areas of the presented projection, where the raw forecast from the model was complemented by experts' anticipation of future developments, were the labour market, foreign trade and investment. The joint effect of introduced adjustments is minor in the case of inflation and more significant in the case of GDP growth.

The most important adjustments were those related to the labour market. For some time, the BAEL data on the number of working persons have differed significantly from information coming from other sources (enterprise reporting, national accounts). It is particularly true for the number of working persons outside private farming. This variable of the model is used to calculate unit labour costs, whose growth rate is in turn the main determinant of net inflation. According to experts' assessment, BAEL data on the number of working persons in the economy and agriculture as well as estimates based on those data are subject to large uncertainty, leading to a probable overvaluation of unit labour costs at the starting point of the projection. Therefore a downward adjustment of this variable was made in 2006 H2 by just above 1 percentage points, leaving its evolution in the subsequent quarters of the projection to model mechanisms. The BAEL data themselves on the number of working persons in 2006 Q3 and the derived estimates of the number of working persons in 2006 Q4 were, however, not adjusted.

In spite of changes introduced to the model, in experts' opinion it still generates a too low growth rate of the number of working persons in the longer projection horizon (and as a result, in the context of a strong economic growth, too high growth rate of labour productivity). In consequence, the growth rate of the number of working persons in the years 2008-2009 was increased as compared to the raw solutions of the model. The adjustments of export and investment paths were of the smoothing type and affected mainly the GDP growth path development without major consequences for inflation projection.

4.2 Assumptions for the projection of inflation and GDP

New data released between October 2006 and the first decade of January 2007 (the cut-off date for this forecasting period was 8 January 2007) were the basis for modifying the forecasts of variables exogenous to the model.

External demand and inflation

The annual GDP growth in the euro area in 2006 Q3 decreased slightly to reach the level of 2.7% compared to 2.8% in 2006 Q2, mainly as a result of a lower growth in investment demand, which fell from 5.3% y/y to 4.7%. The annual growth of private consumption stood at the level of the previous quarter, i.e. 1.8%. In view of the short-term trends, among others very good consumer sentiment and improvement in the labour market, the GDP growth anticipated for the euro area for 2006 was in fact raised to 2.7% y/y (from 2.6% y/y). The observed labour market improvement and sumptuous profits of enterprises point to a high probability that the GDP growth in the euro area will be sustained at the level above 2% over the projection horizon. For years 2007-2009, it has been assumed that the euro area's economy will grow at 2.1%.

The key factor generating risk of economic growth in the euro area in 2007-2009 running lower, continues to be the possibility of correction of high US current account deficit, especially if this development should lead to a considerable appreciation of the euro exchange rate. Other events creating the risk of lower growth include the slump in the real property markets in various regions of the world and an increase in commodity prices. On the other hand, faster than assumed euro zone GDP growth could result from a faster increase in domestic demand stemming from the further improvement in the labour market and prevalence of high productivity growth related, among others, to the progress in implementing structural reforms. Additionally, a faster than assumed growth in the euro area could also occur in the case of boosted domestic demand in Asian economies, as this would lead to the increase in exports of eurozone countries.

Based on the analysis of the above factors, for years 2008-2009 it was assumed that the probability of external growth path running below central forecast is slightly higher than above. The central forecast itself however has not been decreased. A fall of economic growth in the eurozone countries remains a risk factor for projection that is not embedded in the model-based analysis.

In 2006 Q3, the annual growth of GDP deflator in the euro area stood at the level of the previous quarter, i.e. 1.8%. In November 2006, core inflation in the euro area remained at the level of July 2006, i.e. 1.5% y/y. In December 2006, HICP inflation declined to 1.9% y/y, down from 2.4% y/y in July 2006. This decline in HICP inflation chiefly resulted from the fall in oil prices in the global markets. Improvement in the labour market indicates the possibility that wage pressure may occur in the nearest years, nevertheless increasing productivity growth should lead to maintaining growth of unit labour costs below 2% y/y. As a result, the GDP deflator inflation in the euro area has been assumed to reach 1.7% in 2006 and 2.1% in years 2007-2009.

The risks of higher inflation as measured by GDP deflator include the possibility of higher than expected wage growth, the rise in commodity prices, intensified protectionist measures and raise of prices of products manufactured in Asian countries. On the other hand, the risks of lower inflation include further appreciation of the euro, growing competition in the market of services and opening of labour markets. As a result, for the two last years of projection a higher probability of GDP deflator running above the central forecast than below it has been adopted.

Foreign interest rates

Forecast interest rates outside Poland range higher in the euro area and in the United Kingdom (by 0.1-0.2 percentage point from 2007 Q3) and lower in the United States (by 0.1-0.15 percentage point from 2007 Q4) as compared to the previous forecasting.

Oil, fuel and gas prices

Oil prices

As in the previous forecasting periods, the oil price forecast in the January projection is based on the forecasts of the US Department of Energy available at 8 January 2007 (*cut-off date*)[57]. It also accounts for the forecasts of other major analytical centres (among others the International Energy Agency and the OPEC).

In 2006 Q4, the average oil price were considerably lower than those assumed in the October forecast (in the period October-December 2006, the average Brent oil price was 59.6 USD/b against the forecast 69 USD/b). In addition, most forecasters of oil prices have lowered their forecasts since the October release. Also the current forecast anticipate that the average oil price will be lower than in the October forecast and will reach 65 USD/b in 2007 (against 67.8 USD/b in the previous forecasting), 62.5 USD/b in 2008 (67 USD/b) and 60 USD/b in 2009.

According to experts, the oil prices over the entire forecast horizon will be principally driven by the global demand for fuels. The US Department of Energy's forecast of December 2006 indicate that the growth in demand for fuel in 2007 may be the highest for three years. On the supply side, it is difficult to assess the actual effect of the OPEC declaration, which in 2006 Q4 twice attested to the pursuance of policy of reducing the output (in total by 1.7 million b/d) and therefore - the depletion of stock in the countries - importers of oil. On the other hand, it is anticipated that a visible increase in the output may occur in non-OPEC countries; among others, in the wake of launching new projects in those countries. However, there is no consensus as to whether the growth in output outside the OPEC will continue to keep pace with the increase in the global demand (contradictory opinions are presented, among others, in the forecasts of the OPEC and the US Department of Energy).

[57]The forecast for 2006-2007 is based on the forecast published in *Short-Term Energy Outlook*, Energy Information Agency, December 2006 (published 12 December 2006). The anticipated level of prices for the years 2008 and 2009 has been based on the average annual price fluctuations from the long-term forecast published in *Annual Energy Outlook 2007* in December 2006. 9 January 2007, i.e. already after *cut-off date*, the US Department of Energy published a new forecast of oil prices. The DE forecasts that the average oil price will reach 64.4 USD/b and 64.6 USD/b.

Over a short-term horizon, the fluctuations in the oil prices may be contingent on highly unusual weather conditions.

Fuel prices

Since the development of assumptions to the October projection, a considerable decline occurred in retail prices of petrol[58] and other motor fuels, which was related to the sharp decline in oil prices in the global prices and to the zloty appreciation. In effect, the fuel price index, both in 2006 Q3 and Q4, stood below the values assumed in the October projection.

In relation to the October projections, the change in the path of fuel prices was primarily attributable to the decline in both the current and forecast oil prices in the world markets, appreciation of the zloty and the exclusion of the increase in excise tax on liquid petroleum gas (LPG) from the projection assumptions[59]. On the other hand, as it was in the previous projection, the present one takes account of the raised rate of excise tax on petrol effective as from 1 January 2007[60].

The main source of risk for the fuel price projection is the path of crude oil prices[61] and the exchange rate in the future. In the short horizon of the forecast, an important influence may be excreted by very unusual weather conditions (warm winter), which markedly reduce the consumption of some types of fuels. Another important source of risk is the future path of growth of the biofuel market, yet the direction and scale of the impact exercised by the rise of this market on mineral fuel prices is difficult to estimate at the moment, among others, due to the impact of crude oil prices on the profitability of biofuel production.

It is assessed that in the short term the forecast is more likely to run below the central path and in the long term – above it.

Absorption of EU funds

The January forecast updates the amounts of EU fund utilisation in the 2006 Q3 and Q4. In line with the NBP data, as of 11 December 2006, in Q4 the payments stood considerably below the central path of the October forecast (EUR 540 million against EUR 700 million). Only the second half of December 2006 saw the increase in the

[58]According to the data of *Nafta Polska S.A.* decline occurred in the average retail price of lead free Pb95 petroleum from 4.2 PLN/l in September to 3.6 PLN/l in December, i.e. by 14.2%.

[59]The October projection assumed the increase in the excise tax on liquid petroleum gas (LPG). At present no change to the excise tax on this type of fuel is assumed.

[60]Pursuant to the Ordinance of the Minister of Finance dated 21 December 2006, amending the ordinance on lowering the rates of excise tax, the rate of excise tax on petrol was raised by PLN 250 per 1000 l, i.e. by 19%. This means the return to the excise tax rate effective before September 2005 r.

[61]The oil price path in the projection horizon presented in the oil price forecast published by the US Department of Energy on 9 January (i.e. after the projection's cut-off date) has been reduced in relation to the December forecast.

payments for beneficiaries and, as a result, the amount of payments in 2006 Q4 was nearly EUR 900 million , i.e. below the maximum forecast in October.

The path of funds utilisation in the years 2007-2008 has not been changed in relation to the October forecast. Beginning from 2007, in addition to the 2004-2006 allocation, also the utilisation of 2007-2013 allocation will begin. As the previous forecasts, also the January forecast assumes a steady growth in the scale of utilisation of EU funds granted to Poland (both structural and cohesion funds). The anticipated level of annual utilisation (central path) amounts to: EUR 3.5 billion, EUR 4.4 billion and EUR 5 billion in 2007, 2008 and 2009, respectively.

In 2006, the actual annual funds utilisation within the framework of the Common Agricultural Policy was very similar to that assumed in the October forecast and as at the end of December 2006 it amounted to approx. EUR 1,940 million (against EUR 1,950 million forecast in October).Thus, the current forecast maintains the central path of transfers within the framework of the *Common Agricultural Policy* (in annual terms) in the years 2007-2008. The anticipated level of annual payments amounts to EUR 2.05 billion, EUR 2.45 billion and EUR 2.58 billion in 2007, 2008 and 2009, respectively.

Risk connected with the level of all the EU funds utilisation will be primarily contingent on the efficiency of the central and local government in this area. For the year 2009, the assessment of risk connected with the Common Agricultural Policy must take account of the necessity to implement all the cross-compliance instrument, before it is possible to obtain direct payments. At present, farmers must meet the two requirements, i.e. maintain their farmyards in good agricultural conditions and preserve the area of permanent pasture. Beginning from 2009, they will have to meet the third condition, concerning the so-called statutory requirements of farm management (among others in the field of environment protection).

Situation in the public finance sector

In the January projection, the assumptions concerning the public finance sector expenditure for 2007 were adopted in accordance with the draft *Budget Act for 2007*, as published by the Ministry of Finance in September 2006. The situation of the sector in the two consecutive years of the projection results, on the other hand, from the "anchor" declared by the government in the form of the central budget deficit fixed at a constant level of PLN 30 billion, being the fundamental benchmark to fiscal policy for the next years [62].

The projection has taken account of the effects of changes in fiscal measures which will be implemented in 2008-2009 and will considerably affect the tax revenue of that

[62] Additionally, assumptions has been made that the balance of other entities of the public finance sector will be close to zero in 2008-2009. As a result, the deficit of the whole sector in these years has been assumed at the level of PLN 30 billion. The previous projection assumed that in 2007-2008, the deficit of other entities of the sector will stand at PLN 2.5 billion. The above change reflects better than previously forecast situation of those segments in 2006 (according to current forecasts, in 2006, the balance of other entities will be close to zero).

sector, such as the rise in the VAT tax rates in 2008 and the introduction of two rates of personal income tax in 2009.

The fiscal projection is subject to risk. In accordance with the government programme, it has been assumed that the "anchor", which fixes the central budget deficit at a constant nominal level, will be the main stabiliser of fiscal policy in the coming years. The anticipated changes in taxes in the coming years may, however, constitute a significant source of risk to maintaining the anchor. In November previous year, the Parliament adopted the amendments to the Act on Personal Income Tax, that will have a considerable impact on reducing the revenue in that area in 2009. In addition, in the update to the Convergence Programme of December previous year, the government envisaged the reduction of disability contribution in 2008-2009, unaccounted for in the projection, which may cause the decrease in revenue of the public finance sector of more than 1% GDP. It is also worthwhile to take note of the significant factors that may have effect on the level of public expenditure over the projection horizon, and make it difficult to restrict in a way that ensures financing the reduction in taxes and premiums. One should mainly point out to the necessity to ensure the still higher funds to co-finance the growing inflow of money from the structural funds and from the *Cohesion Fund*, as well as the occurrence of wage demands by public sector employees.

Prices of food and non-alcoholic beverages

In relation to the October projection, the forecast of the index of food and non-alcoholic beverages prices has been modified on the basis of the realisation of this index over the period September-November 2006, and such new information, as the estimate of the crop production by the CSO (*GUS*), analyses of the Institute of Agricultural and Food Economics and the forecast of agricultural commodity prices provided by the Agricultural Market Agency. New information point to the lower than previously anticipated domestic output of cereals and milk, but higher than expected output of fruit, vegetables, meet and eggs.

In 2006 Q3, the index of food and non-alcoholic beverages prices proved slightly lower than that assumed in the October forecast. The current estimate for 2006 Q4 is also lower than that in the previous forecast, mainly as a result of low realisation of the index in October 2006, which was caused by the steeper than forecast decline in meat prices (especially in poultry) and growth in fruit and vegetables prices being lower than anticipated in the assumptions to the October forecast.

In view of the above data, it is currently anticipated that the growth in food prices in 2007 H1 the first six months of this year will be slightly higher than that communicated in the October forecast. Nevertheless, taking account of the lower than anticipated price growth in 2006 Q4, the annual price index for 2007 H1 will be lower than that in the previous forecasting round. In 2007 Q3 the forecast index of food prices will be close to that assumed in the previous forecast.

Agricultural commodity prices, especially the prices of cereals and meat, [63] remain one of the main risk factors to the path of food and non-alcoholic beverages prices over the forecast horizon. The list of significant risk factors includes agro-meteorological conditions; among others untypical winter.

Demographic situation

Number of the economically active[64]

BAEL data for 2006 Q3 indicate steeper decline in the number of economically active persons than it was assumed in the October forecast. This has caused a slight decline in the central path, although limited, due to methodological problems of this survey [65], to the period 2006 Q4 – 2007 Q1, whereas the direction and scale of this change are in coincidence with the October balance of risks.

The January forecast of the number of economically active persons, developed in the conditions comparable to the previous BAEL data, assumes further decline in the economic activity ratio in 2006 Q4 (by 0.5 percentage point. y/y). The forecast assumes that, beginning from 2007 Q1, the rate of fall of the economic activity ratio will be gradually fading out as a result of such demographic phenomena as increased economic activation and a decreasing scale of economic migration. Lower emigration flows of working-age population will result from a sustained rise in the demand for labour and a higher growth of real wages than in the recent years both stimulated by the forecast continuation of economic activity improvement. The decline in the economic activity ratio will be continued till 2007 Q3. The next quarters will see its stabilisation (0.0 percentage point. y/y), and next, a slight growth. Beginning from 2008 Q3, the economic activity ratio will continue to grow by approx. 0.1 percentage point y/y., and from 2009 Q3 – by approx. 0.2 percentage point y/y.

In the January forecast of the number of economically active persons, the assumed uncertainty band is symmetric, and corresponding to the previous forecasting, those assumptions are subject to relatively large uncertainty, already at the beginning of the projection period. A number of the economically active may prove greater in case of higher than assumed growth of the economic activity ratio, which may occur due to improving labour market situation and, particularly, a greater probability of finding a job. The number of the economically active persons may however prove to be lower if the economic migrations are more intensive than anticipated. Another factor creating

[63] Over a short horizon faster than assumed price growth is possible in flour and other cereal products, and lower than assumed growth - in the prices of meat. On the other hand, over a longer horizon – declining profitability of meat production (among others as a result of the growing cereal prices) may make the cyclic production growth abate faster.

[64] As in the previous forecasts, the January forecast of the number of economically active persons has been based on the demographic forecast released by the Eurostat in 2004.

[65] cf. *Inflation Report* – October 2006. Another important source of uncertainty is the way of the BAEL accounts for currently observed migration processes

risk of lower number of the economically active persons is the delay in the introduction of limits on taking early retirement or the extension of the catalogue of professions that entitle to earlier economic deactivation[66].

Persons working in private farming

BAEL data for 2006 Q3 indicate much steeper decline in the number of economically active persons working in private farming than in the previous quarters of 2006, and also in comparison to the assumptions of the October forecast of this variable (decline by 9.2% y/y, as against the assumed decrease by 2.3%). According to the BAEL data, so large decline in the number of economically active persons working in private farming reflected the growing demand for labour in non-farming sectors and from the more intensive economic deactivation. As a result, the central path in the forecast has been considerably lowered.

Given the uncertainties with regard to the quality of data, also the forecast of the number of persons working in private farming is subject to relatively large uncertainty, already at the beginning of the projection period, mainly due to the difficulty in assessing the actual rate of decline of persons working in that sector. The slower drop in the number of people working outside private farming may be the effect of the inflow of EU funds increasing the profitability of work in agriculture. On the other hand, part of EU funds supports the restructuring of this sector, which in conjunction with the rise in employment in non-farming sectors, expected in the projection horizon, may lead to a faster decline in the number of people working in private farming. An asymmetric band of confidence has been adopted throughout the projection horizon, with a greater probability of the higher realization of variable.

Number of old-age and disability pensioners[67]

In the January forecast, the assumptions with reference to the rate of changes in the number of old-age and disability pensioners adopted in the October forecast remained unchanged. It has been assumed for 2009 that the previous year rate of decline (i.e. a fall of 0.25% y/y) will be maintained. After adjusting for the most recent data (2006 Q3), in the January projection the number of old-age and disability pensioners at the end of the projection horizon falls to 9.05 million people.

Similarly to the October projection, the assumed uncertainty band is symmetric. It has to be emphasised that in the forecast horizon the actual number of old-age and disability

[66]The list of risk factors related to the data includes further methodological changes in the BAEL survey, envisaged for 2007 and 2008.

[67]So far the forecast of the number of old-age and disability pensioners has been based on forecast results of the Polish part of the AWG (*Ageing Working Group*. AWG model is prepared by EU countries under the supervision of the European Commission. Old-age and disability pensions in the Polish part of the model are forecast with the participation of specialists from the Social Insurance Institution (*ZUS*), the Ministry of Labour and Social Policy and the Market Economy Research Institute (*IBnGR*).

pensioners will mostly depend on institutional changes in terms of legal conditions for early economic deactivation.

NAWRU[68]

In comparison to the October forecast of the NAWRU for the years 2007-2008, the January forecast has not changed and assumes gradual decline throughout this perspective. It is so, because no change has occurred in the forecast of the economically active population nor there are premises for reassessing the path of contribution of labour to the potential output growth[69]. Apart from the necessity to ensure compliance between the changes in the number of economically active and the assessment of the changes in the contribution of labour to the potential output growth throughout the projection horizon, the decline in the NAWRU path is additionally explained by the intensification of the positive tendencies observed in the labour market, which lead to the improvement in unemployment structure and increase the chances for finding a job on the part of the unemployed. The January forecast of the NAWRU for 2009 has been prepared on the basis of the assumptions of sustaining the positive tendencies in the labour market, outlined in the latest inflation projection and of the lack of change in the growth of potential output in 2009, in comparison to the years 2007-2008. However, in view of the assumed slow growth of the economic activity index in the last year of the projection, its has been assumed that in 2009 the decline rate of the NAWRU will be approx.1/3 lower in comparison to 2008 (decline of 0.5 percentage point y/y). Faster growth in the number of economically active population will contribute to moderating the decline in the NAWRU.

In the January forecast of the NAWRU a symmetric uncertainty band has been adopted. The actual NAWRU can prove higher in case of a larger emigration flow than currently assumed, which would have negative impact on the quality of available labour resources (both in terms of age and qualifications). The decline of the NAWRU may also be slower if the growth in the economic activity ratio is more pronounced than assumed. A lower NAWRU may in turn follow from a faster matching of the qualifications of economically active people to the needs of employers and also from a more widespread use of flexible forms of employment (such as part-time employment, contracts for specific work, contracts of mandate). In comparison to previous forecasting, the size of uncertainty of NAWRU forecast for 2007-2008 has not been changed. As regards 2009, the size of uncertainty of the forecast is identical to that of 2008 Q4.

[68]NAWRU (Non-Accelerating Wage Rate of Unemployment) is ECMOD model-specific variable.

[69]In the forecast for the NAWRU rate it has been assumed that in equilibrium the increase in potential output stemming from the faster capital accumulation does not coincide with the increase in demand for labour, so the contribution of labour to the potential output growth remains unchanged.

4.3 Projection of inflation and GDP

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

Economy in the second half of 2006

With an unchanged impact of external factors, in the second half of 2006 the Polish economy was growing markedly faster than it was assessed back in October 2006. In line with expectations presented in the previous projections, domestic demand was the main factor fuelling growth. Private consumption continued to rise at a high rate, which was consistent with expectations. In contrast, a notably stronger than expected acceleration was observed in fixed capital formation. Strong export growth continued, although due to steadily accelerating imports the improvement in the foreign trade balance ceased to be a factor fuelling economic growth.

Strong economic growth brought further improvement in the labour market situation. Consistently with expectations, in view of the high demand, good financial results and still relatively low level of average wages, enterprises substantially increased employment. Nevertheless, the growing demand for labour was accompanied by decreased economic activity in Poland, which may be partly explained by Poles taking on jobs in the old EU countries. This situation was one of the reasons behind a strong drop in the rate of unemployment and, consequently, a steady increase in average wages, which at the end of 2006 outstripped the October expectations.

Labour market recovery also brought about a significant rise in the disposable income of households. Additional factors behind the accelerating growth of households' disposable income include the increase in social benefits[70], rising private owners' income from business activity and money transfers from Polish emigrants working abroad. Apart from rising disposable income, private consumption has been also fuelled by consumer loans in a still growing proportion.

The ongoing economic recovery makes it increasingly difficult to meet growing demand with the existing production capacities, which coupled with the absence of significant financial barriers (very good financial results of enterprises and cheap, easily accessible credit) leads to investment growth. Important factors affecting the growth rate

[70] Considerable rise in social benefits is the effect of the March indexation of old-age and disability pensions.

of investment outlays are the inflow of direct foreign investment, which additionally strengthens the supply side of the economy by the transfer of modern technologies, and the growing absorption of EU structural funds, whose effect is particularly noticeable in the improving investment activity of the central and local government sector. A strong revival in the housing market takes place, so far resulting mainly in lifting prices and increasing indebtedness of households, though the number of newly built and completed dwellings has gradually started to grow.

The fact that the state of the economy at the starting point of the projection diverges from the expectations of the October projection is the fundamental reason for differences in the expected course of economic processes between the January and October projections. The higher than previously forecast rate of investment growth is to be pointed the most important reason here. Another source of significant differences between the projections is the lowered path of Total Factor Productivity in relation to estimates used for the October projection (which translates into higher labour and capital intensity of economic growth) and, in the short term, lower forecast prices of food and fuels.

Projection for 2007-2009

In line with the present projection, the rate of GDP growth in the whole of 2006 amounted to 5.7%. Similar growth rate is expected for 2007, while in 2008-2009 GDP is expected to stabilise at the level of approx. 5% y/y. Thus, the currently forecast rate of economic growth in 2007 is higher and in 2008 lower than in the October projection, while the current projection sees GDP at the end of 2008 close to that forecast in October. However, the path leading to this level is different: due to the stronger demand for labour and investment demand the recovery is more rapid and is then followed by GDP stabilisation.

Stronger than forecast in October investment recovery is the main factor responsible for a different course of the path of economic growth. In accordance with the most recent projection, the growth rate of investments in the years 2007-2008 will stand at the two-digit level and then decrease slightly below 10% y/y in 2009. Nevertheless the growth of investments will continue considerably higher than the growth of GDP. In effect, the share of investment in the GDP is expected to approach 25%, i.e. will exceed the record high level of 1999.

The stronger than anticipated in October recovery in the labour market, will bring about faster growth in private consumption, which will accelerate in 2007, to reach 5.7% y/y, and to stabilize at the level of 5.3-5.5% y/y in the following years. In addition to earned income, the rise in consumption will be resulting from increased income of private businesses. The public transfers will follow a steady decline. The anticipated reduction in the rate of personal income tax in 2009 will constitute a positive fiscal impulse. The forecast consumption growth exceeds the growth in disposable income, hence throughout the projection horizon the household savings rate will be on decline.

It is forecast that the positive tendencies in the labour market will be sustained. In 2007 the growth of number of working persons according to the LFS (*BAEL*) will reach 3.4%, whereas in the subsequent years it will not fall below 1% y/y. Economic recovery will be the main factor leading to the increase in the number of jobs. Strong growth in demand for labour will occur in the context of stabilization and next a slight increase in the economically active population. As a result, a considerable decrease in the unemployment rate is anticipated, to the level of 10% at the end of 2009. Throughout the projection horizon, the unemployment rate will stand considerably below its equilibrium level (by nearly 3 percentage points on average), and this will translate into rising wage pressure, particularly at the long end of the projection horizon. To the end of 2007, the growth rate of average wages will be slightly lower than 6% y/y, and next it will begin to accelerate steadily, to reach 8% y/y at the end of 2009. Throughout the projection horizon, the growth rate of real wages visibly exceeds the growth in labour productivity per one person working outside agriculture.

Similarly as in the October projection, it has been assumed that sustaining the fixed nominal "anchor" in the form of the state budget and public finance deficit fixed at a constant level of PLN 30 billion will be the fundamental approach to fiscal policy in the years 2007-2009. As a result, the inflow of tax revenues attributable to the favourable macroeconomic situation will not cause the decline in the deficit but, will serve, instead, to the corresponding increase in the public expenditure. Due to relatively high rate of economic growth a limited decline in the ratio of the general government sector deficit to the GDP in the years 2007-2009 will lead to the increase in the cyclically adjusted general government deficit.

The increase in investment and consumption adds up to the domestic demand growth in the years 2007-2009 by 7.7%, 6.5% and 5.9%, respectively. In 2007 this growth turns out higher than in the October projection, and close to it in 2008.

The level of the exchange rate at the projection starting point is visibly higher than it was anticipated in October and slightly higher (by 1%) than its medium-term path. According to the projection, over the subsequent quarters the nominal zloty exchange rate will be on a steady deceleration, although the scale of depreciation will be markedly smaller than it was in the October projection due to the above-mentioned appreciation of the medium-term path of the zloty exchange rate[71]. As it was in the previous projection, the main factors which have impact on the exchange rate depreciation will include small and diminishing interest rate disparity as well as increasing domestic inflation. Throughout the projection horizon, the growth rate of import prices will be lower than in the October projection.

In the years 2007-2009, the high growth in exports is anticipated to continue (by approx. 8% y/y on average). Good economic situation at the main trade partners of Poland will be supportive for the growth of Polish exports. Domestic economic recovery will fuel the fast growth in imports (by nearly 11% p.a. on average). Throughout the projection

[71] Appreciation of the medium-term path of the zloty exchange rate has no impact on the foreign trade prices.

horizon, the contribution of net exports to the GDP will be negative.

In the years 2007-2009, the growth rate of potential output will amount to 4.4%, 4.8% and 4.9%, respectively and will be higher than that in the October projection – primarily due to the faster capital accumulation related to the stronger investment recovery. Nonetheless, given a fast growth of the actual GDP, the output gap will closed fasted compared to October projection (in the beginning of 2007 already) and will be positive throughout the projection horizon.

Unit labour costs are the key factor shaping net inflation in the projection. It is anticipated that the labour costs growth (per one person working outside agriculture) will reach 4.2%, 4.0% and 4.6% in 2007, 2008 and 2009, respectively, developing above the path forecast in October.

Despite the outlined differences in the trajectory of many variables, the path of ”net” inflation has not shifted significantly in relation to the October projection. This is because the impact of higher unit labour costs and output gap is offset by lower import prices. ”Net” inflation in 2007 is approx. 0.2 percentage point higher than in the October projection, while in the second half of 2008 the paths of both the projections are almost identical. In the following year ”net” inflation grows to reach 4% y/y in 2009 Q4.

The projection of CPI inflation is derived by putting together ”net” inflation, fuel price inflation and food price inflation, with the weight of the last falling to zero after four quarters. In comparison to the October projection, the growth rate of food prices has been significantly revised downwards in the first half of 2007, which lowered CPI inflation in this period by the average of approx. 0.2 percentage points. The January projection assumed also a significantly slower than forecast in October increase in fuel prices in the first three quarters of 2007, which lowered CPI inflation by approx. 0.3 percentage point on average. In the remaining quarters the impact of assumptions as to food and fuel prices is insignificant.

In line with the current projection, CPI inflation will run at the level close to the target (of 2.5%) in 2007 Q2. Beginning from 2007 Q4, inflation will be steadily growing and in the second half of 2009 it will overshoot the upper tolerance limit for deviations from inflation target.

The projection of inflation and GDP growth, as any other forecast, is subject to uncertainty arising from many different sources. Quantifiable sources of uncertainty, such as inaccuracy of the econometric model's statistical mapping of relations holding between macroeconomic variables or the uncertainty connected with assumptions exogenous to the model, have been accounted for and presented in the fan charts. These charts are prepared with the assumption that in the projection process no systematic errors are committed, which is dependent, among others, on the model's correct mapping of economic processes. On the other hand, the sources of uncertainty that is hard to quantify, i.e. such that cannot be accounted for in the form of a fan chart, have been discussed in the next section.

In the case of projection of GDP growth and inflation, the main statistically quantifiable sources of uncertainty, that is those accounted for in the fan chart, are different for short-term (up to 1 year) and medium-term projection horizon (2-3 years).

In the short-term the most important source of uncertainty of the inflation projection is the uncertainty connected with food prices. Other factors, in order of importance, include the uncertainty of the random component[72] in "net" inflation equation, uncertainty of the path of oil and uncertainty connected with the labour market (uncertainty of random components in equations of wages and working persons).

In the medium term the strongest impact on inflation uncertainty is still exerted by the uncertainty connected with food prices (the scale of uncertainty corresponds to the average of past errors of the expert projection). At the same time, the role of labour-market-related factors increases with the forecast horizon. Other important source of uncertainty is the uncertainty of random components in the equations of imports and exports, "net" inflation and GDP deflator.

Similarly as in the case of inflation, the uncertainty of GDP projection presented in the fan chart, in the short term, is most strongly affected by the uncertainty of variables directly determining economic growth. Thus, the greatest impact is exerted by the uncertainty connected with the paths of GDP components, including, in particular, the paths of imports and exports (uncertainty of random components in these equations). Among other variables, the uncertainty related to external GDP is the greatest contributor to the uncertainty of GDP projection.

In the medium term, just like in the short horizon, the uncertainty of the projection of GDP growth is determined by the uncertainty related to the path of foreign trade, though its relative importance is smaller. By contrast, the role of the uncertainty related to factors affecting GDP with a time lag, such as investment and external GDP, is growing.

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

[72]Uncertainty of the random component in the equation describing a given variable is the uncertainty arising from unpredictability of those factors which affect the described variable but do not appear in the equation in the form of explanatory variables.

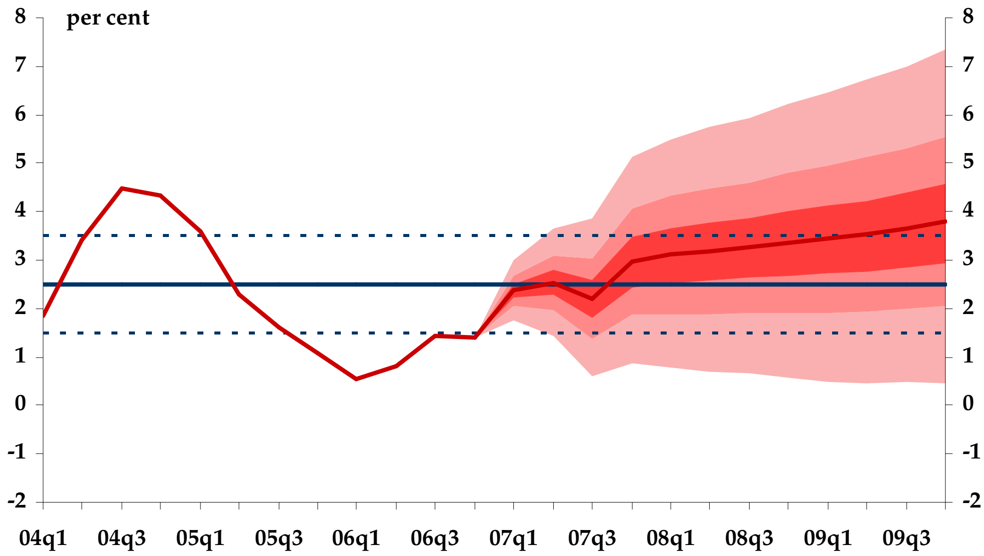

Figure 4.32: Inflation central projection, inflation fanchart and MPC's inflation target (y/y change in per cent)
Source: NBP.

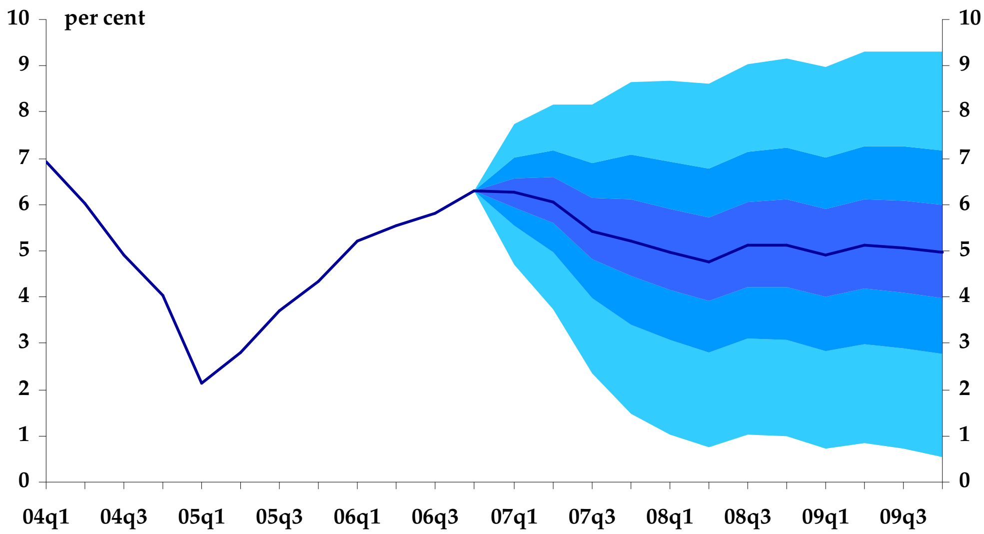

Figure 4.33: GDP central projection and GDP fanchart (y/y change in per cent)
Source: NBP.

How should fan charts be interpreted?

Every projection of future values of economic variables is subject to risk and uncertainty. Central banks present the size and scope of quantifiable inflation projection risk through the use of fan charts. The width of the "fan" corresponds to the overall level of risk, which usually changes from quarter to quarter. The further ahead, the wider it gets, as the uncertainty of the assessments of the future usually grows proportionally to the length of the time horizon.

In both inflation and GDP projections prepared by the NBP, probability distribution of their possible outcomes is determined for each quarter. The expected values of distributions are adopted as the central projection. At the same time, 30-percent confidence intervals are constructed around the medians of distributions. These constitute the central band of the chart, indicated with the darkest shade of the fan. Thus, the probability of GDP or inflation settling within this band is equal to 30 per cent. Next the fan is expanded on both sides so that the probability of the variable running between the extended boundaries increases by another 30 percentage points –15 points on the above, and 15 on the below. The subsequent extensions create successive bands of the fan marked with increasingly lighter shades. The entire fan represents a 90-percent band of confidence around the medians – there is a 90-percent probability of inflation or GDP running within the fan.

The table below presents some of properties of inflation probability distributions in the January projection.

	Probability of inflation:				
	below 1.5%	below 2.5%	below 3.5%	below central projection	within (1.5%; 3.5%)
2007q1	0.016	0.639	0.998	0.502	0.983
2007q2	0.059	0.480	0.923	0.503	0.864
2007q3	0.235	0.617	0.903	0.504	0.668
2007q4	0.127	0.366	0.661	0.506	0.534
2008q1	0.131	0.342	0.611	0.505	0.480
2008q2	0.136	0.333	0.581	0.503	0.445
2008q3	0.135	0.320	0.562	0.505	0.427
2008q4	0.140	0.312	0.539	0.507	0.399
2009q1	0.143	0.305	0.521	0.507	0.377
2009q2	0.142	0.299	0.501	0.507	0.359
2009q3	0.135	0.281	0.478	0.511	0.342
2009q4	0.134	0.270	0.452	0.510	0.318

4.4 Risk of change in central projection

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

Risk of error in projection due to changes in labour market

There still persists an uncertainty connected with BAEL data, which has been signalled in previous projections. These uncertainties are connected, among others, with changes introduced in the survey's definitions in 2006, which make it difficult to compare the latest data with observations from preceding years, and also with serious discrepancies with other sources. In particular, other sources of statistical data (number of old-age and disability pensioners according to the Social Insurance Institution (*ZUS*) and Agricultural Social Insurance Fund (*KRUS*) do not confirm increased economic deactivation in the oldest age groups. The analysis of changes in the institutional structure of the labour market does not support this observation, either. Another important source of uncertainty is the way of the BAEL accounts for currently observed migration processes.

Moreover, the number of working persons according to the BAEL may be a rather imperfect measure of labour in the conditions of changing labour intensity connected with the rising share of part-time employment. Considering the above, it may be concluded that the growth rate of the number of working persons is too high in the first years of the projection, while the rate of productivity growth is too low, which points to the risk of inflation being overestimated in the short horizon of the projection.

In turn, the most important source of uncertainty as to labour market situation in the longer projection horizon is the path of economic activity. The future scale of economic emigration and its impact on inflationary processes are subject to large uncertainty. On the one hand, the scale of economic emigration may increase even further reducing the number of the economically active, forcing more rapid than projected growth in wages (also by increasing the scope for wage arbitration – a factor accelerating wage convergence process) and reducing the growth rate of potential product. This scenario would lead to a higher inflation within the projection horizon. On the other hand, it cannot be ruled out that wage growth in Poland quicker than projected would lead to a reduction in the emigration scale, rise in imigration and re-activation of some economically inactive people and, consequently, a rise in labour supply (as compared with the figures assumed in the projection) which would mitigate wage pressure in a longer horizon. The playing out of this scenario would initially entail a rise in inflationary pressure in relation to the projection and at the end of projection horizon – its reduction.

Risk of projection errors connected with slowdown in world economy

The most important factor of the risk that the actual world economic growth would be lower in 2006-2009 is the possibility of uncontrolled unwinding of global imbalances which find reflection, among others, in a high current account deficit in the USA. According to most economists, the foundations of the current growth of the world economy are not stable: if the high US current account deficit is continued, it will be conducive to a rapid increase in net American foreign debt above the level acceptable for the financial markets.

It cannot be ruled out that global imbalances will be eliminated in hard landing scenario, which would result in significant tensions in the financial markets, marked depreciation of the US dollar, significant growth of long-term interest rates and, consequently, a considerable reduction in the global economic growth. The consequences of this scenario for Poland would be a weaker GDP growth and lower inflation than those presented in the projection. Such assessment of the impact that a slowdown in the world economy may have on domestic inflation does not account for the effects (difficult to define) of the rise in macroeconomic risk connected with deteriorated fiscal situation and adjustment measures taken in this respect.

Still, it seems that hard landing scenario is currently less plausible than it was assessed in the previous projection. The process of narrowing the US current account deficit and, consequently, the return of the world economy on the path of stable and sustainable development, will be probably less turbulent and will proceed under a coordinated macroeconomic policy. Relevant adjustments require measures aimed, inter alia, at narrowing the US budget deficit, reviving domestic demand in Japan and EU countries, making the exchange rate regime in China and other Asian countries more flexible and the departure of those countries from export-driven model of growth towards a more sustainable growth model based, to a larger extent, on domestic demand growth. Such processes could already be observed in 2006.

Risk of projection errors connected with inadequacy of mapping of inflation determinants

A relatively swift rise in ”net” inflation in the short projection horizon mainly results from high increases in unit labour costs in the past (i.e. in 2005-2006). A systematic rise in this category is the main factor affecting inflation growth in the longer horizon of the projection, as well.

From the point of view of the model, the price level recorded at the starting point of the projection is markedly lower than the level of prices consistent with cost factors, which is conducive to inflation growth. There is a risk that the actual cost pressure in the economy is currently lower than it is suggested by the model. This would be suggested by the high level of corporate profits – a trend continuing for some time now. If that was really the case, then the inflation path generated by the model would be overestimated, at least in the short horizon of the projection.

High profits of enterprises have become common in the world economy. It is often claimed that this phenomenon has its roots, apart from business-cycle factors, in the globalisation process manifesting in a surge of business effectiveness achieved, among others, by lowering intermediate input costs. The list of factors responsible for high profits of enterprises in the countries with high labour costs also includes a drop in the bargaining position of employees, which results from the globalisation of the labour market and stepped-up rate of wage convergence (in countries with low labour costs, Poland included, the process of wage convergence is a factor of wage pressure growth rather than its decline). Due to low interest rates the costs of financing business activity have fallen, too.

The impact of the outlined processes on the inflation path in the longer projection horizon hinges on their sustainability and intensity in the future. If the observed high level of profits is an extraordinary development, then the rise in unit labour costs may not be accompanied by pay increases but by profit drops.

However, there are some arguments indicating that the high level of profits is permanent in nature and results from the increased rise in risk of business activity, which, in turn, is rooted in globalisation and low interest rates that are associated with it. In this situation, the rise in unit labour costs, connected not only with the rising demand for labour but also with the process of wage convergence, may persuade enterprises to raise the prices of their products, which will have the consequence of increasing inflation, a development consistent with the projection. Nevertheless, it cannot be ruled out that the rising global competition will stop companies from increasing their prices and then the rising wage pressure may be conducive to curbing production growth and lowering the demand for labour, which is not accounted for in the projection.

Risk of projection errors connected with estimating potential output

The current projection sees potential output growing markedly faster than it was the case in the October projection, which is the result of a faster growth in capital ensuing from a more robust investment recovery. There exists a risk that the actual impact of investment outlays on production capital growth may be different than accounted for in the projection.

This is because the model accounts for capital in net terms. In reality, however, some fully depreciated assets are still used in the production process. Amid a strong investment growth, the percentage growth in the actual production capital may in fact be lower than it would follow from the calculations based on net capital, which (at parameters assumed for the production function) would be conducive to inflation turning out higher than in the projection.

Moreover, the impact of investments on potential output may prove different than in the projection, due to the expected change in the structure of investment outlays. This problem is expounded in greater detail in a box *Changes in the investment structure and the potential output growth* in Chapter 2 of the present report. The resultant of multidirectional impact of therein discussed processes is difficult to determine at the moment.

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

The inflation and GDP central path presented in the projection is consistent with the counterfactual assumption that neither the fiscal policy nor the monetary policy react to the worsening fiscal imbalance (measured with cyclically-adjusted deficit) and a rising inflation in the projection horizon (the projection is made with the assumption of constant interest rates). The most probable consequences of waiving this assumption were pointed out in the previous *Report*.

In contrast to the October projection, additional important source of possible changes in the economic policy over the projection horizon is the announced reduction in social security premiums, not accounted for in the projection, which would result in a drop in the revenue of the public finance sector of approx. 1 percentage point of GDP. What effects the introduction of this solution may have on the projection depends, to a large extent, on whether parallel measures will be taken to curb the expenditure or increase revenue from other sources. If no such measures are taken, then a serious risk of the central budget deficit breaching the declared level of PLN 30 billion in 2009 should be taken into consideration.

Simulations conducted by the NBP with the use of a computable general equilibrium (CGC) model adapted for the description of processes proceeding in the Polish economy[73] indicated that lowering of the tax wedge irrespective of the way of its financing, results in business activity and employment growth. This growth is most sustainable in the situation when the reduction of tax burden is offset by cuts in public expenditure. The effects on inflation are difficult to assess and depend on the way the said social security premium reduction is to be financed.

With the assumption of no measures that would offset the negative impact of social security premium cuts on the budget and the ensuing rise in general government deficit, a stronger rise in private consumption and GDP could be expected in the short term. However, the rise in public finance sector imbalance would bring about a drop in both

[73]Cf. Gradzewicz, M., Griffin P., Żółkiewski, Z. 2006, *An empirical Recursive-Dynamic General Equilibrium Model of Poland's Economy*, joint publication of the NBP and the World Bank.

domestic and foreign investment and, as a result, a dampening of the outlook for economic growth in the long term.

Discussion of data released after 8 January 2007

The projection has been prepared on the basis of information available as at 8 January 2007. At the time of preparing the projection the index of food and non-alcoholic beverage prices in December 2006 had not been known, however, it proved lower than its forecast. In consequence, the value of this index in 2006 Q4 proved 0.2 percentage point lower than that assumed. GUS data published after the cut-off date for the projection revealed that the growth in the supply of swine stock in the first half of 2007 may be faster than that accounted for in the projection, thus bringing about a deeper slump in the growth rate of meat prices. In the light of these data, however, smaller supply and higher meat prices should be expected in the second half of 2007.

Crude oil prices in the first two decades of January dropped as compared to December 2006 and, in average terms, ran significantly (by 16%) below the level assumed for the projection. This decline was supported by continually high temperatures, especially in the North-East of the United States of America, where the first half of January 2007 proved the warmest on record ever since temperature measurements were started. Additionally, the slide in oil prices was favoured by a smaller than previously declared reduction of OPEC output levels (in December 2006 oil output in ten countries of the cartel was 640 thousand b/d lower than in October 2006, while it had been previously announced that the output in this period would be cut by 1200 thousand b/d). In the third decade of January 2006 the decline of crude oil prices was halted in reaction to the announcement made by the US Department of Energy that it planned to double the level of its strategic reserves till 2027.

As oil prices in the world markets proved lower in the first three weeks of January 2007, so did the growth rate of fuel prices (in the case of Pb 95 petrol by approx. 5 percentage points).

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The distribution of risks in the fan chart of the January inflation projection is almost symmetrical. In the short term, however, the factors not accounted for in the chart make it probable that price growth will run below the central path. This is mainly based on the following facts: the possibility of oil, fuel and food prices settling below the path accounted for in the projection, probably overestimated cost pressure at the projection's starting point (and consequently weaker transmission of unit labour costs on inflation) and the possibility that the actual growth of labour in the economy was overrated by the data used.

In the medium term, the direction of inflation deviation from the central path is more difficult to judge. On the one hand, probable intensification of the wage pressure connected with emigration, faster wage convergence process, weaker than projected transmission of investment recovery onto the potential growth and the danger of increased public finance imbalance speak for higher inflation. On the other hand, factors that may still be conducive to lower inflation include the effects of globalisation and possible slowdown in the world economy connected with a rapid elimination of imbalances.

Throughout the projection horizon, stronger exchange rate than assumed in the projection should be treated as more likely development. The impact of this scenario on the inflation path would be conditional on the degree to which the stronger exchange rate path would reflect the appreciation of the equilibrium exchange rate, and to what extent it would be connected with the rising interest of financial investors in investing in the region.

Annex

The voting of the Monetary Policy Council members on motions and resolutions adopted in September-November 2006

- **Date:** 27 September 2006

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

- **Date:** 27 September 2006

  Subject matter of motion or resolution:
  Resolution on adopting the *Monetary Policy Guidelines* for 2007

  Voting of the MPC members:

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

- **Date:** 25 October 2006

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

  MPC decision:
  Motion did not receive a majority vote

  Voting of the MPC members:

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

- **Date:** 29 November 2006

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

  MPC decision:
  Motion did not receive a majority vote

  Voting of the MPC members:

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