Inflation Report
October 2007

National Bank of Poland
Monetary Policy Council

Warsaw, October 2007

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

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

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Summary

After the annual index of the prices of consumer goods and services had been steadily growing since mid-2006, in 2007 Q3 inflation, in line with the expectations of the previous *Report*, went down (to 2.0% y/y). In particular months of Q3 inflation was subject to considerable fluctuations – in August 2007 it slid down (to 1.5% y/y), while in September it rebounded (to 2.3% y/y).

Current inflation continues to be affected by two opposite trends. On the one hand, rise in domestic demand, tight labour market and food price increases contribute to the acceleration in price growth. On the other hand, price developments in Poland continue to be strongly affected by globalisation, reflected, among other things, in low imported inflation and growing competition on the domestic market, as well as growing competition in the telecommunications sector. The stabilization of nominal exchange rate of the zloty also helped to limit inflation. The currently observed moderate growth in prices is the outcome of those trends.

In 2007 Q3 the decline in annual CPI inflation was accompanied by a fall in four out of five core inflation indicators. In the period August–October 2007 the inflation forecasts of bank analysts were close to the NBP inflation target (2.5%), while the structure of opinions in consumer surveys concerning future inflation was relatively stable.

After zloty denominated import prices had grown for four consecutive quarters, 2007 Q2 brought their decline. This resulted both from the further drop in year-on-year oil prices and the lingering of prices of other imported goods at the level consistent with that recorded one year before. In 2007 Q3 both current and forecasted oil prices increased substantially which was partially offset by zloty appreciation.

The 2007 Q3 brought further decline in the annual growth of the PPI. The largest contribution to PPI growth was still made by manufacturing. The decrease in the PPI inflation observed in 2007 Q3 was connected with the appreciation of the nominal effective zloty exchange rate, which results in the decline of export prices.

The Polish economy is in the period of strong growth encompassing all its main sectors (i.e. services, industry, construction). In line with the expectations of the previous *Report*, the most important factor in GDP growth is a dynamic rise in investment and consumption. Exports continue to rise significantly, yet due to the recovery in domestic demand and the accompanying imports acceleration, the contribution of net exports to growth has been negative since 2006 Q3. Strong economic growth has been accompanied by fast growth in employment and falling unemployment. Average wages in the economy are growing faster than labour productivity, which leads to a rise in unit labour costs. The high level of economic activity and labour market recovery are accompanied by a relatively low inflation and a growing current account deficit.

The data released confirm previous assessments that high level of economic activity should be sustained for at least next few quarters. The continuation of fast economic growth in Poland should be supported by still strong activity in the world economy. However, in August-September, there had been turbulences in global financial markets, which resulted in downward revisions of growth forecasts for the United States and euro area. At the moment, though, it is difficult to assess the impact of these turmoil on the growth of American and euro area economies and, consequently, on the Polish economy.

In line with the NBP's estimates presented in the July *Report* in 2007 Q2 the real GDP growth continued at a high level (6.4% y/y), albeit lower than in 2007 Q1 (7.2% y/y). Private consumption growth amounted to 5.1% y/y and fell short of the expectations of the July *Report*. Public consumption growth (1.0% y/y) was also slightly lower than expected. Gross fixed investment also grew strongly (20.8%), though - as expected - less strongly than in Q1 (26.2%).

The growth of gross value added in the economy, though still high, slowed down in 2007 Q2 (to 6.4%), which was in line with the expectations presented in the previous *Report*. In all main sectors (market services, industry and construction) the growth of value added was lower, in quarter-on-quarter terms, than in the previous quarter. There was a substantial growth of gross value added in non-market services, yet the contribution of this sector to total gross value added remains small.

The rise in the deficit in the balance on goods and in the balance on income in annual terms and a decline in the positive balance on transfers contributed in 2007 Q2 to further deepening of the current account deficit. As measured in relation to GDP the current account deficit increased to 3.7 % in annual terms (against 3.2% in 2007 Q1) and was the highest since 2004 Q4.

On the basis of monthly data for July-September 2007 it may be assessed that GDP growth in 2007 Q3 reached approx. 5.8% y/y.

In 2007 Q3 the central government budget recorded a surplus amounting to PLN 3.9 billion. The central government balance was the result, on the one hand, of high budget revenues connected with fast economic growth and improving labour market situation, and, on the other hand, of low realisation of central budget expenditure driven, among other things, by delays in the execution of certain tasks.

In 2007 Q2 the number of working persons in the economy was still rising, which points to a continuation of the fast increase in the demand for labour. The growth in demand for labour has been also reflected in a persistently high growth in employment in enterprises, a further decline in unemployment and a significant increase in vacancies reported to Labour Offices. At the same time there is a constant rise of the percentage of employers who are experiencing difficulties in hiring employees. Since the beginning of 2006 the growing number of working persons and the decreasing rate of unemployment have been accompanied by a fall in the number of the economically active.

The growing number of working persons in the economy is accompanied by pronounced acceleration in the growth of nominal wages, indicated both by quarterly data from the economy as a whole and monthly data from the enterprise sector. In 2007 Q2 wages in the economy were growing markedly faster than labour productivity. Consequently, the growth of unit labour costs in the economy hit a new high since 2001 Q4. Since May 2007 growth in unit labour costs is also observed in industrial enterprises.

The turmoil in international financial markets in August-September led to lowering of bond yields in core markets. In Poland due to the turmoil Treasury bond yields were subject to increased volatility. After the parliamentary elections bond yields returned to levels observed in July, i.e. before the financial turbulences. Stock market indices, after transitory decline, recovered to levels recorded before the turmoil. The improvement in sentiment in the stock exchanges around the world and in Poland since mid-August 2007 resulted i.a. from the stabilisation measures taken by the major central banks, including the Fed's reduction of interest rates.

Due to the market turmoil expectations regarding future interest rates of central banks in the United States and euro area have declined. In contrast expectations regarding future interest rates in Poland did not change significantly. Future market rates price in a total increase of the reference rate to 5.25% in a one-year horizon.

In 2007 Q2 housing prices in large cities in the primary market were still growing, although much slower than in 2006 H2. In contrast, since the beginning of 2007 small and medium cities witnessed price growth in quarterly terms stepping up significantly in comparison to 2006. In the secondary market price were growing considerably slower in comparison to the previous quarter, both in large and in small and medium cities.

Since the publication of the latest *Report* the nominal exchange rate of the zloty against both euro and the US dollar has appreciated.

The value of bank loans increases rapidly, with the growth of real estate loans being by far the highest one. Credit expansion is supported by a strong economic growth, relatively low cost of credit, and facilitated access to bank loans.

In July the Council left the NBP interest rates unchanged. In August the Council raised the rates by 0.25 percentage point, while in September and October the Council left them unchanged: reference rate 4.75%; lombard rate 6.25%; deposit rate 3.25%; rediscount rate 5.00%.

Minutes of the MPC decision-making meetings in July, August and September are presented in the chapter "Monetary policy in July – October". Minutes of the October MPC decision-making meeting will be published on November 22 and included in the next *Report*.

Chapter IV contains the NBP staff projection of inflation and GDP, which is one of the inputs into the Council's decision-making on NBP interest rates. The forecasted annual growth of consumer prices in the October projection is lower than expected in the July projection till the middle of 2008, while starting from the second half of 2008 onwards it is slightly higher then expected in July. Under constant interest rates, there is a 50-percent probability that inflation will remain within the range of 2.2-2.3% in 2007 (compared to 2.2-2.5% in the July projection), 2.2-3.5% in 2008 (compared to 2.1-3.8%) and 2.5-4.6% in 2009 (compared to 2.1-4.3%).

According to the October ECMOD-based projection, the annual GDP growth will remain, with 50-percent probability, within the range of 6.5-6.6% in 2007 (compared to 6.2-6.8% in the July projection), 4.4-6.2% in 2008 (compared to 4.3-6.7%) and 3.8-6.7% in 2009 (compared to 4.0-7.2%).

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

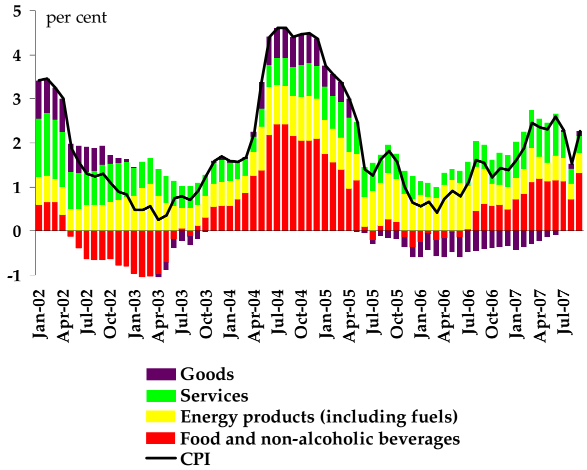
Inflationary processes

1.1 Inflation indicators

After the annual index of the prices of consumer goods and services had been steadily growing since mid-2006, in 2007 Q3 inflation, in line with the expectations of the previous *Report*, went down (to 2.0% y/y) (Figure 1.1). In particular months of Q3 inflation was subject to considerable fluctuations – in August 2007 it slid down (to 1.5% y/y), while in September it rebounded (to 2.3% y/y). The decline in inflation in August was driven by promotional price reduction of Internet services while the rise in September was mainly driven by a strong boost in food prices. The growth in food prices in Poland may continue to run at a relatively high level, among other things, due to the situation in the global agriculatural and food markets. It may be assumed that the downward pressure of prices of Internet services on inflation will be temporary, although there is considerable likelihood that strong competition on the telecommunications market will continue to drive down prices on this market.

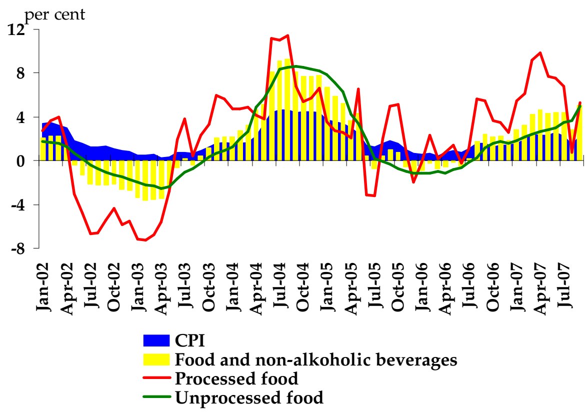
Current inflation continues to be affected by two opposite trends. On the one hand, rise in domestic demand, tight labour market and food price increases contribute to the acceleration in price growth. On the other hand, price developments in Poland continue to be strongly affected by globalisation, reflected, among other things, in low imported inflation and growing competition on the domestic market, as well as growing competition in the telecommunications sector. The stabilization of nominal exchange rate of the zloty also helped to limit inflation. The currently observed moderate growth in prices is the outcome of those trends.

Figure 1.1:
CPI and main categories of prices.



Source: GUS data, NBP calculations.

Figure 1.2:
Price indices of food and non-alcoholic beverages (y/y changes).

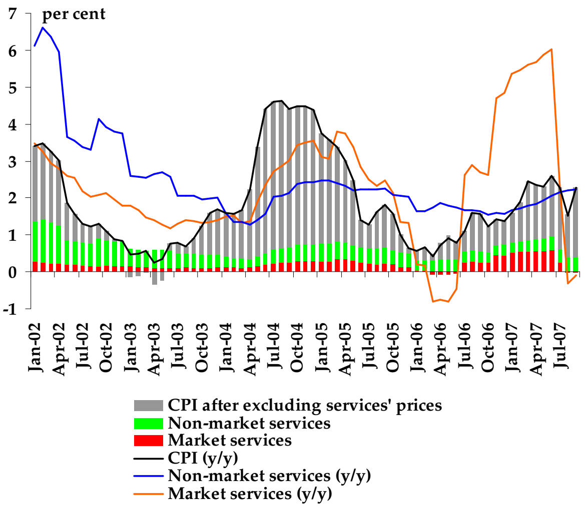


Source: GUS data, NBP calculations.

In September the annual growth rate of prices of food and non-alcoholic beverates rose considerably, following a temporary fall in August[1] (Figure 1.2). The increase in food prices in monthly terms reached its highest level since June 2004. High growth rate of food prices is mainly the result of rising prices of agricultural commodities and food products on the world markets[2] and growing costs of food production in Poland. The analysed period continued to see the upward trend in the growth of prices of processed food observed since May 2006, which is mainly connected with the growing consumption demand.

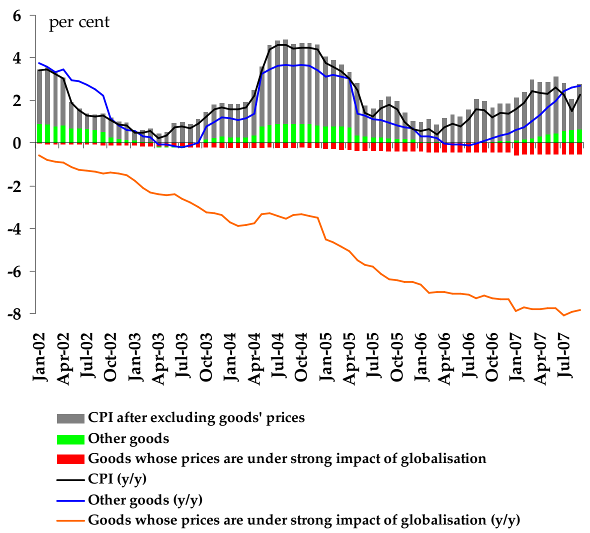
2007 Q3 saw a decline in the annual growth of prices of services, driven by the fall in the growth of prices of market services (Figure 1.3). Lower growth of prices of market services was mainly due to the downward trend in the prices of Internet services[3]. At the same time, gradually increasing growth of non-market services observed since 2006 Q4 continued. In 2007 Q3 the annaul growth of prices of services excluding Internet services amounted to 2.5%, and those of market service amounted to 3.0%. The highest contribution in the growth of prices of market services was made by growing prices of hotel services, restaurants and organised travel which largely depend on the developments of household income. The increase in prices of market services may be related to growing consumption

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



Source: GUS data, NBP calculations.

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



Source: GUS data, NBP calculations.

[1]The decline in the annual growth rate of food prices in August was mainly the result of the fading of the statistical base effect. A year before, food prices grew considerably, impacted by unfavourable weather conditions in Poland (drought).

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

[3]In July 2007 the fall in the annual growth of prices of Internet services resulted primarily from the fading of the high statistical base effect (a year before the prices of Internet services increased as a result of termination of promotional price reduction of those services). In August 2007 a strong drop in the prices of Internet services (by 31.8% m/m) resulted from renewed price reduction by one Internet operator. Despite a small share of prices of Internet services in the CPI basket, changes in the prices of those services observed since 2005 are large enough to cause considerable ups and downs of the whole inflation index as well as its components under which those services are classified. Changes in the prices of Internet services and their impact on inflation were also discussed in the January *Inflation Report*, p. 12.

demand and accelerated growth of unit labour costs in this sector.

Change y/y (per cent)	2006			2007								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
CPI	**1.2**	**1.4**	**1.4**	**1.6**	**1.9**	**2.5**	**2.3**	**2.3**	**2.6**	**2.3**	**1.5**	**2.3**
Core inflation indices excluding:												
Regulated prices	0.9	1.3	1.2	1.5	1.8	2.3	2.6	2.6	2.7	2.3	1.4	2.2
Most volatile prices	0.8	1.0	1.1	1.2	1.5	2.0	1.8	1.9	2.2	2.0	1.6	2.1
Most volatile prices and fuel prices	1.1	1.4	1.5	1.5	1.7	1.9	1.8	1.9	2.2	1.9	1.7	2.1
Food and fuel prices ("net" inflation)	1.3	1.6	1.6	1.5	1.6	1.7	1.5	1.6	1.8	1.5	1.2	1.2
15% trimmed mean	1.1	1.1	1.1	1.1	1.2	1.7	1.9	1.8	2.2	2.3	2.1	2.4

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

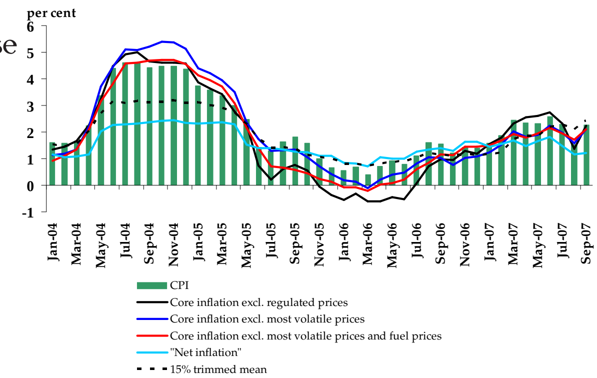
Table 1.1: CPI and core inflation indices.
Source: GUS data, NBP calculations.

In 2007 Q3 the annual decline in prices of goods observed since mid-2005 was curbed[4]. Further decline was observed in prices of goods whose prices are strongly affected by globalization[5], whose considerable part is imported from low cost countries and whose prices remain largely unaffected by changes in the domestic demand (Figure 1.4).

[4]In accordance with the definition adopted in the *Report*, the price category *goods* does not include food and non-alcholic beverages and energy products (including fuels).

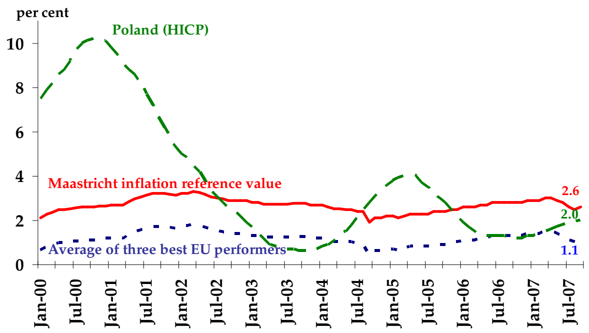
[5]The group of products whose prices are strongly affected by globalisation include: clothing, footwear, audio and television equipment, photographic and IT equipment, musical instruments, games and toys, hobby, sports and camping equipment for outdoor recreation, electronic appliances for personal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

Figure 1.5:
CPI and core inflation measures (y/y changes).



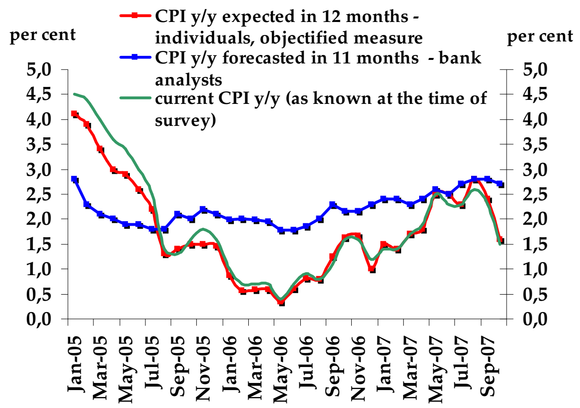
Source: GUS Data, NBP calculations.

☐ **Figure 1.6:**
Inflation in Poland (HICP 12-month moving average) and the Maastricht criterion (per cent)



Source: Eurostat data, NBP calculations.

☐ **Figure 1.7:**
Inflation expectations of individuals and inflation forecasts of bank analysts.



Source: Ipsos, Reuters, GUS, NBP calculations.

Prices of other goods have shown accelerating growth since mid-2006. In the analysed period, price growth in this group was mostly driven by the growth in prices of furnishings, household equipment and routine maintenance of the house, which is most probably connected with high demand on the housing market, and the growth in prices of tobacco products, which is the result of higher excise tax imposed on those products in January 2007, spread over time.

The decline in inflation in 2007 Q3 was also connected with lower annual growth of energy products. This was mainly driven by lower growth of prices of gas and fuels in annual terms which resulted from the statistical base effect (in the analysed period, the prices of fules did not change significantly, and the prices of other energy products recorded a slight increase, as compared with a significant decline in the corresponding period of the previous year).

In 2007 Q3 the decline in annual CPI inflation was accompanied by a fall in four out of five core inflation indicators (Figure 1.5). In September 2007 those measures were lower than CPI inflation. Yet, the upward trend continued in one core inflation indicator (15% trimmed mean).

Since November 2005 Poland has been complying with the inflation criterion which is one of the conditions of the euro area membership (Figure 1.6)[6].

1.2 Inflation expectations

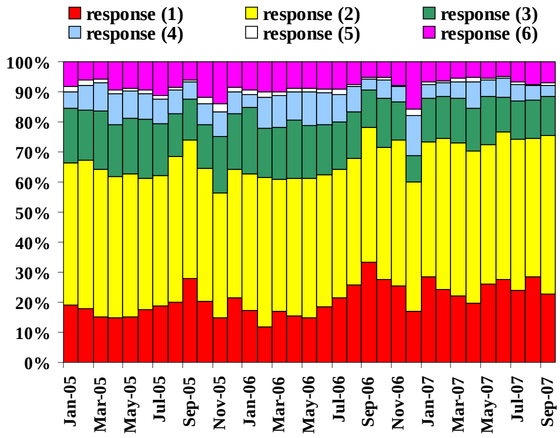
In the period August–October 2007 the inflation forecasts of bank analysts were close to the NBP inflation target (2.5%) (Figure 1.7). Inflation forecasts of bank analysts over the 11-month horizon increased slightly in comparison with 2007 Q2.

In the analysed period the opinions of respondents of Ipsos consumer surveys concerning the

[6] In a country intending to adopt the euro, in the reference period, the average annual inflation as measured by the harmonised index of consumer prices (HICP) cannot exceed the reference value determined as the average inflation in the three EU countries with the lowest average annual price growth rate plus 1.5 percentage point (For more information on the Maastricht criteria see: chapter 1.3 of the *Inflation Report* of January 2007).

future price growth were relatively stable (Figure 1.8). The shifts in the measure of inflation expectations of individuals resulted mainly form changes in current inflation.

⊡ **Figure 1.8:**
Inflation expectations of individuals. Responses to the question asked by Ipsos.



Source: Ipsos data.
Ipsos survey question: "Considering the present situation, do you think that prices during the next 12 months: (1) will grow faster than they do now; (2) will rise at the same rate; (3) will grow at a slower rate; (4) will stay the same; (5) will decrease; (6) it is hard to say?"

Determinants of inflation

The Polish economy is in the period of strong growth encompassing all its main sectors (i.e. services, industry, construction). In line with the expectations of the previous *Report*, the most important factor in GDP growth is a dynamic rise in investment and consumption. Exports continue to rise significantly, yet due to the recovery in domestic demand and the accompanying imports acceleration, the contribution of net exports to growth has been negative since 2006 Q3. Strong economic growth has been accompanied by fast growth in employment and falling unemployment. Average wages in the economy are growing faster than labour productivity, which leads to a rise in unit labour costs. The high level of economic activity and labour market recovery are accompanied by a relatively low inflation and a growing current account deficit.

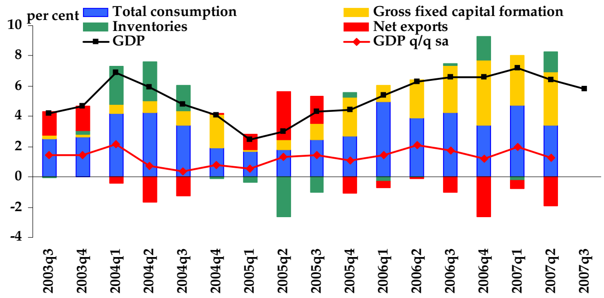
The data released confirm previous assessments that high level of economic activity should be sustained for at least next few quarters. The continuation of fast economic growth in Poland should be supported by still strong activity in the world economy. However, in the period of August–September 2007 there had been turbulences in global financial markets, which resulted in downward revisions of growth forecasts for the United States and euro area. At the moment, though, it is currently difficult to assess the impact of these turmoil on the growth of American and euro area economies and, consequently, on the Polish economy.

2.1 Demand

In line with the NBP's estimates presented in the July *Report* in 2007 Q2 the real GDP growth continued at a high level, albeit lower than in 2007 Q1 (see: Table 2.1[7], Figure 2.1).

2007 Q2 marked a strong growth in gross fixed capital formation. Yet, this growth was lower than in 2007 Q1 which resulted, among other things, from the fading impact of exceptionally good weather conditions for construction works at the beginning of the current year on the growth

Figure 2.1:
Contribution of aggregate demand components to GDP growth



Source: GUS data, 2007 Q3 – NBP estimates.

[7]The *Report* accounts for NBP seasonally adjusted data on national accounts in average annual prices of the previous year and not data that were seasonally adjusted in constant prices of 2000, as released by the GUS. For this reason, the seasonally adjusted growth of GDP and its components presented in the *Report* may differ from that presented by the GUS.

Seasonally adjusted (per cent)	05q1	05q2	05q3	05q4	06q1	06q2	06q3	06q4	07q1	07q2
GDP	0.6	1.3	1.4	1.1	1.5	2.1	1.8	1.2	2.0	1.3
Domestic demand	0.4	0.6	1.5	1.5	2.0	1.8	2.0	2.3	1.6	2.2
Total consumption	0.2	1.3	1.0	1.2	1.4	1.2	1.2	1.0	1.5	0.7
Private consumption	-0.2	1.2	0.9	1.1	1.2	1.5	1.4	1.1	2.0	0.7
Gross capital formation	1.1	-2.4	4.3	4.0	3.0	5.1	5.4	6.0	5.5	7.0
Gross fixed capital formation	0.8	1.6	2.6	4.3	1.7	6.4	4.5	4.2	6.5	3.8

Table 2.1: GDP and aggregate demand components growth rates (q/q, per cent, seasonally adjusted)
Source: NBP calculations on the basis of GUS data.

of gross fixed capital formation in annual terms. 2007 Q2 saw a rapid rise in inventories which combined with a surge in private consumption and investment brought about a strong increase in domestic demand (by 8.2% y/y). Imports rose faster than exports which resulted in the continued negative contribution of net exports to GDP growth.

On the basis of monthly data for July–September 2007 it may be assessed that GDP growth in 2007 Q3 reached approx. 5.8% y/y, which is consistent with the expectations presented in the July *Report*. In seasonally adjusted terms, GDP growth probably reached 1.3% q/q. In the NBP's assessment, the mid-term economic outlook remains favourable. In the quarters to come high GDP growth may be expected to continue, fuelled (just like in the previous quarters) by the fast rising gross fixed capital formation and private consumption. Due to a strong recovery in domestic demand and the accompanying rise in imports, foreign trade balance will continue to be a factor diminishing GDP growth.

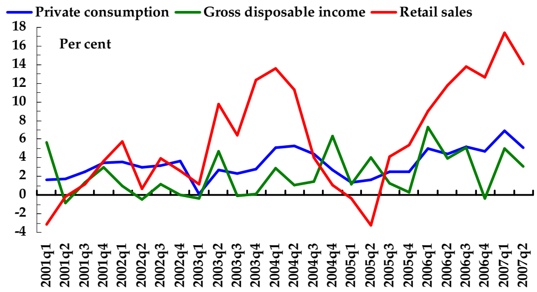
2.1.1 Consumption demand

In 2007 Q2 private consumption growth amounted to 5.1% y/y and fell short of the expectations of the July *Report*. The growth of public consumption reached 2.0% y/y and was slightly lower than expected.

The continuation of the high (though lower than in the previous quarter) growth of private consumption resulted from the steadily improving economic situation of households, in particular the gradual growth of household disposable income, observed in last few years (Figure 2.2), connected with favourable trends in the labour market, including further reduction of unemployment. The high growth in consumption demand was additionally fuelled by a fast increase in granted consumption loans favoured by improved assessments of consumers' own financial condition and the continuation of the favourable attitude to making purchases[8] (see Section 2.5.3 *Credit and money*). Growing consumption demand was reflected in the continuously high growth of retail sales of goods.

The monthly data for July–September 2007 revealing higher retail sales growth than in 2007 Q2, further recovery in the labour market and the continuation of good consumer sentiment all indicate that the growth in consumption demand in 2007 Q3 was probably close to that in 2007 Q2 and slightly higher than expected in the previous *Report*.

□ **Figure 2.2:**
Growth of private consumption, gross disposable income and retail sales (y/y, constant prices)



Source: GUS data.

2.1.2 Government demand

In 2007 Q3 the central government budget recorded a surplus [9] amounting to PLN 3.9 billion. The central government balance was the result, on the one hand, of high budget revenues connected with fast economic growth and improving labour market situation, and, on the other hand, of low realisation of central budget expenditure driven, among other things, by delays in the execution of certain tasks. Tax revenues grew in this period by 14.9% y/y, and budget spending by 14.2% y/y. In the subsequent months of 2007, acceleration in the growth of expenditure may be expected, although, due to favourable revenue conditions, according to preliminary estimates of the Ministry of Finance[10] the central budget deficit in 2007 may be at the level of PLN 23 billion, i.e. significantly below the envisaged amount of PLN 30 billion.

[8]This is indicated by a clear improvement in the indices of consumer sentiment (both current and leading ones.

[9]Surpluses were recorded also in Q3 of the previous years, yet their level was significantly lower than currently.

[10]Estimates presented in the draft *Budget Act for 2008*

Draft Budget Act for the Year 2008

The draft *Budget Act for the Year 2008* submitted on September 25, 2007 assumes that in 2008 high economic growth will continue, which will have a positive impact on the public finance situation. A dynamic growth is expected in the tax revenues of the general government sector (of 9.3% y/y in nominal terms), coupled with moderate growth in expenditure (of 5.8% y/y in nominal terms – EU funds excluded). Apart from macroeconomic factors, the acts passed in 2007 resulting in significant reduction of tax burden on income are a major factor determining the shape of the presented draft. In June 2007 the Parliament decided to reduce the pension contribution by the total of 7 percentage points of income, and in September 2007 to significantly increase child allowance in personal income tax. The adopted changes will result in significant decrease in the general government revenues amounting to approx. 2.0% of GDP. [1]. Measures aimed at limiting the fiscal burden have not been fully offset with reduction of the general government expenditure. However, as a result of the expected high economic growth, the relation of the general government expenditure to GDP will diminish (in cash terms, excluding EU funds, from 41.5% GDP in 2007 to 40.6% in 2008) while the inflow of EU funds will improve the expenditure structure increasing the share of pro-development expenditure.

The scale of fiscal burden reduction is so significant that despite favourable macroeconomic conditions in 2008 the central government budget deficit is expected to rise from 2.0% to 2.3% of GDP. In turn, according to the forecasts of the Ministry of Finance, the general government sector deficit will be maintained at the 2007 level (3.0% of GDP according to ESA'95). The central government budget deficit in 2007 may be lower than assumed in the draft Budget Act for the Year 2008 which will probably be reflected in lower deficit of the general government sector. The potential rise in the sector deficit amidst strong economic growth would widen structural deficit [2] and additionally increase inflationary pressure. Moreover, the widening of structural deficit would mean reversing the improvement of the situation in the public finance seen over the past few years, and in the medium term, the general government sector being less prepared to deal with less favourable economic conditions. Growing nominal deficit of the general government sector results in increased requirements of the state. The level of public debt in 2008 should increase to such a level that, despite forecasted fast economic growth, the relation of public debt to GDP (according to ESA'95) will increase from 47.1% in 2007 to 47.7% in 2008.

Considering the above mentioned risk of reversing the downward trend in general government sector deficit and the forecasted increase in public debt, it seems desirable to introduce structural reforms curbing public expenditure.

Detailed discussion of the situation and outlook for the general government sector in 2008 is presented in the *Opinion of the Monetary Policy Council on the Draft of the Budget Act for the Year 2008*.

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[1] Estimates of the Ministry of Finance, in a static context.

[2] This category is also referred to as cyclically adjusted deficit (see box *General government sector balance and business cycle*in chapter 2.1.2 of the *Inflation Report* of April 2007, however, in the literature it is assumed that on structural deficit additionally includes the adjustment of the budget for the impact of extraordinary and one-off factors.

The favourable economic situation positively affects also the revenues of other units of the general government sector, including primarily the contribution revenue of special purpose funds and the tax revenue of local governments. In consequence, the deficit of the entire general government sector, which according to EU standards (ESA'95 with Open Pension Funds excluded from the sector) may be also lower than envisaged. According to the estimates of the Ministry of Finance[11] this deficit in 2007 should probably reach 3.0% of GDP (as compared with the envisaged 3.4% of GDP), and thus should be significantly lower than in 2006 (3.8% of GDP[12]).

2.1.3 Investment demand

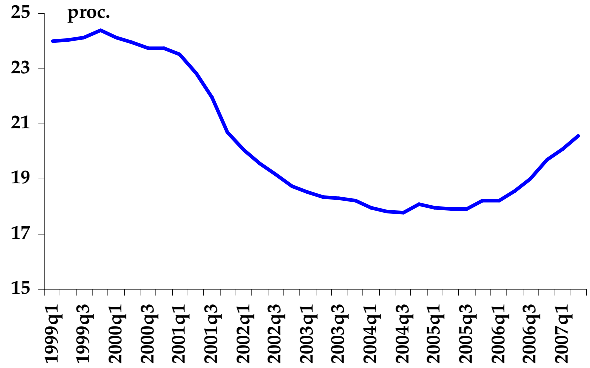
2007 Q2 saw persistently high growth in gross fixed capital formation (growth of 20.8% y/y in real terms), although, in line with the expectations, slightly lower than in Q1. In consequence, the investment to GDP ratio increased again reaching the level of 20.6% (Figure 2.3).

In 2007 Q2 growing investment activity was observed in all sectors of the economy (Figure 2.4). Considerable improvement was recorded in housing construction. Fast growth, albeit slower than in 2007 Q1, was also observed in investment expenditure of the central and local government sectors.

Similarly to the previous quarter, investment in the sector of non-financial enterprises (employing over 49 employees) grew considerably faster than investment in the national economy. In 2007 Q2 these enterprises increased their fixed capital formation by 33.8% y/y in real terms[13], with expenditure growth being recorded in all main types of investment.

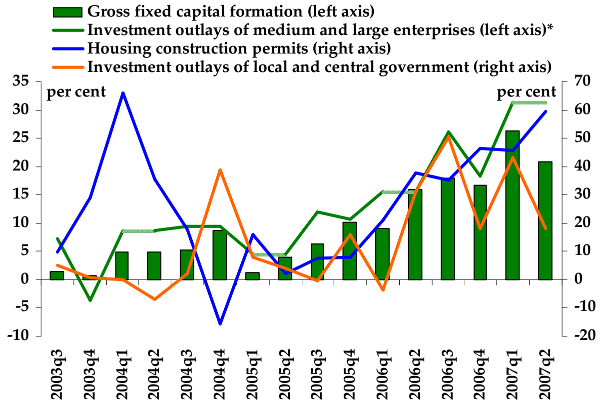
The coming quarters are expected to bring sustained strong investment activity in the corporate sector, albeit lower than in 2007 Q1[14]. The results of the NBP Economic Climate Surveys point to high and persistently growing rate of production capacity utilization in enterprises[15] (Figure 2.5), which amidst optimistic demand outlook constitutes one of major factors driving investment activity. The sustained high investment out-

Figure 2.3:
Investment to GDP ratio (gross fixed capital formation to GDP, annualized).



Source: GUS data, NBP calculations.

Figure 2.4:
Annual growth of gross fixed capital formation in the economy and corporate sector, investment outlays of local and central government and housing construction permits.



Source: GUS data, Ministry of Finance data, NBP calculations
* Due to lack of data on investment outlays of enterprises in the first two quarters of each year, the chart presents the growth for the first half of a year instead of dynamics for each of the two quarters.

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11 Based on the draft *Budget Act for the Year 2008.*

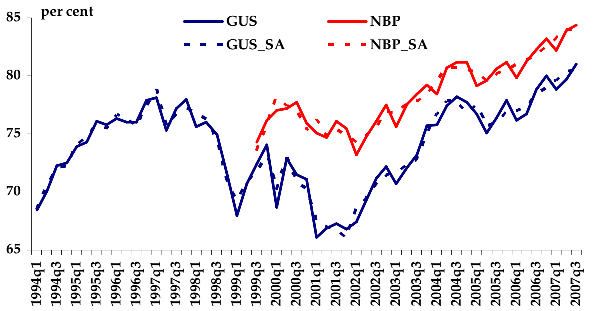
12 According to the *Fiscal notification* of October 2007.

13 NBP estimates based on GUS data.

14 Slow-down in investment growth will be driven by the fading impact of favourable weather conditions that were behind considerable acceleration of investment in 2007 Q1

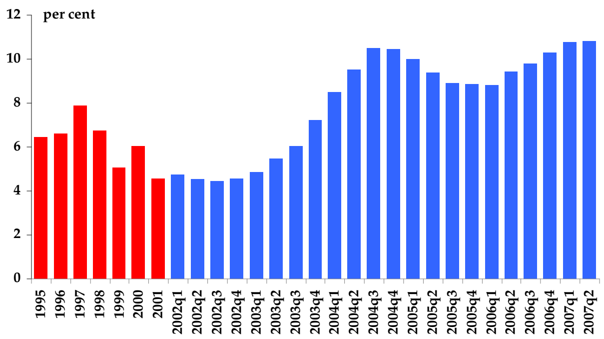
15 2007 Q3 saw subsequent increase in production capacity utilization to its record level *Information Concerning the Condition of the Corporate Sector and the Economic Climate in 2007 Q4* , NBP. The document available in Polish version only.

□ **Figure 2.5:**
Production capacity utilisation in industry (GUS) and in the corporate sector (NBP) (per cent)



Source: GUS data, NBP business survey.
The production capacity utilisation obtained from the GUS business survey is significantly lower from one obtained from the NBP business survey. However, the changes in this indicator are similar in both surveys. The difference is due to the fact that the two surveys are based on different enterprise samples. The GUS sample includes ca. 3500 enterprises from manufacturing excluding waste processing. The NBP sample in September 2007, in turn, included 882 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.

□ **Figure 2.6:**
Return on capital employed in enterprises.



Source: GUS data, NBP estimates.
Return on capital employed calculated as operational profit to total assets minus short-term liabilities: annual data and quarterly data (cumulated over last 4 quarters)
Data for enterprises with at least 49 employees.

lays are also supported by high rate of return on investment (Figure 2.6). At the same time, very good financial standing of enterprises[16] and loan availability[17] create favourable conditions for investment financing. Further growth in investment outlays will also be supported by the inflow of foreign funds, both in the form of structural funds (the use of funds allocated to Poland for the years 2007-2013 may soon be started) as well as foreign direct investment. As suggested by the NBP Economic Climate Surveys, growing labour costs and rising prices of investment goods may have a negative impact on conducted or planned investment projects.

Growing inflow of EU funds contributes to persistently promising outlook for investment activity in the central and local government sectors. Further improvement should be expected in housing construction which is supported, among other things, by the growth in the number of issued building permits significantly higher than the number of dwellings under construction and completed dwellings. As a result, in the NBP's assessment, the coming quarters should see persistently high growth of gross fixed capital formation close to the level expected in the July *Report*.

2.1.4 External demand and current account balance of payments[18]

The euro area which is Poland's largest export market[19], saw a decline in economic growth in 2007 Q2. Lower, as compared with 2007 Q1, growth of investment was a major factor behind deceleration of GDP growth (Figure 2.7).

A deceleration of the economic growth in the

[16]In 2007 Q2 enterprises generated PLN 23.8 billion of net profit which constitutes the best result in the past ten years.

[17]Sustained ease credit policy of banks in the corporate sector is suggested by the findings of the NBP surveys, *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions (4th Quarter 2007)*, www.nbp.pl.

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

[19]In 2007 Q2 the euro area accounted for 52.3% of Polish exports.

	05q1	05q2	05q3	05q4	06q1	06q2	06q3	06q4	07q1	07q2
Export prices / Unit labour costs*										
y/y	-7.0	-16.3	-7.2	-6.2	0.6	7.1	8.8	9.1	7.7	0.8
q/q	-5.6	-1.0	0.8	-0.4	1.3	5.3	2.4	-0.1	0.0	-1.4
Import prices / Domestic producer prices										
y/y	-11.8	-13.7	-3.2	-2.2	-2.0	3.5	0.9	0.5	1.9	-3.0
q/q	1.8	-4.1	1.6	-1.5	2.1	1.3	-0.9	-1.8	3.5	-3.6
REER ULC**										
y/y	26.3	19.5	11.6	6.2	1.5	2.3	0.5	3.3	-1.4	10.4
q/q	6.8	-4.0	6.3	-2.6	2.1	-3.3	4.5	0.0	-2.5	8.2

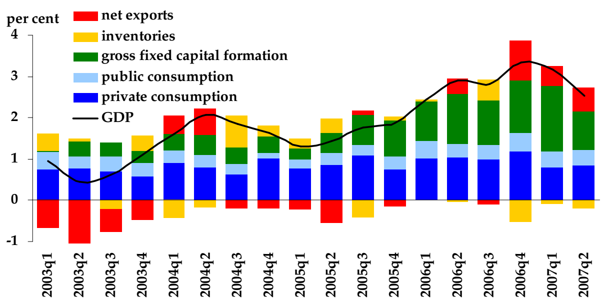
Table 2.2: Polish export and import competitiveness measures (change in per cent)
Notes:
* Unit labour cost index is calculated as the ratio of payroll growth to the labour productivity dynamics, measured as output (volume) in manufacturing per person employed in this sector,
** Esminates on the basis of monthly GUS data and ECB data. 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.

euro area in 2007 Q2 was combined with a continued decline in euro area trade (Figure 2.8). Lower export growth was mainly the result of the decline in the growth of euro area external demand (in particular that of the US and Japan) and euro appreciation, while the weakening of import growth was mainly driven by lower growth of the export sector demand.

Since the previous *Report* the forecasts of economic growth in the euro area have been revised downwards[20]. At the same time, the downward revision of the growth forecasts for major trading partners of the euro area indicates that the growth of euro area exports and imports will be in the second half of 2007 lower than in the first half of 2007 and will even fall below previous expectations. The downward revision of growth forecasts might have been the result of deterioration of majority of the euro area economic indicators in August and September 2007, which may be related to the turmoil in the global financial markets (see box *Downturn in the US subprime loan market and its impact on international financial markets* in chapter 2.5 Finan-

[20]According to the Consensus published in The Economist in October 2007 the economic growth in the euro area will reach 2.6% in 2007 (as compared with 2.7% forecasted in July 2007) and 2.1% in 2008 (as compared with 2.3%).

Figure 2.7:
Decomposition of euro area GDP growth

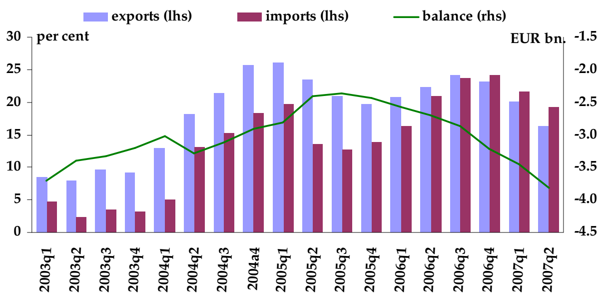


Source: Eurostat data.

Figure 2.8:
Changes in the value of external exports and imports of euro area

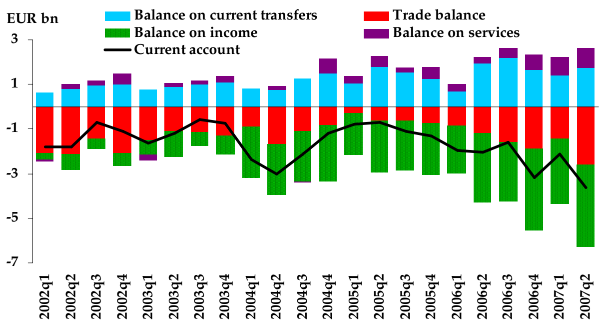
Source: Eurostat data

□ **Figure 2.9:**
Polish external trade in 2003-2007 in EUR, data cumulated over last 4 quarters (exports, imports: y/y per cent; balance: EUR bn.)



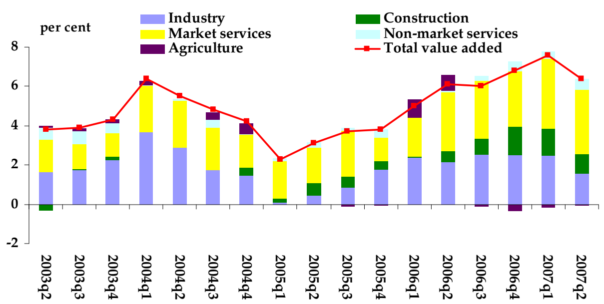
Source: GUS data

□ **Figure 2.10:**
Current account balance (EUR bn.)



Source: NBP data.

□ **Figure 2.11:**
Sector contribution to annual gross value added growth (per cent)



Source: NBP calculations on the basis of GUS data.

cial markets).

A slow-down in the growth of Polish exports to euro area recorded in 2007 Q2[21] and the accompanying decline in the growth of exports to other major trading partners was behind further decline in the growth of total Polish exports[22]. A slow-down was also recorded in the growth of Polish imports in relation to 2007 Q1[23], yet, the growth of imports continued to exceed that of exports. The rise in trade deficit with euro area countries and third-party countries (among other things, persistently strong growth of deficit in the trade with China) was reflected in the deepening of deficit in the Polish foreign trade (Figure 2.9).

The rise in the deficit in the balance on goods and in the balance on income[24] as compared with 2006 Q2 and a decline in the positive balance on transfers contributed to further deepening of the current account deficit (Figure 2.10). As measured in relation to GDP the current account deficit increased to 3.7% in annual terms (against 3.2% in 2007 Q1) and was the highest since 2004 Q4.

2.2 Output

The growth of gross value added in the economy, though still high, slowed down in 2007 Q2 (Figure 2.11), which was in line with the expectations presented in the previous *Report*.

In all main sectors (market services, industry and construction) the growth of value added was lower, in quarter-on-quarter terms, than in the

[21] In 2007 Q2 the value of Polish exports to the euro area increased by 8.0% y/y (against 12.5% y/y in 2007 Q1).

[22] In 2007 Q2 the value of Polish exports increased by 10.1% y/y (as compared with 14.8% y/y in 2007 Q1), while the decline in the growth of exports was driven by lower growth of exports volume. In 2007 Q2 the volume of Polish exports increased by 4.3% y/y (as compared with 8.5% y/y in 2007 Q1).

[23] In 2007 Q1 the value of Polish imports increased by 14.9% y/y (as compared with 17.2% y/y in 2007 Q1.). In contrast to exports, the weakening growth of imports was the result of its lower price growth.

[24] The deepening of the negative income balance was mainly driven by the increase in transfers of direct foreign investment revenues (dividends, reinvested profits).

Seasonally adjusted (per cent)	05q1	05q2	05q3	05q4	06q1	06q2	06q3	06q4	07q1	07q2
Value added – total	0.5	1.4	1.2	0.8	1.6	2.4	1.1	1.5	2.4	1.1
Industry	0.0	2.6	1.1	3.4	2.1	2.8	2.2	2.5	1.5	0.5
Construction	2.1	1.7	1.4	-0.3	2.8	6.5	4.2	6.5	2.9	2.6
Market services	0.8	0.6	1.2	0.8	1.3	1.9	1.5	1.6	1.8	1.4

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

previous quarter (Table 2.3). There was a substantial growth of gross value added in non-market services, yet the contribution of this sector to total gross value added remains small.

In 2007 Q3, according to the estimates of the NBP, the growth of gross value added was at approx. 5.7% y/y and so it remained at a high level. In the NBP's assessment, in the quarters to come the outlook for growth will remain favourable, which finds support in economic climate survey for all sections of the economy (Figure 2.12).

2.3 Labour market

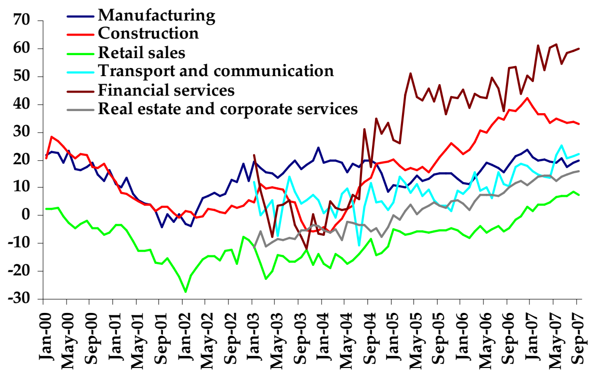
2.3.1 Employment and unemployment

In 2007 Q2 the number of working persons in the economy was still rising, which points to a continuation of the fast increase in the demand for labour Figure 2.13 and Table 2.4). The high growth in the number of working persons in services and industry was sustained. In contrast, there was a drop in the number of working persons in private farming. The largest contribution to the rise in the number of working persons is still made by the service sector.

The growth in demand for labour has been reflected in a persistently high growth in employment in enterprises (Figure 2.14), further decline in unemployment (Figure 2.15) and a significant increase in vacancies reported to Labour Offices[25]. The rate of unemployment according to the BAEL (Labour Force Survey) fell to the lowest level since the survey started in 1992 (9.6% in 2007 Q2). At the same time there is a constant rise

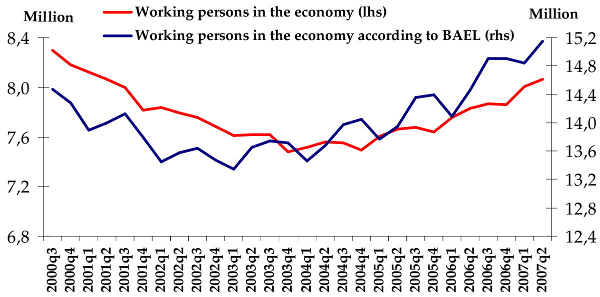
[25]In August 2007 a rise of 6.6% y/y.

Figure 2.12:
Indicators of future economic activity in selected sections



Source: GUS data.

Figure 2.13:
Working persons in the economy (according to BAEL) and in entities with more than 9 employees

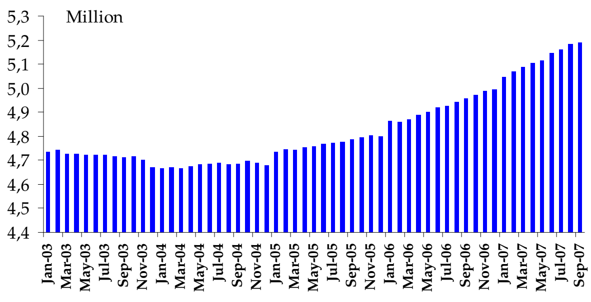


Source: GUS data

	Working persons in 2007q2		Growth in 2007q1		Growth in 2007q2		Growth in 2007q1	Growth in 2007q2
	thousands	structure	y/y thousands	y/y (percent)	y/y thousands	y/y (percent)	q/q seasonally adjusted (percent)	q/q seasonally adjusted (percent)
Total	15 152	100.00	741	5.3	693	4.8	1.6	1.0
Total excluding private agriculture	13 035	86.03	762	6.3	681	5.5	1.2	1.1
Place of residence								
urban areas	9 383	61.93	504	5.8	476	5.3	1.3	1.2
rural areas	5 770	38.08	237	4.4	218	3.9	1.3	0.9
Economic sector								
agriculture	2 301	15.19	-4	-0.2	10	0.4	0.2	-0.8
industry	4 629	30.55	295	7.1	288	6.6	1.7	2.0
services	8 217	54.23	449	5.8	392	5.0	1.2	0.9
Ownership sector								
public	4 211	27.79	-53	-1.2	-72	-1.7	-0.8	0.2
private	10 942	72.21	793	8.1	766	7.5	3.1	1.6
Employment status								
hired employees	11 544	76.19	723	6.8	660	6.1	1.4	1.3
employers and self-employed	2 925	19.30	3	0.1	22	0.8	-0.3	0.5
contributing family workers	683	4.51	15	2.5	11	1.6	8.4	-0.2
Type of job contract								
fixed-term contract	3 249	28.14	422	15.7	287	9.7	3.8	0.8
permanent contract	8 296	71.86	302	3.8	374	4.7	0.5	1.1

Table 2.4: Working population according to BAEL in selected sections
BAEL data were seasonally adjusted with TRAMO/SEATS on a sample beginning 1995q1, with an exception of number of persons working in the public sector, which was adjusted on a sample beginning in 2000q1.
Source: BAEL data, NBP calculations.

□ **Figure 2.14:**
Employment in the enterprise sector (thousands)



Source: GUS data

of the percentage of employers who are experiencing difficulties in hiring both skilled employees[26] and workforce in general[27]. As a result of the unsatisfied demand for workers, the share of unfilled vacancies reported to labour offices is growing[28]. One of the reasons for these workforce problems is Poland's shrinking labour supply resulting, among other factors, from the with-

[26] According to GUS business tendency survey, in September 2007 in construction the shortfall of skilled employees was declared by 58.8% of employers (as compared to 47.1% one year before), while in industry in 2007 Q3 29,6% of employers reported such problems (as compared to 17,6% one year earlier).

[27] In 2007 Q2 problems in finding workforce in general were reported by 16.2% of manufacturing companies (as compared to 5.7% one year earlier).

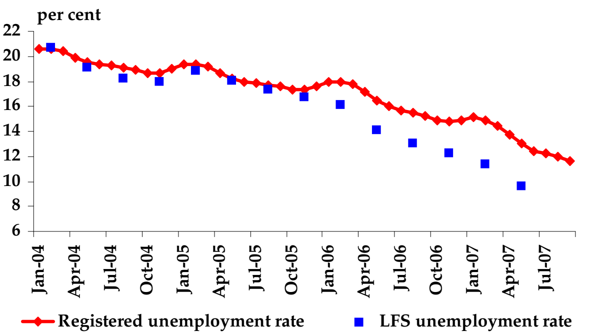
[28] In August 2007 as many as 72% of vacancies reported to labour offices remained unfilled at the end of the month, compared to 61% a year before.

drawal of people entitled to early retirement from the labour market and the emigration of Polish workers to EU countries[29].

Since the beginning of 2006 the growing number of working persons and the decreasing rate of unemployment have been accompanied by a fall in the number of the economically active (of 0.4% y/y in 2007 Q2)[30]. The observed fall in the number of the economically active contributes to a reduction in the supply of labour and, consequently, is a factor conducive to increasing the wage pressure.

In line with the findings of both GUS business tendency and NBP economic climate surveys[31] the favourable outlook for employment is sustained for 2007 Q4, though the rise in the number of working persons may be lower than in the first half of 2007.

□ **Figure 2.15:**
Unemployment rate - registered by labour offices and LFS (per cent)



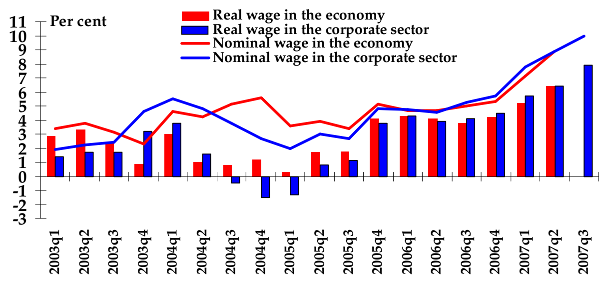
Source: GUS data

2.3.2 Wages and productivity

The growing number of working persons in the economy is accompanied by pronounced acceleration in the growth of nominal wages,indicated both by quarterly data from the economy as a whole and monthly data from the enterprise sector (Figure 2.16). As a result, aggregate wages build up quickly, which contributes to an increase of the income of households and consumption demand.

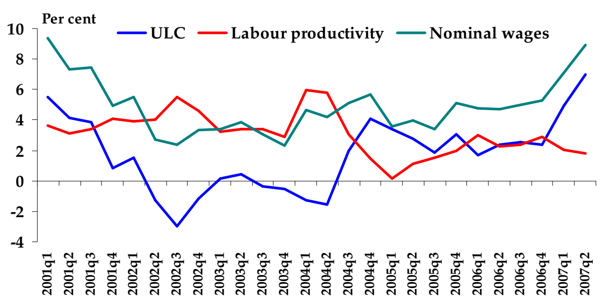
In 2007 Q2 wages in the economy were growing markedly faster than labour productivity[32]. Consequently, the growth of unit labour costs in the economy hit a new high since 2001 Q4 (7.0% y/y in 2007 Q2 compared to 4.9% y/y in 2007

□ **Figure 2.16:**
Annual percentage growth of wages in the economy and in the corporate sector (nominal and real)



Source: GUS data, NBP calculations.

□ **Figure 2.17:**
Annual percentage growth of unit labour costs (ULC), labour productivity and nominal wages in the economy



Source: GUS data, NBP calculations.

[29] The impact of this economic emigration on the Polish economy was discussed in detail in the box: *Channels of impact of emigration on the Polish economy* in the April *Report*.

[30] In 2006 the drop in the number of the economically active partly resulted from methodological changes introduced to BAEL survey starting from 2006 Q1. See footnote 21 on page 25 of the April *Report*.

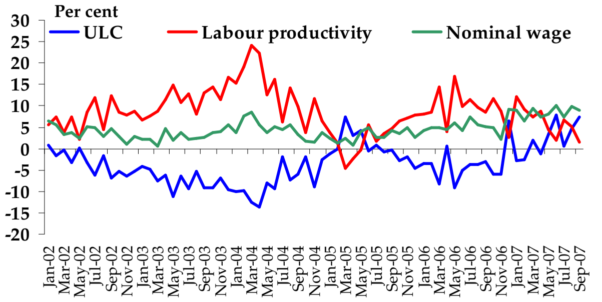
[31] See: *Information Concerning the Condition of the Corporate Sector and the Economic Climate in 2007 Q4*, NBP. The document is available in Polish version only.

[32] Labour productivity in the economy: GDP in constant average annual prices from the previous year per one person working in the economy according to the BAEL.

Q1. – Figure 2.17)[33]. Since May 2007 growth in unit labour costs is also observed in industrial enterprises (Figure 2.18)[34]. Upsurge in growth of unit labour costs is conducive to increasing the cost pressure in enterprises and may lead to inflation rise, though, according to the NBP Economic Climate Survey[35] only small percentage of enterprises point to the rising wages as the main factor behind price increases.

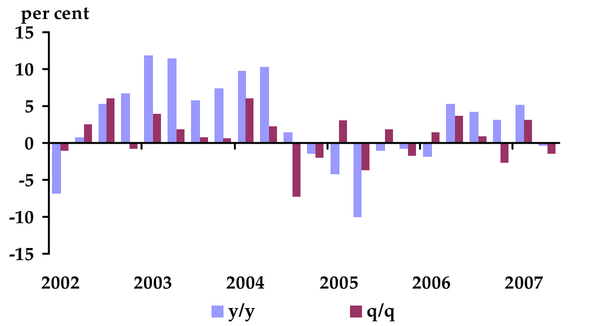
NBP economic climate surveys point to a stabilisation in the percentage of enterprises expecting pay increases in 2007 Q4 as compared to the previous quarter. However, enterprises expect the pay rises to be slightly higher than in the previous quarter. The expected wage growth may also be driven by escalating wage demands in some parts of the public sector.

Figure 2.18:
Annual growth of labour productivity and wages in industry



Source: GUS data, NBP calculations.

Figure 2.19:
Annual percentage change in the zloty denominated import prices.



Source: GUS data.

2.4 Other costs and prices

2.4.1 External prices

After zloty denominated import prices had grown for four consecutive quarters, 2007 Q2 brought their decline (Figure 2.19). This resulted both from the further drop in year-on-year oil prices and the lingering of the prices of other imported goods at the level consistent with that recorded one year before.

The decline of zloty denominated oil prices in 2007 Q2 was caused by the appreciation of the zloty against US dollar. However, in view of a rise in oil prices in the global markets in 2007 Q3, further strengthening exchange rate of the zloty only partially offset US dollar denominated oil prices growth (Figure 2.20). The surge in oil

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

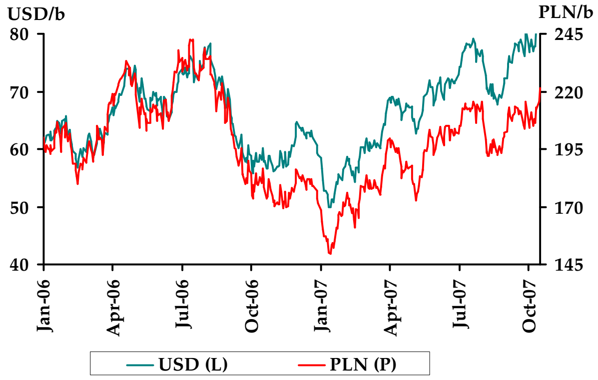
[34]Unit labour cost in industry: the ratio of the average gross nominal wage in industry to the labour productivity in industry (labour productivity in industry: the ratio of industrial output in constant prices to the average employment in the sector).

[35]See *Information Concerning the Condition of the Corporate Sector and the Economic Climate in 2007 Q4, NBP.* The document is available in Polish version only.

prices was connected with the decline in the stocks of oil and oil products in the United States and a large intensity of tropical storms in the Gulf of Mexico[36] In mid-October 2007 strong increase in oil prices was additionally induced by the concerns over the security of oil supplies due to the possible Turkish military action in Northern Iraq.

The rise in current oil prices was accompanied by an upward adjustment of oil price forecasts. In the near term, the high level of oil prices should be primarily sustained by the anticipated considerable increase in the world demand for oil. The September 2007 forecast of the International Energy Agency indicates that in 2008 the surge in the demand for oil will be the highest in four years with almost two thirds of this demand coming from developing countries. However, there is a risk that the world economic growth may slow down, which in turn may contribute to lowering the growth of the demand for oil and, consequently, to a price drop.

Figure 2.20:
Brent crude oil prices in USD and PLN.



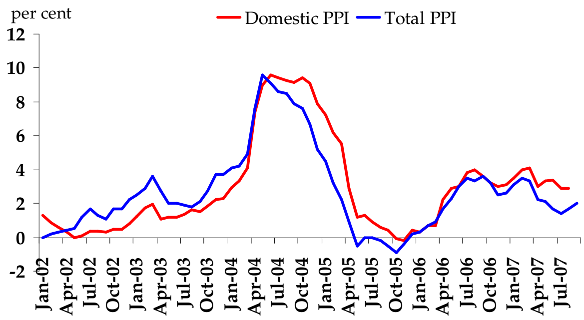
Source: USD crude oil prices - the US Department of Energy (www.eia.doe.gov) and official USD/PLN exchange rate - NBP (www.nbp.pl).

2.4.2 Producer prices

The 2007 Q3 brought further decline in the annual growth of the Producer Price Index (Figure 2.21). Since May 2007 the growth rate of producer prices in the domestic market has outpaced the overall price growth by over 1 percentage point[37], which is connected with export price decline.

In 2007 Q3 the largest contribution to PPI growth was still made by manufacturing (Figure 2.22). In

Figure 2.21:
Producer prices in industry (PPI). Total PPI and domestic PPI (y/y).

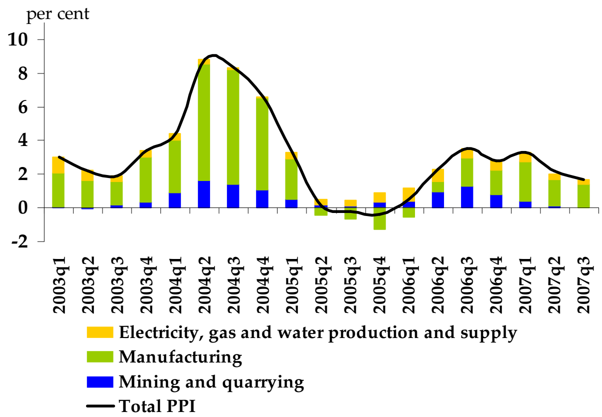


Source: GUS data.

[36]The OPEC's decision to increase output (starting from November 2007) did not change the rising tendency of oil prices. Markets assessed that the declared output growth of 500 thousand b/d was not sufficient to improve the situation in the oil market in view of the approaching heating season in the Northern Hemisphere.

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

□ **Figure 2.22:**
Producer prices in industry (PPI). Contribution of producer prices growth in PPI total annual growth.



Source: GUS data.

contrast, the contribution of *Mining and quarrying* has been steadily shrinking since the beginning of 2007. The decrease in the PPI inflation observed in 2007 Q3 was connected with the appreciation of the nominal effective zloty exchange rate, which results in the decline of export prices.

2.5 Financial markets

2.5.1 Asset prices and interest rates[38]

Short-term interest rates

In August 2007 the Monetary Policy Council raised the reference rate by 25 basis points to the level of 4.75%. At its September meeting the Council decided to leave interest rates unchanged. Both the August interest rate hike and no change at the September meeting were to a large extent priced in by the market and by the majority of analysts and so did not have any significant bearing on the domestic financial market.

Since July 2007 analysts' expectations of interest rate changes in Poland have not been modified in any significant way. The analysts surveyed by Reuters still see one more reference rate hike in 2007 to the level of 5.00%. In the horizon of one year, the respondents envisage the probable level of the reference rate in the range of 5.25-5.50%. These expectations of domestic interest rate increase are shaped under the influence of macroeconomic data confirming a high economic activity in Poland and deterioration in the relation between wage and labour productivity growth.

In comparison to the expectations of analysts, market expectations embedded in FRA rates point to a slightly lower total increase of the reference rate – they fully price in rises to the level of 5.25% in the one-year horizon. The September reduction of the FRA rates at the long end of the forward curve may be explained by the disruptions in the world financial markets observed in

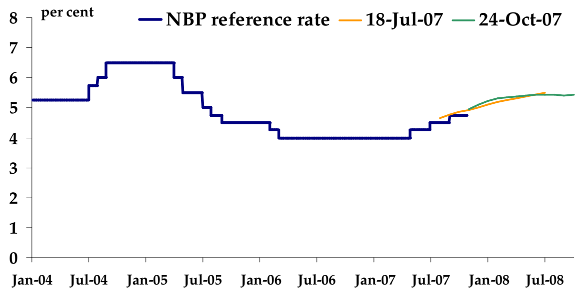
[38]The cut-off date for the data presented in this section is 24 October 2007.

August and September 2007, which result in significantly lower expected levels of the Fed and ECB interest rates. The transitory drop in FRA rates in mid-September was also connected with the publication of data on CPI inflation in August 2007, which fell short of market expectations and hit its 8-month low. However, the higher than expected CPI inflation in September 2007 led to the return of long FRA rates close to the previously recorded levels. (Figure 2.23).

On 18 September 2008 the Fed lowered its interest rate by 50 basis points to the level of 4.75%. This decision was substantiated by the information on aggravating problems in the US real property market and an increase in the risk of negative impact of this sector's situation on the US economy at large. An additional risk factor was the discomforting news on the deteriorating situation in the US labour market (an employment decrease of 4 thousand jobs in August 2007 instead of expected growth of 110 thousand[39]). The amount of interest rate reduction was 25 basis points higher than expected by the market.
Since the publication of the last *Report* the expectations of the future path of US interest rates have been significantly downgraded. In line with forward market quotations it is currently expected that the federal fund rate will be cut to 4.00% in the horizon of the next six months (Figure 2.24). On the other hand, in view of the high utilisation of production capacities and the possibility of inflation rise, it cannot be ruled out that the Fed's monetary policy easing will prove short-lived.

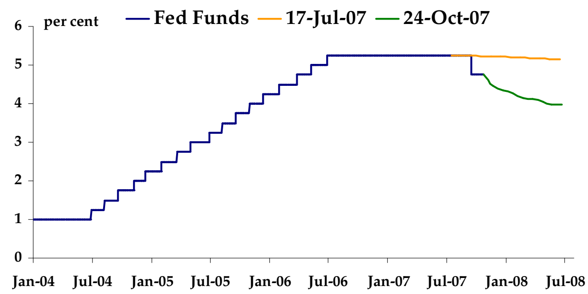
Since the publication of the last *Report* the ECB has left its repo rate at an unchanged level of 4.00%. Its decision of 6 September 2007 to keep the interest rate unchanged was consistent with market expectations, which had been significantly reduced since July 2007. The current forward market quotations suggest no changes in euro-area interest rates in the horizon of the next six

Figure 2.23:
Monetary policy expectations in Poland - actual developments and expected NBP interest rate.



Source: Reuters, NBP calculations.

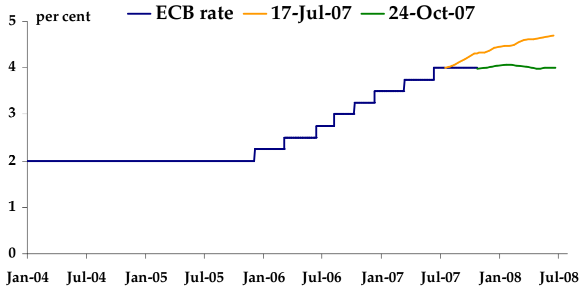
Figure 2.24:
Monetary policy expectations in the United States - actual developments and expected Fed Funds rate.



Source: Bloomberg, NBP calculations.

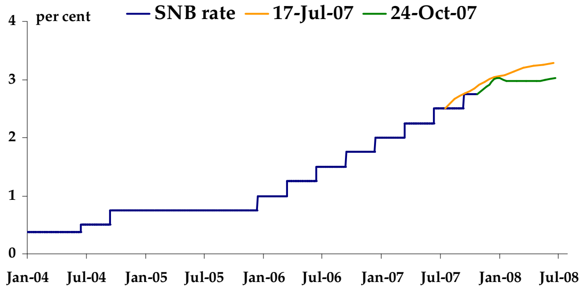
[39] These data were adjusted upwards in October 2007 to +89 thousand jobs in August 2007 and a preliminary estimate of +110 thousand jobs in September 2007, while at the same time the information was released that the rate of unemployment rose to 4.7% in September compared to 4.6% in August. It is believed that despite the positive reception of these data by financial markets, the risk of recession occurring in the United States remains unchanged

□ **Figure 2.25:**
Monetary policy expectations in the euro area - actual developments and expected ECB interest rate.



Source: Bloomberg, NBP calculations.

□ **Figure 2.26:**
Monetary policy expectations in Switzerland - actual developments and expected SNB rate.



Source: Bloomberg, NBP calculations.

months (Figure 2.25). As for the ECB, similarly as in the case of the Fed, there is an increased uncertainty as to further interest rate moves.

There persists the risk of inflation rise in the euro area in the medium term, which is connected with the improving situation in the labour market and a high utilisation of production capacities. On the other hand, however, there appear signals pointing to the possibility of an economic downturn (drop in confidence indicators, weaker PMI survey results). Those signals may persuade the ECB to keep its interest rates unchanged or to reduce them in the further future.

On 13 September 2007 the Swiss National Bank (SNB) raised its interest rate by 25 basis points. At the moment, SNB target range is 2.25-3.25%, with the middle point at 2.75%. In the opinion of the SNB, a high degree of production capacity utilisation in the Swiss economy poses risk of inflation rise. On the other hand, a possible weakening of the global growth in the wake of the expected slowdown in the United States may lead to a lower inflation. Currenty, the SNB believes that in the forecast horizon the probability of inflation rise in Switzerland is the same as that of inflation decline. Market expectations point to one SNB interest rate hike of 25 basis points to the level of 3.00% in late 2007 (Figure 2.26).

Downturn in the US subprime loan market and its impact on international financial markets

In August 2007 the international financial markets experienced a strong turmoil. Among others, it involved liquidity problems in the money markets. The turmoil stemmed from the deteriorated situation in the market of mortgage loans to clients with a limited creditworthiness (the so-called subprime loans) in the United States.

Subprime mortgage loans are granted to clients in a worse income situation or people who are unable to document their income. They involve increased risk of default than standard loans. In 2006 subprime loans accounted for 20% of all mortgage loans in the United States.

The most important reasons for the development of the subprime loan market included, on the demand side, among others, large unsatisfied needs for housing on the part of less wealthy US citizens, low interest rates and growing prices of real property, which increased the value of collateral in case of potential repayment problems. Borrowers often resorted to the equity withdrawal mechanism, which consisted in taking advantage of the rise in the value of the collateral (real property) to take other loans in order to repay old mortgages. On the supply side, subprime loans were favoured by strong competition in the US mortgage market, which forced banks to actively search for borrowers, including those in the subprime segment, the possibility of avoiding credit risk by direct lenders by securitising their loans, high demand for high-risk assets due to the low interest rates and banks' pursuit to increase non-interest income, e.g. by charging fees for the distribution of debt securities backed by securitized assets.

The most popular instrument used for securitising subprime loans are the so-called mortgage-backed securities (MBS), i.e. bonds secured with cash flows from mortgage loans. They allow to transfer some of the risk to other participants of financial markets, supplement the funds of lenders and remove appropriate assets from the balance sheet in order to improve financial ratios. Both, the banks granting mortgage loans and those not directly active in this market established specialised units (the so-called special purpose vehicles – SPVs), which purchased subprime assets from direct lenders and then issued MBS-type papers which were in turn bought by other investors. Banks set up also the so-called special investment vehicles - SIVs which in turn purchased MBS and issued the so-called collateralized debt obligations - CDOs backed by different types of MBS. SPV companies financed their operations by issuing short-term debt securities backed by their assets (the so-called asset-backed commercial papers – ABCPs). The continuity of SPV funding was secured with credit lines of the banks, which themselves were often involved in establishing SPVs/SIVs.

The downturn in the US subprime loan market was directly connected with the rise of the Fed interest rates from 1.00% in 2003 to 5.25% in mid-2007, which considerably increased households' payment burden related to servicing floating-rate mortgages. This was particularly strongly felt by less wealthy borrowers. Morover, the situation was further aggravated because for many creditors the initial promotional period of reduced bank margins expired, which resulted in a considerable increase of the instalments. Additionally, 2007 saw a fall in prices in the real property markets, which in effect blocked the equity withdrawal mechanism.

In this situation many borrowers were not able to service their debts, which affected the condition of financial institutions active in the subprime market: banks and credit institutions granting loans, banks establishing SVPs/SIVs as well as investment funds and banks purchasing securities backed with the subprime loans. Weaker companies closed their operations, went bankrupt or were taken over. Financing SPVs by means of ABCP issuance was blocked due to the aversion to purchase securities issued by these companies. As a result SPVs/SIVs used credit lines available at banks. This led to increased demand for liquid assets in the interbank market. At the same time, however, due to the heightened uncertainty and lack of information on the exposure of particular banks to the subprime market, banks became unwilling to lend liquid assets to one another, which resulted in a significant lowering of liquidity supply. This was conducive to a surge in short-term interest rates in the interbank market.

Yet, the impact of problems in the US subprime market was not limited to the United States alone. It turned out that many European financial institutions were also exposed to this market. The surge in mutual distrust among banks in the euro area, connected with the lack of information on the actual impact of the turmoil on their financial standing, brought about, similarly as in the United States, a curbing of mutual credit limits in the interbank market and a considerable rise in short-term interest rates.

In an effort to stabilise the interbank market interest rates the major central banks decided to pump additional liquidity into the financial sector. The Fed's rediscount rate cut of 17 August 2007 was also conducive to calming the markets.

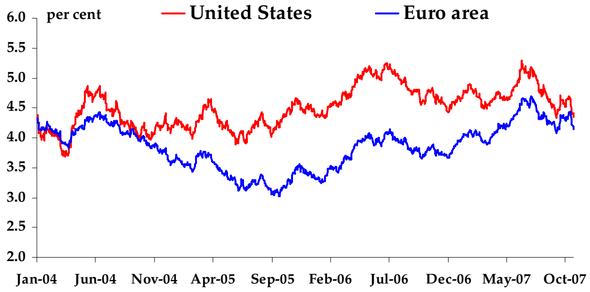
The spreading of the crisis into still new markets led to a decline in the risk appetite of global investors and their escape to the market of Treasury securities of the most developed countries. This brought about a deep fall in their yields and, at the same time, substantial yield fluctuations in the emerging markets. Fall in world stock markets indices and their increased volatility was also recorded. Many carry trade positions were reversed, which was conducive to weakening the currencies of some emerging market countries.

At the beginning of September 2007 it was assessed that the situation in the subprime loan market was so serious that it could lead to a considerable slowdown in the US and world economy. However, the deeper than expected cut in the Fed interest rates in September 2007, the publication of the minutes of the September meeting of the FOMC containing reassuring statements on the condition of the US economy and the released macroeconomic data all contributed to calming market sentiment. The risk appetite of the global investors rebounded, which found reflection in the return of stock exchanges' indices back to the high levels recorded before August 2007 and also in the appreciation of the emerging countries' currencies. The carry trade positions are also being slowly rebuilded. Likewise, the liquidity situation in the interbank market in the euro area and the United States is gradually returning to normality with short-term market interest rates ranging close to the level of the official rates of central banks.

However, it is still difficult to assess whether the currently observed steady calming of the situation in the financial markets will prove sustainable.

The Polish financial institutions were not exposed to the asset markets directly related to subprime loans. As a result, the impact of turmoil in international financial markets on the Polish financial market was insignificant. Nonetheless, should this turmoil lead to a clear slowdown of the world economy, this could be conducive to lowering the growth of the Polish economy, as well.

Figure 2.27:
Change in the yields of 10-year bonds.



Source: Bloomberg.

Figure 2.28:
Change in the yields of the Polish benchmark bonds

Source: Reuters

Long-term interest rates and the equity market

2007 Q3 brought an increased volatility of the prices of financial assets and a rise in risk aversion in the world markets leading to the modification of the structure of investment portfolios of global investors. The factor which brought about the change in the valuation of market risk was the information on problems connected with subprime mortgage loans and with the valuation of derivatives based on such loans, which were experienced by an ever increasing number of institutions. Changes in the investment preferences involved the selling out of financial assets that are more risky, yet yield high rate of return (among others shares and bonds of developing countries), and investing the withdrawn funds in the safest securities, i.e. Treasury bonds of developed countries. In consequence, the yields on Treasury bonds in the United States and the euro area declined significantly (Figure 2.27). The market also assessed that there was an increased probability of a recession in the United States and its negative impact on the economic situation in the euro area. This led, among others, to strengthening the expectations for Fed interest rate cuts and a clear weakening of the expectations for ECB rate hikes. In the period after 18 September 2007 the rise in the yields in the United States and the euro area resulted from a partial alleviation of the shaky situation in the financial markets, a decline in risk aversion among global investors, positive (from the point of view of economic growth) market assessment of the Fed's decision to cut interest rates and fears of possible inflation rise in the United States and the euro-area in the medium term.

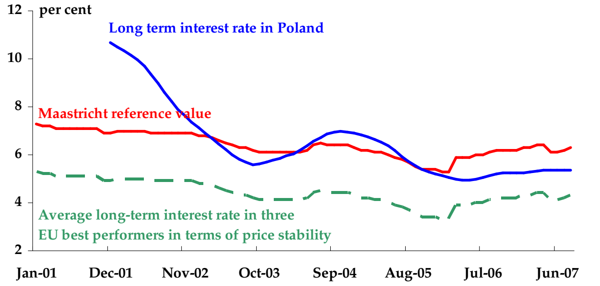
The developments in the international financial markets led to a temporary rise in the yields of Polish Treasury bonds (Figure 2.28). In October the bond yields returned to the levels recorded in the mid-July 2007. Concurrent significant drop in the yields in the core markets resulted in a widening of spreads – e.g. the gap between the yields on Polish and German 10-year Treasury bonds amounted to 136 basis points in October and, temporarily, 164 basis points in September 2007.

The yields on Polish long-term bonds in average annual terms, used to verify the compliance with the interest rate Maastricht criterion, has been practically unchanged since April 2007 (Figure 2.29). Since the end of 2005 Poland has been complying with the interest rate criterion.

In July–August 2007, in the wake of the deteriorating sentiment in the international financial markets, the value of Treasury bond portfolio held by non-residents was decreasing (Figure 2.30). This tendency has been continuing since mid-April 2007 (Figure 2.30).

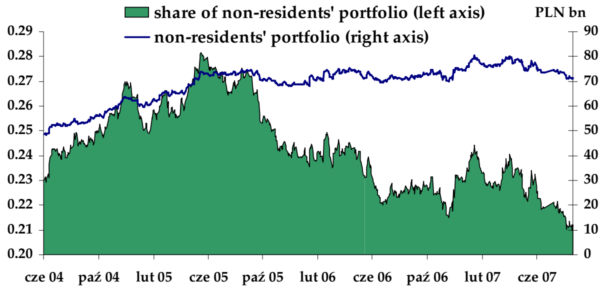
In July and August 2007 the participation of foreign investors in the Polish equity market has declined in relation to June 2007 (Figure 2.31). The domestic equity market has been dominated by international conditions. The deterioration in global sentiment, which came at the end of July, brought about a worldwide revaluation of stock exchange indices, including Poland, accompanied by the retrenchment of short-term foreign investors (Figure 2.32). The improvement in sentiment in the stock exchanges around the world since mid-August 2007, which resulted from the stabilisation measures taken by the major central banks and in particular the Fed's reduction of its rediscount rate and main interest rate, allowed stock exchange indices to rebound from some of the earlier losses.

Figure 2.29:
Average annual yield (12-month moving average) for long-term Treasury bonds in Poland versus the reference value for the Maastricht criterion.



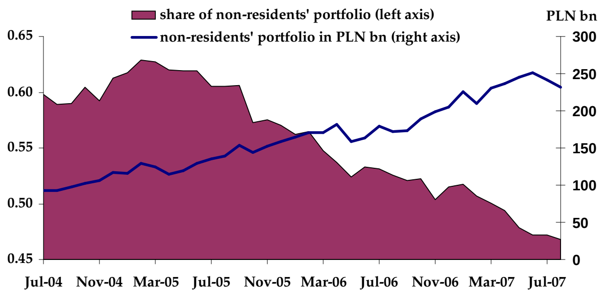
Source: NBP estimates based on Eurostat data.

Figure 2.30:
Non-residents' participation in the Polish Treasury bond market



Source: National Depository for Securities (KDPW).

Figure 2.31:
Share of non-residents in the Polish equity market - on the basis of market value of stocks.

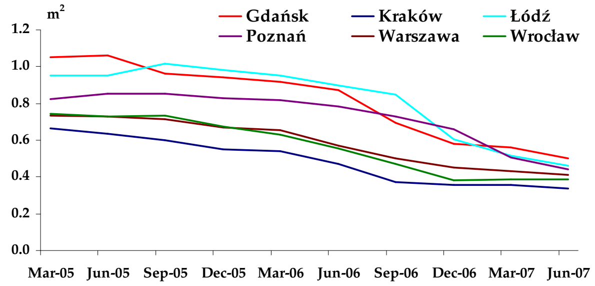


Source: NBP.

Figure 2.32:
WIG and WIG 20 stock exchange indices

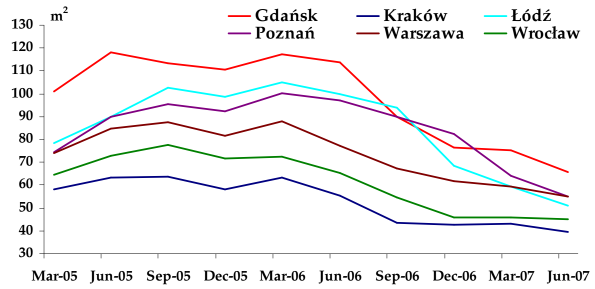
Source: Reuters

□ **Figure 2.33:**
Availability of apartments (number of square meters of a flat that can be purchased for local average gross monthly salary in corporate sector at average price in primary and secondary housing market)



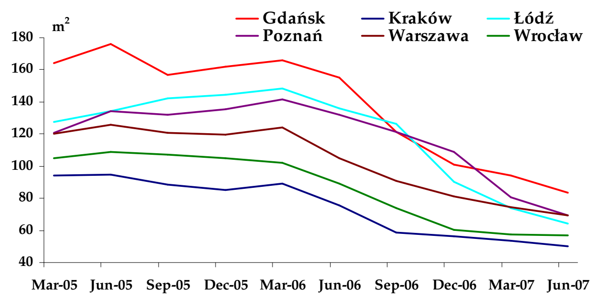
Source: NBP, GUS

□ **Figure 2.34:**
PLN credit availability of apartments (number of square meters of a flat the purchase of which can be financed with a PLN-denominated housing loan, given the income equals local average salary adjusted for the social minimum)



Source: NBP, GUS

□ **Figure 2.35:**
CHF credit availability of apartments (number of square meters of a flat the purchase of which can be financed with a CHF-denominated housing loan, given the income equals local average salary adjusted for the social minimum)



Source: NBP, GUS

Home prices

The prices of flats bought in the primary market in the major real property markets in Poland, i.e.: Warsaw, Cracow, Wroclaw, Tricity (Gdansk, Gdynia, Sopot), Poznan and Lodz, and other voivodship capitals are still rising, however the q/q growth rate is significantly lower than in the second half of 2006 (Table2.5). The primary market prices exhibit quite different pattern in small towns and medium-sized cities: since the beginning of 2007 the q/q growth rate has risen significantly in comparison to 2006 and exceeded markedly the price growth in large cities. This situation may be the result – as signalled in the previous *Report* – of lower accumulated flat price growth in small towns in comparison to that observed in the largest agglomerations over the past few years.

In the secondary market, the price growth in 2007 Q2 slowed down significantly in relation to the previous quarter (Table 2.5), both in the largest markets and in the small town and medium-sized cities. Warsaw was the exception here, as the growth of second-hand flat prices continued at the rate of approx. 9% q/q, despite high average price level. Market information suggests that the number of flat purchase transactions fell down significantly in the secondary market of the largest cities, which may be an indication of a further decline in growth of prices or of even their stabilisation.

For Cracow and Wroclaw, the indices of availability of flats and credit availability of flats[40] have been stable since the end of 2006. In the case of Warsaw the stabilisation has been noticeable for the past two quarters (Figures 2.33, 2.34, 2.35). This may indicate that the housing markets in these cities have reached the point of short-term equilibrium, at which further changes of flat prices will be primarily determined by the growth of wages and creditworthiness of households. The

[40] *Availability of flats*: number of square meters of a flat that can be purchased for local average gross monthly wage in the primary and secondary market; *credit availability of flats*: number of square meters of a flat the purchase of which can be financed with a housing loan, given the income equals local average wage (adjusted for the minimum wage).

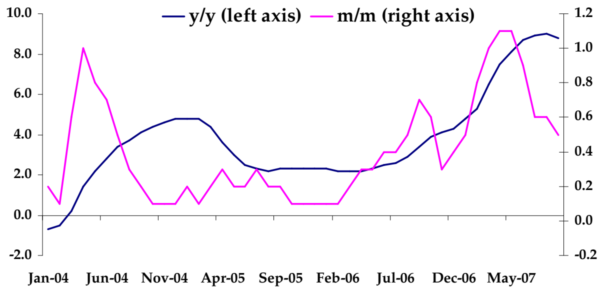
availability indices are higher in the case of Poznan, Gdansk and Lodz, which may point to a potential of further moderate price growth at the rate exceeding the rate of wage and creditworthiness growth.

The main factors limiting the supply and concurrently affecting the level of the prices of flats remain the limited availability of land for construction, underdeveloped infrastructure and workforce deficits in the construction industry. In line with the expectations of the previous *Report*, the rapid growth in costs of construction materials

	XII 2004	XII 2005	XII 2006	III 2007	VI 2007	IX 2006	XII 2006	III 2007	VI 2007	VI 2007
	y/y (per cent)	y/y (per cent)	y/y (per cent)	y/y (per cent)	y/y (per cent)	q/q (per cent)	q/q (per cent)	q/q (per cent)	q/q (per cent)	Average price (PLN/m^2)
	Primary market									
Poland (total)	9.1	7.9	51.5	53.3	64.8	23.2	11.6	5.5	13.6	7405.8
Most important housing markets in Poland†‡	8.9	12.6	56.1	67.4	62.3	22.9	12.8	8.7	7.7	7968.5
Capitals of voivodships‡	9.1	15.0	45.2	59.1	63.5	21.5	11.9	7.5	11.9	7737.9
Small and medium towns‡	10.6	7.0	10.4	10.9	96.5	9.3	0.2	34.5	33.3	5835.9
Warsaw	12.8	12.9	54.3	56.1	38.6	8.4	15.8	7.6	2.6	8385.7
Cracow	13.1	22.3	67.4	58.2	65.3	35.7	4.8	3.3	12.5	8270.2
Wroclaw	4.8	17.9	101.2	85.4	64.2	16.4	34.1	-2.9	8.3	7304.9
Gdansk	12.0	15.7	63.7	74.2	100.2	25.4	18.7	5.0	28.2	7532.0
Gdynia	6.6	8.5	46.0	61.8	67.1	18.0	7.1	25.8	5.2	7294.1
Poznan	8.9	3.0	18.9	80.0	108.8	8.2	0.4	57.1	22.4	7763.6
Lodz	4.7	-5.3	67.4	91.9	106.7	-2.3	51.0	22.3	14.5	6171.4
	Secondary market									
Poland (total)	0.9	8.7	77.6	90.2	79.6	19.8	31.9	12.5	1.1	5702.4
Most important housing markets in Poland†‡	7.2	-1.6	84.1	92.0	82.1	31.4	22.6	9.3	3.4	7593.9
Capitals of voivodships‡	2.2	4.5	82.2	87.8	75.9	26.2	29.6	7.3	0.2	6191.3
Small and medium towns‡	7.4	9.6	49.4	77.0	86.3	6.6	20.0	30.4	11.6	4658.6
Warsaw	6.9	15.1	55.6	60.9	56.0	18.2	11.3	8.7	9.1	9639.4
Cracow	12.5	31.3	62.4	68.6	42.6	22.9	5.9	7.0	2.4	8209.5
Wroclaw	16.6	13.8	74.8	72.3	53.0	21.4	15.9	9.0	-0.3	7052.1
Gdansk	6.5	18.9	82.5	95.8	97.9	27.6	28.2	15.1	5.1	6873.7
Gdynia	10.5	17.7	77.8	82.0	90.1	38.2	20.4	7.6	6.3	6928.5
Poznan	14.8	4.5	49.4	78.2	86.6	6.9	26.3	22.3	13.0	6464.0
Lodz	4.9	3.9	74.5	115.2	118.2	20.6	29.9	29.8	7.2	4650.1

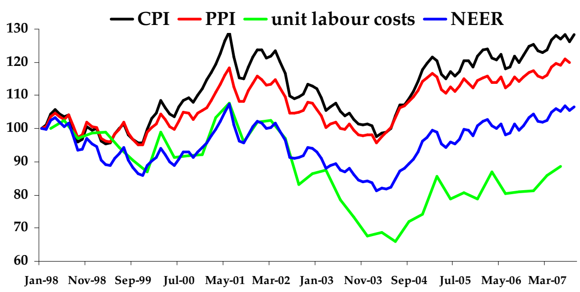
Table 2.5: Change in the average price of a flat in selected local markets. Primary and secondary market in 2004-2006.
†Warsaw, Cracow, Wroclaw, Gdansk, Gdynia, Poznan, Lodz. The selection was based, among other things, on the number of transactions, the housing construction volume and the potential for development.
‡Average weighted with the number of offers in the sample (cities' weigts vary depending on the size of the sample).
Source: NBP estimates based on the data from the *PONT Info Nieruchomości* offered price database.

□ **Figure 2.36:**
Prices of construction and assembly production



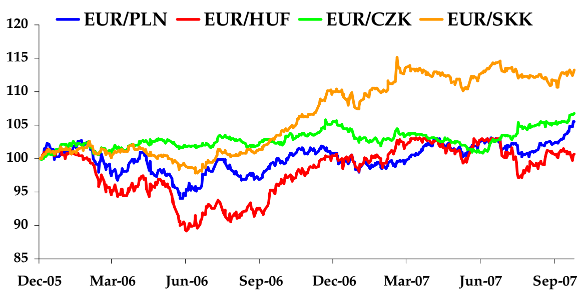
Source: GUS data

□ **Figure 2.37:**
Nominal exchange rates of Central European (CEE-4) currencies against the euro. Increase denotes appreciation.



Source: EcoWin.

□ **Figure 2.38:**
Zloty real (CPI, PPI, and ULC-deflated) and nominal effective exchange rate. Increase denotes appreciation.



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

observed in the first half of 2007 has now been curbed, which found confirmation in a drop of the m/m change of the price index of construction and assembly output Figure 2.36).

2.5.2 Exchange rate[41]

Since the publication of the previous *Report* there was appreciation in the nominal exchange rate of the zloty against the euro and the US dollar. In the same period, the Slovak koruna and the Hungarian forint have weakened against the euro. The recently observed appreciation of the Czech koruna was connected with the reversal of carry trade positions, in which the koruna played the role of the financing currency (Figure 2.37).

The bulk of the shifts in zloty exchange rate in the analysed period were determined by global factors. Slight depreciation of the Polish currency in the months of July and August 2007 to a large extent resulted from the global increase in risk aversion connected with the disruptions in international financial markets. It is worth emphasising that the majority of currencies of developing countries depreciated in that period. The partial improvement of the situation in the global markets in September was the main reason for the appreciation of the Polish currency. The appreciation also continued through October 2007. Zloty rate shifts in the analysed period were also connected with domestic factors. High GDP growth in 2007 Q2, good budget implementation and the widening interest rate disparity between Poland and the euro area were all factors conducive to strengthening the Polish currency. It seems that the political developments in Poland (including the outcome of the parliamentary election) had a small impact on the valuation of the zloty.

The available data for the period through September 2007 indicate that since the beginning of 2005 a slight appreciation tendency of the real zloty exchange rate has been observed (Figure 2.38). It has been accompanied by a significant reduction in exchange rate variability, which is espe-

[41] The cut-off date for the data presented in this section is 24 October 2007.

cially well visible once compared to the period before 2005.

2.5.3 Credit and money

Credit

Over the past few months the growth of loans to enterprises has remained at the rate of over 20% y/y. Loans for financing current business activity have been rising faster than investment loans (Figure 2.39), whose growth rate has stabilised at close to 10% y/y. The fundamental factor stimulating the growth of lending is the growing demand of enterprises for credit, which is indicated by the results of the NBP's survey studies addressed at entrepreneurs and senior loan officers at commercial banks. In the survey studies of enterprises, the index of loan debt forecasts (in the seasonally adjusted terms) rose in 2007 Q4 to the highest level in survey history (i.e. since 2000)[42]. Commercial banks surveyed in 2007 Q4 reported increased demand for credit, though weaker than in the past four quarters, and expect its further growth[43]. The foreign indebtedness of enterprises is also rising dynamically (Table 2.6).

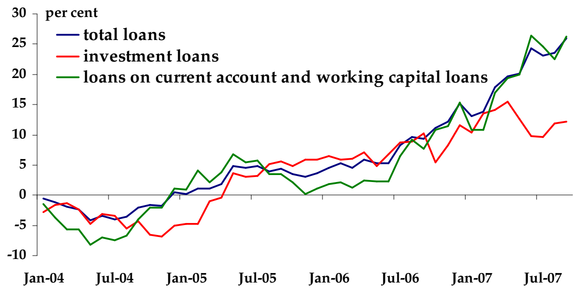
For a year now the growth in value of loans granted to enterprises for the purchase of real property has been accelerating (Figure 2.40). The results of surveys addressed at senior loan officers of commercial banks suggest that the observed rise in the demand for loans on the part of enterprises to the greater extent applies to long-term loans used for investments, including the purchase of real property.

The continuously high increase in total lending to households is the outcome of a very dynamic growth of housing loans and the fast build-up in consumer loans (Figure 2.41). The annual growth of consumer loans has been stepping up since the beginning of 2007. This high growth of loans to households is favoured by their good

[42] *The Condition of Non-financial Enterprises in the Fourth Quarter of 2007)*, www.nbp.pl.

[43] *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions (4th Quarter 2007)*, *www.nbp.pl*

Figure 2.39:
Loans to enterprises (y/y change in per cent)

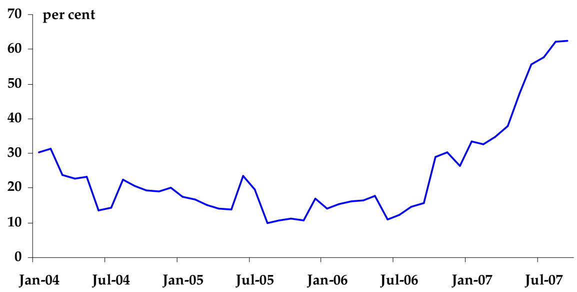


Source: NBP data

	05q2	05q4	06q2	06q4	07q2
non-trade loans	-2.6	11.7	12.7	22.3	25.4
trade loans	11.2	23.2	25.4	14.1	16.1

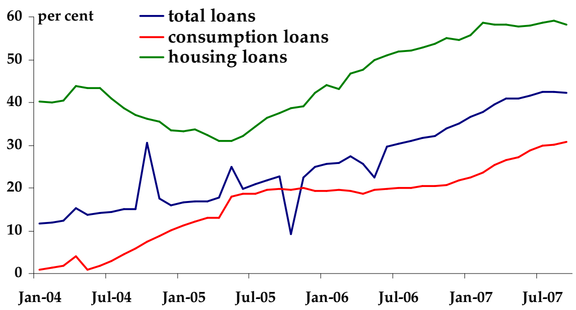
Table 2.6: Foreign loans of Polish enterprises (EUR y/y change in per cent)
Source: NBP data.

Figure 2.40:
Loans to enterprises for the purchase of real estate (y/y in per cent.)



Source: NBP data

Figure 2.41:
Loans to households (y/y change in per cent)



Source: NBP data

	Dec04	Dec05	Dec06	Mar07	Apr07	May07	Jun07	Jul07	Aug07	Sep07
Total loans to enterprises	116.0	119.2	136.5	144.2	147.6	149.0	153.9	156.4	159.3	163.4
Investment loans	36.4	38.0	42.1	44.3	45.2	44.4	43.5	44.6	46.1	46.5
Loans on current account and working capital loans	59.6	59.9	68.7	72.7	74.9	75.0	78.6	79.6	79.8	82.7
Loans for purchase of Real estate	14.2	16.4	20.7	22.1	22.6	24.5	26.2	27.0	28.2	28.6
Other	5.9	4.8	4.9	5.1	5.0	5.1	5.6	5.1	5.2	5.6
Loans to households	109.7	136.0	182.9	197.8	203.3	210.5	216.3	225.0	232.7	237.8
Housing loans	35.8	50.4	77.7	86.6	88.4	92.7	96.1	101.3	106.4	108.9
PLN denominated	15.6	18.4	28.1	32.7	34.8	37.1	39.7	42.4	44.9	46.8
Foreign currency	20.2	32.0	49.6	53.9	53.5	55.6	56.4	58.9	61.5	62.0
Consumption loans‡	53.6	63.8	77.5	81.5	83.5	86.3	88.8	91.2	93.5	96.0
Other	20.3	21.8	27.7	29.8	31.5	31.4	31.5	32.5	32.8	32.9

Table 2.7: Banking loans (outstanding amount in PLN bn, data not adjsuted for the impact of exchange rate fluctuations)
† *loans on current account* to enterprise include workin-capital loans and loans on current account
‡ *consumption loans to households* include loans on current account, credit card loans and loans classified under *other loans*.
Source: NBP data.

economic standing, improved labour market conditions and positive expectations about the future, which is, among others, indicated by GUS consumer sentiment surveys. In the case of housing loans, other important growth factors include the demographic situation[44] and the expectations of price increases in the housing market.

The commercial banks surveyed by the NBP in Q4 reported a slight drop in the demand of households for housing loans. At the same time the increase in housing loans in September was lower than in three preceding quarters. Since the beginning of 2004 commercial banks have declared facilitating the availability of housing loans (except for 2006 Q3, which was directly connected with the coming into force of regulation *Recommendation S*); however, in the light of NBP survey studies it seems that this tendency may soon be halted. This is because the survey results indicate that in 2007 Q3 banks tightened their lending policy in granting loans to households, primarily in the sector of housing loans. This tightening of lending policy was connected – in the

[44]Young people born in boomer years are still entering the labour market, receiving incomes which allow them to be granted loans to finance the purchase of flats.

	Dec06	Jan07	Feb07	Mar07	Apr07	May07	Jun07	Jul07	Aug07	Sep07
					Households					
Total deposits	3.3	3.4	3.4	3.4	3.4	3.5	3.6	3.8	3.8	4.0
Total loans	8.8	10.6	11.1	10.5	9.6	9.9	10.2	10.9	11.4	11.2
Consumption loans	13.9	14.7	14.5	13.9	13.9	14.2	14.1	14.4	14.4	14.1
Housing loans in PLN	5.6	5.6	5.6	5.6	5.8	5.7	5.9	6.1	6.3	6.4
Housing loans in CHF	-	3.8	3.8	3.9	3.9	3.9	4.0	4.3	4.3	4.6
					Enterprises					
Total deposits	3.5	3.6	3.6	3.6	3.5	3.9	4.0	4.1	4.1	4.2
Total loans	5.6	5.8	5.8	5.7	5.9	5.9	6.0	6.3	6.2	6.6
Loans in EUR	5.0	5.1	5.4	5.6	6.1	5.5	5.6	5.9	6.0	5.9

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

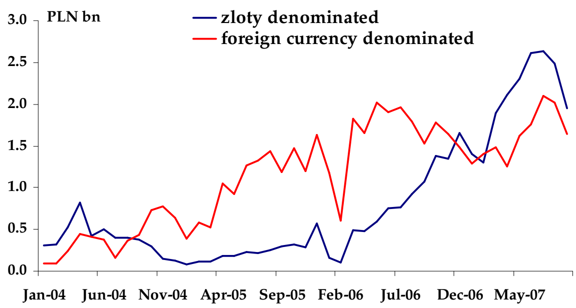
assessment of banks – with increased credit risk in the household sector. Banks also pointed out that a strong competitive pressure in the banking sector had the effect of limiting the scale of the lending policy tightening.

The NBP interest rate hikes in June and August 2007 were accompanied by a similar increase in the average interest on loans to enterprises and households (Table 2.8). In line with the expectations of the previous *Report*, the growth of interest charged on newly granted housing loans accelerated. As a result, the temporarily reduced margins returned in August to the level observed at the beginning of 2007.

In the housing loan market, it is possible to substitute zloty loans with loans denominated in foreign currencies. Loans in the Swiss franc are particularly popular with borrowers, as their interest is lower than in the case of PLN loans. Although the level of interest rates in Switzerland has been rising over the past few months at a similar rate as in Poland, an increased interest in taking out housing loans in CHF has been observed since May (Figure 2.42). Contribution of foreign currency loans[45] to monthly growth of

[45]The increase in the value of foreign currency loans ad-

Figure 2.42:
Housing loans to households (m/m changes in PLN bn)



Source: NBP data

total housing loans rose from 37.4% in April 2007 to 45.7% in September. This may indicate that, apart from the *differential* between the interest charged on zloty and foreign currency loans, another important factor affecting the substitution of zloty loans with foreign currency ones is the absolute *level* of interest on PLN loans.

In the current situation, the rising credit indebtedness (both domestic and foreign) of enterprises attests to their good economic condition and positive expectations for the future economic outlook. The above mentioned record-high index of credit indebtedness forecasts loan debt forecasts, the continuation of liberal loan granting policy declared by banks[46] and the good outlook for economic growth persuading enterprises to expand their operations all give grounds to expect a high growth in lending to enterprises in the immediate future.

Despite the declared changes in the accessibility of loans to households, the surveyed banks expect a rise in the demand for housing loans in the near future and a strong rise in the demand for consumer loans. As a result, it can be expected that, similarly to the enterprise sector, the growth in loans to households will continue at the level close to that currently observed.

Deposits and monetary aggregates

The accelerating growth in loans to enterprises is matched by a diminishing growth of households' bank deposits, which in September approached 20% y/y (compared with 30% recorded in March and April 2007). The slowing growth of corporate deposits may be an indication of limiting their still considerable possibilities of cofinancing development with their own funds and may point to an increased significance of external funding in the future.

justed for the impact of zloty exchange rate fluctuations. The convention applied throughout the section *Credit and money* has been followed, according to which the presented data are adjusted for the impact of exchange rate fluctuations.

[46] *Senior Loan Officer Opinion Survey on Bank Lending Practices and Credit Conditions (4th Quarter 2007)*, www.nbp.pl.

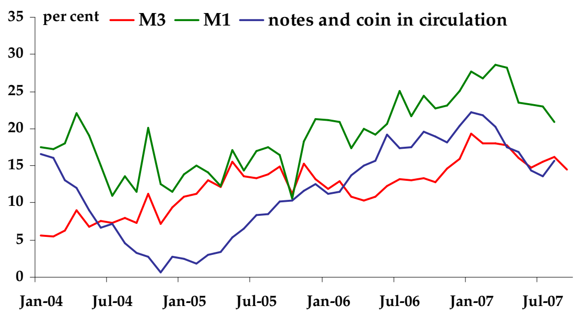
	Dec04	Dec05	Dec06	Feb07	Mar07	Apr07	May07	Jun07	Jul07	Aug07
Outstanding amounts (PLN bn)										
Bank deposits	209.8	220.8	239.4	245.4	243.9	241.7	239.2	239.7	240.4	245.9
Deposits with Credit Unions (SKOK)	3.9	5.0	5.6	5.7	5.7	5.8	5.8	5.8	5.9	6.0
Units of investment funds	34.5	57.9	94.0	103.0	111.9	117.4	126.4	133.3	135.6	132.1
Government securities	20.4	16.9	12.9	12.7	12.3	12.0	11.7	11.5	11.4	11.1
Life assurance provisions	35.2	41.8	53.0	56.1	57.6	58.9	60.3	61.6	63.0	64.4
Equities	–	25.8	45.6	46.0	50.4	53.0	56.5	58.7	56.6	53.5
Annual rate of growth (per cent)										
Bank deposits	-1.3	5.2	8.4	10.9	8.7	8.3	6.9	4.8	5.3	6.7
Deposits with Credit Unions (SKOK)	26.6	26.7	11.3	12.0	11.8	10.8	10.5	11.9	11.3	11.6
Units of investment funds	13.9	67.7	62.5	56.4	62.8	60.4	74.9	83.0	75.8	69.5
Government securities	7.0	-17.2	-23.7	-22.7	-22.0	-18.8	-17.5	-18.6	-20.1	-16.9
Life assurance provisions	16.4	18.8	26.8	29.2	30.3	30.8	31.3	31.7	32.4	33.0
Equities	–	–	77.0	54.9	63.7	55.9	82.8	82.8	53.8	47.8

Table 2.9: Households' bank deposits and financial savings (outstanding amounts in PLN bn and y/y changes in per cent, data not adjusted for the impact of exchange rate fluctuations)
Source NBP, KNF, GUS, MF.

The decline in the volume of bank deposits of households, which was observed in the first half of 2007, was halted in June and July. In turn, August 2007 saw the highest growth in more than three years (except for seasonally conditioned rises recorded in December). At the same time, in August the balance of payments and amortisations of households' assets to investment funds was extremely low (PLN 0.3 billion compared to the average of PLN 3.3 billion in the period August 2006–July 2007). It seems, therefore, that the August increase in bank deposits was connected with a more cautious placement of own funds in investment funds, resulting from the drop in Warsaw Stock Exchange indices observed in that period. Thus, the slowdown in annual growth of bank deposits of households has been reversed over the recent months; it is currently hard to determine whether this will prove a permanent change.

The rise in the interest rate on interbank market connected with the NBP interest rate hikes was accompanied by a similar-scale rise in the interest paid on deposits at commercial banks (Table

⊡ **Figure 2.43:**
M1, M3 and notes and coin in circulation (y/y change in per cent)



Source: NBP data.

2.8).

The growth rate of the major monetary aggregates has remained slightly lower than that recorded in the first half of 2007 (Figure 2.43).

Monetary policy in July–October 2007

In July the Council left the NBP interest rates unchanged. In August the Council raised the rates by 0.25 percentage point, while in September and October the Council left them unchanged: reference rate 4.75%; lombard rate 6.25%; deposit rate 3.25%; rediscount rate 5.00%.

Minutes of the MPC decision-making meeting held on 25 July 2007

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

The main topics discussed at the meeting were: labour market situation, the outlook for inflation outlined in the inflation projection and the zloty exchange rate developments.

Some Council members pointed out that 2007 Q2 brought acceleration in the pace of wage growth in enterprises, which remained higher than labour productivity growth leading to growth in unit labour costs in this sector. Those members also emphasised that the share of labour costs in the costs of enterprises had been falling for a few years and that now this tendency might have reversed. In their opinion, if the rise in unit labour costs is not accompanied by a rise in the prices of products manufactured by enterprises, their financial results will worsen, which would weaken their propensity to invest to a larger extent than it would be the case if the weakening was the result of increased cost of credit in connection to interest rate increases. If, on the other hand, the rise in labour costs is passed through to prices, this will lead to higher inflation. A high wage growth in enterprises can also lead to accelerated wage growth in the public sector, where only slight productivity growth was observed, which would be conducive to increased inflation.

Other Council members argued that it was not only the growth rate of unit labour costs that should be considered but also their level. In their opinion, the level of unit labour costs in Poland was currently relatively low, which resulted in very good financial results of enterprises allowing them to absorb growing labour costs without the need to raise their prices. Those members also pointed out that the findings of corporate survey did not reveal strong build-up in wage pressure in the nearest future and that, according to these survey, only a very small share of enterprises signalled a rise in the prices of their products in response to the growing wages. The same members also emphasised that the decisions taken by the Government increasing the accessibility to the Polish labour market for workers from countries to the east of Poland, together with the increased geographical mobility of Poles, should be conducive to curbing the wage pressure in the economy.

Some Council members indicated that the currently observed strongly growing demand in the product market, amid a limited growth in domestic supply, will lead to increased inflation. In the assessment of those members, a strong demand pressure was, among others, reflected in the continuously high growth of retail sales.

Other members, however, pointed out that the observed economic growth was currently slowing down, which should ease the demand pressure in the economy. Moreover, those members emphasised that a significant contribution to GDP growth was made by investments, which increased the capital stock and thus contributed to the rise in the potential output and labour productivity. The potential output was also positively affected by a considerable inflow of foreign direct investment. They pointed out too that the observed wage build-up and the reduction in the disability pension contribution may be conducive to an increased supply of labour. Overall, the rise in the capital stock and labour supply should, in the opinion of these members, increase the potential output and thus curb the inflationary pressure. They also argued that the rapid growth in domestic demand would be partially absorbed by growth in imports, which should contain the pressure for price growth. Moreover, the same members pointed out that a fast growth in retail sales mainly applies to durable goods treated as quasi-investments (cars, furniture, radio and television equipment and household appliances), the prices of which do not rise.

Another topic raised at the meeting was the outlook for inflation outlined in inflation projection based on the ECMOD model and the results of other forecasts conducted at the NBP. Some Council members emphasised that the inflation forecasts used at the NBP pointed to a higher inflation path than it had been forecasted a quarter before. According to the central projection based on the ECMOD model, in 2009 CPI inflation would approach the upper limit for deviations from the inflation target (3.5%), while core net inflation would actually reach this level. In the assessment of those members, should there additionally occur a negative shock in the food or fuel market, CPI inflation would rise in 2009 markedly above the upper limit for deviations from the inflation target. Moreover, the discussants pointed out that, in the projection horizon, the estimated probability of inflation breaching the upper limit for deviations from the inflation target was on the rise. At the same time, they believed that the anti-inflationary impact of the already implemented and scheduled reduction of the disability pension contribution would not be as large as accounted for in the projection.

Other members argued that, in line with the central projection based on the ECMOD model, inflation remained within the band for deviations from the inflation target throughout the projection horizon. They also pointed out that the results of other forecasts conducted at the NBP pointed to a lower inflation path than the ECMOD-based projection, while one of the forecasts actually pointed to inflation decline at the end of the forecast horizon.

Council members discussed the level of interest rates and the impact of monetary policy tightening on economic growth. Some Council members concluded that increasing the interest rates in Poland to the level markedly higher than euro area level was warranted by a higher level of the neutral interest rate in Poland than in the euro area, which was due to the difference in potential output growth. Those members also claimed that interest rate increase in Poland should not be limiting the investment growth, as currently investments depended more on the optimistic expectations of entrepreneurs on the sustaining of the strong economic growth than on the level of interest rates. They also argued that a high level of stock exchange indices in Poland reduced the cost of investment in relation to the market value of enterprises, which favoured enterprises' decisions to invest. According to those members, a slight increase in interest rate should not dampen economic growth. In their opinion, this view is confirmed, among others, by the fact that, despite a rise in the key NBP interest rates in April 2007, the growth of corporate credit continued to step up in June 2007.

The members of the Council paid a lot of attention to the zloty exchange rate. In this context, attention was drawn both to the impact of fundamental factors and developments in international financial markets, such as the interest rate disparity, developments of the current account balance, changes in net foreign assets of the banking sector, purchases of investment funds abroad, inflow of foreign direct investment, EU funds and transfers from Poles working abroad. Some Council members pointed out that raising NBP interest rates would lead to appreciation pressure. Other members, however, did not share this opinion. Council members could not agree as to the impact of the April and June interest rate increases on the exchange rate of the zloty.

The members of the Council also discussed the outlook for inflation in the context of developments of the real effective exchange rate of the zloty and its impact on the competitiveness of the Polish economy. Some members quoted the examples of some EU countries which experienced wage growths exceeding the growth of labour productivity amid a stable nominal exchange rate, which led to a strong appreciation of the real effective exchange rate of their currencies and the loss of competitiveness of these countries. In the opinion of those Council members, if wage growth was allowed to outpace the growth of productivity, the competitiveness of Polish economy might suffer as a result. In consequence, the rate of economic growth would fall, diminishing the investment attractiveness of the Polish economy and leading to a decrease in the inflow of foreign direct investment.

Council members emphasised the favourable performance of the central government budget in 2007 Q2. Some Council members also pointed out that the reduction in the disability pension contribution would mean transferring some funds from the public to the private sector, the latter having higher propensity to save than the former, which should be conducive to reducing demand and, consequently, to curbing the inflationary pressure. Council members also pointed out that inflation was still offset by the drop in the prices of goods from low costs countries. The Council also discussed the outlook for food and energy prices. Council members emphasised that the inflation expectations of households declined for another consecutive month.

Some members were convinced that both the outlook for inflation outlined in the inflation projection and the macroeconomic data indicated that the probability of inflation running above target was still significantly higher than the probability of its running below target, which - in their opinion - warranted the interest rate increase. Additionally, the same members suggested that it was probable that Poland would join the ERM II in 2010. If inflation overshot the inflation target at that point, this could hinder the stabilisation of the exchange rate within the ERM II.

The Council also discussed the right time for a possible further tightening of monetary policy. Some Council members were of the opinion that the decision to raise interest rate should be taken at the July meeting, as this would follow from the results of the inflation projection based on the ECMOD model published in July. It was also suggested that a better assessment of the risk of inflation overshooting the inflation target in the monetary policy transmission horizon would require macroeconomic data that were to be released before the next meeting. Thus, it was suggested to suspend the decision to raise the interest rates.

Considering the results of the other forecasts conducted at the NBP, which did not point to a risk of inflation overshooting the inflation target, other Council members came to the conclusion that there were no grounds for a further monetary policy tightening. They also pointed out that it was not yet clear when Poland would join the ERM II and so the considerations connected with ERM II membership should not be taken into account in current interest rate decisions. Additionally, they emphasised that a monetary policy tightening may lead to zloty appreciation, increase expectations for further interest rate increases and, consequently, dampen economic growth.

At the meeting a motion to raise the key NBP interest rates by 25 basis points was put forward. The motion did not pass. The Council kept the interest rates unchanged: the reference rate at 4.50%, the lombard rate at 6.00%, the deposit rate at 3.00% and the rediscount rate at 4.75%.

Minutes of the MPC decision-making meeting held on 29 August 2007

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

The main topics raised at the meeting were the turbulences in international financial markets and their impact on the outlook for economic growth, the labour market situation in Poland and the public finance situation. The Council discussed the influence of these factors on the future inflation in Poland.

Some Council members pointed out that both the current and forecast inflation were close to the inflation target, while core net inflation had remained for a longer period close to the lower limit for deviations from the inflation target. Such developments of core inflation warranted caution in monetary policy and abstaining from a decision to change the interest rates. Other members emphasised that the year-on-year drop in core inflation in July was connected with a significant increase in telecommunication services prices one year before. Apart from that, they argued that the rising growth of prices of services was an indication of an intensifying Balassa-Samuelson effect. They also pointed out that oil prices in the world markets remained above the levels assumed in the July projection.

The members of the Council discussed the turmoil in international financial market observed in August 2007 and its impact on the outlook for global and Polish economies. Some members pointed out that the turbulences in financial markets resulted in lowering forecasts of economic growth in the United States and Europe. Though, at the moment, it is difficult to assess the scale of impact those problems will have on the US economy, it can be expected that the forecasts of economic growth in the external environment of the Polish economy will be further decreased. It was argued that if economic growth in the United States and Europe fell short of previous expectations, then smaller exports of Poland should be expected, resulting in lower economic growth and lower inflationary pressure. In view of the above factors, it was recommended to remain cautious, abstain from the decision to change interest rates at the August meeting and adopt a ”wait and see” approach, following the example of some other central banks. It was pointed out that delaying the decision to raise the interest rate would not have any significant impact on monetary policy effect on inflation.

On the other hand, other Council members emphasised that the financial disturbances have a strong influence on the global economy when they are accompanied by a significant and long-lasting decline of stock prices. Such a situation occurred in 2000, when stock exchange indices slumped, among others, due to decreased confidence in the reliability of companies' financial reporting. In the opinion of those members, the turbulences observed in August were similar to those which occurred back in 1998, when they were rooted in the financial markets themselves. Those upheavals had not had any significant impact on the situation of the enterprise sector nor had they dampened significantly economic growth in the United States. Moreover, the August turmoil in the global financial market did not affect the financial market in Poland. It was emphasised that some central banks decided to raise their interest rates in the face of financial market turmoil. In the opinion of these members, a halt in monetary policy tightening in Poland, due to disruptions in international financial markets, might suggest that the National Bank of Poland would in future ease monetary policy in the event of problems resulting from financial institutions incurring excessive risk, which could increase moral hazard. It was also argued that currently the economic growth in Poland is primarily driven by domestic demand and thus the impact of economic growth in the external environment of the Polish economy on GDP growth is currently lower than it used to be.

While addressing the developments in the labour market, some Council members pointed out that in 2007 Q2 the growth of unit labour costs in the economy was significantly higher than forecast in the July projection. Those members pointed also out that a rapid growth of wages in the enterprise sector had been sustained in 2007 July, which signalled that wage growth in the economy would remain high in 2007 Q3. Those members also argued that the acceleration in wage growth was spreading to a growing number of industries and sectors of the economy. It was emphasised that the higher than previously expected increase in the minimum wage which was announced by the government would be a factor conducive to higher wage growth. It was also pointed out that the high wage growth would be supported by the fast and higher than forecast drop in the unemployment rate, which fell - in the assessment of those members - below the NAWRU. Those members believed that the persistence of the excessively rapid wage growth in the economy would after a lag lead to higher inflation. As a result, this may diminish the competitiveness of Polish exports and, consequently, dampen economic growth in the longer period. This would also be conducive to rising imbalance in the balance of payments, which would raise the macroeconomic risk of Poland.

Other members of the Council pointed out that, despite the rapid growth of wages in enterprises, July brought a significant drop in the growth of unit labour costs in industry and so the deterioration in the relation between wages and productivity was not perpetuated in this sector. Moreover, the same members emphasised that over the past few years wage growth in industry had been lower than productivity growth. These tendencies had to be reversed at some point and thus at the moment wage growth outpaced productivity growth. It was argued that the wage growth outpacing productivity growth would be limited in time, as at some point it is bound to negatively affect the financial results of companies. It was emphasised that in the first half of 2007 enterprises reported record high financial results, with the contribution of wage costs in total costs remaining stable and low, which indicated that enterprises did not have to increase their prices in response to wage growth acceleration. The same members also emphasised that in 2006 and at the beginning of 2007 the growth of unit labour costs in the economy outpaced inflation, yet inflation increased only moderately. Additionally, those members pointed out that in comparison to the similarly developed neighbouring countries the accumulated wage increase in manufacturing since 2002 had been significantly lower in Poland and the corresponding productivity growth considerably higher than in those countries. It was argued that the productivity growth in Poland will be fuelled by the dynamically rising investment. It was also pointed out that, in line with the NBP's analyses, the growth of unit labour coast in the economy as calculated on the basis of LFS (BAEL) data may in fact be overestimated due to the problems with the BAEL accounting for the effects of increased foreign migration of Polish workers.

During the discussion on economic growth in Poland, some Council members pointed out that the GDP growth in Poland was slowing down, which was confirmed by macroeconomic data and business survey results. They also emphasised that the high growth in investments and restructuring taking place in enterprises were contributing to the growth of potential GDP, which would be easing inflationary pressure. They also argued that, in line with the July projection, at the beginning of 2009 the growth of potential GDP may outpace the growth of actual GDP, which would weaken the inflationary impact of strong economic growth.

Other members pointed out that domestic demand was growing faster than GDP leading to a widening current account deficit. They believed that this deficit remained moderate for the time being, but its increase will make it an important factor affecting the inflation outlook. It was argued that the statistical data for July 2007 indicated that the strong growth of domestic demand and growing current account deficit would most probably continue in Q3. In the assessment of those members, a factor supporting the continuation of a rapid growth in consumption demand was - apart from the dynamically rising aggregate wages - a rapid build-up in consumer credit, which kept on stepping up despite two interest rate increases.

The members of the Council also discussed the developments of food prices. It was pointed out that, despite good crop harvest in Poland, there was an increase in the prices of cereals, which have a considerable impact on the overall food prices. It was also stressed that there was an unexpected rise in the prices of other food products and a heightened risk of faster food price growth in the world markets.

The members of the Council also devoted a lot of attention to public finance situation. It was pointed out that the current standing of this sector was favourable. Still, it was underlined that the announced changes in the way of indexing old-age and disability pensions additionally linking the indexation to wage growth would result in increased public expenditure and higher consumption demand. It was also argued that the prolongation of old regulations on early retirement may be still conducive to deactivating some part of the labour force and, thus, negatively affect the potential output and step up the wage growth at the same time. Moreover, in the opinion of some Council members also the reduction in the disability pension contribution under no reduction of public spending would raise the aggregate demand. It was assessed that the announced changes in the public finance - if implemented - would be leading to a rise in the deficit of the public finance sector and an increase in domestic demand and inflation.

The members of the Council also discussed the exchange rate developments of the zloty. In this context, both the impact of fundamental factors was emphasised and also of the tendencies in international financial markets, including the current account balance, portfolio capital and direct investment flows, as well as increased uncertainty connected with probable parliamentary elections in Poland.

In the Council's assessment, in the conditions of increased uncertainty associated with the turmoil in international financial markets, the balance of risks for future inflation pointed to the necessity of a monetary policy tightening. This was supported by the assessment of inflation outlook carried out on the basis of macroeconomic data and the July inflation projection. Another important argument for raising the interest rates were the recent decisions leading to a decrease in revenues and an increase in expenditures of the public finance sector, which may lead to a deterioration of the public finance balance and create additional inflationary pressure in the medium term.

A motion to raise the key NBP interest rates by 25 percentage points was put forward at the meeting. The motion passed. The Council raised the interest rates to the following levels: the reference rate to 4.75%, the lombard rate to 6.25%, the deposit rate to 3.25% and the rediscount rate to 5.00%.

Minutes of the MPC decision-making meeting held on 26 September 2007

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

The discussion at the meeting focused on: the impact of the turmoil in the international financial markets on the outlook for economic growth, labour market situation in Poland, external imbalance and public finance situation. The Council discussed the influence of these factors on the future inflation in Poland.

The members of the Council devoted a lot of attention to the situation in international financial markets and discussed the impact of increased uncertainty on the outlook of economic growth in the global and Polish economies. Some discussants pointed out that the Polish financial sector is safe from turmoil similar to that which occurred in the United States and Western Europe in August and September 2007. They argued that in Poland, in contrast to the United States, mortgage loans are only granted by institutions remaining under the banking supervision and that the domestic market does not offer as complex financial instruments as those available in the markets which experienced the turbulences.

Other discussants pointed out that the turmoil in international financial markets did spread beyond the US subprime loan market, which can be evidenced by problems in the German and British financial markets. They also pointed out that if the problems in the US housing market exacerbate, this situation combined with the appreciation of the euro may dampen euro area growth. They also assessed that the heightened uncertainty may persist for the next few months, as the necessary adjustment in the structure of assets and liabilities of international financial institutions would proceed gradually. It was also emphasised that in the face of turmoil some central banks decided to ease or restrain further monetary policy tightening and adopt a wait-and-see strategy observing the developments in the financial markets and in the real economy.

While discussing the outlook for economic growth, it was underlined that due to the financial market turbulences the forecasts of economic growth were lowered for the

United States, while in Europe there was a decline in business confidence indicators. It was argued that if the economic growth in the external environment of the Polish economy fell short of previous expectations, then lower growth of Polish exports should be expected and, consequently, also lower economic growth and lower inflationary pressure. It was also pointed out that GDP growth was approaching the growth of potential output, while the structure of economic growth was still very favourable from the point of view of the inflation outlook due to the increased investment of enterprises.

Other Council members pointed out that deceleration of economic activity in Europe would not have to translate into lowering of the Polish exports growth, since in the past, in a period of low economic growth, the Western European countries - especially Germany, which absorbed a major part of Polish exports - had increased demand for relatively cheap products from Poland. In the assessment of those members, the current data indicated that the Polish economy remained in the period of strong growth and that the output gap was positive, which was conducive to raising the inflationary pressure.

While discussing the stability of the financial sector, some discussants emphasised that the funding of the Polish economy was based to a larger extent on the banking market than on the capital market and that the property structure of banks was dominated by foreign capital. It was pointed out that it could not be ruled out that potential problems of international financial institutions with capital links to Polish banks might affect the condition of the Polish financial sector. In this context, the issue of separating the banking supervision from the central bank was raised, which in case of turmoil in the financial market may impede the coordination of the measures taken by the central bank and the banking supervision.

Moreover, some discussants pointed to a high growth in loans to households and to the increased share of consumption loans in total households' loans. In the assessment of those discussants, the rapid credit expansion combined with the liberalisation of loan granting criteria may be conducive to deterioration of the credit portfolio of banks, which may prove - along with risks originating in international financial markets - an additional threat to the stability of the Polish financial system. Furthermore, the high growth of loans indicated that the growth of domestic demand may be faster than the growth of potential GDP, which could increase the inflationary pressure. In the opinion of those discussants, the pursued monetary policy should counteract the excessive lending growth. Other members of the Council argued, however, that high growth of loans did not have to mean a deterioration of the quality of banks' credit portfolios, as it resulted from the improved creditworthiness of households related to their increased disposable income, higher employment and lower unemployment rate.

During the meeting it was pointed out that the year-on-year inflation in August clearly undershot the target. Some members emphasised that the inflation decrease in August was deeper than it had been forecasted. Other members pointed out the decrease in inflation was connected with the reduction of prices of internet services that month and that the effects of this reduction would fade out at the beginning of 2008. The rising growth of food prices was also emphasised. Another point under discussion was the possible impact of the annual adjustment of the CPI basket on inflation, which is scheduled for early 2008.

While discussing the situation in the labour market it was pointed out that the relation between the growth of wages and the growth of labour productivity was worsening.

Some Council members pointed out that the rise in unit labour costs, and thus also in the costs of enterprises, might lead to worsening their profitability and a decline in the international competitiveness of the economy. Those members claimed that wage growth in Poland was very high in comparison to the majority of Central and Eastern European countries. In the opinion of those Council members, in the nearest future a deceleration of the wage growth should not be expected, as despite a relatively high unemployment rate in Poland, enterprises experienced increasing difficulties in finding new employees. Those members assessed that labour market data signalled building-up inflationary pressure in the Polish economy. They also argued that even in case of deceleration of the economic growth, the wage growth in Poland may remain at a high level contributing to the rise in inflation.

Other Council members were of the opinion that wage growth exceeding growth of labour productivity should not prove permanent, as at some point it is bound to negatively affect the financial results of companies. It was emphasised that the share of wage costs in total costs remained at a low and stable level, which meant that enterprises would not have to increase their prices in response to wage growth acceleration. It was pointed out that enterprises had been undergoing intensive restructuring over the past few years, which had contributed to the observed improvement in the financial results and financial liquidity of this sector. Moreover, it was also pointed out that the accumulated wage growth in Poland over the past few years was markedly lower compared to the neighbouring countries at a similar level of development. It was also emphasised that the fast growth in unit labour costs in the economy had not as yet led to a significant inflation increase. It was claimed that this situation resulted from good financial results of enterprises, which allowed them to absorb the rising wage costs, fierce price competition related to the globalisation and increased flexibility of supply stemming from lower costs of increasing production capacities. It was pointed out that the inflationary pressure was also curbed by increased domestic savings (as evidenced by the inflow of assets to investment funds), higher imports contributing to the rise of the current account deficit and zloty appreciation.

The members of the Council also discussed Poland's balance of payments. It was emphasised that the Forecast of the Balance of Payments of the Republic of Poland for the year 2008, which was adopted during the meeting, pointed to a building-up of the external imbalance of Poland. It was highlighted that though a moderate current account deficit was typical of the economies in the period of real convergence, it was a cause for concern that the forecasted ratio of this deficit to GDP was rising fast. It was pointed out that if the relation between wage growth and productivity growth continued to deteriorate, the international competitiveness of the Polish economy would worsen, which would be conducive to raising the external imbalance. Other Council members assessed that in the nearest future a build-up in the current account deficit should not be significantly increasing the macroeconomic risk of the Polish economy, as in the globalised economy it was possible to finance larger current account deficits than in the past. Moreover, Poland's membership in the European Union contributed to a significant reduction of the country's macroeconomic risk.

The Council also discussed the situation of public finance. Some Council members pointed out that despite the early parliamentary elections and the ensuing increase in some of the state budget expenditures in 2008, the so-called budget anchor had been preserved. Other members, however, assessed that the spending of the public finance sector as a whole had increased significantly in 2007 and their structure had become more rigid. It was also argued that the recently introduced changes to the public finance would be deteriorating this sector's situation not only in 2008 but primarily in the following years. Additionally, it was emphasised that the public finance situation could worsen significantly in the event of economic slowdown.

The members of the Council agreed that it was difficult at the moment to assess the duration of the increased uncertainty in the international financial markets or its impact on the global and, consequently, Polish real economy. They also concluded that the data to be published in the nearest future, both those concerning the domestic economy and those coming from the international markets should be very carefully analysed. In the Council's assessment, in the medium term the probability of inflation running above the inflation target had decreased to a certain degree due to the previously implemented monetary policy tightening and thus it was not necessary to change the interest rates at that meeting.

The Council kept the interest rates unchanged: the reference rate at 4.75%, the lombard rate at 6.25%, the deposit rate at 3.25% and the rediscount rate at 5.00%.

Information from the meeting of the MPC held on 30-31 October 2007

The Council kept the interest rates unchanged: the reference rate at 4.75%, the lombard rate at 6.25%, the deposit rate at 3.25% and the rediscount rate at 5.00%.

The Polish economy is still in the period of strong growth encompassing all its sectors. The data released since the last meeting of the Council confirm previous assessments that strong, though slightly weaker than previously expected, economic activity should be sustained for at least next few quarters. The continuation of fast economic growth in Poland should be supported by the still strong activity in the world economy. In the period August-September, however, turbulences in the global financial markets occurred. These turbulences resulted in a slight lowering of growth forecasts of the US and euro-area economies.

In September the annual growth of consumer prices in Poland was higher than previously expected reaching 2.3%. Thus, inflation rate was close to the NBP's inflation target of 2.5%.

The Council got acquainted with the NBP staff projection of inflation and GDP based on the ECMOD model; the projection is one of the inputs into the Council's decision-making on NBP interest rates. The forecasted annual growth of consumer prices in the October projection is lower than expected in the July projection till the middle of 2008, while starting from the second half of 2008 onwards it is slightly higher than expected in July. Under constant interest rates, there is a 50-percent probability that inflation will remain within the range of 2.2-2.3% in 2007 (compared to 2.2-2.5% in the July projection), 2.2-3.5% in 2008 (compared to 2.1-3.8%) and 2.5-4.6% in 2009 (compared to 2.1-4.3%).

According to the October ECMOD-based projection, the annual GDP growth will remain, with 50-percent probability, within the range of 6.5-6.6% in 2007 (compared to 6.2-6.8% in the July projection), 4.4-6.2% in 2008 (compared to 4.3-6.7%) and 3.8-6.7% in 2009 (compared to 4.0-7.2%).

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

In the Council's assessment, in the coming quarters economic growth will most probably continue to exceed the growth of potential GDP. The latest information on labour market developments point to a continuation of a high wage growth and further deterioration in the relation between wage and labour productivity growth. A further build-up in wage pressure and, consequently, inflationary pressure is possible. The risk of inflation increase is also raised by food price growth observed in the world economy. Moreover, the recently made decisions leading to a decrease in revenues and an increase in expenditures of the public finance sector may lead to a deterioration of the public finance balance, which in the medium run may result in additional inflationary pressure.

The mid-term increase in inflation may be curbed by the continuing very good financial results of enterprises and high investment growth conducive to productivity growth. The increase in inflation may also be constrained by low growth of external prices related to globalisation and the ensuing increased competition in the market of internationally traded goods and services. The inflationary pressure may also be reduced by a possible slowdown of the global economy.

In the Council's assessment, in the medium term the probability of inflation running above the inflation target decreased to a certain degree due to the previously implemented monetary policy tightening, though it is still higher than the probability of inflation running below the target. A more comprehensive assessment of the scale of the risk of inflation overshooting the inflation target will only be possible after analysing the data released in the future.

The Council will be closely monitoring the growth and structure of domestic demand, including the degree of the expansionary fiscal policy stance, developments of the current account balance, the relation between wage and labour productivity growth, zloty exchange rate, the impact of globalisation on the economy and on food prices.

The Council adopted *Balance of Payments for 2007 Q2*, *Opinion of the Monetary Policy Council on the Draft of the Budget Act for the Year 2008* and *Inflation Report - October 2007*.

Minutes of the MPC decision-making meeting held on 31 October 2007 will be released on 22 November 2007 and included in the next *Report*.

Projection of inflation and GDP

The inflation and GDP projection has been prepared with the use of the macroeconomic model ECMOD by a team of NBP economists led by the Director of the Macroeconomic and Structural Analyses Department Adam B. Czyżewski. The projection is an outcome of an iterative process in the course of which the paths of some of the model's variables are adjusted if they diverge from NBP experts' economic intuition informed with the general state of knowledge on economic processes. The NBP Management Board has approved the projection to be submitted to the Monetary Policy Council. Inflation projection is prepared with the assumption of constant NBP interest rates and is one of the inputs to the Monetary Policy Council's decision-making process. The projection takes into consideration data available before 28 September 2007. In particular it concerns NBP estimates of the development of macroeconomic categories in 2007 Q3 (*projection starting point*).

4.1 Introduction

Since the July forecast the ECMOD model has not been modified. Expert adjustment applied to the raw model forecast covered mainly two areas: the structure of final demand and the labour market. Expert interventions adjusting the GDP structure were close to expert adjustments introduced in July. They involved strengthening the input of domestic demand and weakening the input of net exports to economic growth. Expert adjustments related to the labour market were aimed at maintaining the scenario of labour market recovery in the whole projection horizon and at a slight weakening of the transmission of unit labour costs increase to the rise of prices in the economy.

The introduced expert adjustments did not change the inflation path and the GDP in the short-term horizon of the projection. On the other hand they slightly increased the GDP growth and lowered the path of inflation in the long-term horizon of the projection.

The CPI inflation in the analysed projection till mid-2008 remains below the path of the July projection. In the subsequent quarters of the projection horizon the growth of consumer prices accelerates to a higher level than in the previous forecast. A lower CPI inflation in the short-term horizon of the projection is related to a markedly lower path of net inflation, the effect being partly compensated by a stronger rise in food prices than forecasted in July. In the long-term projection horizon, the rise in CPI inflation path as compared to the previous quarter's projection is driven by higher net inflation and more pronounced growth of fuel prices.

External factors played a relatively minor role in the change of the CPI inflation path. In comparison with the previous quarter the forecasts of economic growth and price growth abroad changed only slightly. In turn, a stronger than assumed a quarter ago growth of oil prices and the appreciation of zloty in the whole projection horizon in comparison with the July projection, related to the expected easing of the monetary policy in the US and the euro zone, affected the price growth in diverging directions and jointly had little impact on the inflation projection.

The change of net inflation path between projections was determined mainly by a lower realisation of net inflation in the 2007 Q3 than forecasted in July and a more intensive recovery on the labour market than forecasted a quarter ago. Inclusion of these data in the present projection was reflected in a more pronounced imbalance between the level of prices and their cost determinants at the starting point of the projection and its widening in the short-term projection horizon. The adjusting processes lead to a substantial increase of net inflation in the long-term projection horizon.

4.2 Assumptions for projection of inflation and GDP

External demand and inflation

In view of the slightly weaker data on GDP growth in the first half of 2007 than it had been expected in the previous quarter, the halting of the rising tendency of confidence indicators and also considering the latest forecasts by external centres, the assumed rate of GDP growth in the euro area in 2007 were lowered in relation to the July forecasting period from 2.6% to 2.5% y/y. It was assumed that in 2008 the euro-area economy would still rise at the rate of 2.1-2.2% y/y, which would be favoured by the observed recovery in the labour market and high profits of enterprises.

If structural reforms were implemented and the labour market situation continued to improve in connection to the strengthening of the supply side of European economies, the GDP growth rate in the euro area could overshoot the level accounted for in the projection. Another factor conducive to raising the growth path in the euro area may be the continuation of the hitherto high growth of exports to Asian countries. On the other hand, a negative contribution to economic growth in the euro area may be exerted by deceleration of economic growth in the United States amid intensifying chaos in the financial markets. The risk of euro-area economic growth undershooting the central path is also connected with the possibility of strong euro appreciation in the situation of a sudden disappearance of global imbalances.

The joint analysis of the above risks leads us to the assessment that over the whole projection horizon the probability of economic growth in the euro area undershooting the forecast path is higher than the likelihood of its overshooting this path.

In the first half of 2007 the growth of euro-area GDP deflator averaged 2.8% y/y. In the current forecasting period, it was assumed that the inflation of GDP deflator in the euro area would decelerate in the second half of 2007. Thus, in the whole of 2007 it would be 0.2 percentage point lower than forecast in the July projection and would amount to 2.2% y/y. In the subsequent years of the projection the growth rate of GDP deflator in the euro area will remain close to 2.0% y/y forecast from the previous quarter.

The growth of euro-area GDP deflator may remain above the path assumed in the current projection due to higher than currently expected wage growth in euro-area countries, further price growth of commodities in the world markets, a significant increase in the prices of goods imported from Asian countries and a higher growth of food prices than it was accounted for in the projection. It is estimated that the probability of GDP-deflator inflation in the euro area overshooting the level assumed in the projection will also rise in case protectionist policies of European countries are intensified. The factors which favour a lower than currently forecasted inflation of GDP deflator include the slowdown of the global economic growth, further euro appreciation and increased competition in the services market. The balance of risk factors indicates that the probability of GDP-deflator inflation running above the forecasted path over the whole projection horizon is higher than the probability of GDP deflator undershooting this path.

Due to the complexity of economic phenomena that could follow from a possible spread of the effects of the crisis in the US subprime mortgage market, accounting for the ensuing uncertainty only in the distribution of risks for economic growth, prices, foreign interest rates and oil prices is clearly not sufficient. Bearing this in mind, the assessment of the projection uncertainty connected with the emergence of disruptions in the US financial markets will be revisited in the description of extra-model sources of projection uncertainty.

Foreign interest rates

In the present forecasting period, a weaker monetary policy tightening is expected to be effected by the US and euro-area central banks than it was accounted for in July. In view of money market turmoil connected with the crisis in the financial markets, the interest rates in the United States at the end of 2007 proved higher than previously accounted for. In contrast, the interest rate forecast for 2008-2009 are lower than in the July projection by the average of 0.73 percentage point. For the euro area, the interest rates in the second half of 2007 are, on average, 0.11 percentage point higher than in the previous forecasting period, while in 2008-2009 they are 0.40-0.37 percentage point lower. In the United Kingdom, the currently forecasted interest rates exceed the July assumption by 0.4 percentage point in the second half of 2007, while in the further projection horizon they are 0.32 percentage point lower.

Crude oil and fuel prices

Crude oil prices

As in the previous projections, the oil price forecast used in the October projection was based on the forecasts of the US Department of Entergy[1]

The increase of current oil prices (as well as upwards adjustments of forecasts prepared by external centres and a rise in futures quotations), which started in June 2007, raised the path oil prices throughout the forecast horizon. The current forecast assumes that

[1]The forecast for 2007-2008 is based on the WTI oil price forecast published in *Short-Term Energy Outlook*, Energy Information Agency, September 2007 (of 11 September 2007). The expected level of prices in 2009 was adopted on the basis of the latest value of the forecast for 2008. Additionally, this forecast has been adjusted over the whole horizon for the difference between the prices of Brent and WTI oil resulting from the futures market quotations in the two weeks preceding the publication of the forecast by the US Department of Energy (i.e. 28 August–10 September 2007), similarly as it was the case in previous forecasting periods.

the average oil price will reach 68.2 USD/b in 2007 (as compared to 66.6 USD/b assumed for the July projection), 71.7 USD/b in 2008 (compared to 66.5 USD/b) and 70.5 USD/b in 2009 (compared to 64.5 USD/b).

The high forecast level of oil prices over the whole forecast horizon is connected with the surge in the world's demand for oil that is expected before the end of 2008. The increased demand for crude oil may lead to further decline in the inventories of this commodity, especially since in the period following the July projection the expected rise in the output of non-OPEC countries was markedly reduced. In this situation, the oil market will remain extremely sensitive to any real or potential disruptions to the process of extraction, transport and processing of oil. This it bound to encourage the inflow of speculative assets and increase the rise of further prices growth in that market. On the other hand, a factor raising the probability of the actual oil prices proving lower than expected in the central path is a potential persistence of the crisis in the world financial markets. This would lead to lowering the demand for oil, particularly in the US economy.

Due to the fact that the probability of a slower economic growth in the United States has increased in relation to the previous quarter, a symmetrical distribution of risk was assumed in the oil price forecast.

Fuel prices

The change in the path of fuel prices in the domestic market assumed for the current projection in relation the path accounted for in the July projection was primarily the result of a lower actual fuel prices in 2007 Q3 and the change in the forecast of oil prices (the path raised throughout the projection horizon). As a result, the growth of fuel prices assumed for the October projection in the short-term forecast horizon (till 2008 Q2) is close to the path assumed for the July projection, while in the long-term forecast horizon it has been slightly propped up.

The main sources of uncertainty of fuel price forecasts include oil prices and oil-derived product prices in the world markets as well as changes in the exchange rate. The behaviour of fuel prices will also depend on the domestic demand, the future development of the bio-fuel market and its impact on the mineral fuel market, the Government-imposed requirement on fuel market operators to create higher reserves and also the potential diversification of the supply sources of energy commodities.

It can be assessed that, both in the short and long term, the most probable course of the path of fuel prices is above the forecast central path.

Absorption of EU funds

The October projection assumes a continuous increase in the scale of the utilisation of EU structural and cohesion funds. In 2007 the utilisation of funds from the subsequent allocation (2007-2013) may be started as well.

The utilisation of structural and cohesion funds in 2007 Q3 was higher than was assumed in the July projection. Data concerning the hitherto utilisation of structural and cohesion funds give grounds for a more optimistic forecast of the utilisation of these funds in the whole 2007. It is assumed that the utilisation of EU funds in 2007 will amount to EUR

3.5 billion (against EUR 3.15 billion assumed for the July projection). The forecast for the following years is similar as in the July projection and amounts to EUR 4.5 billion (approx. 1.3% of GDP) in 2008 and EUR 4.9 billion (approx. 1.3% of GDP) in 2009.

In comparison to the July projection, the forecast utilisation of funds under the Common Agricultural Policy was raised for 2007 from EUR 2.32 billion to EUR 2.46 billion. The forecast utilisation of these funds in years 2008-2009 remained unchanged (at EUR 2.45 billion in 2008 and EUR 2.58 billion in 2009).

Situation in the public finance sector

The situation of the public finance (general government) sector in the years to come will be affected by important systemic changes resulting in a permanent reduction in the revenue of the sector. The most important changes, which were already accounted for in the July projection, include the reduction of the disability pension contribution in 2007-2008 by the total of 7 percentage points, introduction of two PIT rates in 2009 and the return to the annual indexation of disability and old age pensions. Further decline in the revenue of the public finance sector will result from a higher pro-family tax deduction in force from 2008 than that accounted for in July[2]. In 2008-2009 the state budget will probably also lack the additional VAT revenues accounted for in the previous forecasting period resulting from the expiry of the period of preferential VAT rates on unprocessed food, catering services and books and periodicals.

In the October projection, similarly as in the previous forecasting periods, the assumption was upheld of a constant public finance deficit in 2008-2009 of PLN 30 billion. The public finance sector deficit accounted for in the projection assumes the actual state budget deficit in 2008 at the level of PLN 28.6 billion, as it was envisaged in the budget draft for 2008, the expected negative balance of the Social Security Fund[3] and a zero financial result of the other entities of the sector.

In comparison to the previous projection, the October projection based on the above assumptions is subject to increased risk of exceeding the assumed level of public finance sector deficit in 2008-2009, due to systemic changes passed in September 2007 that will generate additional costs for the sector[4]. The pressure to increase expenditure on health care can be treated as an additional risk factor here. There is also uncertainty about the future direction of the fiscal policy pursued by the Government formed after the recent parliamentary elections.

Prices of food and non-alcoholic beverages

The pace of changes in the prices of food and non-alcoholic beverages in 2007 Q2 was slightly slower than assumed for the July projection (4.4% y/y as compared to the earlier

[2]The July projection assumed that the amount of the tax deduction would be PLN 200 per child (in line with the governmental programme of family support called Family Policy 2007-2014). The deduction passed in September 2007, however, is a twofold value of the full amount deductible in the first band of the tax scale (in terms of 2007 tax settlement this represents PLN 1145.08).

[3]In 2006 the Social Security Fund recorded a surplus and, in line with the expected realisation, the year 2007 should also close with a positive balance.

[4]Among others, a higher pro-family tax relief deduction and accelerated earlier liquidation of the so-called old portfolio.

assumed 4.6% y/y), mainly as a resulton account of an unexpectedly deep seasonal drop in the prices of some vegetables.

The present forecast of food prices accounts for the data released since the last forecasting round. This includes, in particular, the preliminary GUS estimation of main agricultural and horticultural crops, estimates of the pig stock and cattle stock, forecasts of international institutions pointing to the continuation of the present climate on the world market of dairy products as well as market information on the sharp rise in cereal prices in August and September 2007. As a result , the forecast of the food price index (q/q) was raised at the starting point of the projection (2007 Q3) as well as in 2007 Q4 (albeit slightly). In connection with the European Commission approval for maintaining preferential VAT rates on unprocessed food, it was decided to abandon the inclusion of the related food price rise in 2008. As a result, in comparison with the assumptions of the July projection, the path of food prices in the period from 2007 Q3 to 2008 Q2 was raised by 1 percentage point on average.

An important risk factor for the central path of the current forecast of food prices is the development of situation in international markets of agricultural commodities, and in the first place inon the cereal market. Also the scale of reduction of the pig stock and the drop in meat production until the end of this year resulting from the breeding cycle remains a risk factor. Those factors may lead to a more pronounced rise in cereal and meat prices than the ones assumed in the central path.

Taking the above risks into consideration, it can be assumed that the probability of a bigger food price growth in 2007 Q4 than the one from the central forecast is higher than the probability of a lower price growth. In the following quarters of the projection, the distribution of projection risk is symmetrical.

Demographic situation

Number of economically active

In our assessment the decline in the number of economically active persons observed in the last few quarters was driven primarily by economic migration of Poles and a fall in economic activity rate resulting from an outflow from the labour market of persons at pre-retirement age. Extension of the period for taking early retirement by the end of 2008 may intensify massive departure from the labour market before the attainment of statutory retirement age. As a result of this change, the number of the economically active in 2009 Q4 is expected to be lower by approx. 50 thousand than assumed in the July projection.

In the forecasts of the number of the economically active the assumed uncertainty band is symmetric. The possibility of a lower actual number of economically active persons results from potential delays in the introduction of legal limits on taking early retirement or the extension of the catalogue of professions entitled to outflow from the labour market before reaching the statutory retirement age. In turn, the possibility of a higher number of the economically active persons may be connected with lower than currently expected intensity of economic migrations abroad. Besides, further growth in labour demand and wages may bring faster than forecast growth in economic activity rate. Further methodological changes in the BAEL survey scheduled for 2008 constitute an additional source of forecasting uncertainty.

Number of old-age and disability pensioners

In 2007 Q2 the number of old-age and disability pensioners did not deviate from the July forecast. The current forecast assumes that by the end of 2007 the number of old-age and disability pensioners will be close to July expectations. As a result of the extension of the period of taking early retirement at least by the end of 2008, a stronger than assumed in the previous quarter growth of the number of old-age pensioners in non-agricultural social insurance system is expected in the projection horizon. As a result, at the end of 2009 the number of old-age and disability pensioners will reach 9.2 billion persons and will be by 50 thousand higher than assumed in the July projection.

Similarly to the July projection, the uncertainty band assumed in the present forecast of the number of old-age and disability pensioners is symmetric.

4.3 Projection of inflation and GDP

The forecasts of the external conditions of the Polish economy have not been subject to any significant revisions in relation to the July forecasting round. The forecasts of the growth rate of the world economy and world prices increases abroad are close to July expectations.

The last quarter did not see any significant changes in the overall assessment of the trends observed in the domestic market. Amidst the continuing economic recovery, unit labour costs at the starting point of the projection increased above the July expectations, while net inflation fell below the expected level. These data changed the intensity of adjustment of prices to increase in production costs in the short-term and long-term horizon as compared to the July projection. The increase in the forecast oil prices over the projection horizon was partly offset by zloty appreciation as compared with the July projection.

The current inflation projection, over the long-term projection horizon, is slightly higher than the July inflation projection and is accompanied by a slightly lower forecast of GDP growth. The above course of the forecast paths of inflation and GDP was the result of the materialisation of the risk of higher growth of both external and domestic cost factors, which had been signalled in the July projection.

Economy in the first three quarters of 2007

Strong economic growth observed in 2007 Q1 continued also in 2007 Q3 in line with the expectations of the July projection. Domestic demand remained the main factor fuelling growth. Despite high export growth clearly exceeding GDP growth, the negative contribution of net exports to GDP growth deepened. This was driven by accelerating imports growth amidst strong recovery in the domestic market.

The ongoing recovery in the labour market and the related evident decline in unemployment rate accelerated the wage growth. General improvement in the economic situation of households and massive departure of old-age persons from the labour market to early retirement prevented a growth of the number of the economically active. Also intensification of migratory outflows to EU countries observed over the past few years had a negative impact on labour supply. Amidst fast growth of GDP and labour demand, the imbalance between demand and supply in the labour market continued to worsen.

It is estimated that apart from the growth of income from paid employment, transfers from Poles working abroad were the main factor behind significant rise in the disposable income of households. In the absence of indexation of old-age and disability pensions in 2007 the growth of household income from social benefits was low. This factor was behind a slight decline in the growth rate of households' disposable income. High rate of growth of current income and optimistic expectations on futureed income of households as well as liberalised access to bank loans led to a rise in private consumption.

The high growth of gross fixed capital formation was sustained. While the demand for the products offered by enterprises was growing, the spare production capacity was steadily shrinking. Positive assessment of future demand and the outlook for growth, easier access to loans and a very good financial standing of companies positively affected corporate investment activity. High growth of investment outlays was additionally favoured by the inflow of foreign direct investment, rising utilisation of EU funds and the continued recovery in housing construction.

Projection for 2007-2009

According to the present projection the economic growth in 2007 will amount to 6.5%. In the coming years the rate of economic growth will stabilise at the level of approx. 5.3%. In the present projection the GDP growth in 2007 is close to the level forecasted in July, while for the years 2008-2009 it is slightly lower.

In line with the October projection, the gross fixed capital formation in 2007 will increase by more than 20%. In subsequent years the rate of investment will remain above 10% y/y. The gradual increase of investment rate in the projection horizon, will be driven, besides the sustained economic recovery, by the inflow of direct investment and structural funds from the EU. In comparison with the July projection the investment growth will experience a slight deceleration in the long-term projection horizon, which is connected with the worsening of expectations of sales prospects against the background of a stronger increase in oil prices than assumed in the July forecast. Investment demand will be also negatively affected by higher cost of capital than expected previously.

The positive perspectives of economic growth are accompanied by forecasted increased demand for labour. The increase in the number of working persons will be accompanied by a slightly slower rise in the economic activity rate than forecasted in July. The rate of unemployment will decrease at the end of the projection horizon to the level of approx. 8%, i.e. a level close to the one forecasted in July. The number of persons working in the economy (in accordance with BAEL definition) will increase till the end of 2009 by 4.6% in comparison with the situation from the first half of the present year, i.e. slightly less (by 0.3 percentage point) than assumed in the July projection. Greater money market tightness, particularly visible in the short-term horizon of the projection, will be gradually mitigated by a more substantial reduction of the NAWRU than forecasted a quarter ago.

A stronger reduction of the NAWRU than forecasted in July is related to the coming announced reduction of the wage wedge and a favourable, from the perspective of the development of situation on the labour market, level of relative prices in the economy. The reduction in the disability pension contribution, the introduction of the family tax deduction and the reduction in the rates of personal income tax will allow a net wage increase without increasing the cost pressure and avoiding the adverse impact on demand for labour. Low import prices in relation to domestic prices will allow the entrepreneurs to reduce non-wage production costs, partly compensating the expected rise in labour costs and weakening the pressure on price rise.

The unemployment rate will remain below the NAWRU and the growth of real wages throughout the projection horizon will exceed the growth in labour productivity in the economy (per one person working outside private farming). The expected growth of average nominal gross wages will amount to 8.5% in 2007 and will decrease to 7.6% in 2008 and 6.1% in 2009. The expected rate of growth of gross wages in the first half of the projection horizon will be markedly higher than forecasted in the July projection, and slightly lower in the second half of the projection horizon. At the same time, the level of gross wages both in nominal and real terms at the end of the projection horizon will be close to the one forecasted in July. At the end of 2009 the level of net wages will be higher by approx. 2 percentage points than it was forecasted in July.

The continued recovery on the labour market and the decrease of tax burdens and contributions will translate into a quick rise in households' income from paid employment. High growth of income from private business activity will continue as well. High growth in households' disposable income will be accompanied by the average rate of growth in individual consumption running slightly below 6% y/y in the projection horizon.

With the growth of investment and individual consumption running slightly below the paths forecasted in the July projection, the growth of domestic demand in 2007 will amount to 8.6% and on the average 6.5% in the following years.

The real effective exchange rate will appreciate in the whole projection horizon in comparison with the path from the previous forecast as a consequence of the decline in the real interest rate disparity and improved current account balance. Till mid-2008 the real effective rate will be depreciating, similarly as in the previous projection. In the long-term projection horizon, the appreciation of the zloty real exchange rate will be stimulated by increased growth of potential product. The nominal effective exchange rate of the zloty will gradually depreciate from end-2007 till the beginning of 2009 on account of the rising growth rate of domestic prices in comparison with external prices. In 2009 the nominal exchange rate of zloty will stabilize, while the real effective exchange rate will appreciate.

Similarly as in the July projection, foreign trade turnover is expected to grow. The important rise in the volume of exports (on the average throughout the projection horizon by 9.3% y/y) will be stimulated by good economic situation of main trade partners and the rise of competitiveness of Polish goods and services abroad. The expected rise of competitiveness of exports will be related among others to the lowering of manufacturing costs due to the reduction of wage wedge. A dynamic growth of imports (on the average by 12.3% y/y) will in turn be the effect of Poland's economic recovery. Throughout the projection horizon, the contribution of net exports to the GDP will be negative. On account of a weaker forecasts for internal demand, the contribution of net exports to the GDP from mid 2008 will be slightly higher than expected in July.

In the years 2007-2009, a significant acceleration of potential product growth is expected, stemming from the gradual capital formation and the increase in effective labour supply related to the gradual reduction of the NAWRU and a slow increase in the economic activity ratio. From mid-2008 the growth of potential product will be higher than GDP growth, which will be reflected in a gradual closing of the output gap. The pace of nominal wage growth and the growth of the number of working persons in 2007 Q2 and Q3 were significantly higher than expected in July. The economic growth at the projection starting point being close to expectations from July, the growth of unit labour costs (outside agriculture) in 2007 Q2 and Q3 in the present projection is on the average 2.5 percentage points higher than the one forecasted in the previous quarter. The moderate growth of economic activity of population and the forecasted decrease of the NAWRU will result in a gradual deceleration of unit labour costs growth from 7.7% y/y in 2007 to 4.5% in 2008 and 3.1% in 2009.

The CPI inflation at the October projection starting point is slightly lower than inflation forecasted for 2007 Q3 in July. Inflation is running below the path of the July projection till 2008 Q2, inclusive. In the next quarters inflation accelerates, running from 2008 Q4 onwards approx. 0.2-0.3 percentage point above the inflation path from the July projection. The lower estimate of the CPI inflation at the starting point of the present projection than the one forecasted in July stems from the net inflation being lower by 0.5 percentage point. Taking into consideration the weight of net inflation in the CPI inflation, the present estimate of net inflation translated into the decrease of CPI inflation in 2007 Q3 by 0.3 percentage point. The growth of food prices had a reverse effect on the estimate of CPI inflation, as it translated into the rise of CPI inflation at the projection starting point by 0.2 percentage point in comparison with the July projection.

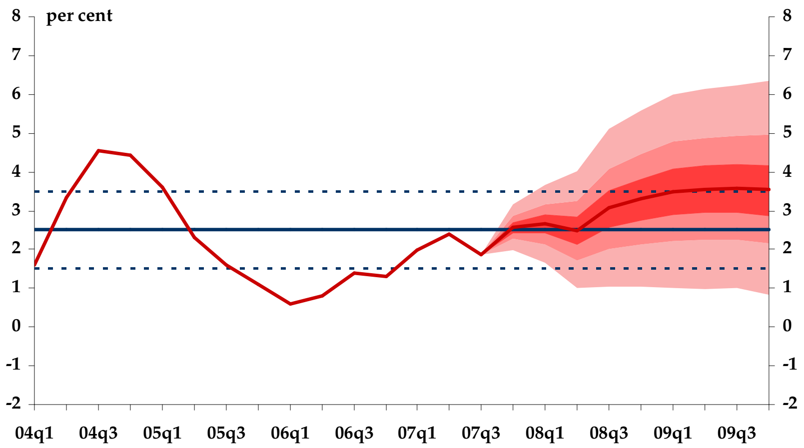
The fact that CPI inflation runs till mid-2008 below the path of the July projection is related above all with the lowering of the path of net inflation. The impact of net inflation on CPI inflation in this period is partly compensated by a stronger growth in food prices than forecasted in July. In the second half of 2008 and 2009 the inflation path runs above the path of the July projection, mainly due to the higher net inflation and higher fuel prices.

According to the current projection, given the unchanged interest rates of the NBP, the CPI inflation will persistently exceed the inflation target starting from 2007 Q4. Throughout the projection horizon, the CPI inflation will gradually accelerate, apart from a short period of decelerated growth of prices in the first half of 2008, and starting from 2009 Q2 it will exceed the upper limit for acceptable deviations from the target.

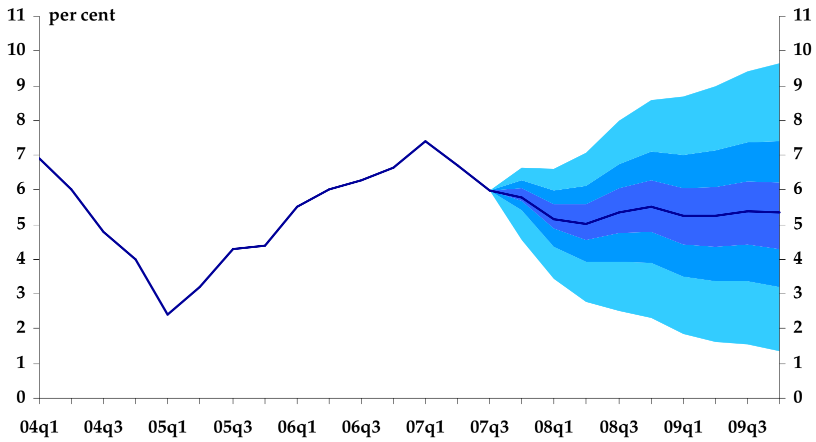
The presented projection of inflation and GDP, just like in the case of any mapping of future economic processes, is subject to significant uncertainty. Fan charts (Wykres 4.1 and 4.2) present the estimation of the projection uncertainty related to the inaccuracy of the statistical mapping of the relationships between the macroeconomic variables of the model and the uncertainty surrounding the future paths of variables exogenous to the model. It is the estimate of the risk for the projection, under the assumption that the model describes the economic processes correctly. The remaining sources of uncertainty are discussed in the next section.

Throughout the whole projection horizon uncertainty concerning food prices remains an important source of risk for the projection. In the short term, the risk for the projection stems also from uncertainty related to the random component in the net inflation equation [5], to oil and fuel prices as well as to the exchange rate.

[5] Uncertainty of a random component is an uncertainty resulting from unpredictability of those factors determining the given variable, which are not included in the form of explanatory variables in the model



□ **Figure 4.1:** Centarl projection, inflation fan chart and MPC's inflation target
Source: NBP.



□ **Figure 4.2:** Central projection and fan chart of GDP
Source: NBP.

Likewise, in the medium term the uncertainty largely results from oil prices and the uncertainty of the random component in the net inflation equation, however, their relative significance is getting smaller. At the same time, uncertainty related to factors which affect inflation with a certain time lag are getting relatively more important. They include GDP deflator, export and import prices, exchange rate and labour market variables. Moreover, at the end of the projection horizon a growing impact can be observed of the uncertainty connected with the random component in the investment equation.

In the short term the greatest impact on the uncertainty of the GDP projection is exerted by the uncertainty of mapping of exports and imports. A significant uncertainty is also related to the random component in the investment equation. A less pronounced role in explaining the uncertainty of GDP projection in the short term is played by the factors unaccounted for in the inventories equation.

In the medium term the impact of the uncertainty connected with the random component in the import and export equation is smaller. In turn, the significance of uncertainty

equation describing this variable

related to investments is relatively growing.

A comprehensive picture of the outlined sources of uncertainty of the projection of inflation and GDP is presented in the fan charts[6].

The tables below present the most important characteristics of inflation probability distributions obtained in the October projection.

Table 4.1: Probability of forecasted inflation

	Probability of inflation:				
	below 1.5%	below 2.5%	below 3.5%	below central projection	within (1.5%; 3.5%)
2007q4	0.002	0.421	0.995	0.504	0.992
2008q1	0.027	0.403	0.915	0.505	0.888
2008q2	0.136	0.508	0.866	0.505	0.730
2008q3	0.102	0.327	0.644	0.504	0.543
2008q4	0.096	0.284	0.560	0.500	0.464
2009q1	0.092	0.255	0.502	0.501	0.409
2009q2	0.094	0.249	0.487	0.502	0.394
2009q3	0.094	0.248	0.481	0.503	0.388
2009q4	0.108	0.267	0.494	0.506	0.386

Table 4.2: Intervals of forecasted inflation

	Intervals* in which inflation will stay with specific probability:			
	30%	50%	60%	90%
2007q4	(2.43%;2.7%)	(2.33%;2.81%)	(2.28%;2.86%)	(1.99%;3.16%)
2008q1	(2.42%;2.89%)	(2.24%;3.06%)	(2.14%;3.16%)	(1.67%;3.67%)
2008q2	(2.14%;2.83%)	(1.88%;3.1%)	(1.73%;3.26%)	(1.02%;4.01%)
2008q3	(2.58%;3.52%)	(2.22%;3.89%)	(2.02%;4.09%)	(1.05%;5.11%)
2008q4	(2.76%;3.81%)	(2.36%;4.22%)	(2.13%;4.46%)	(1.03%;5.57%)
2009q1	(2.91%;4.08%)	(2.48%;4.51%)	(2.23%;4.77%)	(1.01%;5.99%)
2009q2	(2.95%;4.16%)	(2.5%;4.61%)	(2.24%;4.87%)	(0.99%;6.14%)
2009q3	(2.96%;4.19%)	(2.51%;4.64%)	(2.25%;4.92%)	(1.01%;6.24%)
2009q4	(2.88%;4.17%)	(2.41%;4.67%)	(2.15%;4.95%)	(0.83%;6.34%)

*The Intervals were chosen in order to equalize the probability of inflation running above the upper interval limit with the probability of inflation running below the lower interval limit.

4.4 Risk of change in central projection

Every projection, including the presented projection of inflation and GDP, is subject to uncertainty which can be observed *ex post* as projection errors. In the analysis of

[6] Information on the method of constructing and interpreting the fan charts was presented in Box "How should fan charts be interpreted?" in the previous editions of the *Report* (page 87 in the *Inflation Report. January 2007*)

uncertainty we may distinguish between uncertainty connected with making forecast errors in the forecast under the assumption that the model replicates the economic reality adequately (projection risk) and uncertainty connected with the model adequacy. Quantifying the projection risk in the form of fan chart we assume that we only make random errors in the forecast.

Yet, the uncertainty connected with the model's accuracy in replicating the economic reality is hardly quantifiable. Assuming that the prognostic model may be inaccurate in mapping economic processes and mechanisms we take into account the possibility of making an error of systematic underestimation or overestimationng of the forecast inflation path. This kind of errors may be caused by problems with a correct mapping of future economic processes (e.g. due to changes in the structure of the economy, data revisions) and also by the impact exerted on the economy by phenomena not accounted for in the model.

The main sources of projection uncertainty, like in the previous forecasting round, include the *situation in the labour market* and *the scale of labour costs pass-through into inflation*. The uncertainty is related both to statistical problems (quality of BAEL data) and economic interpretation of undergoing economic processes.

The uncertainty connected with the use of *BAEL data* in the model persists. The research conducted at the NBP indicates that, due to the fact that migrations have not been fully accounted for, the growth rate in the number of working persons according to the BAEL has been overestimated in the past few years. As a result, the historic growth of unit labour costs and, consequently, the cost pressure can be overestimated at the starting point, with consequences for the inflation path over the whole projection horizon.

In the October projection the *scale of recovery in the labour market*, especially, in the short-term projection horizon, is clearly higher than in the July projection. Yet, the expectations of the rate of economic activity over the 2-year horizon are lower. Thus, the risk of increased tensions in the labour market has to a large extent materialised just as it was signalled in the previous projections. The uncertainty of the current projection in the labour market results from three factors: the outlook for continued high labour demand, the strength of economic recovery impact on the effective labour supply (number of the economically active and the NAWRU) and intensity of migratory outflows and inflows. In comparison with the July projection the risk of the impact on the labour market of the already implemented or likely changes in the fiscal and regulatory policy has increased. This includes, among other things, extension of the period of granting early retirement benefits, change of the minimum wage and restoration of the alimony fund.

The wage pressure over the projection horizon is mitigated by the reduction in the disability pension contribution implemented in July 2007 and scheduled for January 2008 as well as the changes in effective PIT taxation connected with the introduction of family allowance in 2008 and a two-stage scale of PIT taxation in 2009. The reduction in contribution payments and tax burden imposed on labour income enables the increase of net wages without increasing corporate costs. As a result, these changes may reduce the scale of wage demands. However, like in the previous projection, there is considerable uncertainty as to the extent to which the reduction of the wage wedge will actually lead to alleviating the tensions in the labour market and, consequently, to price changes.

The assessment of the *capacity of entrepreneurs to pass growth in costs into prices* of their products in the conditions of globalisation constitutes an important source of projection risk. Intensifying integration of the Polish economy with the global economy adds to the competitive pressure, discouraging enterprises from increasing the prices of their goods and services. Globalisation processes also support the reduction of non-wages production costs and costs of increasing the production potential. Corporate data analysed at the NBP suggest that despite strong wage increases financial results of enterprises remain high. This signals the persistent capacity of enterprises to accommodate increases in labour costs through the reduction of other production costs. It is assumed that the scale of risk connected with the assessment of the sustainability of this process and its impact on the relation: labour costs - prices has not changed in comparison with the previous projection.

The risk of projection error connected with a *slowdown in the global economy* has increased. If the turmoil in the financial markets translate into significant curbing of the economic growth rate in the world's major economies, the likelihood of GDP and inflation growth in Poland running below the current forecasts will increase. Potential decline in the investment propensity in Poland and other countries of the region, due to the increased uncertainty in the financial markets constitutes an additional source of risk. This may lead to a slow-down of GDP growth in Poland even in the absence of significant reduction of the growth rate of the world's major economies. The fall in inflation would be, in this case, weaker than in the scenario of a slow-down in the growth rate of the world economy, due to a probable concurrent zloty depreciation.

Zloty exchange rate was at the starting point of the October projection stronger than assumed in the July projection. Due to difficulties in forecasting the exchange rate of the zloty, there is a high risk of significant deviations of its future course from the projected path. The uncertainty connected with the exchange rate forecasts has increased since the last projection as a result of turmoil in the global financial markets. It is estimated that the risk surrounding the currently forecast path of the exchange rate is distributed roughly symmetrically.

There is persisting uncertainty of the projection connected with the *fiscal policy* and the situation in the public finance sector. This risk should be examined against the backdrop of the situation in the world economy and in the domestic labour market. The slow-down in the economic growth being the result of turmoil in the global financial markets would deepen the deficit and increase the debt of the public finance sector in relation to GDP. This could, in turn, undermine the confidence of domestic and foreign investors and contribute to zloty depreciation and increased production costs, and, in the longer run, worsen the labour market situation.

Discussion of data released after 28 September 2007

After the cut-off date for the assumptions for the October projection the rising tendency of oil prices continued. This was one of the reasons for the US Department of Energy to revise upwards its forecast of WTI oil prices for the years 2007-2008. The current forecast of the Macroeconomic and Structural Analyses Department of the NBP, adjusted for the difference of Brent and WTI oil prices in the forward markets, suggests that the average annual Brent oil price will reach the level of 75.3 USD/b in 2007 Q4, the level of 73.5 USD/b in 2008 and 71.5 USD/b in 2009. As a result of the upward revision of the expected path of oil prices there is increased risk that since 2007 Q4 the oil prices in Poland will be higher than the forecast adopted in the projection. The US data point at a deepening recession in the real estate market. In line with the forecasts, September saw a decline in the sales of completed houses, while October was another consecutive month of the NAHB index continuing its downward trend. The major financial markets continue to see heightened uncertainty. Interest rates in the money market, among others, in the euro area, United States or Great Britain continue to show increased levels. The recent depreciation of the US dollar exceeding the level of 1.40 EUR/USD has increased the risk of euro undervaluation against the US dollar in the projection horizon.

The growth in food prices in September proved higher than expected, mainly as a result of the situation in the global markets of agricultural commodities. There is also increased risk of food prices in the short-term projection horizon growing faster than assumed in the October projection. On 22 October 2007 the GUS published the revised quarterly estimates of the national accounts for the years 2006-2007. The direction and scale of the GUS revision of the growth rate of GDP and its components brought the national accounts data closer to the estimate of the starting point for the July projection prepared by the Macroeconomic and Structural Analyses Department of the NBP. Accounting for the revision of the national accounts and the actual monthly data for September (concerning construction and assembly output and retail sales) slightly increases the risk of lower than forecasted GDP growth in the short-term projection horizon without changing the outlook for economic developments over the long-term.

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The distribution of risks in the fan chart of the October inflation projection is almost symmetrical. Among the factors not accounted for in this chart which can be conducive to CPI inflation deviating upwards from the central path the most prominent ones include: likelihood of greater than accounted for in the projection labour market tensions tightness and expectations of higher than adopted path of oil prices and higher growth of food prices. On the other hand, factors pointing to a lower than the projected inflation path include: possible biases in BAEL data and likelihood of weaker than projected reaction of prices to the increase in labour costs due to the globalisation. The risk of a slowdown in the world economy connected with the possibility of turmoil in the global financial markets translating into weaker economic activity in the world's major economies and shaken confidence of investors in the Central and East European Region increases the likelihood of lower than projected growth of GDP and inflation over the long-term projection horizon. Considering all the uncertainty factors external to the model, it can be estimated that the projection risk over the short-term projection horizon is roughly symmetrical, while over the long-term projection horizon there is slightly higher probability of inflation running below the projection path than above the projection path.

Annex

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

- **Date:** 27 June 2007

  Subject matter of motion or resolution:
  Resolution on the level of the reference rate, lombard rate, deposit rate and rediscount rate of the National Bank of Poland

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

  Voting of the MPC members:

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

- **Date:** 24 July 2007

  Subject matter of motion or resolution:
  Resolution to appoint a certified auditor to audit NBP annual financial statements for business years 2007, 2008 and 2009

  Voting of the MPC members:

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

- **Date:** 25 July 2007

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

  MPC decision:
  Motion did not receive a majority vote

  Voting of the MPC members:

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

- **Date:** 29 August 2007

  Subject matter of motion or resolution:
  Resolution on the level of the reference rate, lombard rate, deposit rate and rediscount rate of the National Bank of Poland

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

  Voting of the MPC members:

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