Inflation Report
July 2006

National Bank of Poland
Monetary Policy Council

Warsaw, July 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.**

Contents

Summary

Inflation in 2006 Q1 amounted to 0.6% y/y, before rising to 0.8% in 2006 Q2. Low inflation starting from 2005 Q3 was the result of the fading-out of price effects connected with Poland's EU accession in 2004, the monetary policy pursued a few quarters before, zloty appreciation in 2005, rising contribution of imports from countries with low production costs and intensified competition from producers from these countries. These factors coincided with the short-term effects, such as the continuing food price decrease in annual terms.

Despite the strengthening of growth tendencies in the Polish economy in April–June 2006, core inflation indicators remained at a low level. Low "net" inflation indicated that inflationary pressure in that period was subdued. The limited inflationary pressure was accompanied in the analysed period by inflation expectations continuing at a level considerably lower than the inflation target and a slight lowering of inflation forecasts of bank analysts down to the level of 1.9%.

Despite stronger zloty effective exchange rate than a year before, the growth in producer prices in industry rose to 2.8% y/y in June 2006 (from 0.9% y/y recorded in March 2006). The rise in producer prices is observed in the domestic market, while export prices have fallen (in year-on-year terms) since November 2004.

According to the GUS data, the real GDP growth accelerated in 2006 Q1 and reached 5.2% y/y compared with 4.3% y/y in 2005 Q4, achieving the highest growth rate since 2004 Q2. The rate of economic growth in 2006 Q1 was higher than expected in the April *Report*. A particularly high growth rate was observed in individual consumption, which reached the level recorded during the boom period preceding Poland's accession to the EU. The growth in fixed capital formation proved high, though lower than expected and also lower than in the preceding quarter. The total growth rate of consumption and fixed capital formation remained at the high level. Overall, the growth in domestic demand was still significant, though — due to the negative contribution of change in inventories to GDP — it was lower than in 2005 Q4. Despite this high growth in domestic demand, the contribution of net exports to GDP growth increased markedly.

According to the GUS data, in 2006 Q1 individual consumption growth rate rose to 5.2% y/y from 2.8% y/y in 2005 Q4 and thus was higher than expected in the April *Inflation Report*. This strong acceleration in individual consumption growth in 2006 Q1 occurred in the period of increased growth rate of real gross disposable income of households

and a surge in consumer loans.

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

According to the GUS estimates, investment in the economy in 2006 Q1 rose in real terms by 7.4% y/y as compared to 10.1% y/y in 2005 Q4 and 6.5% y/y in 2005 Q3. Despite the high growth rate of fixed capital formation, it turned out to be lower than in the preceding quarter and below the NBP expectations presented in the April *Inflation Report*.

Investment is crucial for sustaining economic growth in the longer term. According to the NBP economic climate survey, the investment activity indicator has decreased. Despite that, investment activity in the nearest term should be supported by a good — in the opinion of the surveyed enterprises — investment climate. Enterprises also signal good prospects for demand and output growth, which coupled with high capacity utilisation levels may be an important incentive to undertake new investment projects. Almost all investors declared their intention to continue the already started investment projects. The index of new investment remained high, though below its historically high level recorded in 2005.

Good financial standing of companies resulting from their very good performance in 2005 and 2006 Q1 is one of the main investment-driving factors. At the same time, there has been an increased interest in corporate borrowing — especially by large enterprises — which is confirmed by the banking sector data. The expected increase in the absorption of structural funds will contribute to the rise in investment. Moreover, it is now possible for enterprises to cooperate within the framework of Public Private Partnership.

The growth rate of investment may, however, be curbed by political uncertainty, including, among others, problems in the functioning of supervisory and management boards of state-owned companies and possibly lower than expected EU fund absorption, should there be the lack of progress in streamlining the system of EU funds' utilisation.

The sustainability of the high growth in investment will depend on business-cycle and structural factors, including institutional factors, which determine investment climate. Investment climate depends mainly on the overall fiscal burden, public finance outlook, effectiveness of property rights protection, contract enforcement and regulations restraining economic freedom.

On the basis of preliminary data for April–June 2006, it can be assessed that the growth rate of GDP in 2006 Q2 was still high, at a level close to that in 2006 Q1 (both in year-on-year and quarter-on-quarter seasonally adjusted terms). According to the NBP estimates, the strong growth in individual consumption continued in 2006 Q2, the growth rate in fixed capital formation increased, while the contribution of net exports to GDP growth declined. Current estimates of the GDP growth rate in 2006 Q2 are significantly higher than expected in the April *Report*.

The data available in the analysed period pointed at a steady recovery in labour market. Employment was growing both in the corporate sector (3.1% y/y in June 2006) and in the whole economy (1.9% y/y in 2006 Q1). At the same time, a decline was observed in the registered unemployment rate in annual terms. According to the BAEL (Labour Force Survey), 2006 Q1 saw a continuation of the high growth in the number of people working in the economy outside private farming, which has been observed since 2005 Q3. This rate of growth proved higher than expected in the April *Report*. According to BAEL, the rapid growth in the number of the working persons coincided with a substantial decline in the unemployment rate. Contrary to the assumptions for the April projection, however, no rise was recorded in the economically active figure.

The acceleration of economic growth in 2006 Q1 coincided with the high growth of nominal wages in the economy, which - as the growth rate of unit labour costs in the economy - was consistent with the expectations presented in the April *Report*. The data on corporate sector wages in April–June 2006, adjusted for the impact of shifts in one-off wage components in some sections, 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 2007 the deficit of the general government sector in relation to GDP will probably be slightly lower than in 2006 due to maintaining the budget anchor (i.e. central budget deficit at the level of PLN 30 billion) and under the assumption of generally unchanged situation of other government sector entities. The decline in the deficit-to-GDP ratio will be driven mainly by the expected high level of economic growth, which is a cyclical factor.

Developments in the Polish financial markets in 2006 Q2 were primarily driven by global factors. They contributed to currency depreciation and a rise in Treasury bond yields in the economies classified as developing countries. The asset sell-off, which affected all segments of the financial market in Poland, was to a large extent the result of growing expectations for monetary policy tightening by the central banks in the United States, euro area, and Japan. At the same time, the nominal effective exchange rate of the zloty in 2006 Q2 was in line with the expectations presented in the April *Report*.

The April inflation projection (prepared on the basis of data available as of 24 March 2006) expected that inflation would rise gradually over the monetary policy transmission horizon and then return to the inflation target (2.5%) at the end of 2007 and remain close to the target level in 2008. The projection indicated that the output gap would remain negative until 2008 and would be closing faster than it had been expected in the January projection. The data published in May and June 2006 allowed an assessment of the accuracy of the projection assumptions adopted for Q1 and also warranted a preliminary assessment of the accuracy of the projection itself for 2006 Q2. Having taken into account the balance of risks for future inflation, including the results of the April inflation projection, the Monetary Policy Council, at its meetings in May and in June 2006, 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%. Having considered the latest data and the July inflation projection, in July the Council left the interest rates unchanged.

During its meetings in the period April–July 2006 the Monetary Policy Council discussed the outlook for future inflation in the context of the current and anticipated economic situation. The most important issues discussed by the MPC included: future effect of imports from low cost countries on inflation in Poland, sustainability of the labour market recovery and the associated wage pressure in Poland, relationship between the continuously low "net" inflation and future CPI, experiences of other countries where inflation was running below the inflation target for some time and the outlook for the zloty exchange rate path in the future.

In the statement released after the April meeting, the Council maintained its assessment formulated in March that with large probability inflation would in 2006 Q2, and maybe Q3, remain below the inflation target, mainly due to the short-term factors. If developments in the Polish economy were consistent with the April NBP projection, the maintenance of the central bank's reference rate at the April level would, in the then-opinion of the Council, support a gradual return of inflation to the target within the projection horizon and would also be conducive to keeping economic growth at the pace, which is consistent with the potential output growth determined by the structural features of the Polish economy. In the press release after the May meeting, the Council assessed that the balance of risk for future inflation did not change significantly, yet a risk factor related to wage pressures in the budget sector appeared. In the statement after the June meeting, the Council assessed that the balance of risks for future inflation migh point to an increased probability of inflation running, over the monetary policy transmission horizon, above the level assessed in the April projection and during the Council meeting in May. The Monetary Policy Council concluded that a broader assessment of inflation outlook would be possible in July 2006, after the publication of the inflation projection.

The inflation and GDP projections, which are presented in *Inflation Reports*, are one of the factors accounted for in the monetary policy decisions.

In line with the July projection of inflation and GDP prepared by NBP experts, there is a 50% probability that the annual growth rate of GDP will range between 4.7 and 5.3% in 2006 (in comparison to a 3.9–5.0% range in the April projection); between 3.6 and 5.9% in 2007 (compared to 3.4–5.8%) and in the range of 4.0–6.6% in 2008 (against 3.5–6,2%).

The July inflation projection shows that the growth rate of consumer prices will remain higher throughout the whole projection horizon than that expected in the April *Report*. On the assumption of unchanged interest rates, inflation will remain, with a 50-percent probability, in the range of 1.0–1.9% in 2006 Q4 (compared with 0.5–2.0% in the April projection), 1.5–3.5% in 2007 Q4 (1.3–3.4% in April) and 1.7–4.3% in 2008 Q4 (compared with 1.2–3.9%).

It should be emphasised that, in the opinion of the authors of the projection, the inflation projection presented in the *Report* does not account for all sources of uncertainty. This primarily applies to the scale of the future impact of globalisation on inflation, the impact of global imbalances on the world economic growth, the growth of workforce, the effect of drought in Poland on food prices, economic policy in the coming years, in particular the effect of increased wage pressure on public finance in Poland, and the exchange rate developments. Besides, the projection was prepared on the basis of data available until 23 June 2006 and thus does not account for crude oil prices, which are higher than those assumed in the projection, higher estimates of GDP in 2006 Q2 and slightly lower than forecast CPI in 2006 Q2. However, net inflation in 2006 Q2 was consistent with the July projection.

Having considered the latest data and the July inflation projection, the Council confirms the view expressed at the June meeting that the probability of inflation running, in the monetary policy transmission horizon, above the level assessed in the April projection has increased.

In the Council's opinion, the current fast economic growth creates favourable conditions for reducing the public finance imbalance, which would reinforce the long-term economic growth at a high level. The Council maintains its view that implementing an economic strategy focused on creating conditions which ensure the introduction of the euro at the earliest possible date would be most favourable for Poland and would contribute to higher long-term economic growth.

Inflationary Processes

Over the past few years (since May 2002) CPI inflation in Poland has remained low, i.e. below the NBP's inflation target (2.5%) in force since 2004. It was only in the first year of Poland's membership in the European Union that the growth in prices exceeded 2.5%. Inflation developments over this period resulted from a bunch of disturbances, whose scale had been difficult to predict, structural factors and monetary policy. One of the structural factors, which have over the whole period been conducive to low inflation, was increasing competition in product markets related to opening up of the economy under highly liberalized global trade. The opening up of the economy was reflected i.a. in growing imports from low cost countries, which has also contributed to limiting wages growth in the tradable sector. Moreover, inflation was contained by the appreciation of the nominal effective exchange rate of the zloty observed from Q2 2004 to Q1 2006.

In contrast, moving jobs from countries with relatively high labour costs to Poland contributed to increasing growth of employment and lowering (since half of 2004) labour productivity growth, which boosted inflation. Growth of employment with accompanying wages growing by ca. 4.5% led to increasing unit labour costs, which contributed to higher growth of prices. Economic migration of Polish workers to several EU countries contributed to lowering labour supply in Poland, especially within some professions.

The aforementioned factors affected inflation in different directions and with different magnitude. Their combined effect was low inflation.

In recent months the annual CPI inflation in Poland has slightly increased, though it still runs below the lower bound for deviations from the inflation target of 2.5% by +/- 1 percentage point. Core inflation has also edged up a bit. Price increases were mainly observed in the group of goods and services, whose prices are regulated. The first chapter of the *Inflation Report* presents main components of inflation in Poland, while inflation determinants are discussed in the second chapter. The NBP inflation projection is presented in the fourth chapter of the *Inflation Report*.

1.1 Inflation indicators

In April–June 2006[1] inflation rose to 0.8% y/y[2] (from 0.4% in March) and still remains below the NBP's inflation target of 2.5% (Figure 1.1, left-hand panel). The prices of food and non-alcoholic beverages in this period declined, on average, more slowly than in the previous months and – consequently – curbed the rise of the CPI level to a lesser extent. The rise in inflation was primarily brought about by an increase in the prices of energy, mainly fuel and natural gas prices. However, in the whole of 2006 Q2 inflation was lower than anticipated in the April inflation projection.

In April–June 2006 the prices of food and non-alcoholic beverages (the weight of food and non-alcoholic beverages in the CPI in 2006 amounts to 27.2%) continued to fall (in annual terms) (Figure 1.1, left-hand panel). The drop in food prices in 2006 Q2 (of 0.4% y/y/y) was nevertheless slower than in Q1 (by 0.6% y/y) and proved consistent with the assumptions adopted for the April inflation projection. The reduction in the drop in food prices was primarily caused by the slower decline of meat prices (mainly poultry and pork)[3].

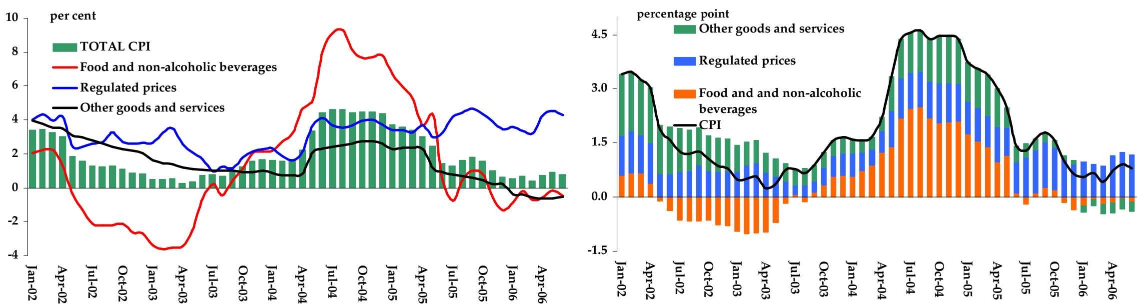


Figure 1.1: Consumer price index CPI. Left panel: CPI and main categories of prices. Right panel: CPI breakdown.
Source: GUS data, NBP calculations.

The growth of regulated prices (the weight of regulated prices in the CPI in 2006 amounts to 27.5%) stepped up in the analysed period and settled at 4.3% y/y in June 2006 (compared with 3.2% in March 2006) (Figure 1.1, left-hand panel). This relatively high growth of prices in this group was primarily upheld in the analysed period by the

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

[2]The following abbreviations will used throughout the *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.

[3]According to forecasts of centres analysing the situation in the agricultural markets, the cyclical increase in swine production and the consequent drop in purchase prices is gradually weakening. In the case of poultry, the slowdown in price fall results from the rebuilding demand for this kind of meat, which was earlier contained by consumers' fears connected with the consequences of the bird flu.

rise in the prices of natural gas (of 26.5% y/y in June 2006) connected with changes in tariffs and the rise in fuel prices in the domestic market (of 5.9% y/y in June). The impact of oil price hikes on the prices of fuels in the domestic market was offset by the appreciation of the zloty against the US dollar observed in this period. However, due to higher than expected prices of crude oil the growth rate of fuels in the whole of 2006 Q2 was higher than accounted for in the April projection.

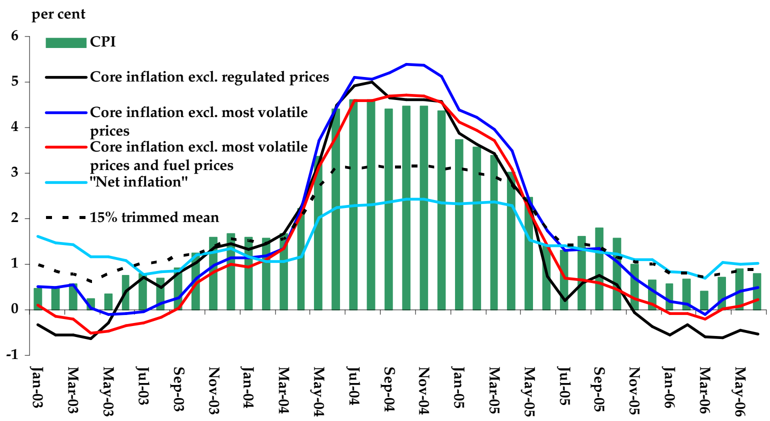


Figure 1.2: CPI and core inflation measures (y/y changes, per cent)
Source: GUS Data, NBP calculations.

The dynamics of prices of other consumer goods and services (the weight of other consumer goods and services in the CPI in 2006 amounts to 45.3%)[4] in April–June 2006 did not change in relation to that observed in March, i.e. stood at -0.6% y/y (Figure 1.1, left-hand panel). The price fall in this group (in year-on-year terms) in the analysed period primarily resulted from the continuing decline in the prices of non-food products (of 1.6% y/y in June 2006) – particularly in clothes and footwear and in electronic equipment, i.e. in goods which are to a large extent imported from low production cost countries. Moreover, in the analysed period there was also a significant drop in the prices of newspapers and magazines (of 13.0% y/y in June 2006), which resulted from increasing price competition among different agents in this market. The growth of prices of services stepped up to reach 1.0% in June 2006 y/y (compared to 0.8% y/y recorded in March 2006). In the analysed period, the growth rate of prices of services connected with flat maintenance, education, healthcare, recreation and culture, as well as prices at hotels and restaurants, was stable. A slight acceleration in the growth rate of services as a whole was related to the deceleration in the annual decline in the prices of internet services (of 34.2% y/y in June 2006, compared with 38.6% in March 2006). Nevertheless, the drop in these prices still significantly limited the growth in total services prices[5].

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

[5]Despite a small weight of internet services prices in the CPI basket, due their strong decline they

	y/y change in per cent											
	2005						2006					
	Jul	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**
CPI	**1.3**	**1.6**	**1.8**	**1.6**	**1.0**	**0.7**	**0.6**	**0.7**	**0.4**	**0.7**	**0.9**	**0.8**
Core inflation measures excluding:												
Regulated prices	0.2	0.6	0.8	0.6	-0.1	-0.4	-0.6	-0.3	-0.6	-0.6	-0.4	-0.5
Most volatile prices	1.3	1.3	1.4	1.1	0.7	0.4	0.2	0.1	-0.1	0.2	0.4	0.5
Most volatile prices and fuel prices	0.7	0.7	0.6	0.5	0.2	0.1	-0.1	-0.1	-0.2	0.0	0.1	0.2
Food and fuel prices ("net" infaltion)	1.4	1.3	1.3	1.2	1.1	1.1	0.8	0.8	0.7	1.0	1.0	1.0
15% trimmed mean	1.4	1.4	1.4	1.1	1.0	1.0	0.8	0.8	0.7	0.8	0.9	0.9
	m/m change in per cent											
	2005						2006					
	Jul	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**
CPI	**-0.2**	**-0.1**	**0.4**	**0.4**	**-0.2**	**-0.2**	**0.2**	**0.0**	**-0.1**	**0.7**	**0.5**	**-0.3**
Core inflation measures excluding:												
Regulated prices	-0.6	-0.3	0.2	0.4	-0.2	0.0	0.0	0.0	-0.1	0.3	0.5	-0.4
Most volatile prices	0.3	0.2	0.3	0.4	0.1	0.1	-0.3	-0.2	-0.1	0.1	0.0	-0.7
Most volatile prices and fuel prices	0.2	0.1	0.1	0.5	0.2	0.4	-0.1	-0.1	-0.1	-0.2	-0.2	-0.7
Food and fuel prices ("net" infaltion)	0.2	0.0	0.1	0.2	0.0	0.0	0.3	-0.1	0.0	0.4	0.0	0.1
15% trimmed mean	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
Core inflation measures – seasonally adjusted (TRAMO/SEATS):												
CPI	0.3	0.4	0.2	0.1	-0.1	-0.1	-0.1	0.1	-0.1	0.2	0.2	-0.1
"Net" inflation	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2

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

In the period April–June 2006 all core inflation indicators rose (in relation to March 2006) (Figure 1.2, Table 1.1), though they are still running at a low level. "Net" inflation[6] ran slightly higher than inflation measured with the CPI. This means that the total price movements of food and fuels in April-May 2006 have so far been curbing the growth of the CPI inflation. Core inflation net of regulated price is still negative, which is to a large extent the consequence of the drop in the group of prices of other consumer

had a significant impact on the prices of services – in June 2006 the growth rate of services prices net of internet services prices amounted to 2.1%.

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

goods and services.

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 May–July 2006 inflation expectations of individuals rose to 0.8% (from 0.6% in April 2006) and they still are markedly below the NBP's inflation target (2.5%) (Figure 1.3, left-hand panel). In the period from the end of March to June 2006, the short-term fluctuations in inflation expectations of individuals, which are a function of the structure of responses to the survey question and the current inflation rate, are entirely driven by changes in the current inflation which serves as a point of reference for respondents in formulating their estimates of future inflation (Figure 1.3, right-hand panel).

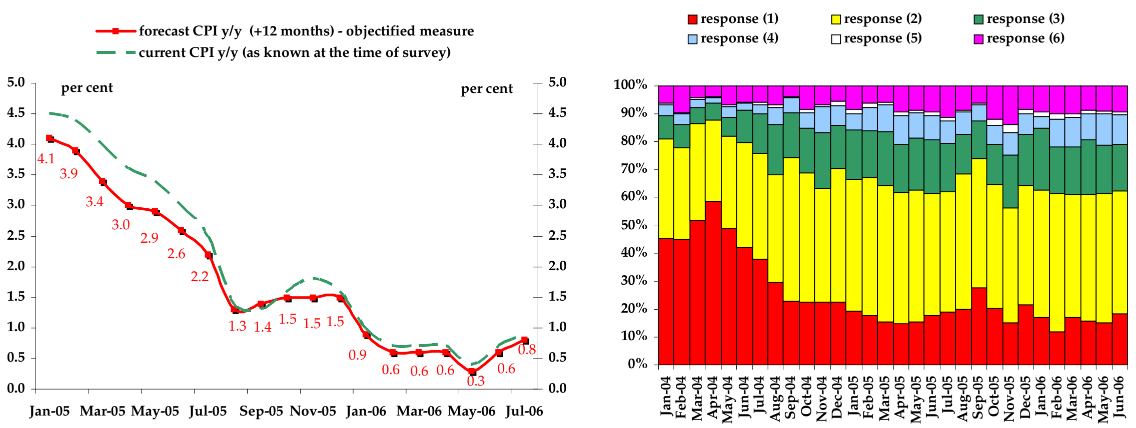


Figure 1.3: Inflation expectations of individuals. Left panel: Inflation expected in 12 months. Right panel: Responses to the question asked by Ipsos.
Source: GUS data, NBP estimates on the basis of Ipsos data.
Ipsos survey question: "Considering the present situation, do you think that prices during 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 May–July 2006, the annual inflation in 11 months as forecasted by bank analysts dropped slightly (as compared with April 2006) and settled at 1.9%. The July inflation forecasts for December 2006 remained unchanged in relation to April 2006 (Figure1.4, left-hand panel). In both cases the analysts' forecasts were lower than the NBP's inflation target (2.5%). At the same time, there was a slight reduction in uncertainty concerning the future course of inflationary processes as reflected by the shrinking gap between the maximum and the minimum levels of the inflation forecasted in 11 months (Figure1.4, right-hand panel).

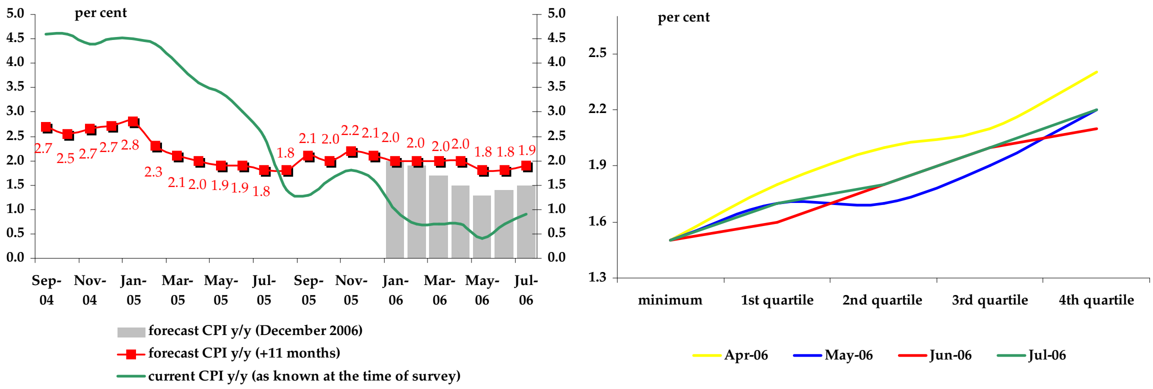


Figure 1.4: Inflation forecasts of bank analysts. Left panel: Inflation forecasted in 11 months and inflation forecast for December 2006. Right panel: Distribution of bank analysts' inflation forecasts of the annual inflation rate in 11 months.
Source: GUS data, Reuters data, NBP calculations.

1.3 Inflation and the Maastricht criterion

In a country intending to adopt the euro, the average annual inflation in the reference period[7] as measured by the harmonised index of consumer prices (HICP) published by Eurostat[8] (see box *Reasons for differences between the HICP and CPI inflation*), 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 the inflation growth in Poland 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. In March 2006 the average annual inflation in Poland dropped to 1.5%, being one of the three lowest EU levels. Thus, since March 2006 inflation in Poland has been taken into consideration in computing the reference value.

[7]Average inflation in the previous 12 months.
[8]Harmonised Index of Consumer Prices.

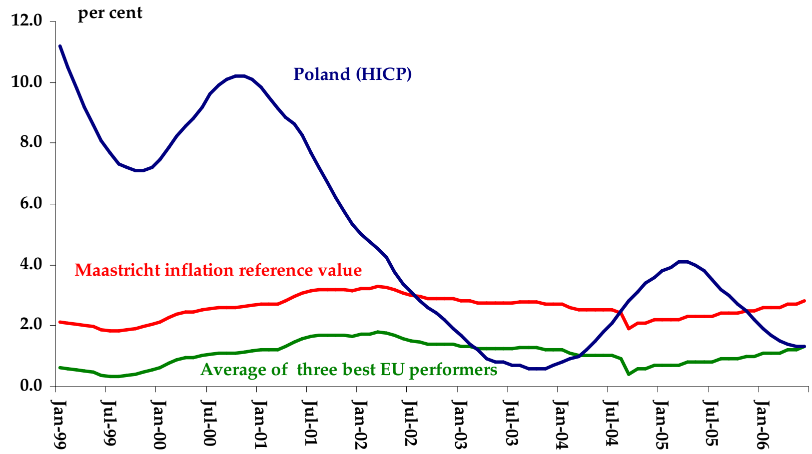


Figure 1.5: Inflation in Poland (HICP 12-month moving average) and the Maastricht criterion (per cent)
Source: Eurostat data, NBP calculations.
In June 2006 the reference value for inflation was calculated on the basis of the average inflation in Finland, Poland and Sweden where the average annual growth of prices stood at 1.2%, 1.3% and 1.3% 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 it 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.

Reasons for differences between the HICP and CPI inflation

The methodology of computing national CPI indicators differs in particular countries. Thus, in order to ensure international comparability of inflation indicators, the European Commission introduced the Harmonised Index of Consumer Prices (HICP), which is computed in accordance with a uniform methodology in all EU countries. Until the end of 2005, the deviations between the annual inflation in Poland measured by the HICP and CPI were insignificant. In the period 1997-2005 (HICP index was first published in 1997), the absolute difference between the HICP and CPI inflation averaged 0.1 percentage point, exceeding 0.3 percentage points in three months only. In 2006 the difference between both measures of inflation increased from 0.3 percentage point in January to 0.7 percentage point in June. The differences between the HICP and CPI inflation may be attributed to two reasons.

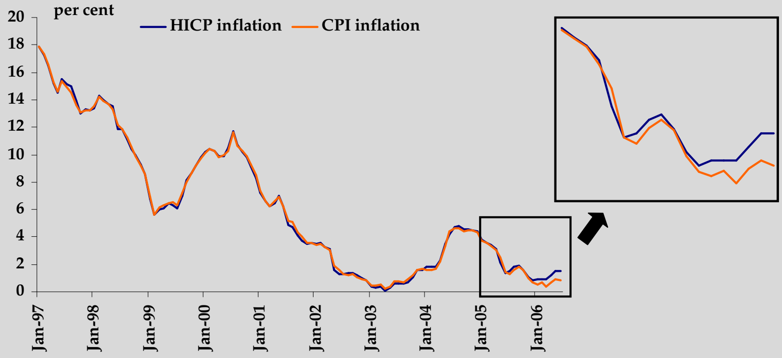


Figure R.1: Annual HICP and CPI inflation in Poland **Source:** GUS, Eurostat.

The first reason for differences between HICP and CPI inflation is related to the different source of statistical data which form the basis for constructing weights used for the aggregation of the indices. In the case of the CPI, the weights are based on the estimates of household spending obtained from the study of household budgets. In the case of the HICP, the national accounts statistics are used. This means, i.a. that the harmonised index additionally includes expenses incurred by foreigners buying goods and services in Poland and estimated expenses incurred by individuals staying at the so-called institutional households (for instance hospitals, prisons and rest homes).

The second reason for the differences between these two inflation measures is connected with the methodology of calculating the indices at the subsequent levels of aggregation. In particular, this difference may be of crucial importance when changes are introduced in the basket of consumer goods and services. The annual CPI inflation is calculated with the use of indices (price levels) from the previous year re-calculated in the weight system used in the current year. In contrast, in the case of HICP inflation, the indices from the previous year use the weight system that was in place in the previous year. As a result, in case some new goods are introduced in the basket, the annual values of CPI and HICP inflation may markedly diverge. This also implies certain difference in their interpretation. Inflation measured with the use of the CPI reflects the change in costs which have to be incurred for the purchase of a basket of consumer goods and services in the given year in relation to the expenses incurred for the same basket one year before. In turn, inflation measured with the HICP indicates the changes in the costs of current consumption in relation to the costs of consumption (different in structure) in the previous year.

In the case of Poland, the most pronounced differences in the weights used for the calculation of CPI and HICP indices concern food and non-alcoholic beverages, other consumer goods and services, as well as transport and telecommunications. According to rough estimates the difference in the used weights in June 2006 accounts for approx. 0.3-0.4 percentage point of the spread between the annual HICP and CPI inflation. In particular, the difference in the weights in the group of food and non-alcoholic beverage prices (the weight of this group in the CPI is 27.2% and in the HICP – 19.9%) is responsible for approx. 0.2 percentage point of the spread between the indices. The rise in the gap between the two inflation measures was most strongly connected with the price increase in the group *Other services n.e.c.* due to the rise in some court fees in March, with a markedly lower contribution of this group in the HICP (the group *Other services n.e.c.* has a 2.7% share in the HICP and 0.07% share in the CPI). Additionally, due to the changes in the basket of consumer goods and services in 2006 (inclusion of mobile telephony services to the HICP and CPI), the annual inflation measured with the HICP in June 2006 outstripped inflation measured with the CPI by approx. 0.1 percentage point.

It should be emphasised that both inflation measures are based on the same data from retail price listings collected by the GUS. However, the differences between the annual inflation as measured with the CPI and HICP clearly indicate that the differences in the methodologies of calculating inflation indices may have a significant effect on the assessment of its level.

Determinants of inflation

Since 2005 Q2 economic growth has been steadily increasing and in the first half of 2006 it reached a high level (of approx. 5% y/y). The economic growth in Poland was favoured by the acceleration of growth in its main trade partners. In line with expectations of the April *Inflation Report*, domestic demand, and particularly the dynamic growth in consumption, plays an increasingly important role in GDP growth. Apart from that, a considerable rise in investment is observed, which contributes to the potential output growth. The sustainability of the high growth in investment will depend on business-cycle and structural factors, including institutional factors, which determine investment climate. Investment climate depends mainly on the overall fiscal burden, public finance outlook, effectiveness of property rights protection, contract enforcement and regulations restraining economic freedom. Exports continue to show impressive growth, yet due to the recovery in domestic demand and import acceleration, net exports cease to contribute to GDP growth. Economic growth is accompanied by a steady increase in new jobs creation and decline in unemployment. Fast growth in labour productivity in industry matched by a 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. The increased GDP growth in the first half of 2006 was accompanied by low inflation and low current account deficit.

2.1 Demand

According to the GUS data, the real GDP growth accelerated in 2006 Q1 and reached 5.2% y/y compared with 4.3% y/y in 2005 Q4, achieving the highest growth rate since 2004 Q2.The quarter-on-quarter growth rate of GDP also stepped up markedly (to 1.4% q/q in seasonally adjusted terms compared to 1.0% q/q in 2005 Q4) (Table 2.2)[9]. The rate of economic growth in 2006 Q1 exceeded expectations presented in the April *Report*. A particularly high growth rate was observed in individual consumption, which (5.2% y/y compared to 2.8% in 2005 Q4) reached the level recorded during the boom period

[9]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 the GUS.

preceding Poland's accession to the EU (in 2004 Q1 and Q2 the rise in private consumption amounted to 5.1% y/y). The growth in fixed capital formation proved high, though lower than expected and also lower than in the preceding quarter (7.4% y/y against 10.1% in 2005 Q4). The high total growth rate of consumption and fixed capital formation continued and, similarly as in 2005 Q4, amounted to approx. 5% y/y. Overall, the growth in domestic demand (4.5% y/y) was still high, though due to the negative contribution of change in inventories to GDP it was lower than in 2005 Q4 (5.4% y/y). Despite this high growth in domestic demand, the contribution of net exports to GDP growth increased significantly (to 0.7 percentage points from -1.1 percentage point in 2005 Q4).

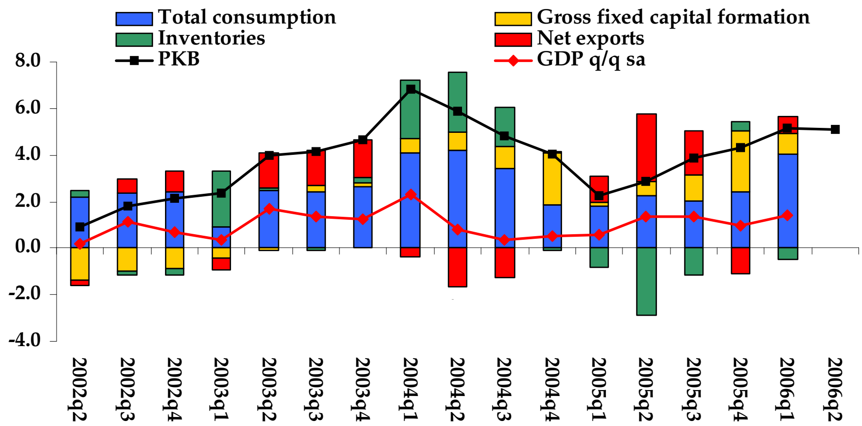


Figure 2.6: Contribution of aggregate demand components to GDP growth
Source: GUS data, 2006 Q2 – NBP estimates.

Seasonally adjusted (per cent)	03q4	04q1	04q2	04q3	04q4	05q1	05q2	05q3	05q4	06q1
GDP	1.3	2.3	0.8	0.4	0.5	0.6	1.4	1.3	1.0	1.4
Domestic demand	1.5	2.4	1.2	0.3	-0.2	0.5	0.5	1.2	1.7	0.8
Total consumption	1.3	1.1	0.8	0.7	0.4	0.5	1.0	0.8	1.0	1.1
Private consumption	1.5	1.4	1.1	0.3	0.2	-0.1	1.1	1.1	0.9	1.7
Gross capital formation	3.4	9.5	2.8	-1.7	-2.0	1.2	-1.4	2.8	2.5	-1.6
Gross fixed capital formation	0.0	3.9	0.6	1.2	1.7	1.2	2.2	1.9	2.4	1.1

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 data for April-June 2006 it can be assessed that the growth rate of GDP in 2006 Q2 was still high, at a level close to that observed in 2006 Q1 (both in year-on-year and quarter-on-quarter seasonally adjusted terms). According to NBP estimates, in 2006 Q2 the strong growth in individual consumption continued, the growth rate in fixed capital formation stepped up, while the contribution of net exports to GDP growth decreased. Current estimates of the GDP growth rate in 2006 Q2 are significantly higher than the expectations presented in the April *Report* (by 0.9 percentage point).

2.1.1 Consumption demand

According to GUS data, in 2006 Q1 individual consumption growth rate rose to 5.2% y/y from 2.8% y/y in 2005 Q4 and thus exceeded the expectations presented in the April *Inflation Report*. This strong acceleration in individual consumption growth in 2006 Q1 occurred amid an increased growth rate of real gross disposable income of households and a steep climb in consumer loans (see Chapter 2.5.3. *Credit and money*). These developments were accompanied by a decline in saving ratio (i.e. in a ratio of saving to personal income).

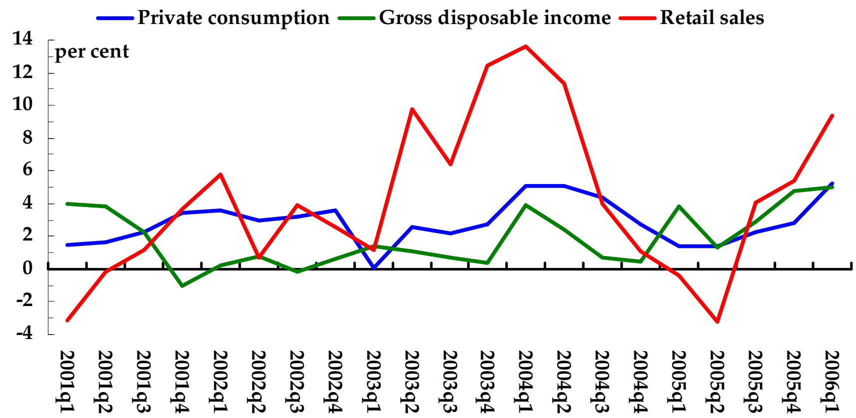


Figure 2.7: Growth of private consumption, gross disposable income and retail sales (y/y, per cent, constant prices)
Source: GUS data, gross disposable income - NBP estimates.

Accelerated consumption growth rate translated into the higher growth rate of retail sales. In 2006 Q1 retail sales of goods increased by 9.4% y/y in real terms, i.e. almost twice as fast as in 2005 Q4 (5.4% y/y). The increase in the volume of retail sales in the first two months of 2006 Q2 was even higher and amounted to over 12% y/y. The highest growth was recorded in the sales of furniture, radio and television equipment and household appliances, as well as cosmetics and pharmaceuticals, while the sales of cars, motorcycles and their parts displayed a smaller growth.

According to NBP estimates, in 2006 Q1 the growth rate of household disposable income amounted to approx. 5.0%. According to the GUS data, there was a continuation in the growth of employment and of real wages in the economy (increase of 4.3% y/y as compared to 4.1% y/y in 2005 Q4). As a result, the annual growth rate of real household income from paid employment, as estimated by the NBP, was slightly higher than in 2005 Q4. The March 2006 indexation of old-age and disability pension benefits for 2004-

2005 brought about a steep increase in the real value of average old-age and disability pension benefits for employees (growth of 6.8% y/y) and farmers (growth of 5.0% y/y) (March 2006 data), which contributed to the acceleration of the growth rate of income from social benefits. The NBP estimates also point to a considerable rise in the annual growth rate of income of self-employed people in 2006 Q1.

At the same time, according to the GUS data, in 2006 Q1 the annual growth rate of public consumption dropped, in real terms, to 3.2% from 5.1% in 2005 Q4.

GUS consumer confidence surveys indicate that 2006 Q2 saw further improvement in households' assessments of their financial standing. Assessments of financial standing were markedly better than a year before. There was a stabilisation in the assessments concerning planned major purchases. In April 2006, households' assessments of their intentions to build or purchase a house or a flat edged up as compared with January 2006, following on the upward path which had begun in July 2005. The assessments of the intention to buy a car in the coming 2 years have seen a progressive improvement, as well. At the same time, together with the expected improvement in their financial standing, since May 2004 households have more and more frequently declared increased saving capacity within the next 12 months.

Monthly data from the corporate sector for 2006 Q2 indicate that the real wages growth was maintained close to the level of 2006 Q1 and that employment growth in the sector accelerated as compared to that of 2006 Q1. As a result the significant growth in households' real income from paid employment in 2006 Q2 should be continued. Indexation of old-age and disability pension benefits in March 2006 will also boost the annual growth of income from those benefits. Current findings of household surveys conducted by the GUS and a two-digit growth rate of retail sales reported in the period April-June 2006 indicate that the growth rate of individual consumption in 2006 Q2 most probably remained at a high level.

2.1.2 Government demand

In 2006 Q2 the central budget deficit amounted to PLN 8.4 billion and was higher than in Q2 of the preceding years (PLN 5.5 billion in 2005 and PLN 7.9 billion in 2004). In the first half of 2006 the central budget deficit amounted to PLN 17.7 billion and was lower than the deficit realised in the corresponding period of 2005 by 3.2%.

In 2006 Q2 the central budget revenues were 0.2% y/y higher than a year before. Personal income tax revenues were considerably higher than in 2005 Q2, which was largely due to the increase of taxation base resulting from a dynamic growth in employment and wages. High growth rate of corporate income tax revenues was driven by improved financial results of banks and financial institutions and the annual corporate income tax settlement balance for 2005 which was favourable for the central budget. Higher growth rate of revenues from indirect taxes was due to an accelerated growth in retail sales. On the other hand, non-tax revenues decreased as compared with the corresponding period of 2005 mainly as a result of the NBP's profit transfer to the central budget being postponed from June to July 2006[10].

Assumptions for the 2007 central budget

In June 2006 the government presented the *Assumptions for the Draft 2007 Budget Bill*.The central budget deficit is expected to reach the level of PLN 30 billion (2.7% of GDP as compared with 3.0% of GDP in 2006), the central budget revenues the level of PLN 213.1 billion (19.5% of GDP), and the expenditure the level of PLN 243.1 billion (22.3% of GDP). This means an increase in the central budget revenues and expenditure in relation to GDP as compared with the year 2006 by 0.5 and 0.4 percentage point respectively. Despite a strong economic growth assumed for the year 2007 (4.6%), it will be difficult to realise the budget deficit lower than PLN 30 billion due to the scheduled reduction of social security contributions entailing the necessity of increasing the central budget subsidies paid to the Social Security Fund and the increase of other expenses resulting, among others, from Poland's membership in the EU (EU membership contribution, expenditure on the co-financing of EU-funded projects) and national defence-related expenditure. Forecasts of the central budget revenues had been based on the assumption of the implementation of tax changes which have not been adopted yet by the Parliament. There is a risk that the planned tax increases intended to compensate for the reduction of social security contributions will not be voted by the Parliament. Besides, given the growth rate of nominal GDP and individual consumption (6.1%y/y and 5.7% y/y respectively) – assumed in the tax revenue forecasts – being lower than the nominal growth rate of tax revenues, the forecasts of tax revenues assuming their nominal growth by 11.9% are overoptimistic, regardless of the effects of tax changes.

The 2007 Budget Bill assumes a nominal increase of the central budget expenditure of 7.8% y/y, i.e. 5.8% y/y in real terms. This increase will be largely driven by increased subsidies paid to the Social Security Fund as a result of the scheduled reduction of contributions under disability pension benefit scheme and sickness benefit scheme, financing the medical rescue operations by the central budget and increased spending on family allowances. The *Assumptions* do not provide for any comprehensive solutions aimed to permanently curtail other central budget expenditure.

In 2007 the deficit of the general government sector in relation to GDP will probably be slightly lower than in 2006 due to maintaining the budget anchor (i.e. central budget deficit at the level of PLN 30 billion) and under the assumption of generally unchanged situation of other government sector entities,. The decline in the deficit-to-GDP ratio will be driven mainly by the expected high level of economic growth, which is a cyclical factor. The 2007 forecasted strong economic growth creates favourable conditions to reduce the public finance imbalance.

[10]The National Bank of Poland transfers its profit to the account of the Ministry of Finance following the approval by the Council of Ministers of *the NBP's financial statements* drawn up as at 31 December of the preceding year. The government's meeting of 27 June 2006 took a decision to postpone the date of approving the 2005 Statements to the subsequent meeting of the Council of Ministers; consequently, the NBP's profit was transferred to the central budget in July 2006 instead of June 2006 as before.

In 2006 Q2 the central budget expenditure edged up to 5.8% y/y. The expenditure increase resulted, among others, from higher than a year before costs of the central government debt service [11], EU contribution, subsidies paid to local governments and current expenditure of government entities, mainly wage-related expenditure. A decrease was recorded in investment expenditure as compared with the corresponding period of the previous year.

In the assessment of NBP experts, in 2006 Q2 other government sector entities also enjoyed a favourable income situation. As a consequence, and due to moderate increase in expenditure, state social contribution funds (especially Social Security Fund and Labour Fund) did not run any deficit. Local government entities recorded a surplus in 2006 Q1 which was probably maintained in 2006 Q2.

In the second half of 2006 will most probably be marked by an accelerated growth in general government expenditure. It will be due to increased expenditure, among others, on family allowances (bigger number of beneficiaries and higher amount of benefits), social benefits (higher amounts of certain benefits) and the payment of wage increases in the health care sector. Besides, investment outlays of the government sector entities will increase as usual in the second half of the year and own funds will most probably be made available for the implementation of programmes funded with EU structural funds. Maintenance of favourable income situation should allow to realise the government sector deficit at a level lower that planned for 2006 (3.6% of GDP).

According to the forecasts of NBP experts, cash deficit of the general government sector in 2006 may reach 3.1% of GDP - an increase by 0.5 percentage point of GDP against the year 2005. Despite a considerable acceleration of the economic growth rate in 2006, the deficit/GDP ratio exceeding the 2005 level is related, among other things, to the indexation of social security benefits and the introduction of new expenditure items in the 2006 Budget Bill by the Parliament (i.e. one-off birth allowances, family allowances for farmers, longer maternity leaves).

2.1.3 Investment demand

According to the GUS preliminary estimates, investment in the economy in 2006 Q1 rose in real terms by 7.4% y/y as compared to 10.1% y/y in 2005 Q4 and 6.5% y/y in 2005 Q3 (2005 data were revised upwards – see Chapter 4 *Projection of inflation and GDP*).

According to the estimates of NBP experts based on the data from GUS F-01 reports, of the non-financial enterprises sector (employing more than 49 persons) gross fixed capital formation in 2006 Q1 rose in nominal terms[12] by 8.7% y/y against 7.9% in 2005. The highest growth in 2006 Q1 was observed in the group of machinery and equipment

[11] Higher costs of central government debt service in 2006 Q2 were due, among other things, to the altered payment schedule of interest on foreign debt.

[12] The need to use nominal values results from the lack of data on investment price deflator in 2006 Q1

(12.9% y/y), while the investment in means of transport (4.7% y/y) and real property (4.4% y/y) was rising at a slower rate.

2006 Q1 brought a decrease in investment activity of central and local government sector by 1.5% y/y (as compared with a rise of 18.6% y/y in 2005 Q4). Although the investment outlays of local governments increased by 14.4% in nominal terms as compared to the previous year, those financed by the central budget fell considerably (by 41.7% y/y).

A strong growth in demand observed in the housing construction sector is mainly reflected in growing prices of flats (see Chapter 2.5.2 *Flat prices*). In the period April-May 2006 both the number of completed dwellings and the number of dwellings under construction were smaller than a year before. However, the number of construction permits increased considerably in year-on-year terms.

In 2006 Q1 the imports of investment goods continued to step up rapidly (excluding means of transport – growth of 22.2% y/y as compared with the growth of 28.3% y/y in 2005 Q4 and 14.9% y/y in the whole of 2005)[13].

According to the NBP economic climate surveys[14] the investment activity indicator (both raw and seasonally adjusted) has decreased. Despite that, investment activity in the nearest term should be driven by good – in the opinion of the surveyed enterprises – investment climate. Enterprises also signal good prospects for demand and output growth, which amid high production capacity utilisation may be an important incentive to undertake investment. Almost all investors (98%) declared their intention to continue the already started investment projects. The index of new investment (measured as the share of enterprises intending to commence new investment within a quarter) remained high (of over 30%), though below its historically high level (of approx. 35%) recorded in 2005.

Good financial standing of companies resulting from their very good performance in 2005 and 2006 Q1 is one of the main investment-driving factors. At the same time, there has been an increased interest in corporate borrowing — especially by large enterprises — which is confirmed by the banking sector data (See Chapter 2.5.3 *Credit and money*). The expected increase in the absorption of structural funds will contribute to the rise in investment. Moreover, it is now possible for enterprises to cooperate within the framework of Public Private Partnership (the Public Private Partnership Act had been singed in September 2005, yet it lacked respective regulations, which were only adopted in June 2006).

[13]An important category is means of transport included under imported investment goods are ships repaired in Polish shipyards. After the repairs they are usually exported. Thus, the exclusion of means of transport from investment imports is aimed at improving the assessment of the volume of imports which can be actually treated as investment imports in the economic sense, i.e. contributing to a rise in capital assets in Poland. The value of the imports of industrial means of transport in 2006 Q1 decreased by 20% y/y, which resulted from a 50% drop in the value of imported ships. As a result, the rise in the total imports of investment goods in euro terms amounted to 9.4% y/y.

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

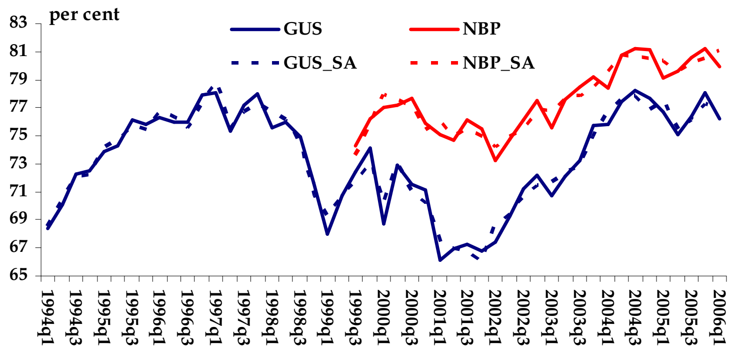


Figure 2.8: Production capacity utilisation in industry (GUS) and in the corporate sector (NBP) (per cent)
The production capacity utilisation obtained from the GUS business survey is significantly lower from one obtained from the NBP business survey. However, the changes in this indicator are similar 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 June 2006, in turn, included 835 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.

The growth rate of investment may, however, be curbed by political uncertainty, including, among others, problems in the functioning of supervisory and management boards of state-owned companies[15] and possibly lower than expected EU fund absorption, should there be the lack of progress in streamlining the system of EU funds' utilisation.

The domestic investors' propensity to invest and the scale of foreign investment inflow will also depend on the introduction of reforms contributing to the improvement of contract law enforcement, simplification of business start-up procedures, reduction of the fiscal burden and thus the overall improvement of conditions for business activity in Poland[16].

2.1.4 External demand and current account of the balance of payments

In 2006 Q1 the deficit of current account of the balance of payments increased slightly both in quarter-on-quarter and year-on-year terms amounting to EUR 1.3 billion, and

[15]Uncertain situation concerning management boards of state-owned companies directly affects those enterprises' investment activity by delaying their investment decisions; in 2005 investment projects carried out by state-owned companies accounted for almost half of all investment projects of public sector enterprises. A slowdown in the investment activity of the public sector enterprises is corroborated by the GUS data from F-01 reports for 2006 Q1

[16]The need to step up reforms facilitating business activity is indicated, among others, by the World Bank in its report *Doing Business in 2006*.

thus was almost EUR 300 million higher than in 2005 Q1[17]. Nevertheless, it remained low (1.5% of GDP – concerns deficit and GDP computed for the four quarters i.e. from 2005 Q2 to 2006 Q1) This deepening of the negative current account balance in 2006 Q1 in annual terms was mostly driven by a drop in the positive balance of transfers (continuation of the trend begun in 2005 Q4). At the same time, there was a reduction in the surplus of exports over imports in the trade in services and a slight deepening of the deficit on trade in goods[18]. In turn, the reduction of the current account imbalance was favoured by income deficit narrowing.

According to the GUS data for 2006 Q1, the growth in the value of exports (in EUR) (of 24% y/y[19]) resulted mainly from an increase in exports volume (of 21% y/y – the highest growth since 2004 Q1). This was supported by demand recovery among Poland's major trading partners, as well as further intensification in international corporate links.

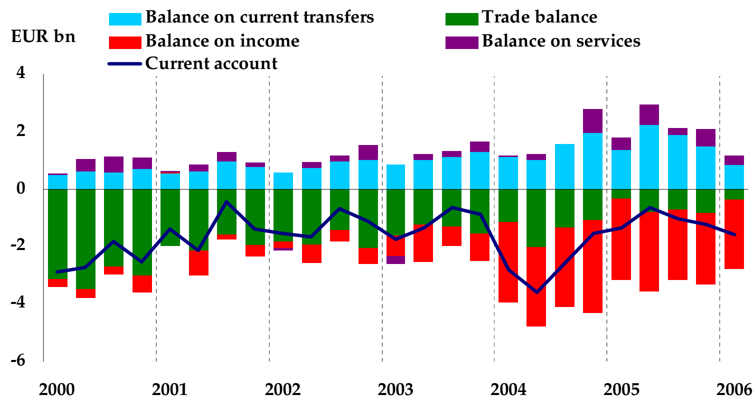


Figure 2.9: Current account balance (EUR bn.)
Source: NBP data.

The euro area, which in 2006 Q1 accounted for 50% of Polish exports value, saw a continuation to the growth rate of import demand. In 2006 Q1, the volume of imports of the euro area increased by 9% y/y, and their value rose by 23% y/y (i.e. the highest growth since 2000 Q4). The growth of imports was, to a large extent, the result of growing demand from the export sector in the euro area (an increase in the growth rate of exports of the euro area amounted to 16% y/y from 10% y/y in 2005 Q4), which

[17]According to preliminary data for April-May 2006 current account deficit decreased by 270 million in annual terms

[18]The improvement in the balance of trade in goods has continued since 2000. 2004 Q2 was the only period marked by a temporary deepening of the deficit on trade in goods as a result of Poland's accession to the EU. A considerably faster growth of exports over imports, observed since 2000, significantly raised the ratio of exports to imports. In 2000 the value of exports accounted for 75% of imports, while in 2006 Q1 – for as much as 99%. In the four quarters (i.e. in the period 2005 Q2 – 2006 Q1) the share of exports of goods and services in GDP amounted to 38.0% against 37.0% in 2005, 37.5% in 2004, 33.3% in 2003 and 27.1% in 2000, while the share of imports of goods and services in GDP amounted to 38.3% against 37.2%, 39.4%, 35.7%, 33.4% respectively).

[19]According to GUS preliminary data, in the period January-May 2006 exports increased by 23.3% y/y

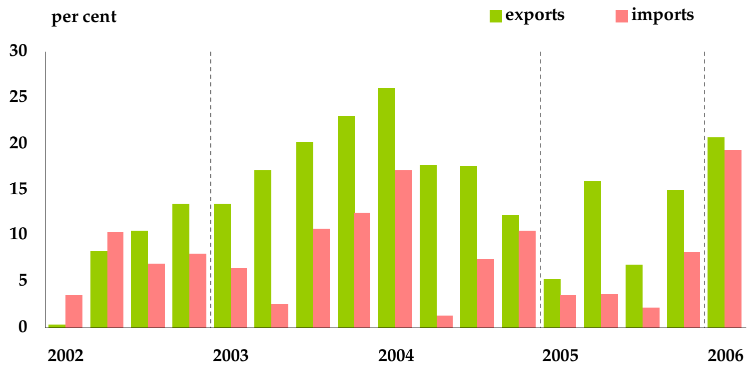


Figure 2.10: Increase in the volume of exports and imports of goods (y/y).
Source: GUS.

was supported by the favourable economic climate in the external environment. Out of the main groups of goods in the euro area's imports, the strongest acceleration was recorded in intermediate goods (from 6% in 2005 Q4 to 15% 2006 Q1). As these goods have a dominant position in imports from Poland – this found reflection in a considerable acceleration of imports from Poland. In 2006 Q1 imports increased by 29% y/y (as compared to 15% y/y in 2005 Q4). The growth rate in euro area imports from Poland was one of the highest (higher growth of imports was recorded only in imports from countries which supply the euro area with oil).

The highest growth rate in Polish exports was recorded in the sales to new EU member states. In January-March 2006 the exports to this group of countries increased by almost 50% y/y, which points to the continuously growing importance of Central European countries in the Polish foreign trade (a similar tendency is also noted in imports). This is driven by both further increase in corporate links between Poland and these countries, which is connected with foreign direct investment in the region, and also by the high economic growth observed there[20].

In 2006 Q1 the weight of agricultural exports in Polish trade continued to rise[21]. In 2006 Q1, the sales of agricultural products abroad increased by almost 40% y/y. Acceleration in the growth of exports was recorded both in the trade with EU countries, especially new EU member states, and the third countries. A considerable growth was noted in the exports of agricultural products to Asian and African countries, i.e. regions whose share in those exports had so far been marginal[22] Despite the Russian ban on the

[20]GDP growth in the countries of this region weighted by the structure of Polish exports in 2006 Q1 amounted to 7.1% y/y

[21]The share of agricultural products in Polish exports is now slightly over 9% (2006 Q1). Although the last few years have seen a growing share of agricultural products in total exports, it is still smaller than in many EU countries (e.g. in Denmark, in 2005 the share of agricultural products in exports reached 19%, and in Spain – 14%).

[22]In 2006 Q1 more than 12% of the growth of agricultural exports resulted from the growth of exports to Asia and Africa. At the moment, those regions account for 5% of agricultural exports (as compared to

imports of meat and plant products from Poland, food exports grew considerably.. A drop in the sales of agricultural products to Russia was offset in 2006 Q1 by a strong growth of exports to the Ukraine.

	04q1	04q2	04q3	04q4	05q1	05q2	05q3	05q4	06q1
Export prices / Unit labour costs*									
y/y	25.7	32.6	12.8	7.7	-8.2	-16.6	-6.7	-6.3	-1.1
q/q	2.0	15.6	-10.5	2.0	-13.0	5.0	0.2	2.4	-8.2
Import prices / domestic producer prices									
y/y	6.4	1.7	-8.2	-10.5	-11.9	-13.8	-3.4	-2.2	-1.7
q/q	3.4	-2.0	-9.4	-2.5	1.7	-4.1	1.6	-1.3	2.3
REER ULC*									
y/y	-21.4	-15.8	-1.3	10.8	26.7	20.8	12.8	6.2	0.2
q/q	1.7	-3.9	9.6	3.4	16.4	-8.4	2.3	-2.7	9.8

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

In 2006 Q1 the competitive position of Polish producers in relation to foreign producers as measured by the ratio of transaction export prices to unit labour costs in manufacturing and real effective exchange rate deteriorated in comparison to 2005 Q4 (Table 2.3). By contrast, there was an improvement in the competitive position of Polish producers on the domestic market, which is signalled by a quarter-on-quarter increase of import prices coupled with a drop in domestic producer prices in manufacturing.

High growth rate of domestic demand in Poland in 2006 Q1 translated into a marked acceleration in the growth of the imports value[23] which was mainly driven by the increase in their volume (of 19% y/y, i.e. the highest growth since 1999).

Higher growth rate was noted in the imports of consumer goods and food products. In the group of consumer goods, the most dynamic growth was recorded in the imports of durable goods. A strong increase in the imports of those goods (of 34% y/y) was coupled with a marked decrease in transaction prices (prices in EUR were in 2006 Q1 more than 7% lower in year-on-year terms). The was also a reduction in the import prices of the so-called semi-durable goods (among others clothes and footwear). In 2006 Q1, both the above mentioned groups reported an increase in the share of imports from China[24].

2% a year before).

[23]According to GUS preliminary data in the period January-May 2006 imports increased by 21.0% y/y

[24]In 2006 Q1 the share of China in the imports value of consumer durable goods (mainly radio and television equipment and household appliances) increased from 14.7% to 15.9%, and in the imports value of semi-durable goods – from 31.5% to 33.2%.

In 2006 Q1 the current account deficit was financed by the surplus on the capital account, which resulted from the influx of EU funds and foreign direct investment. The inflow of foreign direct investment amounted to EUR 3.3 billion and was EUR 1.9 billion (i.e. 45%) higher than the current account deficit. As a result, 2006 Q1 saw a surplus in the balance of payments.

In 2006 Q1 all the warning indicators used for assessing the external imbalance remained at a safe level close to that observed in 2005 (Table 2.4).

Warning indicator	04q4	05q1	05q2	05q3	05q4	06q1
$\frac{\text{Current account balance}^*}{\text{GDP calculated annually}}$	-4.2%	-3.4%	-2.1%	-1.5%	-1.4%	-1.5%
$\frac{\text{Current account balance}^* + \text{capital account balance}}{\text{GDP calculated annually}}$	-3.8%	-2.8%	-1.6%	-1.2%	-1.1%	-1.2%
$\frac{\text{Trade balance}}{\text{GDP calculated annually}}$	-2.2%	-1.8%	-1.3%	-1.0%	-0.9%	-0.9%
$\frac{\text{Direct investment}^*}{\text{Current account deficit}^*}$	112.9%	120.3%	147.0%	224.6%	141.4%	157.1%
(Current account balance* + capital account balance + direct investment*)/GDP	0.9%	1.2%	1.5%	2.2%	0.9%	1.2%
$\frac{\text{Foreign debt service}}{\text{Revenue from export of goods calculated annually}}$	35.4%	40.2%	40.4%	38.6%	32.5%	29.3%
Foreign reserves** expressed in terms of monthly import of goods and services	4.0	4.3	4.8	4.7	4.8	4.6

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

2.2 Output

According to the GUS data, 2006 Q1 saw gross value added risen by 4.9% y/y compared with 4.2% y/y in 2005 Q4. This rise in the annual growth rate of value added resulted mainly from a faster growth in market services and – to a lesser extent – in industry. On the basis of preliminary data for April-June 2006, it can be estimated that the annual value added growth rate in 2006 Q2 was slightly higher than that observed in 2006 Q1[25].

According to the estimates of NBP experts, the high growth in value added was sustained in 2006 Q2, also in seasonally adjusted quarter-on-quarter terms, crossing the level of 1% once again (Table 2.5).

[25]The analysis of output in 2006 Q1 was based on GUS data on GDP in 2006 Q1, while the analysis of output in 2006 Q2 was based on preliminary GUS data on industrial output, construction and assembly production, retail sales, business tendency surveys and other data.

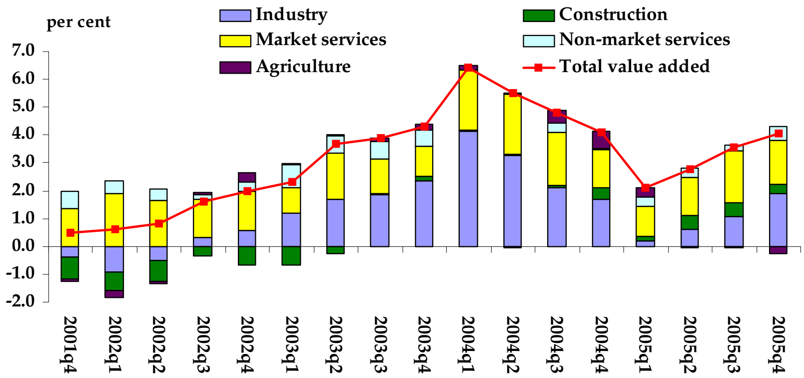


Figure 2.11: Sector contribution to annual gross value added growth (per cent)
Source: NBP calculations on the basis of GUS data.

Seasonally adjusted (per cent)	03q4	04q1	04q2	04q3	04q4	05q1	05q2	05q3	05q4	06q1
Value added – total	1.1	2.4	0.6	0.5	0.6	0.4	1.3	1.3	1.0	1.1
Industry	2.1	5.8	0.7	-1.0	0.7	0.5	2.4	0.8	3.8	1.0
Construction	-0.6	0.7	-0.2	1.1	3.2	1.2	2.2	1.2	0.6	0.3
Market services	1.1	1.7	0.7	0.4	0.7	0.5	1.1	1.5	0.7	1.6

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

After a steep growth in the gross value added volume in industry at the end of 2005, its seasonally adjusted increase in 2006 Q1 was slightly lower than in 2005 Q4, which was reflected in a reduction of the quarterly growth rate in this category. At the same time, the growth rate of gross value added grew in annual terms, as the output volume in 2006 Q1 was higher than one year before. Preliminary data for April-June 2006 indicate that the value added in industry resumed its dynamic growth in 2006 Q2. The rise of value added in industry is slower than the rise in industrial output, which is an indication of this growth being concentrated in large and medium-sized enterprises[26]. Positive tendencies continue in industries with a high share of export sales, in particular in manufacture of radio, television and telecommunications equipment, manufacture of motor vehicles, metal products, machines and electrical apparatus. After a temporary slowdown, there was a rebound in the furniture industry. The recovery in metallurgy and coke production and refining industry is continuing and so is the rising trend in the food industry. The acceleration in the growth of output in construction observed since March 2006 is accompanied by a steady stepping-up in manufacture of goods from non-metal commodities. The level of output in textile industry is sustained. To sum up,

[26]The faster growth of industrial output than the value added in industry may be also partially attributed to the rise in material intensity of production or changes in production organisation in cooperating enterprises.

the observed structure of industrial output points to a still important role of exports in the economic growth, with a steadily growing sales in the domestic market. 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 investments made by industrial enterprises.

GUS data indicate that in 2006 Q1 saw acceleration in value added growth in market services (both in year-on-year and quarter-on-quarter terms), which was mainly caused by the revival in trade and repairs. Preliminary data for April-May suggest that the favourable tendencies in market services were sustained in 2006 Q2, as indicated by a still high growth rate of retail and wholesale sales and the sale of transport services. Good economic climate is also continued in the other sections of market sales, including real estate activities and services connected with business activity. In view of the favourable assessments formulated by the enterprises polled in economic climate survey studies, it should be expected that the favourable trends in market services will be continued in the coming months.

Mainly due to unfavourable weather conditions in January and February, in 2006 Q1 the growth rate of value added in construction was relatively low. The monthly data on construction and assembly output indicated that the situation in construction industry improved markedly already in March and this tendency continued in subsequent months. Thus, it may be assessed that the value added growth rate in construction in 2006 Q2 was markedly higher than in 2006 Q1 (both in year-on-year and quarter-on-quarter terms). Given the still optimistic signals visible in economic climate surveys, continuously steep 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, NBP experts assess the outlook for construction output growth in the coming quarters as favourable.

2.3 Labour market

2.3.1 Employment and unemployment

Since 2003 Q2 growth has been observed in the number of persons working in the economy. According to BAEL data, 2006 Q1 marked acceleration in the number of working persons, which was 422 thousand higher than a year before. The annual growth rate in the number of working persons (3.1% y/y compared with 2.4% y/y in 2005 Q4)[27] was the highest in the BAEL survey history (i.e. since 1992) and higher than expected in the April projection (Figure 2.12). In seasonally adjusted terms, the number of working persons in 2006 Q1 increased by 1.0% q/q.

[27] In 2006 Q1 the GUS modified the BAEL definition of working persons. As a result, some people previously qualified as working were included into the category of economically inactive. According to the estimates of NBP experts, in comparable terms – using the old definition of working persons – the year-on-year growth in their number as recorded by BAEL in 2006 Q1 amounted to 3.6% y/y

This rise in the growth rate of working persons in 2006 Q1 primarily resulted from the accelerated rise in the number of people working outside private farming (3.8% y/y against 3.5% y/y in 2005 Q4)[28]. In 2006 Q1 the rate of growth in the number of people working in industry and services accelerated, while at the same time the rate of decline in the number of people working in agriculture slowed. (Table 2.6). The highest contribution to the rise in the number of working persons was made by the service sector, where the number of working persons in 2006 Q1 rose by 292 thousand y/y (i.e. by 3.9% y/y). In turn, the number of working persons in industry rose by 156 thousand y/y (3.9% y/y).

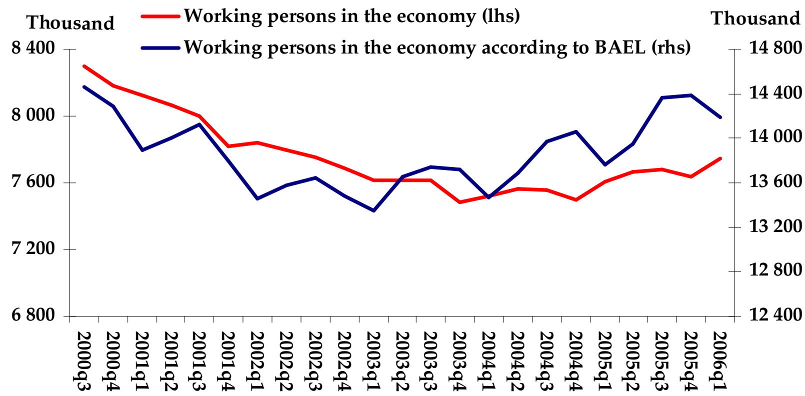


Figure 2.12: Working persons in the economy (according to BAEL) and in entities with more than 9 employees
Source: GUS data.

The number of people working on a fixed term contract has been growing quickly, though slower than in the previous quarters (8.9% y/y in 2006 Q1 against 15.2% y/y in 2005 Q4). In 2006 Q1 the people working on fixed term contracts accounted for 25.4% of all paid employees. Since 2005 Q3 a gradual increase has been observed in the number of people working on a permanent-contact basis (1.8% y/y in 2006 Q1 against 0.4% in 2005 Q4). 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 stems 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 July 2006 the shortage of skilled workers was listed among growth barriers by 39.3% of employers in the construction sector (compared with 14.3% in July 2005). In turn, in industry in 2006 Q3 the difficulties in obtaining skilled workers was reported by 17.6% of enterprises (against 10.4% a year before). The source of the above difficulties may be the increased migration of Polish workforce to other European countries after Poland's accession the EU[29].

[28]BAEL survey study (Badanie AktywnoIJci Ekonomicznej LudnoIJci) had only registered such a high growth rate in the number of persons working outside private farming (i.e. exceeding 3.5% y/y) in 1997 Q3 and 1998 Q1 and Q2

[29]After Poland's accession to the EU, there was a surge in the number of Poles leaving the country

	Working persons in 2006q1		Growth in 2005q4		Growth in 2006q1		Growth in 2005q4	Growth in 2006q1
	thousands	structure	y/y thousands	y/y	y/y thousands	y/y	q/q seasonally adjusted	q/q seasonally adjusted
Total	14 189	-	332	2.4%	422	3.1%	0.6%	1.0%
Total excluding private agriculture	12 104	-	403	3.5%	440	3.8%	0.9%	0.8%
Place of residence								
urban areas	8 769	61.8%	261	3.0%	265	3.1%	1.1%	0.4%
rural areas	5 420	38.2%	71	1.3%	157	3.0%	-0.6%	1.4%
Economic sector								
agriculture	2 241	15.8%	-73	-2.9%	-26	-1.1%	-1.3%	-0.4%
industry	4 176	29.4%	131	3.2%	156	3.9%	0.8%	1.7%
services	7 767	54.8%	271	3.6%	292	3.9%	1.2%	0.9%
Ownership sector								
public	4 287	30.2%	64	1.5%	40	0.9%	0.4%	0.1%
private	9 902	69.8%	267	2.7%	382	4.0%	1.1%	0.9%
Employment status								
hired employees	10 642	75.0%	406	3.9%	359	3.5%	1.0%	0.6%
employers and self-employed	2 934	20.7%	16	0.5%	145	5.2%	1.9%	1.9%
contributing family workers	613	4.3%	-90	-11.2%	-82	-11.8%	-5.2%	-1.6%
Type of job contract								
fixed-term contract	2 701	25.4%	375	15.2%	221	8.9%	3.3%	-2.9%
permanent	7 941	74.6%	31	0.4%	138	1.8%	0.2%	1.1%

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

According to corporate sector data, the rise in employment level in enterprises has been stepping up steadily (Figure 2.13). In June 2006, the annual growth of average employment in the corporate sector amounted to 3.1% y/y, which is the highest level since the beginning of 1990s.

The above data suggest that after the restructuring in enterprises finished in 2004 Q1, which involved employment reductions, there are limited possibilities of further output growth without increasing the number of working persons. The current increase in production 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 observed

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 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 with the beginning of 2007. Migration processes make it significantly more difficult to assess the results of BAEL survey study.

acceleration in economic growth is accompanied by a higher demand for labour than before.

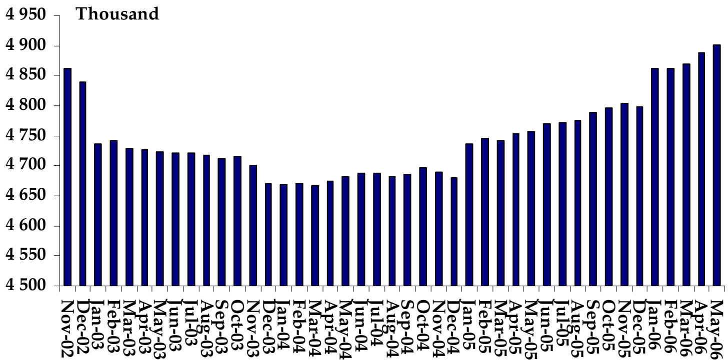


Figure 2.13: Employment in the enterprise sector (thousands)
Source: GUS data.

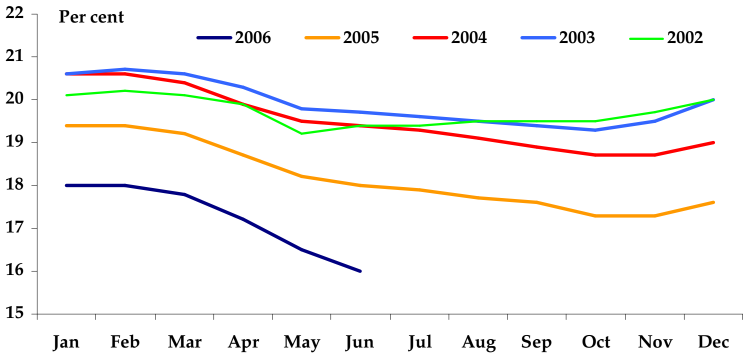


Figure 2.14: Registered unemployment according to labour office data (per cent)
Source: GUS data.

The rising demand for labour is confirmed by increased number of vacancies reported to Labour Offices. In 2006 Q2, the average number of vacancies announced by employers amounted to 108.5 thousand, which represents an increase of 35.7% y/y, against 23.4% y/y in 2006 Q1. The decline in the unemployment rate has accelerated. In June 2006, the unemployment figure registered by Labour Offices amounted to 16.0%, which constitutes a drop of 2.0 percentage points in year-on-year terms (Figure 2.14). In turn, according to BAEL data, the unemployment rate in 2006 Q1 was 16.0%, i.e. 2.9 percentage points lower in relation to the corresponding period of the previous year. Significant improvement is observed in the labour-market position of young people. In 2006 Q1, the BAEL unemployment rate among people aged 15 to 24 amounted to 34.4% (a year-on-year drop of 6.8 percentage points), while in 25 to 34-year-olds it was 16.1% (a year-on-year drop of 4.3 percentage points). The decrease in unemployment in the above age groups is accompanied by a rise in the employment: by 5.7 percentage points (to 23.9%) and 4.0 percentage point (to 71.0%) in year-on-year terms, in 15-24 and 25-34 age groups, respectively. 2006 Q1 marked a fall in the number of the economically active persons of 0.4% y/y, which had an effect of decreasing the economic activity ratio to 53.9% from 54.3% a year before. This may indicate that 2006 Q1 might have brought a breakdown of the upward trend of the economic activity ratio that was observed in 2005 Q2 – Q4[30], though, at the moment, it is difficult to assess the sustainability of this change[31].

The GUS business tendency surveys indicate that the high growth rate of employment should be sustained in the later months of 2006. Further employment growth in the enterprise sector is also signalled by NBP economic climate surveys[32], which suggest that in 2006 Q3 the positive balance of employment forecasts[33] was higher than in the previous quarter or a year before and was the highest in the survey history (i.e. since 2001).

To sum up, the rise in the number of working persons in 2006 Q1 was higher, and unemployment drop deeper, than expected in the April *Report*, while the growth rate in the number of the economically active was lower than assumed.

2.3.2 Wages and productivity

2006 Q1 saw a continuation of a high rise in nominal wages in the economy (4.7% y/y compared to 5.1% y/y in 2005 Q4) consistent with expectations presented in the April inflation projection. The spread between the wage growth rate in 2006 Q1 and 2005 Q4 was due to a lower wage increase in the budget sector (3.8% y/y against 6.6% y/y in 2005 Q4) and the payments of additional remuneration components in some sections of the enterprise sector made already in 2005 Q4 (previously only made in 2005 Q1).

In the corporate sector, the nominal wage growth in 2006 Q1 amounted to 4.7% y/y, and in Q2 to 4.5% y/y (against 4.8% y/y in 2005 Q4) (Table 2.7).

[30] According to the estimates of NBP experts, in comparable terms, i.e. using the old definition of working persons, the year-on-year decline in the economic activity ratio in 2006 Q1 amounted to approx. 0.2 percentage point.

[31] In 2006 Q1 the economic activity ratio decreased primarily in the 45-59/64 age group (drop of 3.8 percentage points y/y), while it was precisely this group that had seen a rise in the economic activity ratio in 2005 Q2 – Q4. As the consequence of the drop in the economically active figure in 2006 Q1, there was a significant rise in the number of the economically inactive (of 206 thousand people y/y). The largest increase in economical inactivity (of 504 thousand people, i.e. 6.3% y/y) occurred in the category of old-age pensions, illness and disability. In turn, the data on both agricultural and non-agricultural social security system suggest that the number of old-age and disability pensioners dropped in this period by 43 thousand people, i.e. 0.5% y/y. The BAEL data and the data from agricultural and non-agricultural security systems display considerable differences, which is a source of uncertainty in assessing the actual changes in economic of population.

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

[33] Net balance of employment forecasts stands for the difference between the percentage of companies declaring to raise employment and the percentage of those declaring its reduction.

Growth rate y/y (enterprise sector)	Sep 2005	Oct 2005	Nov 2005	Dec 2005	Jan 2006	Feb 2006	Mar 2006	Apr 2006	May 2006	Jun 2006
Nominal wage	**1.8%**	**6.4%**	**6.9%**	**1.5%**	**3.6%**	**4.8%**	**5.4%**	**4.0%**	**5.2%**	**4.5%**
excluding one-off events	3.6%	3.7%	4.2%	3.7%	4.3%	4.8%	5.4%	4.0%	5.2%	4.9%
Real wage	**0.0%**	**4.7%**	**5.8%**	**0.8%**	**2.9%**	**4.1%**	**4.9%**	**3.3%**	**4.3%**	**3.6%**
excluding one-off events	1.8%	2.1%	3.2%	3.0%	3.6%	4.1%	4.9%	3.3%	4.3%	4.0%
Nominal wage fund	**4.0%**	**8.6%**	**9.5%**	**4.1%**	**6.3%**	**7.3%**	**8.2%**	**6.9%**	**8.4%**	**7.7%**
excluding one-off events	5.9%	5.9%	6.8%	6.3%	7.1%	7.3%	8.2%	6.9%	8.4%	8.1%
Real wage fund	**2.2%**	**6.9%**	**8.4%**	**3.4%**	**5.6%**	**6.6%**	**7.8%**	**6.2%**	**7.4%**	**6.9%**
excluding one-off events	4.0%	4.2%	5.7%	5.6%	6.4%	6.6%	7.8%	6.2%	7.4%	7.3%

Table 2.7: Wages and wage fund in corporate sector (y/y growth rates)
One-off factors only include shifts in the payment of additional wage components (e.g. annual MinerŠs Day bonus paid in instalments), and not the payment of additional remuneration components (such as additional bonus in the form profit payment)
Source: GUS data, NBP calculations.

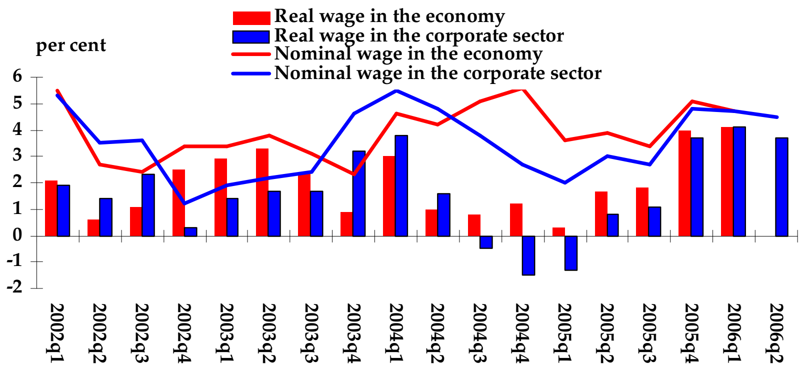


Figure 2.15: Annual percentage growth of wages in the economy and in the corporate sector (nominal and real)
Source: GUS data, NBP calculations.

In 2006 Q2 a high rate of growth in aggregate wages in nominal terms in enterprises continued (7.7% aginst 7.4% in 2006 Q1) (Table 2.7).

In 2006 Q1 the rate of growth in labour productivity in the economy, similarly to 2005 Q4, was 1.8% y/y[34]. Despite labour productivity growth, the higher growth rate of wages has contributed to the rise in unit labour costs in the economy in year-on-year terms, which has been observed since 2004 Q3 and in 2006 Q1 amounted to 2.9% y/y against 3.3% y/y in 2005 Q4 (Figure 2.16, left-hand panel)[35].

[34] Labour productivity in the economy calculated as the gross value added in the economy (in constant prices) per one working person in the economy according to BAEL (Polish Labour Force Survey).

[35] Unit labour costs in the economy calculated as the nominal aggregated wages in the economy (average wage in the economy multiplied by the number of people working in the economy according to BAEL) in relation to the gross added value (in constant prices).

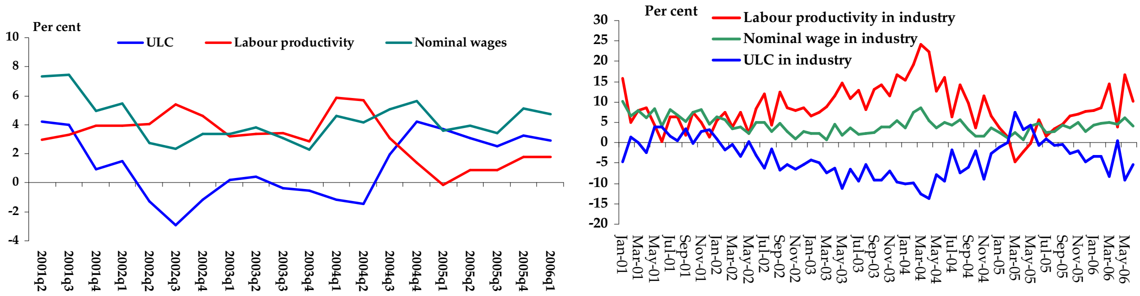


Figure 2.16: Annual percentage growth of unit labour costs (ULC), labour productivity and nominal wages – seasonally adjusted. Left-hand panel: Economy. Right-hand panel: Industry.
Source: GUS data, NBP calculations.

On the other hand, in the enterprise sector the period April-June 2006 brought a drop in unit labour costs in industry of 4.6% y/y. It resulted from a significantly higher rise in labour productivity (10.0% y/y) than in wages (4.9% y/y) in this sector [36]. (Figure 2.16, right-hand panel).

The decline in unit labour costs in industry has been conducive to the improvement in Polish exports' competitiveness, while inflationary pressure in the economy depends on the growth rate of unit labour costs in the economy as a whole.

In 2006 Q2 declarations of wage increases and signals of rising wage demands in part of the public sector have intensified. In June 2006, the Government adopted a draft act on transferring funds to public health-care institutions to finance a pay rise for all their employees. The wages increased by 30% will be paid starting from October 2006. Also in June an agreement was reached on bonus payments for miners to be made from profits of coal-mines. Such extra bonus payments are scheduled to be made in July 2006. In July a draft act on modernising uniformed services was presented, 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.

2.4 Other costs and prices

2.4.1 External prices

In 2006 Q2 the prices of commodities in international markets continued to rise. The surge in the prices of energy commodities (apart from crude oil prices, there was also a surge in coal and natural gas prices in the European market) was accompanied by

[36] Unit labour cost in industry calculated as the ratio of the average nominal gross wage in industry and the labour productivity in industry (labour productivity in industry calculated as industrial output in constant prices per employee in the sector.)

price increases in other groups of commodities, primarily further price increases of non-ferrous metals (Table 2.8).

	y/y change in per cent				q/q change in per cent			
	05q3	05q4	06q1	06q2	05q3	05q4	06q1	06q2
Total	**33.1**	**23.1**	**25.0**	**30.1**	**11.1**	**-4.1**	**9.4**	**11.6**
Non-energy raw meterials	**11.5**	**13.0**	**14.5**	**27.9**	**-0.3**	**3.6**	**11.6**	**10.9**
food	7.6	10.1	10.6	4.9	-3.4	-1.4	9.7	0.4
industrial raw materials	13.0	14.1	15.9	37.1	1.0	5.5	12.3	14.6
agricultural	0.3	2.1	3.2	10.9	-1.1	1.8	5.3	4.6
non-ferrus metals	14.2	19.2	32.4	69.3	2.5	11.1	17.0	26.9
Energy raw materials	**42.0**	**27.1**	**29.4**	**21.5**	**5.3**	**-6.5**	**8.7**	**27.3**
crude oil	49.1	32.4	32.2	31.0	17.0	-5.8	7.9	10.7

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

At the end of March 2006 oil prices in the international markets saw further increase. Disputes over the Iranian nuclear programme, rebel attacks on Nigerian oil facilities and shrinking petrol stocks in the USA resulted in a strong growth in the demand for futures contracts on the part of funds (Figure 2.17, left-hand panel). The high demand of funds was also reflected in a strong rise of oil prices. In the period from 22 March to 21 April 2006, oil prices rose by USD 14 (i.e. by 23%) to almost 75 USD/b. The second decade of May 2006 marked a slight revaluation of oil futures mainly related to the halting of the downward trend in petrol stocks and the OPEC's decision to maintain oil production limits at the current level. Still, the prevailing high geopolitical risk, and, in particular, the escalation of Israeli hostilities against Lebanon as well as the concerns about the conflict spreading to other Middle East countries pushed again oil prices in the second decade of July 2006 to the historically high nominal level of 76 USD/b.

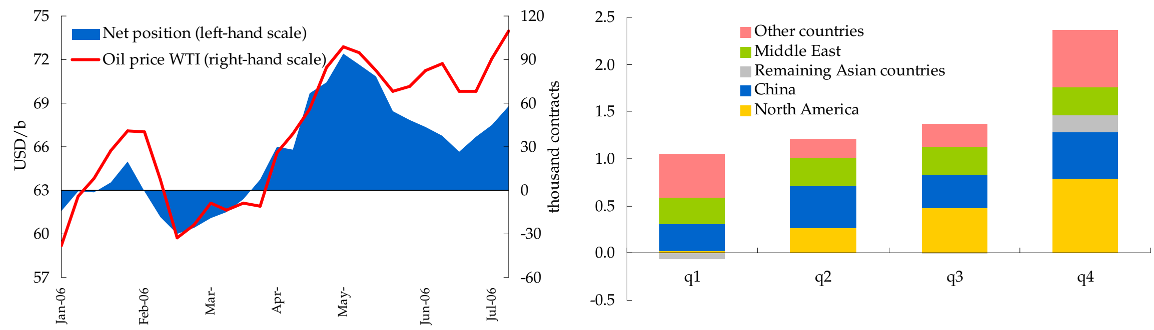


Figure 2.17: Left-hand panel: Oil price and NYMEX futures contracts – net position. Right-hand panel: Forecasted increase in world demand for oil in 2006 by quarters (in million barrels per day as compared to previous year).
Source: Bloomberg, Commodity Futures Trading, International Energy Agency.

Despite the persistently high oil prices, analysts forecast that the growth of demand for this commodity may accelerate in the second half of 2006 (especially in Q4 2006 - Figure 2.17, right-hand panel). According to the forecast by the International Energy Agency of June 2006, the global demand for oil in the second half of 2006 will rise by 2.1% (y/y) (as compared to its estimated growth of 0.9% in the first half of 2006)[37]. The major part of this growth is expected to be met by increased output in non- OPEC countries.

Building up of available crude oil reserves, which could stabilise the market in the case of supply disruptions or rapid demand growth, will be difficult given a high rate of growth in global output. According to the US Department of Energy, the surplus production capacities in 2006 and 2007 will stay close to the 2005 level. In this circumstances oil prices will still be affected by fears about the security of future supplies from regions of high political risk.

Due to the rise in oil prices in the spot and futures markets, the majority of price forecasts of this commodity published in 2006 Q2 were significantly adjusted upwards as compared to those of March 2006. At the moment many forecasts assume oil prices to stabilise at a high level, while previously the prices were rather expected to decline gradually.

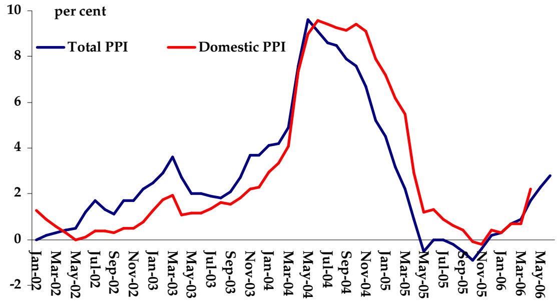
The high oil prices persisting in 2006 Q2 made the increase in prices of energy commodities one of the most important factors responsible for accelerating inflation in two world's largest economies - the United States and the euro area. In the United States the average (CPI) inflation went up from 3.7% in 2006 Q1 to 4.0% in 2006 Q2, while the average (HICP) inflation in the euro area rose from 2.3% in Q1 to 2.5% in 2006 Q2.

2.4.2 Producer prices

The annual growth rate of producer prices in industry rose to 2.8% y/y in June 2006 (from 0.9% y/y recorded in March 2006). The higher growth rate of the Producer Price Index resulted from increases in the prices of commodities and energy carriers, mainly natural gas. The rise in producer prices is observed in the domestic market, while export prices have displayed negative growth rate (in year-on-year terms) since November 2004. In this period, the decline of export prices was supported by year-on-year appreciation of the zloty.

Similarly as in 2006 Q1, the largest contribution to the growth of producer prices in industry in subsequent months of 2006 were price increases in sections *mining* and

[37]The acceleration in the world demand for oil in the second half of 2006 is also indicated by forecasts of the OPEC and the US Department of Energy. According to the OPEC, the demand for oil in July-December will rise by 2.1% (against 1.1% in January-June). In turn, the US Department of Energy expects that the demand for oil in the second half of 2006 will increase by 2.5% (against 1% in the first half of the year). The forecast of the Department of Energy covers also the year 2007, when the demand for oil is expected to rise by 2.2%. This means that the Department of Energy expects that price stabilisation at a high level (as it is accounted for in the June 2006 forecast) will not be conducive to weakening the demand for this commodity, and thus to the lowering the rate of growth of the world economy.



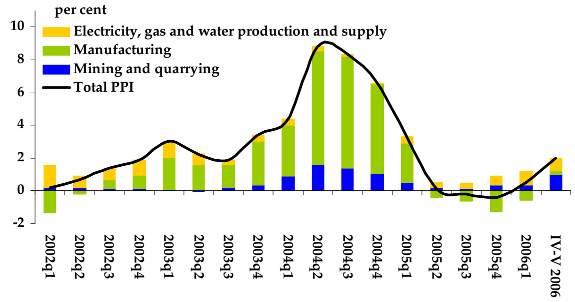


Figure 2.18: Producer prices in industry (PPI). Left panel: Total PPI and domestic PPI. Right panel: Contribution of producer prices growth in PPI total annual growth.
Source: GUS data.

production and supply of electricity, gas and water (Figure 2.18, right-hand panel). The price growth in mining resulted from increased prices in mining of metal ores. In April and May 2006, the world prices of copper were rising at a rate of over 25% m/m. As a result, prices in mining of metal ores increased by 20.7% m/m and 17.3% m/m in April and May, respectively. Moreover, April 2006 saw an increase in the prices of natural gas (of 9-13% m/m), which caused energy prices to rise by 1.6% m/m. The price growth in April 2006 was also the result of price increases in division *manufacture of coke and refined petroleum products* (of 8% m/m). May 2006 was the first month in more than a year when a positive price index was recorded in manufacturing.

2.5 Financial markets

2.5.1 Asset prices / Interest rates[38]

Developments in the Polish financial markets in 2006 Q2 were primarily driven by global factors. They contributed to currency depreciation and a rise in Treasury bond yields in the economies classified as developing countries. The asset sell-off, which affected all segments of the financial market in Poland, was to a large extent the result of growing expectations for monetary policy tightening by the central banks of the G-3 Group (USA, euro area, Japan).

Short-term interest rates

Starting from May 2006 a change has been observed in the market expectations of domestic monetary policy developments in the one-year-perspective. While the NBP reference rate – in line with analysts' expectations – has remained unchanged at the level of 4.00%, the money market rates have risen significantly (Figure 2.19, left-hand

[38]The data presented in this chapter account for information available to 19 July 2006

panel). Till the end of May this rise had been rather limited, yet in June this trend strengthened considerably. The changes in short-term interest rates resulted from the adjustment of market expectations of NBP interest rates in the second half of 2006 and in 2007, driven by the publication of domestic macroeconomic data and international developments presented in the latter part of this chapter.

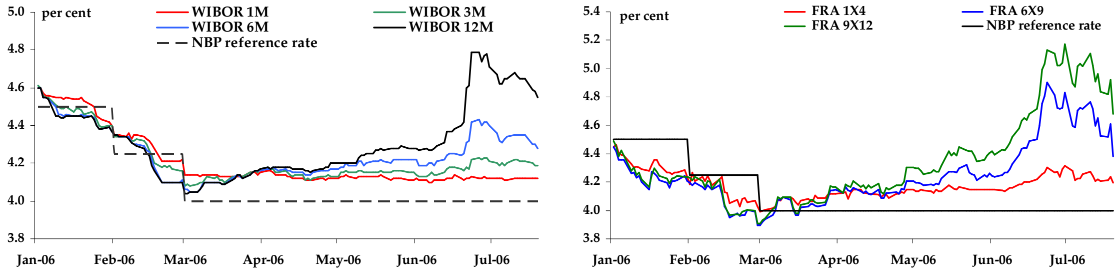


Figure 2.19: NBP reference rate and interest on interbank deposits (left-hand panel) and NBP reference rate and interest on FRA contracts for 3M WIBOR (right-hand panel).
Source: Reuters data.

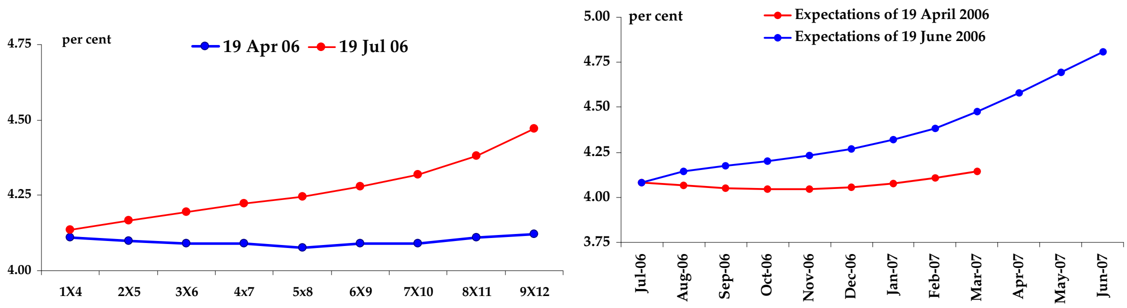


Figure 2.20: Three month forward curves (left-hand panel) and expected changes in NBP reference rate on the basis of FRA contracts (right-hand panel).
Source: Reuters data.

The findings of the May Reuters survey indicated that analysts no longer expected further interest rate cuts in the one-year-horizon, while the rates of FRA contracts with maturities over 6 months started to settle at the level exceeding 4.25% (Figure 2.19, right-hand panel). According to the following survey, published in June 2006, some analysts already began to envisage the first rise of interest rates at the end of 2006. In comparison to analysts, the change in market expectations, discounted in the prices of FRA contracts, was much more significant ((Figure 2.20). This difference may, to a large extent, be attributed to the high interdependence between futures contacts for 3M WIBOR (not least contracts with the longest maturities) and Treasury bond yields, which in this period increased substantially (see section *Long-term interest rates*).

The rise in the forward rates in June 2006 also resulted from the changing domestic conditions. Published macroeconomic data (inter alia industrial output, PPI and CPI indices) indicated that the falling inflation trend had come to a halt and that economic outlook was improving. The depreciation of the zloty was yet another factor contributing to the increase in money market rates (see section *Exchange rate*).

According to the latest Reuters survey (of 11 July 2006), the majority of respondents expected the interest rates to remain unchanged till the end of the year. However, in the one-year horizon 70% of respondents expected a 25 to 50-basis-point rise in interest rates. The rest of analysts (30%) assumed that the Monetary Policy Council would leave the rates unchanged till the end of July 2007.

Long-term interest rates

Similarly to the money market, also the domestic debt market saw a rise in Treasury bond yields in the period under analysis (Figure 2.21, left-hand panel). The drop in the price of Polish securities, which started in March 2006, was primarily related to the changes underway in the global markets. This tendency was additionally reinforced by both regional and local factors.

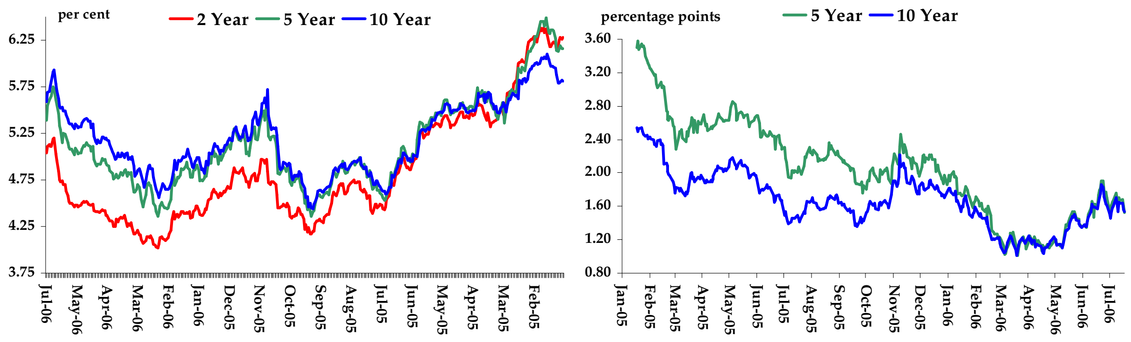


Figure 2.21: Change in the yields of the benchmark bonds (left-hand panel) and differences in yields between German and Polish T-bonds (right-hand panel)
Source: Reuters.

After a period of price stabilisation in May and at the beginning of June 2006, the massive sell-off in the global debt markets in the first half of June led again to an increase in the volatility of the Polish asset prices. In fact, this applied both to the developing and core markets (USA, euro area), and was driven primarily by the reinforcement of expectations for further monetary policy tightening in the American and European economies and for the beginning of tightening cycle by the Bank of Japan. In these circumstances, there was a rise in the risk aversion of foreign investors, who began to withdraw from developing markets by selling off more risky assets. In 2006 Q2 non-residents were gradually selling off Polish Treasury bonds, thus reducing the value of their holding of Polish Treasury securities to the levels not recorded since February 2006, while their share in the market decreased by approx. 2 percentage points to the level of approx. 22% in mid-June 2006 (Figure 2.22).

In the Central Europe the highest yield growth (over 100 basis points) was recorded in the case of Hungarian and Polish bonds (approx. 75 basis points) (Figure 2.23). The Polish bond market was also influenced by the developments in the Central European Countries and the increase in domestic political risk. The period of heightened political uncertainty observed also in other countries of the region (general elections in the Czech Republic, Hungary and Slovakia) and the persistent macroeconomic imbalances in Hungary (reflected in the reduced rating of this country by the S&P agency) had an additional negative influence on the Polish bond market. The start of monetary policy tightening in Slovakia (interest rate increase of 50 basis points in May) and in Hungary (of 25 basis points in July 2006) were yet another factor contributing to the drop in prices of Polish treasury securities. A higher rise in yields on the Polish government bonds relative to the US and euro area bonds led to a significant rise in the spread between the yields of these treasury securities (Figure 2.21, right-hand panel).

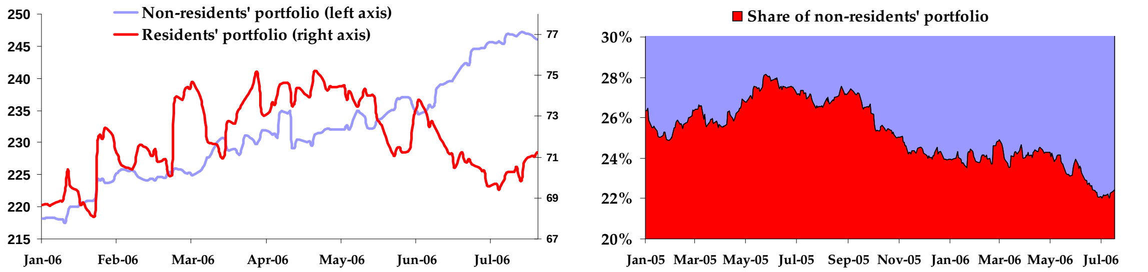


Figure 2.22: Share of non-residents in the Polish treasury securities market in PLN bn (left panel) and in per cent (right panel)
Source: Ministry of Finance data.

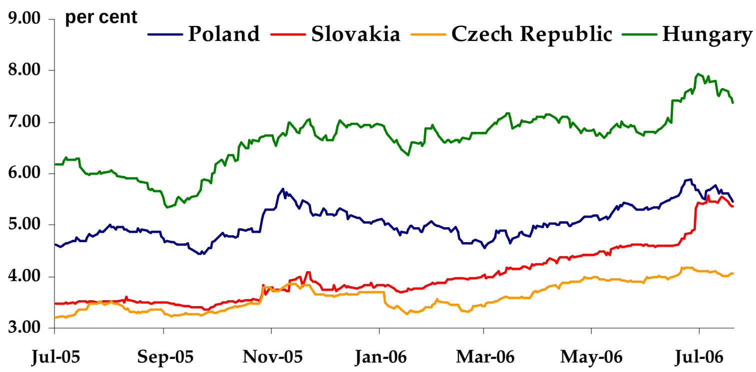


Figure 2.23: Change in the yields of the long-term bonds in Poland, Slovakia, Czech Republic and Hungary.
Source: Reuters.

The drop in the prices of Polish treasury securities was also reflected in the trend of falling annual average yields coming to a halt (Figure 2.24). Nevertheless, ever since August 2005 Poland has been complying with the long-term interest rate criterion, which is one of the conditions for euro area membership[39]. Meeting the criterion has been further facilitated by Poland's inclusion in the group of reference countries (due to low level of inflation – see Section 1.3 *Inflation and the Maastricht criterion*), which resulted in increasing the reference value for the interest rate criterion.

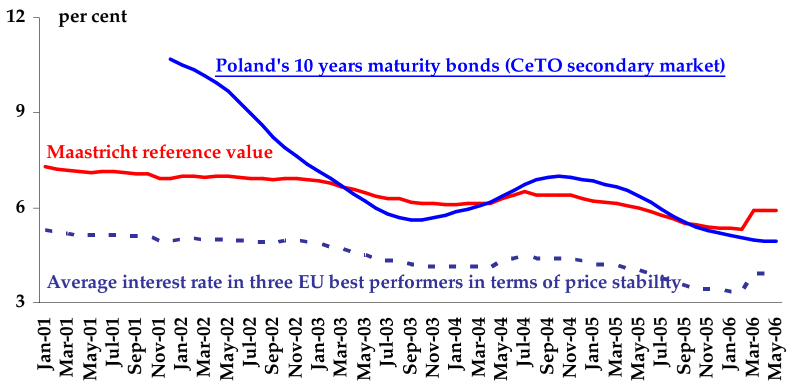


Figure 2.24: Average annual yield (12-month moving average) for long-term Treasury bonds in Poland versus the reference value for the Maastricht criterion
Source: NBP estimates based on Eurostat data.

Equity market

Due to a one-year-old upward trend in equity prices, in the first half of May 2006, the main indices of the Warsaw Stock Exchange (WSE) hit their record highs (Figure 2.25, left-hand panel). Subsequently the Polish asset prices suffered a sharp correction, which was also experienced in other equity markets around the world. The selling off Polish equities resulted in the increased volatility of WSE quotations in the period under analysis (Figure 2.25, right-hand panel).

The historically high levels of the Polish stock exchange indices, recorded in the first half of May 2006, were connected with the continuing bull market in commodities (supported by the rising China's demand) and an increased activity of investment funds. However, in the following weeks the rise in expectations for interest rate hikes in the euro area and the USA proved to be one of the major factors responsible for a massive equity sell-off in the world markets. Additionally, a significant impact on pricing the securities in the capital markets was exerted by a drop in the value of copper and other metals.

The rebound of WSE indices, starting from mid-June 2006, can be partially accounted for by the "window dressing" effect - i.e. investment fund managers' drive to improve

[39] 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 average yield on bonds of three EU countries with the most stable prices by more than 2 percentage points. For more information about the Maastricht criteria see: *Report on the Costs and Benefits of Poland's Adoption of the Euro, NBP, 2004.*

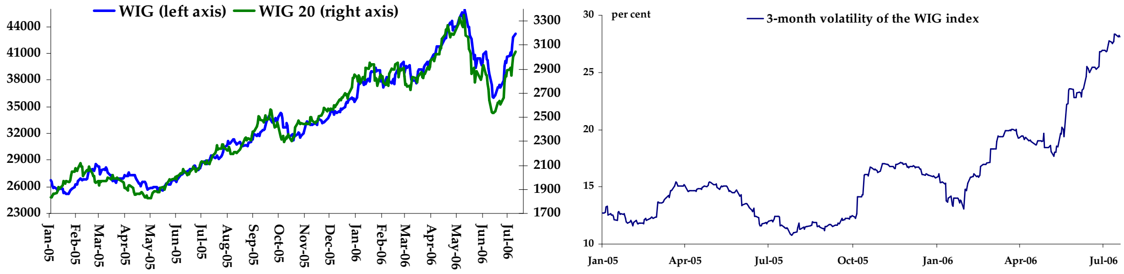


Figure 2.25: Changes in WIG i WIG20 indices (left panel) and relative volatility of WIG index (in per cent, based on daily data for the previous three months – right panel)
Source: Reuters.

their results before the approaching end of quarter and half-year, and partially resulted from the rebound in commodity prices in the world markets. Even though the current levels of WSE indices are very high in historical terms, the Price–Earnings Ratio of the companies listed on the Warsaw Stock Exchange is not high in relation to the major world stock exchanges and those in other Central European countries[40] (Figure 2.26).

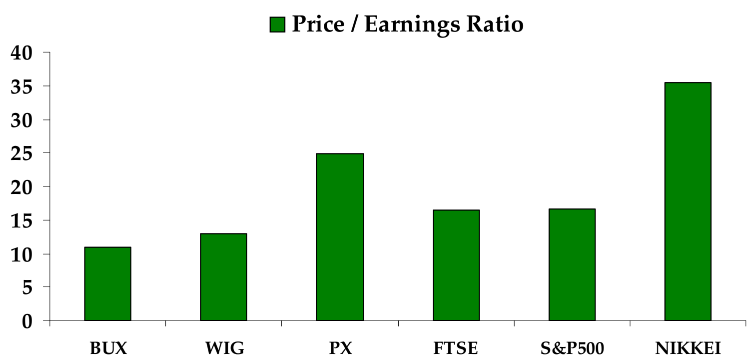


Figure 2.26: Price/earnings ratio for stock markets in Budapest (BUX), Warsaw (WIG), Prague (PX), London (FTSE), New York (S&P500) and Tokio (NIKKEI)
Source: Bloomberg data.

[40] It has to be borne in mind that the analysis of the asset value should account for a much wider scope of information than just the Price-Earnings Ratio.

Flat prices

Prices in the housing market have continued to rise dynamically (Tables 2.9 and 2.10)[41]. Their level and changes display large geographical diversity. The NBP's data indicate that the fastest rise of prices has been observed in Warsaw and Krakow. At the same time, the construction and assembly production price increase has been considerably slower (2.2% in January-May 2006 compared with the corresponding period of the previous year), which has affected the strong rise in margins earned by developer companies.

Period	2003H1	2003H2	2004H1	2004H2	2005H1	2005H2	Second half of 2005
per cent rise in relation to:	the previous half-year						Second half of 2002
Poland (total)	23.31	-5.70	4.73	4.14	1.94	4.43	36.85
Largest cities in Poland (*Warszawa, Kraków, Wrocław, Gdańsk, Gdynia, Sopot*)	15.66	2.55	2.91	6.48	4.31	9.13	50.12
Capitals of voivodships	14.77	2.77	4.23	4.63	4.81	9.49	47.9
Small and medium towns	4.98	-9.81	9.08	1.41	1.55	3.65	12.04
Warszawa	0.7	0.84	3.73	8.78	6.13	8.86	29.41
Kraków	8.66	1.00	2.00	10.85	5.73	27.69	75.74
Wrocław	2.75	4.05	3.56	1.23	6.66	2.32	32.19
Sopot	23.69	20.55	17.98	5.97	-	-	-

Table 2.9: Change in the average price of a flat in selected local markets. Primary market in 2002-2005.
Source: NBP estimates based on the data from the *PONT Info Nieruchomości* offered price database.

The main reason behind the price rise is the growth in demand fuelled by dynamic lending of banks offering easily accessible housing loans[42] amid inelastic supply of flats in the short run. The high demand for flats is also upheld by other factors, such as increased incomes of households, their rising number and migration from the countryside to the cities. Moreover, the demand for flats (also from foreign entities and investment funds) is stimulated by expectations that their prices will continue to rise in the future. In recent months there was also some acceleration in taking decisions on flat purchase due to the concerns about restrictions in access to funding in the form of

[41] A significant differences in half-year growth rate of dwelling prices between the primary and secondary markets are a common phenomenon in local markets. They are a consequence of both the separation of the primary and secondary markets observed in Poland and the impact, particularly in the primary market, of bigger investments which are not evenly spread over time. The results are also affected by the high level of aggregation of data on prices of flats offered for sale and, consequently, lack of possibility to choose a sample representative for the market structure and to reject outlier transactions.

[42] More information on housing loans may be found in section *Credit and money*.

Period	2003H1	2003H2	2004H1	2004H2	2005H1	2005H2	Second half of 2005
per cent rise in relation to:	the previous half-year						Second half of 2002
Poland (total)	-3.93	13.85	2.44	-1.48	3.04	7.97	19.96
Largest cities in Poland (*Warszawa, Kraków, Wrocław, Gdańsk, Gdynia, Sopot*)	-0.04	13.31	5.83	1.16	0.05	6.47	22.19
Capitals of voivodships	-5.52	15.99	4.54	-2.2	-1.32	7.5	17.11
Small and medium towns	0.94	5.99	7.43	-0.07	10.54	3.7	25.84
Warszawa	0.22	13.69	5.42	1.45	-0.12	8.17	40.27
Kraków	3.41	3.96	7.57	4.58	10.78	12.18	58.77
Wrocław	6.61	3.11	7.74	8.19	4.51	-1.64	45.88
Sopot	-7.69	19.21	4.96	6.63	2.19	13.89	53.21

Table 2.10: Change in the average price of a flat in selected local markets. Secondary market in 2002-2005.
Source: NBP estimates based on the data from the *PONT Info Nieruchomości* offered price database.

housing loans connected with the banking supervision passing the *Recommendation S*[43]. In the short time horizon, the demand rise may be supported by uncertainty as to the rise in VAT rate on new flats, expiring period of acquiring right to interest rate tax relief granted in case of the purchase of a new flat funded with a bank loan, and the announcements of changes in personal income tax on the sale of real property.

The supply of flats displays low elasticity due to the long period of investment implementation. In Poland, in the case of multiunit housing (the most popular in cities) this period is particularly extended and usually exceeds 4 years. The main reasons are the lack of the spacial plans, significantly prolonging period needed to obtain the construction permit, and the escalating shortage of developed lands. For example, it is estimated that in 2006 the coverage by spacial plans stood at about 30% for the entire area of Poland, but it was only 3% in case of Cracow, 14% in case of Warsaw and 21% in case of Wrocław. In turn, the shortage of developed lands results from the lack of keen interest of local governments in *gminas* in this problem and a limited access to efficient tools, especially of financial nature, that could smooth implementation of projects. In such circumstances, any increase in demand, fuelled either by housing loans or subsidies, translates into price increase. Another factor which has been gaining significance in the past few months is the shortage of skilled workforce in building sector as indicated, among others, by NBP survey results[44].

[43]See section *Credit and money*.
[44]*Information Concerning the Condition of the Corporate Sector and the Economic Climate in the Second Quarter of 2006*, www.nbp.pl – as many as 57% of the surveyed construction companies pointed to

Trends in international financial markets

Since the end of April 2006 the Federal Fund rate has been raised on two occasions, by the total of 50 basis points, to the level of 5.25%. The decisions of the Federal Open Market Committee (FOMC) were consistent with market expectations. In April–28 June 2006 a rising trend in yields on US government bonds, recorded since the first half of 2005, was continued. Since end of April the yields on 2-, 5-, and 10-year bonds rose by approx. 19, 32 and 41 basis points, respectively. In the first half of July a slight correction took place, resulting in a fall of the yields by approx. 0.2 percentage points. In consequence, at the end of the analyzed period the yields reached 5.0-5.1%.

The results of the Reuters survey study of 13 July 2006 indicate that a majority of analytical centres expect that the Fed interest rate will be kept unchanged at 5.25% for a year and will be lowered to 5.0% in the second half od 2007 (median of expectations). The market expectations for Fed interest rate changes reflected in the prices of Fed Funds Futures suggest a 25-basis-point increase up to the level of 5.50% in 2006 Q3 and then levelling off till at least the beginning of 2007 (Figure 2.27, left-hand panel).

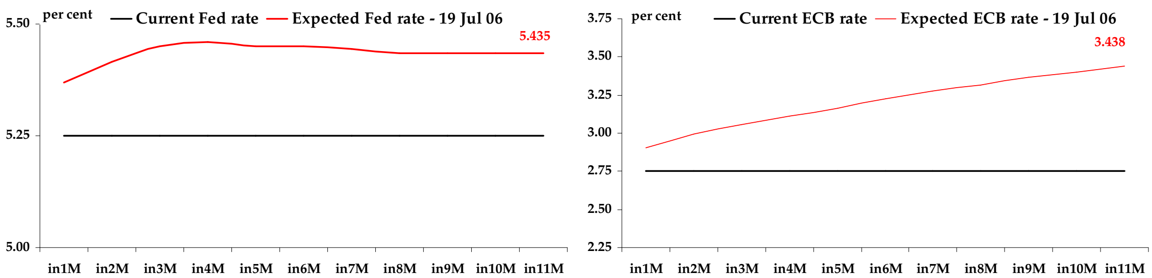


Figure 2.27: Expectations on the FED interest rate changes (on the basis of Fed Funds Futures) (left-hand panel) and expectations on the ECB interest rate changes (on the basis of EONIA swaps – overnight index swaps) (right-hand panel).
Source: Bloomberg data.

The European Central Bank (ECB) at the meeting on 8 June 2006 raised its repo rate by 25 basis points to the level of 2.75% and maintained it unchanged in July. In the analysed period the yields on European bonds continued on a slight rising trend. Since the end of April till July 19th, the yields on 2-, 5-, and 10-year bonds rose by approx. 18, 3 and 3 basis points, reaching 3.6%, 3.8% and 4.0% respectively.

The results of the Reuters survey of 13 July indicate that the majority of analysts see a 25-basis-point increase in the ECB interest rate to the level of 3.00% in 2006 Q3, and another increases of 25 basis points each in 2006 Q4 and 2007 Q1 (median of expectations). Market expectations for EBC interest rate changes, as reflected in the quotations of EONIA swap contracts, also suggest a 75-basis-point increase of the EBC rate up to the level of 3.50% till the 2007 (Figure 2.27, right-hand panel).

problems in finding skilled workers, which is the highest figure in all the surveyed groups of enterprises.

2.5.2 Exchange rate

In April-June 2006 the average monthly effective exchange rate of the zloty depreciated by 2.6% in relation to the level recorded in March 2006 (Figure 2.28, left-hand panel). Since mid-May 2006 a weakening of the nominal exchange rate of the zloty against the main world currencies has been observed. In the period between 11 May and 19 July 2006, the EUR/PLN rate depreciated by 4.9% (from the level of 3.82 to 4.02), while the USD/PLN rate weakened by 6.6% (from the level of 3.00 to 3.22).

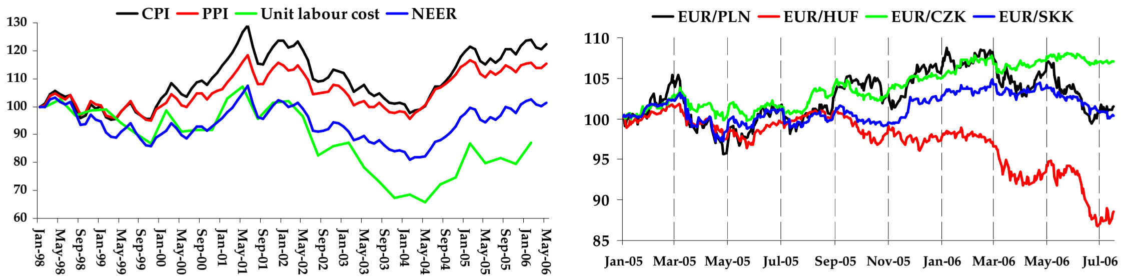


Figure 2.28: Zloty real effective exchange rate (left-hand panel) and nominal exchange rates of Central European currencies against the euro (right-hand panel). Increase denotes appreciation.
Source: NBP, European Commission and EcoWin data.
Note: For unit labour costs (in manufacturing): quarterly data, NBP estimates based on GUS, ECB and European Commission data.

2006 Q2 saw the continuation in the high correlation between EUR/PLN rate fluctuations with euro exchange rate against other Central European currencies. In the case of the four largest countries of our region, i.e. the Czech Republic, Hungary, Slovakia, and Poland (CEC4), after a period of relatively stable exchange rate, mid-May 2006 marked the beginning of a depreciating trend. In the period between 11 May and 19 July 2006, the exchange rate of the Hungarian forint, Polish zloty and Slovak and Czech korunas depreciated against the euro by 6.1%, 4.9%, 3.2% and 0.8%, respectively (Figure 2.28, right-hand panel). This weakening was mainly related to global factors. The rise in interest rates in developed markets, coupled with the global increase in risk aversion, led to a significant capital outflow from the emerging markets, including CEC4 countries. This process was reflected in the fall of share and bonds prices and currency depreciation in developing countries. In the case of the Hungarian forint, the depreciation might have additionally followed from the so-called twin deficits, i.e. a high budget deficit coupled with a strongly negative current account balance. Still, it has to be emphasised that the scale of the depreciation of the region's currencies has been curbed by the inflow of foreign direct investment and EU transfers into these countries.

Additionally, the changes in the value of the Polish currency in recent months were also influenced by domestic factors. The factors conducive to zloty appreciation included macroeconomic data indicating economic growth acceleration, high growth rate of output and exports and low and stable level of current account deficit. On the other hand, changes in the the nominal interest rates disparity contributed to zloty depreciation, since the NBP interest rates remained unchanged in 2006 Q2 , while the ECB interest rates increased by 25, and the Fed Funds rate by 50 basis points. As a result, at the end of June the Fed interest rates were by 1.25 percentage point higher and the ECB rates by 1.25 percentage points lower than the NBP rates.

Data available as of July 2006 reveal that shifts in nominal exchange rate were accompanied by similar changes in the CPI-deflated real effective exchange rate (REER CPI – Figure 2.28, left-hand panel). In the nearest future the value of the zloty may be mainly affected by global factors. Should the increase in the global risk aversion and the monetary policy tightening in the major world economies continue, then the capital outflow from emerging markets is also likely to persist, thus exerting pressure on zloty depreciation. In the short run, domestic political developments and decisions bearing on the level of the central budget deficit will also be important factors influencing the value of the Polish currency. In the next few years, the safe current account balance, foreign direct investment and EU funds inflows, 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

Since the beginning of 2006, the growth rate of bank loans to non-financial sector has remained at the level of approx. 12% y/y. The main driving force behind the present rise in lending are housing loans to households. In May 2006 their growth rate reached 50.0% y/y. Also consumer loans granted to households have been growing rapidly - their year-on-year growth rate in May amounted to 19.7%. In contrast, the growth in loans granted to enterprises, despite some acceleration, remains moderate.

Corporate sector

Since mid-2004 the corporate indebtedness in the banking sector has continued on a path of moderate growth. At the end of May 2006 the nominal value of bank loans granted to enterprises reached PLN 125.5 billion, thus approaching its level of 2003, i.e. before the temporary drop in bank indebtedness of enterprises in 2004 (Figure 2.29). The main component of growth in total lending to enterprises are rising loans denominated in the zloty (rise from approx. PLN 90 billion in mid-2005 to PLN 97 billion at the end of May 2006). The volume of foreign currency loans in zloty terms remains stable – PLN 28.6 billion, on average, in the period from May 2005 to May 2006.

Due to a large share of foreign currency loans in the structure of corporate indebtedness[45] the assessment of its actual changes is made difficult by zloty exchange rate

[45] At the end of May 2006 foreign currency loans accounted for 22.7% of total loans granted to enterprises by commercial banks.

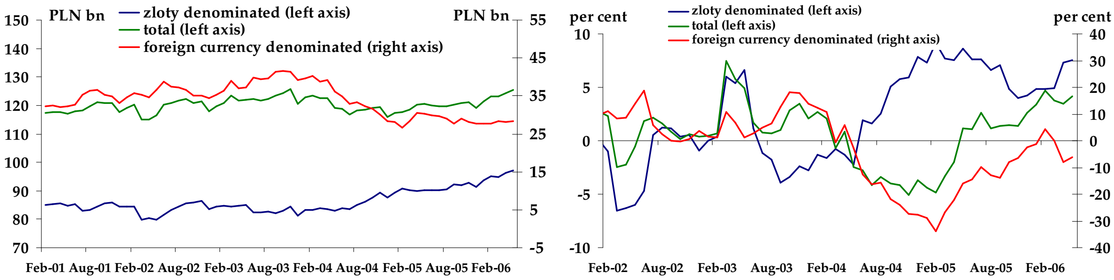


Figure 2.29: Loans to enterprises in nominal terms, with no adjustments for the impact of exchange rate fluctuations. Left panel: outstanding amounts (bn PLN). Right panel: y/y changes (per cent)
Source: NBP data.

fluctuations. Data adjusted for the impact of exchange rate fluctuations[46] indicate that the rising trend in corporate indebtedness at banks has continued since 2004 (Figure 2.30, left-hand panel). Its rate of growth, however, remains moderate – for the past 12 months the annual growth rate of the total lending volume to enterprises has remained at the level of approx. 4-5% (Figure 2.30, right-hand panel). Since mid-2005 the growth rate of investment loans has exceeded that of working capital loans and authorised overdraft facilities, which after a drop in the second half of 2005 has remained at a low level (Figure 2.31). Corporate loans for real property have been growing much more rapidly – their growth rate reached 17.6% at the end of May.

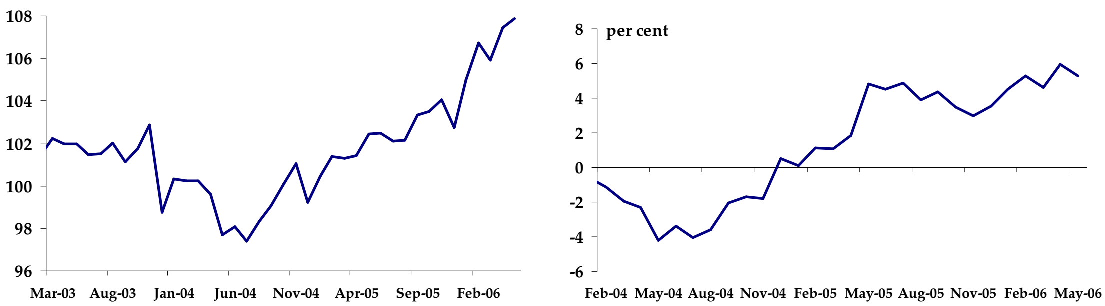


Figure 2.30: Loans to enterprises, data adjusted for the exchange rate fluctuations. Left panel: outstanding loans (index, Dec 2002 = 100). Right panel: y/y changes (per cent).
Source: NBP data.

Banking sector data indicate that lending to enterprises has been stepping up, which also finds support in NBP survey study results. The balance of loan debt forecasts (difference between the percentage of enterprises expecting a rise in loan indebtedness and the percentage of enterprises expecting its drop) among the enterprises surveyed by the NBP in 2006 Q2[47] increased both in absolute terms and as a value weighted by

[46] In the later part of this section all numerical data on changes in loans to enterprises and their deposits refer to data adjusted for the impact of zloty exchange rate fluctuations, unless otherwise indicated.
[47] *Information Concerning the Condition of the Corporate Sector and the Economic Climate in the*

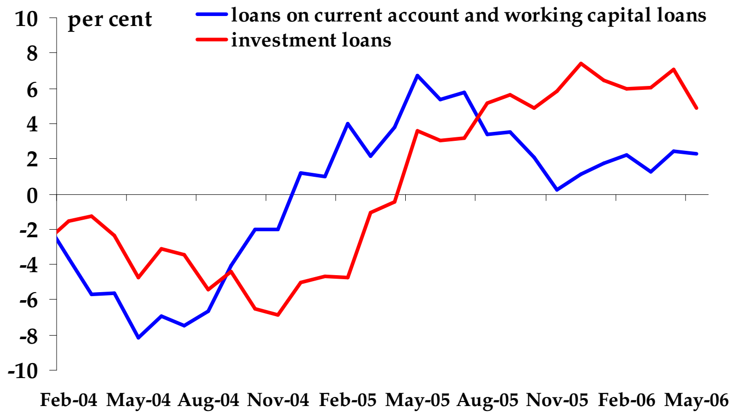


Figure 2.31: Loans to enterprises on current account, working-capital loans and investment loans (y/y growth in per cent, data adjusted for the impact of exchange rate movements).
Source: NBP data.

employment size. Preliminary results of the surveys administered at the turn of June and July confirm that the balance has remained high, which points to a growing interest of enterprises in taking out loans. Similar conclusions can be drawn from responses to survey questions concerning the sources of financing new investments: own funds remain the main source of funding, though at the same time the importance of bank loans is growing.

According to surveys addressed at loan committee chairs[48], in 2006 Q2 banks felt increased demand for loans on the part of enterprises, mainly due to the rise in the demand for funds to finance investment, stocks and working capital. Banks expect that the corporate demand for loans will also continue to rise in 2006 Q3. These expectations of demand growth apply both to the SMEs and large enterprises. The tendency to loosen non-price lending criteria[49] triggered by a strong competitive pressure and a drop in risk connected with expected economic situation, which had been observed till 2006 Q1, was halted in Q2. In 2006 Q2, almost all banks (96-97% of the number of banks weighted by their assets) maintained their loan policies in the corporate sector unchanged. Moreover, banks do not envisage any changes in their loan policy in the sector of large enterprises in 2006 Q3. However, the tendency to liberalise lending criteria and conditions should be restored in the SMEs.

Despite enterprises' declarations of their increased interest in funding their activities with bank loans, and in spite of growing demand for credit felt by commercial banks and liberalisation of requirements for enterprises applying for loans, the growth rate of corporate indebtedness at bank remains moderate. Foreign debt of Polish enterprises

Second Quarter of 2006, www.nbp.pl

[48] *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions (3rd Quarter 2006)*, www.nbp.pl.

[49] Among others, by extending loan maturities, cutting margins and non-interest costs of credit, or by increasing the maximum amount lent.

is increasing faster than their domestic indebtedness. The value of foreign loans and other forms of foreign debt, such as debt securities issued by Polish companies, rose in Q1 by 8.2% y/y (in euro terms). Trade loans are rising even faster (at 15.4% y/y), reflecting the dynamic growth in foreign trade exchange.

The interest charged on loans to enterprises follows the shifts in NBP interest rates (Table 2.11). The findings of the NBP's survey studies suggest that the cost of credit does not impede the development of corporate activity – in 2006 Q2, only 1.2% of the surveyed enterprises named interest on loans as one of the factors limiting their activity. For comparison, in 2006 Q1 this percentage amounted to 2.6%.

	Loans			**Deposits**		
	total	**households**	**enterprises**	**total**	**households**	**enterprises**
Jun-05	9.2	11.0	6.8	3.0	3.1	2.8
Jul-05	8.9	10.7	6.6	2.9	3.0	2.5
Aug-05	8.9	10.6	6.5	2.9	3.1	2.3
Sep-05	8.8	10.5	6.4	2.7	2.8	2.2
Oct-05	8.6	10.3	6.3	2.7	2.8	2.2
Nov-05	8.7	10.3	6.3	2.7	2.8	2.2
Dec-05	8.6	10.3	6.3	2.7	2.8	2.2
Jan-06	8.1	9.7	5.9	2.7	2.8	2.3
Feb-06	8.0	9.6	5.8	2.6	2.7	2.1
Mar-06	7.9	9.6	5.7	2.5	2.6	2.0
Apr-06	7.9	9.5	5.7	2.5	2.6	2.0
May-06	7.9	9.5	5.6	2.5	2.7	2.0

Table 2.11: Average weighted interest rate on loans and deposits in commercial banks
Source: NBP data.

Bank deposits of enterprises are continuing to build up fast. Since mid-2005 their annual growth rate has oscillated around 20%. This dynamic growth of deposits is connected with a good economic condition of enterprises. In view of the expected continuation of a high rate of economic growth and acceleration in investment growth rate, the growth in corporate deposits may be expected to slow down, particularly if – in line with enterprises' declarations – investment are, in the first place, financed with own funds. In the longer perspective, growth of lending to enterprises should be accelerating. So far, however, the expectations of deceleration in the growth of deposits and concurrent acceleration in loans find only limited support in banking sector data.

Household sector

Lending to households has been increasing at a high rate. At the end of May their year-on-year growth rate amounted to 21.5% (Figure 2.32, left-hand panel). The single most significant growth component are housing loans (Figure 2.32, right-hand panel). Housing loans granted in foreign currencies are more popular than zloty loans, and their contribution to total housing loans reached the value of 66.3% at the end of May (compared to 63.8% in February 2006). A rapid increase is also observed in consumer loans granted to households.

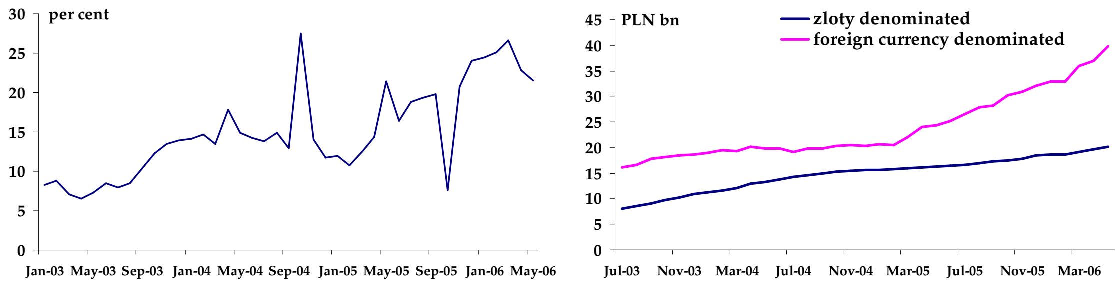


Figure 2.32: Loans to households in nominal terms, with no adjustment for the impact of exchange rate fluctuations. Left panel: total loans to households (y/y growth in per cent). Right panel: outstanding amount of housing loans to households – currency breakdown.
Source: NBP data.

	Outstanding amount, PLN bn				Annual rate of growth, per cent			
	housing loans	consumer loans[a]	remaining loans[b]	total	housing loans	consumer loans[a]	remaining loans[b]	total
Jun-05	41.57	57.94	20.91	120.42	23.6	17.4	2.4	16.4
Sep-05	45.37	61.26	21.71	128.35	30.0	18.7	5.5	19.8
Dec-05	50.42	63.77	21.84	136.03	40.8	19.0	7.7	24.0
Mar-06	55.14	65.18	22.41	142.73	45.9	18.9	11.3	26.6
May-06	60.06	68.19	23.22	151.47	48.2	19.2	-13.7	21.5

Table 2.12: Loans to households, data not adjusted for the exchange rate movements.
[a] Consumer loans include, according to the classification of loans granted to households by monetary financial institutions: authorised overdrafts, loans on credit cards and other loans (including i.a. instalment loans)
[b] Remaining loans include: discount loans, export loans, working capital loans , investment loans and loans for purchase of securitires granted to households by monetary financial institutions.
Source: NBP data.

Due to the fact that a considerable proportion of loans to households is denominated in foreign currencies, zloty exchange rate fluctuations distort the analysis of their changes. Figure 2.33 shows the annual growth rate of loans to households in total, and also in division into housing and consumer loans after adjusting for exchange rate fluctuations[50] The growth of housing loans is accelerating – in May it reached 50% y/y, while the growth rate of consumer loans remains at the level of approx. 20% y/y. The drop in the growth rate of total loans observed in April and May 2006 resulted from the statistical base effect connected with a high value of loans granted for the purchase of shares of Lotos company, which had been privatised in May 2005.

[50]The analysis presented in the later part of this section refers to data adjusted for the impact of exchange rate fluctuations, unless otherwise indicated.

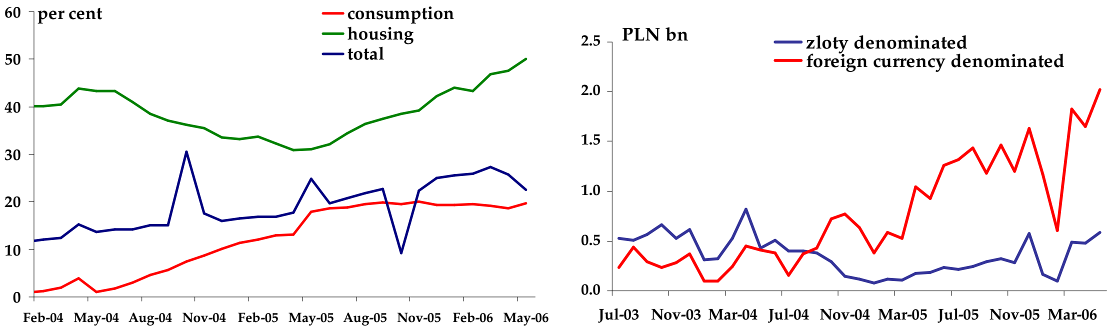


Figure 2.33: Loans to households – data adjusted for the impact of eschange rate fluctuations. Left panel: y/y rate of growth. Right panel: monthly changes of zloty denominated and foreign currency denominated housing loans.
Source: NBP data.

The NBP's surveys of commercial banks[51] indicate that in 2006 Q2 banks felt an increase in the demand for loans on the part of households, both in the segment of housing and consumer loans. According to the surveyed banks, the main reason behind this strong build-up in the demand for loans is the improved financial standing of households. The positive assessments of financial condition of households, among others, find support in the high values of the Consumer Confidence Index (WOK)[52] recorded over the past few months. The surveyed banks indicate that in the consumer loans segment an important factor behind the demand growth was the rise in the demand for the funding of durable goods, while the demand growth in housing loans was connected with expectations for further rise in the prices of flats and also bank customer' expectations of credit policy tightening as a result of the coming into force of the banking supervision's*Recommendation S* concerning good practice in the area of mortgage-secured credit exposures[53] Banks are not unanimous in their assessment of the expected shifts in the demand for housing loans in the nearest term. Although the percentage of banks envisaging a rise in demand is slightly higher than the share of those expecting a drop, as many as 38% of banks weighted by their assets foresee a

[51] *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions (3rd Quarter 2006)*, www.nbp.pl.

[52] *Wskaźnik Optymizmu Konsumentów*, Ipsos, http://www.ipsos.pl/3_3.html

[53] *Recommendation S* concerning good practice in the area of mortgage-secured credit exposures, passed by the Commission for Banking Supervision on 15 March 2006, constitutes framework for the correct identification, management and supervision of risk connected with mortgage-secured credit exposures. It was adopted in response to the following developments observed in the Polish banking system: a high rate of foreign currency debt incurrence by households earning income in the zloty, lack of long-term experience on the part of mortgage loan market participants, low quality of property valuations due to, inter alia, the lack of statistical data on the real property market or the portfolio of mortgage receivables, difficulties in estimating the loss ratio of the portfolio of mortgage loans and a low efficiency of banks in the enforcement of claims, lack of procedures concerning exchange rate risk and interest rate risk the clients are exposed to, limited scope of bank procedures in terms of current monitoring of the value and quality of collaterals for mortgage-secured credit exposures, mismatch between liabilities and assets term structure (financing long-term assets with short-term liabilities).

decline in demand, of which more than a half believe that it will drop significantly. In the case of consumer loans, banks expect a weaker demand growth in 2006 Q3.

Among the reasons for the growth in the demand for credit, banks also list the loosening of lending criteria, particularly in the segment of consumer loans. In the opinion of banks, the single most important reason for increasing consumer loan availability in 2006 Q2 was the intensification of competitive pressure. Another important factor here was improvement in the assessment of the current and expected financial standing of banks. Banks expect that the tendency to liberalise the criteria for granting loans for consumption purposes will also be maintained in the nearest future.

The situation looks quite differently as far as the criteria for granting housing loans are concerned. In 2006 Q2, the majority of banks (79.1% of the asset-weighted number of banks) kept their criteria for granting housing loans to households unchanged. In the remaining group, the percentage of banks which tightened their lending policy was slightly higher. In the nearest term, however, despite the positive outlook for the housing market situation and a strong competition among banks, banks envisage a significant tightening of lending policies in the segment of housing loans in connection to the need to adjust to the requirements of *Recommendation S*.

The interest on zloty loans to households follows the changes in the interbank market rates, while strong competition forces a gradual reduction of loan margins. The average interest charged on consumer loans in May 2006 was 14.3%, while in the case of zloty housing loans it amounted to 5.6%. More important for the analysis of changes in housing loans, however, are foreign interest rates, primarily those in CHF, as the majority of granted housing loans are denominated in foreign currencies[54]. Despite the growth in Swiss Franc LIBOR, foreign currency loans have accrued very quickly over the past few months (Figure 2.33, right-hand panel). The high increase in foreign currency loans might have been connected with quickening the decisions to take out housing loans in order to avoid the access restrictions resulting from *Recommendation S* coming into force on 1 July.

The interest on consumer loans significantly exceeds the interest charged on housing loans. Banks surveyed by the NBP point out that the risk connected with these loans is higher, which explains a rather insignificant scale of their interest cuts: both those implemented so far and expected in the future. As mentioned before, in spite of high interest, the demand for consumer loans is assessed by banks as strong.

Bank deposits of households, following a rise at the beginning of the year, stabilised in the subsequent months. Their year-on-year growth rate has remained at a moderate level of approx. 4% for over a year now. At the same time, households are intensively substituting bank deposits with alternative forms of financial savings, such as investment fund units or life assurances. The value of financial savings of households has been growing rapidly[55], while the share of bank deposits in their structure has been shrinking

[54]In the period from December 2005 to May 2006, the increase in foreign currency housing loans accounted for 75.6% of the overall increase in housing loans granted to households

[55]The growth rate of the sum total of bank deposits of households, notes and coin in circulation, value

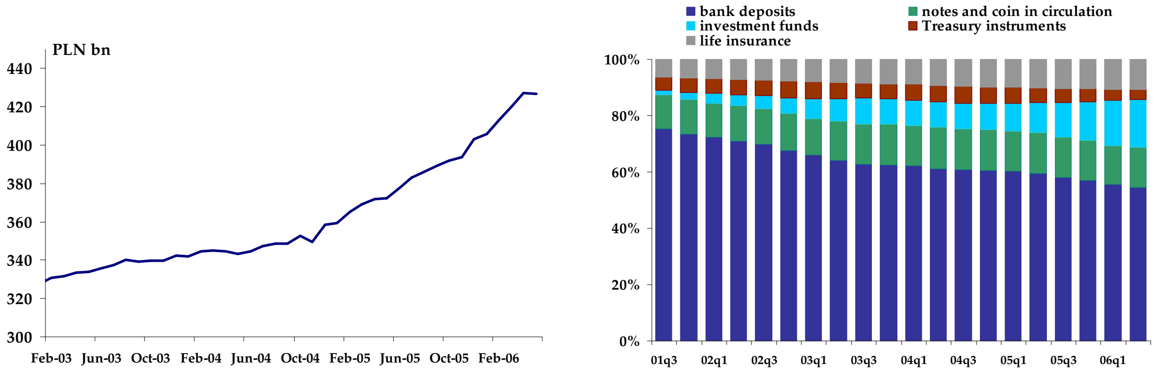


Figure 2.34: Households' financial assets. Left panel: outstanding amount, data adjusted for the impact of exchange rate changes, December 2002 exchange rate relationships. Right panel: structure, data not adjusted for the exchange rate fluctuations.
Source: NBP estimates.

(Figure 2.34). In May, because of equity price drop on the Warsaw Stock Exchange, the value of assets of investment funds open to households fell by approx. PLN 1 billion. Despite some dampening of the stock exchange standing in May, the influx of new finance to investment funds was recorded, even though it was significantly lower than in the previous months.

The sustained high economic growth and positive trends in the labour market should be adding to the continuation of the currently observed tendencies in the households loans and deposits. The compliance of commercial banks with *Recommendation S* issued by banking supervision may be conducive to slowing the growth rate of housing loans, as some households that are potentially interested in taking out a housing loan will lose their creditworthiness in the eyes of banks.

Monetary aggregates

The trends observed in the loan market find reflection in the developments of the major monetary aggregates (Figure 2.35). Since mid-2005 the annual growth rate of broad M3 money supply has been oscillating around 10%. Narrow M1 money aggregate is growing faster than the broad one, which reflects changes in the money supply structure consisting in expanding share of its liquid components. These changes are the consequence of the changing offer of banks, among others, manifesting in blurring the difference between sight and term deposits[56]. Moreover, a low level of interest on bank deposits favours their substitution by cash forming part of M1. The growth rate

of investment fund units and Treasury bonds and bills held by households, plus their assets accumulated in life insurance undertakings, was 14.6% y/y in May 2006

[56]Currently, at many banks interest on sight deposits does not differ from interest offered on term deposits, which makes sight deposits more popular, as by definition the withdrawal of funds does not result in losing the accrued interest.

of notes and coin in circulation has grown over the recent months, approaching that of the M1 aggregate. As it was mentioned in the previous *Reports*, the declining year-on-year growth rate of notes and coin in circulation at the turn of 2004 and 2005 was accompanied by a reduced contribution of cash in the narrow monetary aggregate M1. Should this share remain stable, it can be expected that in the nearest term the growth rate of cash will be moving closer to M1 growth rate, while in the longer perspective, the growth rate of notes and coin in circulation should be weakened by the increasing role of non-cash payments in economic trade.

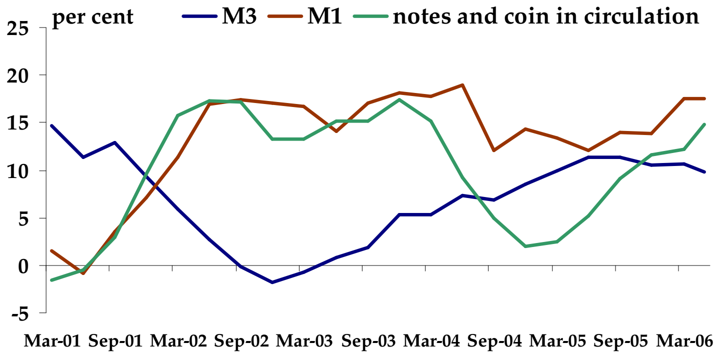


Figure 2.35: M1, M3 and notes and coin in circulation (nominal y/y growth in per cent)
Note: Methodological changes to monetary statistics: adding Credit Unions to Monetary and Financial Institutions (MFI) and excluding banks under the bankruptcy or in the set-up process from MFIs from 2005 on, and adding money market investment funds to MFIs from 2006 on, makes it difficult to compare the 2005 and 2006 figures with the previous years figures. Methodological changes are introduced in order to comply with ECB requirements.
Source: NBP data.

Monetary policy in May-July 2006

The April inflation projection (prepared on the basis of data available as of 24 March 2006) expected that inflation would rise gradually over the monetary policy transmission horizon and then return to the inflation target (2.5%) at the end of 2007 and remain close to the target in 2008. The projection indicated that the output gap would remain negative until 2008 and would be closing faster than it had been expected in the January projection. The data published in May and June 2006 allowed an assessment of the accuracy of the projection assumptions adopted for Q1 and also warranted a preliminary assessment of the accuracy of the projection itself for 2006 Q2. Having taken into account the balance of risks for future inflation, including the results of the April inflation projection, the Monetary Policy Council, at its meetings in May and in June 2006, 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%. Having considered the latest data and the July inflation projection, in July the Council left the interest rates unchanged.

The data published between May and July 2006 pointed to the strengthening of growth tendencies in the Polish economy which have been recorded since 2005 Q2. The data on national accounts in 2006 Q1 confirmed that economic growth had been accelerating since 2005 Q2, pointing to a strengthening economic recovery. In 2006 Q1, the GDP growth was higher than expectations presented in the April *Inflation Report.* There was also a substantial difference in the structure of GDP growth. While the increase in private consumption and the contribution of net exports in GDP growth exceeded the forecasts of the April *Inflation Report*, the growth in gross fixed capital formation and government collective consumption proved lower than expected in the April *Report.* Factors contributing to the rise in domestic demand included dynamic growth in household loans and a drop in the level of household savings.

The monthly GUS data published in May–July revealed that the GDP growth in 2006 Q2 remained high and most probably close to that recorded in 2006 Q1, and thus higher than expectations presented in the April *Report.*

The data available in the analysed period pointed at a steady recovery in labour market. Employment was growing both in the corporate sector (3.1% y/y in June 2006) and also in the whole economy (1.9% y/y in 2006 Q1). At the same time, a decline was observed in the registered unemployment rate in annual terms. According to the BAEL

(Labour Force Survey), 2006 Q1 saw a continuation of the high growth in the number of people working in the economy outside private farming which has been observed since 2005 Q3. This rate of growth proved higher than expected in the April *Report*. According to BAEL, the rapid growth in the number of the working persons coincided with a substantial decline in the unemployment rate. Contrary to the assumptions for the April projection, however, no rise was recorded in the economically active figure.

The acceleration of economic growth in 2006 Q1 coincided with the high growth of nominal wages in the economy, which - as the growth rate of unit labour costs in the economy - was consistent with the expectations presented in the April *Report*. The data on corporate sector wages in April–June 2006, adjusted for the impact of shifts in one-off wage components in some sections, 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.

Inflation in 2006 Q1 amounted to 0.6% y/y, before rising to 0.8% in 2006 Q2. Low inflation starting from 2005 Q3 was the result of the fading-out of price effects connected with Poland's EU accession in 2004, the monetary policy pursued a few quarters before, zloty appreciation in 2005, rising contribution of imports from countries with low production costs and intensified competition from producers from these countries. These factors coincided with the short-term effects, such as the continuing food price decrease in annual terms.

Despite the strengthening of growth tendencies in the Polish economy in April–June 2006, core inflation indicators remained low. Low "net" inflation indicated that inflationary pressure in that period was contained. The limited inflationary pressure was accompanied in the analysed period by inflation expectations continuing at a level considerably lower than the inflation target and a slight lowering of inflation forecasts of bank analysts down to the level of 1.9%.

In the analysed period, gradual growth of producer prices in industry was recorded in annual terms, from 1.7% y/y in April to 2.8% y/y in June 2006, which occurred even though the effective exchange rate of the zloty was stronger than a year before.

In the period between the MPC meetings held in April and July, the zloty depreciated, mainly as an effect of the impact of global factors. At the same time, in 2006 Q2 the nominal effective exchange rate of the zloty was in line with the expectations of the April *Report*.

During its meetings, the Monetary Policy Council discussed the outlook for future inflation in the context of the current and anticipated economic situation. The most important issues discussed by the MPC included: future effect of imports from low cost countries on inflation in Poland, sustainability of the labour market recovery and the associated wage pressure in Poland, relationship between continuously low "net" inflation and future CPI, experiences of other countries where inflation was running below the inflation target for some time and the outlook for the zloty exchange rate path in the future.

The Council paid a lot of attention to the future impact of international trade, including imports from low cost countries, on inflation in Poland. This impact may be weaker than that observed so far, which may be indicated by the sustained recovery and the closing output gap in the global economy. These processes find reflection in the assessments of outlook for inflation made by central banks: in the first half of 2006 most central banks, including the Bank of Japan, European Central Bank and the Federal Reserve, pointed to heightened inflation risk. On the other hand, the widely expected growth in the share of the low cost countries in the global trade, still relatively low share of those countries in the imports to Poland and the growing international competition indicate that the so-far reported scale of the drop in prices of some imported goods may continue for some time yet.

The Council also discussed the possible inflationary impact of the fast and higher than anticipated growth in the number of people working in the economy which had continued since 2005 Q3. One of the reasons for the quick growth in the number of working persons may be the accomplished deep restructuring of the Polish enterprises, limiting the possibility of further output expansion solely by increasing labour productivity. A fast growth in the demand for labour may also to some extent result from the inflow of foreign direct investment to Poland, which is accompanied by moving jobs from countries with relatively high costs of labour to Poland. In addition, a large proportion of new jobs in Poland are created in the services sector, where the possibility of increasing labour productivity is rather limited. The above mentioned processes contribute to the rapid growth in the demand for labour in Poland. If the high growth in the number of working persons in the longer horizon proved higher than in the April projection, then the rise of wages, unit labour costs and inflation in 2007–2008 would also surpass the April projection. Building wage pressure may also be fuelled by reduced labour supply due to the economic migrations of Poles to some EU countries.

On the other hand, the increase in labour market flexibility in Poland may be a factor curbing wage pressure growth in the medium-term. This increase in flexibility may be indicated by the fact that most new jobs are created in the services sector, where the employee's position in wage negotiations is weaker than in industrial enterprises. Moreover, in line with BAEL results for 2006 Q1, an important proportion of all paid employees were employed on a fixed-term contract basis. This form of employment – involving a higher probability of losing the job than in the case of permanent contracts – is conducive to reducing the wage pressure.

The Council also discussed the persistent wage pressure in Poland and the outlook for wages and unit labour costs in the economy in the longer run. The Council assessed that signals of wage pressure building in the public sector were a cause for concern. In the Council's opinion, possible meeting of the increased wage demands in a part of the public sector may lead to increased wage pressure in the remaining part of the sector and, consequently, to the accelerated growth in wages across the economy as a whole and a deterioration in the public finance. It cannot be ruled out that pay rises in the public sector will contribute to intensified wage pressure in the private sector, as well.

The Council also discussed the significance of sustaining low "net" inflation for the future

CPI inflation in Poland. On the one hand, the prolonged period of low "net" inflation may indicate the existence of structural factors responsible for lowering inflation and independent of the business cycle in Poland. Thus, the continuation of low "net" inflation may be deemed as an indication that the CPI inflation will not be rising fast. On the other hand, there are empirical studies which indicate that core inflation indicators themselves may provide wrong information on future inflation, especially in a situation when oil prices in the coming years are forecast to remain at a heightened level.

At its meetings, the Council also discussed international experiences. These experiences show that many countries which saw their inflation running below the inflation target for a period of time also registered a significant rise in inflation some time later. Inflation growth in those countries tended to occur in the situation of a strong economic recovery and fast expansion in lending. The increase in inflationary pressure was also triggered by growing tensions in the labour market. The relevance of these experiences for the Polish economy was a matter of debate.

The Council also discussed the outlook for the exchange rate of the zloty. In assessing these perspectives account was taken of the anticipated interest rates growth in major world economies and the resultant decline in the disparity of interest rates. This factor will most probably be conducive to the weakening of the zloty. On the other hand, it may be expected that the continuing surplus in Poland's balance of payments will favour zloty appreciation. It is difficult to assess the net effect of the impact of those factors on the exchange rate of the zloty in the longer term.

In the statement released after the April meeting, the Council maintained its assessment formulated in March that with large probability inflation would in 2006 Q2, and maybe Q3, remain below the inflation target, mainly due to the short-term factors. If developments in the Polish economy were consistent with the April NBP projection, the maintenance of the central bank's reference rate at the April level would, in the then-opinion of the Council, support a gradual return of inflation to the target within the projection horizon and would also be conducive to keeping economic growth at the pace, which is consistent with the potential output growth determined by the structural features of the Polish economy. In the press release after the May meeting, the Council assessed that the balance of risk for future inflation did not change significantly, yet a risk factor related to wage pressures in the budget sector appeared. In the statement after the June meeting, the Council assessed that the balance of risks for future inflation migh point to an increased probability of inflation running, over the monetary policy transmission horizon, above the level assessed in the April projection and during the Council meeting in May. The Monetary Policy Council concluded that a broader assessment of inflation outlook would be possible in July 2006, after the publication of the inflation projection.

The inflation and GDP projections, which are presented in *Inflation Reports*, are one of the factors accounted for in the monetary policy decisions.

In line with the July projection of inflation and GDP prepared by NBP experts, there is a 50% probability that the annual growth rate of GDP will range between 4.7 and 5.3% in

2006 (in comparison to a 3.9–5.0% range in the April projection); between 3.6 and 5.9% in 2007 (compared to 3.4–5.8%) and in the range of 4.0–6.6% in 2008 (against 3.5–6,2%).

The July inflation projection shows that the growth rate of consumer prices will remain higher throughout the whole projection horizon than that expected in the April *Report*. On the assumption of unchanged interest rates, inflation will remain, with a 50-percent probability, in the range of 1.0–1.9% in 2006 Q4 (compared with 0.5–2.0% in the April projection), 1.5–3.5% in 2007 Q4 (1.3–3.4% in April) and 1.7–4.3% in 2008 Q4 (compared with 1.2–3.9%).

It should be emphasised that, in the opinion of the authors of the projection, the inflation projection presented in the *Report* does not account for all sources of uncertainty. This primarily applies to the scale of the future impact of globalisation on inflation, the impact of global imbalances on the world economic growth, the growth of workforce, the effect of drought in Poland on food prices, economic policy in the coming years, in particular the effect of increased wage pressure on public finance in Poland, and the exchange rate developments. Besides, the projection was prepared on the basis of data available until 23 June 2006 and thus does not account for crude oil prices, which are higher than those assumed in the projection, higher estimates of GDP in 2006 Q2 and slightly lower than forecast CPI in 2006 Q2. However, net inflation in 2006 Q2 was consistent with the July projection.

Having considered the latest data and the July inflation projection, the Council confirms the view expressed at the June meeting that the probability of inflation running, in the monetary policy transmission horizon, above the level assessed in the April projection has increased.

In the Council's opinion, the current fast economic growth creates favourable conditions for reducing the public finance imbalance, which would reinforce the long-term economic growth at a high level. The Council maintains its view that implementing an economic strategy focused on creating conditions which ensure the introduction of the euro at the earliest possible date would be most favourable for Poland and would contribute to higher long-term economic growth.

Projection of inflation and GDP

The projection of inflation and GDP has been prepared with the use of the macroeconomic model ECMOD by a team of NBP economists led by the Director of the Macroeconomic and Structural Analyses Department Adam B. Czyżewski. The NBP Management Board has approved the projection to be submitted to the Monetary Policy Council. The inflation projection is one of the inputs to the Monetary Policy Council's decision-making process. The cut-off date for the assumptions of the current projection was 23 June 2006. In consequence, the projection has been based on NBP estimates concerning macroeconomic variables in 2006 Q2.

4.1 Introduction

The projection uses the same version of the model ECMOD which was estimated in March 2006 and then applied in the April projection. Since then new data on the economy have been released and at the same time some historical data have been revised[57]. The data published since the last projection have not changed significantly the NBP experts' perception of past and future economic developments. This was an important argument in favour of the postponement of the time-consuming procedure of model re-estimation.

[57] Since the April projection the national accounts data have been revised on two occasions. On 26 April 2006, upon the first publication of non-financial quarterly accounts broken down by institutional sector (for the years 1999-2005) the GUS revised the 2005 data. Then, on 15 May 2006 upon the publication of the first GDP estimate for 2005 the national accounts data for the years 2004 and 2005 were revised. The BAEL survey introduced a new definition of the economically active persons under which some persons which had so far been classified as economically active were transferred to the economically non-active category. In order to maintain comparability of the BAEL data for 2006 Q1 with data for the previous quarters, the number of working persons in 2006 Q1 used in the projection was calculated according with the old definition. The change in the 2005 data also concerned the public finance sector and resulted from the replacement of estimates on the sector's income and expenditure with the data presented in *Report on the implementation of the state budget for 2005* published in May 2006. As a result, the central government revenues were revised downwards by approx. PLN 5.2 billion, expenditure by approx. PLN 21.3 billion and deficit by approx. PLN 16.1 billion. These changes were driven both by delays in the implementation of investment projects financed with the EU funds and changes in the methodology of the public finance sector consolidation.

Inflation projected in July is higher than in the April projection throughout the whole projection horizon. Moreover, it also exceedes the inflation target earlier, i.e. already at the end of 2007, and rises to 3% at the end of 2008.

A remarkable factor distinguishing the July and April projection is a significant improvement in the assessment of economic situation in the first half of 2006, which was driven by both the newly issued GUS data on the economy in 2005 and 2006 Q1 and the NBP's expert estimates on 2006 Q2 based on these data and also on the data from April and May 2006. The estimated rate of economic growth in the first half of 2006 above the April projection is conducive to a significant rise in economic growth projected for the whole of 2006 (from 4.5% to 5%)[58]. In the opinion of NBP experts the new data published by the GUS do not introduce any fundamental changes to the outlook for economic growth in 2007 and 2008 as compared with the April projection, if we disregard high probability of public finance deterioration which could lead to an additional increase in demand and wages.

The change in the assumptions for the fiscal projection reflecting the high probability of deterioration of public finance situation is the second major factor distinguishing the July projection from the April projection. The anticipated higher rate of growth of GDP and central budget revenue which increased the probability of rise in public sector expenditure, inclined the authors of the projection to adopt a more probable path of increase in central budget expenditure than the one accounted for in the April projection[59]. With the detailed assumptions for the 2007 budget unknown, the newfiscal path was constructed basing on probable broad assumptions It was assumed that a nominal anchor will be sustained in the form of central budget deficit in the amount of PLN 30 billion (and a corresponding deficit of the general government sector in the amount of approx. PLN 32 billion). It was also assumed that the structural deficit of the public finance sector will not deteriorate in the projection horizon (the April projection accounted for its reduction). It was also assumed under no policy change principle that a change in the future economic policy in response to negative effects of departing from the fiscal reduction strategy will occur beyond the projection horizon.

A significant rise in public spending envisaged in the current projection is conducive to accelerating in 2008 the growth rate of domestic demand (to 6.0%) and economic growth rate (to 5.3%) above the path from the April projection, which expected domestic demand to increase by 5.6% with the rate of economic growth at 4.8%.

The faster growth rates of domestic demand and GDP in 2006 than those accounted

[58]In the period between the assumptions were prepared for the April and the July projections the forecast of economic growth in the euro area in 2006 was slightly revised upward (by 0.1 percentage point). The rate of growth forecast for 2007-2008 was not modified.

[59]The preparation of the April projection was accompanied by considerably greater political uncertainty and the associated uncertainty on whether the direction of economic policy pursued in the sample period would be sustained in the future. Nevertheless, the model-based projection is built on the assumption that the government formed after the election would pursue the fiscal policy consistent with the scenario outlined in the *Convergence Programme*, and the risk of the central path being shifted as a result of the departure from this strategy, was introduced outside the model - through increasing the probability of the central path of the inflation projection moving upwards.

for in the April projection result in accelerated, as compared to the April projection, quarter-on-quarter growth of the forecast ”net” inflation in 2006. However, the growth starts from a lower 2006 Q2 level than that forecast in April (by 0.3 percentage point) and the annual growth rate of ”net” inflation catches up with the rate forecast in April in 2007 Q1. From 2007 Q2 ”net” inflation, which in year-on-year terms exceeds the inflation in the April projection by 0.2 to 0.5 percentage point, moves beyond the inflation target at the end of 2007 and in the second half of 2008 exceeds 3%.

This faster growth in ”net” inflation in 2007 and 2008 is driven by approx. 0.6 percentage point higher labour costs in the economy as compared with the April projection, mainly resulting from faster growing wages in comparison to the April projection (by 0.5 percentage point in 2007 and 0.9 percentage point in 2008), with considerably lower differences in the growth rate of labour productivity outside private farming (-0.1 percentage point in 2007 and 0.3 percentage point in 2008). Another factor responsible for stepping up ”net” inflation is a faster closing of theoutput gap.

The CPI inflation path is derived by combining the ”net” inflation projection with the expert forecast of food and fuel prices with appropriate weights[60] In the short-term horizon of the projection, both the forecast food prices and the prices of fuels grow faster than in the April projection and lift CPI inflation path above the path projected in April. In the longer-term horizon, however, fuel prices settle below the path projected in April and cause CPI inflation path to run below the path of ”net” inflation.

Acceleration in economic growth which is accompanied by deterioration in public finance imbalance is not a favourable development for the economy. The July projection does not envisage any monetary policy or fiscal policy response to the deepening of the internal imbalance. Under this assumption, economic entities should be expected to take adaptive measures other than those accounted for in the model (including non-Keynesian effects, i.e. shrinking of the investment demand in response to a fiscal expansion path difficult to maintain in the longer term) and the risk of a slowdown in economic growth considerably below the projection path already in 2008 and in subsequent years.

A GDP growth deceleration brought about by a reduction in investment demand (and, in the longer term, also in the potential product) would on the one hand be conducive via the output gap channel to reducing inflation, and on the other via the exchange rate channel to inflation growth. In view of a stronger impact on inflation exerted through the exchange rate channel in comparison to the output gap channel, and also considering faster impulse pass-through via the exchange rate channel than via the output gap channel, it can be expected that the risk of GDP growth decelerating below the projected path would lead to the risk of inflation in 2008 growing above the projection.

[60] In the first quarter the weights correspond to the shares of Şnet˚ inflation, food prices and fuel prices in the CPI basket. In subsequent quarters of the projection the weight of food prices is gradually reduced from quarter to quarter and finally, in the first quarter of the projection, assumes zero value. The fuel price weight is not modified in the projection horizon.

4.2 Assumptions for the projection of inflation and GDP

New data released in April–June 2006 (the cut-off date for the July projection was 23 June 2006) were the basis for updating the forecasts of variables exogenous to the model.

External demand and inflation

The annual GDP growth rate in the euro area in 2006 Q1 increased to the level of 1.9%, i.e. by 0.2 percentage point as compared with 2005 Q4 mainly due to accelerating consumption demand whose annual growth rate settled at 1.7% (growth of 0.7 percentage point against the previous quarter).Also, a number of macroeconomic data for 2006 Q2 supports the possibility of a stronger GDP growth in 2006 than accounted for in the April projection:

- Growth of consumer confidence indicators remains high,
- April data on the growth rate of retail sales at the level of 2.8% y/y and unemployment rate of 8%, as compared with 8.7% in April 2005, point to the possibility of the high growth in private consumption being maintained in 2006 Q2.
- High profits of enterprises and favourable conditions of financing should translate into investment growth rate sustained at the level of approx. 3-4% per year in the projection horizon.

The above factors as well as changes in the forecasts of external analytical centres led to an upward revision, as compared with the April path, of the rate of economic growth forecast in the euro area for 2006 by 0.1 percentage point. In between the two forecasts, however, no data were released that would alter prior forecasts of GDP in 2007-2008.

Factors creating the risk of economic growth in the euro area in 2006-2008 running lower than accounted for in the projection include, first of all, uncontrolled subsidence of global imbalances, considerable appreciation of 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 considerable increase in internal demand resulting from continuing improvement in the labour market and growing consumer confidence, progress in the implementation of structural reforms and positive effects of the opening of the labour markets of euro-area countries for workers from the Central and Eastern Europe.

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

In 2006 Q1 the annual growth rate of GDP deflator in the euro area settled at the level of 2.0% (as compared to 2.1% in 2005 Q4). In May 2006 the core inflation in the euro area amounted to 1.5%, as compared with 1.6% in April 2006. On the other hand, the CPI inflation edged up to the level of 2.5%, i.e. well above the ECB's inflation target. The observed intensification of inflationary processes is mainly driven by growing commodity prices and increased rates of indirect taxes. The current situation on the labour market for the time being does not signal any upward pressure on wages, and the growth rate of labour costs is kept low . As a result, the path of the GDP deflator was only slight revised upwards (by 0.1 percentage point) throughout the projection horizon.

The risks of higher inflation include the possibility of the occurrence of second-round effects, results of the already observed rises in commodity prices and further increases in those prices, 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 opening of labour markets. This led to the adoption of a slightly positive asymmetry for the year 2008.

Foreign interest rates

The forecast foreign interest rates within the projection horizon are higher than in the previous projection (increase of 0.2-0.3 percentage point in 2007-2008).

Crude oil, fuel and gas prices

Crude oil prices

As in the previous projections, the oil price forecast in the July projection is based on the forecasts of the US Department of Energy[61] available at the cut-off date. It also accounts for the forecasts of other major analytical centres (among others the International Energy Agency and the OPEC).

Oil prices in 2006 Q2 proved markedly higher than assumed in the April projection (average Brent oil price amounted to 69.8 USD/b as compared with the expected 62 USD/b). At the same time, most of the forecasting centres have revised upwards their oil price forecasts since the release of the previous projection. In view of the above, the oil price forecast has been increased throughout the entire projection horizon. The current forecast assumes that the average oil price will reach 67.7 USD/b in 2006 (as compared to 61.4 USD/b assumed in the April projection), 67.8 USD/b in 2007 (as compared with 58.8 USD/b) and 67.0 USD/b in 2008 (as compared with 56.0 USD/b).

Sustaining the elevated oil prices throughout the entire projection horizon stems from both the expected relatively high increase in the world demand for oil in the second half of 2006 and in 2007 alike[62] and concerns about the safety of future oil supplies from

[61] The forecast for 2006-2007 is based on the forecast published in *Short-Term Energy Outlook*, Energy Information Agency, June 2006 (from 6 June 2006). The forecast for 2008 was adopted on the basis of the latest value assumed for 2007.

[62] The forecast of the US Department of Energy assumes that the world oil demand will increase by 2.5% in the second half of 2006 and by 2.2% in 2007 (in the first half of 2006 it increased by 1.5%).

countries with high political risk[63] and strong hurricane activity. At the same time, due to a low level of spare production capacities of the mining sector[64] both stronger demand growth and supply disruptions will not be offset by an additional increase in oil production. These may cause further upward pressure on the prices of this commodity. Consequently, the current forecast assumes an asymmetrical upward balance of risks which means a greater probability of higher oil prices.

Till mid-July 2006 Brent oil prices increased by over 7 US dollars, exceeding their subsequent highest nominal level of 76 USD/b[65]. Further hikes in oil prices were driven by growing political uncertainty surrounding, among others, the Middle East conflict.

Prices of fuels and natural gas

In relation to the April projection, the change in the path of fuel prices was primarily due to the shift in oil price forecast and higher than forecast prices in the period March–May 2006. The July projection also accounts for an increase in the excise tax on liquid petroleum gas coming as early as September 2006. On the other hand, like in the April projection, it has been assumed that the rate of excise tax on petroleum reduced in September 2005 will not be increased before 2007. In view of the fuel market developments in the first half of 2006, the return of domestic retail price margins to their average level could be forecast sooner (already in July) than assumed in the previous forecasting period (in September). Additionally, due to forecast continuation of oil prices at a stable level towards the end of the projection horizon (i.e. from 2007 Q2) it has been assumed that margins in this period will be affected by a mean reverting process and settle at their average level. The joint effect of the introduced changes is an increase in the annual growth of fuel prices until 2007 Q3 and its decrease starting from 2007 Q4 as compared with the April projection.

The main source of risk for forecasts of fuel and gas prices are future crude oil price developments. At the moment, due to the oil market situation, this risk is upwardly asymmetrical. Besides, the final dates of the introduction of increased rates of excise tax on liquid gas petroleum and petrol (return of the excise tax rate on petrol back to the level before the reduction) remain unknown. Uncertainty may also concern the scale of such increases, depending, among other things, on the future condition of the public finance. Moreover, the bill on biocomponents used in liquid fuels and liquid biofuels has not been supplemented with the expected consequent 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. High uncertainty also surrounds the pricing policy

[63] The forecast does not account for possible major disruptions in oil supplies to the world markets.

[64] The US Department of Energy estimates that free production capacities of the mining sector will reach 1.1 billion b/d in 2006 and 2007 and thus will be more than three times lower than their average in 1993-2002 (3.4 billion b/d).

[65] The forecast of the US Department of Energy released on 11 July 2006 indicates that the average annual WTI oil prices may amount to 69 USD/b in 2006 and 2007, i.e. 1 US dollar higher than envisaged in the June 2006 projection.

of *Orlen* company, which is bound to strengthen its leading position in the market after its merger with the *Mazeikiu Nafta* oil refinery. The above risks are assessed to be asymmetricly upward in the projection horizon.

New data released after the cut-off date increased the risk of the path of fuel prices running above the forecast, mainly as a result of stronger than forecast increases in crude oil prices.

Absorption of the EU funds

According to the NBP data, the utilisation of the EU funds in 2006 Q1 exceeded EUR 380 million and was broadly consistent with the central path assumed in the January and April projections, set at the level of EUR 400 million. However, as of 31 May 2006 only approx. EUR 260 million of the funds for 2006 Q2 were utilised. Consequently, the central path in 2006 Q2 was revised[66] downwards to the level of EUR 400 million (from EUR 500 million). The downward revision of the central path in 2006 Q2 led to the lowering of the expected level of EU fund utilisation in the whole of 2006 from EUR 2200 million to the level of EUR 2080 million. The assumptions concerning other quarters have remained unchanged in relation to the April projection.

Uncertainty as to the realisation of the assumptions depends, among other things, on the pace and effectiveness of legislative changes and simplification of administrative procedures introduced by the government, aimed to improve the absorption of EU funds.

The NBP data indicate that 2006 Q1 saw delays in transfers made under the CAP (Common Agricultural Policy). This was caused by delays in the payment of direct subsidies resulting from late delivery of forms to farmers. Consequently, CAP transfers in 2006 Q1 accounted for only 10% of the annual allocation (instead of the envisaged 25%). Delays in direct transfers are compensated for in 2006 Q2 as they may only be made by the end of June. The NBP data indicate that CAP transfers in May 2005 amounted to EUR 542 million (i.e. 28% of the allocation), and thus we assume that approx. 55% of the annual allocation will be paid out in the first half of 2006 (in line with the previous assumption). Thus, in the July projection the central path of CAP transfers (in annual terms) in 2006-2008 has not been modified in relation to the April projection. These transfers are forecast at EUR 1.95 billion in 2006, EUR 2.05 billion in 2007 and EUR 2.45 billion in 2008.

Situation in the public finance sector

The assumptions about forecasts of the public finance sector expenditure used in the July projection ware prepared in a different way than those in the April projection. Previous projections expected the legal situation prevailing upon the drawing up of the

[66] The appropriateness of this revision was confirmed by the NBP's data from 3 July 2006.

assumptions to be maintained throughout the projection horizon which, given no explicit announcements of changes in public finance, might be considered as the most probable scenario. The April projection was also based on this assumption, however, already at that time the likelihood of fiscal expansion was significantly higher than the likelihood of embarking on public finance reforms, which was indicated as a factor increasing the projection uncertainty. Upon drawing up of this projection, considering general information on assumptions for the 2007 budget, the upward pressure on wages on the part of general government sector employees and declarations of the government representatives pointing to the possibility of those claims being satisfied, as well as increased expenditure on social transfers, the scenario assuming no changes raising public sector expenditure should be considered highly unlikely. On the other hand, the final course and magnitude of fiscal expansion remains still mainly unknown. Hence, the current projection is based on the government's declared anchor in the form of the central budget deficit at a fixed level of PLN 30 billion. As compared to the assumptions adopted in the April projection, the expenditure of the public finance sector has been revised upwards (current expenditure[67], investment expenditure and social transfers)[68]. It was assumed that an increase in current expenditure will largely result from a higher wage growth in the general government sector. Adopting of the above assumptions implies, as opposed to the April projection, the lack of improvement in the structural balance of the public finance sector in the projection horizon and a continued accumulation of the central government debt.

The above projection is subject to a certain risk resulting mainly from political uncertainty. The risk of intensified upward pressure on public expenditure, especially in view of the approaching local government elections and the latest changes on the political scene, seems considerable. Under the circumstances, maintaining the budget anchor may stay under a question mark. Doubts may arise esspecially whether the certain assumptions to the 2007 Budget Bill still hold, mainly those concerning the proposals of tax changes and changes in the Public Finance Act submitted so far.

Prices of food and non-alcoholic beverages

As compared to the April projection, a change in the path of food and non-alcoholic beverage prices resulted from accounting for the actual prices in the period March - May 2006 and such new information as forecasts concerning major agricultural commodities by the Agricultural Market Agency (AAR), the GUS assessments regarding the crop quality after winter (at an average level), the stock of agricultural and horticultural crops (situation slightly worse than the previous year) and the stock of swine (indicating a gradual slowdown of the upward supply trend).

[67] Current public finance sector expenditure includes wage expenses.

[68] An additional assumption was adopted that the results of other public finance sector entities in the years 2006-2008 will be at the level of approx. PLN - 2.5 billion. As a consequence, the whole sector deficit was assumed at the level of PLN 32.5 billion throughout the projection period.

Central paths of the April and July projections are similar. The actual prices in 2006 Q1 proved to be slightly above the April projection estimates, while the current estimates of Q2 is somewhat above the April projection. Current assessments of the new information led to a slight upward revision of the forecast in 2006 Q3 and a slight downward revision in 2006 Q4 and 2007 Q1. In this situation, the current forecast of the annual growth of food prices is until 2006 Q2 lower and from 2006 Q3 higher than in April 2006 projection.

At the moment, the main risk in the food price forecasts is related to the developments in agrometeorological conditions in the new business year directly affecting the volume of plant production. Still, as compared with the previous forecasting round the risk of bird flue has vanished – at least untill the time of the new wave of bird migration.

After the cut-off date, information concerning negative impact of drought on some crop vegetation came. Although the scale of damage is currently hard to assess, a decrease, among others, in the crop harvest is to be expected. Poor harvest may have some influence on prise increases of certain agricultural products, what should be, however, partially mitigated with the Common Agricultural Policy mechanisms.

Demographic situation

Number of the economically active

Like in the previous forecasting round, the forecast of the number of economically active was based on the Eurostat demographic forecasts of 2004. Due to a change in the definition of the working persons in the BAEL survey and the survey findings for 2006 Q1, the number of the economically active forecasted at the moment is slightly lower than the figure envisaged in the April projection[69]. As compared to the previous forecasting round, the growth rate of the economically active ratio has been revised downwards from approx. 0.3 percentage point to approx. 0.2 percentage point annually[70]. As a result, the number of the economically active is rising gradually from the level of 17.2 million people in 2006 Q2 to approx. 17.5 million people in 2008 Q4 (previously to approx. 17.7 million people).

Throughout the forecast horizon it has been assumed that the probability of the economically active figure ranging below the central path is higher, which is an inflation driving factor. This variable may show a slower increase in the case of a continued

[69]The assumptions in the April projection envisage that the increase in the economically active ratio, and consequently the number of the economically active may be lower than accounted for, and that event was given higher probability of realisation. Thus, the downward revision of the number of the economically active in the current projection is consistent with the previously presented balance of risks.

[70]The envisaged growth rate of the economic activity ratio (0.2 percentage point y/y) is lower than the corresponding growth rate adopted for the European Commission's reference forecast of economic activity (by 0.8 percentage point y/y in 2006 and by 0.6 percentage point in the years 2007-2008). The forecasts of the EC, however, systematically overvalued the actual growth of the economically activity ratio in Poland, which resulted from their overoptimistic assumption as to the rise in economic activity of people at pre-retirement age (aged 50-59/64).

considerable scale of foreign migration of economically active persons and a lower rise in economic activity of people at pre-retirement age.

Persons working in private farming

The path of the number of persons working in private farming has not changed as compared to the April projection. A symmetric confidence interval has been adopted throughout the projection horizon. A slower drop in the number of people working in private farming may be the effect of the inflow of funds from the EU which increase the profitability of working in agriculture. On the other hand, a part of the EU funds supports the restructuring of this sector, which together with the rise in employment in services expected in the projection horizon, may lead to a faster decline in the number of people working in private farming.

Number of old-age and disability pensioners

The forecast of the number of old-age and disability pensioners is based on the results of the forecast of the Polish part of the AWG (*Ageing Working Group*) model[71]. This model indicates that the number of people living off their old-age pensions paid by the ZUS (Social Insurance Institution) and those receiving "uniformed service" pensions will be increasing alongside the growth in the number of people reaching the retirement age, while the number of people receiving early retirement payments, pre-retirement allowances and disability pensions paid by the ZUS, as well as old-age and disability pensions from the KRUS (Agricultural Social Insurance Fund) will be falling. The joint effect of these shifts leads to a drop in the total number of old-age and disability pensioners down to approx. 9.01 million in the forecast horizon. The model proved its good prognostic properties in 2006 Q1 and so in the current projection the forecast path of this variable is identical as in the previous forecasting round.

It has to be emphasised that the actual number of old-age and disability pensioners in the coming years will mostly depend on changes pertaining to legal conditions for early professional deactivation, including among others: rules of early retirement, the female retirement age and regulations on acquiring disability pensions. A downward symmetric risk breakdown for this path has been adopted with a slight lowering of the upper limit of confidence interval due to good prognostic features of the forecast in 2006 Q1.

[71]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 forecasted with the participation of specialists from the Social Insurance Institution (ZUS), the Ministry of Labour and Social Policy (MPIPS) and the Market Economy Research Institute (IBnGR).

4.3 Projection of inflation and GDP

New data on the economy indicate that it is growing at a fast rate, close to that already expected in the January projection. Although the surprisingly low, according to GUS data, rate of economic growth in 2005 Q4 (4.2% compared to the expected growth of 4.8%) resulted in a reduction of the assessment of GDP growth at the starting point for the April projection (2006 Q1) from 5% expected in the January projection to 4.7%, eventually the GDP growth of 5.2% in 2006 Q1 was closer to the January projection (5.0%) than to the adjusted estimates[72].

In line with expectations already formulated in the January projection and sustained in the April projection, the growth was driven by domestic demand rising in 2006 Q1 at the rate of 4.5% (5% after exclusion of changes in inventories). Particularly fast growth was observed in consumption[73]. The contribution of this category to GDP growth in 2006 Q1 exceeded 4 percentage points, which in turn resulted from the fast rising private consumption (5.1% in 2006 Q1 with a 2% growth in the whole of 2005). The rise in private consumption was connected with a high and rising rate of growth in consumer loans. Investment outlays rose in 2006 Q1 by 7.4%, which was lower than we had forecast but higher than the 2005 growth rate (6.5%), contributing to GDP growth by 0.9 percentage point. The data for April and May gave grounds to estimate that the economy in 2006 Q2 probably sustained an equally high rate of growth (5.1%, i.e. markedly above the April projection) with an even higher growth rate of domestic demand (of 5.8%). According to NBP estimates, private consumption rose by approx. 5.0% and was significantly higher than in the April projection. Faster than in Q1, yet slightly slower than in the April projection, was the rise in investment demand (9.5%). The growth rates of exports and income were high, with imports growing slightly faster and net exports making a negative contribution to the growth (-0.7 percentage point).

Fast economic growth in the past few quarters, brought further expected improvement in the labour market situation and a rise in the disposable income of households. The BAEL data for 2006 Q1 indicate that the number of working people in the economy is growing faster than expected in April (by approx. 0.3 percentage point). At the same time the data reveal that economic activity of population is growing at a slower rate than it was accounted for in the April projection (we named the possibility of such development under risk factors).

The wages in the economy are growing at a fast rate, consistent with the April projection, which is an important factor for the improvement of the financial condition of households and growth in demand for both consumer and housing loans. Apart from income from paid employment, the high rise in disposable income resulted from considerable increases in income from social benefits[74]. There was a rise in income of

[72] Despite the fact that the GUS sustained its low assessment of GDP growth rate in 2005 Q4 (adjustment from 4.2% to 4.3%). The adjustment significantly raised GDP value in current prices accompanied by an equally significant rise of GDP deflator.

[73] Cf. *Inflation Report*, January 2005, p. 70.

[74] The significant growth in social benefits is the outcome of the March indexation of old-age and disability

private owners from business activity and in income of farmers from payments made under the Common Agricultural Policy.

The described economic situation at the projection's starting point (first half of 2006) is the main reason behind the divergent paths of expected economic processes in 2006 in the July and April projections. In subsequent years, and especially in 2008, the differences between the projections to a large extent result from the adoption of a more probable path of public expenditure and deficit than the path adopted in the April projection[75] assuming that the fiscal policy of the previous government will be continued.

According to the July projection, in the second half of the year the economy will continue to grow at a rate approx. 0.5 percentage point higher than forecast in April and GDP growth will reach approx. 5% in 2006. Similarly as in the first half of 2006, growth will be driven by private consumption, which in the second half of 2006 will be rising at a rate higher than 5%.

We forecast that in 2006 private consumption will grow by over 5% (over 3 percentage points faster than in 2005 and almost 1 percentage point above the April projection). A high, though lower than in 2006, growth rate of private consumption will be sustained throughout the entire projection horizon (4.8% in 2007 and 4.6% in 2008; under the previous projection the consumption growth rate in these years was 0.2 and 0.4 percentage point lower respectively).

Higher level of private consumption will be fuelled by disposable income of the household sector higher than in the April projection, achieved thanks to the aggregate wages and transfers rising above their paths from the April projection. In the July projection, wages rise by 4.9% (4.8% in the April projection), 6.1% (5.6%) and 6.8% (5.9%) in subsequent years. The stepped up growth rate of wages in 2007 and 2008 in comparison to the April projection is connected with the assumption about increased wage pressure in 2007 and 2008. The rate of unemployment is falling faster than in the April projection, which weakens its curbing effect on wage growth. Towards the end of the projection horizon it turns to accelerate the growth of wages. The faster decline in unemployment rate is in turn connected with a higher, than in the April projection, rate of growth in the number of people working in the economy (the number of people working in the economy grows in the projection at 2.6% in 2007 and 1.6% in subsequent years, i.e. approx. 0.2-0.3 percentage point faster than in the April projection) and a lower expected economic activity ratio. It has been assumed in the projection that economic migrations will have little effect on the supply of labour. In view of the fact that our empirical knowledge about the migrations is very fragmentary and that migrations' intensity and structure will change over time and in connection with the changes in the domestic labour market, the forecasts of migrations are very uncertain. This uncertainty also refers to the projection of the economically active figure and is not fully accounted for

pensions, which raised the growth rate of old-age pensions for employees to 8.8% in April–May, and for farmers – to 7.0%.

[75]The introduction of a fiscal path that is more probable than the continuation of the fiscal policy of the previous government constitutes a return to the principle of constructing the projection on the basis of the most probable assumptions.

in the fan chart. The risk of inflation related to the uncertainty as to the projection of economic activity ratio is discussed in the next part of this chapter.

Another important factor leading to an increased wage growth rate in the economy, the effects of which are best visible in 2008, is a higher than in the April projection rise in public finance sector expenditure, including an increase in current expenditure raising wages in the public sector and social transfers to households. Higher prices in the public sector, through the contagion effect, also cause a faster wage growth in the private sector[76]. The faster growth of wage bill and transfers increase the disposable income of the household sector, which is conducive to the rise in consumption. The inflation risk connected with a change in the fiscal path has not been fully accounted for in the fan chart. It is more extensively discussed in the next part of this chapter.

The growth of consumption demand faster than accounted for in the April projection increases investment demand of the economy. Investment in 2006 is still growing more slowly (9.3%) than we forecast in April (10.6%) due to a lower than in the April projection investment activity in the first half of 2006. Over the next years, however, investment activity accelerates – to 10.6% in 2007 and 12.0% in 2008 (9.7% and 10.9%, respectively, in the previous projection). A considerable impact on increasing the annual growth rate of investment in 2007 is exerted by a lower (than in April) forecast of investment activity in 2006. The rise in the growth rate of investments in 2008 above the path accounted for in the April projection is connected with an additional rise in demand, stemming from increased public finance sector expenditure and directly with the rise in the investment expenditure of the public finance sector.

We anticipate that in 2007 and 2008 a constant nominal anchor will be sustained in the central budget (at the level of PLN 30 billion), which will make it possible to sustain the public finance sector deficit at the level of approx. PLN 35 billion in these years. Contrary to the previous projection, the present one assumes that the fiscal policy will be pursued in such a way that the rise in tax receipts resulting from the favourable macroeconomic situation (approx. PLN 1 billion more in 2007 and over PLN 4 billion more in 2008 in relation to the April path) will be allocated for funding public expenditure increased to such an extent that the level of structural deficit will not improve in 2006-2008. The adjustments of the expenditure side in the adopted fiscal path lead to a significant increase in public finance sector spending in relation to the path from the previous projection: by over PLN 3 billion in 2007 and approx. PLN 18 billion in 2008. Under this assumption the forecast result of the public finance sector in relation to GDP improves in years 2007–2008 by approx. 0.2 percentage point each year, while the continuation of the fiscal policy of the previous government (assumed in the April projection) would lead to an improvement of 0.4 percentage point in 2007 and 1.1 percentage point in 2008 (with a slightly lower rate of inflation and GDP growth)[77].

[76]According to the estimates of NBP experts based on a CGE model, the public sector's wage bill growth of PLN 1 billion leads to a private sector wage bill growth of approx. PLN 0.3 billion.

[77]The continuation of the policy of the previous government as stated in the convergence programme implies that structural deficit in 2007 will be reduced by 0.2 percentage point and 2008 will mark another significant reduction in structural deficit of almost 1 percentage point.

The beginning of 2006 brought a significant exchange rate appreciation. In the subsequent quarters of 2006, however, the zloty will be depreciating. The zloty exchange rate will weaken more than it was accounted for in the April projection due to the low and shrinking interest rate disparity, high exchange rate risk connected with the lack of improvement in the public finance sector and a rising growth rate of domestic prices. In the projection, in line with its methodology, we do not account for any monetary policy or fiscal policy reaction to the deepening of internal imbalance. Economic entities do not adjust, either. The exchange rate reaction to the deteriorating public finance sector situation is consistent with the model mechanisms and does not contain any discontinuity. Exchange rate risk connected with deterioration in public finance sector situation, which is very important from the point of view of inflation risk, is discussed in the next part of this chapter.

The rise in the consumption and investment demand leads to an increase in domestic demand by 5.2%, 5.7% and 6.0% in 2006-2008 respectively, which outpaces the growth rate of GDP.

The contribution of net exports to economic growth adopted at the starting point for the July projection (2006 Q2) is slightly higher than forecast in April (-0.7 percentage point, compared with -1.0 percentage point). A good economic climate in the euro area over the projection horizon translates into expected high growth rate of exports (11.8%, 7.2% and 8.8% in 2006-2008, in the April projection: 8.1%, 8.0% and 8.7%, respectively). The slowdown in exports growth rate in 2007 is connected both with the higher level of exports in 2006 and a slight deceleration in foreign demand in 2007. The projection of economic growth abroad is subject to risk related to the global imbalance. This risk has not been accounted for in the fan chart. We discuss it in the next part of this chapter.

The economic recovery in Poland will be followed by increased growth rate of imports (imports is expected to rise in the projection horizon at the rate of 12.7%, 9.4% and 10.3% in comparison to 9.6%, 10.1% and 10.2%, respectively, in the April projection). The contribution of net exports to the GDP growth in 2006-2008 will be negative and slightly decreasing (-0.5, -1.0 and -0.9 percentage point against -0.7, -1.0 and -0.8, respectively, in the previous projections).

The potential product in 2006 and 2007 is growing at a rate that is 0.1 percentage point slower than in the April projection (4.0%, 4.2%) and in 2008 – at the rate of 4.5%, i.e. the same as in the April projection. This is connected with a lower rate of investment growth in 2006 and a lower rise of economic activity ratio throughout the projection horizon.

In the projection horizon, output gap is closing faster than expected in the April projection (due to a lower economically active figure and the adjustment of GDP data by the Statistical Office the output gap at the starting point is also narrower). The stronger closing of the output gap is connected with a lower (from mid-2008) than forecast in April potential product growth rate and a higher growth path of aggregated demand (GDP) throughout the projection horizon. As a result, we can observe a stronger inflationary pressure driven by the output gap throughout the projection horizon, even though the impact of output gap on net inflation is currently lower than it was the case before the April re-estimation of the model's parameters. The risk connected with an erroneous measuring of the impact of output gap and domestic interest rate on inflation, which was signalled in the April projection[78] has not been accounted for in the fan chart.

However, a factor explaining in the model the differences in "net" inflation between projections much better than different output gap paths is the growth rate of unit labour costs in the economy defined as the ratio of wage growth rate in the economy and the growth rate in labour productivity outside private farming[79]. The growth rate of unit labour costs outside private farming at the projection's starting point was 0.6 percentage point lower in year-on-year terms than it had been assumed in the April projection. In the projection horizon, apart from 2006 Q3, unit labour cost growth rate forecast in July exceeds the April expectations. The deviation of annual growth rates is approx. 0.6 percentage point in 2007-2008. The higher growth rate of unit labour costs was fuelled by higher than in the previous projection growth rate of the number of working persons (outside private farming) and of average wages amid relatively small changes in labour productivity. In later discussion we call this category simply unit labour costs. Similarly to the April projection, the final course of the growth path of unit labour costs was significantly affected by expert adjustments.

As we pointed out in descriptions of the January and April projections, observation of the projected path of the demand for labour and wages in confrontation with extra-model knowledge led to the conclusion that the segment of the model describing unit labour costs became hardly congruent with the expert knowledge about the demand for labour and future wage growth rate.

The baseline solution of the model[80] displayed a clear increase in the growth rate of unit labour costs in the first quarters of the projection (as a result the growth rate of unit labour costs amounted to approx. 3.9% y/y in 2006 and approx. 3.8% y/y in 2007) connected with a temporary slowdown of the GDP growth rate, and thus growth rate of labour productivity as well, with wages growing at a relatively fast rate (of 4.9% and 6.9% in 2006 and 2007, respectively). In 2006-2007 the growth rate of unit labour costs in the projection before expert adjustment was higher than in the baseline solution from April by approx. 0.8 percentage point on average. In the longer projection horizon (similarly as it was observed in April), as the path of variables connected with the labour market started to be more strongly affected by the model's error correction mechanism (ECM), the growth rate of the number of working persons dropped rapidly (from 2.5% in 2006 to 0.5% in 2007 and -0.1% in 2008), also pulling down (despite strong price growth) the growth rate of unit labour costs. The difference between the growth rates of unit labour costs of both baseline forecasts amounted to approx. 0.5 percentage point in

[78] *Inflation Report*, April 2006, pp. 81-82

[79] As private farmers are not employees receiving wages, the definition of labour productivity which relates the GDP in the economy to the number of people working outside private farming is more useful in the approximation of labour costs than a definition accounting for all working persons.

[80] Baseline solution of the model is understood as its results before expert adjustments.

2008. Under the July scenario after expert adjustments which linked the number of working persons even more closely to the output volume (raising the growth rate of number of people working in the economy by 0.2-0.3 percentage point in subsequent years in relation to the April projection) we do not see so strong acceleration of the growth rate of unit labour cost as in the baseline solution at the turn of 2006 and 2007. In 2006 the growth rate of unit labour cost is approx. 3.5% y/y. In subsequent periods of the projection (years 2007–2008) the growth rate of unit labour costs remains stable at approx. 3.7% y/y. The resultant adjustment of the growth rate path of unit labour cost was similar in nature to the baseline solution of the model – a decline in the growth rate of unit labour costs at the beginning of the projection followed by its climb at the end of the projection horizon. The difference between the growth rate of unit labour costs in 2006-2007 in the July projection and the April projection after adjustments averaged approx. 0.2 percentage point y/y (which was lower than the difference for baseline scenarios). In 2008 expert adjustments which allowed for the effect of additional wage growth due to increased public finance sector spending led to increase of difference in growth rates of unit labour costs between the July and April projection of 0.6 percentage point.

The faster growth rates of domestic demand and GDP in 2006 than those accounted for in the April projection result in accelerated quarter-over-quarter growth of the forecast "net" inflation than in the April projection. However, the 2006 Q2 growth starts from a lower level than that forecast in April (by 0.3 percentage point) and the annual growth rate of net inflation catches up with the rate forecast in April in 2007 Q1. Starting from 2007 Q2 "net" inflation in year-over-year terms is 0.2 to 0.5 percentage point higher than in the April projection. It rises above the inflation target at the end of 2007 and then exceeds the level of 3% at the end of 2008. This faster growth in "net" inflation in the years 2007 and 2008 is driven by approx. 0.6 percentage point higher labour costs in the economy as compared with the April projection, mainly resulting from faster growing wages in comparison to the April projection (by 0.5 percentage point in 2007 and 0.9 percentage point in 2008) with considerably lower differences in the growth rate of labour productivity (-0.1 percentage point in 2007 and 0.3 percentage point in 2008). Another factor behind "net" inflation acceleration is a faster closing of the output gap. Another factor increasing "net" inflation in the longer horizon is higher growth of import prices than in the April projection (4.3% in 2008 as compared to 3.0% in the April 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. In the projection fuel prices rise faster than accounted for in April from 2006 Q2 (starting point) to mid-2007. Fuel price inflation y/y in 2006 is 3.3 percentage points higher than in the April projection, while in 2007 this margin narrows to 1.6 percentage point. The growth rate of fuel prices in 2008 is 4.4 percentage points lower than accounted for in April. The different paths of fuel prices in both projections raise the rate of inflation in the first two years of the projection by approx. 0.1 percentage point, and then lead to its downward adjustment of approx. 0.2

percentage point in 2008. The path of fuel prices accounts for the rise in the excise tax rate at the beginning of 2007, which has the effect of a significant step-up in fuel price growth rate and is the main factor accelerating CPI growth in this period. The July projection accounts for a food price growth in the last two quarters of 2006 higher in relation to the April projection by 0.8 and 0.5 percentage point, respectively, which raises the rate of inflation in 2006 Q3 by approx. 0.2 percentage point and in Q4 by approx. 0.1 percentage point in relation to the April projection. In the first two quarters of 2007 the difference between annual growth rate of food prices between the projections amounted to 0.3 and 0.2 percentage point. In view of the size of the difference and the fact that the weight of food prices expert input declines over forecast horizon (to abate completely in the fifth quarter of the projection), the impact of the change in the prepared by the experts food price path on the CPI in 2007 is insignificant.

Uncertainty associated with the assumptions external to the model and inaccuracy of the model's statistical mapping of relations between macroeconomic variables has been presented in the form of fan charts. These charts, however, do to account for all types of uncertainty, such as the uncertainty associated with the possible changes in the structure of Polish economy, approximate mapping of the economy by the model and possible instability of estimated relationships in time. The sources of uncertainty unaccounted for in the fan chart will be discussed in the next section.

Fan charts were made under the assumption that the model presents a true and genuine picture of economic processes, and the uncertainty concerning the assumptions was appropriately assessed and accounted for by experts in the form of ranges of deviations from the central paths. Under these assumptions, it is possible to achieve precise estimates of the probability distributions presented in the fan charts. On this basis, the probability of inflation running below or above the inflation target is assessed. In fact, the assumptions necessary to calculate probability distributions are only met with some approximation. The same approximation which is used for interpreting the model as a picture of reality can also be applied for interpreting fan charts and reading probability distributions.

In line with the July projection inflation will be higher than expected in the April *Report* throughout the entire projection horizon. The central path comes close to the inflation target in 2007 Q1, remains slightly below it for the rest of 2007 and then raises above the target in 2008 Q1. The probability of inflation target being topped in 2008 Q4 is 60.7%. The asymmetry of the July projection is very slight – the difference between the probability of inflation running above the central path and below it exceeds 1 percentage point only in 2006 Q3.

Also the July projection of GDP growth rate hovers above the April path throughout the projection horizon. The probability that GDP path will exceed the central path is higher than the probability of its running below than the central path throughout the projection horizon apart from 2006 Q3.

The sources of uncertainty of inflation and GDP projections are different for the short-term horizon (below 1 year) and mid-term horizon (2–3 years).

In the short term, the dominant impact on inflation projection uncertainty is exerted by the uncertainty connected with food prices. Other factors include the uncertainty of the path of oil prices and the error term uncertainty in the "net" inflation equation (error term uncertainty is an uncertainty resulting from the unpredictability of these factors determining "net" inflation which are not included in the equation in the form of explanatory variables). The strong impact of these three factors on the uncertainty of inflation projection can be attributed to the fact that both food prices and "net" inflation (directly) and oil prices (indirectly through fuel prices) contribute to the CPI basket. In the short term, the importance of model relationships is relatively minor and so the role of other uncertainty factors is smaller.

In the mid-term, however, though the width of the fan is mostly dependent on the uncertainty connected with food prices, the importance of the other factors is rising, especially those connected with the real economy. There is an increase in the significance of the uncertainty of variables affecting the labour market, foreign trade and GDP deflator that are not accounted for in appropriate equations in the form of explanatory variables (they are accounted for in the error terms).

Similarly as in the case of inflation, the short-term uncertainty of GDP projection is most strongly affected by the uncertainty concerning the variables directly determining economic growth. Thus, the greatest impact is exerted by the uncertainty connected with the paths of GDP components, including especially the paths of imports and exports (the uncertainty of error terms in these equations, i.e. related to components determining the paths of foreign trade volumes not accounted for in these equations in the form of explanatory variables). Consumption and investment play a less important role, as the short-term fluctuations of the contribution of these variables to GDP growth are minor.

In the mid-term, the uncertainty of GDP projection is still determined by the uncertainty connected with the path of foreign trade, though its relative importance is smaller. By contrast, the role of uncertainty connected with factors affecting GDP with certain delay, such as investment and external GDP, grows in comparison to the short term.

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

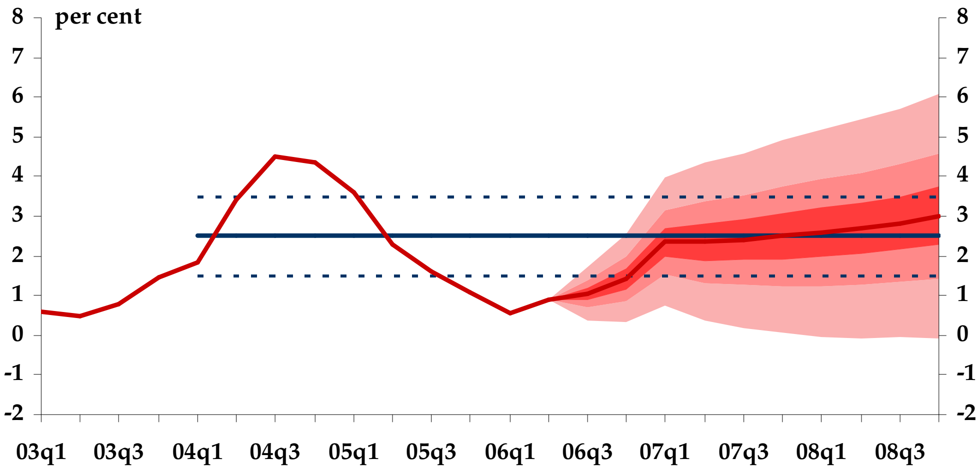


Figure 4.36: Inflation central projection, inflation fanchart and MPC's inflation target (y/y change in per cent)
Source: NBP.

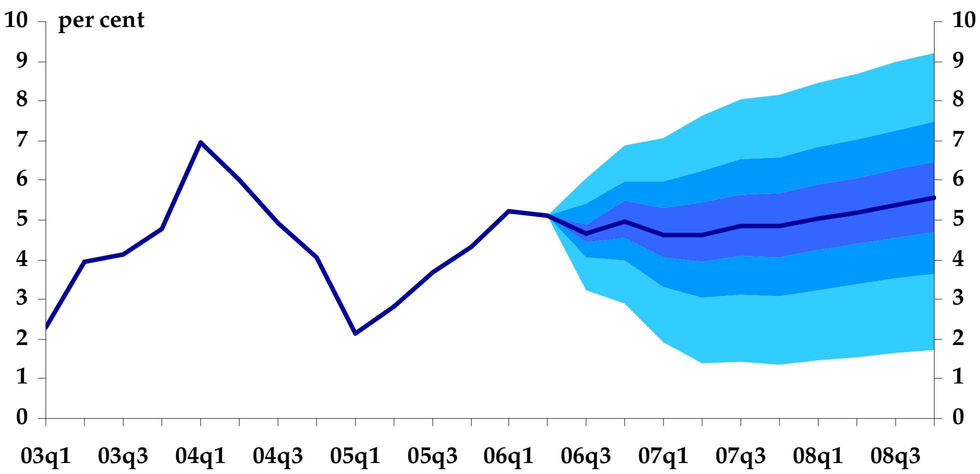


Figure 4.37: GDP central projection and GDP fanchart (y/y change in per cent)
Source: NBP.

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 obtained in the July projection.

	Probability of inflation:				
	below 1.5%	below 2.5%	below 3.5%	below central projection	within (1.5%; 3.5%)
2006q3	0.871	1.000	1.000	0.508	0.129
2006q4	0.542	0.942	0.998	0.504	0.456
2007q1	0.192	0.567	0.883	0.502	0.691
2007q2	0.244	0.553	0.832	0.501	0.588
2007q3	0.249	0.527	0.793	0.499	0.544
2007q4	0.250	0.499	0.750	0.498	0.500
2008q1	0.246	0.480	0.716	0.500	0.470
2008q2	0.238	0.454	0.685	0.501	0.447
2008q3	0.224	0.424	0.651	0.500	0.427
2008q4	0.211	0.393	0.603	0.498	0.392

Risk of change in central projection

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

In the current forecasting round the model was not re-estimated. Hence, the risk of errors related to the model statistical properties, stressed in the previous round, does persist. In particular, the model probably overestimates the potential increase in labour productivity, which is due to the following reasons. First, the model parameters were estimated on the sample covering the period in which the increase in the labour productivity indicator was largely the result of reduction in corporate excessive employment[81]. Second, due to a dynamic growth of the grey economy at that time, the actual employment was underestimated. Moreover, the model is still likely to underestimate the future reaction of inflation to demand growth and increase in unit labour costs as the pace of opening of the economy and increased competitive pressure, which have been observed for more than a decade, may be slowing down.

As far as statistical data uncertainty is concerned, uncertainty related to the BAEL labour market data has now increased relative to the previous forecasting round. Most importantly, the absence of reliable estimates of numbers on labour migration should be emphasised — depending on the source the figures range from several hundred to two million persons. Lack of data continuity results also from the change in the GUS definition of the economically active, which has led to an increase in the number of those persons, without simultaneous backward data revision.

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

Opening of labour markets by an increasing number of EU members to the Polish employees leads to changes in the functioning of the domestic labour market. One of major effects of migration is the fact that current economic growth, despite persistently high level of registered unemployment, is accompanied by increasingly severe shortages in certain segments of the labour market, not least in groups of qualified workers. The scale of this process has reached the level not observed for many years. This finding has been supported by both the NBP surveys and data from other economic centres.

A new phenomenon, observed since the last projection, has been the strengthening of wage pressures exerted by certain groups of the general government sector, some of which have already translated into wage increases. Faced with workforce shortages, certain labour market areas are more likely to be affected by the spill-over effect leading to acceleration in the private sector wage growth.

Economic migrations may also be a source of uncertainty related to total factor productivity. On the one hand, labour migrations of persons that have so far been econom-

[81] According to the NBP surveys, this process was terminated in 2003

ically inactive potentially reduce the number of persons seeking job in the domestic labour market. Lower labour supply may reduce the growth of the potential output. On the other hand, it is mostly employees demonstrating higher qualifications and entrepreneurship that leave for abroad. Their migration may thus lower the TFP. At the same time, the problems with finding employees with adequate qualifications and wage increases in this group may urge enterprises to shift into more capital-intensive development strategies. This in turn would increase investment and the TFP. Such changes, however, seem more likely to materialise no sooner than at the end of the projection horizon.

Risk of error due to changes in the global economy

The last few years have seen the increasing US current account deficit, often referred to as the global imbalance, which already in 2005 reached USD 792 bn (i.e. 6.4% of GDP). Such deficit may not be maintained in the longer period, hence the need of adjustment. Should the imbalance disappear in an uncontrolled way, which cannot be accounted for in the fan chart, this would lead to a considerable slowdown in the global economic growth. This would particularly affect economies with high value of exports to the USA, including the euro area, but would also have an indirect negative impact on the economic growth in Poland.

A scenario of the global imbalance disappearance under growing protectionism cannot be ruled out. There have already been expressed opinions in the United States that call for increasing customs duties, especially on Chinese products. In this case, a slowdown in the economic growth could be accompanied by higher inflation, and the world economy could enter the stagflation period just like in the 1970s.

An important source of risk for the world economic growth is also the possibility of a sharp downward correction of the asset prices, i.e. property, stock, and bond prices, which would also trigger higher exchange rate volatility. This risk is now increasing as many central banks have been recently withdrawing from the policy of low nominal interest rates. An increased risk aversion already manifested itself in May and June 2006, as evidenced by the drop in developing countries' stock market indices and currency value.

One of the major channels through which globalisation limits increases in domestic prices is via the increased competition in the goods market. A high growth rate of imports of cheap goods from China and other low production-cost countries, which has been observed over the last few years, has led to a temporary decline in inflation in many economies. It seems that in Poland, in the projection horizon, an anti-inflationary effect of the above process may weaken as the pace of opening of the economy slows down. It should also be noted that the growth rate of domestic prices of imported goods depends not only on their world prices, but also on the exchange rate of the zloty which may depreciate over the projection horizon.

A dynamic growth of the world economy leads to, *inter alia*, a significant growth in the prices of a number of commodities and the risks that are related to this process. The model assumes unaltered mechanism of the influence of those prices on the economy, including inflation. Still, there arises a question whether high and growing oil prices will not bring about changes in its functioning. While the experience of developed economies indicate a lowering sensitivity of their growth to oil price developments (fading of so-called oil-to-GDP syndrome), the same cannot be said about the sensitivity of inflation to oil price changes [82]. Additionally, the experiences of those countries indicate asymmetric, especially in the short horizon, response of inflation to oil price changes, i.e. rising oil prices lead to stronger inflation increase than the scale of decline in inflation resulting from falling oil prices. The strength of pass-through from rising oil prices to retail prices is also affected by the level of oil prices — the higher it is, the stronger the pass-through effect. To sum up, oil prices may be expected to exert a stronger impact on inflation compared to what the model properties indicate.

Similarly to the April projection, the current projection is subject to the risk that external factors limiting inflation have been overestimated in the model[83].

Risk of error in the projection due to non-compliance with *no policy change* assumption over the projection horizon

In the current forecasting round, tense situation in the public finance sector is an important risk factor of inflation running above the projection path.

As a result of changes on the political scene and in the Ministry of Finance observed over the recent period, the July projection of the general government expenditure was prepared in a different way than in the previous forecasting round. The approaching local government elections can be a driving force behind initiatives increasing the general government expenditure, while a faster economic growth combined with a bigger number of working persons increases the general government revenues on a scale enabling to maintain the nominal budget anchor. One of the consequences of such developments would be the lack of improvement in the structural balance of the public finance sector and further accumulation of public debt over the projection horizon. This, due to perceiving of the economic fundamentals of the country as deteriorating by both the European Commission and investors, as well as postponing the scheduled data of joining the euro area could bring about further adjustments such as zloty depreciation and lower investment growth. Accelerating wage growth in the general government sector could, in turn, as already signalled, lead to growing wage pressure in other segments of the economy.

Increased expenditure of the general government sector to the extent not deteriorating the sector's structural deficit, introduced to the projection, does not account for all the risk related to the developments in the public finance sector, which includes the risk

[82] See e.g. Klein, P., Duggal, V., Saltzman, C., *The sensitivity of the general price level to changes in the price of crude oil*, Business Economics 40/2005

[83] See: Allard, C., *Inflation in Poland: How much can globalization explain?*

of deepening budget tensions, probably related to an additional increase in expenditure above the level envisaged in the projection. Also the response of financial markets, which pay increasingly greater attention to the macroeconomic fundamentals of the new EU member states, is likely to be stronger. That risk would contribute to higher inflation than indicated in the projecton.

Macroeconomic risk connected with a tight budget and the force of financial markets response would be increased in the case of economic slowdown. Economic growth below the projected level would drive up inflation above the central path also in the case of budget expenditure on the projected level. The probable expenditure rise above the level envisaged in the projection enhances this risk.

Should the optimistic assumptions about growth in the world economy materialise instead of the above mentioned negative scenario, the exchange rate could strengthen against the projection path. It is probable that the strengthening of the exchange rate would be accompanied by a real appreciation and a stronger exchange rate would not drive down inflation. On the other hand, exchange rate strengthening against the projection path not coupled with a real appreciation would bring a temporary reduction in inflation and, at the same time, increase the risk of deeper depreciation in the subsequent period.

Discussion of data released after 23 June 2006

The projection has been prepared on the basis of data available as at 23 June 2006. Thus it does not take into account the significantly higher that assumed in the projection crude oil prices which in July approached 80 USD/b. Tense and unstable situation on oil markets was also a driving force behind the US Department of Energy upward revision of its July mid-term forecasts of oil prices. Also wholesale prices of petrol and motor oils on the domestic market have reached record levels of the year. In July most of Poland's territory has been gripped by drought. This may result in lower cereal and fruit crops and be further translated into higher prices of bread and flour products, pork meat and certain fruits and vegetables. The CPI inflation ran in 2006 Q2 slightly below its projected level, mainly as a result of a considerable drop in fruit and vegetable prices in June 2006.

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Although the asymmetry of risks presented in the fan chart is only slight, the factors not accounted for in the chart suggest that, in the short term, the risk of inflation running above the central path is higher than the probability of its running below the path. In this perspective, the dominant factors of inflation projection uncertainty are the prices of oil growing strongly after the cut-off date. In the short term faster price growth rate may also be driven by the effects of the drought persisting on part of the Poland's territory, especially if lack of rainfall continues.

In the medium term, i.e. starting from 2007, the upward asymmetry of the fan chart is, just like in the April projection, additionally increased by a possible rise in wages and income of households that would be faster than indicated in the projection. This risk is further enhanced by the possibility of increase in the general government sector expenditure above the level assumed in the July projection. The increase in the general government sector deficit in the years 2007-2008 running higher than envisaged in the current projection may not be ruled out. The assumptions of the 2007 budget are based on very optimistic assumptions concerning economic growth in Poland and in the world economy and optimistic assumptions concerning tax collection possibilities. Still, economic growth may prove to be weaker than envisaged in the current projection and in the budget assumptions. One of the reasons may be a slowdown in the world economic growth resulting from uncontrolled reduction in global imbalance. In this scenario, the slowdown in the world economy may be accompanied by a drop in import prices and inflation, yet, in our assessment, the exchange rate depreciation through a rise in risk premium would bring faster than projected inflation increase above the central path and this effect would prevail. Economic slowdown and exchange rate depreciation through increased risk premium may be driven by lower investment demand of the private sector in response to higher fiscal risk. Joint effect of lower domestic demand and exchange rate depreciation would be higher probability of the 2008 inflation running above the projection path. Moreover, the current projection, like the April projection, is subject to risk of external factors curbing inflation, being overestimated in the model.

Should the optimistic assumptions about growth in the world economy materialise instead of the above mentioned negative scenario, the exchange rate could strengthen against the projection path. It is probable that the strengthening of the exchange rate would be accompanied by a real appreciation and a stronger exchange rate would not drive down inflation. On the other hand, exchange rate strengthening against the projection path not coupled with real appreciation would bring a temporary reduction in inflation and, at the same time, increase the risk of deeper depreciation in the subsequent period.

To sum up, taking into consideration the above mentioned risk factors, not accounted for in the fan chart, we tend to conclude that in the mid-term horizon inflation may deviate upwards rather than downwards from the central path.

Annex

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

- **Date:** 25 April 2006

  Subject matter of motion or resolution:
  Resolution on approving the Annual Financial Report of the National Bank of Poland prepared as of 31 December 2005

  Voting of the MPC members:

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

- **Date:** 30 May 2006

  Subject matter of motion or resolution:
  Resolution on approving the *Report on monetary policy implementation in 2005*

  Voting of the MPC members:

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

- **Date:** 30 May 2006

  Subject matter of motion or resolution:
  Resolution on approving the *Report on the Operations of the National Bank of Poland in 2005*

  Voting of the MPC members:

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

- **Date:** 30 May 2006

  Subject matter of motion or resolution:
  Resolution on the evaluation of the activities of the NBP Management Board as regards the implementation of the *Monetary Policy Guidelines for the Year 2005*

  Voting of the MPC members:

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