Inflation Report
October 2006

National Bank of Poland
Monetary Policy Council

Warsaw, October 2006

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.**

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Summary

Subsequent to a slight increase in inflation in 2006 Q2 to 0.8% y/y (from 0.6% y/y in Q1), in 2006 Q3 the annual price growth accelerated to 1.4% y/y and was higher than expected in the July projection. The rise in inflation in this period was primarily driven by an increase in prices of food and non-alcoholic beverages and in the group of other consumer goods and services. The annual inflation continued to run below the inflation target (2.5%), yet since August, for the first time since October 2005, it has been within the band of deviations from the inflation target (+/-1 percentage point).

In July–September 2006 an increase in the annual inflation was accompanied by a rise in all core inflation measures: "net" inflation increased from 1.0% in June to 1.4% y/y in September 2006; core inflation measure excluding regulated prices: from -0.5% to 1.0% respectively; excluding most volatile prices: from 0.5% to 1.0%; excluding most volatile prices and fuel prices: from 0.2% to 1.1%; 15%-trimmed mean: from 0.9% to 1.1%. An increase in the current inflation indices in the period under analysis was accompanied by a rise in inflation expectations. Moreover, in the period July–September 2006 the annual inflation in 11 months forecasted by bank analysts increased from 1.9% to 2.3% and went slightly down to 2.2% in October.

The growth in producer prices in industry rose to 3.6% y/y in September 2006 (from 2.8% y/y in June 2006). The rise in producer prices (in year-on-year terms) has been observed in the domestic market, while export prices have fallen since November 2004 (with one exception of the price increase in June 2006).

According to the GUS data[1], 2006 Q2 saw a rise in GDP in real terms to 5.5% y/y as compared with 5.2% y/y in Q1, thus reaching the highest growth rate since 2004 Q2. High GDP growth in quarter-over-quarter seasonally adjusted terms (1.6% q/q as compared with 1.4% q/q in 2006 Q1) was recorded for the fifth consecutive quarter. The rate of economic growth in 2006 Q2 exceeded the expectations presented in the July *Report*. 2006 Q2 saw a strong growth in fixed capital formation. The growth in private consumption was slightly lower than in the previous quarter, while public consumption

[1] National accounts data presented in the *Report* do not take into account the GUS revision, published on 24 October 2006. The revision did not change real GDP growth in 2006 Q1 and Q2, but changed the growth of main GDP components. The revision for 2006 Q2 applied to: public consumption, which grew in annual terms (against the data before the revision); inventories, which decreased more than before the revision; growth of gross fixed investment and contribution of net exports do GDP growth, which were revised upwards.

witnessed a strong decline. Changes in inventories did not have any significant impact on GDP growth. Domestic demand stepped up by 5.1% y/y (as compared with 4.5% y/y in 2006 Q1). Despite high growth in domestic demand, the contribution of net exports to GDP growth continued to be positive albeit lower than in the previous quarter.

According to the GUS data, 2006 Q2 saw private consumption rise by 4.9% y/y compared with 5.2% y/y in 2006 Q1, which was in line with the expectations of the July *Report*. High growth of private consumption was maintained amid accelerated growth in real gross disposable income of households and a steep pickup in consumer loans. These developments were accompanied by a rise in the savings ratio (i.e. the ratio of savings to personal income). Resources transferred from people working abroad is a likely factor that contributed to an increase in income of households.

Taking into account the current results of consumer confidence surveys, including the expectations of further improvement in households' financial standing, acceleration in the growth of real wages coupled with a significant growth in employment in the corporate sector, the March 2006 indexation of old-age and disability benefits, and a continuing two-digit growth of retail sales in the period July–September 2006, the growth rate of individual consumption in 2006 Q3 most likely remained at the same high level as in 2006 Q2.

According to the GUS data, 2006 Q2 investment growth accelerated to 14.4% y/y (as compared with 7.4% in 2006 Q1 and 6.5% y/y in 2005). It was the highest growth rate since 1998. Very good financial condition of enterprises should be conducive to sustaining high growth rate of investment in the nearest quarters — corporate financial results in 2006 Q2 hit the highest level since the beginning of the transformation period. Financial liquidity of enterprises also improved and their bank deposits grew rapidly. The strong growth in demand (also on the part of foreign customers) is another factor that propels corporate investment, not least when the level of production capacity utilisation is very high. Investment revival is also confirmed by an accelerated growth in corporate lending, including investment loans, and a continuing enterprises' interest in this source of financing.

In the longer term, domestic investors' propensity to invest and the scale of foreign investment inflow will depend on the introduction of reforms contributing to the improvement of contract enforcement, simplification of business start-up procedures, reduction of the fiscal burden, and thus the overall improvement of conditions for business activity in Poland

On the basis of preliminary monthly data for July-September 2006 on industrial output, construction and assembly production, retail sales and wholesale trade, and other indicators, it may be assessed that the growth of GDP in 2006 Q3 still exceeded the level of 5.0% y/y, which means a rise of approx. 1.0% q/q (in seasonally adjusted terms). According to the NBP's estimates, 2006 Q3 saw a continued strong growth in fixed capital formation and private consumption, while the contribution of net exports to GDP growth declined. Estimates of the GDP growth rate in 2006 Q3 are higher than expected in the July *Report*. Preliminary assessment of the GUS indicate that GDP growth in Q3

2006 should be at least as high as in Q2 2006 (i.e. not less than 5.5% y/y).

The data available in the analysed period pointed to a steady recovery in labour market. There has been acceleration in the growth of both employment in the corporate sector (3.5% y/y in September 2006) and the number of working persons in the whole economy (according to the BAEL data: 3.7% y/y in 2006 Q2). At the same time, the BAEL data showed a significant drop in the unemployment rate. The registered unemployment rate in annual terms also declined. The number of the economically active went down for the second consecutive quarter. Overall, the rise in the number of working persons and the decline in unemployment in 2006 Q2 were markedly higher, while the growth rate in the number of the economically active was lower than expected in the July *Report*. The GUS business tendency surveys indicate that the high growth rate of employment should be sustained in 2006 Q4. Further employment growth in the enterprise sector is also signalled by the NBP economic climate surveys.

Acceleration in economic growth in 2006 Q2 coincided with the growth in nominal wages remaining at the previous quarter level of 4.7% y/y, which was consistent with the expectations presented in the July *Report*. However, the drop in labour productivity growth, coupled with a markedly higher rate of wage growth, resulted in a rise in unit labour costs in the whole economy.

Data on corporate sector wages in July-September 2006, pointed to the continuation of the high growth of average and aggregate wages in enterprises. At the same time, the growth in wages in industrial sector enterprises - recorded since the second half of 2005 - was accompanied by a much faster increase in the sector's labour productivity.

In 2006 Q3 developments in the Polish financial markets were driven by global and regional factors. In the period analysed zloty strengthened against the euro, the Treasury bond yields fell, while the spread between the 10-year Polish Treasury bond yields and the yields on German Treasury securities increased. In July 2006 the currencies of the CEE4 countries (Czech Republic, Slovakia, Hungary, and Poland) strengthened, which to a large extent was related to a correction after their earlier weakening in May and June 2006. Over this period the Polish zloty strengthened against the euro from 4.07 to 3.94. The Treasury bond yields declined, whereas the spread remained relatively stable.

In August and September 2006 greater political uncertainty in Poland was accompanied by an increase in political risk and a rising risk of a delay in Slovakia's and Hungary's entry into the euro zone. All these put pressure on the depreciation of the Polish zloty against the euro - over this period the EUR/PLN exchange rate ranged between 3.85-3.98. However, the weakening of the Polish zloty was less pronounced than its earlier strengthening in July. Over the whole 2006 Q3 the nominal effective exchange rate was consistent with that expected in the July *Report*. The August decrease in the 10-year Treasury bond yields in Poland in August and September 2006 was smaller than the decline in the Treasury bond yields in the core markets, which resulted in spread increase. The rise in the money market rates observed in the period analysed was mainly driven by an increase in expectations of the NBP interest rates hikes.

The July inflation projection (prepared on the basis of data available until 23 June 2006) showed that inflation would rise gradually over the monetary policy transmission horizon and return to the inflation target (2.5%) in the second half of 2007. The projection indicated that in 2008 inflation would continue to grow steadily and its level would remain within the band of deviations from the inflation target.

Data published between August and September 2006 indicated that inflation would return to the inflation target faster than expected in the July projection, however it might stay within the band of deviations around the target. At its meetings in August and September 2006, the Monetary Policy Council decided to keep interest rates unchanged, i.e.: the reference rate at 4.0%, the lombard rate at 5.50%, the deposit rate at 2.50% and the rediscount rate at 4.25%.

During its meetings, the Monetary Policy Council discussed the outlook for inflation in the context of the current and expected economic situation. The MPC considered the possible impact of the following factors on the inflation outlook in Poland: globalisation processes and the growing importance of global factors as compared to domestic factors, the outlook for economic growth in Poland, trends in the labour market, the current condition and the outlook for public finances, a possibly stronger than expected slowdown in the world economic growth in 2007 and the pace of growth of the monetary aggregates.

In its statement released after the August meeting, the Council stated that future inflation path would be similar to that presented in the July projection. At its meeting held in September, the Council judged that in 2006 Q3 current inflation and net inflation would be higher than expected in the July projection. Thus, current inflation would be close to the lower limit for deviations from the inflation target. In the Council's assessment, available information on medium term factors indicated that the 2007 inflation may run higher than expected in the July projection. The Council concluded that a more comprehensive assessment of the inflation outlook would be made at its meeting in October 2006, after considering the new inflation projection.

In September 2006 the Council adopted the *Monetary Policy Guidelines for the Year 2007*. The Council maintained its previous understanding of the inflation target and its implementation, including the focus of monetary policy on maintaining inflation as close as possible to the target of 2.5% in the medium term. The Council will strive to ensure that the return of inflation to the target, which is forecast for the beginning of 2007, proves permanent. Yet, as in the previous years, in the case of strong and unexpected shocks the monetary policy will be conducted in such a way as to ensure the achievement of the inflation target in the medium term. In the Council's assessment, should the sustained high economic growth be accompanied by rising inflationary pressure, an appropriate adjustment of the monetary policy may be needed.

In October the Council adopted the *Opinion on the Draft Budget Act for the Year 2007*. This Draft assumes a rapid increase in the general government expenditure in 2007, resulting in a rise in the ratio of the general government spending to GDP, coupled with increased fiscal burden on the economy. In the Council's opinion a major consequence of the rapid growth of the general government spending and a lack of a substantial reduction in the deficit would be the perpetuation of the high general government borrowing requirement. This is tantamount to a continuation of the rising trend in the public debt, which is not favourable from the perspective of long-term economic growth. If fast economic growth is sustained in the following years - as was assumed in the *Public Debt Management Strategy for 2007-2009* - the public debt to GDP ratio will stabilise at the level of 50-51%. However, if the GDP growth were to decelerate then this relation would increase. If the ratio of public debt to GDP were to exceed 55% (the second prudential threshold set forth in the *Public Finance Act*), this could lead to serious fiscal tensions which might in turn bring further deterioration of the economic climate. In the opinion of the Council, the currently observed strong economic growth creates favourable conditions for the implementation of reforms which would permanently contain the public finance imbalance. Implementation of reforms reducing the structural general government deficit is necessary in order to reverse the rising trend of public debt and thus to maintain high and sustained economic growth. In view of heavy tax burden, the general government deficit should be decreased through a reduction in public expenditure.

At its meeting on 19 October 2006, the Council decided that starting from the next *Inflation Report* (January 2007), the format of the chapter "*Monetary Policy*" (chapter III of the *Inflation Report*) would be modified. The new format of the chapter will make it possible to present in greater detail the views expressed at the Council's meetings against changing economic developments, thus bringing it closer to the practice of many central banks, which publish minutes.

According to the October projection of inflation and GDP prepared by the NBP staff, there is a 50% probability that the annual growth of GDP will be within the range of 5.2-5.5% in 2006 (against 4.7-5.3% in the July projection); 4.1-6.2% in 2007 (against 3.6-5.9 %) and 4.5-7.0% in 2008 (against 4.0-6.6%).

The October inflation projection indicates that over the whole projection horizon inflation will be higher than forecasted in the July *Report*. Assuming unchanged interest rates, there is a 50% probability that inflation will be within the range of 1.8-2.2% in 2006 Q4 (against 1.0-1.9% in the July projection), 1.9-3.8% in 2007 Q4 (against 1.5-3.5%) and 2.2-4.6% in 2008 Q4 (against 1.7-4.3%).

In the opinion of the authors of the projection, the inflation projection presented in the *Inflation Report* does not account for all sources of uncertainty. This primarily applies to the possibility of a markedly higher than expected in the projection wage increase and the shape of economic policy in the coming years. Furthermore, the October projection was prepared on the basis of data available until 28 September 2006 and thus does not account for crude oil prices, which are lower than those assumed in the projection. The estimates of both GDP and CPI inflation in 2006 Q3 were close to those assumed in the projection, while net inflation in 2006 Q3 was consistent with the projection[2].

[2] GUS, at its press conference held on 24 October 2006, pointed out that GDP growth in 2006 Q3 had been at least as high as in Q2 2006. i.e. not less than 5.5% y/y, thus being at least 0.3 percentage point

The latest data have confirmed that in 2006 Q3 both headline and "net" inflation were higher than expected in the July inflation projection. In this way, headline inflation was close to the lower limit for deviations from the inflation target. New data and the October inflation projection suggest that in the medium-term inflation may prove higher than assessed in the previous MPC meeting.

In the opinion of the Council, the currently observed strong economic growth creates favourable conditions for the implementation of reforms which would permanently contain the public finance imbalance. The Council maintains 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 higher long-term economic growth.

higher than assumed in the October projection.

Inflationary processes

1.1 Inflation indicators

In July-September 2006[3] the CPI inflation (CPI[4]) rose to 1.6% (from 0.8% in June). As a result, the annual price growth in 2006 Q3 reached 1.4% (as compared with 0.8% in 2006 Q2 and 0.6% in 2006 Q1). The annual inflation continued to run below the inflation target (2.5%), yet since August, for the first time since October 2005, it has been within the band of deviations from the inflation target (+/-1 percentage point). The rise in inflation in this period was primarily driven by an increase in prices of food and non-alcoholic beverages and in the group of other consumer goods and services. At the same time, the growth of the annual price index in September 2006 was curbed by a decline in fuel prices. In 2006 Q3 inflation was lower than anticipated in the July inflation projection. In July-August 2006 inflation was higher and in September 2006 slightly lower than expected by bank analysts.

The period July-September 2006 marked a reversal in the 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%) (Figure1.1, left-hand panel). The growth of those prices in September 2006 reached 2.4% y/y[5] (as compared with -0.5% y/y in June 2006). Considerable acceleration in the growth of food prices in July-September 2006 was driven by unfavourable weather conditions in the summer 2006 affecting the supply of agricultural products and raw materials (mainly cereals and vegetables). In the NBP assessment, these factors will have an impact on food price developments in the whole business year 2006/2007 (i.e. until the next crops). The analysed period also marked an increase in the annual growth in meat and sugar prices[6]. Due to growing supply of those goods, it should be assessed that their price increase (m/m) in

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

[4]CPI *Consumer Price Index*.

[5]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.

[6]Rise in the annual growth of prices in those groups in June-September 2006 was translated into approx. 40% increase in the prices of food and non-alcoholic beverages in the analysed period.

all months of 2006 Q3 was the effect of higher expectations of food price increases and rising domestic and foreign demand for those goods. The role of growing demand is indicated by rising prices of processed food i.e. food whose supply is to a lesser extent sensitive to weather conditions (see box *Impact of supply and demand factors on food price developments*).

Impact of supply and demand factors on food price developments

Food prices have a significant impact on inflation in Poland, both due to considerable share of food products in the CPI basket and due to high volatility of their price indices. The CPI basket includes both food products whose prices are largely shaped by supply factors (mainly agrometeorological conditions) and well as highly processed goods with a lower share of agricultural products. The supply in the latter group of goods is to a lesser extent affected by agrometeorological conditions and the impact of demand on their prices is relatively stronger than in the first group.

The group of products whose supply is strongly conditioned by agrometeorological factors comprises goods from the group [1] cereal and bakery products, fruits and vegetables. They account for approx. 30% of the food basket, taken into account while computing the CPI. Prices of other products are less dependent on supply factors in the agriculture and the impact of those factors is spread in time.

The weather conditions in Poland in July-September 2006 were particularly unfavourable for agriculture (drought in July and excessive rainfall in August), which was conducive to both a drop in agricultural production and deterioration in the quality of crops – particularly cereals and vegetables.

The period June-September 2006 saw a considerable acceleration in the annual price growth of food and non-alcoholic beverages which marked an increase from -0.5% to 2.4%. This was primarily driven by accelerated growth of prices in the group of products whose supply is strongly affected by agrometeorlogical conditions. The annual rate of price changes in those groups rose in the analysed period by 5.6 percentage point (from 3.1% to 8.7%), which translated into approx. 60% increase in the food price index recorded at that time. The period June-September 2006 saw also a 1.8 percentage point rise (from -2.1% to -0.2%) in the annual rate of price change in the group of food products whose prices are considerably less sensitive to supply factors. Price changes in those groups, despite continued negative growth rate (in annual terms), translated into approx. 40% increase in the food price index in the analysed period.

Meat prices in July-September 2006 rose by 4.3% (as compared with June 2006), with the average growth of 1.6% in the corresponding period over the past five years (as a result, annual growth of meat prices rose from -5.4% in June to -2.0% in September 2006). Also prices of sugar and confectionery products marked a rise above the average level. In the analysed period, price increases slightly outpaced their average levels also in the groups of dairy products, fish and other food. Those increases may not be attributed to unfavourable weather conditions driving down supply (according to GUS, output in the section of food and beverages producers in January-August rose by 9.1% y/y; during the same period, purchases of pork livestock increased by 8.8% y/y, industrial production of pork rose by 16.2%, that of poultry by12.5% y/y, cured meat products – by 6.1% y/y) [2] . This is supported by the fact, that volume of retail sales in food manufacturing enterprises in January-August increased by 10.2% y/y, which might have been related to increased income of households (see chapter 2.1.1. *Consumption demand*) accompanied by higher demand for food.

[1] According to the international classification COICOP (Classification of Individual Consumption by Purpose) used by GUS in the household budget surveys and employed while computing the CPI , the aggregate*food and non-alcoholic beverages* comprises the following groups: (1) bread and cereal products, (2) meat, (3) fish, (4) milk, eggs, cheeses, (5) oils and other edible fats, (6) fruits, (7) vegetables, (8) sugar and confectionery products, (9) other food, (10) non-alcoholic beverages.
[2] Data provided by entities employing over 49 employees.

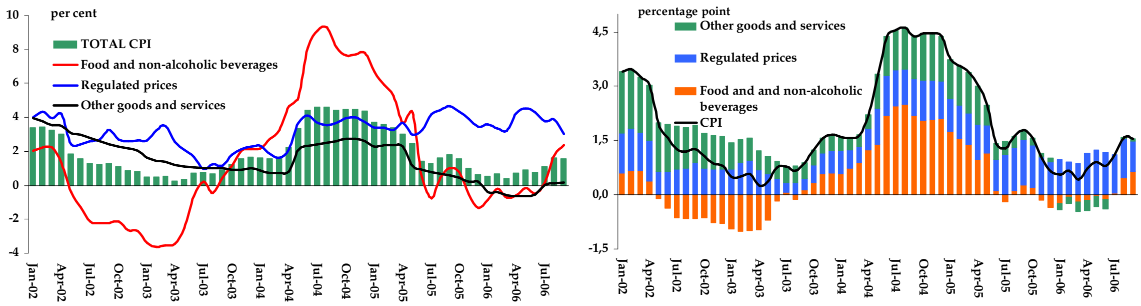

Figure 1.1: Consumer price index CPI. Left panel: CPI and main categories of prices. Right panel: CPI breakdown.
Source: GUS data, NBP calculations.

In July and August 2006 the annual growth in regulated prices (the weight of regulated prices in the CPI amounts to 27.5%) settled at 3.8% and 3.9% respectively (as compared with 4.3% in June) (Figure 1.1, left-hand panel), and decreased in September to 3.0%. In July-August 2006 fuel prices were the most important factor behind persistently high growth of regulated prices, mainly as a result of growing domestic distribution margin[7]. On the other hand, lower growth of regulated prices in September was primarily brought about by a decline in fuel prices (by 2.5% m/m) related to oil price fall in the world markets. In the analysed period, the relatively high growth of regulated prices was sustained as a result of high growth of energy prices connected with the changes in tariffs in the first half of 2006 and high price growth of tobacco products connected with the excise tax increase[8].

[7] Domestic distribution margin is computed as the difference between the average domestic retail price and the producer selling price

[8] In the NBP assessment, increase of the excise tax on tobacco products in January 2006 has not yet fully translated into retail prices. This situation is different from the one observed in the previous years when the effects of the January increases of excise tax translated into retail prices within the first half of

The period July-September 2006 saw an end to the fall in prices of other consumer goods and services[9], observed since the beginning of 2006 in annual terms (the weight of other consumer goods and services in the CPI basket amounts to 45.3%) (Figure 1.1, left-hand panel). The dynamics of those prices increased to 0.2% y/y in September 2006 (from -0.6% y/y in June). This resulted primarily from higher growth in prices of services reaching 2.5% y/y in September (as compared with 1.0% y/y in June), mainly due to higher prices of Internet services[10] and charges for participation in lotteries as well as cable and digital TV fees. The growth in the prices of services connected with flat maintenance (for more information on flat maintenance costs see box *Prices of flat maintenance*), education, healthcare, recreation and culture as well as prices at hotels and restaurants did not change significantly and remained moderate. At the same time, the decline in the annual growth of prices of other goods and services continued to be favoured by falling prices of non-food products (-1.5% y/y in September as compared with -1.6% y/y in June), in particularly, clothing and footwear and electronic equipment - i.e. goods to a considerable degree imported from low cost countries. In the analysed period the drop in the prices of non-food products was limited by the stepping up growth in the prices of materials used for house or flat repair and routine maintenance (1.0% y/y increase in September as compared with a 0.1% y/y drop in June).

Prices of flat maintenance

Expenditure on goods and services connected with flat maintenance constitutes a significant component of household living costs. According to the 2005 GUS survey of household budgets, expenses connected with house or flat maintenance account for 20.3%[1] of the total household spending on consumer goods and services. Due to low price elasticity of demand for goods and services connected with housing, price changes in this category drive changes in the households' demand for other goods and services.

The breakdown of the CPI presented in the *Inflation Report* differs from the breakdown based on the COICOP classification used by GUS in its publications. The NBP presents price indices of consumer goods and services broken down into three main groups: prices of food and non-alcoholic beverages, regulated prices and prices of other consumer goods and services. As a result, certain prices of goods and services connected with house or flat maintenance are included in the regulated prices (prices of electricity, gas, hot water, central heating), while the remaining ones are included

the year. The delay in translating higher tax to retail prices in 2006 may result, among other things, from higher stock level of finished goods (which were previously subject to lower tax rate) held by tobacco producers at the end of 2005 and the competitive pressure in that market

[9]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.

[10]Strong growth in prices of Internet services (in month-over-month terms) was observed in July 2006 as a result of termination of sales promotion offered by one of service providers. The annual growth in the prices of Internet services stepped up from −34.2% in June to 5.9% in July

in the prices of other consumer goods and services. This box presents developments of house or flat maintenance prices treated as components of one aggregate.

The group*housing, water, electricity, gas and other fuels* is one of 12 main groups of expenses according to the COICOP classification - ranked the second after food in terms of share in the CPI basket. In this group GUS surveys expenses and prices connected with:

– housing – actual rentals for housing, house or flat repair and routine maintenance costs, administration and management costs, water supply services, sewerage and refuse collection,

– energy – electricity, gas (natural and bottled gas), fuel (solid and liquid fuel) and thermal energy (hot water and central heating).

Categories	Weight in CPI	2006								
		I	II	III	IV	V	VI	VII	VIII	IX
		y/y change in per cent								
Housing, water, electricity, gas and other fuels	**20,3**	**3,9**	**3,9**	**3,9**	**5,3**	**5,3**	**5,2**	**4,8**	**4,9**	**5,0**
including:										
Housing	**8,8**	**2,1**	**2,0**	**1,9**	**2,0**	**2,0**	**2,0**	**2,0**	**2,1**	**2,1**
including:										
Actual rentals for housing	0,6	2,2	2,1	2,1	2,3	2,3	2,6	3,1	3,2	3,6
Routine maintenance and repair	3,2	-0,3	-0,3	-0,2	-0,1	0,0	0,2	0,4	0,8	1,2
Refuse collection	0,5	2,1	2,5	2,5	3,1	3,5	3,6	3,9	3,8	3,7
Sewerage collection	0,9	5,0	4,6	4,1	4,1	4,1	3,7	3,4	3,4	3,2
Water supply	1,1	3,6	3,3	3,1	3,2	3,0	2,7	2,3	2,3	2,1
Administration and management	2,3	3,4	3,3	3,2	3,1	2,9	2,9	2,6	2,5	2,2
Electricity, gas and other fuels	**11,4**	**5,3**	**5,4**	**5,5**	**7,8**	**7,8**	**7,7**	**7,0**	**7,0**	**7,2**
including:										
Electricity	3,9	4,2	4,2	4,2	4,2	4,2	4,2	4,2	4,2	4,2
Gas	2,2	13,9	14,4	14,7	26,6	26,7	26,5	22,1	22,2	22,2
Liquid fuels	0,1	8,2	8,6	6,2	5,2	6,5	4,7	3,9	2,8	0,2
Solid fuels	2,3	2,6	2,6	3,0	3,6	3,5	3,4	3,3	3,5	4,3
Hot water	0,6	3,1	3,2	3,4	3,8	3,8	3,8	3,5	3,7	3,8
Central heating	2,4	2,4	2,3	2,3	2,3	2,2	2,2	2,2	2,2	2,2

Table R.1: Developments of price indices of house or flat maintenance.
Source: GUS data.

In 2006 the annual growth in the prices of housing and energy was relatively high (Table tab:mieszkania) – it stepped up from 3.9% y/y in January to 5.0% y/y in September 2006 – significantly exceeding the overall growth of consumer prices in this period[2]. This was primarily driven by energy price increases (from 5.3% y/y in January to 7.2% y/y in September), connected mainly with changes in tariffs in the first half of 2006 [3] and the rise in fuel prices due to growing coal prices. On the other hand, housing prices were stepping up at a considerably lower pace – their growth amounted to 2.1% y/y both in January and September 2006. In this sub-group, a reversal in the downward trend was observed in the prices of materials used for house or flat repair and routine maintenance – growing demand for those goods was a factor behind their price increase.

In the analysed period (from January 2006), housing and energy prices were a group with the highest positive contribution to the total CPI. This was caused by both considerable weight of this aggregate in the CPI basket and a relatively high price growth in this category. In 2006 the contribution of housing and energy prices in the total annual CPI amounts to 0.8 – 1.1 percentage point, including the share of energy prices of 0.6 – 0.9 percentage point.

[1] Such weight was given to households' expenditure on housing and energy while computing the CPI in 2006. This expenditure does not include costs of purchasing real estate or its major repairs as well as ownership charges (e.g. real property taxes).
[2] This means a rise in relative prices of housing and energy costs as compared with other consumer prices.
[3] The most important of those changes include increasing tariffs for electricity in January 2006 and for natural gas in January and April 2006.

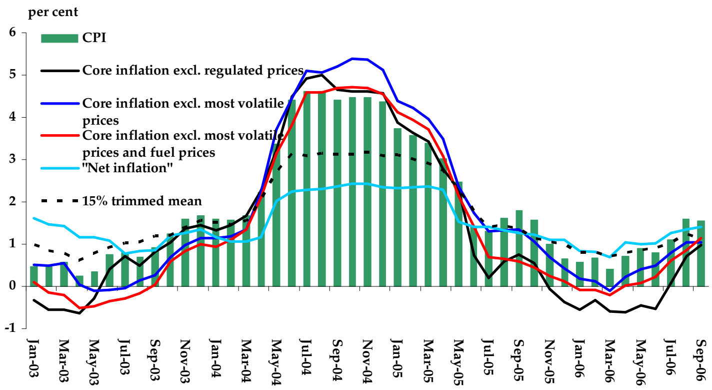

Figure 1.2: CPI and core inflation measures (y/y changes, per cent)
Source: GUS Data, NBP calculations.

In July-September 2006 the rise in the annual inflation rate was accompanied by a rise in all core inflation measures (Figure 1.2). From November 2005 to July 2006 the annual growth in "net" inflation[11] was higher than CPI inflation which meant that changes in food and non-alcoholic beverages prices together with fuel prices curbed the upward trend in consumer prices. Yet, in August and September 2006 "net" inflation was running below the CPI which was primarily driven by changes in food price developments. A considerable growth in the prices of food and other consumer goods and services also found reflection in fast accelerating growth of core inflation excluding regulated prices.

[11] Inflation measure which represents CPI net of food and fuel prices.

	y/y change in %											
	2005			2006								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
CPI	**1,6**	**1,0**	**0,7**	**0,6**	**0,7**	**0,4**	**0,7**	**0,9**	**0,8**	**1,1**	**1,6**	**1,6**
Core inflation indices excluding:												
Regulated prices	0,6	-0,1	-0,4	-0,6	-0,3	-0,6	-0,6	-0,4	-0,5	0,1	0,7	1,0
Most volatile prices	1,1	0,7	0,4	0,2	0,1	-0,1	0,2	0,4	0,5	0,8	1,0	1,0
Most volatile prices and fuel prices	0,5	0,2	0,1	-0,1	-0,1	-0,2	0,0	0,1	0,2	0,6	0,8	1,1
Food and fuel prices ("net" inflation)	1,2	1,1	1,1	0,8	0,8	0,7	1,0	1,0	1,0	1,3	1,4	1,4
15% trimmed mean	1,1	1,0	1,0	0,8	0,8	0,7	0,8	0,9	0,9	1,0	1,2	1,1
	m/m change in %											
	2005			**2006**								
	Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**
CPI	**0,4**	**-0,2**	**-0,2**	**0,2**	**0,0**	**-0,1**	**0,7**	**0,5**	**-0,3**	**0,0**	**0,3**	**0,2**
Core inflation indices excluding:												
Regulated prices	0,4	-0,2	0,0	0,0	0,0	-0,1	0,3	0,5	-0,4	-0,2	0,3	0,3
Most volatile prices	0,4	0,1	0,1	-0,3	-0,2	-0,1	0,1	0,0	-0,7	0,7	0,4	0,2
Most volatile prices and fuel prices	0,5	0,2	0,4	-0,1	-0,1	-0,1	-0,2	-0,2	-0,7	0,6	0,3	0,4
Food and fuel prices ("net" inflation)	0,2	0,0	0,0	0,3	-0,1	0,0	0,4	0,0	0,1	0,5	0,1	0,1
15% trimmed mean	0,1	0,0	0,0	0,1	0,0	0,0	0,0	0,1	0,0	0,1	0,2	0,1
Core inflation indices - seasonally adjusted (TRAMO/SEATS):												
CPI	0,2	-0,1	0,0	0,0	0,1	0,0	0,3	0,2	-0,1	0,3	0,5	-0,1
"Net" inflation	0,1	0,1	0,1	0,1	0,1	0,1	0,2	0,1	0,2	0,2	0,2	0,3

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

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. As a result, inflation expectations in the past displayed high level of volatility. The high adaptivity of inflation expectations makes their anchoring at the target inflation level (2.5%) rather difficult amid fluctuations in the current inflation.

In August-October 2006 inflation expectations of individuals rose to 1.6% (from 0.8% in July 2006) although they are still below the NBP inflation target (2.5%) (Figure 1.3, left-hand panel). Indicator of inflation expectations of individuals is a function of the structure of responses to the survey question and the current inflation rate[12] constituting a point of reference for respondents in formulating their estimates of future inflation

[12] 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.

(Figure 1.3, right-hand panel). In the analysed period, the short-term fluctuations in inflation expectations of individuals were primarily driven by changes in the current inflation. At the same time, September 2006 saw gradual deterioration in individuals' sentiment about future inflation, observed since June 2006, which found reflection in the change of the structure of responses to the survey question (since June to September 2006 there was an increase in the percentage of the most pessimistic respondents i.e. people expecting acceleration of price rise within the next 12 months). October saw an improvement in the structure of responses concerning expected inflation, yet, as a result of growing current inflation there was a slight increase in inflation expectations.

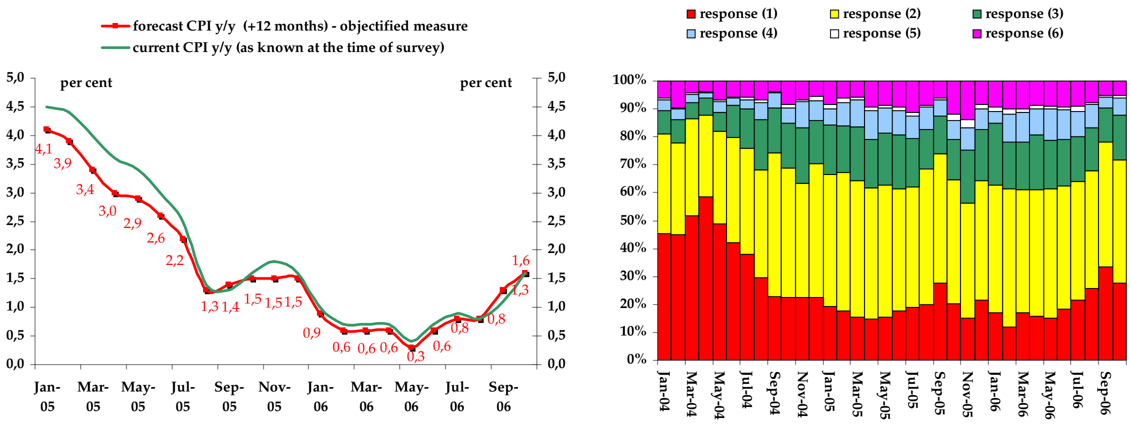

Figure 1.3: Inflation expectations of individuals. Left panel: Inflation expected in 12 months. Right panel: Responses to the question asked by Ipsos.
Source: GUS data, NBP estimates on the basis of Ipsos data.
Ipsos survey question: "Considering the present situation, do you think that prices during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

Inflation forecasts of bank analysts

In the period August-October 2006 increased, moving closer to the NBP inflation target (2.5%) (Figure 1.4, right-hand panel). September saw a rise of analysts' inflation forecast to 2.3% as compared with 2.0% in August, which was connected with higher than expected CPI figure in July 2006 being accounted for in those forecasts. Bank analysts' expectations adjusted for this data brought about a rise in inflation forecasts in all time horizons. In October, however, the annual inflation in 11 months as forecasted by bank analysts slightly decreased – to 2.2%. Inflation forecasts for December 2006, following the period of stabilization in June-August (at the level of 1.4%-1.5%), in September and October increased significantly (to 1.9% and 2.2% respectively) (Figure 1.4, left-hand panel). At the same time, discrepancy between forecasts of future price growth increased, which was reflected in the widening gap between the minimum and the maximum levels of the inflation forecasted in 11 months (Figure1.4, right-hand panel).

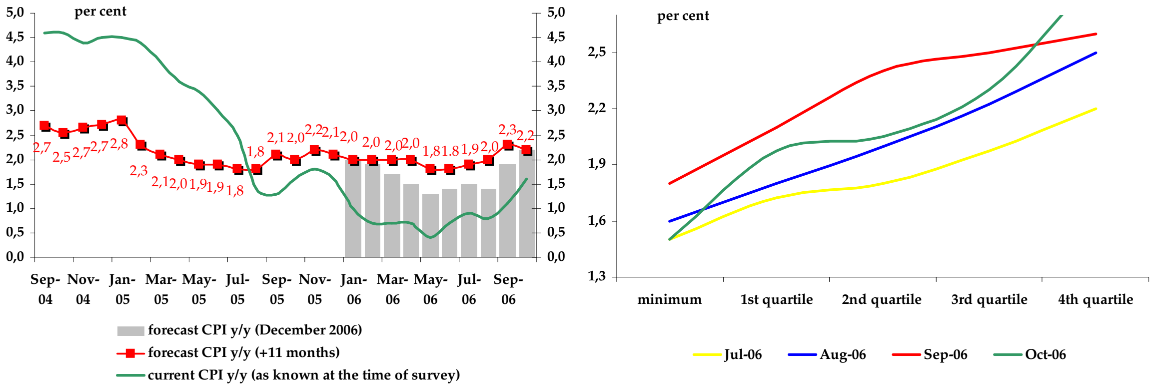

Figure 1.4: Inflation forecasts of bank analysts. Left panel: Inflation forecasted in 11 months and inflation forecast for December 2006. Right panel: Distribution of bank analysts' inflation forecasts of the annual inflation rate in 11 months.
Source: GUS data, Reuters data, NBP calculations.

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 *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 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.

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

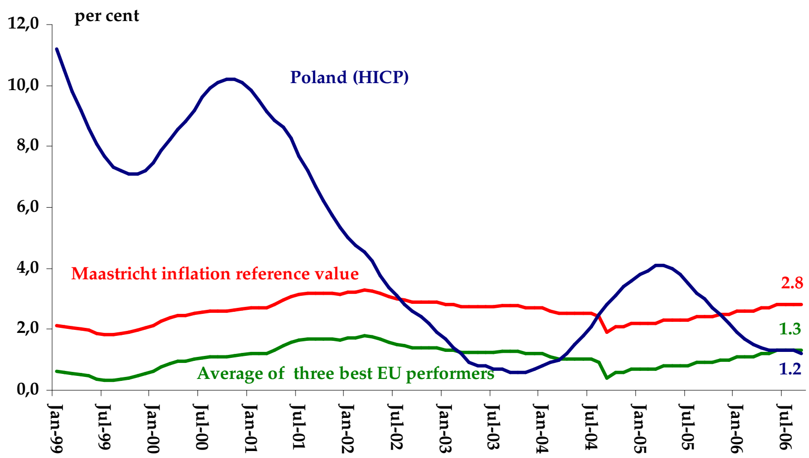

Figure 1.5: Inflation in Poland (HICP 12-month moving average) and the Maastricht criterion (per cent)
Source: Eurostat data, NBP calculations.
In September 2006 the reference value for inflation was calculated on the basis of the average inflation in Finland, Poland and Sweden where the average annual growth of prices stood at 1.2%, 1.2% and 1.4% 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. Figure 1.5 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 criteria see*Report on the Costs and Benefits of Poland's Adoption of the Euro*, NBP, 2004.

Determinants of inflation

Since 2005 Q2 economic growth in Poland has systematically accelerated, to reach a high level (5.4% y/y against 3.5% in 2005) in the second half of 2006 it. In line with the expectations from the July *Inflation Report*, internal demand, mostly a dynamic growth in private consumption and fixed investment, plays an increasing role in GDP growth. Sustainability of strong investment growth will depend on business-cycle and structural factors, including the institutional ones, which determine the investment climate. This climate depends mainly on the overall fiscal burden, public finance outlook, effectiveness of ownership rights protection, level of contracts execution and regulations restraining economic freedom. Exports continue to rise strongly, yet due to recovery in domestic demand and acceleration of imports growth, net exports cease to contribute to GDP growth. Strong economic growth is accompanied by acceleration of employment growth and decrease in unemployment. Fast growth in labour productivity in industry matched by lower wage growth decreases the unit labour costs in the sector. By contrast, wages in the whole economy are growing faster than labour productivity, which leads to rising unit labour costs. Strong GDP growth is accompanied by a gradual increase in inflation, and low, albeit growing current account deficit.

2.1 Demand

According to the GUS data[15], 2006 Q2 saw a rise in GDP in real terms to 5.5% y/y as compared with 5.2% y/y in Q1, thus reaching the highest growth rate since 2004 Q2. High GDP growth in quarter-over-quarter terms and after seasonal adjustments (1.6% q/q as compared with 1.4% q/q in 2006 Q1) was recorded for the fifth consecutive quarter (Table 2.2)[16]. The rate of economic growth in 2006 Q2 exceeded the expectations

[15]National accounts data presented in the *Report* do not take into account the GUS revision, published on 24 October 2006. The revision did not change real GDP growth in 2006 Q1 and Q2, but changed the growth of main GDP components. The revision for 2006 Q2 applied to: public consumption, which grew in annual terms (against the data before the revision); inventories, which decreased more than before the revision; growth of gross fixed investment and contribution of net exports do GDP growth, which were revised upwards.

[16]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 of 2000, as they are presented by GUS. As a result, the seasonally adjusted growth rate of GDP and its components

presented in the July *Report*. 2006 Q2 saw a strong growth in fixed capital formation (14.4% y/y as compared with 7.4% y/y in 2006 Q1). The growth in private consumption was slightly lower than in the previous quarter (4.9% y/y as compared with 5.2% w 2006 Q1), while public consumption witnessed a strong decline (by 1.0% y/y as compared with a rise of 3.2% y/y in 2006 Q1[17]). Changes in inventories did not have any significant impact on GDP growth. Domestic demand stepped up by 5.1% y/y (as compared with 4.5% y/y in 2006 Q1). Despite high growth in domestic demand, the contribution of net exports to GDP growth continued to be positive albeit lower than in the previous quarter (0.4 percentage point in 2006 Q2 as compared with 0.7 percentage point in 2006 Q1).

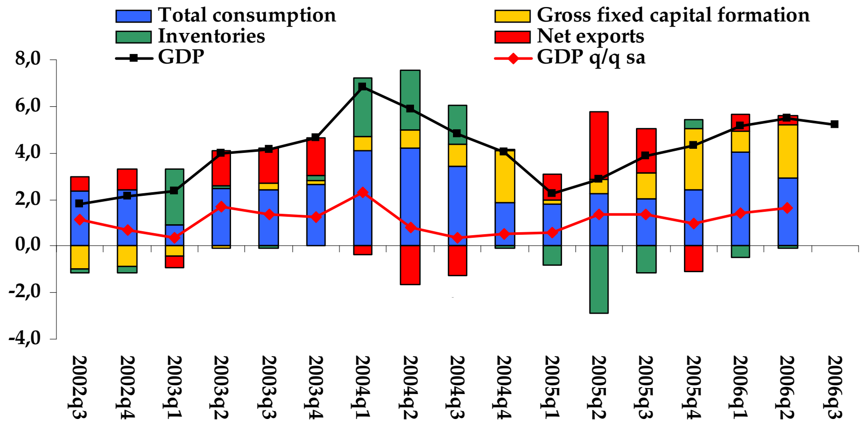

Figure 2.6: Contribution of aggregate demand components to GDP growth
Source: GUS data, 2006 Q3 – NBP estimates.

Seasonally adjusted (per cent)	2004q1	2004q2	2004q3	2004q4	2005q1	2005q2	2005q3	2005q4	2006q1	2006q2
GDP	2,3	0,7	0,3	0,6	0,6	1,3	1,3	1,0	1,4	1,6
Domestic demand	2,4	1,2	0,3	-0,2	0,6	0,4	1,3	1,8	0,9	1,4
Total consumption	1,0	0,9	0,6	0,2	0,4	1,2	0,7	1,0	1,3	0,6
Private consumption	1,4	1,0	0,3	0,2	-0,1	1,0	1,1	1,0	1,7	0,9
Gross capital formation	9,2	3,1	-1,8	-2,0	1,2	-2,7	4,2	4,0	0,8	4,7
Gross fixed capital formation	3,9	0,6	1,2	1,6	1,1	1,4	2,8	3,4	2,7	4,5

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 July-September 2006 on industrial output, construction and assembly production, retail sales and wholesale trade and other indicators, it may be assessed that the growth of GDP in 2006 Q3 still exceeded the level of 5.0% y/y, which means a rise of approx. 1.0% q/q (in seasonally adjusted terms).

presented in the *Report* may differ from the growth rate presented by GUS

[17] A decline in public consumption in year-over-year terms in 2006 Q2 was the effect of extremely high growth a year before- see chapter 2.1.1 Consumption demand

According to the NBP's estimates, 2006 Q3 saw a continued strong growth in fixed capital formation and private consumption, while the contribution of net exports to GDP growth declined. Current estimates of the GDP growth rate in 2006 Q3 are higher than the expectations presented in the July *Report*(by 0.5 percentage point) (see chapter 4.3 Inflation Projection and GDP).

2.1.1 Consumption demand

According to the GUS data, 2006 Q2 saw private consumption rise by 4.9% y/y compared with 5.2% y/y in 2006 Q1, which was in accordance with the expectations of the July *Report*. High growth of private consumption was maintained amid accelerated growth of real gross disposable income of households and a steep pickup in consumer loans (see Chapter 2.5.3. Credit and money). These developments were accompanied by a rise in the savings ratio (i.e. the ratio of savings to personal income).

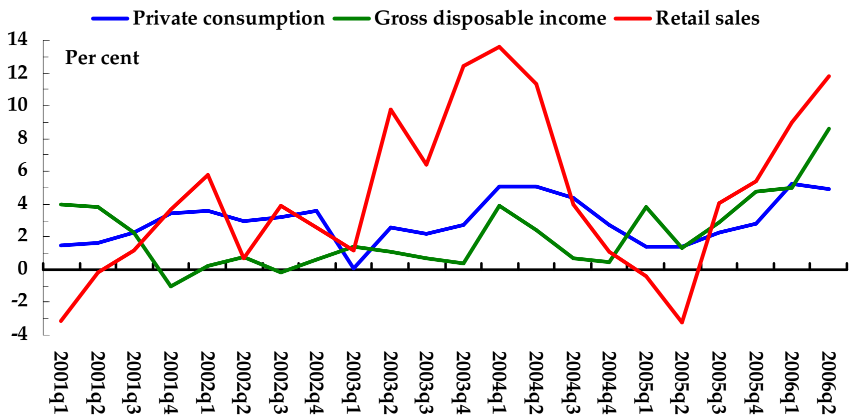

Figure 2.7: Growth of private consumption, gross disposable income and retail sales (y/y, per cent, constant prices)
Source: GUS data, gross disposable income - NBP estimates.

The continuation of high growth in consumption demand was reflected in the continually high growth of retail sales (in 2006 Q2 a growth of 11.8% y/y against 9.0% y/y in 2006 Q1 - in real terms). In 2006 Q2 the fastest growth was observed in the sales of furniture, radio, television and household equipment, as well as cosmetics and pharmaceuticals.

According to NBP estimates, the real growth of disposable income of households in 2006 Q 2 amounted to 8.6% y/y against 5.0% in the 2006 Q1. The rise in the growth of disposable income was mainly due to the higher growth of income from social benefits resulting from the March 2006 indexation of old-age and disability benefits, acceleration of wage growth in the public sector and increased payments made under the Common Agricultural Policy (CAP). Additionally, resources transferred from people working abroad probably also contributed to increasing income of households.

The rise in the growth of income from paid employment in 2006 Q2 (6.3% y/y in nominal terms against 5.5% y/y in 2006 Q1) was due to the growth of average employment in the national economy (1.9% both in 2006 Q1 and Q2[18]), the growth of average monthly wages in the enterprise sector (4.5% y/y against 4.7% y/y in 2006 Q1), the acceleration of wage growth in the budget sector (4.6% y/y against 3.8% y/y in Q1), the rise of employment and wages in small entities (employing up to 9 persons) – which according to NBP estimates was quicker than in the previous quarter. As regards the higher annual growth of income from social benefits in 2006 Q2, it was mainly the result of the March 2006 indexation of old-age and disability benefits of 2004 and 2005. Moreover there was a significant increase in payments made under the CAP, which were more than four times bigger than in 2006 Q1 and at the same time 83% higher than a year ago. The high growth of disposable income in real terms in 2006 Q2 was also favoured by low inflation in this period (0.8% y/y).

Quoting after the Central Statistical Office, in 2006 Q2 there was an drop in public consumption by 1.0% y/y against the rise by 3/1% y/y in 2006 Q1. The fall in public consumption in year-on-year terms was the result of its exceptionally high growth a year ago. At the same time the cash data on current expenditure of the state budget and local governments indicate that their annual growth rate in 2006 Q2 did not differ significantly from the figures for the previous quarters.

The GUS Consumer Sentiment Survey indicate that in 2006 Q3, households' assessments of their financial condition in the last and in the coming year were still markedly better than a year ago and similar to those from the previous quarter. Moreover, in 2006 Q3, households' assessment of both the present time and the coming year as suitable for making "major purchases" was better than in the previous quarter[19]. At the same time, together with the expected improvement in their financial condition, since May 2004 households have more and more frequently declared increased saving capacity within the next 12 months.

The monthly data from the enterprise sector for July-August 2006 indicate an acceleration – in comparison with 2006 Q2 – in the annual growth of real wages and employment in enterprises. Consequently, the 2006 Q3 probably saw the continuation of significant increase in real income of households from paid employment. Moreover, due to the March 2006 indexation of old-age and disability benefits, the high annual growth of real income from social benefits was also maintained. Current findings of household surveys conducted by the GUS and a two-digit growth of retail sales (almost 11% y/y in July-August 2006) indicate that the rise in private consumption in 2006 Q3 in all probability remained at the same high level as in 2006 Q2.

[18]Quarterly data on employment in the economy cover only entities with more than 9 employees.
[19]The category of 'major purchases' comes from the query in the GUS Consumer Sentiment Survey.

2.1.2 Government demand

2006 Q3 saw a higher than last year central budget surplus (PLN 3.2 billion as compared with PLN 0.5 billion in 2005 Q3) which was primarily driven by an increase in the central budget revenues connected with high economic growth. In 2006 Q1-Q3 the central budget deficit reached PLN 14.5 billion (as compared with PLN 17.8 billion a year before).

In 2006 Q3 the central budget revenues increased by 12.1% y/y. This rise was driven by higher personal income tax due to increase of taxation base resulting from improvement in the labour market, and higher corporate income tax 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. Growth in non-tax revenues was the effect of higher than a year before profit transfers and dividends from state-owned enterprises and Treasury companies as well as the NBP profit transfer to the central budget in July 2006[20].

In 2006 Q3 the central budget expenditure increased by 6.3% y/y in nominal terms (as compared with 5.8% y/y in 2006 Q2). The expenditure increase resulted, among other things, from current expenditure of government entities, EU contribution, subsidies paid to local governments and costs of the central government debt service. On the other hand, a decrease was recorded in investment expenditure as compared with the corresponding period of the previous year.

High growth rate of wages and growth in employment contributed to a considerable increase in revenues from social contributions (based on wages) to the state social contributions funds – especially to Social Security Fund and the National Health Fund. Increased revenues coupled with a moderate growth in those funds' expenditure may have brought their surplus in 2006 Q3. Also local government units enjoyed a favourable income situation which was connected with higher revenues from income taxes in 2006 Q3. Yet, despite high revenues, according to the NBP experts, local government units may have run a slight deficit in 2006 Q3 due to increased expenditure[21].

2006 Q4 should see accelerated growth in general government expenditure and – as a result – faster growth in deficit, in particular, in the central budget and local government units. This will result from statutory increase in expenditure, among other things, on family allowances and social benefits, wage increases in the health care sector and increased investment expenditure. Yet, due to high growth rate in the general government revenues, the 2006 cash deficit of the public finance sector will probably

[20] Due to the decision of the Council of Ministers to postpone the approval of the *NBP's financial statements drawn up as at 31 December 2005* to the beginning of July 2006, the NBP profit (PLN 1.2 billion) was transferred to the central budget in July 2006 instead of June – as before

[21] In 2006 Q2 the budget surplus of local government units decreased to PLN 0.2 billion as compared with PLN 5.8 billion in 2006 Q1 which resulted from faster growth in spending, among other things, on infrastructure investment projects. Growing local budgets' net debt in the banking system in August 2006 as compared with the debt decline in the previous months of 2006 seems to point to local government deficit in 2006 Q3.

account for 2.8% of GDP[22], i.e. by 0.9 percentage point lower than assumed. Moreover, this deficit will be probably by 0.2 percentage point of GDP higher than in 2005 despite considerable acceleration in economic growth in 2006.

Draft Budget Act for the Year 2007

The Draft *Budget Act for the Year 2007* assumes a rapid increase of the central budget expenditure (by 8.4% y/y in nominal terms [1]), which will bring a rise in the general government sector expenditure in 2007 (by 6.3% y/y in nominal terms and by 4.3% y/y in real terms). This will raise the general government expenditure to GDP ratio under the assumption of the increase of fiscal burden on the economy. Public expenditure will be sustained at a high level despite strong economic growth rate ensuring favourable conditions to contain public expenditure. *The Draft Budget Act* assumes that the central budget deficit will be maintained at the level of PLN 30 billion (2.7% of GDP as compared with 2.8% of GDP in 2006) which coupled with the optimistic forecasts of higher budget surplus of other general government units should enable to reduce the general government deficit to 2.4% of GDP from 2.8 % of GDP in 2006. A fundamental consequence of the rapid growth of general government spending accompanied by a lack of a substantial deficit reduction will be maintaining the sector's borrowing requirement at a high level. This will mean – unfavourable from the perspective of long-term economic outlook – continuation of the public debt raise. In 2007 the public debt to GDP ratio is expected to rise to 50.6% of GDP from 49.2% of GDP assumed for 2006 and is bound to exceed the first prudential threshold set forth in the Public Finance Act (50%). If the high economic growth is sustained in the years to come – as assumed in*the Public Debt Management Strategy for 2007-2009* – the public debt to GDP ratio may stabilise at the level of 50-51%. On the other hand, if the GDP growth rate were to decelerate then this ratio would increase. If the ratio of the public debt were to exceed 55% of GDP (the second prudential threshold set forth in the Public Finance Act), this could lead to serious fiscal tensions that could bring further deterioration of the economic climate.

The currently observed high economic growth provides favourable conditions for the implementation of reforms that would permanently reduce the general government imbalances. Implementation of the reforms reducing the structural general government deficit is necessary to reverse the rising trend of public debt and thus to maintain high and sustained economic growth. In view of heavy tax burden, general government deficit should be reduced through containing public expenditure.

The assessment of the current situation and outlook of the public finance sector in 2007 have been discussed in greater detail in the*Opinion of the Monetary Policy Council to the Draft Budget Act for the Year 2007.*

[1] Calculations were performed in comparable terms i.e. adjusting the central budget expenditure for 2007 for the impact of EU funds. In 2007, EU funds made available for the

[22]According to the projected performance by the Ministry of Finance presented in *the Background document to the Draft Budget Act for the Year 2007.*

implementation of programs and projects realised by the government administration were for the first time included in the central budget revenues and expenditures.

2.1.3 Investment demand

According to the GUS preliminary data, 2006 Q2 saw an acceleration in the growth rate of gross fixed capital formation to 14.4% y/y (as compared with 7.4% in 2006 Q 1 and 6.5% y/y in 2005). It was the highest growth rate since 1998.

In the non-financial enterprises sector[23] in the first half of 2006 fixed capital formation rose by 8.3% y/y in real terms[24]as compared with 8.2% y/y in 2005. On the other hand, in the enterprises sector taken as a whole[25] investment outlays grew in 2006 Q1 by 15.6% y/y (as compared with 8.6% in 2005). Faster investment growth in the enterprises sector taken as a whole than that in non-financial enterprises sector resulted from intensified investment activity of financial intermediation enterprises whose outlays rose by as much as 175% y/y, accounting for 38% of the annual corporate investment growth. Investment acceleration in the enterprises sector taken as a whole was mainly driven by increased investment in machinery and equipment and in means of transport (by 23.6% and 28.4% y/y respectively).

The first half of 2006 saw an increase in both the number of commenced investment projects (growth by 27.3% y/y as compared with 10% y/y in 2005) and their calculated value (growth by 19.4% y/y as compared with 13.1% y/y in 2005).

2006 Q2 brought a decrease in investment activity of the central and local government sector (by 14.0% y/y), and a considerable increase in investment outlays of local government entities (by 52.1% y/y). As a result, in 2006 Q2 investment outlays in the central and local government sector taken as a whole increased by 34.1% y/y (as compared with a drop by 1.5% y/y in 2006 Q1).

A strong growth in demand observed in the housing construction sector is mainly reflected in rising prices of flats (see chapter 2.5.2 *Flat prices*). In the period from July-August 2006 the number of completed dwellings was by 7% lower than a year before. On the other hand – for the first time since 2002 – the number of dwellings under construction increased in annual terms. The number of construction permits has also been increasing considerably (by 29% y/y).

Very good financial condition of enterprises will be conducive to sustaining high growth rate of investment in the nearest quarters. Financial results of enterprises in 2006 Q2 hit the highest level since the beginning of the transformation period. Financial liquidity

[23]The sector of non-financial enterprises employing more than 49 employees, with the exception of financial intermediation, agriculture and fishery enterprises

[24]Investment estimates based on GUS F01 reports. Investment price index was used as a deflator.

[25]The enterprises sector comprises all enterprises employing more than 49 employees

of enterprises improved and their bank deposits grew rapidly (in August 2006, the corporate deposit growth reached 22.9% y/y - see chapter. 2.5.3 Credit and money). Corporate investment is also driven by a strong growth in demand, also on the part of foreign customers, in particular due to the very high level of production capacity utilisation[26] (Figure 2.8) and the emerging problem of shortage of stocks of finished goods (signalled in the NBP business survey [27]. Investment revival is also confirmed by accelerated growth rate of corporate lending (growth by 8.7% y/y in August 2006), including investment loans (see chapter 2.5.3 Credit and money). The NBP business survey indicate that despite growing deposits 2006 Q4 should see a continuing strong interest in loans on the part of large enterprises.

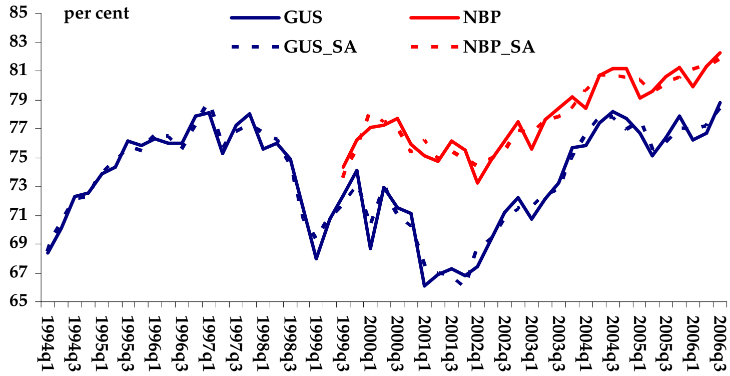

Figure 2.8: Production capacity utilisation in industry (GUS) and in the corporate sector (NBP) (per cent)
The production capacity utilisation obtained from the GUS business survey is significantly lower from one obtained from the NBP business survey. However, the changes in this indicator are similar 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 September 2006, in turn, included 784 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.

In the longer term, the domestic investors' propensity to invest and the scale of foreign investment inflow will depend on the introduction of reforms contributing to the improvement of contract enforcement, simplification of business start-up procedures, reduction of the fiscal burden and thus the overall improvement of conditions for business activity in Poland[28].

[26]GUS business survey as well as NBP economic climate survey indicate that the current level of capacity utilization is the highest in the history of those surveys.

[27]See: *Preliminary Information Concerning the Condition of the Corporate Sector and the Economic Climate in the Fourth Quarter of 2006*, NBP

[28]The need to step up reforms facilitating business activity is indicated, among others, by the World Bank in its report *Doing Business in 2007*.

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

According to the NBP data, in 2006 Q 2 the current account deficit remained at a relatively low level (EUR 1.2 billion, which accounted for 2.0% of GDP computed for the four quarters – i.e. from 2005 Q3 to 2006 Q2.). As compared with the corresponding period last year, the deficit grew by EUR 440 million which was driven by a deepening in the negative income balance and a decrease in the surplus of the trade in services. The reduction of the current account deficit was favoured by the increase in the balance of transfers. The balance of the trade in goods did not affect the change in the current account deficit in annual terms.

According to the GUS data, 2006 Q 2 saw a continued considerable growth in the value of exports[29] (23.2% y/y as compared with 24.5% in 2006 Q1.). The growth in the value of exports was driven by both transaction price increases (7.8% y/y as compared with 2.6% y/y in 2006 Q1) as by an increase in the exports volume (14.3% y/y as compared with 21.3% y/y in 2006 Q1). High growth rate of exports was maintained due to the increased sales to the euro area and the new EU member states. On the other hand, the growth of sales to the third countries followed a downward path.

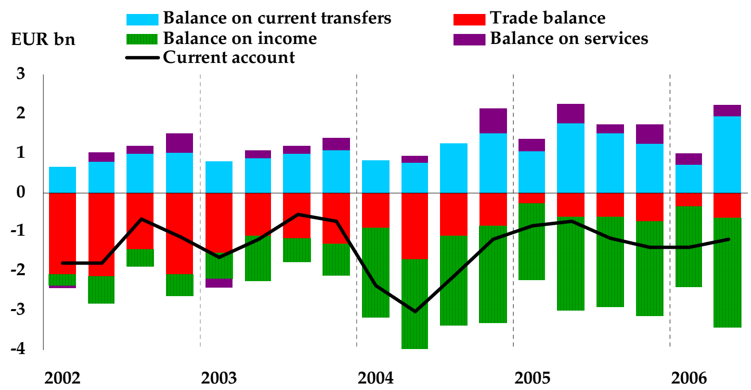

Figure 2.9: Current account balance (EUR bn.)
Source: NBP data.

The euro area, which in 2006 Q2 accounted for 52.9% of the value of Polish exports, recorded a continuing acceleration in the economic growth. Its GDP in 2006 Q2 reached 2.7% y/y (hitting the highest level since 2001 Q1). The growth in the value of euro area imports was slightly lower than in 2006 Q1 (14.5% y/y as compared with 23.0% y/y in Q1), which was driven by a decline in the growth rate of euro area exports [30]. A decline in the growth rate of the euro area exports resulted from the weakening in demand on the part of major trade partners and the euro appreciation. On the other hand, the continuing high growth rate of the euro area demand for intermediate goods

[29] Statistics on international trade are quoted in EUR terms.

[30] Exports in the euro area show a relatively strong import absorption– see *Competitiveness and the export performance of the euro area*, ECB Occasional Paper No. 30, June 2005.

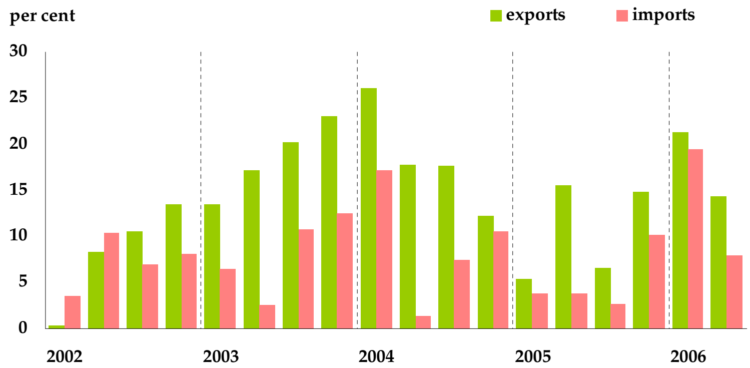

Figure 2.10: Annual growth of exports and imports of goods (volume).
Source: GUS.

was conducive to sustaining the rapid growth of imports from Poland (28.6% y/y as compared with 29.5% y/y in 2006 Q1).

In 2006 Q2 Polish exports to the new EU member states continued to record the fastest growth (by 43.5% y/y), which contributed to further increase in these countries share in exports (it amounted to 13.6% in 2006 Q2). That was driven by both fast economic growth in those countries [31], as well as by further increase in corporate links between Poland and those countries resulting from foreign investment in Central Europe.

	2004q1	2004q2	2004q3	2004q4	2005q1	2005q2	2005q3	2005q4	2006q1	2006q2
Export prices / Unit labour costs* **										
y/y	25,7	32,6	12,8	7,7	-8,2	-16,8	-6,9	-6,3	-0,8	4,5
q/q	2,0	15,6	-10,5	2,0	-13,0	4,8	0,1	2,7	-7,9	10,4
Import prices / Domestic producer prices **										
y/y	6,4	1,7	-8,2	-10,5	-11,8	-13,7	-3,2	-2,2	-1,9	3,2
q/q	3,4	-2,0	-9,4	-2,5	1,8	-4,1	1,6	-1,5	2,1	1,0
REER ULC ***										
y/y	-21,2	-15,5	-1,0	11,1	26,8	21,1	13,1	6,5	0,6	0,9
q/q	1,9	-3,9	9,6	3,4	16,4	-8,2	2,3	-2,6	9,9	-7,9

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 per employee to the labour productivity dynamics, measured as output (volume) in manufacturing per person employed in this sector,
"**" – based on ECB and NBP estimations (ULC for Poland on the basis of GUS monthly data),
For REER ULC minus denotes depreciation.
Source: Own calculations based on NBP, GUS, EC, ECB and Eurostat data.

In 2006 Q2 the competitive position of Polish exporters, as measured by the ratio of transaction export prices to unit labour costs in manufacturing and real effective ex-

[31] In 2006 Q2 economic growth in the EU new member states weighted by the structure of Polish exports amounted to 6.4% y/y.

change rate improved in comparison with the previous quarter. This was driven by an increase of transaction export prices and a drop in unit labour costs in manufacturing. The improvement in competitiveness in 2006 Q2 resulted also from a depreciation of the nominal effective exchange rate of the zloty by 2.2% (q/q). As a result, the real effective exchange rate deflated with unit labour costs depreciated in 2006 Q2 by 7.9% (q/q) as compared with its appreciation by 9.9% q/q in the previous quarter.

The NBP business survey results for 2006 Q4 [32], indicate that - according to majority of domestic producers - exchange rates of the US dollar and the euro remained at a level favourable for exports profitability. Moreover, the percentage of enterprises which raised the issue of the zloty exchange rate as a barrier negatively affecting their economic condition decreased both as compared with the previous quarter and as compared with the corresponding period last year (to 11.2% in 2006 Q4, i.e. was lower by 8.9 percentage point y/y and by 5.4 percentage point q/q).

In 2006 Q 2 there was also an improvement in the competitive position of Polish producers, as signalled by a change in the ratio of the transaction import price index to the domestic producer price index. Competitiveness indicator measured in this way improved for the second consecutive time (in 2006 Q2 by 1.0% q/q as compared with the growth by 2.1% q/q in 2006 Q1).

2006 Q2 saw a continuing strong increase in the value of imports (20.2% y/y against 24.2% in 2006 Q1). A slightly lower increase in the value of imports as compared with the previous quarter resulted from lower volume growth (7.9% y/y against 19.5% y/y in 2006 Q1), which was partly offset by the accelerated growth in transaction prices (see chapter 2.4.1 External prices). The fastest growth was recorded in the volume of imports of consumer goods (by 17.3% y/y as compared with 19.7% in 2006 Q1). A considerably faster growth was recorded in the imports of food than in the volume of total imports (by 24.0% y/y as compared with 16,0% y/y in 2006 Q1).

In 2006 Q1 a decrease in the growth of imports volume of intermediate goods (5.2% y/y as compared with 18,4% y/y in 2006 Q1) and of investment goods (5.4% y/y as compared with 7.6% y/y in 2006 Q1) was recorded.

In 2006 Q1 the current account deficit was financed by the surplus on the capital account, which resulted from the inflow of EU funds and foreign direct investment. The value of the inflow of foreign direct investment was close to the value of the current account deficit. The continuing high inflow of foreign direct investment and other investment in 2006 Q2 was conducive to the sustaining surplus in the balance of payments.

In 2006 Q1 all the warning indicators used for the assessment of the external imbalance remained – despite a slight deterioration of majority of them as compared with the previous quarter - at a safe level (Table 2.4).

[32] *The condition of the non-financial enterprises in the fourth quarter of 2006*, NBP

Warning indicator	2004q4	2005q1	2005q2	2005q3	2005q4	2006q1	2006q2
Current account balance* / GDP calculated annually	-4,2%	-3,3%	-2,2%	-1,7%	-1,7%	-1,9%	-2,0%
Current account balance* + capital account balance / GDP calculated annually	-3,8%	-2,7%	-1,6%	-1,3%	-1,4%	-1,6%	-1,7%
Trade balance / GDP calculated annually	-2,2%	-1,8%	-1,3%	-1,0%	-0,9%	-0,9%	-0,9%
Direct investment* / Current account deficit*	111,4%	123,2%	149,7%	210,4%	126,2%	134,7%	132,7%
Current account balance* + capital account balance + direct investment* / GDP calculated annually	0,9%	1,4%	1,6%	2,2%	0,8%	0,9%	1,0%
Foreign debt service /Revenue from export of goods and services calculated annually	35,4%	40,2%	40,4%	38,6%	32,3%	29,1%	-
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

* Current account deficit and direct investment in 2006 includes estimated value of reinvested profits in the Polish enterprises of direct investment.

Table 2.4: Main warning inidicators (cumulative over 4 quarters)
*The current account balance and the direct investment in 2006 include the estimated profits reinvested in Polish direct investment companies. **Foreign reserves – end-of-period.
Source: GUS data, NBP data, NBP calculations.

2.2 Output

Quoting after the GUS, the total value added in 2006 Q2 increased by 5.2% y/y against 4.9% y/y in 2006 Q1. The rise primarily resulted from the fast increase in market services output and - to a lesser extent - in industrial output. A significant contribution to the value added dynamics was also made by recovery in construction. On the basis of preliminary data for July-September 2006 it can be estimated that the annual value added growth rate in 2006 Q3 was similar to that observed in 2006 Q2.[33]

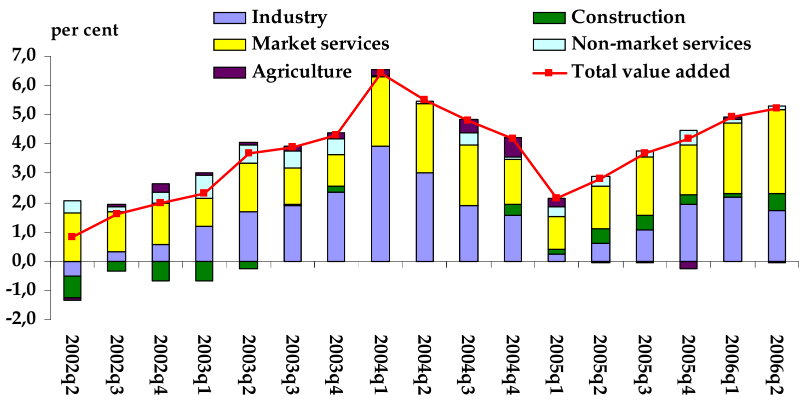

Figure 2.11: Sector contribution to annual gross value added growth (per cent)
Source: NBP calculations on the basis of GUS data.

According to the estimates of NBP experts, the high growth in value added was sustained

[33]The analysis of value added in 2006 Q2 was based on GUS data on national accounts, while the assessment of value added in 2006 Q3 was made on the basis of GUS preliminary monthly data on the industrial output, construction and assembly production, wholesale and retail sales, economic climate surveys and others.

in 2006 Q3, also in seasonally adjusted quarter-on-quarter terms, crossing the level of 1.0% once again (Table 2.5).

Seasonally adjusted (per cent)	2004q1	2004q2	2004q3	2004q4	2005q1	2005q2	2005q3	2005q4	2006q1	2006q2
Value added - total	2,5	0,6	0,5	0,6	0,5	1,3	1,3	1,0	1,2	1,6
Industry	5,8	0,7	-1,0	0,7	0,5	2,4	0,8	3,8	1,0	1,4
Construction	0,7	-0,2	1,1	3,2	1,4	1,2	2,0	1,3	1,2	3,3
Market services	1,7	0,7	0,4	0,7	0,5	1,0	1,5	0,7	1,6	1,4

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

Quoting after the GUS, the high growth in value added in market services continued in 2006 Q2 (both in year-on-year and quarter-on -quarter terms). Similarly to the first quarter, the growth was mainly the result of recovery in trade and repairs. Preliminary data for July-August suggest that the favourable tendencies in market services were also sustained in 2006 Q3, as indicated by a still high growth rate of wholesale and retail sales and the sale of transport services. Good economic climate is also continued in the other sections of market services, particularly real estate activities and services connected with business activity as well as financial intermediation. In view of the favourable assessments formulated by the enterprises polled in economic climate survey studies, it should be expected that the favourable tendencies in market services will be continued in the coming months.

In 2006 Q2 the rise in gross value added in industry was similar to the previous quarter, both in year-on-year and quarter-on-quarter seasonally adjusted terms. Preliminary data for July-September 2006 signal that the annual growth rate of value added in industry in 2006 Q3 was similar to that observed in 2006 Q2. The rise of value added in industry is still slower than the rise in industrial output, which may be an indication of this growth being concentrated in large and medium-sized enterprises[34]. Favourable developments in production continue in industries with a high share of export sales: rising tendencies continued in rubber, chemical and furniture industries as well as manufacture of metal products and manufacture of machinery, equipment and electrical apparatus. The output of automotive industry and the production of radio, television and communication equipment has stabilized at a high level. The recovery in metallurgy is continuing and so is the rising tendency in the food industry. The observed revival in construction is accompanied by a dynamic growth of manufacture of non-metallic mineral products. The level of output in light industry is sustained. Economic climate surveys signal a continuation of favourable tendencies in industry. Rising output should be favoured by a gradual increase in production capacities connected with the

[34]The higher growth rate of industrial output as compared with the value added in industry is mainly due – in the NBP's assessment - to the fact that the monthly data on sold industrial output concern large and medium-sized enterprises (with more than 9 employees) while the data on value added in industry apply to the whole industrial sector. It can be also attributed to the rise in material intensity of production or changes in production organisation in cooperating enterprises.

investments made by industrial enterprises.

Following a transitory deceleration in growth in 2006 Q1, related primarily to unfavourable weather conditions, the growth rate of value added in construction in 2006 Q2 stepped up markedly (both in year-on-year and quarter-on-quarter seasonally adjusted terms). Preliminary data on construction and assembly production for July-September 2006 suggest that the favourable tendencies in construction were also sustained in 2006 Q3. Given the still optimistic signals visible in economic climate surveys and high (though lesser than in the first half of 2006) growth in the workload of construction-site development enterprises and the expected increase in the level of absorbing EU funds allocated for financing infrastructural projects, the NBP assesses the outlook for construction output growth in the coming quarters as favourable.

2.3 Labour market

2.3.1 Employment and unemployment

Since 2003 Q3 growth has been observed in the number of working persons in the economy. According to the BAEL data, 2006 Q2 saw accelerated growth in the number of working persons (3.7% y/y as compared with 2.4% y/y in 2006 Q1 [35]), which was by 512 thousand higher than a year before. The annual growth rate of working persons in 2006 Q2 was the highest in the BAEL survey history[36] (i.e. since 1992) and higher than expected in the July*Report* (Figure 2.12). In seasonally adjusted terms, the number of working persons in 2006 Q2 increased by 1.2% q/q.

The upward trend in the growth rate of working persons in 2006 Q2 resulted primarily from the accelerated rise in the number of people working outside private farming (5.3% y/y as compared with 3.2% y/y in 2006 Q1)[37] In 2006 Q2 the growth rate in the number of people working in industry and services accelerated, while, at the same time, the number of people working in agriculture declined (Table 2.6). The highest contribution to the growth in the number of working persons was made by the service sector, where the number of working persons in 2006 Q2 rose by 412 thousand y/y (i.e. by 5.6% y/y). In turn, the number of working persons in industry rose by 196 thousand y/y (i.e. by 4.7% y/y).

[35] BAEL data for 2006 Q1 have been revised by GUS and differ from the data published in the previous *Report*.

[36] In 2006 Q1, GUS modified the BAEL definition of working persons. As a result, persons previously qualified as paid employees who did not perform work for a period exceeding 3 months and received in this period remuneration equal to or lower than 50% of their previous wages, were included into the category of economically inactive. According to the NBP estimates, in comparable terms i.e. using the definition of working person employed until 2005 Q4, the year-on-year growth in the number of working persons as recorded by BAEL in 2006 Q2 amounted to 4.2% y/y

[37] The annual growth rate in the number of persons working outside private farming recorded in 2006 Q2 hit the highest level recorded by BAEL.

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

	Number of working persons in 2006q2		Growth in 2006q1		Growth in 2006q2		Growth in 2006q1 (q/q) seasonally adjusted	Growth in 2006q2 (q/q) seasonally adjusted
	thousands	structure	thousands y/y	y/y	thousands y/y	y/y		
Total	14 459	-	331	2,4%	512	3,7%	0,9%	1,2%
Total excluding private agriculture	12 354	-	372	3,2%	620	5,3%	0,8%	1,9%
Place of residence								
urban areas	8 907	61,6%	222	2,6%	388	4,6%	-0,1%	1,4%
rural areas	5 552	38,4%	109	2,1%	124	2,3%	0,9%	0,8%
Economic sector								
agriculture	2 291	15,8%	-49	-2,2%	-95	-4,0%	-0,9%	-1,6%
industry	4 341	30,0%	131	3,3%	196	4,7%	1,1%	1,6%
services	7 825	54,1%	250	3,3%	412	5,6%	1,2%	1,8%
Ownership sector								
public	4 283	29,6%	21	0,5%	61	1,4%	0,0%	0,5%
private	10 176	70,4%	311	3,3%	450	4,6%	0,7%	1,3%
Employment status								
hired employees	10 884	75,5%	304	3,0%	497	4,8%	0,5%	1,8%
employers and self-employed	2 903	20,1%	113	4,1%	54	1,9%	1,1%	-1,5%
contributing family workers	627	4,3%	-89	-12,4%	-40	-5,6%	-2,3%	0,3%
Type of job contract								
fixed-term contract	2 962	27,2%	214	8,6%	313	11,8%	2,5%	2,9%
permanent contract	7 922	72,8%	90	1,2%	185	2,4%	0,4%	0,5%

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

The number of persons working on a fixed term contract has been growing quickly (11.8% y/y in 2006 Q2 as compared with 8.6% y/y in 2006 Q1)[38]. Since 2005 Q3 gradually accelerating growth has been observed in the number of people working on a permanent contract basis (2.4% y/y in 2006 Q2 as compared with 1.2% y/y in 2006 Q1). This tendency may be the result of the expiry of previously concluded fixed term contracts and their obligatory replacement with permanent contracts. The rise in permanent contracts may also stem from the employers' willingness to employ or retain skilled employees amid increasing difficulties in obtaining skilled workforce. According to the GUS business tendency survey, in September 2006 the shortage of skilled workers was listed among growth barriers by 47.1% of employers in the construction sector (as

[38]In 2006 Q2 people working on a fixed term contract accounted for 27.2% of all paid employees as compared with 25.4% in 2006 Q1

compared with 18.3% in September 2005). In turn, in industry in 2006 Q3 the difficulties in obtaining skilled workers were reported by 17.6% of enterprises (as compared with 10.4% a year before). Growing problems with employing skilled workforce were also reported in the NBP business survey [39]. The source of the above difficulties may be the increased migration of Polish workforce to other European countries after Poland's accession to the UE[40].

According to corporate sector data, the rise in employment level in enterprises has been stepping up steadily (Figure 2.13). In September 2006, the annual growth of average employment in the corporate sector remained unchanged in comparison to August and amounted to 3.5% y/y, which is the highest level since the beginning of 1990s.

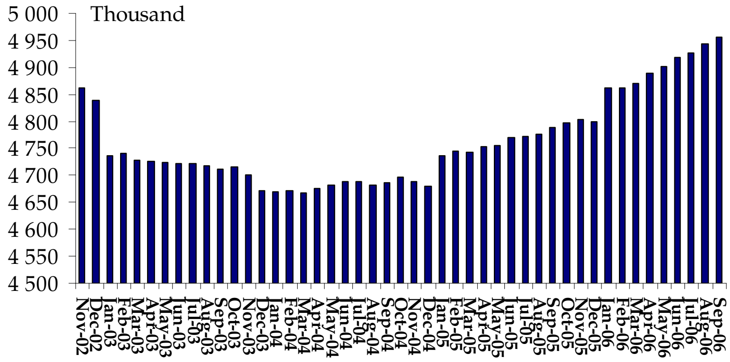

Figure 2.13: Employment in the enterprise sector (thousands)
Source: GUS data.

The above data suggest that after the restructuring in enterprises completed in 2004 Q1, which involved employment reductions, there are limited possibilities of further output growth without increasing the number of working persons. The current output growth is taking place mainly in the service sector, which has been characterised so far by higher labour intensity than industry. Due to these factors, the high growth rate of GDP is accompanied by a higher demand for labour than before.

The rising demand for labour is confirmed by increased number of vacancies reported to Labour Offices. In 2006 Q3, the average number of vacancies announced by employers increased by 20.1% y/y.

[39]Within the quarter the problems with obtaining skilled workforce, reported as barriers to business activity, shifted from the 7th to the 2nd position on the activity barriers list (in the two previous quarters they occupied 13th and 11th position respectively).

[40]After Poland's accession to the EU, there was a surge in the number of Poles leaving the country to work abroad. Apart from Ireland, Sweden and the United Kingdom, which had not introduced any employment barriers to people from the new member states after the EU enlargement in May 2004, since 1 May 2006 also Finland, Greece, Spain and Portugal opened up their labour markets. In July 2006 they were followed by Italy. Measures to significantly facilitate employment for newcomers were also announced by Denmark, France, Island and Switzerland. Most probably, all employment barriers in the Netherlands will disappear at the beginning of 2007. Migration processes make it significantly more difficult to assess the results of the BAEL survey study.

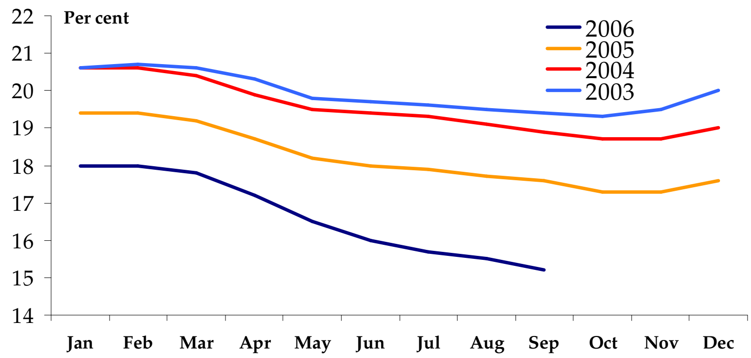

Figure 2.14: Registered unemployment according to labour office data (per cent)
Source: GUS data.

The decline in the unemployment rate has also accelerated. In September 2006, the unemployment figure registered by Labour Offices amounted to 15.2%, which constitutes a drop by 2.4 percentage point in year-on-year terms (Figure 2.14). In turn, according to BAEL data, the unemployment rate in 2006 Q2 was 14.1%, i.e. as much as 4.0 percentage point lower than a year before. Significant improvement has been observed in the labour-market position of young people. In 2006 Q2, the BAEL unemployment rate among people aged 15 to 24 amounted to 30.0% (a year-on-year drop by 9.9 percentage point), while in the group aged 25 to 34 – 13.2% (a year-on-year drop by 5.5 percentage point). The decrease in unemployment in the above age groups is accompanied by a rise in employment: by 4.2 percentage point (to 23.5%) and by 4.1 percentage point (to 73.3%) respectively in year-on-year terms.

Since 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 Q1 and Q2 marked a fall in the number of the economically active by 1.0% and 1.1% y/y respectively. This had an effect on decreasing the economically active ratio by 0.8 percentage point y/y in 2006 Q1 and by 0.9 percentage point y/y in 2006 Q2. A marked decrease in economic activity is only partly driven by methodological changes in the BAEL survey introduced in 2006 Q1 [41]. The fall in economic activity, observed for the last two quarters, may have brought a reversal of the upward trend of the economic activity ratio that was observed in 2005 Q2 - Q4 thought, at the moment, it is difficult to assess the sustainability of this change[42].

[41]According to the NBP estimates, in comparable terms, i.e. taking into account the previous definition of working persons - the annual drop in the number of the economically active reached 0.6 percentage point in 2006 Q1 and 0.7 percentage point in 2006 Q2.

[42]In 2006 Q1 and Q2 the economic activity ratio decreased primarily in the 45-59/64 age group (drop by 2.3 percentage point y/y and by 3.1 percentage point y/y respectively), while this group had seen a rise in the economic activity ratio in 2005 Q2-Q4 (average increase by 0.4 percentage point y/y). The drop in the economically active figure in the whole population was accompanied by a rise in the number of the economically inactive discouraged by ineffective job seeking (a rise of 208 thousand people in 2006 Q2 i.e. by 51.6% y/y) and people inactive due to their family and housekeeping obligations (a rise of 229 thousand

To sum up, the rise in the number of working persons and unemployment drop in 2006 Q2 were markedly higher than expected in the July*Report*, while the growth rate in the number of the economically active was lower than assumed.

The GUS business tendency surveys indicate that the high growth rate of employment should be sustained in 2006 Q4. Further employment growth in the enterprise sector is also signalled by the NBP economic climate surveys[43], which suggests that in 2006 Q4 the positive balance of employment forecasts[44], in seasonally adjusted terms, was the highest in the survey history (i.e. since 2001).

2.3.2 Wages and productivity

In 2006 Q2 the nominal growth in wages in the economy was consistent with the expectations of the July *Report* and amounted to 4.7% y/y, i.e. at the previous quarter level. In the corporate sector, the nominal wage growth in 2006 Q3 amounted to 5.3% y/y, compared to 4.5% y/y in 2006 Q2. 2006 Q3 saw an increase of the growth in the nominal payroll fund in enterprises (8.9% y/y in nominal terms against 7.7% y/y in 2006 Q2).

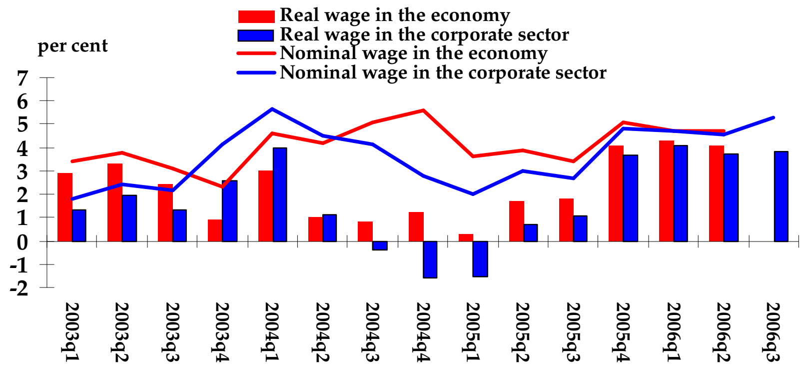

Figure 2.15: Annual percentage growth of wages in the economy and in the corporate sector (nominal and real)
Source: GUS data, NBP calculations.

In 2006 Q2 the rate of growth of labour productivity in the economy[45] amounted to 1.8% y/y, compared to 2.7% y/y in 2006 Q1. The lowering of labour productivity growth, with the rate of wage growth remaining at an unchanged level, resulted in a rise in unit labour costs in the whole economy (of 2.9% y/y compared to 2.0% y/y in 2006 Q1 -

i.e. by 18.7% y/y).

[43] See: *Preliminary Information Concerning the Condition of the Corporate Sector and the Economic Climate in the Fourth Quarter of 2006*, NBP.

[44] Balance of employment forecasts meaning the difference between the percentage of companies declaring their intention to raise employment and the percentage of those declaring employment reduction

[45] Labour productivity in the economy is calculated as GDP in constant prices per one person working in the economy according to the BAEL (Polish Labour Force Survey).

Growth rate y/y (enterprise sector)	January	February	March	April	May	June	July	August	September
Nominal wage	**3,6%**	**4,8%**	**5,4%**	**4,0%**	**5,2%**	**4,5%**	**5,6%**	**5,3%**	**5,1%**
Excluding one-off events	4,3%	4,8%	5,4%	4,0%	5,2%	4,9%	5,6%	5,3%	5,1%
Real wage	**2,9%**	**4,1%**	**4,9%**	**3,3%**	**4,3%**	**3,6%**	**4,5%**	**3,6%**	**3,5%**
Excluding one-off events	3,6%	4,1%	4,9%	3,3%	4,3%	4,0%	4,5%	3,6%	3,5%
Nominal wage fund	**6,3%**	**7,3%**	**8,2%**	**6,9%**	**8,4%**	**7,7%**	**9,1%**	**9,0%**	**8,8%**
Excluding one-off events	7,1%	7,3%	8,2%	6,9%	8,4%	8,1%	9,1%	9,0%	8,8%
Real wage fund	**5,6%**	**6,6%**	**7,8%**	**6,2%**	**7,4%**	**6,9%**	**7,9%**	**7,3%**	**7,1%**
Excluding one-off events	6,4%	6,6%	7,8%	6,2%	7,4%	7,3%	7,9%	7,3%	7,1%

Table 2.7: Wages and wage fund in corporate sector (y/y growth rates)

Source: GUS data, NBP calculations.

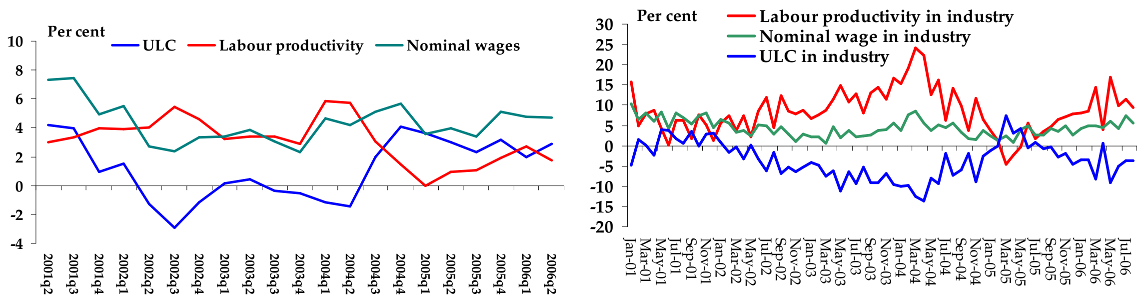

Figure 2.16: Annual percentage growth of unit labour costs (ULC), labour productivity and nominal wages – seasonally adjusted. Left-hand panel: Economy. Right-hand panel: Industry.
Source: GUS data, NBP calculations.

Figure 2.16, left-hand panel, and excluding private farming 4.5% y/y compared to 2.7% y/y/y in 2006 Q1)[46].

In the same period, the labour productivity in industrial enterprises rose by 10.1% y/y compared with the wage growth of 4.9% y/y, which brought about a drop in unit labour costs of 4.7% y/y. Similar tendencies in this sector continued in July-August 2006 (a decline in unit labour costs of 3.7% y/y, which was connected with the rise in labour productivity by 10.4% y/y, and an increase in wages of 6.4% y/y – Figure 2.16, right-hand panel)[47].

The drop in the unit labour costs in industry is conducive to the improved competitiveness of Polish exports, though it is the unit labour costs in the whole economy that is really important for inflation developments.

2006 Q3 saw a continuation in the declarations of wage increases as well as signals of rising wage demands in part of the public sector. According to the act passed by the lower chamber of the Parliament in July 2006 on transferring funds to public health

[46] 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).

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

care institutions to finance pay rises, starting from October 2006 the wages of health care workers will rise by approx. 30%. Also in July a draft was presented of an act on modernisation of uniformed services, which will result in a significant acceleration in the growth rate of wages in these services. The rise in wages in the above mentioned sections may lead to intensified wage pressures in the remaining part of the public sector and, consequently, to the stepping-up in wage growth rate in the whole economy.

NBP economic climate surveys[48] indicate that the percentage of companies planning to increase their wages in 2006 Q4 (15.7%) was similar to the previous quarter (16.5%), though higher than one year before (8.9%). Moreover, the enterprises surveyed by both the GUS and NBP signal growing problems with finding employees, which may force them to increase wages[49].

2.4 Other costs and prices

2.4.1 External prices

2006 Q2 saw a rise in import prices in PLN, for the first time since 2004 Q4 (a 5.1% rise as compared with a 1.8% drop y/y in 2006 Q1) (Figure2.17). The highest rise was observed in the import of intermediate goods (a rise of 10.0% y/y against a drop of 0.3% y/y in 2006 Q1). The accelerated rise in import prices of these goods in 2006 Q2 was not – as opposed to previous quarters – due to the increase in the fuel prices growth[50] but to a faster rise in prices of other input goods (especially processed input goods for industry[51]).

An increased growth of import prices was also observed in the category of investment goods (a rise of 1.8% y/y against a drop of 2.2% y/y in 2006 Q1) and food (a rise of 2.5% y/y against a drop of 3.0% y/y in 2006 Q1). Meanwhile the consumer goods import saw a continued fall in prices (by 6.9% y/y), which was mainly driven by the decrease in prices of imported non-durable goods (particularly medicines, perfumery, cosmetics and toilet preparations).

In 2006 Q3 the upward trend of raw material proces in the world markets slightly waned[52]. This was mainly the result of lower growth of oil prices. On the other hand, the annual growth of non-energy raw materials increased. (Table 2.8).

Although in comparison with 2006 Q2 the quarterly average price of oil changed little, the particular months of 2006 Q3 saw extreme volatility of those prices. After a period

[48]See *The condition of the non-financial enterprises in the fourth quarter of 2006, NBP.*

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

[50]In 2006 Q2 oil import prices in PLN rose by 32% y/y against 53% y/y in 2006 Q1

[51]Processed input goods for industry comprise mainly of iron and steel, paper and cardboard as well as of organic chemicals.

[52]Since the transaction prices of raw materials are usually denominated in USD, the remaining part of the chapter presents the analysis of changes in prices denominated in this currency.

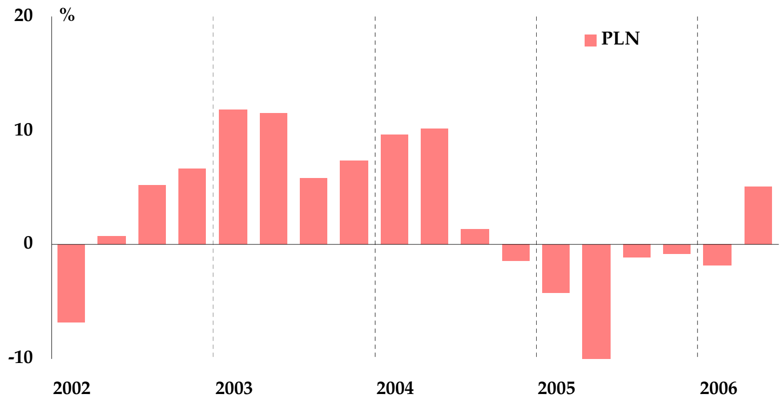

Figure 2.17: Annual percentage change in import prices
Source: GUS Data, NBP calculations.

of rise and achieving a historic high (78.6 USD/b) in the first decade of August, within the following seven weeks oil prices dropped by 25% (Figure2.18, left-hand panel). The drop in prices on spot and futures markets in September[53] had little impact on lowering analysts' forecasts[54]. It is due to the fact that factors which led to the drop in oil prices (i.e. a temporary fall in fuel demand related to the end of holiday period in the US, the possibility of a peaceful solution of the conflict over the Iranian nuclear project and the bypassing of the Mexican Bay oil shores by the hurricanes.) are considered to be transitory. In the longer horizon oil prices will depend on fundamental factors, whose assessment did not change recently.

	y/y change in per cent				q/q change in per cent			
	05q4	06q1	06q2	06q3	05q4	06q1	06q2	06q3
Total	23,1	25,0	30,1	18,2	-4,1	9,4	11,6	0,9
Non-energy raw materials	13,0	14,5	27,9	31,8	3,6	11,6	10,9	2,8
food	10,1	10,6	4,9	7,8	-1,4	9,7	0,4	-0,8
industrial raw materials	14,1	15,9	37,1	40,9	5,5	12,3	14,6	3,8
agricultural	2,1	3,2	10,9	17,5	1,8	5,3	4,6	4,8
non-ferrous metals	19,2	32,4	69,3	73,5	11,1	17,0	26,9	5,1
Energy raw materials	27,1	29,4	31,0	13,8	-6,5	8,7	11,8	0,2
crude oil	32,4	32,2	33,2	14,4	-5,8	7,9	12,0	0,5

Table 2.8: World prices of main raw materials' groups in USD (change in per cent)
Source: Hamburg Institute of International Economics.

[53]In spite of a considerable downward revision of oil futures, the funds investing in those contracts did not engage in a significant selling out. It may indicate that also in the assessment of these investors the current drop in oil prices is transitory. The persistently high share of funds in transactions on the futures market will probably imply a high volatility of oil prices in the near future.

[54]The average annual oil price forecast by analysts polled by the Reuters Agency on 11 October was 66.9 USD/b for 2006 and 62.3 USD/b for 2007, against respectively 67.7 USD/b and 62.9 USD/b according to the survey of 8 September.

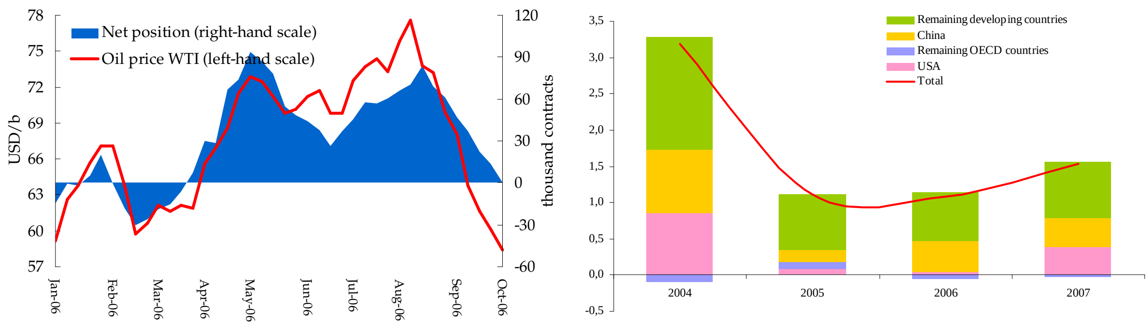

Figure 2.18: Left-hand panel: Oil price and NYMEX futures contracts – net position. Right-hand panel: Increases in world demand for oil in 2004-2007 (in million barrels per day as compared to previous year). **Source:** Oil Market Report, International Energy Agency.

According to current estimates, the hitherto increase in worldwide demand for oil in 2006 turned out to be significantly smaller than earlier forecasts had indicated – according to the International Energy Agency, in the period of January-September 2006 it grew merely by 0.9% y/y. However, it is still expected that there may be an increase of global demand for oil in 2006 Q4, particularly from the developed countries.

Since the publication of the July *Inflation Report* the forecasts of demand for oil in 2007 have been revised downwards. In spite of this, the analysts are unanimous in predicting a more rapid growth than in the previous two years (Figure 2.18, right-hand panel). These expectations are connected with favourable outlook for worldwide economic growth[55], whose growing demand for oil has constituted in recent years the largest share of the world increase in demand for this raw material).

The simultaneous downward revision of oil supply forecasts from non-OPEC countries indicates that possibilities of increasing the reserves of production capacity are limited. The persistently low level of production capacity reserves means that concerns about the security of future deliveries will have large impact on oil prices. The production from OPEC countries will continue to be of key importance for the equilibrium in the world oil market. In the second half of October 2006, due to the persistently low oil prices and downward revision of oil demand forecasts, OPEC decided to decrease the production limits by 1.2 million b/d[56]. This is the first reduction of production since April 2004 and the biggest once since January 2002 (in January 2002 OPEC reduced production limits by 1.5 million b/d).

The impact of falling oil prices (since mid-August) on retail prices of fuels contributed to the drop in inflation in the two biggest world economies – in the United States and in the euro zone. The inflation (CPI) in the United States decreased from 4.3% y/y

[55] Recently there has been an upward revision of forecasts, particularly for the developing countries (see *World Economic Outlook*, IMF, September 2006

[56] OPEC decreased production limits by more than markets had expected. The reduction in current production may contribute to increasing reserves of production capacity and consequently to increasing market safety margin against unexpected distortions

in June to 2.1% y/y in September 2006, while in the euro zone the inflation (HICP) decreased respectively from 2.5% y/y to 1.7% y/y (in both cases those were the lower levels of inflation since March 2004). The fall in headline inflation was, however, not accompanied by a fall in core inflation. In the United States core inflation measure (index excluding energy and food prices) rose form 2.6% y/y in June to 2.9% y/y in September 2006, while in the euro zone it remained at the level of 1.5% y/y.

2.4.2 Producer prices

The annual growth of producer prices in industry rose to 3.6% in September 2006 (from 2.8% in June 2006). The accelerated growth of the Producer Price Index was primarily the result of the growth in commodity prices – mainly prices of copper and steel. The producer price increase in the domestic market[57] in annual terms exceeded the total PPI growth in August. As far as export prices are concerned, after their one-off positive dynamics in June 2006 and the unchanged level in July, their annual growth in August turned again to be negative.

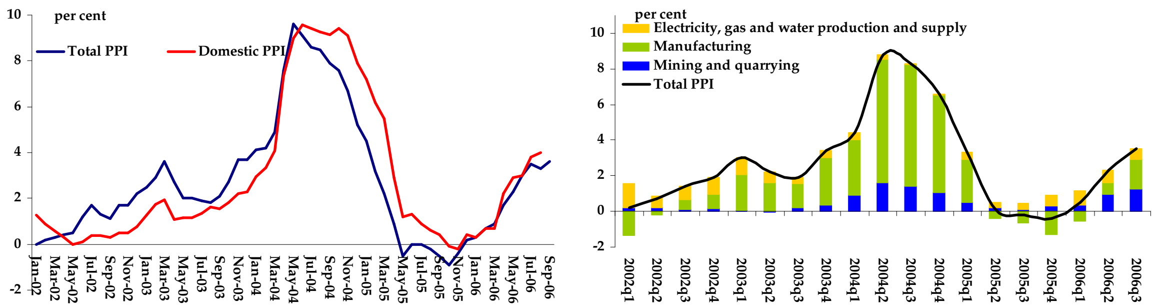

Figure 2.19: Producer prices in industry (PPI). Left panel: Total PPI and domestic PPI. Right panel: Contribution of producer prices growth in PPI total annual growth.
Source: GUS data.

The greatest contribution to the growth of producer prices in industry was made by price increases in the section *manufacturing*, due to the weight of this component in the index. Considerable impact on PPI growth was also exerted by price changes in *mining and quarrying* (Figure 2.19, right-hand panel). The price growth in *manufacturing* was mainly driven by price hikes in manufacture of metals division, which in September 2006 were by more than 20% higher than in a corresponding month of the previous year. In turn, in *mining and quarrying* the fastest growth of prices was recorded in the mining of metal ores, which was related to rising prices of copper in the world markets, which were more than twice as high as a year before. Falling oil prices in the

[57]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 the producer prices in the domestic market are available with a longer lag (of about two months). This is the reason why the time span of the analysis is not the same for all the discussed categories.

world markets contributed to the reduction of producer prices growth in August and September 2006. In September 2006, for the first time since mid-2002, a negative annual price dynamics in the division manufacture of coke and refined petroleum products was recorded.

2.5 Financial markets

2.5.1 Asset prices / Interest rates[58]

In 2006 Q3 developments in the Polish financial markets were driven by global and regional factors. In the period analysed zloty strengthened against the euro, the Treasury bond yields fell, while the spread between the 10-year Polish Treasury bond yields and the yields on German Treasury securities increased. In July 2006 the currencies of the CEE4 countries (Czech Republic, Slovakia, Hungary and Poland) strengthened, which to a large extent was related to a correction after their earlier weakening in May and June 2006. Over this period the Polish zloty strengthened against the euro from 4.07 to 3.94. The Treasury bond yields declined, whereas the spread remained relatively stable.

In August and September 2006 greater political uncertainty in Poland was accompanied by an increase in political risk and a rising risk of a delay in Slovakia's and Hungary's entry into the euro zone. All these put pressure on the depreciation of the Polish zloty against the euro - over this period the EUR/PLN exchange rate ranged between 3.85-3.98. However, the weakening of the Polish zloty was less pronounced than its earlier strengthening in July. Over the whole 2006 Q3 the nominal effective exchange rate was consistent with that expected in the July *Report*. The August decrease in the 10-year Treasury bond yields in Poland in August and September 2006 was smaller than the decline in the Treasury bond yields in the core markets, which resulted in spread increase. The rise in the money market rates observed in the period analysed was mainly driven by an increase in expectations of the NBP interest rates increases.

Short-term interest rates

In 2006 Q3, in line with analysts' expectations, the NBP reference rate remained unchanged at the level of 4.0%. Yet, this period was marked by intensified market expectations of the NBP rate rises in the one-year-horizon which found reflection in the money market rates (Figure 2.20). The changes in short-term interest rates resulted from market expectations of interest rate hikes in 2006 Q4 and in 2007 driven by the publication of domestic macroeconomic data[59] and international developments presented in the latter part of this chapter.

[58] Data presented in this chapter include information available until 18 October 2006.

[59] It concerns mainly data on higher than expected by analysts inflation in July and August 2006 and higher GDP in 2006 Q2.

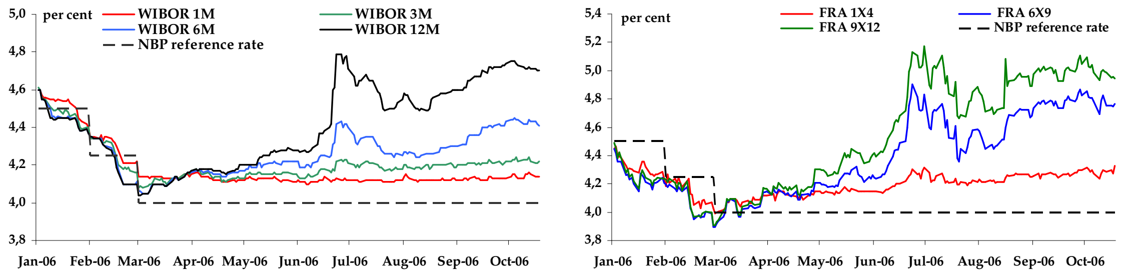

Figure 2.20: NBP reference rate and interest on interbank deposits (left-hand panel) and NBP reference rate and interest on FRA contracts for 3M WIBOR (right-hand panel).
Source: Reuters data.

Financial markets' expectations concerning future interest rates, reflected in FRA contracts (Figure 2.21), were higher than forecasts of analysts surveyed by Reuters. In July, 88% of the surveyed analysts did not expect any interest rate changes until the end of 2006, while others expected interest rate rise by 25 basis points. In the one-year horizon 44% of respondents envisaged a rise by 50 basis points, and 25% of respondents a rise by 25 basis points; other respondents expected interest rates to remain unchanged. The survey of 10 October 2006 revealed that the percentage of analysts expecting the NBP interest rates to be kept at the level of 4.0% until the end of the 2006 increased to 94%. Almost half of the respondents expected the NBP interest rates to rise by 0.5 percentage points until the end of October 2007, and 13% of the respondents expected their rise by 0.25 percentage points. One third of the surveyed analysts expected interest rates either to be left unchanged or to be raised by 75 basis points.

The discrepancy between FRA rates and analysts' forecasts, apart from being the results of higher expectations of the NBP rate changes on the part of market participants, can partly be explained by the risk premium discounted in the base instrument prices, which makes the expected short-term rate implied in FRA contracts higher.

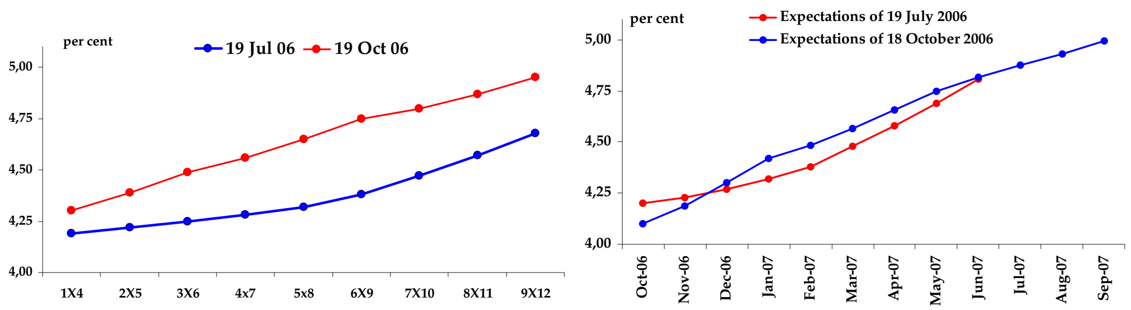

Figure 2.21: Three month forward curves (left-hand panel) and expected changes in NBP reference rate on the basis of FRA contracts (right-hand panel).
Source: Reuters data.

Long-term interest rates

Following the correction started in March 2006[60] the Polish Treasury bond market stabilised mainly due to the fading of expectations of further interest rate rises in the United States following the August Fed meeting (Figure 2.22, left-hand panel). In the whole analysed period, long-term bond yields dropped by several basis points, yet, this was coupled with a growing spread between the yields (Figure 2.22, right-hand panel) on Polish 10-year Treasury securities and the euro area and US bonds.

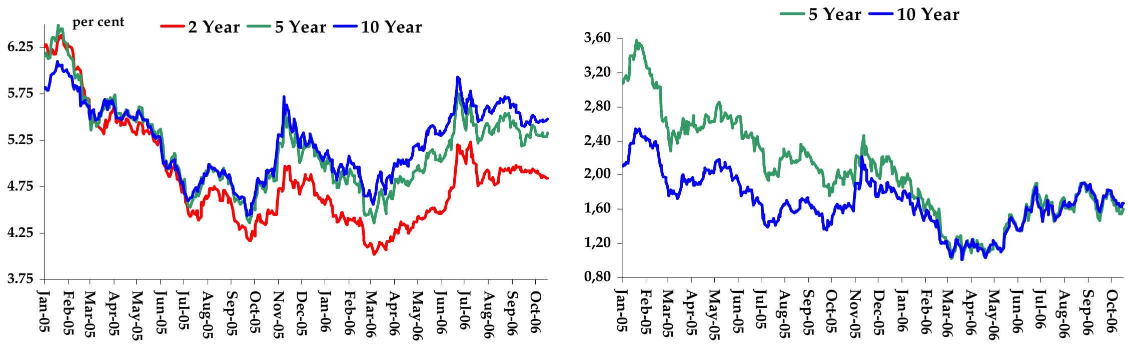

Figure 2.22: Change in the yields of the benchmark bonds (left-hand panel) and differences in yields between German and Polish T-bonds (right-hand panel)
Source: Reuters.

In the period between the last week of July 2005 and the end of August 2006 the yields on Polish Treasury bonds followed an upward trend driven, among other things, by market concerns about the 2007 State Budget. A drop in the Polish Treasury bond yields was also driven by the GUS published data on higher than expected July inflation. The Polish debt market was also influenced by the developments in the Central European region, in particular, by the information on the likely delay of Hungary joining the euro area which was signalled by the forecasts of considerable growth in budget deficit and the public debt, presented in the updated convergence program. The beginning of September 2006 brought a rise in bond prices in Poland. A positive sign for the domestic market was the presentation of the assumptions for the 2007 Budget, indicating sustained deficit at the level of PLN 30 billion and declarations made by the Prime Minister and the Minister of Finance excluding the possibility of further expenses growth. A factor favourable for the Polish Treasury bonds was also the declaration of the rating agency S&P that strong economic growth may bring, within 2-5 years, the upgrading of Poland's rating above the present level BBB+. On the other hand, political situation and growing risk premium in the Central European countries resulting, among other things, from inflation growth above the inflation target in Hungary and Slovakia, as well as heightened fiscal risk in the region had a destabilising effect on the bond market in that period. According to market participants, the above factors had a negative

[60] See the May *Inflation Report*

impact on the credibility of the presented convergence programs which increased the likelihood of delayed euro adoption by Slovakia and Hungary.

Increased risk premium for investment in the Central European countries has contributed to widening the spread between 10-year maturity bonds in Poland and in the euro area which for 10-year maturity securities increased in the analysed period by 11 basis points (Figure 2.22, right-hand panel). Despite an increase in investment risk, in 2006 Q3 non-residents' investment in Polish Treasury bonds[61] remained at a stable level, recording even a slight growth in absolute terms. Also non-residents' share in the Polish securities market increased by 0.4 percentage point (up to 22.9%) (Figure 2.23).

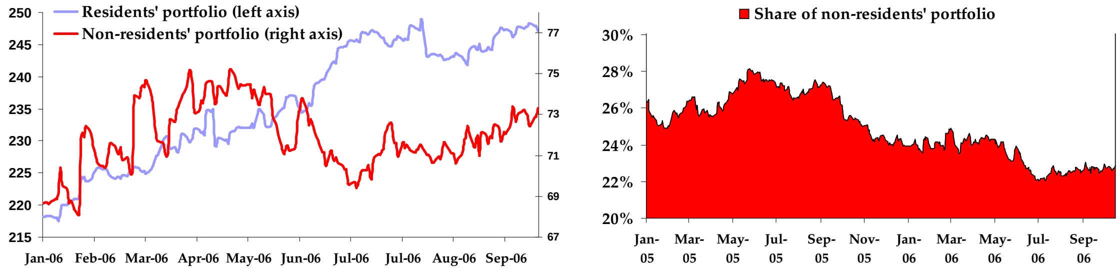

Figure 2.23: Share of non-residents in the Polish treasury securities market in PLN bn (left panel) and in per cent (right panel)
Source: Ministry of Finance data.

The analysed period saw growth in the yield on long-term Polish Treasury bonds in annual average terms (Figure 2.24). Nevertheless, since August 2005 Poland has been complying with the long-term interest rate criterion, which is one of the conditions for euro area membership[62]. Meeting this criterion has been further facilitated by Poland's inclusion in March 2006 in the group of reference countries (due to low level of domestic inflation - see Section 1.3 *Inflation and the Maastricht Criterion*), which resulted in increasing the reference value of the interest rate criterion.

Equity market

Following the rebound of the Warsaw Stock Exchange (WSE) indices in the second half of June and at the beginning of July 2006, the main WSE indices WIG 20 and WIG initially stabilised and in the first half of October 2006 again significantly increased (Figure 2.25). Among components of the WIG index, asset prices of construction companies, banks and companies in food industry reached the highest quotations. The strongest declines were recorded in assets prices of oil companies. The rise in the WSE indices was similar

[61] As measured by the nominal value of Polish Treasury bonds owned by non-residents

[62] A given country complies with the criterion when its (12-month moving average) yield on long-term Treasury bonds observed in the course of the year does not exceed the arithmetic mean of bonds yields in three EU members states with the most stable prices by more than 2 percentage point. For more information about the Maastricht criteria see: *Report on the Costs and Benefits of Poland's Adoption of the Euro*, NBP, 2004.

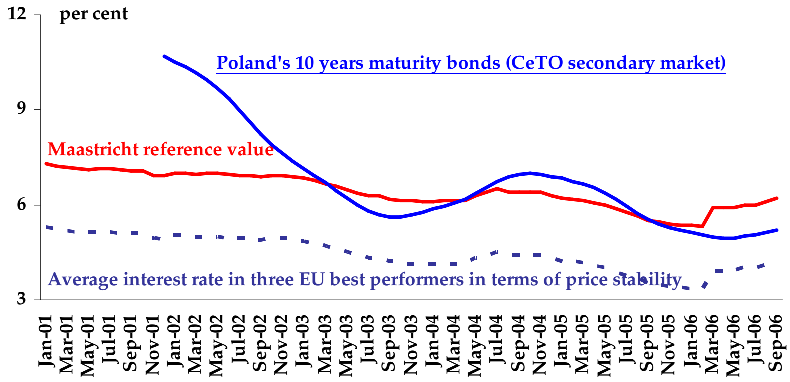

Figure 2.24: Average annual yield (12-month moving average) for long-term Treasury bonds in Poland versus the reference value for the Maastricht criterion
Source: NBP estimates based on Eurostat data.

to an average increase in other indices of the Central European countries (BUX, SAX, PX) and world indices (DJI, DAX, NIKKEI). The highest increases in equity prices were recorded in the Japanese, German and Czech Republic stock exchanges. Yet, it should be noted that at the session on 18 October 2006 (i.e. the last day of the period covered by the analysis) the WIG index hit its all-time high reaching the level of almost 47 650 points. Moreover, the analysed period saw a continued upward trend in equity prices of small and medium-size enterprises (WIRR), which in the middle of October 2006 exceeded 11 000 points, also recording its all-time high.

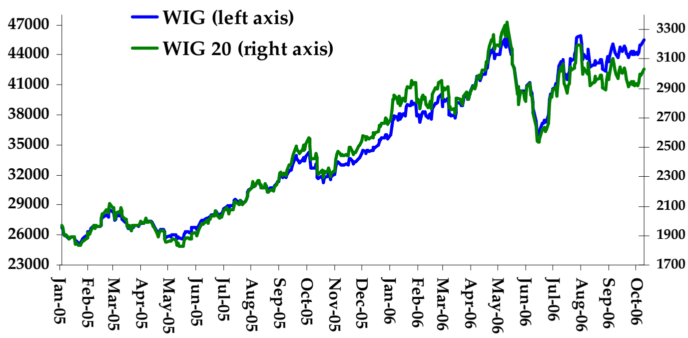

Figure 2.25: Changes in main stock exchange indices
Source: Reuters.

The share of non-residents in the Polish equity market decreased from 50.7% at the end of June to 49.9% at the end of August 2006. In July, when the Warsaw Stock Exchange was one of the fastest rising markets in the world, the tendency among non-residents to withdraw capital from the Polish equity market, which had continued since October 2005, ended. In August foreign investors increased the value of Polish equity in their portfolios, which are dominated by equities of the largest companies included in the

WIG 20 index (at the end of August 2006 the share of these companies in the non-residents' portfolios was 68.0%).

Flat prices

Analysis of the offered flat prices, supplemented with the NBP surveys of transaction prices, points to the accelerating growth of flat prices in cities in the first half of 2006. Flat prices in the new housing market increased on average by 10.2% as compared with the previous half of the year (Table 2.9). In the second-hand housing market, this increase was even more pronounced and reached 12.4%. The largest increases were noted in Poland's major cities – mainly in Warsaw, Cracow and Wrocław where high demand fuelled by dynamic lending of banks was enhanced by limited supply. The level of prices in those cities, both in the new housing market and the second-hand housing market, considerably exceeds construction costs and reflects limited supply of flats which is characterised by low price elasticity in the short run. In the period since mid-2002, for which data is available, price increase in the housing market in Poland's major cities reached 66.1% for the new housing market and 49.2% for the second-hand housing market.

Trends in international financial markets

Since the beginning of July 2006 the Federal Fund rate has been left unchanged at the level of 5.25%. Since the beginning of 2006 the Fed Fund rate has been raised by the total of 100 basis points, for the last time at the June meeting — by 25 basis points. The decisions of the Federal Open Market Committee (FOMC) were consistent with the market expectations. In the period between July and September 2006, the yields on US government bonds saw a clear decrease, while in October they started to rise again. As a result in the period from the beginning of July to 18 October 2006, yields on 2-year bonds decreased by 33 basis points whereas yields on 5- and 10-year bonds dropped by 39 basis points. At the end of the period analysed, yields on those bonds reached the level of approx. 4.7-4.8%.

Findings of the Bloomberg survey of mid-October 2006 indicate that the majority of analytical centres do not expect any changes in the Fed's monetary policy by the end of 2006. The median of expectations of analytical centres indicates that the Federal Fund rate will be kept at the level of 5.25% until 2007 Q1 inclusive and then lowered to the level of 5.0% in 2007 Q2 and 4.75% in 2007 Q3, remaining at that level until the end of 2007. Market expectations of the Fed interest rate changes, reflected in the prices of Fed Funds Futures suggest slightly smaller Federal Fund rate cuts. According to them, the Fed interest rate will be kept at the level of 5.25% until the beginning of 2007 Q3 and then lowered to 5.0% (Figure 2.26, left-hand panel).

At its meetings on 3 August and 5 October 2006 the European Central Bank raised its repo rate by 25 basis points each time, whereas at the meetings on 6 July and 31 August

New housing market										
Period	2003 H1	2003 H1	2004 H1	2004 H2	2005 H1	2005 H2	2006 H1	2006 H1	2006 H1	2006 H1
Per cent in relation to:	the previous half of a year							2002 H2	2005 H1	Average price
Polska (total)	23.31	-5.70	4.73	4.14	1.94	5.85	10.19	50.80	16.64	4 495
Largest cities in Poland (Warsaw, Cracow, Wrocław, Gdańsk, Gdynia, Sopot)	15.66	2.55	2.91	6.48	4.31	10.73	10.65	66.10	22.52	5 081
Capitals of voivodships	14.77	2.77	4.23	4.63	4.81	9.69	6.80	57.96	17.15	4731
Smal and medium towns	4.98	-9.81	9.08	1.41	1.55	5.34	0.78	12.91	6.16	2 970
Warsaw	0.70	0.84	3.73	8.78	6.13	6.42	22.97	59.14	30.86	6 049
Cracow	8.66	1.00	2.00	10.85	5.73	15.71	17.72	78.72	36.22	5 002
Wrocław	2.75	4.05	3.56	1.23	6.66	10.58	28.93	70.43	42.58	4 450
Sopot	23.69	20.55	17.98	5.97						
Second-hand housing market										
Period	2003 H1	2003 H1	2004 H1	2004 H2	2005 H1	2005 H2	2006 H1	2006 H1	2006 H1	2006 H1
Per cent in relation to:	the previous half of a year							2002 H2	2005 H1	Average price
Polska (total)	-3.93	13.85	2.44	-1.48	3.04	5.47	12.38	34.81	18.53	3 175
Largest cities in Poland (Warsaw, Cracow, Wrocław, Gdańsk, Gdynia, Sopot)	-0.04	13.31	5.83	1.16	0.05	0.72	22.10	49.20	22.98	4 902
Capitals of voivodships	-5.52	15.99	4.54	-2.20	-1.32	5.93	11.44	30.51	18.05	3 520
Smal and medium towns	0.94	5.99	7.43	-0.07	10.54	-0.88	16.72	46.88	15.69	2 501
Warsaw	0.22	13.69	5.42	1.45	-0.12	15.25	18.22	65.84	36.25	6 180
Cracow	3.41	3.96	7.57	4.58	10.78	18.52	24.76	98.08	47.86	5 759
Wrocław	6.61	3.11	7.74	8.19	4.51	8.93	24.22	81.21	35.31	4 611
Sopot	-7.69	19.21	4.96	6.63	2.19	21.73	3.59	58.72	26.10	5 116

Table 2.9: Changes in average prices of flats in the new and second-hand housing markets in the period from 2003 to 2006.
Source: NBP estimates based on data from the *PONT Info NieruchomoIJci* offered price database.

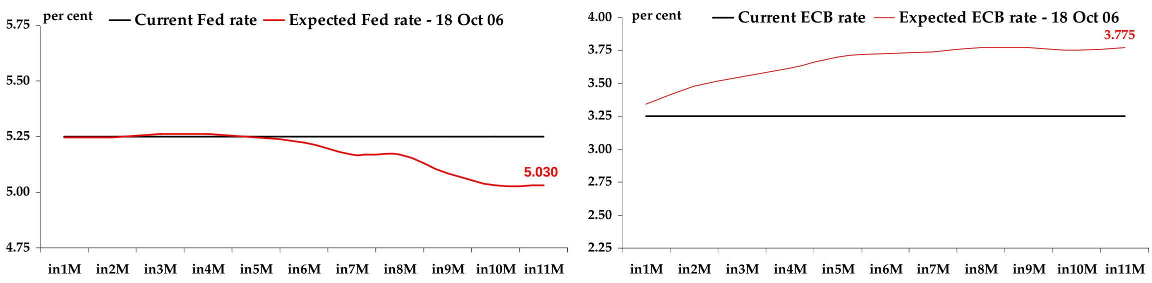

Figure 2.26: Expectations on the FED interest rate changes (on the basis of Fed Funds Futures) (left-hand panel) and expectations on the ECB interest rate changes (on the basis of EONIA swaps – overnight index swaps) (right-hand panel).
Source: Bloomberg data.

the ECB rates were left unchanged. As a result the ECB repo rate currently stays at 3.25%. In the period between the beginning of July and 18 October 2006 the yields on 2-year European bonds slightly increased (by 6 basis points), while 5- and 10-year bonds declined (by 13 and 26 basis points respectively). Prices of the European securities in the analysed period were largely influenced by the situation on the US market. At the end of the period covered by the analysis the yields on the 2-, 5-, and 10-year bonds reached 3.6%, 3.7% and 3.8% respectively.

Findings of the Bloomberg survey of the beginning of October 2006 indicate that the majority of analysts expect a 25-basis-point rise in the ECB interest rate (minimum bid rate) to the level of 3.50%.in 2006 Q4. The median of analysts' expectations suggests that the ECB interest rate will be raised to 3.75% in 2007 Q1 and will then remain at that level until the end of 2007. Market expectations of the ECB interest rates, as reflected in the quotations of EONIA swap contracts, also suggest a 0.25 percentage point rise in the ECB interest rate until the end of 2006. In line with those expectations, the EBC repo rate will then be raised to 3.75% at the end of 2007 Q1 and kept unchanged at that level in 2007 Q2 and 2007 Q3 (Figure 2.26, right-hand panel).

2.5.2 Exchange rate

In July - September 2006 the average monthly nominal effective exchange rate of the Polish zloty appreciated by 1.3% as compared with June 2006. (Figure 2.27, left-hand panel). This was driven by the appreciation of the nominal zloty exchange rate against the major world currencies, persisting until 10 August 2006. In the period between 23 June and 10 August 2006 the zloty appreciated against the euro by 6.3% (from the level of 4.11 to 3.86) and against the US dollar by 8.9% (from the level of 3.27 to 3.0). Then, in the period between 10 August and 7 September 2006, the EUR/PLN rate depreciated by 3.1% (from the level of 3.86 to 3.99), while the USD/PLN rate weakened by 3.7% (from the level of 3.0 to 3.12). From then on a slight strengthening of the Polish zloty has again been observed. In the period from 7 September to 18 October 2006 zloty apppreciated by 2.2% against the euro (from 3.99 to 3.90) and by 0.2% against the US dollar (from 3.12 to 3.11).

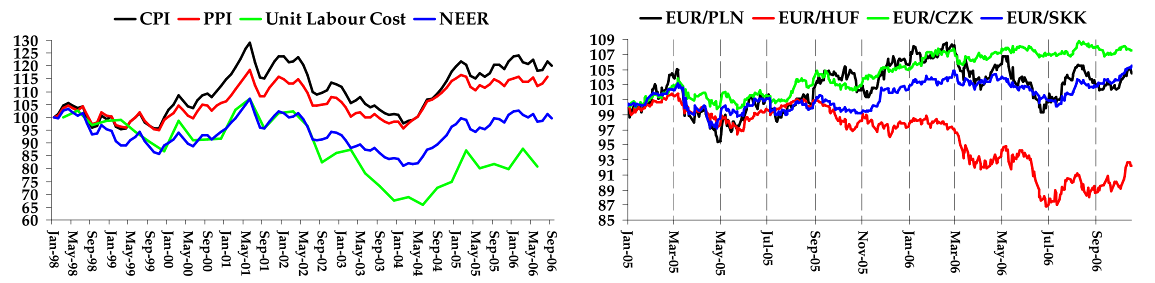

Figure 2.27: Zloty real effective exchange rate (left-hand panel) and nominal exchange rates of Central European currencies against the euro (right-hand panel). Increase denotes appreciation.
Source: NBP, European Commission and EcoWin data.
Note: For unit labour costs (in manufacturing): quarterly data, NBP estimates based on GUS, ECB and European Commission data.

In 2006 Q3 the correlation between EUR/PLN exchange rate fluctuations and the exchange rate of the euro against currencies of the remaining main countries of the Central European region remained high. In the period between 30 June and 10 August 2006, the exchange rate of the Hungarian forint, Polish zloty and Slovak and Czech korunas appreciated against the euro by 4.8%, 4.7%, 2.5% and 1.6% respectively (Figure 2.27, right-hand panel). This appreciation was to a large extent related to the correction following the depreciation of the above currencies in May and June 2006. In the second half of August and the first decade of September 2006 the currencies of CEC4 countries marked a depreciating trend which was largely related to the growing political and fiscal risk faced by those economies. Since mid-September a renewed slight strengthening of the currencies in the Central Europe has been observed.

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 indicating economic growth acceleration, a decline in the unemployment rate, high growth rate of output and continuously low level of current account deficit. On the other hand, changes in the nominal interest rate disparity as compared with the euro area contributed to zloty depreciation since from the beginning of 2006 Q3 the NBP interest rates remained unchanged, while the ECB interest rates increased by 50 basis points. As a result, on 18 October 2006 the ECB interest rates were by 0.75 percentage point lower and the Fed interest rates were by 1.25 percentage point higher than the NBP rates. Furthermore, growing political risk resulting from, among others, the break-up of the government coalition, and the persistently high fiscal risk also put pressure on the weakening of the zloty exchange rate in the period covered by the analysis.

Data available until the end of September 2006 reveal that shifts in the nominal exchange rate were accompanied by similar trends in the CPI-deflated real effective exchange rate (REER CPI- Figure 2.27, left-hand panel). In the nearest future the value of the zloty should be mainly affected by domestic factors i.e. political developments in Poland and decisions bearing on the shape of the next year's budget. Yet, global factors will also be of great importance. Should the global risk aversion currently sustained at the historically low level increase again, we may expect an outflow of capital from the emerging markets and a depreciation of their currencies. In the next few years, the safe current account balance, an inflow of foreign direct investment and EU funds, as well as a favourable economic outlook should all be conducive to the stabilization or even strengthening of the zloty real exchange rate.

2.5.3 Credit and money

In the period from the end of May to the end of August 2006[63] the growth in bank lending accelerated. At the end of August 2006 the debt of non-financial sector at com-

[63]Due to the fact that the analysis of the monetary and credit aggregates presented in the previous *Report* covered the period until May 2006, in this *Report* data starting from the end of this month are analysed

mercial banks increased by 17.6% y/y, as compared with 12.0% y/y in May. Households which use bank funds for housing expenses continue to account for the largest share of borrowers. The past few months have also seen a revival on the corporate loan market.

Corporate sector

Following the period of moderate growth in corporate indebtedness in the banking sector, which continued since the middle of 2004, the past few months have seen accelerated lending to this sector. In the period from May to August 2006, the nominal value of loans granted to enterprises in the banking sector grew by 3.6%, while their annual growth rate increased from 4.1% y/y to 8.7% y/y. Data adjusted for the impact of exchange rate fluctuations indicate that the annual growth rate of corporate lending was slightly higher and reached 9.6% y/y (Figure 2.28, right-hand panel)[64].

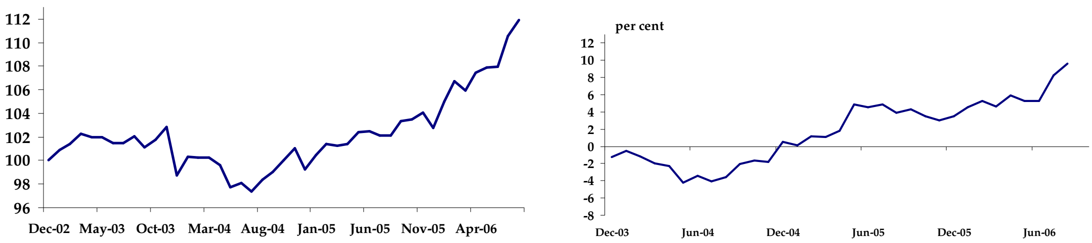

Figure 2.28: Loans to enterprises, data adjusted for the exchange rate fluctuations. Left panel: outstanding loans (index, Dec 2002 = 100). Right panel: y/y changes (per cent).
Source: NBP data.

The main driving force behind the rise in corporate lending were zloty denominated loans which in August 2006 increased by 11.8% y/y, while the nominal value of foreign currency loans in this sector decreased by 1.1% y/y. (Figure 2.29, right-hand panel). Loans denominated in foreign currencies continue to account for a significant share in the total lending to enterprises; yet, the past few years have seen a gradual decrease in this share – from 33.5% in October 2003 to 22.7% in August 2006.

In the analysed period, investment loans increased and their annual growth rate rose from 4.9% y/y in May to 9.0% y/y in August 2006. (Figure2.30). The dynamic growth of investment loans to enterprises reflects the growing role of bank lending as the source of investment financing, although, as indicated by the NBP survey study[65], companies' own funds remain the main source of funding new investment.

[64] In the later part of this section all numerical data on changes in loans to enterprises and households and in their deposits refer to data adjusted for the impact of zloty exchange rate fluctuations, unless otherwise indicated.

[65] *Information Concerning the Condition of the Corporate Sector and the Economic Climate in the Fourth Quarter of 2006*, www.nbp.pl.

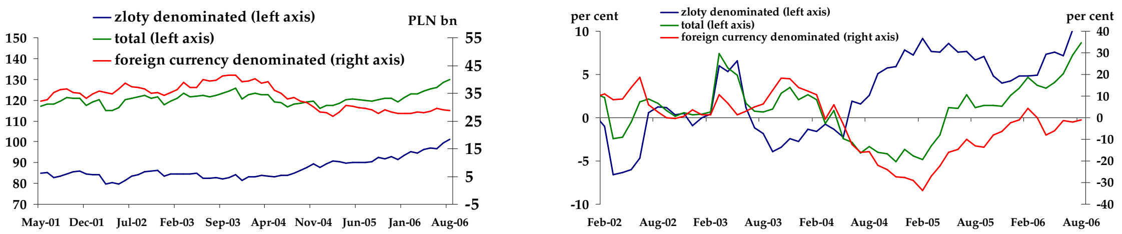

Figure 2.29: Loans to enterprises in nominal terms, with no adjustments for the impact of exchange rate fluctuations. Left panel: outstanding amounts (bn PLN). Right panel: y/y changes (per cent).
Source: NBP data.

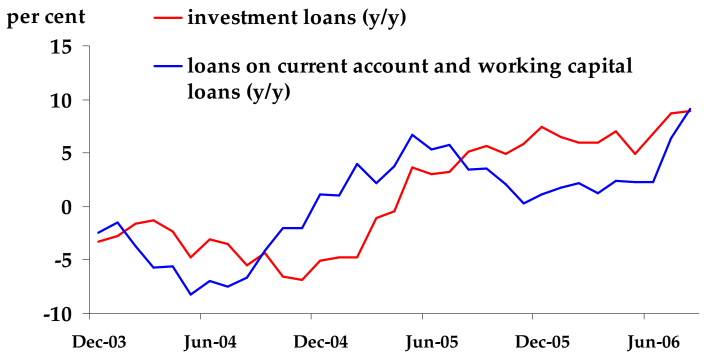

Figure 2.30: Loans to enterprises on current account, working-capital loans and investment loans (y/y growth in per cent, data adjusted for the impact of exchange rate movements).
Source: NBP data.

Following a drop in the growth rate of working capital loans and authorised overdraft facilities, which continued since the middle of 2005, the analysed period saw a rising interest of enterprises in this type of loans which boosted their annual growth rate to 9.2% y/y in August, as compared with 2.3% y/y recorded in May (Figure 2.30). The corporate sector has seen a continued relatively high growth in loans for the purchase of real property, yet its annual growth rate decreased from 17.6% y/y in May to 14.6% y/y in August.

Findings of the NBP surveys[66] indicate that in 2006 Q4 banks expect the tendency of liberalisation in corporate lending policy as seen in 2006 Q3 to continue and the corporate demand for loans to grow, which should bring further acceleration in lending. Results of the NBP business condition surveys for 2006 Q4 confirm that the revival in the corporate loan market should continue in the months to come. Although in 2006 Q3 the percentage of enterprises expecting a drop in their bank loans was higher than that expecting its growth, the balance of bank loans forecasts as weighted by number

[66] *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions, 2006 Q4* - the survey was administered at 24 banks whose total share in corporate and household debt in the banking sector portfolio stands at 80.8%, analysis available at: www.nbp.pl.

of employed in those enterprises is positive.

The balance of payment data for 2006 Q2 indicate that the growth in corporate lending in the banking sector was accompanied by a rapid foreign debt growth of Polish enterprises. Foreign debt resulting from non-trade loans increased by 9.4% y/y. The dynamic growth in the trade volume in 2006 Q2 was combined with a further acceleration in the growth of trade loans which rose by 21.4% y/y.

Recently, the methods of determining interest rates on deposits and corporate and household loans have changed to ensure compliance of monetary statistics with the harmonised requirements of the European Central Bank. Since this issue of the Report relies for the first time on the new reporting of interest rate data, the presented data differ from those disclosed in the previous issues of the *Report*[67].

In the period from May to August no significant changes in retail interest rates on corporate deposits and loans were recorded (Table 2.10). Both the level of interest as well as the difference between this level and interbank interest rates have remained stable.

Period	Jan 06	Feb 06	Mar 06	Apr 06	May 06	Jun 06	Jul 06	Aug 06
LOANS								
Total	6.1%	5.6%	5.9%	5.9%	5.7%	5.7%	5.7%	5.8%
DEPOSITS								
Total	3.8%	3.7%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%

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

Despite a clear growth in demand for corporate bank loans, there is a continued high growth rate of bank deposits in this sector. The annual growth rate of deposits adjusted for the impact of exchange rate fluctuations reached 23.5%. It seems that a slowdown in bank deposits may be expected to accompany investment acceleration.

Household sector

The growth rate of household debt in the banking sector has been accelerating. At the end of August 2006 the growth rate of nominal value of lending to households reached 30.2% y/y (Figure 2.31, left-hand panel). After adjustment for the impact of exchange rate fluctuations it amounted to 31% y/y, as compared with 22.6% in May.

Households took out bank loans mainly to finance housing expenses. From the end of May to the end of August 2006 the value of housing loans grew by 13%, and their annual growth rate increased by 2.2 percentage point, reaching 52.2% y/y (Figure 2.32, left-hand

[67] The analysis makes use of the data concerning the interest charged on new contracts in the Polish zloty due to the fact that decisions of non-financial sector entities on new investment and future consumption are influenced by rates currently offered by banks.

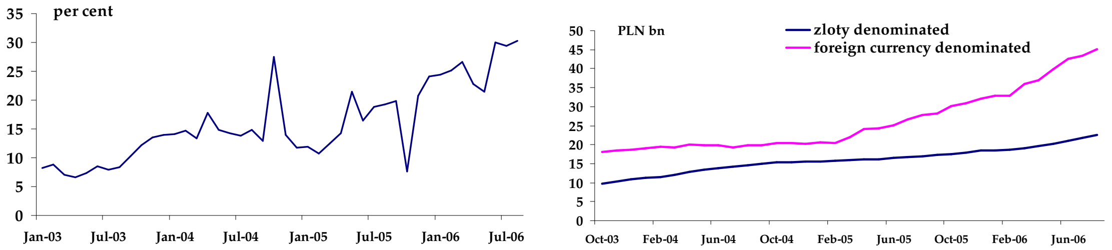

Figure 2.31: Loans to households in nominal terms, with no adjustment for the impact of exchange rate fluctuations. Left panel: total loans to households (y/y growth in per cent). Right panel: outstanding amount of housing loans to households – currency breakdown.
Source: NBP data.

panel). As a result of a strong growth in housing loans, its share in total lending for households has been on the rise since October 2004. In August it reached 41.1% and was by 5.7 percentage point higher than a year before. Preliminary findings of the NBP surveys[68] indicate that, according to the surveyed banks, the main driving forces behind the build-up in demand for housing loans in the past period were expectations of further price increases in the housing market and improved financial standing of households.

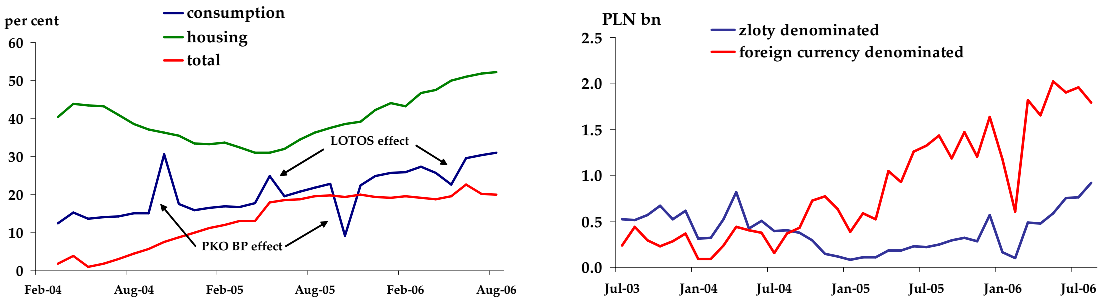

Figure 2.32: Loans to households – data adjusted for the impact of eschange rate fluctuations. Left panel: y/y rate of growth. Right panel: monthly changes of zloty denominated and foreign currency denominated housing loans.
Source: NBP data.

Foreign currency debt accounts for approximately 67% of housing loans. Data adjusted for the impact of exchange rate fluctuations indicate that foreign currency loans have prevailed in the monthly increases in the volume of housing loans since 2004 Q3 (Figure 2.32, right-hand panel). Although it was expected that the banks tightening of foreign currency loan granting criteria starting from July 2006 in compliance with *S Recommendation*[69], will contribute to their decline, the data adjusted for the impact of

[68] *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions, 2006 Q4*
[69] *S Recommendation* is a document concerning good practice in the area of mortgage-secured credit exposures, passed by the Commission for Banking Supervision. It puts banks under an obligation to assess,

exchange rate fluctuations indicate that throughout the period from the end of May to the end of August, the growth in foreign currency housing loans was stable.

As in the case of housing loans, banks have noted a strong increase in consumer loans. For about a year the growth rate of consumer loans has been stable and stands at approximately 19–20% y/y.

Findings of the NBP surveys[70] indicate that banks expect a further increase in demand for household loans in 2006 Q4. Together with an insignificant loosening of lending criteria for this sector, which is expected by banks, this should find reflection in a dynamic growth in household liabilities to commercial banks.

In the period from the May to August 2006 the household sector noted a decrease in the interest rate charged on consumer loans while no major changes were recorded in the interest rate charged on housing loans and deposits (Table 2.11). Both their level of interest as well as the difference between this level and interest rates on the interbank market have remained stable.

Period	**Jan 06**	**Feb 06**	**Mar 06**	**Apr 06**	**May 06**	**Jun 06**	**Jul 06**	**Aug 06**
LOANS								
Housing	6.1%	5.9%	5.7%	5.7%	5.6%	5.7%	5.7%	5.7%
Consumption	14.7%	14.7%	14.4%	14.5%	14.3%	14.4%	14.2%	14.1%
Total	12.3%	12.1%	11.7%	11.8%	11.6%	11.2%	10.9%	11.1%
DEPOSITS								
Total	3.6%	3.5%	3.3%	3.4%	3.3%	3.3%	3.3%	3.3%

Table 2.11: Average weighted interest rates on new loans and deposits of households in commercial banks.
Source: NBP data.

A rapid growth in household lending was accompanied by a considerable growth in the value of bank deposits and non-banking forms of financial savings of this group of entities. As previously reported, the annual growth rate of the total households' financial assets considerably exceeded the growth rate of household bank deposits and stood at 15.2% y/y in August. However, in the period from the end of May to the end of August, from among various forms of financial assets the largest growth was recorded in bank deposits accompanied by an increase in their growth rate from 4.2% y/y to 6.1% y/y.

Monetary aggregates

The trends observed in the loan market find reflection in the development of major monetary aggregates. The dynamic growth in lending is accompanied by an accelerating growth in broad money M3 from 10.1% y/y in May to 12.9% y/y in August 2006

while granting foreign currency loans, the client's creditworthiness under the assumption of interest rate on foreign currency loans being at least equal to the interest rate on zloty denominated loans, and loan principal exceeding 20%.

[70] *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions, 2006 Q4*

(Figure 2.33). The fastest growth continued to be recorded in money supply components with relatively high liquidity. In particular, the past few months have been marked by a continued growth in currency in circulation which reached 17.6% y/y in August, as compared with 15.6% y/y three months before. Increasing economic activity has been the driving force behind a rapid growth in cash money. Besides, the dynamic growth in currency in circulation may be related to growing tourism and economic migration of Poles who after arriving to Poland change some of funds earned abroad for cash. Foreign currency trade data for 2006 Q1 indicate a dynamically increasing surplus of foreign currency purchases over foreign currency sales. In foreign exchange offices this surplus increased by 41.6% y/y, and by 12% y/y at banks' cash desks. The highest concentration of trade and surpluses of currency purchases over its sales have been observed in southern and western Poland, mainly in the Podkarpackie Voivodship, Małopolskie Voivodship, Dolnośląskie Voivodship, Wielkopolskie Voivodship and Zachodniopomorskie Voivodship.

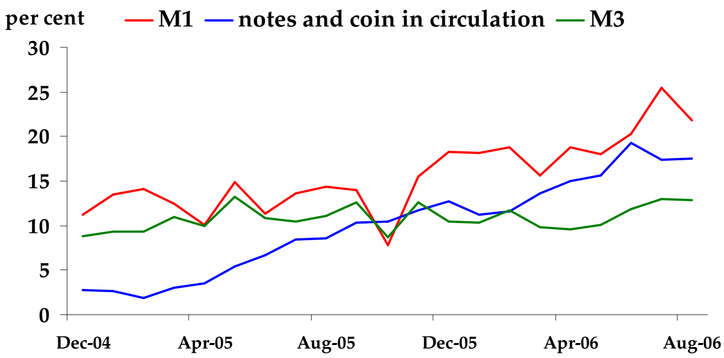

Figure 2.33: M1, M3 and notes and coin in circulation (nominal y/y growth in per cent).

Source: NBP data.

Monetary policy in August-October 2006

The July inflation projection (prepared on the basis of data available until 23 June 2006) showed that inflation would rise gradually over the monetary policy transmission horizon and return to the inflation target (2.5%) in the second half of 2007. The projection indicated that in 2008 inflation would continue to grow steadily and its level would remain within the band of deviations from the inflation target.

Data published between August and September 2006 indicated that inflation would return to the inflation target faster than expected in the July projection, however it might stay within the band of deviations around the target. At its meetings in August and September 2006, the Monetary Policy Council decided to keep interest rates unchanged, i.e.: the reference rate at 4.0%, the lombard rate at 5.50%, the deposit rate at 2.50% and the rediscount rate at 4.25%.

During its meetings, the Monetary Policy Council discussed the outlook for inflation in the context of the current and expected economic situation. The MPC considered the possible impact of the following factors on the inflation outlook in Poland: globalisation processes and the growing importance of global factors as compared to domestic factors, the outlook for economic growth in Poland, trends in the labour market, the current condition and the outlook for public finances, a possibly stronger than expected slowdown in the world economic growth in 2007 and the pace of growth of the monetary aggregates.

The Council discussed the impact of globalisation on future inflation. It was pointed out that rising openness of the economy and the resulting increase in price competition might limit price growth in the future. Furthermore, it was stated that competition from low cost countries could contribute to constraining the growth of wages and prices in the sectors of both tradable and non-tradable goods. However, on the basis of available data, it was pointed out that the influence of imports from low cost countries, which had so far been driving inflation in Poland down, might decrease. This may be suggested by a deceleration in the decline in prices of consumer goods imported both from the euro area and from countries outside the euro zone. The gradual closing of the output gap in the word economy, resulting in a further reduction in the decreases of prices of consumer goods imported from low cost countries, also pointed to the rising probability that the role of imports from these countries in curbing inflation in Poland would diminish. Available studies indicate that the impact of global factors (output gap in the world economy) on inflation in Poland has increased while the impact of domestic factors (domestic output gap) has decreased.

The Council discussed the outlook for inflation in view of the estimate of GDP in 2006 Q2 published by GUS. In 2006 Q2 GDP growth was markedly higher than expected in the July projection, while the continuously high growth of industrial output and retail sales in July and August and good financial results of enterprises recorded in the first half of 2006 suggested that also in 2006 Q3 the economic growth could be expected to be faster than assumed in the July projection. This implied that the closing of the output gap in 2006-2008 might be faster than expected, which could in turn contribute to wage growth and inflation being higher than assumed in the July projection. However, both the investment growth in the years 2006-2008, which will probably be higher than predicted in the July projection, and the continuing, despite fast employment increase, strong labour productivity growth, may indicate that the rate of growth of the potential GDP will be higher. This would lower the pressure on wages and prices growth.

The Council paid considerable attention to the impact of the situation in the labour market on the growth of wages, unit labour costs and inflation in the economy. On one hand, it was pointed out that, in the longer term, a rapid, and higher than expected in the projection, growth in the number of persons working in the economy, could be expected. Such an assessment was supported by the accomplished deep restructuring of Polish enterprises, limiting the possibility of further output growth without a rise in employment and the fact that the majority of new jobs were created in services - the relatively more labour intensive sector of the economy. These factors could also contribute to growth in wages, household income and unit labour costs being faster than assumed in the July projection. Such an opinion was also supported by the BAEL data for 2006 Q2, showing high - markedly higher than expected in the July *Report*- growth rate of the number of persons working in the economy outside private farming, which was accompanied by a decline in the number of the economically active, which has observed since 2006 Q1. Additional inflationary pressure, not accounted for in the July projection, may result from sustained economic migration from Poland to certain EU member states, which contributes to creating direct wage pressure and workforce shortages in certain segments of the labour market. Moreover, empirical studies show that the majority of persons registered as unemployed either did not intend to undertake employment or lacked adequate qualifications. This implies that despite high unemployment there is a risk that the expected growth in labour demand will not be met, which would put an upward pressure on wages. On the other hand, however, it was pointed out that the continued growth in the working age population, resulting from the demographic boom of the 1980s, might contribute to a rise in labour supply, unless a decline in the activity rate was experienced. It was also signalled that tensions in the labour market, caused by economic migration, may lead to changes in relative wages (the structure of wages) rather than to an overall wage growth. The still high unemployment can also limit the wage pressure. Furthermore, it was highlighted that even though energy prices remain high, the good financial situation of enterprises allows some increase in the share of labour costs in total costs that is not followed by a rise in prices. It was also pointed out that the medium term outlook for inflation should account for the relatively low growth of unit labour costs in the economy in 2002-2004. It was also mentioned that if faster growth in wages was accompanied by faster economic growth, then the rate of growth of the unit labour costs might be close to that expected in the July projection.

At its meetings, the Council also discussed fiscal policy which is an important inflation risk factor in the medium term. The Council was concerned about the proposed bills brining further loosening of fiscal discipline and the increased work on similar bills submitted to the Parliament. This could imply a higher risk of such an increase in the general government expenditure that would rise tensions in the central budget. This risk would contribute to higher inflation than indicated in the July projection. Information concerning the work on the *Budget Act for the Year 2007* available before the September MPC meeting did not allow a clear-cut assessment as to whether the risk of the increase in the general government expenditure being higher than expected in the July projection rises.

The Council also discussed the outlook for growth in the global economy. If the slowdown in the global economic growth in 2007 were significantly stronger than assumed in the July projection, inflation path might be different than that expected in the projection. The Council assessed the probability of this scenario not to be high. However, if the global economy were to experience a strong decline in economic growth, which could result from a fall in property prices in the United States or a rapid reversal of global imbalances, which have been building up for a long time, this would bring inflation down and reduce the growth of demand on the part of Poland's major trading partners. A weakening of external demand would lower GDP growth also in Poland and lead to an increase in the general government deficit, primarily due to a decrease in general government revenues. High deficit could, in turn, bring about an increase in the risk premium, a depreciation of the Polish zloty and inflation running above the central path expected in the projection. In contrast, inflation would be limited by a lower GDP growth and the related decrease in the upward pressure on wages and prices. Furthermore, the risk of a strong depreciation of the Polish zloty would be reduced due to a low current account deficit. It was pointed out that the overall impact of those factors on the monetary policy conditions was difficult to assess.

During the discussion, it was also stated that developments in the monetary sector might point to a significant rise in inflation risk. The available data indicated that the economic recovery observed in 2006 occurred in different conditions than the acceleration of economic growth recorded in 2004. Fast GDP growth in 2006 was coupled with a growth in monetary aggregates which was significantly higher than that in 2004. Moreover, the relative increase in the growth rate of monetary aggregates took place when the utilisation of production capacities was high, signalling supply related growth barriers, which put an upward pressure on inflation.

In its statement released after the August meeting, the Council stated that future inflation path would be similar to that presented in the July projection. At its meeting held in September, the Council judged that in 2006 Q3 current inflation and net inflation would be higher than expected in the July projection. Thus, current inflation would be close to the lower limit for deviations from the inflation target. In the Council's assessment, available information on medium term factors indicated that the 2007 inflation may run higher than expected in the July projection. The Council concluded that a more comprehensive assessment of the inflation outlook would be made at its meeting in October 2006, after considering the new inflation projection.

In September 2006 the Council adopted the *Monetary Policy Guidelines for the Year 2007*. The Council maintained its previous understanding of the inflation target and its implementation, including the focus of monetary policy on maintaining inflation as close as possible to the target of 2.5% in the medium term. The Council will strive to ensure that the return of inflation to the target, which is forecast for the beginning of 2007, proves permanent. Yet, as in the previous years, in the case of strong and unexpected shocks the monetary policy will be conducted in such a way as to ensure the achievement of the inflation target in the medium term. In the Council's assessment, should the sustained high economic growth be accompanied by rising inflationary pressure, an appropriate adjustment of the monetary policy may be needed.

In October the Council adopted the *Opinion on the Draft Budget Act for the Year 2007*. This Draft assumes a rapid increase in the general government expenditure in 2007, resulting in a rise in the ratio of the general government spending to GDP, coupled with increased fiscal burden on the economy. In the Council's opinion a major consequence of the rapid growth of the general government spending and a lack of a substantial reduction in the deficit would be the perpetuation of the high general government borrowing requirement. This is tantamount to a continuation of the rising trend in the public debt, which is not favourable from the perspective of long-term economic growth. If fast economic growth is sustained in the following years - as was assumed in the *Public Debt Management Strategy for 2007-2009* - the public debt to GDP ratio will stabilise at the level of 50-51%. However, if the GDP growth were to decelerate then this relation would increase. If the ratio of public debt to GDP were to exceed 55% (the second prudential threshold set forth in the *Public Finance Act*), this could lead to serious fiscal tensions which might in turn bring further deterioration of the economic climate. In the opinion of the Council, the currently observed strong economic growth creates favourable conditions for the implementation of reforms which would permanently contain the public finance imbalance. Implementation of reforms reducing the structural general government deficit is necessary in order to reverse the rising trend of public debt and thus to maintain high and sustained economic growth. In view of heavy tax burden, the general government deficit should be decreased through a reduction in public expenditure.

At its meeting on 19 October 2006, the Council decided that starting from the next *Inflation Report* (January 2007), the format of the chapter "*Monetary Policy*" (chapter III of the *Inflation Report*) would be modified. The new format of the chapter will make it possible to present in greater detail the views expressed at the Council's meetings against changing economic developments, thus bringing it closer to the practice of many central banks, which publish minutes.

According to the October projection of inflation and GDP prepared by the NBP staff, there is a 50% probability that the annual growth of GDP will be within the range of 5.2-5.5% in 2006 (against 4.7-5.3% in the July projection); 4.1-6.2% in 2007 (against 3.6-5.9 %) and 4.5-7.0% in 2008 (against 4.0-6.6%).

The October inflation projection indicates that over the whole projection horizon inflation will be higher than forecasted in the July *Report*. Assuming unchanged interest rates, there is a 50% probability that inflation will be within the range of 1.8-2.2% in 2006 Q4 (against 1.0-1.9% in the July projection), 1.9-3.8% in 2007 Q4 (against 1.5-3.5%) and 2.2-4.6% in 2008 Q4 (against 1.7-4.3%).

In the opinion of the authors of the projection, the inflation projection presented in the *Inflation Report* does not account for all sources of uncertainty. This primarily applies to the possibility of a markedly higher than expected in the projection wage increase and the shape of economic policy in the coming years. Furthermore, the October projection was prepared on the basis of data available until 28 September 2006 and thus does not account for crude oil prices, which are lower than those assumed in the projection. The estimates of both GDP and CPI inflation in 2006 Q3 were close to those assumed in the projection, while net inflation in 2006 Q3 was consistent with the projection.[71]

The latest data have confirmed that in 2006 Q3 both headline and "net" inflation were higher than expected in the July inflation projection. In this way, headline inflation was close to the lower limit for deviations from the inflation target. New data and the October inflation projection suggest that in the medium-term inflation may prove higher than assessed in the previous MPC meeting.

In the opinion of the Council, the currently observed strong economic growth creates favourable conditions for the implementation of reforms which would permanently contain the public finance imbalance. The Council maintains 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 higher long-term economic growth.

[71] National accounts data presented in the *Report* do not take into account the GUS revision, published on 24 October 2006. At the same time, GUS, at its press conference held on that day, pointed out that GDP growth in 2006 Q3 had been at least as high as in Q2 2006. i.e. not less than 5.5% y/y, thus being at least 0.3 percentage point higher than assumed in the October projection.

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. Czy'ewski. The NBP's 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 28 September 2006. In consequence, the projection has been based on NBP estimates concerning macroeconomic variables in 2006 Q3.

4.1 Introduction

The projection uses the version of the model ECMOD which was estimated in March 2006 and then applied in the April and July projections. 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 based on the general state of knowledge on economic processes.

Data issued since the preparation of the July projection indicate that the observed rate of economic growth has been higher than it was forecast in July. The GUS-published BAEL data for 2006 Q2 once again proved consistent with the hypothesis that economic growth would be accompanied by a steeper increase in jobs than it had been the case in the corresponding period of the economic growth in 1990s, when the level of redundant employment in enterprises had been relatively high. By contrast, a significant drop recorded in the economic activity ratio came as a surprise. This drop was connected with a steep decline in activity in the group of people aged 45-59/64[72].

Therefore, while preparing the October projection it was important to determine the significance of the change in the data on economic activity of the population (in relation to expectations) for two unobservable categories of the model: the potential GDP and the

[72]It is worth pointing out that this age group did not record any rise in activity ratio in 2006 Q2 (0.0 percentage point y/y), while the rate of unemployment fell 3 percentage points y/y. This means that the drop in the number of unemployed (199 thousand people) aged 45-59/64 is not connected with their joining the working population, but rather becoming economically inactive.

natural unemployment rate (Non-Accelerating Wage Rate of Unemployment - NAWRU). Taking into consideration the uncertainty of BAEL data on economically active figure[73], the growth rate of the potential GDP in subsequent years of the October projection has been left unchanged in relation to the July projection[74]. In order to achieve a picture that would be consistent with this intuition it was resolved to lower the NAWRU unemployment rate on average by 1.25 percentage points in 2006-2008 and, additionally, to lower the rate of growth in Total Factor Productivity of 0.1 percentage point on average.

For several projections an important element of expert adjustments has been adjustments connected with the labour market, and particularly with the demand for labour. The ECMOD model is made up of defined long-term equilibria and mechanisms which, in case of deviations, bring the model variables back to their steady states. Both the time that a given variable takes to return to the path consistent with long-term equilibrium and the steady states are either estimated on the basis of historical data or calibrated. For a few quarters, in the case of some macro-categories, instead of the process of return to the model's defined equilibrium states, an opposite phenomenon has been observed in the economy. One example is the number of people working in the economy, in the case of which the subsequent data releases point to a significantly faster growth than implied by the model. Thus, there is a justified concern that the actual position of the equilibrium state has been shifted (or has been erroneously estimated), and consequently the solution generated by the model may be subject to a systemic error.

In the case of the number of working persons, a highly plausible explanation of the discrepancies observed between the published data and model solution may be the hypothesis that enterprises have finished the process of cutting excessive employment (or that its intensity has weakened significantly). As a result (in contrast to the situation e.g. over the past ten years, on which period the model had been estimated) the possibility of achieving increased labour productivity by dismissing workers (who, from the perspective of a given enterprise, had a close-to-zero marginal product) has been seriously reduced. In other words, a given pace of output growth requires *ceteris paribus* larger employment increases. The variable controlling labour-absorption of production in the ECMOD model is the Total Factor Productivity level. This is not an observable variable and is estimated outside the model. If we accept the hypothesis about the end (or a significantly weaker intensity) of the redundant employment reduction process (which is one of the assumptions of the projection), then we can conclude that the TFP level has been overestimated in the recent periods.

[73]The uncertainty is raised by the unknown scale and hardly determinable durability of economic migrations which have been reducing Poland's number of the economically active.

[74]The potential GDP in the ECMOD model is conceptually connected with the long-term nature of labour supply (it is, among others, determined by the level of economic activity and the equilibrium unemployment rate). The problem is that the same categories which in the long term are determinants of the potential GDP, in the short run are strongly dependent on demand factors. In particular, the potential GDP in the ECMOD model responds to the current labour market data, insofar as the data affect short-term forecasts of the economically active figure, which are subject to large errors.

Similar, though slightly smaller, problems also apply to other equations of the model, in particular those describing the paths of average wages, exports and foreign exchange rate. In case of average wages it is probable that they will rise faster (than assumed in the projection) due to the acceleration of the process of nominal wage convergence, which is not accounted for in the model (Poland belongs to the group of EU countries with the lowest costs of labour per work time unit)[75]. In the case of exports, for some time now export growth rate has displayed faster increases than suggested by the model. Treating this as a permanent phenomenon, we have accordingly adjusted the long-term relation of exports to GDP. As regards the exchange rate, a permanent adjustment consistent with the strengthening of the equilibrium exchange rate was already made several projections ago. Due to this adjustment a significant improvement was recorded in the accuracy of the forecasted exchange rate paths generated in subsequent forecasting rounds.

Economic grounds for introducing adjustments to the model's paths of the economically active figure, NAWRU unemployment rate, demand for labour and Total Factor Productivity have been discussed above. One of the empirical criteria used in the October projection to determine the depth of adjustments was the sustaining of unchanged growth rate of the potential GDP in 2006, 2007 and 2008 as compared to the July projection. The presented reasoning also points to the fundamental source of inadequacy of a macro-economic model that is utilised without expert interference, namely to the lack of resistance to structural changes. It should be pointed out that the mere introduction of a new equilibrium state to the model, which requires appropriate parameter calibration (the relationship cannot be estimated on the basis of available sample), does not solve the above delineated empirical problem. The estimation of short-term equation parameters (error correction models) on the available sample cannot yield good results until the old equilibrium state does persists in the set of data used for the estimation.

A new equilibrium state in the labour market is being sought in the economy amid nominal wage growth, which is to a large extent connected with external structural factors (nominal wage convergence, potential GDP and job creation in view of the global market). This is triggered by the opening of the labour market (the result of EU accession) and moving jobs to countries with lower costs of labour forced by potential loss of competitiveness. Poland belongs to the group of countries with cheap labour in the single market. With a low initial level of average wages, in 2000-2005 their disproportion between Poland and neighbouring countries became even deeper (wage growth rate in the Polish corporate sector in relation to Hungary, the Czech Republic and Slovakia was a few percentage points lower in 2000-2005). While in the sector of tradable goods and services labour productivity growth has so far offset wage increases and exchange rate appreciation, allowing for Polish products to remain competitive in the world markets, in the economy as a whole we have been dealing with the so-called

[75] The model allows for wage effects connected with the reduction in labour supply, e.g. as a result of migration (assuming that we correctly estimate the scale of the migration), but it does not account for wage effects of migration connected with wage arbitrage (referring demands for higher wages and higher pay rises to potential earnings abroad).

Harrod-Balassa-Samuelson effect. Statistical data indicate that the rate of wage increase in the economy does not diverge from the pace of wage growth in industry, while labour productivity in the economy has been growing more slowly than in industry. As it was mentioned above, the wage increase in the sector of non-tradable goods and services has been encouraged by labour market opening and intensified flows of workforce between countries (migrations, which diminish the supply of labour, and demands of higher pay in return for abandoning plans to take up a job abroad) and inflow of foreign investment to the service sector increasing the demand for labour.

Statistical data and other released information indicate that higher wage demands in the sector of non-tradable goods and services have and will be satisfied as the demand for these services has been growing fast and their supply is connected with availability of employees who have to be paid more (to stop them from emigrating). Additionally, in the period of dynamic growth in demand it is easier in the sector to pass on the higher costs to the customer. Since Poland's accession to the EU the inflationary effect of the rise in unit labour costs in the economy is paralleled with the opposite impact of nominal exchange rate strengthening. The real economy has not suffered from the stronger nominal exchange rate as this appreciation was in part a reaction to exchange rate depreciation in 2002-2003 and in part a reflection of the concurrently strengthening equilibrium exchange rate. Thus the Polish economy has not lost its international competitiveness.

Wage growth in the sector of non-tradable goods and services will not bring about a substantial loss in competitiveness of the economy (and consequently economic growth deceleration) as long as inflation growth in the economy does not lead to a rise in wage claims in the sector of tradable goods and services in a scale that would outpace the labour productivity growth in this sector. This means that the rise in unit labour cost in the whole economy does not have to lead to the loss of the economy's competitiveness, if the equilibrium exchange rate is appreciating at the same time. It may be estimated that due to the faster growth in potential product in Poland than in our trade partners in the projection horizon (mainly in the euro area in 2006-2008), the real equilibrium rate will appreciate, in connection to the HBS effect, by approx. 3-4%.

In the model, a factor that is weakening the nominal exchange rate in relation to the July projection (by approx. 2-3% at the end of 2008) is higher domestic inflation. In line with the model's mechanism of exchange rate channel effect, domestic inflation is conducive to reducing the value of the zloty for two reasons. Firstly, higher inflation, in the condition of stable domestic exchange rates, leads to a reduction of the disparity of real interest rates between Poland and other countries and to a drop in the attractiveness of Polish securities. Secondly, higher inflation means a weakening of the nominal exchange rate at the same level of real rate.

The projection has been prepared with the assumption of no monetary policy change, which is a standard albeit counter-factual assumption in the face of clear expectations for rise in NBP interest rates, which is currently the case. The fiscal assumptions of the July projection have also been maintained, according to which the expansive fiscal policy will be continued in the projection horizon. The central paths of inflation and GDP as presented in the projection are thus consistent with the situation in which the deteriorating fiscal imbalance and growing inflation in the projection horizon do not produce reaction of the private sector or monetary policy response. It may be expected with a high degree of probability that the indispensable fiscal tightening is bound to happen eventually and will consist both in cutting expenditure and increasing taxation, including higher indirect taxes. However, the introduction of the fiscal tightening scenario to the projection would require setting a specific starting date for this process, and also determining the depth of the adjustment, its distribution in time, proportion between expenditure cutting and tax increases and the specification which particular categories would be reduced or increased, and to what degree. Considering a wide set of fiscal policy instruments that would have to be assumed in constructing such scenario, the probability of its playing out in a precisely delineated manner is not higher than the likelihood of no fiscal policy and private sector adjustments in the projection horizon.

Moving the date of the introduction of indispensable fiscal adjustments beyond the projection horizon is a plausible assumption (the earliest possible point of its formal inclusion would be the budget for 2008). It is equally probable to assume that the reaction of the private sector, both domestic and foreign, to the deepening fiscal imbalance will only come beyond the horizon of the projection. Nevertheless, it may be expected that, considering the inevitability of a fiscal tightening in a several-year horizon, the later it comes the deeper it will probably be. The reaction of the economy will depend on the distribution of the adjustment between expenditure cuts and tax rises, which is difficult to predict at the moment. Considering the inevitability of tax rise in virtually every realistic scenario of fiscal tightening, this will lead both to reducing business activity and to price growth (as indirect taxes are bound to rise in the first place). The example of Hungary shows that in the case of a deep correction the country should expect deceleration of economic growth and a strong inflation growth. However, it may be expected that if the adjustment consisted to a larger extent in cutting expenditure rather than increasing taxes, then the lowering of the business activity could be avoided (improvement of investment climate) and the price growth could be lowered (lower indirect tax increases). Assessing that the likelihood of a fiscal tightening scenario consisting in deep expenditure cuts aimed at limiting the scale of tax increases is rather small, it is probable that taxes and inflation will rise above their projection paths in 2008 (the earliest possible moment of adjustment) and 2009. Should that happen, the probable rate of economic growth in 2008 would be decelerated in relation to the projection.

4.2 Assumptions for the projection of inflation and GDP

New data released in July–September 2006 (the cut-off date for this forecasting period was 28 September 2006) were the basis for modifying the forecasts of variables exogenous to the model.

External demand and inflation

The annual GDP growth rate in the euro area in 2006 Q2 increased to the level of 2.6% compared to 2.1% in 2006 Q1 mainly due to accelerating investment demand, whose annual growth rate settled at 4.6% (growth of 0.9 percentage point). The annual growth rate of private consumption remained stable at 1.7% (drop of 0.1 percentage point).

Out of the data for the first two months of 2006 Q3 confirming the possibility of the rising trend of GDP being sustained in the euro area, the following should be enumerated:

- continuously high level of consumer and producer confidence indicators.
- the growth rate of retail sales at the level of 2.5% y/y and the July data concerning the unemployment rate at 7.8%, as compared with 8.6% in July 2005, which point to the high probability of the high growth in private consumption being sustained in the second half of 2006.
- high profits of enterprises, favourable financing conditions and a high capacity utilisation speak for the continuation of investment growth at the annual level of about 3-5% in the remaining months of 2006 and in 2007.

The above factors, as well as modified forecasts of external centres, determined the increase of the forecast growth rate in the euro area by 0.5 and 0.1, in 2006 and 2007, respectively.

The aspect that should be pointed out among factors creating the risk of the actual growth in the euro area in 2006-2008 proving lower than accounted for in the projection is, first of all, the possibility of uncontrolled unwinding of global imbalances, considerable appreciation of the euro exchange rate, slump in the real property markets in various regions of the world and a further increase in commodity prices. On the other hand, faster than assumed GDP growth might be the effect of a substantial increase in internal demand resulting from continuing improvement in the labour market condition and growing consumer confidence, progress in the implementation of structural reforms and positive effects of the opening of the labour markets in euro-area countries to workers from the Central and Eastern Europe.

Based on the analysis of the above factors a slightly positive asymmetry has been adopted for the growth rate of GDP abroad in 2006 and a negative asymmetry for the years 2007-2008.

In 2006 Q2, the annual growth of GDP deflator in the euro area settled at 1.7% compared to 1.8% in 2006 Q1 (before GDP data revision the Q1 inflation amounted to 2.0% y/y). In July 2006 euro-area core inflation remained at the level of June 2006, i.e. at 1.4% y/y. The HICP inflation in July 2006 fell by 0.1 percentage points – to the level of 2.4% y/y and is currently running below the ECB's inflation target. This high level of HICP inflation mainly has been the result of high commodity price inflation, increased indirect tax rates and, recently, of food price hikes. The current situation in the labour market, however, does not indicate the emergence of wage pressures. Labour cost growth has remained low, while international institutions do not expect any significant acceleration in wage growth rate in the years to come.

As data on GDP deflator inflation in the euro area in 2006 Q2 have actually proved lower than the July projection, their assumed level has been reduced by 0.2 percentage points in 2006. For years 2007-2008 the assumptions on the path of GDP deflator inflation have been raised by 0.1 percentage point.

The risks of higher inflation include the possibility of the emergence of second-round effects of the already observed rises in commodity prices, tax rate growth, as well as intensified protectionist measures. On the other hand, the risks of lower inflation include further appreciation of the euro, growing competition in the market of services and gradual opening of labour markets. As a result, a positive asymmetry has been adopted for the whole projection horizon.

Foreign interest rates

Forecast interest rates outside Poland range higher in the euro area (by 0.1-0.2 percentage point in 2007-2008 Q1) and the United Kingdom (by 0.1-0.3 percentage point till the end of 2007 Q3) and lower in the United States (by approx. 0.1-0.4 percentage point) than in the previous forecasting period.

Crude oil, fuel and natural gas prices

Crude oil prices

As in the previous forecasting rounds, the oil price forecast in the October projection is based on the forecasts of the US Department of Energy available until the cut-off date. It also allows for the opinions and forecasts of other major analytical centres (among others the International Energy Agency and the OPEC).

The average oil price in 2006 Q3 was consistent with the July projection (average Brent oil price amounted to 70.2 USD/b compared to the expected 70.2 USD/b). However, in July–September 2006 oil prices were marked by very high volatility. Up till 7 August prices had been growing fast and then reached their all-time high. In turn, the period between 8 August and 26 September 2006 brought a significant drop of current oil prices (of over USD 19.5) – down to 59 USD/b. Still, we assess, in agreement with the majority of analysts, that the factors responsible for price reduction in the recent period are short-term in nature and may remain in force in 2006 Q4[76]. In turn, the long-term tendency will be affected by fundamental factors, the assessment of which has not changed significantly in the recent period. A high path of oil prices throughout the horizon of the forecast is primarily supported by the expected relatively large increase in the world demand for oil, which according to current forecasts will be higher in 2007 in relation to 2005-2006. Despite the fact that since the July projection the forecast of world demand for oil have been slightly corrected downward, also the forecasts of output have been reduced at the same time. This means that the reserves of production capacities will remain low in the forecasting period, so potential disruptions in supply will not be fully offset by additional growth in oil production[77]. For the above reasons, even though the US Department of Energy increased its September forecast, we have resolved to stick to the path of oil prices adopted for the July projection envisaging the average oil price at 67.7 USD/b in 2006, 67.8 USD/b in 2007 and 67.8 USD/b in 2008.

In relation to the previous projection some of the risks has diminished (such as political risk and climate risk – the US hurricane season turned out to be mild) affecting the price of oil, which at least in the short run may be conducive to oil price drop. Oil price falls, especially significant ones, may be, on the other hand, prevented by a considerable increase in the restrictiveness of OPEC supply policy[78]. Therefore, a symmetrical balance of risks in the longer term has been assumed for the current forecast. In turn, in 2006 Q4 a higher probability has been adopted of lower oil prices than those assumed in the central path – among other with a view to the possible temporary drop in demand of investment fund for oil price contracts in the period.

Prices of fuels and natural gas

In comparison to the July projection, the path of fuel prices has been shifted primarily due to accounting for oil price quotations in the first half of September 2006 and changes in the assumptions on the date of introducing the rise of excise tax rate on liquid petroleum gas[79]. In the July projection this rise was envisaged already for September 2006. In turn, for the current projection a simultaneous rise of the excise tax on petrol (return to the rate from before the cut made in September 2005) and liquid petroleum gas in January 2007 has been assumed. Additionally, due to forecast continuation of oil prices at a stable level in the long projection horizon, it has been assumed, as in the July projection, that margins in this period will be affected by a mean reverting process and thus they will settle at their average level. The joint effect of introduced changes is

[76]The forecast of the US Department of Energy released on 10 October 2006 (that is after the cut off date) assumes that in 2006 Q4 the average oil price will decrease to 63.3 USD/b, while in 2007 Q1 it will rise to 66.7 USD/b and in the whole of 2007 it will amount to 65.9 USD/b.

[77]The forecast does not allow for possible larger disruptions of oil supplies to the world markets.

[78]The OPEC decided in October 2006 to cut down its oil production by approx. 1.2 million barrels per day, at the same time signalling that it may be further reduced in the future.

[79]It should be remembered that the path of oil prices has remained unchanged.

the reduction of the annual fuel price growth until the end of 2007 Q3 followed by its slight acceleration starting from 2007 Q4.

The main source of risk for forecasts of fuel and gas prices are future oil price and exchange rate developments. Apart from that, the final dates of the introduction of planned increases of the excise tax on liquid petroleum gas and petrol still remain unknown. Uncertainty may also concern the scale of such increases, depending, among other things, on the future condition of the public finance. Besides, the draft bill on biocomponents used in liquid fuels and liquid biofuels was not supplemented with the schedule of envisaged changes in the excise tax. The enactment of the above mentioned act without appropriate tax reliefs may lead to an additional increase in fuel prices. It is estimated that in the short run (till the end of 2006) the probability of the forecast running below the central path is slightly higher, due to the negative asymmetric risk for oil price path in 2006 Q4. By contrast, fuel prices in this horizon may be accelerated by high demand for diesel oil exceeding the possible supply in the short run. In the long run, however, (i.e. starting from 2007) there is a risk of a higher fuel price growth rate – should the prices of oil return to the trend path.

Absorption of EU funds

The basic assumption of the construction of the central path of EU transfers is a gradual increase in the scale of utilisation of EU funds granted to Poland - starting from the average level of 25% in 2005 to 75% in 2008 (share of the allocation for 2004-2006). The October forecast has updated the amounts of EU fund utilisation in the first half of 2006 on the basis of released supplementary data (on ISPA utilisation). With unchanged assumptions for the second half of 2006, this measure resulted in a rise of the expected fund utilisation in the whole of 2006 from EUR 2100 in the July forecast to 2340 million. Assumptions for 2007-2008 have remained unchanged in relation to the July forecast (average forecast EU fund utilisation in 2007 amounts to EUR 3500 million and in 2008 – EUR 4400 million.

Since barriers were identified in 2005 the system of EU fund utilisation has been steadily streamlined by introducing a series of administrative and legislative changes and simplifications. Nevertheless there still persist barriers, mainly of administrative nature, encumbering due payments of EU funds for implemented investment projects. Thus, the forecast is burdened with risk. The scale and direction of deviations of the actual path of the process from what was forecast depend on the rate and effectiveness of changes introduced by the Government with the purpose of stepping-up the utilisation of these funds. In case the mechanism of financing projects from EU funds is not streamlined, it should be expected that the minimum level of EU fund utilisation will be approx. 40% of the allocation.

Situation in the public finance sector

In the October projection the levels of general government revenue and expenditure in 2006 are consistent with their expected implementation as presented by the Ministry of Finance in the draft *Budget Act for the Year 2007*. Similarly to the forecasting period for the July projection, the current assumptions concerning the expenditure of the public finance sector in 2007-2008 are based on the "anchor" declared by the Government that is preserving the central budget at the constant level of PLN 30 billion, which is a fundamental benchmark for the fiscal policy in the coming years[80]. The adoption of the above assumption results in no improvement in the structural balance of the public finance sector in these years and a continued accumulation of the public debt.

This projection is subject to a certain risk resulting mainly from political uncertainty. At the moment, an important role may be played by intensified pressure for an increase in public spending; particularly in connection with the coming local government election. In case of absence of a stable parliamentary majority that could support the draft *Budget Act for the Year 2007*, the feasibility of maintaining budgetary discipline in the general government in the nearest years raises serious doubts. The declared "anchor" of central budget deficit does not constitute an effective curb on expenditure and deficit of the public finance sector, because increased spending may be simply shifted from the central budget to other units of the sector. In this way the budget anchor would remain intact but the deficit and debt of the whole sector would increase.

As it was pointed out above, in view of an indispensable fiscal policy tightening over the next few years and an inevitable tax increase accompanying this process, we should be prepared for a probable reduction in business activity and price growth (as indirect taxes will be the first to rise). The impact of a fiscal tightening on business activity lowering will depend on the scale of revenue cuts and tax increases, which is difficult to predict at the moment.

Prices of food and non-alcoholic beverages

The path of food and non-alcoholic beverage prices has been shifted in relation to the July projection mainly due to accounting for the actual path of these prices in June–August 2006. The change in the forecast was also connected with new data on estimated agricultural and horticultural crops pointing to markedly weaker harvest of grains and some vegetables than in 2005 – because of unfavourable agro-meteorological conditions in the summer season (so-called supply shock)[81]. The latest GUS estimates have also

[80] It has been additionally assumed that the performance of other general government units in 2007-2008 will continue at the level of approx. PLN -2.5 billion. As a result, the deficit of the whole sector in these years has been assumed at the level of PLN 32.5 billion.

[81] Grain harvest is assumed to have dropped by 10-15% in relation to 2005. The assessment was based on the estimates of: the Central Statistical Office (GUS), National Research Institute of Agricultural and Food Economics (IERiG»-PIB), Polish Grain and Feed Chamber (Izba Zbo'owo-Paszowa), Polish Federation of Grain Producers (KFPZ), Ministry of Agriculture and Rural Development, and the European Commission.

been consulted concerning the level of pig stock and cattle stock which point to a slow halting of the rising pig stock trend and further stable build-up in cattle stock.

In 2006 Q2 the index of the prices of food and non-alcoholic beverages settled slightly below the estimate of the July projection; this was mainly due to a deeper-than-expected drop of fruit and vegetable prices in June 2006. In turn, the current estimate for Q3 is higher than in the July projection due to high realisation of the index of these prices in August 2006, when the prices of meat, sugar and vegetables outpaced expectations. New data on the effect of unfavourable agro-meteorological condition in July and August 2005 (supply shock), rise in the real income of population and higher expectations of food price growth on the part of producers and consumers all contributed to raising the forecast for 2006 Q4. In contrast, in 2007 Q1 and Q2 the forecast presumes the supply shock to fade out gradually, which has brought about a slight downward revision of the forecast quarterly growth rate of prices in this period in relation to the July projection. Despite this revision it should be expected that the prices of bread and cereal products as well as prices of vegetables and some fruit will be running high at least till the next harvest. In such conditions the current forecast of the annual growth of food prices is higher than the July projection throughout the projection horizon.

At the moment, the main risk of the forecast of food prices is connected with the strength of the pass-through of agricultural commodity prices to retail prices of food. The growing purchasing power of population and expectations of price rises may be translated into a stronger growth of retail prices than would be warranted by the relation between demand and supply in agricultural commodity markets. As compared to to the previous forecasting period, the avian flu risk has re-emerged as a new bird migration wave is starting. After the cut off date the GUS released data on negative effect of drought on the vegetation of some crops and the Agricultural Market Agency (ARR) issued data on forecast prices in basic agricultural commodity markets. The GUS estimates the harvest of grains at a slightly lower level (year-on-year drop of 18.4%) than assumed in the projection. The data suggesting that the harvest of vegetables is lower than last year have been confirmed, though the good vegetation in September improved these crops' estimates in relation to those adopted in the forecast. The latest data also revealed that the harvest of some fruit may in fact prove higher than expected. The Agricultural Market Agency sees further growth in the prices of grain[82] followed by price stabilisation at a high level – until the next harvest. In turn, the latest data of the Agricultural Market Agency, Ministry of Agriculture and Rural Development and the European Commission point to a downward correction of the pork price path. Uncertainty surrounds changes in poultry prices, which contrary to experts' expectations still run below the average level.

[82] Rise of 7-10% in December 2006-March 2007

Demographic situation

Number of the economically active

The forecast of the economically active figure is constructed as the product of two forecasts: demographic forecast and forecast of economic activity ratio. The present projection, just like the previous one, makes use of the Eurostat demographic projection of 2004. In turn, the economic activity ratio is based, as in the previous forecasting round, on GUS-prepared BAEL (LFS) data.

According to BAEL results published by the GUS, the number of economically active people in 2006 Q1 dropped by 1.0% y/y, and in 2006 Q2 by 1.1% y/y. The fall in the economically active population in the period was accompanied by a decline of the economic activity ratio by 0.8 and 0.9 percentage point y/y, respectively. However, at the beginning of 2006 two methodological changes[83]were introduced in the BAEL study, which significantly complicates the comparison of BAEL data from 2006 Q1 and Q2 with earlier observations. In comparable terms it can be estimated that in 2006 Q1 the number of economically active people dropped by 0.6% y/y and the economic activity ratio fell by 0.5 percentage point y/y, while in 2006 Q2 the number of economically active people decreased by 0.7% y/y and the economic activity ratio fell by 0.6 percentage point y/y.

In light of both the primary and adjusted BAEL data for 2006 Q1 and Q2 it was impossible to maintain the assumption adopted since the January forecast of the economically active figure that the rise in economic activity connected with improved business activity would be higher than the reduction in activity related to migration processes. In comparable terms, the number of the economically active recorded in 2006 Q1 and Q2 markedly diverges from the July forecast. Neither does it fit into the uncertainty band adopted in July. A large scale of discrepancies made it necessary to lower the forecast of the economically active figure. At the same time, it should be emphasised that the direction of this change is consistent with the balance of risks for the July forecast.

The October forecast of the economically active figure assumes a drop in the economic activity ratio of 0.5 percentage point y/y in 2006 Q3 and Q4. The forecast also assumes that starting from 2007 Q1 the fall rate of the economic activity ratio will be gradually fading out as a result of increased economic activation, especially among older people, and a steadily decreasing scale of economic migrations. Lower emigration flows of working-age population will result from higher growth of real wages than in the recent years and a sustained rise in the demand for labour connected with the forecast continuation of economic activity improvement in Poland. The decline in the economic activity ratio will be continued till 2007 Q3. In the following quarters it will stabilise (at 0.0 percentage point y/y), and than starting from 2008 Q3 the ratio will be growing by 0.1 percentage point y/y.

[83]The changes included the adoption of a new, narrower definition of a working person and the calculation of the size of particular BAEL categories based on detailed dates of birth of respondents.

The October forecast of the economically active figure adopts a symmetric uncertainty band. In comparison to the July projection a larger uncertainty was assumed and the adopted uncertainty band is relatively wide already in the initial period of the forecast owing to the uncertainty of BAEL data. We may be dealing with a greater number of the economically active in case of larger growth of the economic activity ratio than that currently accounted for, which may occur thanks to improving labour market condition and, particularly, a greater probability of finding employment. A lower economically active figure may in turn result from a higher scale of economic migrations than is currently accounted for. Additional risk factor of lower economically active figure are lags in introducing restrictions on early retirement opportunities or the extension of the list of professions entitled to earlier economic deactivation. In turn, risk factors of which it is currently difficult to say in what direction they would affect the number of the economically active include further methodological modifications announced for 2007 and 2008 in the BAEL study, which may potentially increase the risk of the data. Similarly, it is also difficult to predict the outcome of a potential (included in the balance of risk) deeper deceleration of economic growth in old EU countries. If such deceleration resulted in shrinking the demand for labour from new member states, it could trigger re-emigration of employees from these countries. On the other hand, it is not clear what would be the scale of such re-emigration and the level of economic activity of such repatriates.

Persons working in private farming

The path of the number of persons working in private farming has not changed as compared to the July projection. The forecast was prepared on the basis of the matrix of flows in the labour market with the assumption of constant probabilities of flows between states in the labour market till the end of projection horizon (i.e. 2008 Q4). Despite a significantly lower (in relation to the July projection) drop in the number of people working in private farming in 2006 Q1 (-1.9% versus -2.8% y/y in the July projection) the forecast of this variable has not been changed in the October projection. It was assumed that the deviation of the actual number from the forecast was one-off and resulted, in the opinion of experts, from the delayed beginning of seasonal works in construction in connection to adverse weather conditions (severe frosts), which had limited the outflow of people working in private farming to non-agricultural sectors. In 2006 Q2, however, the recorded drop in the number of people working in private farming was deeper than accounted for in the forecast central path (-4.9% y/y versus -2.6% y/y in the July projection). This fall in the number of people working in private farming (which was markedly larger than previous expectations) resulted from a growing (and delayed by atmospheric conditions) demand for labour in non-agricultural sectors. The seasonally adjusted number of people working in private farming in 2006 Q2 remains slightly below the central path, yet it fits in the uncertainty range of the July forecast.

A symmetric band of confidence has been adopted throughout the projection horizon. 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, some part of EU funds supports the restructuring of this sector, which in conjunction with the rise in employment in services, which is expected in the projection horizon, may lead to a faster than expected decline in the number of people working in private farming.

Number of old-age and disability pensioners

So far the forecast of the number of old-age and disability pensioners has been based on the forecast results of the Polish part of the AWG (*Ageing Working Group*) model[84]. However, BAEL data for 2006 Q2 point to a significantly lower fall rate of the number of old-age and disability pensioners than it was accounted for by the AWG model, even though the old-age and disability pensioner figure recorded in 2006 Q2 overlaps with the upper uncertainty range of the July forecast. The currently observed rate of fall of the old-age and disability pensioners is approx. 50% lower than the so-far assumed fall rate. The differences between the former forecast and the actual number of old-age and disability pensioners underlie the slower rate of fall in this category adopted in the current forecast: 0.3% y/y instead of 0.6% in 2007 and 0.25% y/y instead of 0.5% in 2008. The assumption of a slower drop in the number of old-age and disability pensioners than that presumed in the AWG forecast is consistent with a lower actual growth in the economic activity ratio than its value envisaged in the Eurostat forecast (used in the AWG model).

Similarly to the July 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 pensioners will mostly depend on institutional changes in terms of legal conditions for early professional deactivation. On the other hand, in case of lower economic activity in younger groups the number of old-age and disability pensioners may be contained by the process of economic reactivation.

NAWRU

NAWRU (Non-Accelerating Wage Rate of Unemployment) is a variable specific for the ECMOD model and therefore it does not have a strictly objective character, even though it is linked with the actual processes unfolding in the labour market. Starting from the January projection the raw solutions of the ECMOD model as regards the labour market were so divergent from the assessment of labour market developments consistent with economic intuition that they called for an expert adjustment. In order to achieve a picture of the labour market that would be consistent with this intuition the NAWRU has been lowered by the total of 0.5 percentage point (in 2008 Q4 the NAWRU rate

[84]The 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).

stands at 14.6% versus 15.1% in the July projection). Because the July projection, in relation to the April projection, accounted for intensification of positive tendencies in the labour market (in particular 1-percentage-point deeper drop in unemployment rate in the projection horizon), the lowering of the NAWRU accounts for a half of this additional drop in unemployment rate.

Although the reduction of the NAWRU path mainly serves the purpose of obtaining a coherent picture of labour market developments, this change is additionally justified by the intensification of positive tendencies observed in the labour market leading to improvement in unemployment structure and increasing the chances of finding a job on the part of the unemployed. Those positive tendencies include: a faster decline in long-term unemployment, a strong increase in the number of jobs in services, where employment is available also for people with lower qualifications and where the demand for labour is more diversified in kind, a decrease in unemployment among people aged 15-34 with at most vocational education.

In the October 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). A lower rate of NAWRU may in turn follow from a faster matching of the qualifications of economically active people on the one hand and the needs of employers on the other and also from a more widespread use of flexible forms of employment (such as part-time employment).

4.3 Inflation projection and GDP

The newest statistical data indicate that the economy has been growing faster than expected in the July projection. GDP growth in 2006 Q2 reached 5.5% y/y and according to the current NBP estimates high rate of economic growth continued also in 2006 Q3[85].

In line with expectations presented in the previous projections, domestic demand was the main factor fuelling growth. Since the beginning of the year individual consumption has been rising at a high rate consistent with the expectations. The growth in fixed capital formation has accelerated strongly, exceeding the expectations and reaching in 2006 Q2 the highest growth since 1998. Strong export growth has continued, although due to steadily accelerating imports the improvement in the foreign trade balance ceases to be a factor behind the economic growth.

Strong economic growth has brought further improvement in the labour market. Amidst high demand, good financial results, sustained relatively low level of average wages and considerable labour surplus in the labour market, enterprises have substantially

[85]National accounts data presented in the *Report* do not take into account the GUS revision of 24 October 2006.At the same time, GUS, at its press conference held on that day, pointed out that GDP growth in 2006 Q3 had been at least as high as in Q2 2006. i.e. not less than 5.5% y/y, thus being at least 0.3 percentage point higher than assumed in the October projection.

increased employment. The growth of jobs creation in the economy proved above the expectations presented in the previous projection. Growing demand for labour is, however, not accompanied by higher domestic labour supply assumed in the previous projections, which may be partly connected with Poles undertaking employment in the old EU countries. The above developments have resulted in a steady rise in average wages which has so far been consistent with the expectations.

Labour market recovery has brought about a significant rise in the disposable income of households. Additional factors behind accelerating growth of households' disposable income include a rise in social benefits[86] and growth of income of private owners from business activity. It is estimated that foreign transfers connected with growing economic migration following Poland's accession to the EU, are an important, albeit difficult to observe, factor behind increasing income of households. Apart from rising disposable income, also consumer credit plays a growing role as a factor boosting individual consumption. Availability of consumer credit, as suggested by the NBP surveys, might have increased households' propensity to consumption.

As a result of the economic recovery the possibilities of meeting growing demand with the existing production capacities are limited, which coupled with the absence of significant financial barriers (very good financial results of enterprises) leads to growth in corporate investment. An important factor behind the investment growth is also the inflow of the EU structural funds whose impact has been particularly visible in the improved investment activity of the central and local government sector. The housing market has continued to witness strong recovery, yet, so far it has mainly resulted in growing prices.

The described economic situation at the projection's starting point and its implications are the main reason behind the divergent paths of expected economic processes showed in the October and July projection. Different assumptions concerning work supply (the number of the economically active and the NAWRU indicator) and the TFP are an additional important source of differences between the projections.

According to the presented projection, the GDP growth in the whole of 2006 will amount to 5.3%, slightly above the July projection (5%). Also during the subsequent two years the GDP growth rate will be above the expectations presented in the previous projection, exhibiting a steady acceleration from 5.1% in 2007 to 5.7% in 2008. Such a high rate of GDP growth in 2008 is largely driven by the adopted assumptions of sustained expansionary fiscal policy and the absence of monetary policy reaction when the market has experienced strong expectations of such a reaction.

In the subsequent quarters the role of consumer demand as the main factor behind the economic growth will be reinforced – starting from 2006 Q4 the growth of individual consumption will accelerate and will be sustained at the level of approx. 5.5% by the end of 2008 (as compared to below 5% in the previous projection). Increased consumption will be primarily driven by growing real disposable income of individuals,

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

and in particular, by higher income from paid employment being the result of strong recovery in the labour market. Other components of household income are similar as in the July projection. A steady rise in income of private owners is expected. Following a significant increase in transfers to individuals in 2006 (mainly as a result of indexation of old-age and disability pensions in March 2006), the subsequent years will see a declining impact on this category on the growth of the total real disposable income. Transfers resulting from economic migraton will play a significant role.

It is expected that in the projection horizon a strong growth in the number of persons working in the economy will continue, reaching 3.5% in 2006 and 1.8% 2007-2008, thus exceeding the level expected in the July projection (2.6% 2006 and 1.6% 2007-2008). Contrary to the previous projection, strong growth in labour demand will be witnessed amidst the stabilisation of professional activity of the population. As a result, a strong decline in the unemployment rate is expected, falling below 12% in 2008 i.e. 2.7 percentage point lower than assumed in the July projection. A rapid decline in the unemployment rate will be coupled with a relatively slower drop in the equilibrium unemployment rate. As a consequence, the tensions in the labour market will be growing – from 2007 the growth of average wages will accelerate steadily to 6.3% in 2007 and 6.9% in 2008 (in the July projection 6,1% and 6,8% respectively). Throughout the projection horizon, the growth of real wages will exceed the growth of labour productivity per one person working outside private farming. Similarly to the previous projection, an additional factor behind accelerating growth in wages in the economy is the increased expenditure of the general government, including higher expenditure on wages in the public sector. Higher wages in the public sector through their contagious effect trigger faster growth of wages also in the private sector.

Apart from individual consumption, a rise in fixed capital formation will be another major factor fuelling economic growth. According to the current projection, the growth of investment in 2006 will exceed 12%, i.e. will be higher than accounted for in the July projection (9.3%). In the two subsequent years, the growth in those outlays will be sustained at the level exceeding 10% to fall below the previous projection level only in the second half of 2008.

Similarly to the July projection, it has been assumed that maintaining a constant nominal anchor in the form of the central budget deficit at the level of PLN 30 billion and the general government deficit at the level of PLN 32.5 billion will be a major factor shaping the fiscal policy in 2007-2008. As a result of this assumption, the rise in tax revenues resulting from favourable macroeconomic situation instead of leading to deficit reduction will be allocated for funding public expenditure increased to the same extent. A slight decrease in the ratio of the general government deficit to GDP (of 0.2 percentage point between 2006 and 2008), amidst relatively high rate of economic growth will mean widening the structural deficit of the general government sector.

The growth in consumption and investment will bring about higher domestic demand rising at the rate of 5.2%, 6.2% and 6.4% respectively in the years 2006-2008. The growth of domestic demand in 2006 is consistent with July projection and higher by approx. 0.5 percentage point in 2007 and 2008.

The level of the exchange rate at the projection's starting point is consistent with the July expectations. In the subsequent quarters, the zloty will be depreciating steadily, at a faster rate than accounted for in the July projection. Zloty depreciation in the projection will be partly the reflection of the return to the medium-term equilibrium (current zloty exchange rate is stronger that the adopted medium-term rate), and partly the result of low and rapidly shrinking real interest rate disparity and domestic price increases. Deeper exchange rate depreciation and more rapidly growing domestic prices translate into the growth of import prices which is higher by an average of 1 percentage point than assumed in the July projection.

In the projection horizon a high growth of exports is expected (on average above 8% y/y), which will be driven by favourable economic conditions in the euro area and improvement in price competitiveness of Polish enterprises connected with exchange rate depreciation. The economic recovery in Poland will be accompanied by fast import growth (by an average of approx. 10% y/y) observed despite the depreciation of the zloty. The contribution of net exports to GDP growth in 2006 will be neutral, i. e. higher than expected in the previous projection, and in the subsequent years negative and broadly consistent with the July projection.

The growth of the potential output in the years 2006-2008 amounts to 4%, 4.2% and 4.5% respectively and is, in line with the adopted assumptions, close to the July projection. Yet, its decomposition is different – in the current projection the TFP plays a lesser role in the potential output growth while the importance of capital formation is proportionally higher. In line with the described assumptions, potential labour input, defined as the number of the economically active persons adjusted for the NAWRU indicator, did not change in the period between the projections.

The sustained level of of potential output growth coupled with a higher rate of the actual GDP growth results in the output gap closing faster. In the current projection the output gap closes already at the end of 2007 while in the July projection this takes place at the end of 2008. In 2008 the output gap widens steadily to exceed 1% of the potential GDP at the end of the projection horizon. As a result, we observe stronger inflationary pressure driven by the output gap in the current projection, although the impact of the output gap on "net" inflation in the present version of the model, which has not been modified since the April projection, is relatively slight.

A significantly more important factor affecting "net" inflation are unit labour costs. According to the current estimates of the NBP experts, at the projection's starting point the annual growth of unit labour costs (per one person working outside private farming) was as much as 1.7 percentage point higher than it was signalled in the July projection, which was primarily driven by higher number of working persons than previously assumed. According to the current projection, the growth of this category in the whole of 2006 will stand at 4.2%, as compared with 3.6% in the July projection. In the subsequent years the growth of unit labour costs will be close to the previous projection and will reach 3.5% in 2007 and 3.7% in 2008.

The above developments, in particular, growing unit labour costs and import prices as well as closing output gap will lead to a steady rise in "net" inflation. Throughout the projection horizon, "net" inflation is higher than presented in July, to reach 3.5% at the end of 2008, as compared with 3.1% in the July projection.

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 category of prices in the CPI falling to zero after four quarters. As compared with the July projection, the growth of food prices in 2006 Q4 was revised upwards by 2 percentage points y/y, and in 2007 Q1 by 1.8 percentage point y/y. In the subsequent quarters, the growth of food prices only slightly exceeds the expectations of the July projection. The change in the path of food prices leads to an upward revision of inflation expectations in the October projection by approx. 0.5-0.6 percentage point in the first two quarters of the projection and its negligible impact in the subsequent periods. Thus, higher food prices in the projection are an important factors prompting faster return of inflation to the target as compared with the July projection. The October path shows slower than in July rise in fuel prices at the beginning of the projection, decreasing inflation by max. 0.2 percentage point y/y; yet, it is slightly higher in the subsequent quarters. As a result, throughout the projection horizon, CPI inflation runs above the July path. The target is exceeded already in 2007 Q1, after that inflation runs close to the target and than accelerates considerably, drawing close to the upper limit of deviations from the inflation target at the end of 2008.

The projection of inflation and GDP growth is, like any forecast, subject to statistical error attributed to many sources[87]. Quantifiable (*ex post*) sources of error such as: inaccuracy of the model's statistical mapping of relations between macroeconomic variables as well as uncertainty related to the assumptions external to the forecasting model (assessed on the basis of historical variability of time series), have been accounted for and presented in the fan charts. The remaining, difficult to quantify *ex ante* sources of the forecasting error resulting in the overall uncertainty of the projection, are related, among other things, to possible changes in the structure of the Polish economy, approximate mapping of the economy by the model and possible instability of estimated relationships in time as well as revisions of statistical data. The sources of uncertainty not accounted for in the fan charts are discussed in the next section.

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

In the **short-term** the most important source of uncertainty of the *inflation projection*

[87] Distribution of the projection error around the central path depends on statistical measures of errors of the model equations and measures of variability of variables exogenous to the model. Since food prices display the highest variability in the sample, this variable has a considerable impact on the width of the fan chart. On the other hand, good matching of equations describing the number of working persons and the growth in wages in the sample (low errors in equations) results in a considerably lower impact of those variables on the distribution of the projection errors around the central path, although their paths are subject to significant corrections in the projection horizon and they are considered the greatest contributor to the projection uncertainty in the economic analysis

is uncertainty related to food prices. Other factors, in the order of importance, include uncertainty of error term[88] in the "net" inflation equation, uncertainty of the path of crude oil prices and uncertainty related to the labour market (only through deviation of error terms in equations of wages and working persons on the assumption of the equations adequacy). Factors behind uncertainty of the inflation projection in the short term include either those factors affecting inflation directly (food prices and "net" inflation) or affecting inflation indirectly albeit relatively rapidly (oil prices). In the short run, the significance of the model relationships is rather limited and, consequently, the role of other uncertainty factors is smaller.

In the **mid-term** (in the October projection mid-term applies in practice to the year 2008) food price uncertainty has also the greatest impact on **inflation uncertainty** accounted for in the fan chart since high historical variability of the food price series determines to a great extent the width of the fan chart. At the same time, the role of labour market related factors increases with the forecast horizon. In the mid-term, the significance of the model's feedback being a major factor affecting inflation with a certain time lag, is growing. Another source of uncertainty is uncertainty of error term in imports and exports equations (significant impact through GDP), "net" inflation and GDP deflator (GDP deflator does not affect inflation directly but plays an important role in the model and affects inflation through the model relationships). On the other hand, uncertainty related to crude oil determines uncertainty of the inflation projection in the mid-term to a minor extent only. This results from uncertainty of the oil path (analysed statistically through oil price variability around a certain trend) increasing very slowly in time (for example, as compared with food price variability).

Similarly as in the case of inflation, in the **short-term** uncertainty of **GDP** projection is most strongly affected by uncertainty concerning the variables directly determining economic growth. The greatest impact is exerted by uncertainty of GDP components, including in particular the paths of imports and exports (uncertainty of error terms in those equations, i.e. factors determining the paths of foreign trade volumes, not accounted for in those equations in the form of explanatory variables). Consumption and investment play a less important role as equations describing those variables were characterised by better matching in the sample (smaller error terms measured by contribution to GDP were observed). Among other variables, uncertainty related to external GDP is the greatest contributor to uncertainty of GDP projection.

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

A comprehensive picture of uncertainty of inflation and GDP projections is presented in fan charts.

[88]Uncertainty of error term is an uncertainty resulting from unpredictability of factors determining "net" inflation which are not included in the equation describing it in the form of explanatory variables.

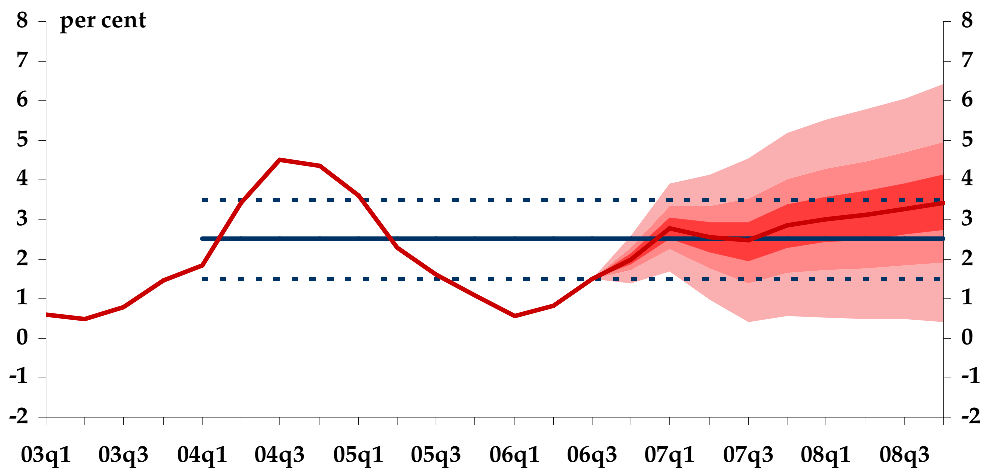

Figure 4.34: Inflation central projection, inflation fanchart and MPC's inflation target (y/y change in per cent)
Source: NBP.

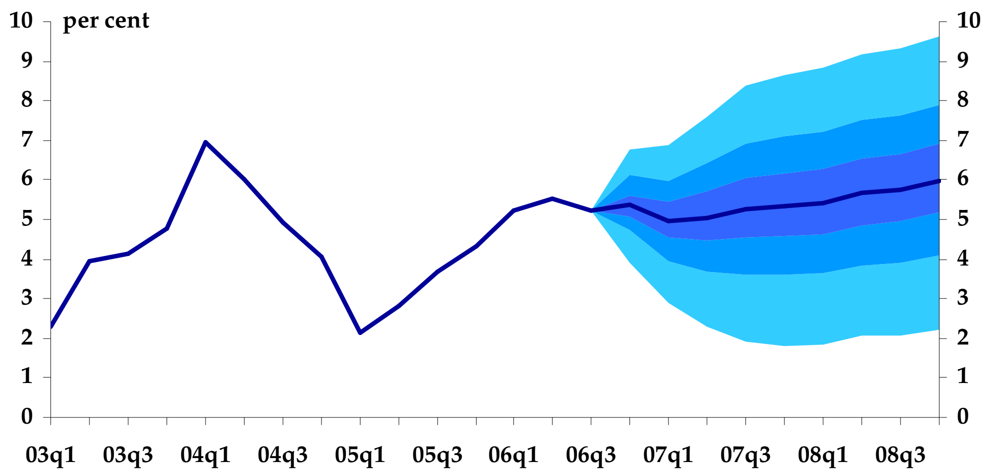

Figure 4.35: GDP central projection and GDP fanchart (y/y change in per cent)
Source: NBP.

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 October projection.

	Probability of inflation:				
	below 1.5%	below 2.5%	below 3.5%	below central projection	within (1.5%; 3.5%)
2006q4	0.078	0.919	1.000	0.510	0.922
2007q1	0.030	0.335	0.857	0.502	0.827
2007q2	0.136	0.483	0.840	0.504	0.704
2007q3	0.225	0.517	0.797	0.503	0.572
2007q4	0.171	0.403	0.684	0.504	0.514
2008q1	0.160	0.369	0.632	0.502	0.472
2008q2	0.158	0.353	0.597	0.502	0.439
2008q3	0.147	0.325	0.561	0.502	0.414
2008q4	0.144	0.304	0.518	0.500	0.374

4.4 Risk of bias of the central projection

Every projection is subject to uncertainty *ex post*which arises as projection errors. In the analysis of uncertainty *ex ante* two situations may be distinguished. In the first, we assume that we only make random errors. Such an assumption makes it possible to construct a fan chart showing the sources of projection uncertainty that relate to endogenous and exogenous variables of a forecast model provided the model itself is adequate. 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 forecasted inflation path. The above is caused by the problems discussed earlier in the text relating to a correct mapping of economic processes presented in the model and variables and events that are not presented in the model. Below we present the sources of uncertainty that may bias the inflation path.

Risk of errors in the projection due to uncertainty concerning statistical data and the model

Owing to the lack of re-estimation[89] of the model between the October and July rounds its statistical properties, stressed in the previous round, do persist. In addition to the inadequate modelling of the situation on the labour market, the uncertainty indicated in the April Report relating to the impact of interest rate changes on inflation over the projection horizon still persists. The decrease in inflation in Poland following the accession to the EU was connected with the effect of opening up of the economy, which was particularly marked immediately after the accession. Accounting for this effect in the model parameters resulted in a reduction of the reaction of inflation in the model to the change in interest rate. At present, it may be expected the effect of a steep increase in opening up of the economy has probably receded and the reaction of inflation to the change in interest rate is actually stronger than suggested by the model.

The uncertainty concerning statistical data related to the labour market from the BAEL survey, which was indicated in the previous projection and discussed earlier in the text, is still present. The uncertainty is higher due to the second methodological change introduced this year in the survey for Q2 2006 which consists in classyfying respondents on the basis of the exact date of birth instead of only the year of birth as it used to be. When data for Q2 2006 were published a correction was made at the same time of BAEL data for Q1 2006. Credible estimates of the scale of labour migration and age structure of persons leaving Poland are still missing.

Risk of error in the projection due to changes in the labour market

The main source of uncertainty relating to the situation on the labour market is the economic activity of population in the projection horizon. Future scale of labour migration is subject to a large uncertainty. On the one hand, it may increase and, by leading to a reduction in the economically active population, force a quicker wage growth than the wage growth presented in the projection; without, however, a significant impact on the demand for labour in the projection time horizon. This would lead to a higher inflation

[89] It is worth noting that the model was re-estimated in April 2006.

than the inflation indicated in the projection. On the other hand, it cannot be ruled out that a quick wage growth in Poland will lead to a reduction in the migration scale and a re-activation of some persons economically inactive as well as a rise in labour supply as compared to the figures assumed in the projection.. Owing to the fact that the level of wages in Poland is relatively low compared to wage level in a number of EU countries it seems most likely that the migration scale in the projection time horizon will increase and economic activity of the population will therefore decline, which with no major change in labour demand would lead to higher inflation..

Migrations may reduce economic activity of the population also indirectly. BAEL data for Q2 2006 show that there has been a drop in the economic activity of "older" people (aged 45-69 and more than 64) that can only partly (in 50%) be explained by the fact that they are moving to the group of old-age and disability pensioners. In the light of BAEL data the second group of reasons for this phenomenon may be connected with the fact that these persons have stopped looking for a job and have undertaken family and household related tasks, which may be triggered by migration. Migration "improves" the budgets of such households (part of the income from work abroad is transferred), which may induce a resignation from low-paid work. At the same time, migration, in many cases, leads to the need of taking over household responsibilities by family members who stay in Poland.

As the wage growth in this projection is similar to the July path, despite a higher than in the previous projection labour demand, a decrease in economic activity and in spite of a drop in unemployment rate below the NAWRU, a higher wage growth is more likely than the growth indicated in the projection.

Risk of error in the projection due to changes in the global economy

The problem that persists is the high US current account deficit, which is an indication of the so called global imbalances. It is expected, however, that it will stabilise relative to GDP in 2006 (at approximately -6,4%) and will go down to 6.1% in 2007. Therefore, despite the fact that was also indicated in the previous projection that there is still a risk of uncontrolled unwinding of global imbalances, which would lead to a significant slowdown in US economic growth and would bear consequences, the risk may be slightly lower next year.

An important source of risk for world economic growth is still the possibility of a sharp downward correction of asset prices, i.e. property, stock, and bond prices, which would also trigger higher exchange rate volatility. According to recent data from the *Beige Book*provided by the Federal Reserve, a further slowdown on the property market has been observed in USA although the projection of future developments in this market is subject to uncertainty due to the ambiguous character of some signals.

The opinion formulated in the July projection of the impact of globalisation on the increase in domestic prices and possible consequences of intensified protectionist measures, if any, for this increase is maintained. In particular, it may be anticipated that an anti-inflationary effect of globalisation in Poland may be weaker than before owing to a slowdown in the pace of the opening up of the Polish economy.

The risk of an economic slowdown resulting from high oil prices has decreased compared to the July projection, in particular in a short-time projection horizon, due to a sharp drop in current prices and a downward revision of their long-term forecasts. However, very high prices of some other commodities is observed, in particular the high prices of non-ferrous metals.

Risk of error in the projection due to non-compliance with no-policy-change assumption over the 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 and a rising inflation in the projection horizon (the projection is made assuming constant interest rates). There are no adjustments on part of private sector agents, either. As the presently expansive fiscal policy cannot be maintained in a longer horizon the need of tightening it should be expected. Both the moment of adjusting the policy and its form are of key importance for the projection of inflation. Owing to the progress and schedule of work on 2007 budget it may be anticipated that the adjustment will be made no sooner than in the 2008 budget and its economic consequences may be expected in 2008-2009, at the earliest. It is also worth noting that the later the fiscal policy is tightened the more pronounced the tightening may be.

The adjustment of the fiscal policy may both concern expenditure cuts and a tax increase while the two types of adjustment lead to different consequences in terms of economic growth and inflation. In the expenditure cuts scenario a lower drop in economic activity may be expected due to an improvement in the investment climate and a lower price increase owing to a smaller scale of indirect taxes increase. However, we are of the opinion that this variant is less probable than the variant entailing mainly a higher tax increase. A more pronounced decrease in economic activity with a simultaneous bigger price increase resulting from raising indirect taxes may be expected in the latter variant.

The growing fiscal imbalance may also affect the behaviour of economic agents. In a situation of indirect taxes increase it may be expected, among others, that Poland's investment attractiveness will decrease and the growth in the inflow of direct foreign investment will go down. This risk may also lead to a decrease in domestic investment which is now observed e.g. in Hungary.

Taking the above factors into account the probable consequence of a fiscal adjustment seems to be a slowdown in economic growth in 2008 compared to the projection, with a possible rise of inflation above the central path at the end of the projection horizon.

One of the consequences of the counterfactual no-monetary-policy-change assumption is a probable overestimation of the scale of currency depreciation by the model owing to the effect of real interest rates disparity, which would drive down inflation.

Discussion of data released after 28 September 2006

The projection has been prepared on the basis of information available as at 28 September 2006. Thus it does not take into account the recent forecast of oil prices issued by the US Department of Energy that is lower than the path assumed in the projection by approximately 8% in Q4 2006 and approximately 2-3% in 2007. At the time of preparing the projection we did not have information about the actual oil prices in Q3, which turned out to be compliant with the projection. Fuel prices in Q3 were, however, above the projection - by approximately 0.2 percentage point. Neither was OPEC decision known about reducing oil production - by approximately 1.2 million b/d, which may lead to a rise in oil prices. At the time of preparing the projection food and non-alcoholic beverages price index in September 2006 was not known and it turned out to be lower than forecasted mainly owing to a lower than expected rise in vegetable and fruit prices. The growth in pork meat prices was also smaller than anticipated. In turn, the production of fruits and vegetables was higher than the assumed production. Consequently, the rise in food prices in Q3 2006 was slightly lower (by 0.1 percentage point) than the rise assumed in the projection.

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The distribution of risks in the fan chart of the October projection is almost symmetrical. In the short term, the factors that are not accounted for in the chart lead to a situation, however, that a lower inflation than the central path. It is supported primarily by the possibility of oil prices in this time horizon being below the path assumed in the projection and the resulting lower growth in fuel prices in Q4 2006. Better than forecasted food prices and fruit vegetable production as well as a lower rise in pork meat prices may result in a lower than presented in the projection rise in food prices in Q 4 2006 . The impact of this deviation on the CPI forecast will, however, be insignificant beginning 2007 Q1 (below 0.07 percentage point).

In the medium term inflation developments above the central path should be recognised as the more likely. The main factor contributing to such a distribution risk for the projection is the possibility of a distinctly quicker, compared to the projection, wage growth. In our opinion, the scale of inflation increase related to the higher wage growth is larger than the reduction in inflation resulting from a stronger than anticipated exchange rate. It is probable that higher wages and higher inflation against the projection would prompt currency depreciation as they would reduce the attractiveness of the economy to foreign investors. An important factor contributing to inflation rise that should be taken into account when assessing the probability of inflation rise above the October projection path in the medium-term is the risk of a tax increase in 2008. The inevitable fiscal tightening and tax increase, as well as, to a lesser extent, expenditure cuts will lead to a decrease in economic growth which, if the tightening is carried out later rather than sooner, will be more pronounced. Assuming as probable the fiscal tightening being introduced together with the 2008 budget an opinion may be expressed that

GDP growth in 2008 is likely to be lower than in the projection. A further limitation of oil production by OPEC may also drive a quicker rise in inflation.

Annex

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

In the period from June 2006 to August 2006 the members of the Monetary Policy Council did not adopt any resolutions nor did they propose any motions, that would be subject to voting.