Inflation Report

2002

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Contents

OVERVIEW

1. The year 2002 was a year of global economic slowdown. The expectations of an improvement in the US economy were not fulfilled. Uncertainty related to the expected war with Iraq proved a substantial barrier, subduing any pro-growth effects of deep reductions in interest rates in the US and other countries. The global slowdown was reflected in low inflation both in the US and the European Union countries. Lack of signals pointing to the imminent economic recovery led to serious debates on possible deflation in these countries.

2. Also in Poland in 2002, economic growth turned out to be lower than had been foreseen in the forecasts drawn up at the stage of developing assumptions for the monetary policy in 2002, i.e. in 3Q 2001. Deteriorating prospects for a recovery in the economies of our trading partners, combined with growing uncertainty, did not encourage investment. Similarly to other countries, a deep scale of reductions in interest rates fell short of compensating for the uncertainty associated with the outlook for economic recovery. In 2002, investment expenditure decreased by 7.2%. This was partially due to a lower inflow of direct foreign investment. Despite a high increase in consumer demand in excess of 3%, demand in the economy grew by a mere 0.8%. The GDP growth rate amounted to 1.3% and was higher than the rate of economic growth in the European Union and the euro area. A large proportion of GDP growth was attributable to dynamic growth in net exports achieved through improved industrial competitiveness. The economic growth rate, higher than in 2001, resulted from the cessation in 3Q 2002 of the falling trend in industrial output. Additionally, the rate of added value growth in commercial services was also higher than in the previous year. Meanwhile, added value in construction persisted in its downward trend.

3. Low demand in the economy was one of the reasons for a marked decrease in inflation. Annual CPI fell from 3.6% in December 2001 to 0.8% in December 2002. The 2002 inflation rate proved lower than that forecast by research institutes, money market analysts and inflationary expectations displayed by banks and individuals. The inflation rate stayed below the level set for the inflation target at the 2002 year-end.

4. In August 2001, at the stage of defining preliminary guidelines for the 2002 monetary policy and formulating a short-term inflation target it was assumed that the situation in the food market in 2002 will evolve under the influence of a more sustainable balance of cereals than in the previous season. According to the guidelines for the 2002 budget act, it was assumed that the increase in excise duty rates will be sustained (under their adjustment to the levels of the European Union). Pursuant to information obtained from the Energy Regulatory Office, another assumption was made that there will be further increases in the prices of energy carriers. High cereal, vegetable and fruit crops as well as a high supply of pigs and poultry brought down food prices. The increase in administratively regulated prices proved lower than originally assumed. The 2002 fall in CPI was accompanied by a decrease in all measures of core inflation – from the 3.1%–5.1% bracket within which they fell in December 2001, to the 0.2%–2.0% bracket in December 2002.

5. Last year, the twelve-month PPIs showed a steady, relatively weak, growth trend. That growth was stimulated by price increases in highly monopolised and administratively regulated branches of the economy, and stabilised at a low level owing to the weak price growth in the processing industry that reflected low economic activity.

6. The deficit in the current account of the balance of payments in 2002 decreased for the third consecutive time and fell, in relation to GDP to 3.6% from 7.5% in 1999. The improvement in the current account balance was primarily due to a reduction in the commodity turnover deficit as a result of export growth being higher than that of imports. In the meantime, the remaining items of the current account (except for the transfers whose balance remained at a similar level to last year) contributed to a deterioration of the balance.

7. Growing competitive pressure on enterprises to raise their work efficiency in conditions of low output growth rate translated into a fall in employment. At the same time, high non-payroll charges

(including taxation) and the rigidity of the labour market hampered the creation of new jobs. Employment reduction and the low propensity to establish new jobs led to a decrease of average employment in the enterprise sector last year by 4.4%, whereas the unemployment rate grew to 18.1% in December 2002 and was by 0.7 percentage points higher than in December 2001. The increase in the unemployment rate was substantially affected by the higher number of persons of working age.

The low demand for labour and growing labour supply resulted in slower nominal growth in average monthly salaries in the enterprise sector (down by 50%, compared to 2001). Owing to low inflation, real salary growth was only slightly lower year-on-year. Still high, though slower than in 2001, was the increase in payments of social security benefits (average old-age and disability pensions grew by 4.6% in real terms), which represented one of the sources of the persistently high dynamic of personal income consumption. In total, it is estimated that, in nominal terms, gross disposable household income in 2002 surged by roughly 1%, while, in real terms, it declined, also by approx. 1%. This estimate, however, does not take account of the income generated outside the officially registered economy. The growth scale in that income, which is hard to estimate, does not allow for a straightforward determination of household savings. A surprisingly high increase in personal consumption suggests some caution in interpreting the estimated dynamic of disposable household income in 2002.

8. The year 2002 saw a further widening of the financial deficit in the public sector, to 6.4% of GDP against 5.0% of GDP the year before. The primary reason for the spreading dis-equilibrium within that sector was the high level of public expenditure and its inflexible structure.

At the same time, the economic deficit also grew, to stabilise – according to preliminary estimates – at roughly 5.5% of GDP, increasing by 1 percentage point on the 2001 figure.

The maintenance for another year in a row of a high public sector deficit resulted in an increase in public indebtedness. At the end of 2002, its value stood at 47.6% of GDP, i.e. a growth of 6 percentage points on the previous year's figure.

9. Changes in the money supply throughout 2002 were characterised by two major trends: a decline in the M3 wide monetary aggregate and shifts within its structure triggered by an increase in narrow monetary measures: M1 aggregate and notes and coins in circulation.

The lowering of the M3 aggregate in 2002 (by 2.9% in real terms) was primarily attributable to a decline in the banking system's commitments towards households. When analysing the falling value of the M3 aggregate, one should keep in mind that it is exclusive of the liabilities with maturity beyond two years and such close substitutes of bank savings as, for example, treasury bill investments or purchase of investment fund units. The introduction of taxation on interest income in late 2001 appreciably raised the popularity of such forms of saving.

The rapid increase in the value of the M1 aggregate in 2002 (by 14% in real terms) can be traced to shifts in the structure of the M3 forward money supply in favour of more liquid components, the main reason being the fall in interest rates, further enhanced by the taxation of interest income, which limited the attractiveness of bank deposits.

Last year, the dynamic of household credits initially showed a falling trend which was not halted until August and then remained flat at roughly 8.5% p.a. till the year end. The reasons for the slowdown in household credit activities in 2002 – aside from the high interest charged on borrowings – should be sought in the deterioration of the population's income prospects in the context of ever-growing unemployment.

The taking out of new credits by enterprises in was considerably lower in 2002 than in the previous years, reflecting the prevailing poor investment growth. Following a period of downward, even negative, annual growth recorded in the 1st half of 2002, corporate lending stabilised at a low positive level (below 2%).

* * *

In the Monetary Policy Guidelines for 2002, MPC established a short-term inflation target (measured by a 12-month price increase in consumer goods and services in December 2002) at the level of 5% with an acceptable deviation of +/-1 percentage point. This target represented an element in the pursuit of the medium-term target defined as the reduction of the inflation rate below 4% by the end of 2003.

However, the conditions for the achievement of the inflation target in the 1st half of 2002 proved considerably more encouraging for reducing inflation than expected at the time of its being set, namely in August 2001. Supply factors, in particular those affecting food prices, were at a surprisingly good level. It turned out also that growth in administratively regulated prices will be lower than originally planned. The dynamic of internal demand also remained lower than assumed.

Under the impact of all these factors, annual inflation rate decreased from 3.6% in December 2001 to 1.9% in May 2002. Additionally, from the very beginning of the year, inflation expectations of both consumers and bank analysts gradually fell back. In this context, it had to be assumed that despite a reduction of the NBP interest rates from August 2001 to May 2002 by a combined 6.5 percentage points, the 2002 inflation rate would be substantially lower than the annual inflation target adopted in 2001. Consequently, in order to avoid a misleading interpretation of the future direction of the monetary policy and preserve its transparency, the Council resolved to review the inflation target for 2002. In June 2002, the said target was lowered to 3%, with an acceptable deviation of +/- 1 percentage point.

In the Monetary Policy Guidelines for 2002, the Council stressed that in the short term unexpected temporary supply shocks may strongly affect the level of inflation. In this light, MPC pointed out that the achievement of the strategic, medium-term objective of the monetary policy took precedence over the achievement of the 2002 target.

In 2002, the Monetary Policy Council reduced NBP base rates on eight counts. In total, under the current cycle of interest rate cuts, i.e. from February 2001 until the end of 2002, the rates were trimmed on fourteen occasions, their levels being subject to a dramatic decrease. The NBP reference rate, having key importance for the evaluation of the restrictive nature of the monetary policy, fell over that period from 19% to 6.75%, i.e. by 12.25 percentage points, and in real terms (as deflated by current CPI) – from 11.6% to 5.9%, i.e. by 5.7 percentage points. Meanwhile, between December 2001 and December 2002 the reference rate was nominally cut by 4.75 percentage points, or 1.7 percentage points (deflated CPI) in real terms. The fall in nominal and real interest rates was accompanied by a substantial depreciation of the zloty. All in all, the year 2002 saw the easing of the monetary policy.

The prime factors in favour of reducing interest rates in 2002 were as follows:

- A reduction, and subsequent stabilisation at a low level, of current inflation rate as well as all core inflation measures,
- A decrease, and subsequent stabilisation at a low level, of the inflation expectations of both consumers and bank analysts,
- Unfavourable and worsening prospects for global economic growth, including in particular those for the German economy,
- Moderate salary growth within the national economy, and
- Monetary processes encouraging the containment of inflationary pressures.

At the same time, factors were taken into consideration regarding interest rates, which could threaten the stabilisation of inflation at a low level, and thus reduce the scale of interest rate cuts:

- Consumption growth higher than that of disposable income, which, given a slight increase in "grey economy" incomes, signalled the risk of declining household savings,
- Uncertainty as to the condition of public finances both in 2002 and in 2003 considerably limiting the effectiveness of monetary policy,
- Risk of oil price rises,
- Zloty depreciation in 2002, and
- Delays in the economy's response to changes in interest rates which led to the situation whereby the impact of implemented interest rate changes was not fully manifested until the end of 2002.

Both groups of factors – those working in favour of rate cuts and those providing arguments for the limitation of their scope – were burdened by a high degree of uncertainty and varied over time. As a result, the year 2002 witnessed widespread reviews of economic forecasts both abroad and in Poland. Forecasts for economic growth and the inflation rate were substantially reduced. In parallel to these changes, the scale of anticipated cuts in the central banks' interest rates was also extended. The Monetary Policy Council implemented the assumptions behind the monetary policy on the basis of the data and forecasts available at the time of the decisions being taken.

In December 2002, the annual inflation rate amounted to 0.8%, falling short of the short--term inflation target adopted for 2002 in June of the previous year (3% +/- 1 percentage point). Still, the lower than forecasted inflation rate in the last months of the preceding year was primarily the result of factors not affected by the monetary policy, namely:

- Unexpectedly deep falls in the processing of food and non-alcoholic beverages,
- Lower-than-planned officially-controlled price growth, including a slump in the prices of alcoholic beverages triggered by unscheduled excise duty cuts, and
- Worse than forecast global economic conditions.

Summing up, in 2002 the inflation rate in Poland remained flat at a low level as recorded in recent years in developed countries. Even considering that such low inflation was also achieved through factors beyond the impact of the monetary policy, it should be assumed that the deflationary process had come to an end. This creates qualitatively new conditions for conducting monetary policy. At present, all efforts should be streamlined into stabilising inflation at a low level. This will allow for the abandoning of annual inflation targets set at the end of a given calendar year and, instead, enable a shift towards the achievement of a continuous target. Such target was established at the level of 2.5% with an acceptable deviation of +/- 1 percentage point, in the Monetary Policy Strategy beyond 2003 published in March 2003.

* * *

The 12-month CPI for April 2003 amounted to 0.3%.

Forecasts speak of accelerated GDP growth in 2003 up to approx. 2.5%[1]. Also assumed is a further increase in consumer demand and a reversal of the falling trend in investment demand.

As shown in the world economy growth forecasts[2], improvement in external economic conditions will take place at a very slow rate this year. Within our immediate economic environment, i.e. in the euro area, and in particular in Germany, a more distinct acceleration of economic growth is not expected until 4Q 2003.

High uncertainty is associated with domestic food price forecasts, which have a material impact on the inflation rate. It is anticipated that food price growth will improve gradually in the course of this year to reach 1 to 2% p.a. by the year end[3].

Based on the assumptions adopted for the 2003 budget act and the announcements made by the agencies managing officially controlled prices, it may be estimated that the annual growth of controlled prices will amount to 3 to 5% by the year end[4].

This year's inflation rate will be also affected by earlier cuts of the NBP interest rates expected to contribute, with a delay, to a gradual increase in domestic demand.

An analysis of major demand and supply factors affecting the 2003 inflation rate shows that relevant forecasts tend to be weighted with high uncertainty. All in all, however, based on the available information and predictions, it seem most likely that by the end of this year the annual inflation ratio will approach the lower limit of the adopted inflation target.

[1] February 2003 forecast.
[2] See above.
[3] See above.
[4] See above.

Basic macroeconomic indicators

	Q 1	Q 2	Q 3	Q 4	2000	Q 1	Q2	Q 3	Q 4	2001	Q 1	Q 2	Q 3	Q 4	2002
		2000					2001					2002			
								Real growth							
GDP	5.9	5.0	3.1	2.4	**4.0**	2.2	0.9	0.8	0.2	**1.0**	0.4	0.8	1.6	2.1	**1.3**
Domestic demand	5.2	3.4	1.4	1.7	**2.8**	-2.3	-1.8	-1.4	-2.0	**-1.7**	-0.2	1.0	1.1	1.2	**0.8**
Total consumption	4.2	2.8	1.3	1.7	**2.4**	1.2	1.1	1.7	2.7	**1.7**	2.8	2.6	2.8	3.2	**2.9**
Personal consumption	4.8	2.9	1.1	1.7	**2.7**	1.5	1.5	2.1	3.2	**2.0**	3.5	2.9	3.1	3.5	**3.3**
Gross capital formation	10.4	5.7	1.6	1.7	**3.9**	-12.6	-12.2	-12.5	-13.0	**-12.6**	-18.3	-5.9	-6.0	-4.1	**-7.3**
Gross fixed investments	5.4	2.8	2.0	2.1	**2.7**	2.1	-8.0	-11.7	-12.0	**-8.8**	-13.2	-8.4	-6.3	-4.1	**-7.2**
Household savings rate (%)[1]	8.8	9.8	10.0	14.3	**10.8**	9.4	10.9	10.6	11.6	**10.6**	5.3	8.7	6.7	8.0	**7.2**
Household financial savings															
rate (%)[2]	4.5	2.1	2.9	7.2	**4.2**	5.3	3.9	4.0	4.8	**4.5**	2.2	3.4	-0.3	0.1	**1.4**
Unemployment rate (%)	14.0	13.6	14.0	15.1	**15.1**	16.1	15.9	16.3	17.5	**17.5**	18.2	17.4	17.6	18.1	**18.1**
Disposable income (corresponding period															
previous year = 100)	104.0	103.4	102.0	104.9	**103.5**	101.8	101.2	102.6	100.1	**101.4**	98.7	100.1	98.6	98.9	**99.0**
State Treasury indebtedness															
(PLN million, nominal)[3]	270,144.9	279,507.8	287,984.3	266,816.8	**266,816.8**	273,192.9	271,584.9	291,795.1	283,939.5	**283,939.5**	309,388.4	320,880.1	331,205.4	327,924.2	**327,924.2**
Government deficit (PLN million)	-6,927.4	-10,650.2	-14,041.9	-15,391.0	**-15,391.0**	-14,992.5	-18,805.5	-21,865.0	-32,358.3	**-32,358.3**	-16,436.8	-24,922.5	-29,146.7	-39,412.0	**-39,412.0**
External indebtedness (USD million)	65,661	66,759	65.505	69.465	**69,465**	71,297.0	70,774.0	73,525	71,797	**71,797**	73,135	78,986	78,833	81,946	**81,946**

[1] Household savings to gross disposable incomes. Savings represent that portion of gross disposable incomes not allocated to consumption. [2] Household financial savings to gross disposable incomes. Financial savings represent the growth in household money stocks (the total of bank deposit growth, notes & coin and investments in securities, less household borrowing growth). [3] Period end.
Source: GUS, Ministry of Finance and NBP figures, NBP estimates (gross savings rate, financial savings rate, disposable incomes)

Basic monetary indicators

	Q 1	Q 2	Q 3	Q 4	2000	Q 1	Q 2	Q 3	Q 4	2001	Q 1	Q 2	Q 3	Q 4	2002
	2000					2001					2002				
	corresponding period previous year = 100														
CCPI[1]	110,3	110,2	110,3	108,5	**108,5**	106,2	106,2	104,3	103,6	**103,6**	103,3	101,6	101,3	100,8	**100,8**
PPI[1]	107,3	108,9	108,3	105,6	**105,6**	103,8	100,9	100,7	99,6	**99,6**	100,3	101,2	101,1	102,2	**102,2**
	Nominal growth rate of end-of-period figures (corresponding period previous year = 100)														
Money supply (M3)	114,0	120,3	114,7	111,9	**111,9**	114,7	107,8	112,6	109,2	**109,2**	103,2	102,5	98,5	98,0	**98,0**
Total money supply[2]	113,8	120,6	114,1	111,7	**111,7**	114,9	108,0	114,3	113,7	**113,7**	108,4	107,5	102,6	98,4	**98,4**
Deposits and other liabilities	115,6	122,9	116,7	115,5	**115,5**	116,4	108,9	113,6	108,9	**108,9**	101,7	100,5	96,5	95,7	**95,7**
of which:															
Household deposits	113,8	118,1	116,8	120,0	**120,0**	119,9	115,9	117,0	106,7	**106,7**	103,3	100,1	95,2	96,1	**96,1**
Household deposits	117,5	121,4	110,0	98,5	**98,5**	105,1	99,8	105,3	116,4	**116,4**	104,9	112,9	110,8	101,4	**101,4**
Claims[4]	125,3	132,0	123,7	116,9	**116,9**	114,1	104,8	111,4	109,3	**109,3**	107,0	109,4	105,1	105,2	**105,2**
of which															
Claims on households	136,5	152,7	130,8	125,7	**125,7**	121,1	102,2	119,9	114,7	**114,7**	117,7	115,6	108,4	108,6	**108,6**
Claims on corporates	115,1	117,4	114,5	112,0	**112,0**	111,2	106,8	106,0	103,7	**103,7**	98,2	102,1	101,2	101,4	**101,4**
	Real growth rate[3] of end-of-period figures (corresponding period previous year = 100)														
Money supply (M3)	103,3	109,2	104,0	103,1	**103,1**	108,0	101,5	108,0	105,4	**105,4**	99,9	100,9	97,3	97,1	**97,1**
Total money supply	103,2	109,4	103,4	103,0	**103,0**	108,2	101,7	109,6	109,8	**109,8**	105,0	105,8	101,3	97,6	**97,6**
Deposits and other liabilities	104,8	111,5	105,8	106,4	**106,4**	109,6	102,5	108,9	105,1	**105,1**	98,5	98,9	95,3	95,0	**95,0**
of which:															
Household deposits	103,2	107,1	105,9	110,6	**110,6**	112,9	109,1	112,2	103,0	**103,0**	100,0	98,5	94,0	95,3	**95,3**
Corporate deposits	109,5	111,5	101,5	93,3	**93,3**	101,3	99,0	104,6	116,9	**116,9**	104,6	111,6	109,6	99,2	**99,2**
Claims[4]	113,6	119,8	112,1	107,8	**107,8**	107,5	98,6	106,8	105,5	**105,5**	103,6	107,6	103,8	104,4	**104,4**
of which:															
Claims on households	123,7	138,6	118,6	115,8	**115,8**	114,0	96,2	114,9	110,7	**110,7**	114,0	113,7	107,0	107,7	**107,7**
Claims on corporates	107,3	107,8	105,8	106,0	**106,0**	107,2	105,9	105,3	104,1	**104,1**	97,9	100,9	100,0	99,2	**99,2**
Reference rate (%)[5]	17,50	17,50	19,00	19,00	**19,00**	17,00	15,50	14,50	11,50	**11,50**	10,00	8,50	7,50	6,75	**6,75**
Rediscount rate (%)[5]	20,00	20,00	21,50	21,50	**21,50**	19,50	18,00	17,00	14,00	**14,00**	12,00	10,00	8,50	7,50	**7,50**
Lombard rate (%)[5]	21,50	21,50	23,00	23,00	**23,00**	21,00	19,50	18,50	15,50	**15,50**	13,50	11,50	10,00	8,75	**8,75**

[1] In the last month of the quarter
[2] Total money supply (M2) acc. to the definition in force by March 30, 2002.
[3] CPI deflated, PPI deflated corporate deposits and claims on corporates.
[4] Claims are made up of claims on: households, non-monetary financial institutions, corporates, non-commercial institutions operating to the benefit of households, local government institutions, social security funds. They encompass all categories of credits and loans, purchased debt, enforced guarantees and warranties, due and outstanding interest, receivables on repurchase agreement transactions, debt securities, equity securities and other claims.
[5] Period end.
Source: GUS figures, NBP.

1

1 Domestic demand and supply

1.1. Domestic demand[5]

In 2002, domestic demand exceeded the previous year's figure. Domestic demand growth was attributable to the higher than previous growth in consumption, accompanied by a further decrease in capital formation. A relatively high growth in consumption contributed to a slight acceleration in GDP growth. An improvement in net exports recorded for the third consecutive year also had positive impact on economic growth. Domestic demand remained higher than GDP.

The dynamic of GDP and domestic demand, and their relationships in the years 1996–2002 are presented in Table 1, whereas the contribution of personal demand components to GDP growth is shown in Table 2 and Figure 1.

The 2002 fall in capital formation was primarily due to a further reduction in fixed asset investments. Investment expenditure by the government sector entities, local government bodies and households decreased. Still, the falling expenditure could be traced primarily to the deepening slump in corporate investment activity. This, in turn, resulted from low estimates of future demand associated with the persistently slow growth of the global economy and poor domestic demand. Negative

Table 1
GDP and domestic demand in growth, 1996–2002

	1996	1997	1998	1999	2000	2001	2002
	Corresponding period previous year = 100, fixed prices						
GDP	106.0	106.8	104.8	104.1	104.0	101.0	101.3
Domestic demand	109.7	109.2	106.4	104.8	102.8	98.3	100.8
Consumption	107.2	106.1	104.2	104.4	102.5	101.7	102.9
Personal consumption	108.7	106.9	104.8	105.2	102.7	102.0	103.3
Collective consumption	102.1	103.2	101.6	101.3	101.5	100.6	101.4
Capital formation	119.5	120.8	113.8	106.1	103.9	87.4	92.7
Gross fixed investments	119.7	121.7	114.2	106.8	102.7	91.2	92.8
Growth in tangible working capital assets	115.8	105.5	105.5	90.1	136.7	6.3	80.3
Exports	112.0	112.2	114.3	97.4	123.2	103.1	
Imports	128.0	121.4	118.5	101.0	115.6	94.7	
	In % of GDP in current prices						
Domestic demand	101.6	104.3	105.2	106.4	106.6	103.7	103.4
Consumption	79.7	79.7	79.0	80.0	81.6	82.7	84.2
Capital formation	21.9	24.6	26.2	26.4	25.0	21.0	19.2
Net exports	-1.6	-4.3	-5.2	-6.4	-6.9	-3.7	-3.4

Source: GUS

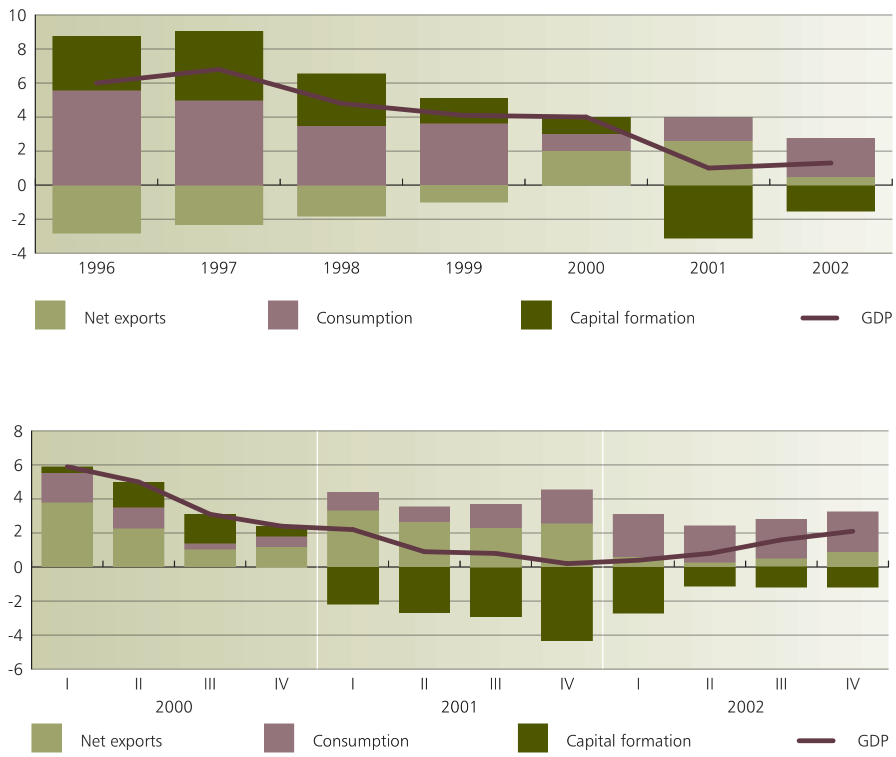
[5] If not indicated otherwise, all growth figures in this chapter are quoted annually, in real terms.

Table 2
Contribution of final demand components to GDP growth

	1996	1997	1998	1999	2000	2001	2002
GDP	6.0	6.8	4.8	4.1	4.0	1.0	1.3
Domestic demand	8.8	9.1	6.6	5.1	3.0	-1.6	0.8
Consumption	5.6	5.0	3.5	3.6	2.0	1.4	2.3
Personal consumption	5.3	4.4	3.1	3.2	1.7	1.3	2.1
Collective consumption	0.3	0.6	0.4	0.4	0.3	0.1	0.2
Capital formation	3.2	4.1	3.1	1.5	1.0	-3.1	-1.5
Gross fixed investment	3.1	4.0	3.0	1.6	0.7	-2.0	-1.5
Growth in tangible working capital assets	0.1	0.1	0.1	-0.1	0.3	-1.0	0.0
Net eksports	-2.8	-2.3	-1.8	-1.0	1.0	2.6	0.5

Source: own calculation based on GUS figures.

Figure 1
Contribution of final demand components to GDP growth



expectations regarding foreign demand contributed to a further decline in the expenditure by corporates with foreign equity. In the course of the year, enterprises signalled a gradual improvement in production capacity utilisation, which could be linked to the recovering output levels.

Despite the deteriorating situation in the labour market and another year of falling real incomes from hired labour, an acceleration in the growth of personal consumption was recorded in 2002. In addition to households' decreasing propensity to save, a likely reason for increased consumption were higher incomes generated outside the officially registered economy.

1

Table 3
GDP and domestic demand growth by quarter

	Year	Q1	Q2	Q3	Q4	Q1 to Q4
		Corresponding period previous year = 100				
Gross added value	2001	102,2	100,9	100,9	100,2	101,0
	2002	100,5	100,9	101,8	102,0	101,3
Industry	2001	103,3	98,4	98,0	97,5	99,1
	2002	97,9	99,0	102,6	104,0	100,9
Construction	2001	94,4	91,6	91,4	91,6	92,0
	2002	87,1	89,5	97,3	94,6	92,9
Commercial services	2001	102,2	102,3	102,7	102,6	102,5
	2002	103,8	103,6	103,5	103,1	103,5
Gross Domestic Product	2001	102,2	100,9	100,8	100,2	101,0
	2002	100,4	100,8	101,6	102,1	101,3
Domestic demand	2001	98,7	98,2	98,0	97,0	98,3
	2002	99,8	101,0	101,1	101,2	100,8
Total consumption	2001	101,2	101,1	101,7	102,7	101,7
	2002	102,8	102,6	102,8	103,2	102,9
Personal consumption	2001	101,5	101,5	102,1	103,2	102,0
	2002	103,5	102,9	103,1	103,5	103,3
Capital formation	2001	87,4	87,8	87,5	87,0	87,4
	2002	81,7	94,1	94,0	95,9	92,7
Gross fixed investments	2001	102,1	92,0	88,3	88,0	91,2
	2002	86,8	91,6	93,7	95,9	92,8

Collective consumption growth in 2002 was slower than personal consumption growth.

In 2002, and in particular in its second half, rapid export growth was recorded, contributing to higher consumption and increased imports. Still, import growth was slower than that of exports. As a result, net exports grew, despite still being negative. Owing to a more advantageous foreign trade account balance, a further reduction in the external deficit was witnessed. The share of foreign savings in funding capital formation dropped from 6.3% in 2000 and over 3% in 2001 to roughly 2.5% in 2002.

In consecutive quarters of 2002, an accelerated growth of GDP and domestic demand was observed. Economic growth, slightly higher than in 2001, was stimulated by the overcoming in Q3 and Q4 2002 of the falling trend in industrial output. Apart from higher personal consumption, this was due to the export performance, which improved despite weaker foreign demand (especially on the part of the German economy, which was undergoing a period of slowdown). GDP and domestic demand growth is shown in Table 3.

1.1.1. Capital formation and investment expenditure

According to preliminary GUS estimates, in 2002 gross capital formation was 7.3% lower than a year earlier (in 2001, it declined by 12.6%). The fall in gross fixed investment was lower than in 2001. Investment in working capital assets was also lower but on a considerably smaller scale than in 2001. The process of bringing working capital in line with the reduced level of economic activity led to a substantial shift in the structure of capital formation. The proportion of tangible working capital asset growth in capital formation fell from 4 to 5% in the years 1995–2000 to 0.2–0.3% in the years 2001–2002.

A considerable decline in working capital assets was recorded – similarly to 2001 – in Q1 2001, at the time of the largest decline in industrial and construction output. In the following quarters, along with growing output, came an increase in tangible working capital assets. Nevertheless, at the end of Q3 2002 inventory stocks in enterprises remained lower than at the beginning of the year, with lower inventories of finished goods and work in progress and a higher inventory of materials and goods.

Following a period of rapid growth in the volume of investment expenditure in Poland in the second half of the nineties (averaging over 12% in the years 1994–1999), in 2000 that growth basically came to a stop. Last year saw a dramatic decline in investments, by almost 10%. This adverse trend was also continued in 2002, though the fall in corporate investment in the 1st HY and Q3 was lower than in Q4 2001. Relevant studies failed to identify any single basic factor resulting in the reduction in corporate investment activity in Poland in the years 2001–2002. Apart from macroeconomic factors, such as the slowdown in the global and Polish economies and the high interest rates on long-term credits, investment patterns were strongly dependent on the microeconomic environment in which specific enterprises had to operate. The lower propensity to invest was displayed by enterprises with foreign equity and businesses with a large proportion of exported output. It can be assumed that this was due, in addition to the poor condition of the world economy, to substantial investments made by those enterprises in the years 1995–1999. Following high expenditure in previous years, these enterprises currently operate upgraded production assets of a relatively high level of technology. Increased propensity to invest characterised domestic enterprises operating primarily on the domestic market. Given the limited demand, their investment decisions were greatly influenced by growing competition, forcing an accelerated upgrading process and asset restructuring. Upgrading needs, next to increased utilisation of production capacity, as signalled in the course of the year in studies on the economic situation, were the prime factor preventing a fall in

Figure 2
Gross capital formation (PLN million, 2001 prices)

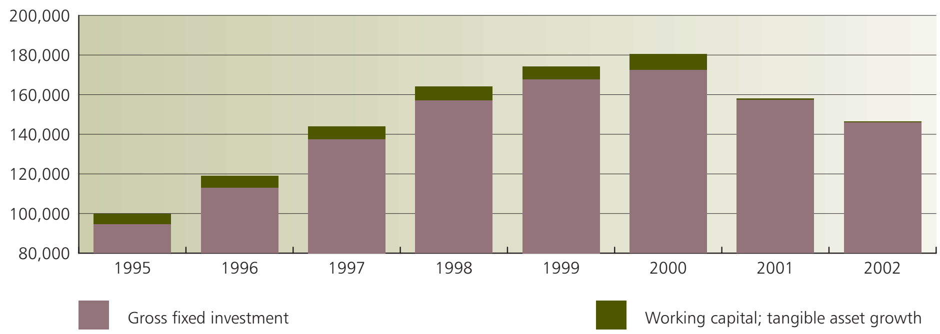


Figure 3
Growth in working capital tangible assets (PLN million, current prices)

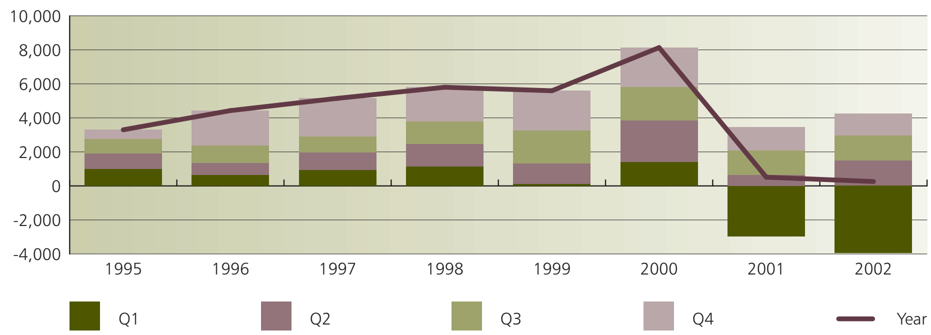


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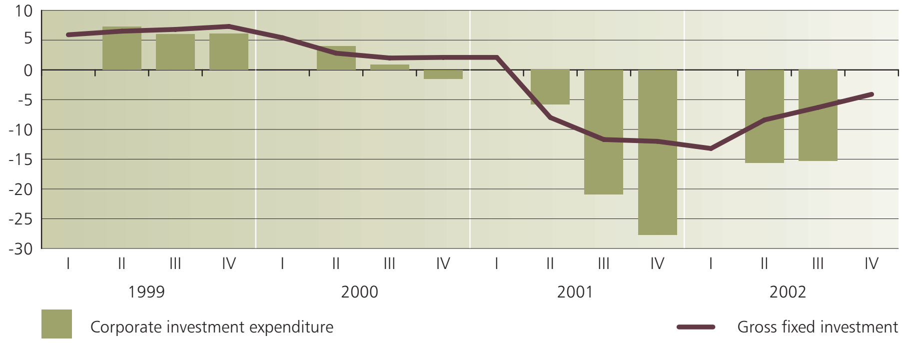
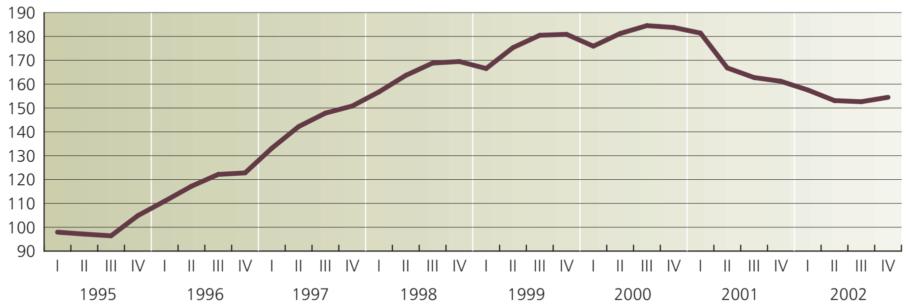
Figure 4
Movements in investment expenditure
(corresponding quarter (*) previous year)



* For corporates 1st HY, Q3 and Q4.

Figure 5
Gross fixed investment (quarterly average 1995=100, net of seasonal effect)



investment expenditure. In the course of consecutive quarters of the year, the decrease in gross fixed investments was gradually reduced. The figures net of seasonal factors show that in Q4 2002 the decline in investment volume was halted. This finding is supported by the information on the growing cost-estimate value of investment projects in progress.

1.1.2. Consumption

In 2002, consumption growth was higher than in 2001 (2.9% against 1.7% in 2001). The rate of personal consumption growth exceeded (by 3.3% against 2.0%) that of collective consumption (by 1.5% against 0.3%). An acceleration of personal consumption growth was recorded despite the falling purchasing power of registered components of gross disposable household incomes. It is estimated that incomes generated within the officially registered economy were still high.

According to preliminary estimates, purchasing power of hired labour incomes in 2002 declined for the third year in row. This was due to a further substantial decrease in employment (in the enterprise sector – by 4.4% against 3.3% in 2000 and in 2001), with a slightly lower growth than in 2001 in average real salaries (in the enterprise sector by 1.5% against 1.6% in 2001). Still rapid, though slower than a year earlier, was growth in payments of social security benefits (average old-age and disability pensions appreciated by 4.6% in real terms). According to estimates, the real incomes of private farmers continued to fall, the prime reason being the dramatic deterioration of price relations. The introduction of taxation on interest income led to a substantial reduction in household deposits held at banks. In consequence, taxed interest generated by households only slightly exceeded the interest paid by them (by PLN 0.4 bn against PLN 9.4 bn in 2001). The fall in the interest balance led to a considerable decrease in incomes from property. All in all, it is

Figure 6
Movements in real personal consumption and disposable incomes

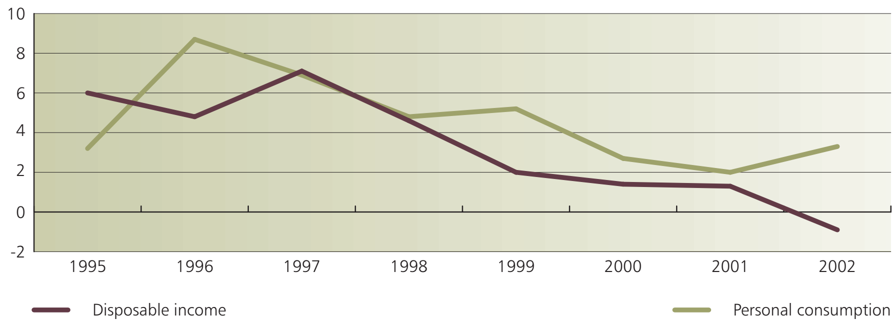
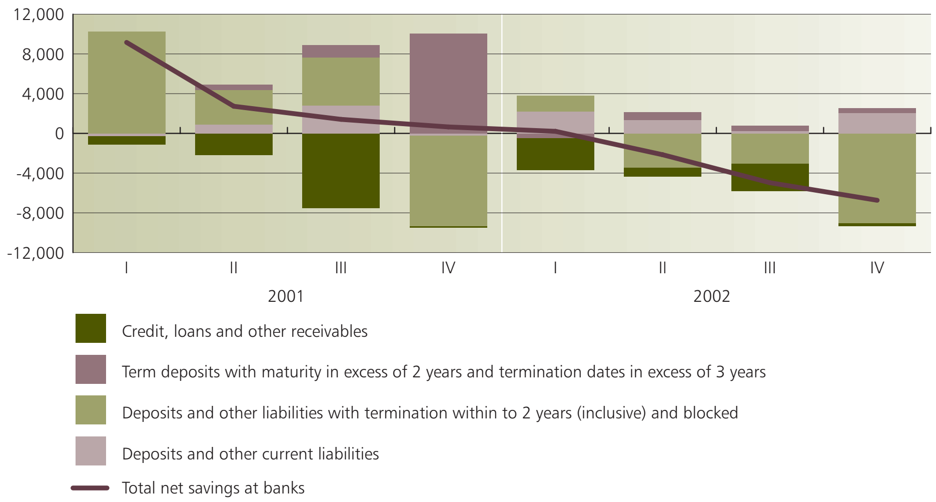


Figure 7
Net household savings at banks and their structure



estimated that in nominal terms gross disposable household incomes grew last year by roughly 1% while decreasing also by 1% in real terms.

Due to consumption growth being higher than registered disposable household incomes, household savings holdings are likely to drop. According to preliminary NBP estimates, the share of savings in household incomes (gross savings rate) declined from over 10% in the years 2000 – 2001 to 7–8% in 2002. At the same time, the structure of savings altered markedly following the taxation of interest incomes derived from bank deposits.

The banking system saw a fall in the value of household deposits by PLN 6.6 bn and an increase in household indebtedness by PLN 7.1 bn. It is estimated that the remaining financial household savings grew almost threefold in 2001 (among others, value of investment fund assets increased from PLN 10.2 bn at the year end 2001 to PLN 19.5 bn at the year end 2002).

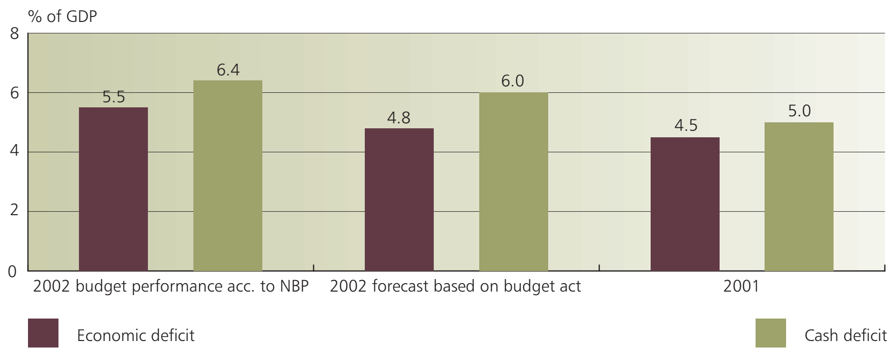
1.1.3. The public sector financial deficit

In 2002 saw a further relaxation of fiscal discipline. According to preliminary estimates, public finance sector showed cash deficit equivalent to approx. 6.4% of GDP[6], i.e. higher than that realised

[6] Public sector cash deficit to the value of gross domestic product estimated using a new methodology. If the manner of calculating GDP had not been altered, this ratio would have amounted to 6.6%.

1

Figure 8
Public sector financial deficit



Source: Ministry of Finance figures.

in 2001 and that forecasted in the explanatory notes to the 2002 budget act (see Figure 8). The economic deficit also increased[7] and, according to preliminary estimates, stayed flat at roughly 5.5% of GDP[8], i.e. grew compared to 2001 by 1 percentage point.

The size of the public sector financial shortfall in 2002 was greatly affected by the condition of the state budget. Last year the budget deficit widened to 5.1% of GDP up from 4.3% in 2001. On the one hand, this was the effect of moderate budget income growth at a time of economic slowdown. On the other, the budget gap could be attributed to a high growth in expenditure, more than the double the increase in budget receipts.

Budget receipts in 2002 fell short of the volume provided for in the budget act[9], despite being higher than in 2001 in real terms. Under comparable conditions, i.e. after deducting one-off revenues, last year's budget receipts would have been nominally higher by 4.9% and in real terms lower by 2.9%.

Lower than planned 2002 indirect taxation and personal income tax receipts were partially compensated for by high corporate income tax and non-tax receipts (mainly from higher contribution from the NBP profits and custom tariff receipts).

Failure to secure planned revenues from indirect taxation can be traced, first of all, to systemic changes in excise duty, namely, the later than originally planned introduction of excise duty on electricity and a 30% cut in the excise duty charged on spirits, in the last quarter of 2002[10]. Value added tax receipts were close to the planned figure, despite the rate of inflation being considerably lower than anticipated and reducing the nominal tax base. The impact of that factor, however, was compensated for by a higher increase in consumer demand than expected by the government and, in consequence, a higher growth in retail sales.

Lower than planned personal income tax receipts in 2002 derived from the slower than assumed salary growth and a fall in employment throughout the national economy, as well as to the government's failure to achieve the planned receipts from interest income taxation. On the other hand, last year's high corporate income tax receipts reflected an improvement in the condition of corporate finance, as compared to 2001.

[7] Economic deficit is the public sector cash deficit plus compensatory payouts due to the government's failure to raise salaries, old-age and disability pensions at the turn of 1991/1992, less social security premiums transferred by the Social Security Office (ZUS) to open-ended pension funds (OPFs) and funds accumulated in a given year in the Demographic Reserve Fund.
[8] If the additional category introduced by the Ministry of Finance at the stage of constructing the 2003 budget and adjusting the deficit value, i.e. debt servicing costs paid to OPFs in connection with their investments in state treasury bonds, were to be taken into account, the economic deficit would be smaller and amount to 5.2% of GDP.
[9] It should be stressed that in the course of parliamentary debates the size of budget receipts and expenditure originally assumed by the government was raised by PLN 1.2 bn concurrently in both categories, to comply with the requirement not to alter the budget deficit levels proposed by the government.
[10] According to NBP estimates, the resulting loss in receipts amounted to roughly PLN 0.3 bn.

In 2002, state budget expenditure expanded by approx. PLN 10 bn as against 2001, i.e. in nominal terms by 5.8% (in real terms by 3.8%). Original budget expenditure, i.e. expenditure less public debt servicing costs, rose by 4.5% (2.6% in real terms) to reach approx. 20.6% of GDP (against 20.3% in 2001).

The structure of the state budget's total expenditure in 2002 saw no improvement. The largest single item of budget expenditure (accounting for over 65% of its value) was still consumption and benefit-related spending, that is, corporate grants and subsidies as well as benefits disbursed to natural persons. An important item of budget expenditure (13.1%) were the dynamically growing costs of servicing the public debt. Despite an increase in asset investment over the previous year (by 21.7%), its proportion of the total budget expenditure amounted to slightly over 4%, which reflects their negligible role in stimulating investment demand.

In 2002, the financing of the budget deficit was effected in a different manner than originally assumed in the budget act. Given the considerably lower than planned level of privatisation receipts, the budget's extensive cash needs were met primarily by treasury securities issues. In the first half of 2002, these represented one of key factors stimulating appreciation pressure on zloty and raising the profitability of treasury bills and bonds. At the same time, they limited the scope of options available for financing economic growth through the involvement of banks in funding budget needs.

Table 4
Performance of 2002 budget

	2002		2002/2001 growth		Performance/plan
	Budget act*	Performance			
			Nominal	Real	
	PLN million		%		
RECEIPTS:	**145,101.6**	**143,527.0**	**102.1**	**100.2**	**98.9**
Taxation	131,698.7	128,750.9	108.1	106.1	97.8
– Indirect taxation	91,324.5	89,603.9	108.7	106.7	98.1
– Corporate income tax	13,833.8	15,008.4	113.5	111.4	108.5
– Personal income tax	26,540.4	24,139.0	103.0	101.0	91.0
Other income	13,402.9	14,776.1	69.0	67.7	110.2
EXPENDITURE:	**185,101.6**	**182,922.5**	**105.8**	**103.8**	**98.8**
Grants and subsidies	104,418.9	104,373.1	106.2	104.2	100.0
Benefits paid to natural persons	14,502.2	15,091.7	102.3	100.4	104.1
Current expenditure of state budget units	30,244.0	29,800.8	101.8	99.9	98.5
Asset investment	8,210.3	7,811.4	121.7	119.4	95.1
Settlements with banks	2,036.2	1,797.3	54.8	53.8	88.3
Public debt servicing	25,690.0	24,048.3	115.1	112.9	93.6
DEFICIT	**-40,000.0**	**-39,395.5**	**121.7**	**119.5**	**98.5**
Internal funding	**38,820.3**	**35,947.5**	**82.3**	**80.8**	**92.6**
Treasury bonds	5,850.5	7,993.6	74.1	72.7	136.6
Bonds	26,613.8	28,364.9	105.8	103.8	106.6
Privatisation receipts	6,600.0	1,971.6	30.4	29.8	29.9
External funding	**1,179.7**	**3,448.0**	**-30.5**	**-29.9**	**292.3**

* The 2002 budget act of March 14, 2002.
Source: Ministry of Finance

Further aggravation of the financial imbalance in the public sector in 2002 was greatly influenced by increased deficit within other areas of the sector, mainly funds and agencies. According to preliminary estimates, their deficit reached approx. 1.3% of GDP against the planned 0.8% of GDP, and 0.6% of GDP recorded the year before.

Due to low insurance premium receipts, the Social Security Fund raised its indebtedness towards the banking system. At the same time, its arrears towards open-ended pension funds also increased. Despite considerably higher than a year earlier subsidy from the state budget, the indebtedness of the Labour Fund also grew due to the costs of bank loans. Shortage of funds for benefit payments was also evident in the Employee Guaranteed Benefit Fund which was given the statutory right to take out bank credits and thus became a new source of indebtedness for the public sector as of July 2002. In 2002, financial problems also affected the Agricultural Market Agency. The increase in its spending in excess of generated revenues was partially financed from a bank credit.

In total, it may be estimated that in 2002 the expenditure of the public finance sector accounted for approx. 45.2% of GDP. The scale of redistribution of the national income by the budget thus grew by 1.5 percentage point in relation to 2001. This was accompanied by an increased fiscal burden due to the introduction of excise duties on electricity, the freezing of tax thresholds, the curbing of tax breaks and the taxation of interest income.

Summing up, the year 2002 saw further growth in the public sector financial deficit. The basic reason for the growing dis-equilibrium within that sector was a high level and inflexibility of public expenditure. The maintenance of a high deficit for another year in a row resulted in the increase of public indebtedness up to 47.6% of GDP by the end of 2002, or by 6 percentage points compared to the 2001 figure. The worsening financial condition of the public sector, combined with the absence of signals pointing to decisive restructuring measures being taken, negatively affected the scale of interest rate cuts made by the NBP.

1.2. Domestic supply

According to GUS preliminary estimates, in 2002 gross added value grew by 1.3%, compared to the 1.0% growth in 2001. In the course of the year, a gradual acceleration of growth could be seen – from 0.5% in Q1 to 2.0% in Q4. This was due to the persistent relatively high personal consumption growth and increasingly higher exports growth, with a falling decline in investment demand. Shifts in the demand structure were reflected in the sectoral structure of added value. Added value continued to fall in the construction sector. A faster growth of added value was recorded for commercial services. Following a decline in 2001, added value in industry recovered.

Added value growth in industry resulted from increased output in the processing industry. Sold industrial output (in large and medium-sized enterprises) in 2002 was 1.5% higher than in the previous year. Also, output in the processing industry increased by 2.1%, whereas electricity, gas and water production and supply figures and coal mining and quarrying output decreased by 0.2% and 3.4%, respectively. In the industrial processing sector, the sales of the enterprises manufacturing primarily consumer goods rose by approx. 5%, whereas the sales of the enterprises producing investment goods shrank by some 1%. The share of sections and groups of industries considered carriers of technical progress in the value of sold industrial output increased.

Sales growth recorded in the sections allocated to the commercial services sector increased. Sales of transport services grew by approx. 3%, while that of communication by almost 9%. The volume of retail sales of large and medium-sized enterprises expanded by 1.6%. The sales of wholesale trade calculated in current prices climbed over 9%. According to preliminary information, the financial standing of insurance companies improved, while that of other entities involved in financial intermediation, enterprises providing real-estate services and conducting economic activity, deteriorated.

Construction activity was less dynamic than a year earlier by 10.5% (in 2001 by 9.1%). A further decline in output was due to a 12.1% reduction in the sales of construction work (against 10.9% in 2001). Sales of renovation work was lower by 6.1% (against 7.1% in 2001). Within the construction output structure, the share of buildings shrank by 6.0%, including residential housing (by 3.3%) and commercial housing (by 1.8%). There was a 6.0% increase in the share of civil and hydraulic engineering facilities, including motorways, expressways, streets and other roads (by 3.9%).

2

Foreign Trade and the balance of playments

The year 2002 was the third consecutive year with a falling current account deficit. Compared to 2001, this deficit decreased by over EUR 800 million, and since 1999 – by EUR 3.74 bn to reach EUR 7.2 bn. On the other hand, as a proportion of GDP, the current account deficit shrank in 2002 to 3.6% down from 7.5% in 1999. Improvement in the current account balance was primarily attributable to a reduction in the commodity trading deficit (cf. Figure 9). Other items of the current account (aside from transfers, the levels of which remained fairly stable compared to 2001) contributed to a deterioration in its balance. The negative income balance widened by EUR 650 million, whereas the surplus on unclassified transactions shrank by EUR 680 million..

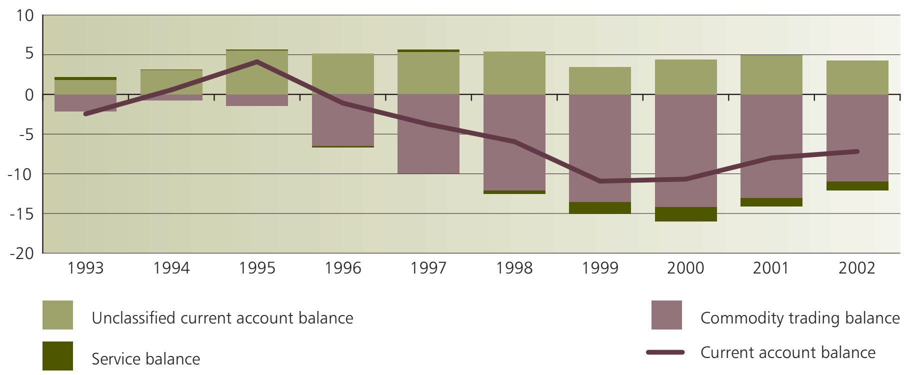
The decrease in the commodity payment deficit last year (by EUR 2.1 bn) was due, as in 2001, to export growth being higher than that of imports. The value of the balance of trade was strongly influenced by the depreciation of US dollar in relation to the euro[11], thus reducing trade balance growth expressed in EUR against the growth calculated in US dollars and PLN[12].

Table5
Current account deficit to GDP (%, progressively per year)

	Q1	Q2	Q3	Q4
1999	4.5	5.8	7.0	7.5
2000	8.1	7.6	7.1	6.1
2001	5.2	5.1	4.2	3.9
2002	4.0	3.6	3.5	3.6

Source: NBP figures.

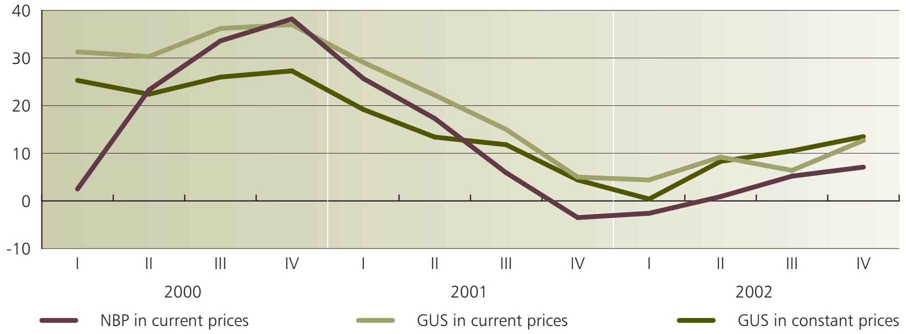
Figure 9
Current account balance, 1993–2002 (annual figures in EUR bn)



Source: NBP figures.

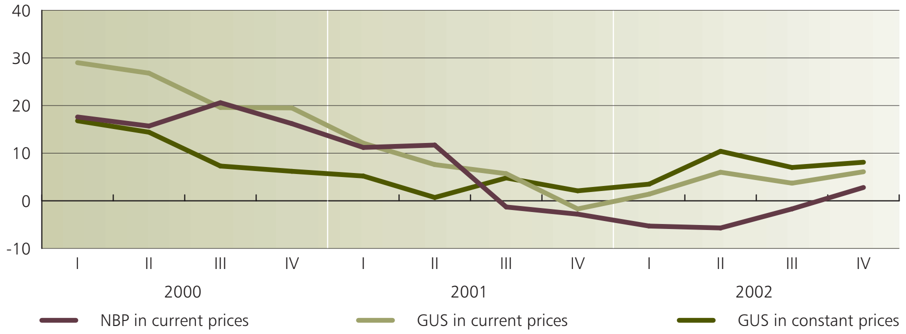
[11] Cf. Subsection *6.3.2. Exchange rates.*
[12] In 2002, exports receipts expressed in EUR grew by 2.7% compared to the preceding year, i.e. their growth was over three times slower than in 2001 (9.9%). Meanwhile, import expenditure in EUR fell in 2002 compared to 2001 by 2.4% (in 2001, their value climbed by 4.2%). On the other hand, exports value in USD grew in 2002 by 8.8% (in 2001 – by 7.1%), whereas that of imports – by 3.2% (by 1.3% in 2001). Also higher was the 2002 trade growth expressed in PLN: exports grew by 8.4% (in 2001 by 0.7%), while imports by 2.6% (-4.6%).

Figure 10
Movement in Polish exports (quarterly figures in EUR, expressed as percentage against previous year)



Source: NBP and GUS figures.

Figure 11
Movements in Polish imports (quarterly figures in EUR, expressed as percentage against previous year)



Source: NBP and GUS figures.

As shown in the **balance of payment statistics** (NBP figures), the falling trend in export receipts, initiated in Q4 2001, expressed in EUR (a 0.8% decrease compared to the first half of 2001) continued in the first half of 2002. However, in the second half of 2002, and in particular in Q4, came a marked increase in export receipts (by 7.1% compared to Q4 2001). In the meantime, the falling trend in imports prevailing from Q2 2001 was sustained until Q3 2002. It was not until Q4 2002 that import payments grew by 2.8% over the corresponding period of the previous year.

The above trends in trade growth support the **customs statistics**[13] (GUS figures) (cf. Figure 10 and Figure 11). In 2002, the value of euro exports climbed by 8.2% (by 16.9% in 2001), while that of imports rose by 4.4% (by 5.6% in 2001). In addition to falling volume growth (8.3% down from 11.8% in 2001), the 2002 slowdown in growth of exports was caused by lower transaction prices in euro (by 0.1% against their 2001 increase by 4.6%). On the other hand, the 2002 slowdown in import growth on the preceding year resulted from falling import prices expressed in euro (by 2.7% compared to 2001). The increase in import volume in 2002 represented over double that recorded in 2001 (7.3% against 3.2%).

The slow growth in Polish exports in the first half of 2002 could be traced to the deteriorating economic situation in Poland's most important exports market, i.e. the European Union (Cf. Table 6). Progressive PLN depreciation in the course of 2002 contributed to an improvement in export growth in the second half of 2002.

[13] All indicators quoted below are calculated in EUR.

Table 6
Selected economic indicators of the European Union and Germany
(percentage change in relation to the corresponding period previous year, constant prices)

	European Union					Germany				
	2001	2002				2001	2002			
	Q4	Q1	Q2	Q3	Q4	Q4	Q1	Q2	Q3	Q4
Gross Domestic Product	**0.6**	**0.4**	**0.8**	**1.1**	**1.4**	**0.1**	**-0.2**	**0.0**	**0.4**	**0.7**
Domestic demand	**0.2**	**0.2**	**0.2**	**0.6**	**1.0**	**-1.6**	**-2.3**	**-2.1**	**-0.9**	**-0.4**
Personal consumption	2.0	1.0	0.9	1.2	1.5	1.6	-0.5	-1.2	-0.6	-0.1
Collective consumption	2.1	2.3	2.6	2.7	2.6	0.0	1.0	1.8	2.3	1.0
Gross fixed investments	-2.7	-2.9	-3.3	-2.5	-1.7	-7.0	-6.4	-7.8	-6.7	-4.0
Movements in inventories*	-0.4	-0.3	-0.3	-0.3	-0.2	-0.9	-1.1	-0.5	-0.5	-0.4
Exports	-3.0	-2.7	0.8	2.9	3.7	-0.5	0.1	1.8	3.7	5.1
Imports	-4.2	-3.4	-0.9	1.8	2.7	-5.5	-6.1	-4.1	0.1	2.0
Added value in industry	-2.1	-2.3	-0.3	0.2	1.3	-2.8	-5.0	0.9	2.0	1.4
Added value in construction	0.4	0.4	-0.4	-0.7	-0.7	-4.9	-7.0	-4.9	-4.8	-7.0

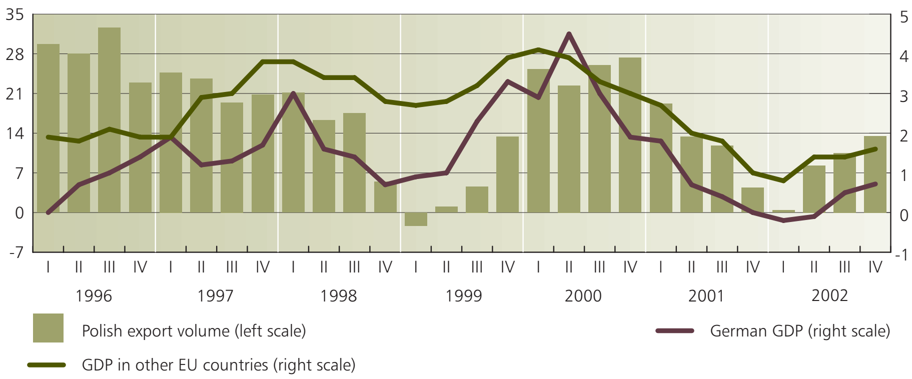
*As percentage of GDP.
Source: Eurostat.

In Germany, the GDP grew by a mere 0.2% in 2002, hitting a record low since 1993. A considerable fall in domestic demand led to a decrease in German imports. It fell by 2.1% compared to 2001. As a result, growth of Polish exports to Germany also declined. According to customs statistics, in 2002 Polish exports increased by a mere 1.8% against the 15.8% growth in 2001.

Far more favourable was the 2002 performance of Polish exports to other member states of the European Union and countries of Central and Eastern Europe. Sales to fourteen EU member states grew by 13.1%, compared to 2001. This was probably due to the economic slowdown in these markets being less marked than in Germany. The growth of Polish exports to France, Poland's second largest trading partner after Germany, where GDP increased by 1.2% in 2002, was especially impressive and amounted to over 20%.

Growing in 2002 (though at a slower rate than in the preceding year), demand in the economies of Central and Eastern Europe had a beneficial impact on Polish exports to this group of countries. In 2002, growth of our exports to Russia amounted to 19.7% (compared to 27.0% in

Figure 12
Movements in Polish exports vs. changes in GDP of Germany and other EU Member States
(quarterly figures, constant prices)



Source: NBP figures.

2001). It is worth noting that Poland's increased exports to this country were relatively high against the background of Russian imports in general[14]. A marked decline in its growth at the end of 2002 was attributable to the generally slower growth of total Russian imports (primarily because of the weaker real exchange rate of the Russian currency). Despite the high 2002 growth of Polish exports to Russia, both its value and Russia's share in total Polish exports still remain considerably below the figures recorded before the Russian crisis.

The 2002 disproportion in the rate of economic growth between Germany and other EU countries affected the geographical and commodity structure of Polish exports to the EU. Falling demand in Germany resulted in the shifting of some Polish exports from the German market to the markets of other EU countries. This, in turn, due to considerable structural differences between Polish exports to Germany and to other EU countries, entailed movements in the commodity structure of our exports to the European Union. These changes consisted in increasing the share of machinery and transport equipment. Polish exports to Germany are characterised by a lower proportion of highly processed commodities than in the case of exports to other EU countries. For example, although in 2002 commodities classified as machines and transport equipment accounted for 38% of our exports to Germany, their share in the exports to other EU countries amounted to an average of 44% (to France – 45%, Italy – 51%, Great Britain – 44%). Differences in the commodity structure of the Polish exports to Germany and to other EU countries is even better illustrated by the inter-industry trading indicator. In 2001, the inter-industry index accounted for 40% of trading exchanges between Poland and Germany, whereas in the trade with other EU countries – 51%[15].

A relatively large share in Polish exports to Germany (compared to other EU countries) is of products classified as so-called "other processed goods", namely objects made of wood, furniture, clothing and metallurgical products, all of them labour and input-intensive. Because of Germany's close proximity, Poland enjoys a geographical advantage in these commodity groups over other suppliers (shorter distance translates into lower transport cost s and promotes the revitalisation of economic contacts). In all of the above commodity groups (except for furniture) the share of foreign investment in exports is relatively small. Objects made of wood, furniture, clothing and metallurgical products represented in 2001, more or less, 40% of total Polish exports to the German market (which, given Germany's 32% share in Polish exports, accounts for over 10% of total Polish exports). Because of the much higher exposure of these commodities to fluctuations in the economic situation than that of machines and equipment, following the weakening of import demand in Germany, a decline was recorded in 2002 in the combined value of their exports by 4.9% compared to 2001, with a concurrent rise in the exports of machines and equipment by 9.4%.

While the increased sales of machines and means of transport to a large extent made up for the fall in Polish exports to Germany in the majority of other commodity groups, in the case of exports to other EU countries it contributed to their higher growth. Maintenance of higher than average growth in Polish exports across these commodity groups was associated with the large share of foreign investors, including international corporations, active in the industries manufacturing such goods.

Under the growing exports of machines and means of transport in 2002 (by 13.8% compared to 2001; exports of means of transport increased by 11.2%), a major role was played by exports of various types of spare parts, elements and subassemblies. This reflects the importance of intra-firm trade in Polish exports, conducted on a business-to-business basis, which developed global or regional integrated manufacturing networks[16]. Internal combustion engines accounted for the largest share in this form of trading, followed by other car components, spare parts for electrical devices, electrical cables and

[14] According to the figures of the State Customs Committee of the Russian Federation, in 2002 Russian imports from the countries outside CIS (calculated in EUR) grew by 9.9%, whereas imports from Poland - by 26.7%. Differences between Polish and Russian figures result from the fact that Polish exports to Russia are calculated on the FOB basis, while Russian imports from Poland – on the CIF basis. Additionally, the scope of transactions covered by foreign trade statistics in Poland is slightly different from that applied in Russia.

[15] Own calculations based on Eurostat figures.

[16] Intra-firm trade takes place between companies operating under uniform ownership and joint management, in other words, between subsidiaries of supranational corporations or between subsidiaries and their mother company.

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Table 7
Movements in exports by major SITC commodity groups (in EUR)

	Structure (%)			Growth (% change to previous year)		Growth impact (%)	
	2000 I-XII	2001 I-XII	2002 I-XII	2001 I-XII	2002 I-XII	2001 I-XII	2002 I-XII
Total	100.0	100.0	**100.0**	**17.4**	**8.2**		
Unprocessed goods	15.9	16.0	**15**	**18.5**	**1.0**	**2.9**	**0.2**
Foodstuffs	7.9	7.8	7.5	15.6	4.2	1.2	0.3
Raw materials	2.9	2.6	2.5	4.7	4.4	0.1	0.1
Mineral fuels	5.1	5.7	5	30.7	-5.1	1.6	-0.3
Processed goods	84.1	83.9	**85.0**	**17.2**	**9.6**	**14.5**	**8.1**
Chemicals	6.8	6.3	6.3	8.3	8.8	0.6	0.6
Machines and transport equipment	34.1	36.2	37.6	24.5	12.5	8.3	4.5
Other processed goods	43.1	41.5	41.1	12.9	7.2	5.6	3

Source: Foreign Trade IT Centre (FTIC) figures.

Table 8
Movements in exports by major groups of countries (in EUR)

	Structure (%)			Growth (% change to previous year)		Growth impact (%)	
	2000 I-XII	2001 I-XII	2002 I-XII	2001 I-XII	2002 I-XII	2001 I-XII	2002 I-XII
Total	100.0	100.0	**100.0**	**17.4**	**8.2**		
Developed countries	76.4	75.0	**75.1**	**15.3**	**8.3**	**11.7**	**6.2**
UE	69.9	69.2	68.8	16.3	7.5	11.4	5.2
Germany	34.9	34.4	32.3	15.8	1.8	5.5	0.6
France	5.2	5.4	6.0	22.2	20.6	1.2	1.1
Italy	6.2	5.4	5.2	30.6	12.4	1.4	0.6
Great Britain	4.5	5.0	5.5	1.4	10.4	0.1	0.6
Central and Eastern Europe	11.6	12.3	**12.8**	**24.8**	**12.5**	**2.8**	**1.5**
CIS	6.6	7.0	**7.2**	**23.3**	**11.2**	**1.5**	**0.8**
Russia	2.7	2.9	3.3	27.0	19.7	0.7	0.6
Developing countries	5.2	5.5	**4.8**	**25.3**	**-5.2**	**1.3**	**-0.3**

Source: FTIC figures.

components used for manufacturing TV sets. Among finished products in the machine and equipment category, TV sets represented the largest group of commodities. In the means-of-transport group, high growth was recorded in the exports of utility vehicles (including private car exports as of Q4 2002).

In 2002, similarly to 2001, a key role in stimulating Polish exports was played by shipping exports (a sales increase by 17.3%). These exports, characterised by low exposure to fluctuations in the economic situation, primarily took the form of overhaul services.

The main reason for the 2002 increase in the volume of Polish imports compared to the corresponding period of the previous year was the higher growth in domestic consumer demand, as well as increased shipping imports effected under overhaul services schemes.

The value of imports in the commodity groups of a consumer nature climbed in 2002 by 7.6% compared to the previous year, primarily as a result of increased car imports by 20.6%. Such substantial increase in car imports was stimulated, among other factors, by the removal of import duties following the ending of the process liberalising access to the Polish car market under the European Agreement. Imports of other groups of consumer goods grew at a much slower rate (4.8% against 11.9% in 2001), one of the major reasons being the fall in the value of durable goods imports. In practise, the value of input imports did not alter in 2002. Growth of these imports was hampered by a further decline in the import of car components. However, in Q4 2002 their import recovered following higher car exports.

A further decline in investment expenditure in Poland in 2002 resulted in lower imports of machines and equipment. Imports of investment goods[17] (exclusive of means of transport) shrank last year by 1.9% compared to 2001.

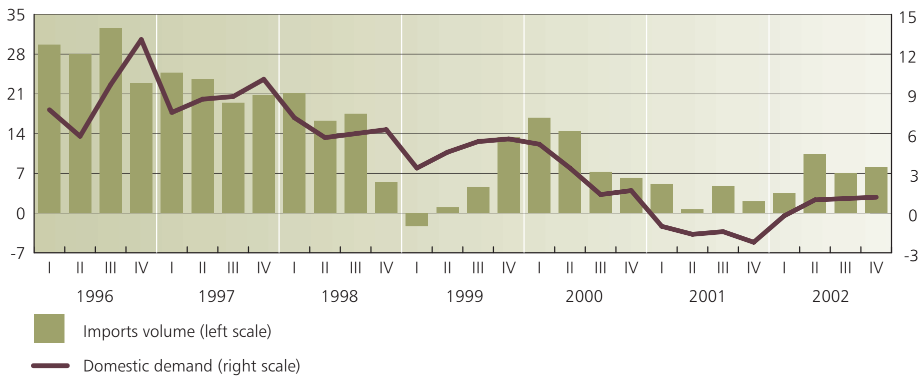
The falling value of mineral fuel imports in the first three quarters of 2002 had a significant impact on the weakening of imports growth last year.

The year 2002 saw considerable improvement in price and cost competition in Polish foreign trade. The following were the contributing factors: nominal PLN depreciation[18], continuation of deflationary trends in the domestic market, growth of work efficiency in the national economy in excess of salary growth[19].

The above phenomena were reflected in a marked depreciation of the real PLN exchange rate (cf. Table 11, Figure 14 and Figure 15) and improved indicators of the competitiveness of the Polish economy (Cf. Table 12).

The improved competitiveness of the Polish economy in 2002 compensated for the negative impact of the economic downturn in the European Union on Polish foreign trade figures. These trends are continued in Q1 2003.

Figure 13
Movements in imports vs. movements in domestic demand, 1996–2002 (quarterly figures, constant prices)



Source: GUS figures.

[17] Investment goods also include the so-called industrial means of transport. In this group ships imported to Poland under overhaul service schemes prevail. In 2002, the value of imported industrial means of transport grew by almost 70%, which contributed to an increase in total imported investment commodities index by 9.8%. The share of shipping in imports climbed to 2.5% in 2002.
[18] Cf. Subsection *6.3.2. Exchange rates*.
[19] Cf. Section 4.2. External prices.

2

Table 9
Movements in imports by SITC major commodity groups (in EUR)

	Structure (%)			Growth (% change to previous year)		Growth impact (%)	
	2000 I-XII	2001 I-XII	2002 I-XII	2001 I-XII	2002 I-XII	2001 I-XII	2002 I-XII
Total	**100.0**	**100.0**	**100.0**	**5.6**	**4.4**		
Unprocessed goods	20.2	19.5	**18.0**	**2.0**	**-3.3**	**0.4**	**-0.6**
Foodstuffs	5.6	5.9	5.6	10.2	-1.1	0.6	-0.1
Surowce	3.7	3.5	3.3	-0.4	0.1	0.0	0.0
Raw materials	10.8	10.1	9.1	-1.4	-5.7	-0.2	-0.6
Processed goods	79.7	80.4	**81.9**	**6.5**	**6.3**	**5.2**	**5.1**
Chemicals	14.0	14.6	14.9	9.7	6.3	1.4	0.9
Machines and means of transport	37.0	36.4	37.6	4.0	7.6	1.5	2.8
Other processed goods	28.7	29.3	29.4	8.1	4.7	2.3	1.4

Source: FTIC figures.

Table 10
Movements in imports by major group of countries (in EUR)

	Structure (%)			Growth (% change to previous year)		Growth impact (%)	
	2000 I-XII	2001 I-XII	2002 I-XII	2001 I-XII	2002 I-XII	2001 I-XII	2002 I-XII
Total	**100.0**	**100.0**	**100.0**	**5.6**	**4.4**		
Developed countries	70.9	70.0	**70.3**	**4.2**	**4.8**	**3.0**	**3.4**
EU	61.2	61.4	61.7	6.0	4.9	3.7	3.0
Germany	23.9	24.0	24.3	5.8	5.9	1.4	1.4
Francea	6.4	6.8	7.0	11.9	6.8	0.8	0.5
Italy	8.3	8.3	3.9	-1.3	-2.4	-0.1	-0.1
Great Britain	4.5	4.2	8.4	4.9	5.7	0.4	0.5
Central and Eastern Europe	7.9	8.2	**7.9**	**10.1**	**0.0**	**0.8**	**0.0**
CIS	11.0	10.4	**9.6**	**-0.1**	**-4.0**	**0.0**	**-0.4**
Russia	9.4	8.8	8.0	-1.6	-5.4	-0.2	-0.5
Developing countries	10.1	11.3	**12.1**	**17.9**	**12.5**	**1.8**	**1.4**

Source: FTIC figures.

The structure of financing the current account deficit in 2002 deteriorated (cf. Figure 8). The share of long-term foreign capital in the form of direct investment in financing the deficit fell to roughly 54% (from some 97% in 2001). Their inflow amounted to EUR 4.0 bn against EUR 7.7 bn in 2001. Falling direct investment was accompanied by a deterioration of its structure: the share of credits obtained directly from foreign investors increased (up to approx. 20% from roughly 16% in 2001). At the same time, the importance of net portfolio investment grew as the source of financing the current account deficit; net inflow of such investment in 2002 amounted to EUR 1.9 bn against EUR 1.1 bn in 2001.

Table 11
Effective zloty exchange rates, 2001–2002
(percentage change on the corresponding period previous year)

	2001				2002			
PLN exchange rate index	QI	QII	QIII	QIV	QI	QII	QIII	QIV
Nominal	6.3	15.9	5.8	8.1	2.7	-5.3	-6.4	-6.6
Real PPI deflated	6.9	14.2	3.8	6.1	2.1	-5.1	-6.1	-6.9
Real deflated by unit labour costs	3.1	17.5	3.8	11.6	-0.4	-10.4	-13.9	-18.6
Real deflated by exports prices	4.9	6.5	1.7	1.8	1.9	0.0	-3.1	-0.3

"–" – signifies depreciation of zloty exchange rate.
Source: NBP and GUS figures, own calculations.

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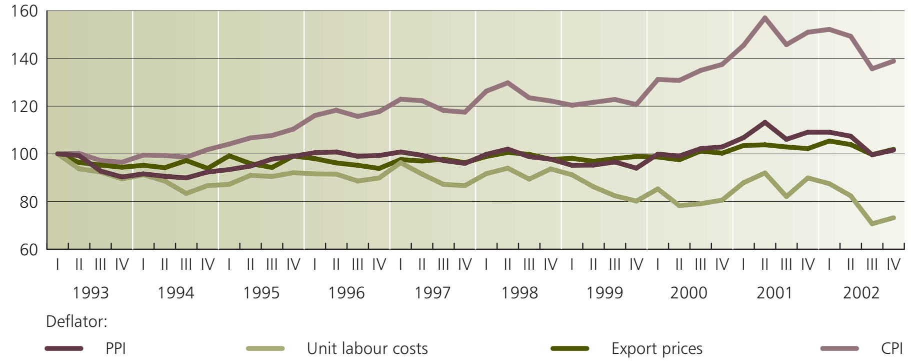
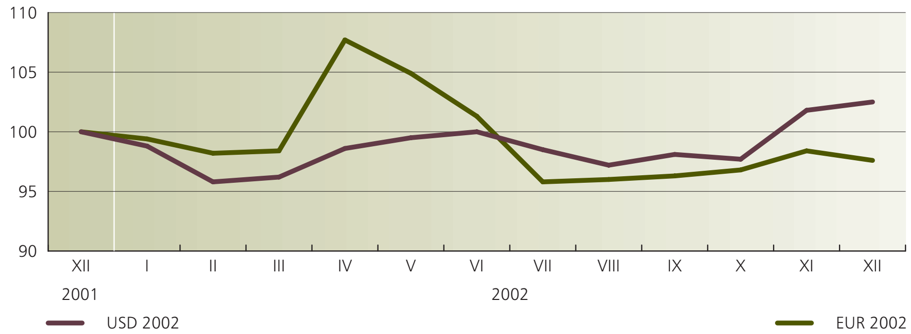
Figure 14
Real effective PLN exchange rate in the years 1993–2002 (quarterly figures, Q1 1993 = 100)



Source: NBP figures.

Figure 15
Real 1 PLN exchange rate against currencies of major trade partners
(December previous year = 100)2



[1] PPI deflated.
[2] Increase in index value signifies appreciation.
Source: NBP figures.

Based on the analysis of selected prudential ratios (Table 13), an assessment was made of the foreign trade deficit in 2002. Ratios describing current transactions, namely the current account balance and the commodity payment balance to GDP as well as currency reserves expressed in import-months and foreign debt service to exports were more advantageous in 2002 than a year earlier. On the other hand, ratios describing the proportion of the current account deficit funded

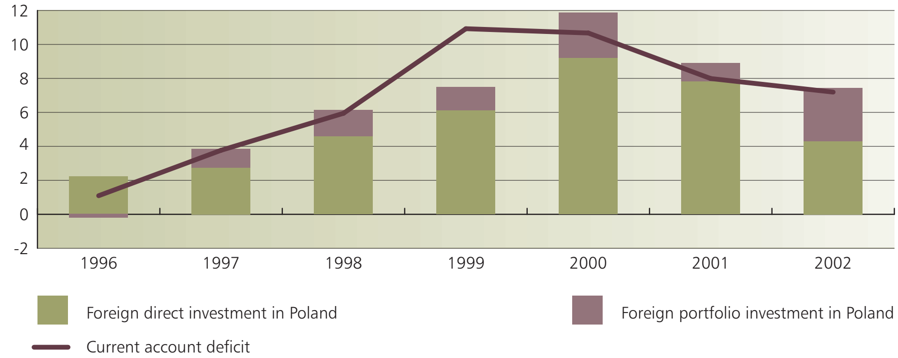
2

Table 12
Movements in competitiveness ratios *
(percentage change on corresponding period previous year)

	2001				2002			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Exports prices to industrial output prices	-1.9	-7.6	-2.1	-3.1	0.5	6.5	3.8	6.8
Exports prices to unit labour costs	2.8	-10.0	-3.6	-10.7	0.5	10.5	11.9	22.4

* These ratios show exports competitiveness in terms of prices and costs; their increase signifies improved competitiveness.
Source: GUS figures, own calculations.

Figure 16
Current account deficit vs. inward foreign investment in the years 1996–2002
(annual figures in EUR bn)



Source: NBP figures.

Table 13
Selected prudential ratios

Prudential ratio	2001	2002
Current account balance to GDP	-3.9	-3.6
Commodity payment balance to GDP	-6.4	-5.5
Direct investment to current account balance	96.9	55.7
(Saldo obrotów bieżących – inwestycje bezpośrednie)/PKB (w %)	-0.1	-1.6
Obsługa zadłużenia zagranicznego/eksport (w %)	52.8	47.8
Oficjalne aktywa rezerwowe – w miesiącach importu	7.7	7.5

Source: NBP calculations based on figures expressed in euro.

with inward external capital flows in the shape of direct investment, the proportion of current account deficit not funded by direct investment to GDP, and the equivalent of currency reserves expressed in import-months, all deteriorated compared to 2001.

3
The labour market

In 2002, the situation in the labour market deteriorated (Figure 17 and Figure 18). Average employment in the enterprise sector fell at a rate faster by 1.1 percentage point than in the preceding year, and declined in total by 4.4% compared to 2001 (by 226,000 persons against 174,000 in 2001). Most severe declines were recorded in construction (by 12.3%), transport, storage and communication (by 6.5%) sections. Equally dramatic falls took place in some sections of industrial processing.

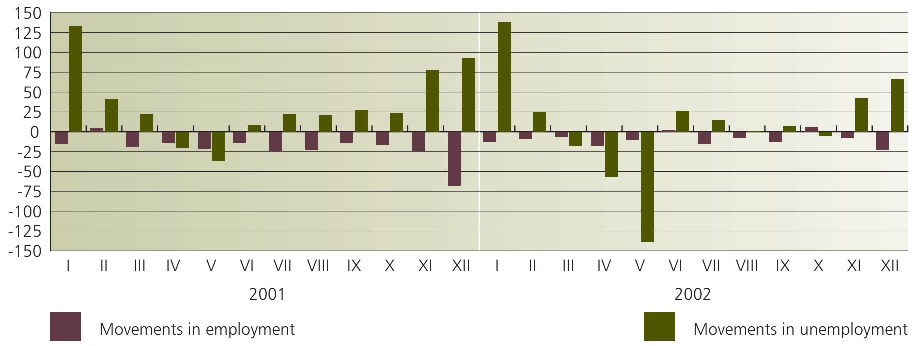
The supply of labour grew for another year in a row, the reason being the new wave of school leavers. In the course of 2002, over 60,000 more unemployed graduates were registered than the year before. The unemployment rate at the end of December 2002 reached 18.1% compared to 17.5% in December 2001, whereas the number of jobless rose by another 102,000 persons.

Retraining of the unemployed was further hampered by the fact that 60% of these people were poorly skilled (Figure 19). Therefore, persons subject to long-term joblessness represented the largest proportion of this group.

Figure 17
Employment and unemployment growth in the years 2001–2002 (corresponding month previous year = 100)

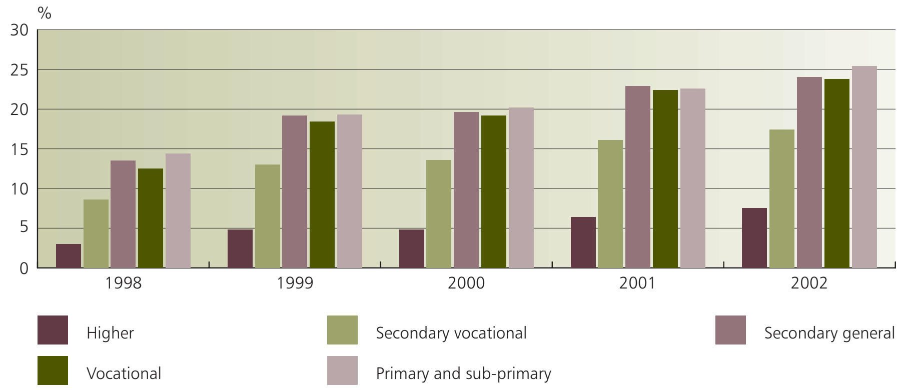
Source: GUS figures, NBP calculations.

Figure 18
Movements in employment and unemployment in the years 2001–2002 (previous month = 100)



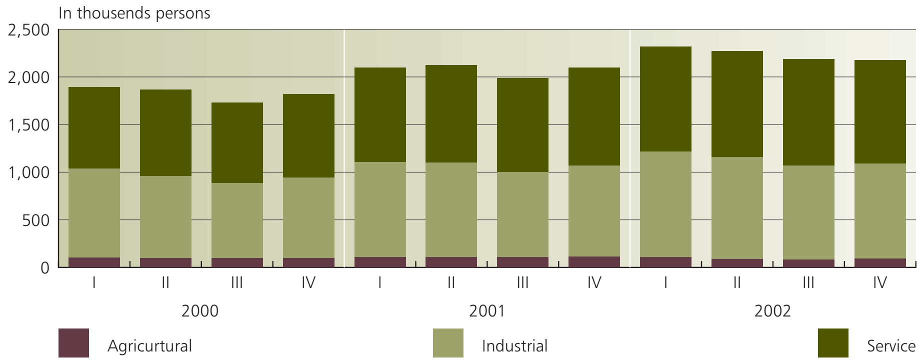
Source: GUS figures, NBP calculations.

Figure 19
Unemployment rate by education



Source: BAEL figures, NBP calculations.

Figure 20
Unemployment sources by sector of economy



Source: BAEL figures, NBP calculations.

Those who became unemployed as a result of downsizing came primarily from the service sector, which had until then absorbed the highest number of employees transferred from industry and construction. In the years 2000–2002, employment in the service sector increased by 1.7%, whereas the share of the unemployed originating from that sector in the total number of the unemployed climbed by 5.0%.

In order to improve competitiveness of their businesses, entrepreneurs are predicted to cut employment further. At the end of December 2002, some 1,900 businesses declared their intention to lay off 61,500 staff members in the immediate future, including over 75% from the private sector.

The deteriorating situation in the labour market alters the bargaining power of the parties involved in the process of determining salary levels. In particular, higher unemployment weakens the bargaining negotiating position of employees. This translates into slower salary growth and, consequently, slower price growth. In 2002, the situation in the labour market was worse than a year earlier, which led to weaker wage growth.

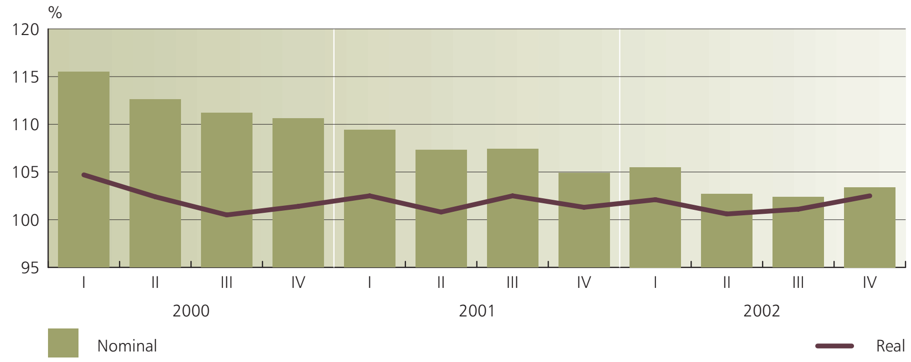
In 2002, average salaries, both nominal and real, grew at a slower rate than in 2001 (Figure 22 and Figure 23). Because of that, growth in real payroll-related costs of labour was also slow, remaining in Q3 and Q4 2002 below the level recorded in corresponding periods of the previous year (Figure 21). Annually, however, payroll-related labour costs increased, though at a rate slower than in 2001.

In the enterprise sector, average salaries rose in 2002 by 3.4% in nominal terms (by 7.1% in 2001), and in real terms by 1.5% (by 1.6% in 2001). The fastest salary growth was recorded in two sectors: transport, storage and communication (by 6.7%) and mining and quarrying (by 5.7%).

Figure 21
Growth in payroll-related labour costs and work efficiency (corresponding period = 100)

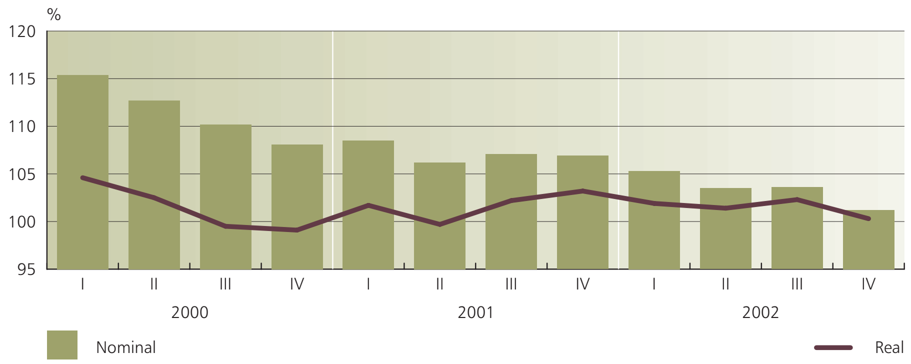
Source: GUS figures, NBP calculations.

Figure 22
Nominal and real growth of wages in national economy (corresponding period = 100)



Source: GUS figures, NBP calculations.

Figure 23
Nominal and real growth of wages in enterprise sector (corresponding period = 100)

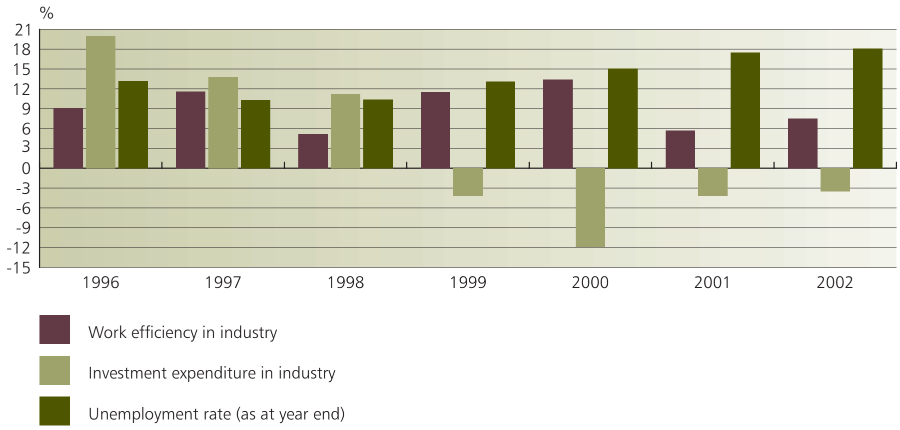


Source: GUS figures, NBP calculations.

3

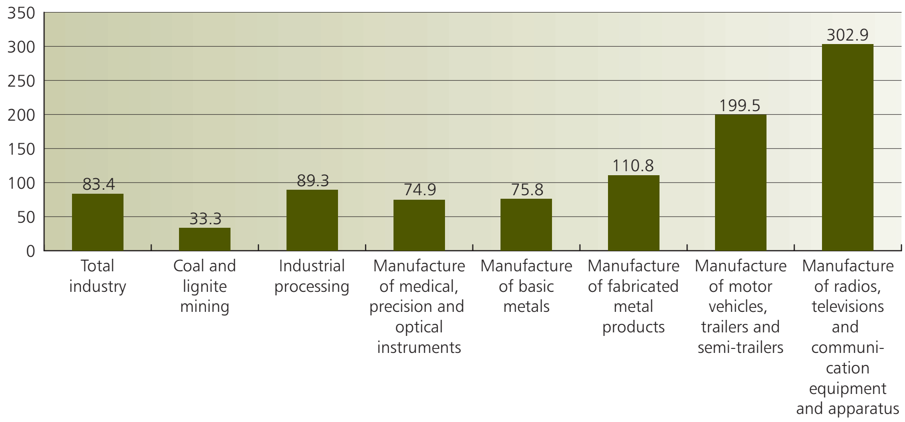
3

Figure 24
Movements in work efficiency and investment expenditure in industry (previous year = 100)



Source: Industry Statistical Yearbook, NBP calculations.

Figure 25
Work efficiency growth in selected sectors of economy in the years 1995–2002 (1995=100)



Source: Labour Statistical Yearbook, NBP calculations.

Payroll-related labour costs account for roughly a half of employment costs. The gap between payroll and total labour costs per employee stimulates a reduced job supply and a lower rate of job creation.

High taxation renders labour costs still the largest component of manufacturing costs. For a period of almost ten years (from 1990 to 1999), the burdening of employers with obligatory contributions, among others, to the Social Security Office, the Labour Fund, the National Fund for Rehabilitation of the Disabled, the Employee Guaranteed Benefit Fund and amendments to the Labour Code made over that period benefiting those employed, resulted in an increase of labour costs (combined with personal income tax) from 65–67% to 90–95% of net salaries.

The imposition of other than payroll labour costs constitutes a barrier that prevents the reduction of labour costs so that they are commensurate with work efficiency. Additionally, the relatively high personal income tax rates on low incomes, the freezing of tax thresholds, including thresholds on non-taxable incomes, as well as a lack of territorial differentiation of the minimum salary and the excessively limited possibilities of reducing the minimum salary offered to school leavers considerably raises labour costs in small and medium-sized enterprises.

The limitation of the response of the real sphere to inflationary impulses is also achieved through improved work efficiency. Despite the high growth in efficiency recorded for many recent years, its level still remains below that found in the countries of the European Union. Due to excessively low and ever shrinking investment expenditure in industry (Figure 24), downsizing remains, as in previous years, one of the prime methods of increasing work efficiency.

Work efficiency improves at various rates depending on the sector and sub-sector of manufacturing. This is determined by technical conditions, work organisation and the utilisation of labour resources (Figure 25).

The current situation in the labour market promotes containment of inflationary pressures which are reflected in the real sphere. This contributes in particular to the higher costs of fighting inflation.

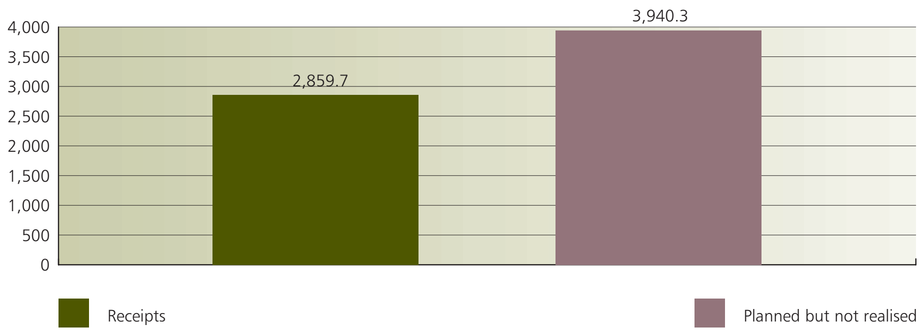
4
Other supply factors

4.1. Structural factors

Available data on business performance show that in 2002 no substantial progress was made in removing structural weaknesses from our economy. In particular, 2002 was another year of a marked slowdown in privatisation processes. Total privatisation receipts amounted in 2002 to PLN 2,859.7 million, which accounted for 43% of the amount assumed in the budget act (PLN 6,800 million) (Figure 26). Compared to 2001, this represents a decline by 58%, and in relation to the record 2000 figure last year's privatisation receipts were lower by as much as 89% (cf. Figure 27). Approximately 52% of combined receipts (PLN 1,500 million) originated from the privatisation of one enterprise – the Warsaw-based STOEN. Other major privatisation projects in 2002 included: WSK PZL Rzeszów (totalling PLN 285.2 million in receipts), Elektrownia Skawina (PLN 98.9 million) and Polmos Żyrardów (PLN 85.4 million).

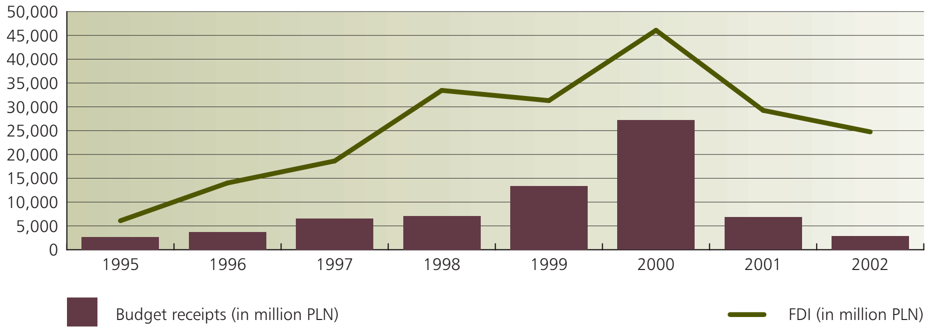
The slowdown in privatisation processes should not be associated with the lack of State Treasury assets in need of privatisation. At the end of 2002, there were 1,951 registered state-

Figure 26
Privatisation receipts in 2002 (PLN million)



Source: Ministry of Finance.

Figure 27
Privatisation receipts and foreign direct investment (FDI) in the years 1995–2002



Source: Ministry of Finance, PAIZ.

Table 14
Short-term liability growth (in addition to credits, deliveries and services)

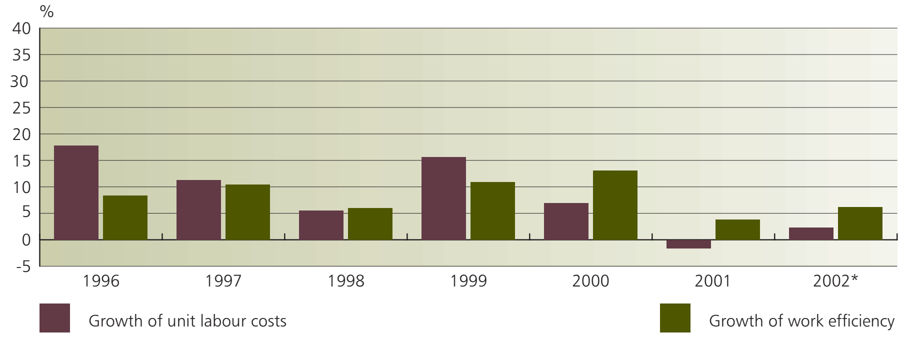
Manufacturing section	2002/2001
Motor vehicles, trailers and semi-trailers	61,6
Other transport equipment (ships)	45,9
Furniture and other manufacturing activity	41,9
Wood and wood products	38,7
Pulp, paper and paper products	36,5
Publishing	35,6
Mining of coal and lignite	34,5

Source: GUS and NBP figures.

owned enterprises, and the share of state ownership in some sectors of the economy remained substantial. For example, over 40% of sold industrial output in 2002 originated from state-owned enterprises. In sectors characterised by a high concentration of public ownership, privatisation decisions were still postponed in 2002 (e.g. electrical power engineering, the manufacture of refined oil products, the manufacture of basic metals, mining of metal ores). Neither was a privatisation strategy announced for such sectors as gas engineering, coal and lignite mining or the collection, purification and distribution of water.

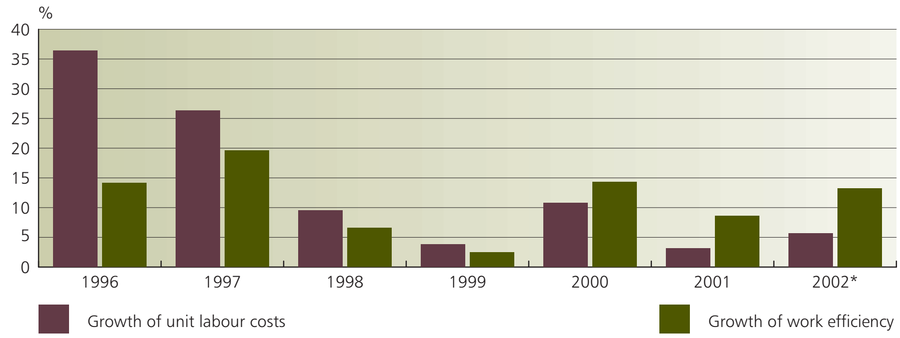
4

Figure 28
Total industry



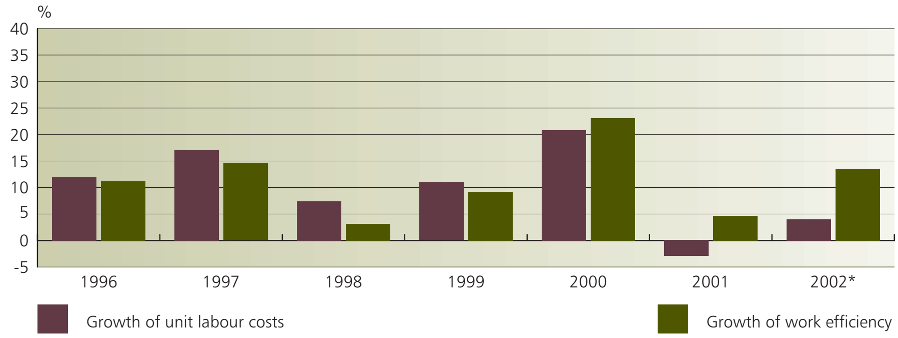
* estimated data
Source: GUS and NBP.

Figure 29
Chemical industry



* estimated data
Source: GUS and NBP.

Figure 30
Machinery and equipment



* estimated data
Source: GUS and NBP.

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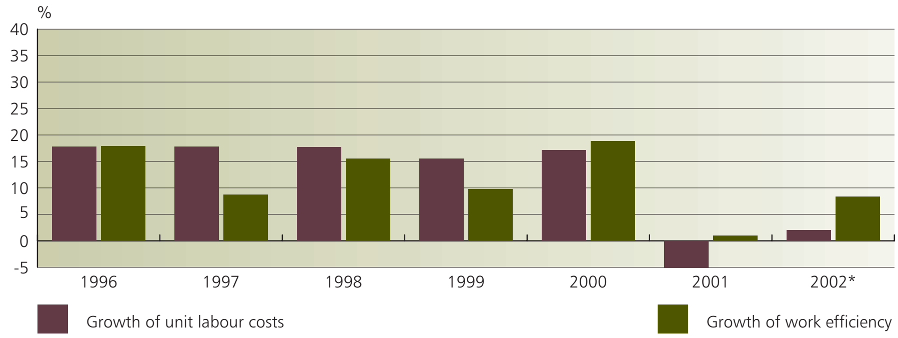
Figure 31
Electrical machinery and apparatus



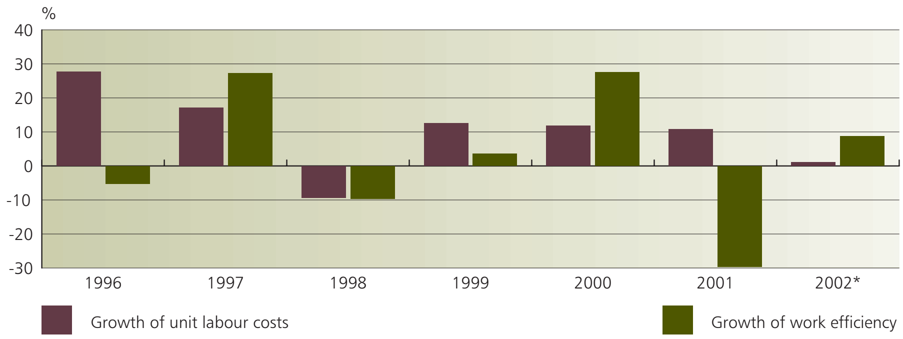
* estimated data
Source: GUS and NBP.

In 2002, the fastest price growth and the largest involvement of open public assistance, i.e. in the form of budget subsidies, and, first of all, "forced" assistance in the shape of overdue liabilities towards the state budget and other public institutions was recorded in the above not privatised sections of the economy. For example, short-term liabilities towards the state budget and the Social Security Office grew in the coal and lignite mining sector by 34.5% compared to 2001, and on the manufacture of other transport equipment sector (including ships) by 45.9%. The data on increased short-term liabilities across a number of other sections are shown in Table 14.

The slower growth of privatisation processes also greatly contributed to the reduction in foreign direct investment flowing into Poland (EUR 4.0 bn against EUR 7.7 bn in 2001).

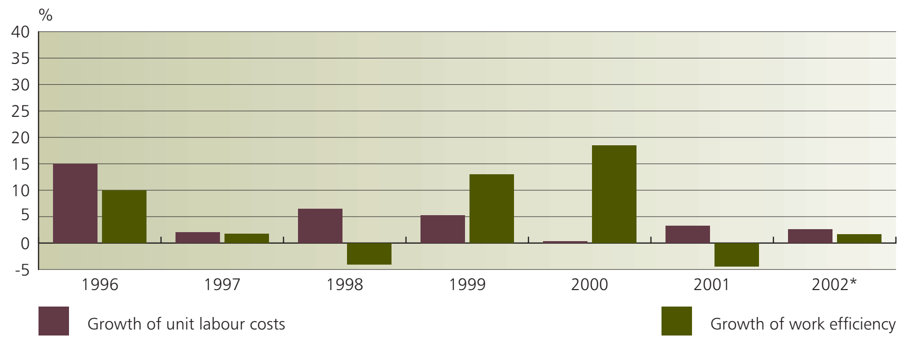
Enterprises which survived in the marketplace reduced employment to stay competitive. The fear of company bankruptcy and loss of jobs eliminated the pressure for wage increases. As a result, salaries, growing relatively slowly in 2002 (by 1.5% in real terms in the enterprise sector), did not represent the main source of increased unit manufacturing costs. Increase in sold industrial output in 2002 by 1.5%, including the processing industry by 2.1%, with lower employment than the year before (by 5.6% in total industry and by 6.2% in industrial processing) meant reduced labour input generating substantial increases in work efficiency in some sectors of the economy. It is worth stressing that work efficiency gains in the manufacturing section resulted partially from the elimination of ineffective entities from the marketplace. In 2002, the favourable relationship between unit labour costs and work efficiency, observed on average in industry in 2001, was sustained, which partially reflects the possibilities for raising wages and product prices limited by a demand barrier (Figure 28 and subsequent charts).

Figure 32
Manufacture of basic metals



* estimated data
Source: GUS and NBP.

Figure 33
Mining and quarrying



* estimated data
Source: GUS and NBP.

However, rationalisation of unit labour costs was not widespread across the economy. For example, in the mining and quarrying section unit labour costs went up as work efficiency plummeted (Figure 33). Multidirectional fluctuations in the relationship of work efficiency to unit labour costs can also be observed in the manufacture of basic metals (Figure 32). At least to some extent, this was due to limited coverage by the competitive mechanism, which may be linked to the considerable share of state ownership in these sectors of the economy. In general, within the public sector, with a lower total work efficiency gain, increases in salaries (gross average monthly remuneration) were in 2002 higher than in the private sector (respectively by 4.2% against 3.0%).

A key factor determining the degree of competitiveness in a given market, and also affecting price levels and growth, is the pressure from foreign manufacturers, i.e. volume of imports. Falling volumes of imports in 2001 and its small growth in 2002 suggest slight changes in the intensity of foreign competition in the domestic market. In the context of the weak growth of domestic demand, this competition proved, however, to be an effective barrier against price rises by domestic producers. The rate of penetration of the industrial goods market by imports, measured by the relation of imports to sold industrial output, amounted in the years 2000 – 2001 to roughly 23% and it may be assumed that in 2002 it did not change dramatically. Especially high values of this rate were recorded for highly-processed products, such as, for example, office equipment and computers (74% in 2001), motor vehicles (63% in 2001) or radio and TV equipment (60% in 2001). They were derived, in part, from strong foreign competition in these markets, and in part from considerable import-intensity of the output generated by these sectors of the economy.

To sum up, the slowdown in the implementation of systemic reforms represented a preservation of the structures hindering economic growth, especially in raw material and input manufacturing industries still dominated by the public sector.

4.2. External prices

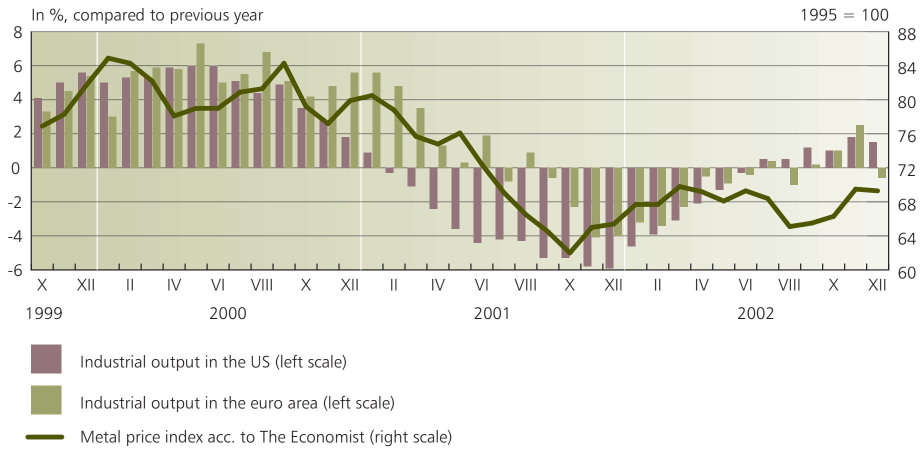
In 2002, prices in the world markets for raw materials soared (cf. Table 15). This trend, initiated in Q2 2002, was strengthened in the second half of 2002. The biggest impact on the increase in the prices of non-energy raw materials was seen in higher food prices and those of industrial raw materials of agricultural origin. Prices of metals, which are closely correlated with current economic situation indices, did not start to climb until Q4 2002. The main reason was the acceleration of industrial output growth in the US over that period (cf. Figure 34).

Table 15
Movements in prices of basic raw materials (in relation to previous year, expressed as %)

	1999	2000	2001			2002		
	Q1–4	Q1–4	Q1–4	Q1–4	Q1	Q2	Q3	Q4
Non-energy raw materials	-9,2	3,5	-6,6	4,9	-4,4	-0,8	8,4	17,4
of which:								
Food	-17,5	-1,0	-3,8	8,0	-2,2	2,9	12,3	19,0
Industrial raw materials	0,6	7,1	-10,1	0,8	-7,2	-5,5	3,0	15,0
of which:								
Raw materials of agricultural origin	-1,4	-3,2	-7,0	6,8	0,2	-3,0	6,8	26,1
Metals	2,2	15,0	-12,4	-4,0	-12,6	-7,5	-0,6	6,6
Oil (Brent)	40,3	59,6	-14,1	2,3	-18,1	-8,1	6,4	38,7

Source: "The Economist" and Reuters figures.

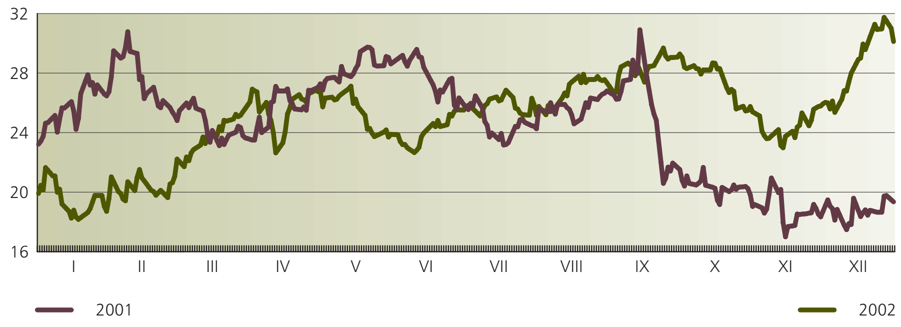
Figure 34
Industrial output in the US and euro area vs. movements in metal prices



Source: Bloomberg and The Economist figures.

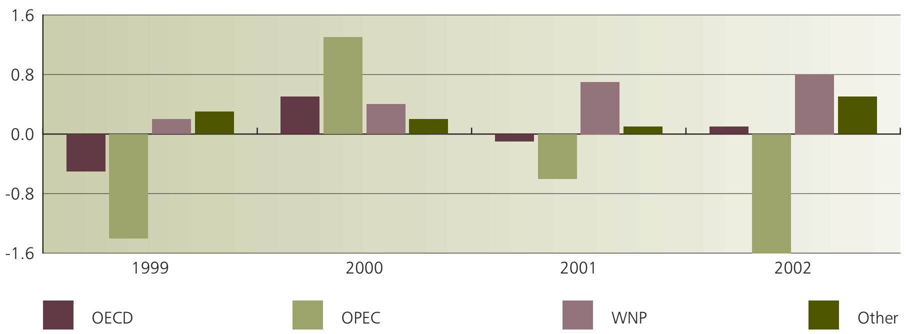
The year 2002 also saw oil prices go up. Although average annual growth of these prices was relatively small (by over USD 0.5 compared to 2001), in the course of the entire year (starting from

Figure 35
Brent oil price in the years 2001 and 2002 (daily figures in USD per barrel)



Source: Reuters.

Figure 36
Movements in oil supply in the years 1999–2002 by world region (in millions of barrels per day)



Source: International Energy Agency.

the end of December 2002 until the end of December 2001) the oil price increased by over USD 10[20] (cf. Figure 35). The decisive impact on the levels of oil prices in 2002 was political, including the threat of armed intervention in Iraq, internal tensions in Venezuela and the intensification of the conflict between Israel and the Palestinian Autonomy[21]. In April 2002, Iraq withheld its oil exports for one month to protest against the occupation of Palestinian towns by the Israeli army. In December, following a general strike in Venezuela, oil production in that country fell by almost 80%. The growing threat of an imminent outbreak of hostilities in the Persian Gulf additionally fuelled concerns about a continuous oil supply from that region at the end of last year. Increased political tension around Iraq and the discontinuation of oil supplies from Venezuela resulted in oil prices exceeding USD 30 per barrel in late December 2002.

Sustainability of high oil prices was also supported by the restrictive supply policy of OPEC. For the whole of 2002, OPEC enforced the lowest extraction limits seen in the last decade.

[20] Brent average oil price amounted in 2002 to USD 25.02 per barrel, whereas the year before it stood at USD 24.44 per barrel. Although in late December 2001 one oil barrel cost USD 19.35, its price a year later soared to USD 30.12. Forecasts from late 2001, and in particular from early 2002 showed that observers of oil markets expected a continuation of the falling trend in oil prices initiated in 2001 (the lowest oil price forecast was that of the US Department of Energy of February 2003). These forecasts relied primarily on anticipated low demand for oil in developing countries.

[21] Iraq and Venezuela are major exporters of this raw material and failure to assure continuous oil supply by these countries considerably upsets the world market. According to International Energy Agency (IEA) figures, oil production in Venezuela, the fifth largest oil producer in the world, amounted in 2002 to 2.3 million barrels per day, whereas that of Iraq (ranking the eighth in the world in terms of production volume) to 2 million barrels per day. Together, both countries accounted for roughly 6% of the world oil production.

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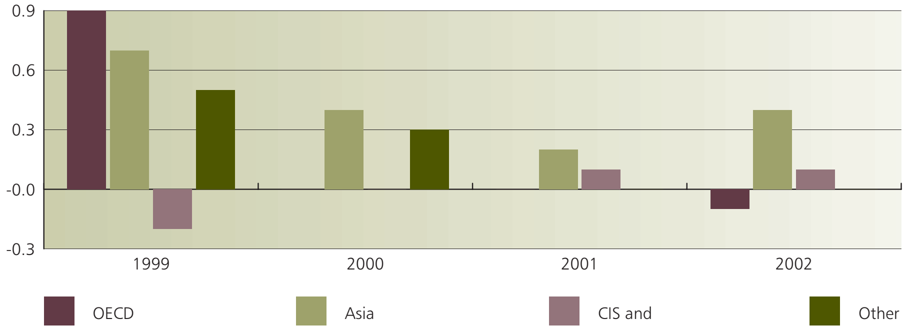
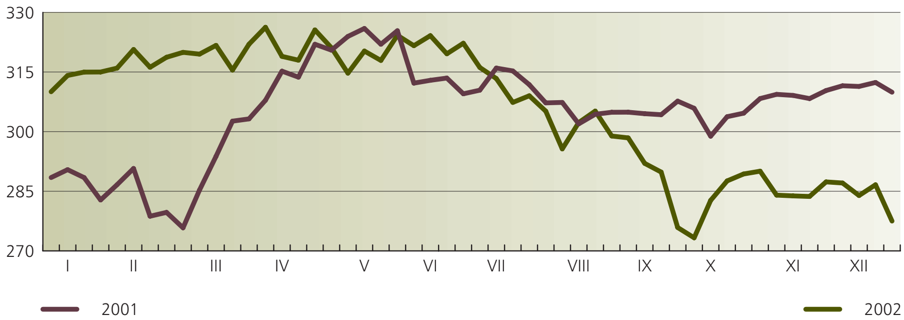
Figure 37
Movements in oil demand in the years 1999–2002 by world region (in millions of barrels per day)



Source: International Energy Agency.

Figure 38
US oil reserves in the years 2001 and 2002 (end-of-week figures in millions of barrels)



Source: American Petroleum Institute.

Additionally, in the first half of 2002 the cartel was granted the consent of other major oil producers (Russia, Norway and Mexico) to partially curb its production. Still, the impact of these decisions on price increases was weakened by regular increase in actual production levels both by OPEC countries[22] and Russia[23]. In consequence, in 2002 the world oil supply declined compared to 2001 by a mere 200,000 barrels per day (cf. Figure 36).

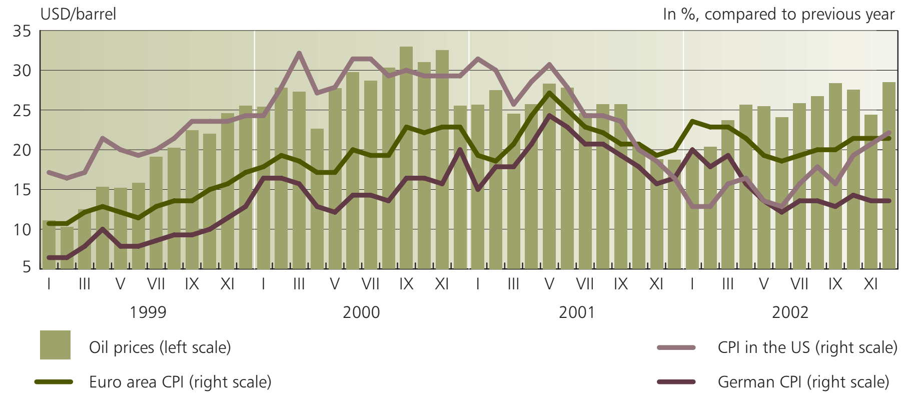
According to the estimates of the International Energy Agency, a slight increase in oil demand in 2002 over the 2001 figure (by 400,000 barrels a day – cf. Figure 37) was due to higher demand for this raw material primarily on the part of developing countries (mainly China). On the other hand, in developed countries – because of relatively low economic growth – annualised demand for oil shrank by 100,000 barrels/day. It was not until Q4 2002 that the accelerating growth of the US economy, the largest oil consumer in the world, combined with seasonal effects, both contributed to an increased demand for oil.

Increased oil demand in Q4 2002, accompanied by its supply lower than the year before, resulted in a higher surplus of demand over supply (by approx. 800,000 barrels a day) and a marked decline in reserves (cf. Figure 38). In the US in December 2002, oil reserves hit a record low since the early nineties, and shrank by over 10% (31.6 million barrels) compared to the figure at the end of 2001. Low reserves enhanced the pressure for price increases in late 2002.

[22] Oil production limit declared by OPEC was in 2002 lower by over 2.5 million barrels per day compared to the average 2001 level. Still, as a result of permanent violation by member states of the official level, the actual production volume proved lower by 1.6 million barrels per day.
[23] The year 2002 was another year of increased oil production in Russia. Its average level of 7.4 million barrels per day in 2002 was by 600,000 barrels higher than a year before and the highest since the breakdown of the USSR.

Figure 39

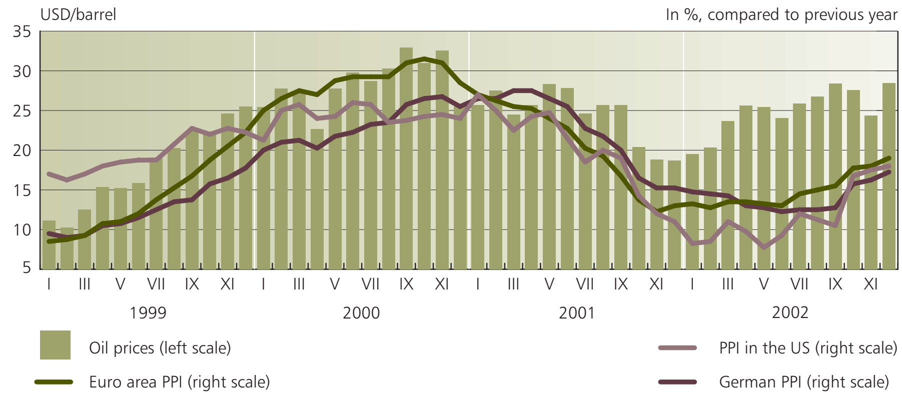
Oil prices and CPI in the US, Eurozone and Germany



Source: Reuters and Bloomberg.

Figure 40

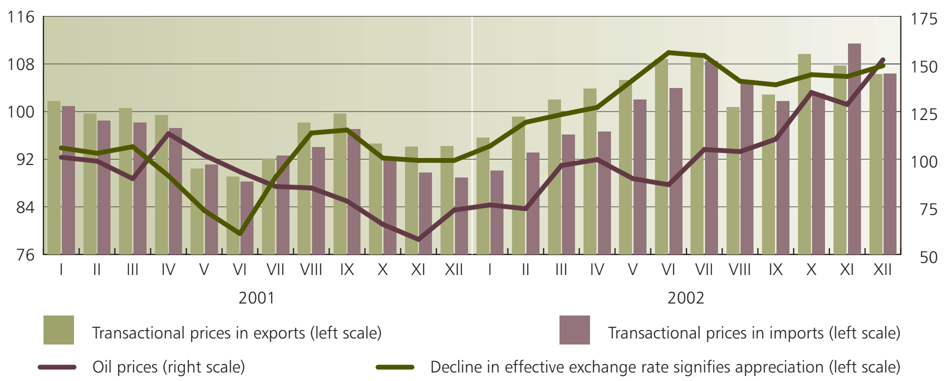
Oil prices and PPI in the US, Eurozone and Germany



Source: Reuters and Bloomberg.

Figure 41

Movements in transactional price index in the Polish foreign trade and nominal effective PLN exchange rate and oil prices (expressed as % change on corresponding period previous year)



Source: GUS, NBP and Reuters.

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Due to the slowdown in oil demand throughout the world, soaring oil prices (by 53.5% from December 2002 to December 2001) had only a slight impact on the higher inflation rate last year across the largest economies. Although at the end of 2002 both CPI and PPI were higher in these countries than the year before, they were at the same time lower than in 2000 when, also in Q4, oil prices remained over USD 30 per barrel (cf. Figure 39 and Figure 40). In the US, the annual CPI grew from 1.6% in 2001 to 2.4% in 2002, whereas HICP in the euro area, respectively from 2.0% to 2.3%. PPI growth was slightly higher; in the US, it climbed from –1.6% to 1.2% over that period, while in the euro area from –0.8% to 1.5%.

According to GUS[24] figures, in the period from January to December 2002 there was a marked improvement in price relations in Polish foreign trade. This was due to a relatively fast increase in PLN transactional prices in exports (by 4.4% compared to the corresponding period of the previous year, against a fall respectively by 4.0% in 2001). Transactional import prices grew from January to December 2002 by 1.6%, whereas over the corresponding period of 2001 they fell by 6.2%. As a result of these changes, in 2002 terms of trade further improved, from 102.3 in 2001 to 102.8.

Increased transactional prices in exports in 2002 (cf. Figure 41) were primarily derived from shifts in their structure towards larger share of highly processed goods offered at higher prices (the prices of machines and transport equipment recorded the largest increases). On the other hand, the weaker growth in import prices was affected mainly by the fuel prices, slightly lower than the year before (oil and gas) from January to November 2002. Oil prices shrank by 0.7%, while gas prices by 20.6% compared to January–November 2001.

[24] Statistical Bulletin 3/2003, GUS, Warsaw 2003.

5
Inflationary processes in 2002

5.1. Consumer prices

The year 2002 brought marked progress in reducing inflation. The twelve-month CPI fell from 3.6% at the end of 2001 to 0.8% in December 2002. Thus, the inflation rate in 2002 proved lower than both the inflationary target established for the end of 2002 and the forecasts of research institutes and money market analysts and the inflationary expectations of banks and individuals.

In August 2001, at the stage of identifying the assumptions for monetary policy in 2002 and formulating a short-term inflationary target, it was accepted that in 2002 the process of gradual reduction of inflation will be continued. The projection of the macroeconomic situation assumed that in the context of a slow recovery in the world economy, the rate of economic growth in Poland in 2002 may reach roughly 2.5%. This was linked to the forecasts of slow real growth of disposable household income, and in consequence, to a gradual restoration of consumer demand.

The evaluations developed at that time assumed that the situation in the food market in 2002 will be shaped under the influence of increased domestic production of crops and a slight rise in their utilisation, which suggested that the crop balance will be more sustainable than in the previous season. As for livestock production, it was anticipated that in the first half of 2002 the falling trend in the population of pigs will gradually stabilise, and in the latter half of the year this trend will be reversed into slow growth and the rebuilding of herds.

According to the assumptions of the 2002 budget act, the process of bringing the rates of indirect taxes in line with the rates applicable in the European Union will be sustained, i.e. that there will be further growth in excise duty rates, with concurrent abandonment of at least some of the currently applied reduced value added tax rates. Based on Energy Regulatory Office figures, further increases in the prices of energy carriers were also assumed.

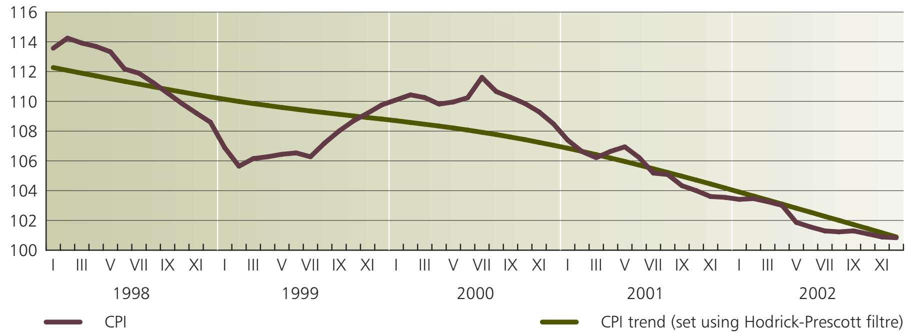
Inflationary expectations remained at a relatively high level. As shown in the Demoskop questionnaires, in August 2001 individuas anticipated that the annual rate of price growth in August 2002 would reach 6.0%. On the other hand, according to the expectations of bank analysts from August 2001 (formulated 11 months ahead) the annual inflation rate in July 2002 was to stand at 5.7%.

In this context, it was reasonable to adopt an inflation target for the end of 2002 at a level of 5%+/-1 percentage point.

Gradual inflow of information and data on price levels and forecast weak GDP growth at the beginning of 2002 pointed to a possible delay in economic recovery in our country, expected originally in the second half of 2002. Therefore, initial substantial downward revisions of 2002 inflation forecasts were made as early as the turn of February/March 2002.

Further fragmented forecasts of the situation in the food market, as well as new information on the government's future intentions regarding the scope of changes in officially controlled prices, in the light of waning demand-pressure and intensifying recessional trends in the countries of Western Europe, constituted preconditions for the revision of the inflation target set for 2002 from 5%+/-1 percentage point to 3%+/-1 percentage point made in June 2002.

Figure 42
CPI and CPI trend in the years 1998–2002 (corresponding month previous year = 100)



Source: GUS figures and NBP calculations.

Consecutive months strengthened and enhanced earlier trends in the food market. Good cereal crops, as well as higher than planned growth in livestock production, with a moderate growth in consumption of foodstuffs, led to a decline in food prices. Additionally, the scale of increases in import tariffs imposed in the area of officially controlled prices proved smaller than originally anticipated. An additional factor accelerating deflation was the central government's decision to reduce excise duty rates on alcoholic beverages by 30%, starting from October last year. The process of reducing the inflation rate was further encouraged by the absence of adverse external supply-side shocks. All in all, in the second half of 2002 a number of factors were combined to encourage a dynamic lowering of the inflation rate.

5

As a result, 12-month CPI remained below the trend line (Figure 42) in 2002.

The monitoring of the 12-month growth of consumer goods and services' prices led to the isolation of two periods in the course of 2002. From the start of the year to April (inclusive), the inflation rate was fairly stable, fluctuating between 3 and 3.5%, after which in May it fell dramatically to 1.9% p.a. This fall was steadily enhanced over consecutive months of the year (Table 16, Figure 43, Figure 44, Table 17).

It should be stressed that in 2002 all of the listed basic groups of consumer goods and services showed declining growth, though differing in scale.

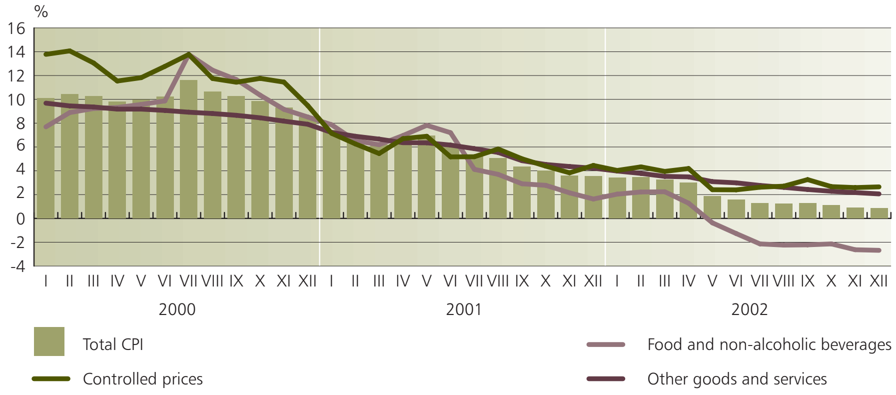
The most severe falling trends were noted in the *food and non-alcoholic beverages* price group which in December 2002 stood by 2.7% lower than the year before (in the corresponding period of 2001 these prices increased by 1.6%).

Table 16
Price growth in basic consumer good and service groups

	2000	2001	2002	2000	2001	2002				
	Weight structure			XII	XII	III	VI	IX	XII	I–XII
	%			Corresponding period previous year = 100						
Total, of which	**100.0**	**100.0**	**100.0**	**108.5**	**103.6**	**103.3**	**101.6**	**101.3**	**100.8**	**101.9**
Food and non-alcoholic beverages	30.4	30.1	29.7	108.5	101.6	102.2	98.7	97.8	97.3	99.3
Officially controlled prices	25.1	25.7	27.1	109.5	104.5	104.0	102.4	103.2	102.7	103.1
of which fuel	2.8	3.5	3.7	111.0	89.1	96.2	96.8	101.4	107.6	99.2
Other goods and services	44.5	44.2	43.2	107.9	104.2	103.5	103.0	102.4	102.1	102.9
of which non-food goods	28.3	27.1	26.1	105.9	103.0	102.3	101.9	101.3	101.0	101.8
Services	16.2	17.1	17.1	111.3	106.3	105.4	104.7	104.1	103.8	104.7

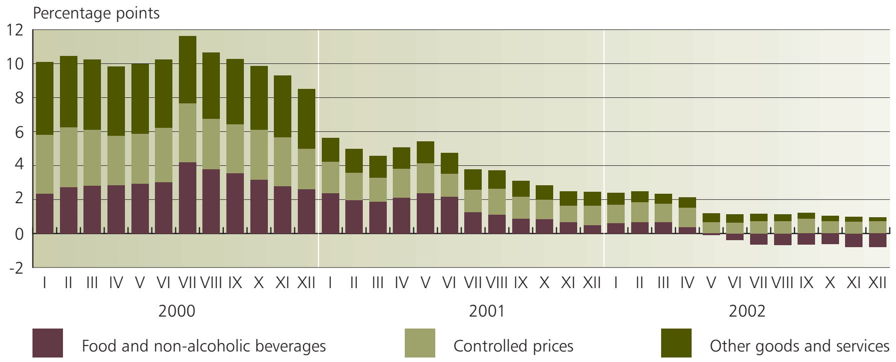
Source: GUS figures and NBP calculations.

Figure 43
CPI and major price categories, 2000–2002 (corresponding month previous year = 100)



Source: GUS figures and NBP calculations.

Figure 44
Share of individual price categories in CPI, 2000–2002
(corresponding month previous year = 100)



Source: GUS figures and NBP calculations.

From January to December 2002, price decline was recorded in all basic groups of foodstuffs, except for fish and fruit. This was due to the situation in the agricultural market, characterised by a high surplus supply of mainly cereal, pigs, and poultry. In the face of a limited growth in consumption, this situation resulted in regular price decreases of basic produce, and in consequence, to a fall in the retail prices of various food products.[25]

In 2002, the 12-month growth of **officially controlled prices** also decreased from 4.5% in December 2001 to 2.7% in December 2002. Relative strengthening of the impact of controlled prices on CPI over the last year was, to a large extent, the consequence of a severe fall in food prices and its influence on the limitation of the scale of general price growth.

Higher than average for the controlled prices group and considerably higher than the inflation rate was the growth of basic energy carrier and transport services prices, including in particular movement by public transport. The price growth, although more moderate than the year before, was the consequence of the continuing process of adjusting the prices of these products and services to levels adequate to approximate to their manufacturing costs. Higher *electricity prices*, despite generally slower growth compared to the year before, displayed relatively high

[25] The situation in the agricultural market has been presented in more detail in Appendix 1.

Table 17
Impact of movements in prices of basic consumer goods and services groups on CPI over a 12-month perspective

Specification	2000	2001	2002				
	XII	XII	III	VI	IX	XII	I–XII
	Share in CPI growth (%)						
CPI	**8.5**	**3.6**	**3.3**	**1.6**	**1.3**	**0.8**	**1.9**
Food and non-alcoholic beverages	2.6	0.5	0.7	-0.4	-0.7	-0.8	-0.2
Officially controlled prices	2.4	1.2	1.1	0.6	0.9	0.7	0.8
Incl. fuel	0.3	-0.4	-0.1	-0.1	0.1	0.3	0.0
Other goods and services. of which	3.5	1.9	1.5	1.3	1.0	0.9	1.3
Non-food goods	1.7	0.8	0.6	0.5	0.3	0.3	0.5
Services	1.8	1.1	0.9	0.8	0.7	0.6	0.8
	CPI growth structure (%)						
CPI	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Food and non-alcoholic beverages	30.6	13.8	20.4	-24.1	-52.2	-97.6	-10.5
Officially controlled prices	28.0	33.0	32.8	41.4	69.1	87.9	44.3
Incl. fuel	3.6	-10.7	-4.3	-7.6	4.0	34.4	-1.5
Other goods and services, of which	41.4	53.2	46.8	82.7	83.1	109.8	66.3
Non-food goods	19.7	22.7	18.5	31.3	27.3	30.9	24.4
Services	21.7	30.5	28.3	51.4	55.8	78.9	41.9

Source: GUS figures and NBP calculations.

growth against the background of the inflation rate, encouraged by higher electricity bills introduced in July (under the change in electricity consumption rates, as approved by Energy Regulatory Office) with the concurrent levying of excise duty per unit of electricity sold. As a result of these measures, power prices in July climbed by 6.5%. Growth of *district gas prices*, despite its marked slowdown, remained relatively high because of rate increases in force since April last year (because of them, gas prices in that month jumped by 4.3%). Still high was the growth of *prices charged for hot water and district heating*. Although rate increases introduced in both groups were partial (regulations provide for a single rate adjustment during the year by the entity generating and supplying energy), due to extensive decentralisation of providers of electricity and district heating, their impact on the CPI was, more than in other groups of controlled prices, spread over time and did not give rise to a one-off, strong, inflationary impulse.

Also high, despite a certain slowdown, was the growth of *rail transport prices*, one of the reasons being higher fares introduced in July 2002, resulting in a 5.7% price increase, as well as changes made to fares limiting the scope and scale of the applicable discount system.

In December 2002, *prices of telecommunication services* remained flat at their 2001 levels. This was due, on the one hand, to the absence of ongoing price changes in 2002, and on the other hand, to the increase of the prices (by 40%) charged for telephone subscription introduced in May 2001.

In the group of officially controlled prices, the *prices of alcoholic beverages and tobacco goods* also saw a slowdown in their general growth. In the groups subject to administrative price control through fiscal policy, the prevailing price component is indirect taxation (excise duty). In the case of tobacco goods, a policy of raising indirect tax rates was continued in 2002, due to the need to bring them into line with the levels applicable in the EU member states. In 2002, quota-based excise duty was raised by 4% on tobacco goods in January and its impact on retail price growth did not manifest itself until March, April and May, and was clearly weaker than the scale of the increase. In 2002, no excise duty rates were increased on alcoholic beverages. Thus,

Table 18
Movements in prices of consumer goods and services, 2001–2002

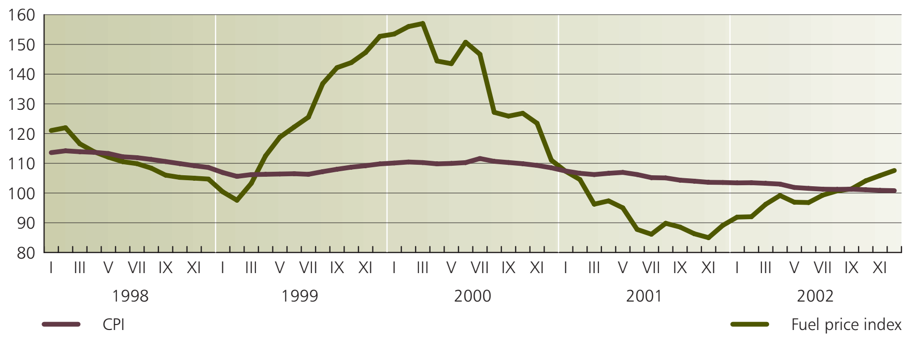
	2001	2002	2001	2002
	XII/XII		Annual average	
CPI	**3.6**	**0.8**	**5.5**	**1.9**
Food and non-alcoholic beverages	**1.6**	**-2.7**	**5.0**	**-0.7**
Officially controlled prices	**4.5**	**2.7**	**5.5**	**3.1**
Energy carriers	9.4	4.4	10.6	5.9
Power	14.1	6.4	14.1	7.4
Network gas	15.0	6.5	14.5	7.8
Hot water	9.7	6.7	9.4	8.6
District heating	7.1	3.8	6.3	5.8
Transport services	7.9	4.1	9.4	4.6
Rail transport	9.0	5.7	7.9	4.0
Telecommunications services	1.2	0.0	2.5	-0.2
Telephone subscription	40.0	0.0	40.7	10.5
Alcoholic beverages and tobacco goods	4.9	-3.1	4.3	2.3
Fuels	-10.9	7.6	-7.6	-0.8
Other goods and services, of which	**4.2**	**2.1**	**5.7**	**2.9**
Non-food goods	**3.0**	**1.0**	**4.2**	**1.8**
Clothing	0.4	-1.3	1.7	-0.8
Footwear	-0.6	-1.3	0.6	-1.1
Durable household appliances	1.2	-0.9	1.8	0.1
Audio-visual equipment	-2.9	-3.6	-1.1	-3.6
Photographic equipment	-0.2	-2.0	1.0	-1.3
IT equipment	-9.2	-6.4	-5.1	-7.3
Furniture and household goods	2.2	0.8	3.4	1.2
Services	**6.3**	**3.8**	**8.3**	**4.7**
Use of flat or house	7.7	5.1	9.6	5.9
Water supply	14.9	14.6	14.7	16.6
Restaurants and hotels	4.2	1.9	5.9	2.9
Organised tourism	0.5	-0.4	2.8	-0.2
Medical practice activities	2.0	1.4	3.7	1.0
Dental practice activities	5.0	3.0	5.7	3.8

Source: GUS figures and NBP calculations.

negligible price shifts within that group were due to price increases made in the course of the preceding year. As a result, in the first three quarters of 2002 prices of alcoholic beverages and tobacco goods grew annually by 3 to 5%. In the last months of 2002, there was a decline in the prices within that group of goods by 2 to 3%, one of the reasons being a sharp reduction (by 30%) of the excise duty on spirits in October.

Fuel prices (annually) showed a decrease compared to the previous year for most of 2002 and stayed below the CPI index (Figure 45). However, starting from August the annual index of fuel prices began to grow rapidly and in December 2002 fuel prices were by 7.6% higher than the year before (in December 2001, they were by 11% lower than the year before).

Figure 45
CPI and fuel price index (corresponding month previous year = 100)



Source: GUS figures.

Price growth in the **other consumer goods and services** group displayed a falling trend. In December 2002, this increase was twice weaker than in 2001. Prices of non-food products representing 60% of the "other goods and services" group had a relatively stronger impact on the slowdown in the general price growth within the group.

In the *non-food product prices* group in 2002, the trend, already present in 2001, slowly weakening their growth rate, was becoming increasingly intense. The 12-month growth rate of these prices decreased threefold in the course of the year, whereas the year before, almost twofold (from 5.9% in December 2002 to 3.0% in December 2001). A lasting slowdown in the price growth of non-food products, most sensitive to the fluctuations in market supply and demand, resulted from low demand pressure.

The most severe weakening of the price growth within the examined group took place with regard to non-food goods whose useful life is relatively long (e.g. various types of equipment and household appliances) or items whose purchases can be temporarily reduced by extending the their useful life (e.g. clothing, footwear). For example, in December 2002 the following prices were lower than the year before: durable household appliances, audio-visual equipment, photographic equipment, IT equipment, clothing and footwear. Prices of furniture and household goods increased only to a small extent.

The absolute decline or a slight (compared to CPI) increase in the prices of some goods from the non-food product group led to their relatively higher availability. This in turn contributed to a higher overall volume of retail goods sales in 2002 on average by 1.6% (the year before, this volume grew by 0.7%).

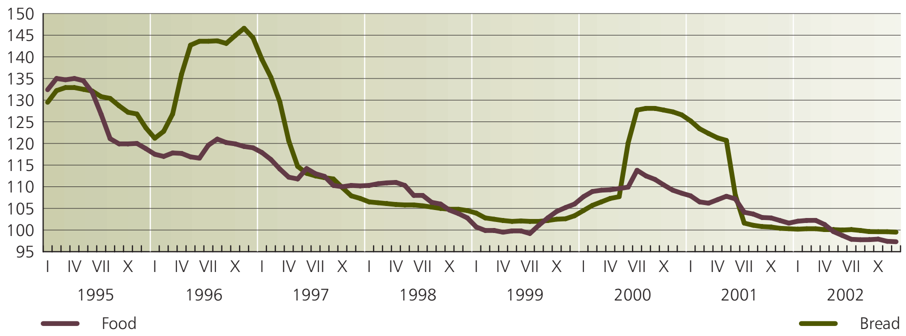
Service price growth in 2002 was relatively the highest among all basic groups. Thus, similarly to previous years, this group was the one with the most dynamic impact on the general rate of inflation. This group includes both services, for which the demand is not very flexible or even rigid, as well as services strongly responding to demand fluctuations.

Among service prices with inadequately flexible demand in 2002, the highest growth was recorded by the costs related to flat occupancy. Their combined growth per year fell relatively the least compared to the previous year. In fact, the growth in public utility services, including those involved in water supply, stayed at the same level as the year before. A similar trend, despite lower growth scale, was sustained in the price groups of subsistence services, such as footwear, clothing, repair of household appliances which also recorded growth on the same scale as the year before.

In the case of services whose prices are characterised by high sensitivity to demand fluctuations, price growth was generally lower. For example, on an annual scale, the price growth at restaurants and hotels in 2002 was on average half that of 2001. Prices of services related to domestic and foreign tourism even declined slightly, whereas a year earlier they recorded slow growth. Although the prices of fully paid medical services did grow, they grew at half the pace of 2001.

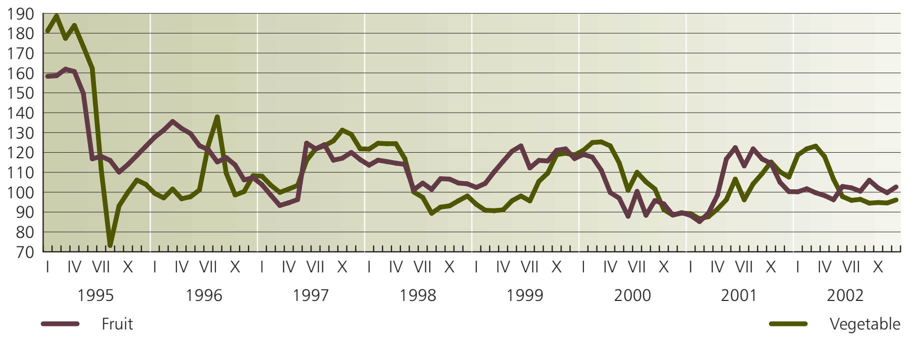
Figure 46.1
Food price indices
(corresponding month previous year = 100)

a) Food and bread price indices



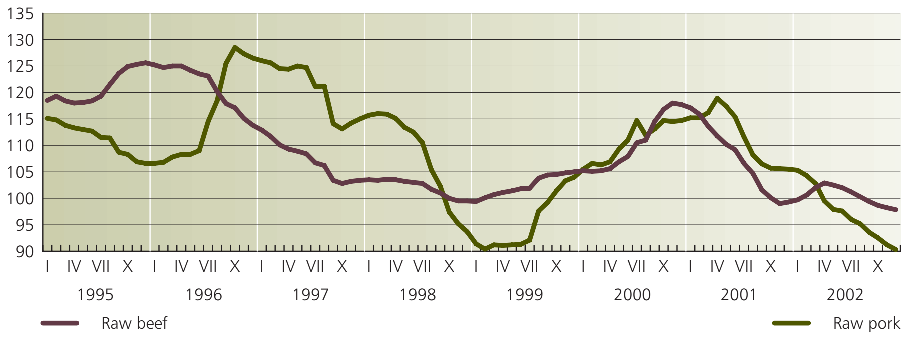
Source: GUS figures.

b) Fruit and vegetable price indices



Source: GUS figures.

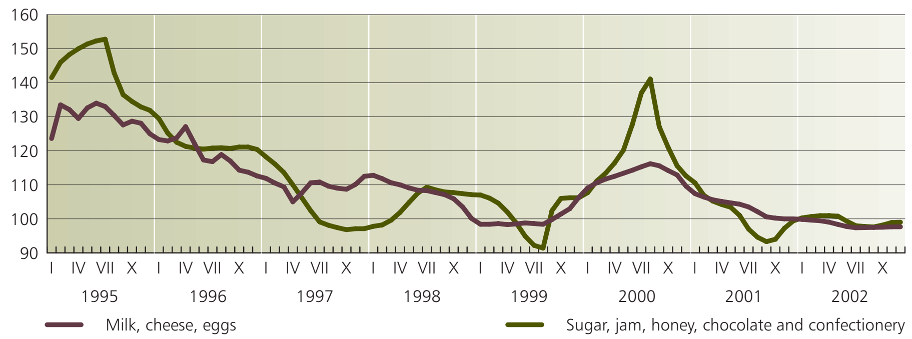
c) Pork and beef price indices



Source: GUS figures.

5

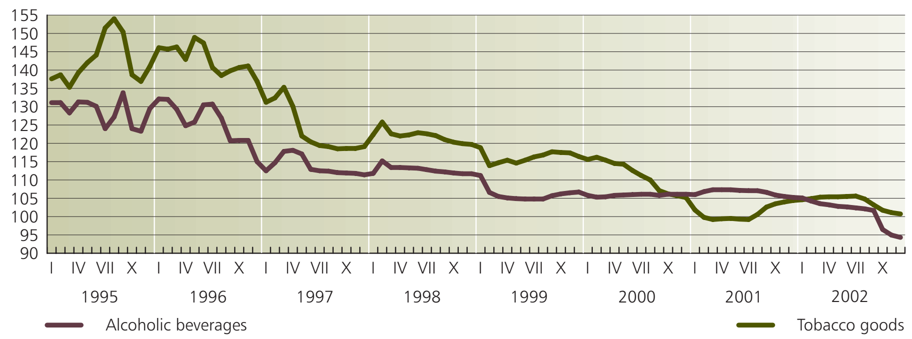
d) Milk, cheese, egg, sugar, jam, honey, chocolate and confectionery price indices



Source: GUS figures.

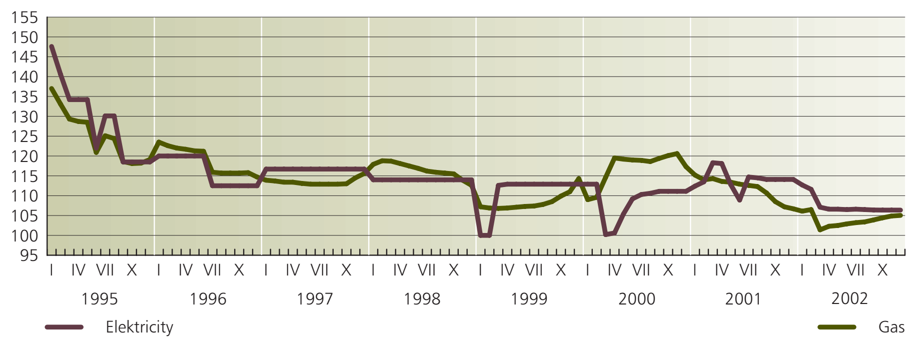
Figure 46.2
Officially controlled price indices
(corresponding month previous year = 100)

a) Alcoholic beverages and tobacco goods price indices



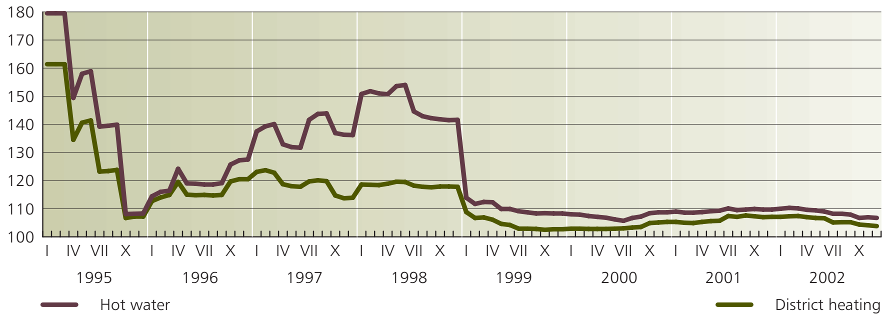
Source: GUS figures.

b) Electricity and gas price indices



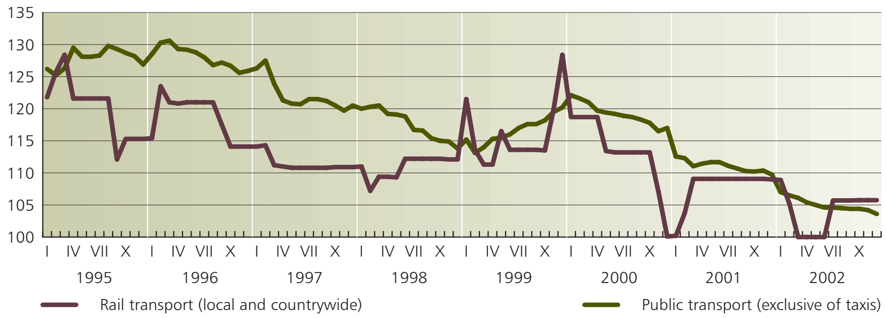
Source: GUS figures.

c) Hot water and district heating price indices



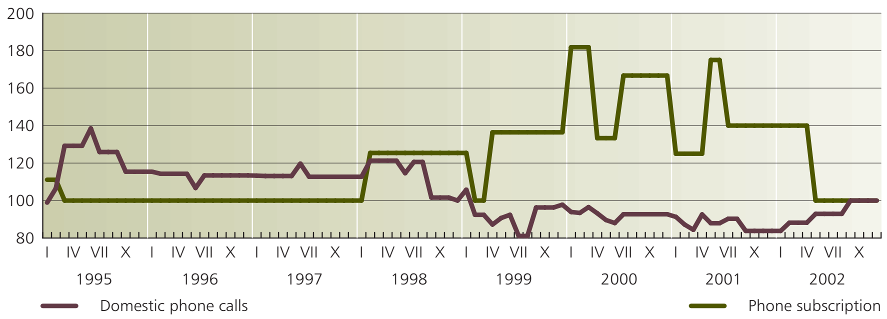
Source: GUS figures.

d) Public and rail transport price indices



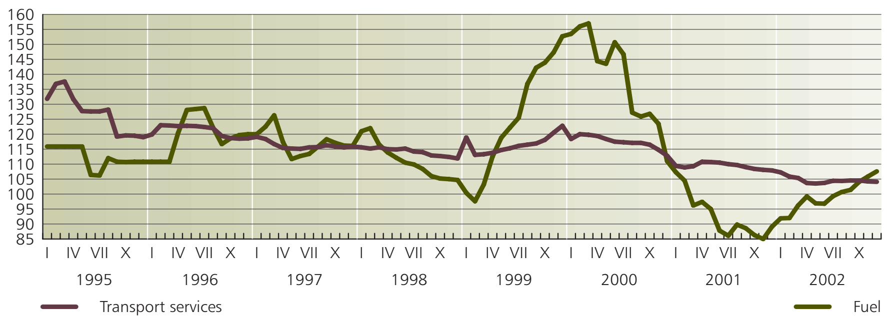
Source: GUS figures.

e) Domestic phone call and subscription price indices



Source: GUS figures.

f) Transport services and fuel price indices



Source: GUS figures.

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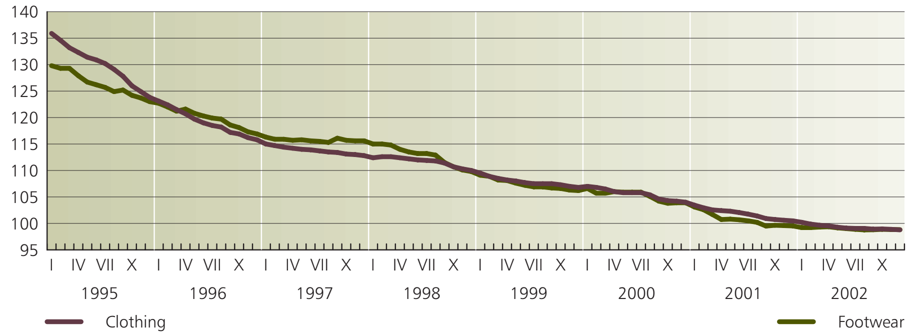
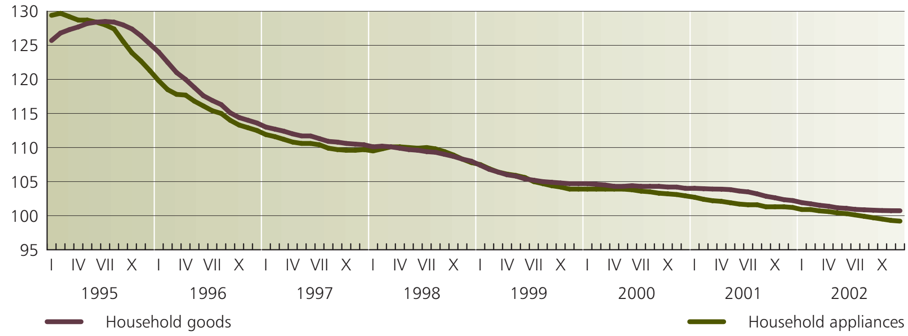
Figure 46.3
Non-food goods price indices
(corresponding month previous year = 100)

a) Clothing and footwear price indices



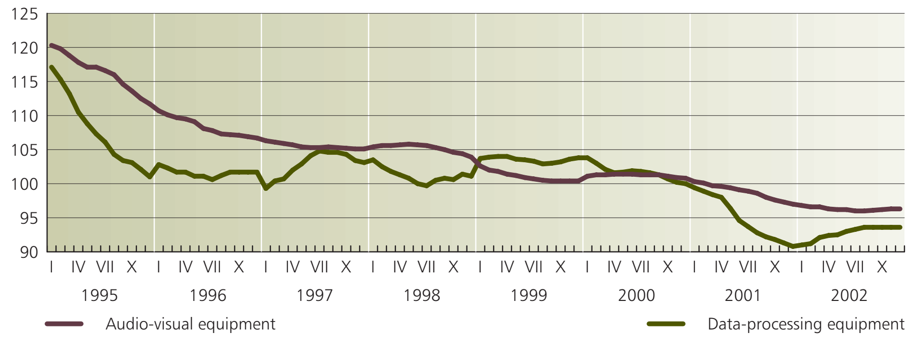
Source: GUS figures.

b) Household goods and appliances price indices



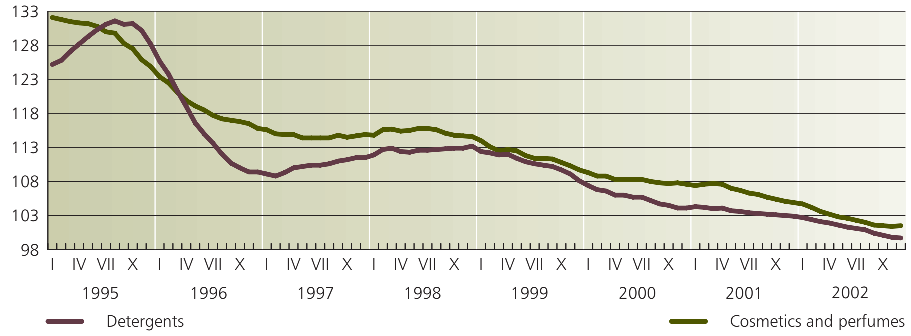
Source: GUS figures.

c) Audio-visual and data-processing equipment price indices



Source: GUS figures.

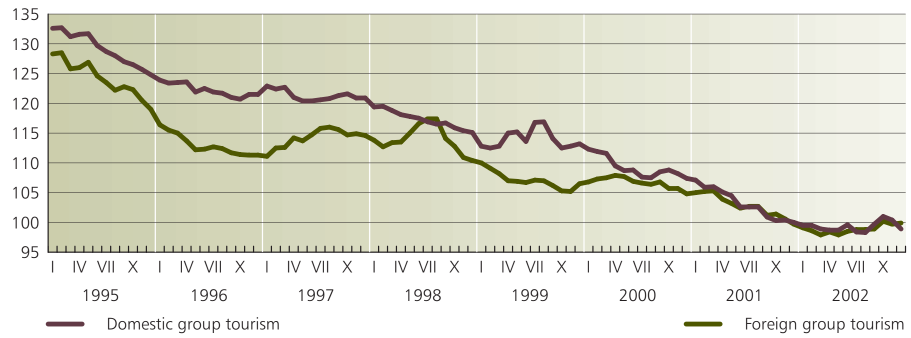
d) Detergent and cosmetic price indices



Source: GUS figures.

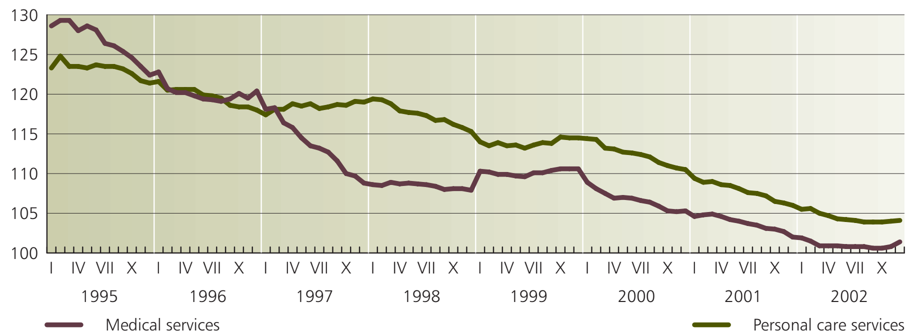
Figure 46.4
Service price indices
(corresponding month previous year = 100)

a) Domestic and foreign tourism price indices



Source: GUS figures.

b) Medical and personal care services price indices



Source: GUS figures.

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5.2. Core inflation

In 2002, the falling trend in the 12-month growth of all indicators of core inflation was sustained. The scale of the fall was similar to the decline in the inflation rate measured by CPI growth, and amounted to 2.4–3.3 percentage points over the period examined, whereas the CPI index came down by 2.8 percentage point. The persistent fall of all measurements of inflation shows that the deflationary trends in the economy have a lasting nature and are not merely the result of temporary factors.

"Net" inflation index, established through exclusion from the CPI of food and fuel prices, was markedly higher than other measures of core inflation during the whole of 2002 but at the same time stayed above the CPI index. This trend, present since May 2001, points to the anti-inflationary nature of food and fuel prices whose exclusion resulted in 2002 in a deviation of that measure from the CPI by an average of 1.3 percentage point. Among excluded groups, the price of pork, smoked meat, poultry and vegetables (especially potatoes) declined the most. From June to December 2002, the food and fuel price group came down by an average of 1.7% p.a.. In 2003, this trend may be reversed due to growing fuel prices (whose share in the CPI basket amounts to 3.7%) resulting from the listed value of oil prices throughout the world. In December 2002, fuel prices were by 7.6% higher than the year before.

Table 19
CPI vs. core inflation in 2001

	2001											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
	Change over corresponding month previous year											
CPI	**7.4**	**6.6**	**6.2**	**6.6**	**6.9**	**6.2**	**5.2**	**5.1**	**4.3**	**4.0**	**3.6**	**3.6**
Core inflation excluding:												
Officially controlled prices	7.5	6.8	6.5	6.6	7.0	6.6	5.2	4.8	4.1	3.9	3.5	3.2
Most volatile prices	7.8	7.2	6.7	6.8	6.5	5.3	4.5	4.2	3.6	3.2	3.0	3.1
Most volatile prices and fuel prices	7.8	7.3	7.1	7.2	7.0	6.2	5.4	4.9	4.3	4.0	3.8	3.7
Food and fuel prices ("net" inflation)	7.2	6.8	6.7	7.0	7.2	6.8	6.7	6.5	5.8	5.5	5.3	5.1
15% trimmed mean	7.4	7.1	6.8	6.8	6.5	6.0	5.5	5.0	4.6	4.2	3.9	3.7

Source: GUS figures and NBP calculations.

Table 20
CPI vs. core inflation in 2002

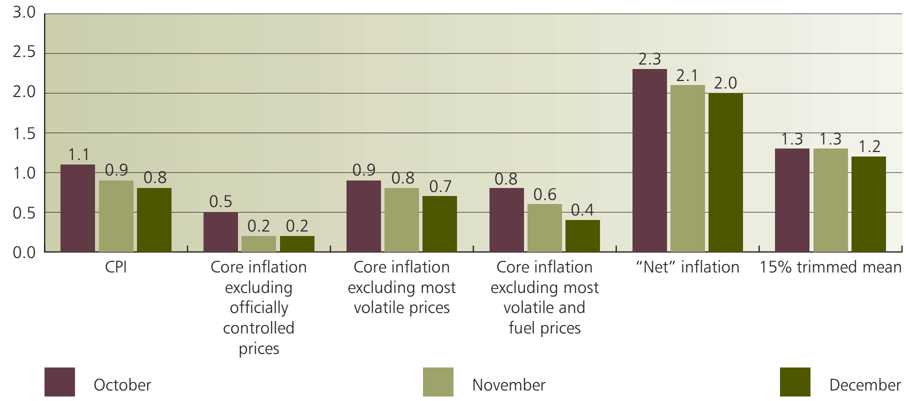
	2002											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
	Change over corresponding month previous year											
CPI	**3.4**	**3.5**	**3.3**	**3.0**	**1.9**	**1.6**	**1.3**	**1.2**	**1.3**	**1.1**	**0.9**	**0.8**
Core inflation excluding:												
Controlled prices	3.2	3.1	3.0	2.6	1.7	1.3	0.8	0.7	0.6	0.5	0.2	0.2
Most volatile prices	2.9	2.8	2.6	2.5	2.1	1.9	1.6	1.5	1.3	0.9	0.8	0.7
Most volatile prices and fuel prices	3.4	3.3	2.9	2.7	2.4	2.1	1.7	1.6	1.3	0.8	0.6	0.4
Food and fuel prices ("net" inflation)	4.7	4.7	4.1	4.0	3.2	3.1	2.9	2.8	2.8	2.3	2.1	2.0
15% trimmed mean	3.5	3.2	2.9	2.6	2.0	1.9	1.7	1.7	1.5	1.3	1.3	1.2

Source: GUS figures and NBP calculations.

Core inflation excluding officially controlled prices as of May 2002 stayed at a distinctly lower level than other measures of base inflation, and in December 2002 showed growth by a mere 0.2% p.a. Also when compared to CPI in 2002, this measure was much lower (by an average of 0.5 percentage point). This points to inflationary pressure on the part of the prices of those consumer goods and services which are subject to administrative control, which, when combined, increased by 2.7% at the end of 2002. Among excluded prices, the highest increases related to charges for electricity (growth by 6.4% in Q4 2002 p.a.), gas (6.5%), hot water (6.8%), radio and television (11.9%), and fuel prices. These groups, due to their relatively large share in the CPI basket, even in the context of slight price shifts give rise to marked changes in the value of CPI index.

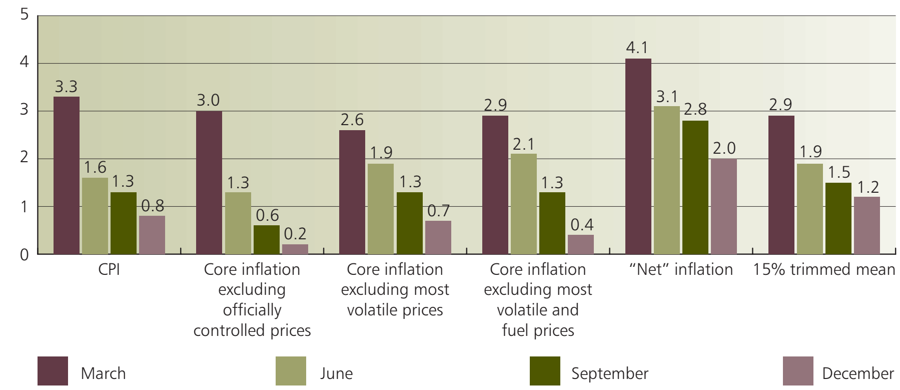
Another measure of core inflation, the so-called **15% trimmed mean**, is characterised by very low volatility (which is derived directly from its construction consisting in symmetrical 15% trimming of the groups on the left and right side of the distribution whose prices were subject to biggest changes over a given period). As of May 2002, this measure stayed above the CPI index, and in December last year fell to 1.2%. At that time, groups were excluded which appreciated the least, i.e. foodstuffs (meat, smoked meat, vegetables, and coffee), spirits, audio-visual and IT equipment, as well

Figure 47
CPI and core inflation in Q4 2002
(change on corresponding month previous year)



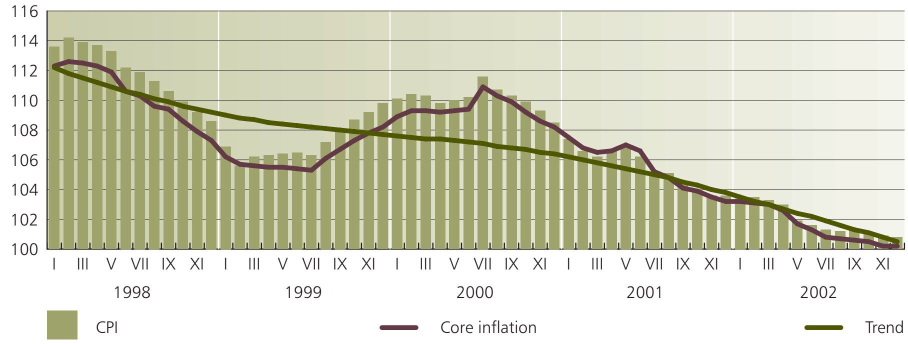
Source: GUS figures and NBP calculations.

Figure 48
CPI and core inflation at end quarter 2002
(change on corresponding month previous year)



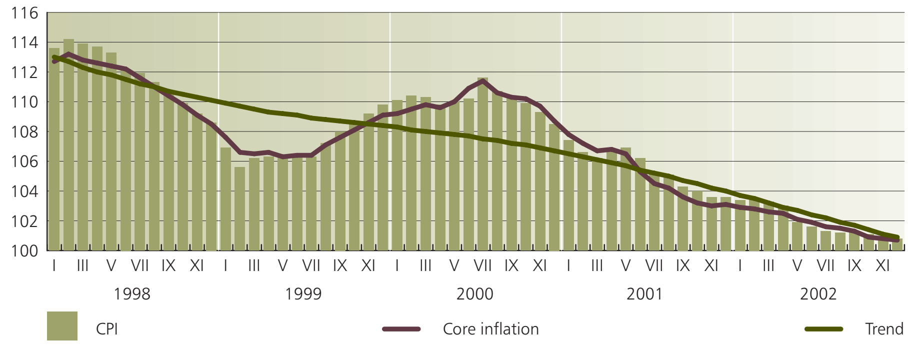
Source: GUS figures and NBP calculations.

Figure 49
CPI and core inflation indices after exclusion of officially controlled prices



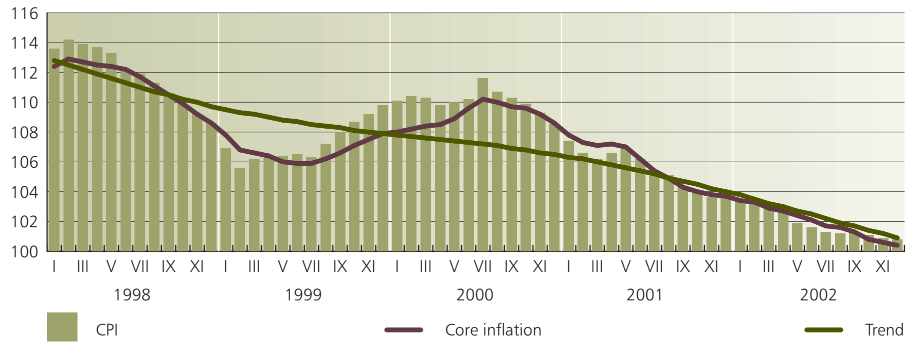
Source: GUS figures and NBP calculations.

Figure 50
CPI and core inflation indices after exclusion of most volatile prices



Source: GUS figures and NBP calculations.

Figure 51
CPI and core inflation indices after exclusion of most volatile and fuel prices



Source: GUS figures and NBP calculations.

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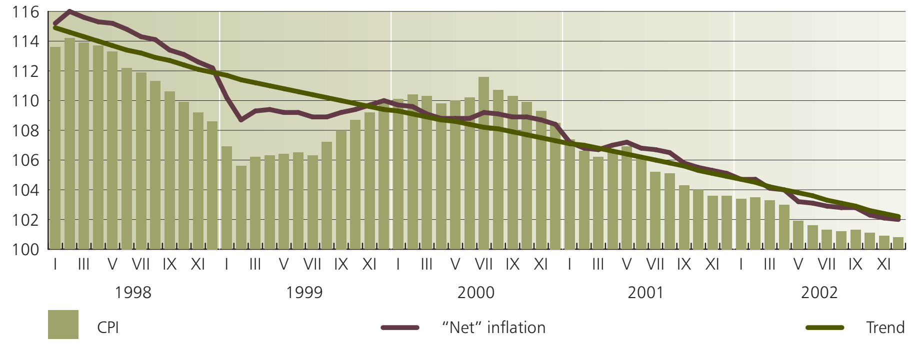
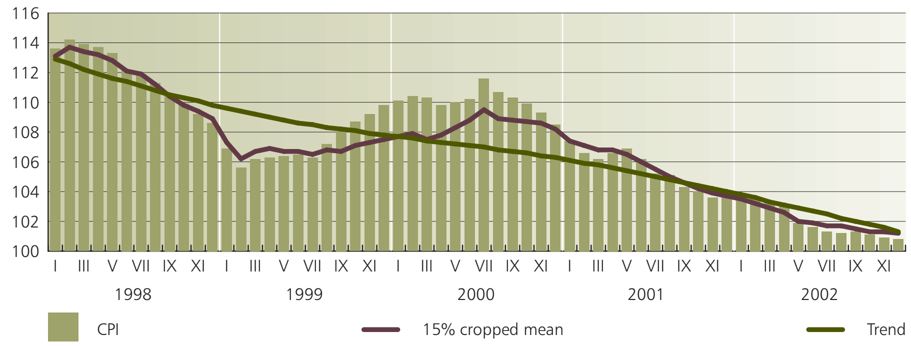
Figure 52
CPI and "net" inflation indices after exclusion of food and fuel prices



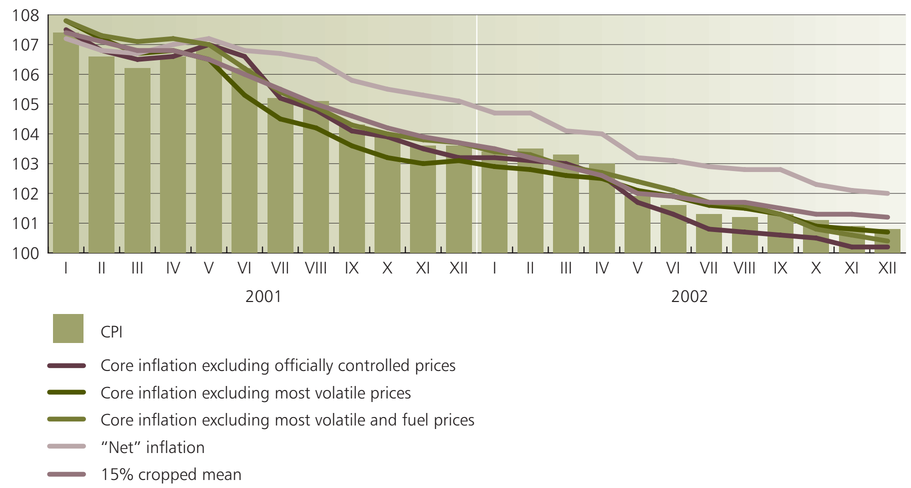
Source: GUS figures and NBP calculations.

Figure 53
CPI and core inflation indices (15% trimmed mean)



Source: GUS figures and NBP calculations.

Figure 54
CPI and core inflation indices



Source: GUS figures and NBP calculations.

as groups with the largest price growth: charges related to flat occupancy and energy carriers, radio and television bills, rail and sea transport, and fuels. In Q4 2002, the dynamic of the decline of this measure was very low, which may suggest a halt in the fall of the CPI index in 2003.

The remaining two measures of core inflation, i.e. **core inflation excluding most volatile prices**, as well as **core inflation excluding most volatile prices and fuel prices**, remained in 2002 at a level most similar to the level of the overall price index. In spite of that, their dynamic was highly varied. Core inflation growth following the exclusion of most volatile prices and fuel prices fell in 2002 the most of all the measures of inflation (core and CPI), whereas core inflation growth following the exclusion of the most volatile prices the least. This was the effect of the growing trend in fuel prices which represent the difference between both indices, and which in the period from January to July 2002 (annually) were lower by 4% on average, and in the period from August to December 2002 higher by 3.9%, respectively. Additionally, the CPI exclusion of most volatile prices did not give rise to a visible slowdown in the growth of both measures of core inflation, as compared to CPI. Excluded groups covered both groups stimulating inflation (charges related to flat occupancy, electricity, hot water), and groups slowing down its growth (poultry, vegetables). As a result, both measures of core inflation remained at a level close to the CPI index.

5.3. Producer prices in industry and construction

The year 2002 was another year of decline in annualised PPI growth up to 1% from 1.6% in 2001 and 7.8% in 2000 (cf. Table 21, Figure 57). The contributing factors of relatively low PPI growth last year were the persistence of deflationary trends in the processing industry (-0.1%), with concurrent marked price increases in the following sections: electricity, gas and water production and supply (7%) as well as mining and quarrying (2.9%).

Last year's PPI growth, similarly to the preceding year, was due primarily to price growth in the "electricity, gas and water production and supply" section. PPI growth, though to a lesser degree than in 2001, was also stimulated by price growth in the "mining and quarrying" section. Negative price growth in the "industrial processing" sector[26] was the factor stabilising PPI at a low level (cf. Figure 58).

Inflationary pressure in 2002 was therefore present in highly monopolised sectors of the economy where prices are not exposed to market competition, and are partially subject to administrative regulation (electricity, gas and water production and supply). Nevertheless, in the face of weak economic activity, and especially, shrinking investment demand, there was no shift of price growth in these sectors to costs and prices in the processing industry.

In the following quarters of 2002, PPI index growth (calculated quarter against corresponding quarter of the previous year) grew to reach 1.9% in Q4. 12-month PPI indices in consecutive months of 2002 also showed a growing trend (cf. Figure 55); In December 2002 in relation to December 2001 PPI prices were by 2.2% higher, including the "industrial processing" section – by 1.4%.

In the "industrial processing" sector, price indices calculated in relation to December 2001 were positive for the whole of 2002, unlike in 2001 (cf. Figure 56). The main reason was the increase in consumer demand in the domestic market and improved terms of foreign trade (increased "terms of trade" index). However, due to very slow investment growth, 12-month price indices in this section – following one-year long falls – began to grow as late as June 2002 (cf. Figure 55).

The biggest annual price increases in industrial processing were recorded last year in the "manufacture of coke, refined petroleum products and nuclear fuels" subsection (20.6%) where prices depend, to a large extent, on the world prices of oil and which is characterised by high degree of monopolisation. On the other hand, the largest annual price declines in industrial processing last year took place in the "manufacture of food products and beverages" (-3.2%),

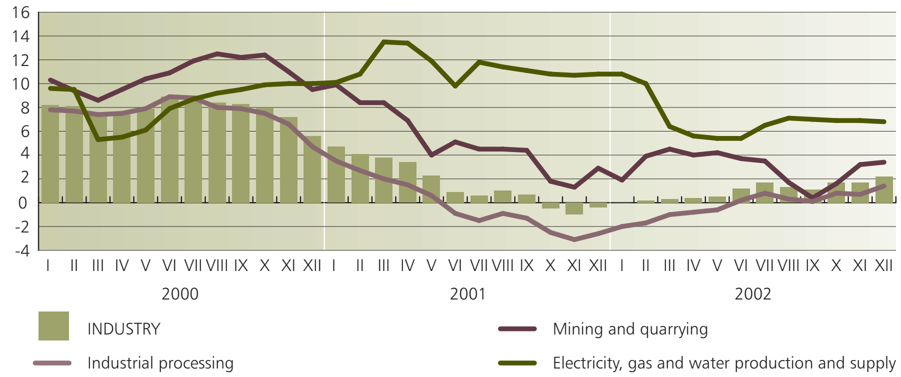
[26] Share of the sold production of the "industrial processing" section in total industrial output amounted in 2002 to 81.8% (according to NBP calculations).

Table 21
PPI indices in industry and construction

Specification	2001					2002				
	Q1	Q2	Q3	Q4	Annual average	Q1	Q2	Q3	Q4	Annual average
	Corresponding quarter previous year = 100					Corresponding quarter previous year = 100				
NDUSTRY PPI, Incl.:	104.2	102.2	100.8	99.4	101.6	100.2	100.7	101.4	101.9	101.0
– mining and quarrying	108.9	105.3	104.5	102.0	105.1	103.6	103.9	101.9	102.7	103.0
– industrial processing	102.7	100.4	98.8	97.3	99.8	98.4	99.6	100.4	101.0	99.9
– electricity. gas and water production and supply	111.5	111.7	111.5	110.8	111.3	109.0	105.5	106.9	106.9	107.0
CONSTRUCTION	106.3	104.4	103.4	102.5	103.8	102.0	101.4	101.0	100.6	101.2

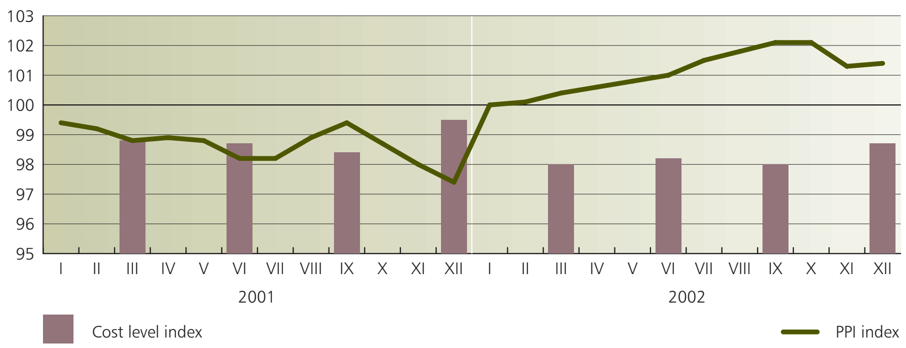
Source: GUS figures.

Figure 55
PPI in industry and its sections
(corresponding month previous year =100)



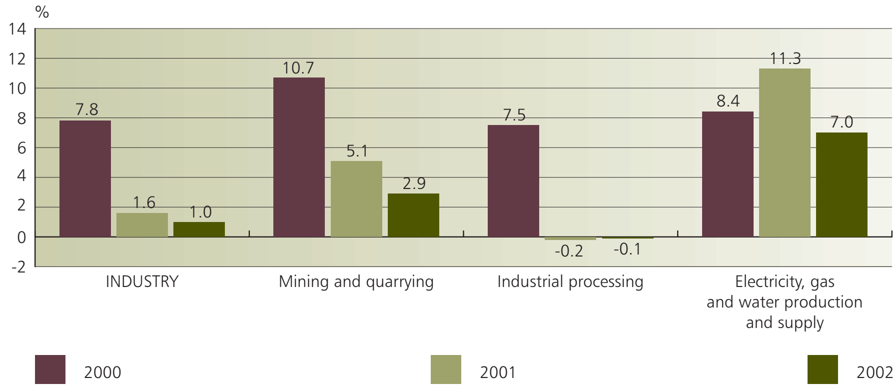
Source: GUS figures.

Figure 56
PPI in industrial processing in the years 2001–2002
(December previous year = 100).



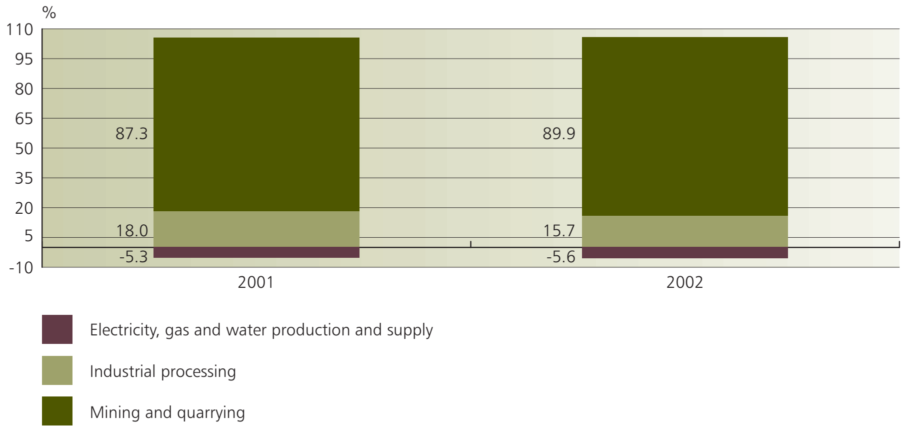
Source: GUS figures.

Figure 57
Annual average PPI growth indices in industry and its sections in the years 2000–2002 (corresponding quarter previous year = 100)



Source: GUS figures.

Figure 58
Share of sold production prices dynamic by industry section in PPI growth (previous year = 100)



Source: GUS figures.

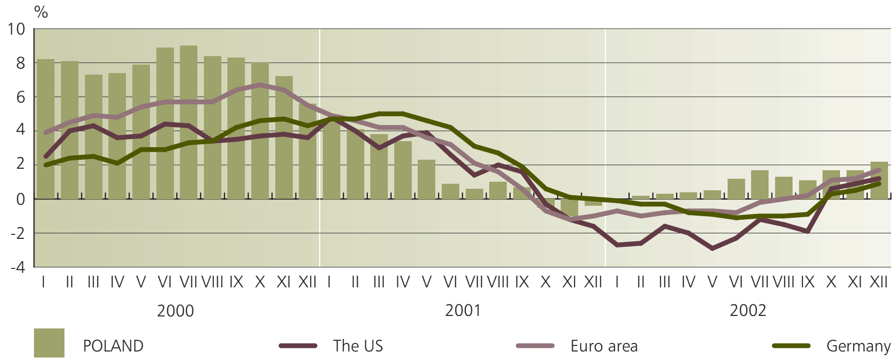
and "manufacture of medical, precision and optical instruments, watches and clocks" (-2.7%) subsections. Growth in inflationary trends in processing industry in the context of gradually growing output may point to the appearance of a production capacity barrier in some sectors of the economy.

Prices in the "electricity, gas and water production and supply" section, unlike prices in industrial processing, showed dynamic growth last year, although lower than in the preceding two years. The largest monthly growth of these prices was recorded in July (by 3.8%), following official electricity price increases. In the course of 2002, 12-month price index within the examined section stabilised at roughly 6 to 7% to reach 6.8% at year end.

In mining and quarrying, price growth in 2002, both quarterly and based on the annual average, was definitely weaker than in 2001. However, the annual average price growth in this section – by 2.9% – substantially exceeded PPI growth.

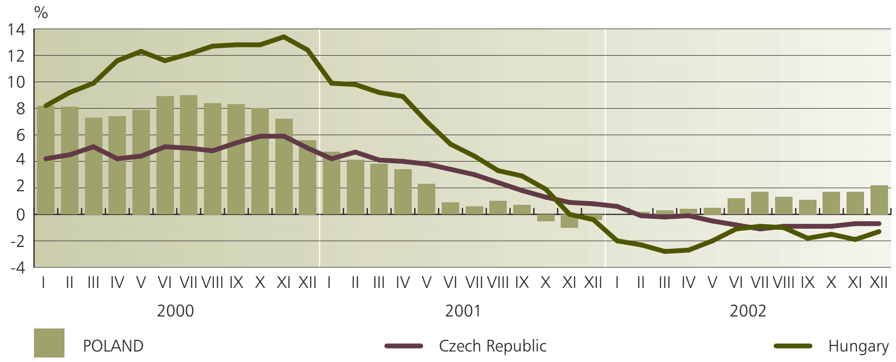
Last year saw the maintenance of the falling trend in construction price growth, observed since mid-2000. In December 2002, these prices were by 0.4% higher than in

Figure 59
PPI in Germany, the euro area, US and Poland (corresponding month previous year = 100)



Source: Bloomberg.

Figure 60
PPI in Czech Republic, Poland and Hungary (corresponding month previous year = 100)



Źródło: Bloomberg.

December 2001 when their index stood at 2.3%. Such slow price growth could be linked to the worsening crisis in construction[27].

The levels of PPI indices in Poland in 2002 deviated from the trends observed at that time in other countries, including our trade partners (cf. Figure 59 and Figure 60). In the euro area and the US, the reversal of deflationary trends took place in Q4 2002 (12-month PPI price indices at the end of 2002 in the euro area remained at the end of 2002 at 1.5%, and 1.2% in the US). In the meantime, in Hungary and the Czech Republic PPI decline persisted throughout 2002.

The correlation ratio of the Polish PPI index with the euro area PPI index amounts to 0.90[28]. More closely correlated with the euro area PPI index are PPI indices for the Czech Republic and Hungary. For the Czech Republic, this correlation is 0.93, whereas for Hungary 0.96.

The lower correlation ratio for Poland may be due to both the looser linkage of the Polish market with the euro market, and the higher – compared to the Czech Republic and Hungary – share of mining and energy sectors in Polish industry.

A slightly weaker correlation exists between PPI indices for the Czech Republic and Germany: 0.89[29]. What is also characteristic is that, unlike other European countries and the US, in the Czech Republic and Hungary the deflationary trends measured with PPI index were not halted in 2002.

[27] Construction output (in entities with employment in excess of 9 persons) was by 10.5% lower in 2002 than in 2001.
[28] All correlation ratios were calculated based on a sample from the period January 2000–December 2002.
[29] PPI correlation for the Czech Republic and Hungary is 0.97.

6
Monetary policy and performance of the inflation target

6.1. Monetary policy in 2002

6.1.1. Inflation target and decisions of the Monetary Policy Council

In the *Monetary Policy Guidelines for the year 2002*, the Monetary Policy Council set a short-term inflation target (measured by 12-month growth of consumer goods and services' prices in December 2002) at 5%, with acceptable deviation bracket of +/-1 percentage point. This target constituted an element in the performance of the medium-term target established in the *Medium-term Strategy for Monetary Policy for the years 1999–2003,* adopted in 1998. Then, the Council decided on the reduction of the inflation rate below 4% by the end of 2003 as the strategic objective of the monetary policy.

Conditions for the achievement of the inflation target in the first half of 2002 proved far more encouraging for the reduction of the inflation rate than anticipated at the moment of its establishment, i.e. in August 2001. Supply factors, primarily those affecting food prices, were at a surprisingly good level. It turned out also that the growth in administratively regulated prices will be lower than originally planned. The dynamic of internal demand also remained lower than assumed.

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As a result of the impact of all these factors, the annual inflation rate decreased from 3.6% in December 2001 to 1.9% in May 2002. Additionally, from the beginning of the year inflationary expectations of both individuals and bank analysts declined gradually[30]. For example, bank analysts, who in January 2002 expected that the annual inflation rate in December 2002 will amount to 4.7%, and in June 2002 would reach 3.3%.

In this context, it had to be expected that despite a reduction of NBP interest rates from August 2001 to May 2002 by a combined 6.5 percentage points, the 2002 inflation rate would be substantially lower than the annual inflation target adopted in 2001. Consequently, to avoid wrong interpretation as to the future direction of the monetary policy and preserve its transparency, the Council decided to review the inflation target for 2002. On June 26, 2002, the said target was reduced to 3%, with the acceptable deviation bracket of +/- 1 percentage point.

In the *Monetary Policy Guidelines for the year 2002*, the Council stressed that in the short term unexpected temporary supply-side shocks might strongly influence the level of inflation. In this light, MPC pointed out that the achievement of the strategic, medium-term objective of the monetary policy took precedence over the achievement of the 2002 target.

In 2002, in the context of a progressing decline in inflation and persistence of factors favouring its stabilisation at a low level, the Monetary Policy Council performed eight cuts of NBP base rates. In total, under the current cycle of interest rate cuts, that is, starting from February 2001 until the end of 2002, they were reduced on fourteen occasions. As a result, their level was subject to a dramatic fall and reached a historic low. The NBP reference rate, having key importance for the evaluation of the restrictive nature of monetary policy, decreased over that period from 19% to 6.75%, i.e. by 12.25 percentage points, and in real terms (using the current CPI index as a deflator) – from 11.6% to 5.9%, i.e. by 5.7 percentage points. In the meantime, from December 2001 to

[30] Cf. Subsection *6.3.3. Inflation expectations*.

Table 22
Key decisions taken by the Monetary Policy Council in 2002

Date a	Decision
January 30	Minimum 28-day reverse repo rate lowered from annual 11.5% to 10%
	Rediscount rate lowered from 14% to 12%
	Lombard rate lowered from 15.5% to 13.5%
	Deposit rate lowered from 7.5% to 6.5%
April 25	Minimum 28-day reverse repo rate lowered from annual 10% to 9.5%
	Rediscount rate lowered from 12% to 11%
	Lombard rate lowered from 13.5% to 12.5%
May 29	Minimum 28-day reverse repo rate lowered from annual 9.5% to 9%
	Rediscount rate lowered from 11% to 10.5%
	Lombard rate lowered from 12.5% to 12%
	Deposit rate lowered from 6.5% to 6%
June 26	Minimum 28-day reverse repo rate lowered from annual 9% to 8.5%
	Rediscount rate lowered from 10.5% to 10%
	Lombard rate lowered from 12% to 11.5%
	Deposit rate lowered from 6% to 5.5%
	2002 inflation target lowered to 3%, with acceptable deviation bracket +/-1
	percentage point.
August 28	Minimum 28-day reverse repo rate lowered from annual 8.5% to 8.0%
	Rediscount rate lowered from 10% to 9.0%
	Lombard rate lowered from 11.5% to 10.5%
September 25	Minimum 28-day reverse repo rate lowered from annual 8.0% to 7.5%
	Rediscount rate lowered from 9.0% to 8.5%
	Lombard rate lowered from 10.5% to 10.0%
	Deposit rate lowered from 5.5% to 5.0%
	Adoption of the *Monetary Policy Guidelines for 2003*.
October 23	Minimum 28-day reverse repo rate lowered from annual 7.5% to 7%
	Rediscount rate lowered from 8.5% to 7.75%
	Lombard rate lowered from 10.0% to 9%
November 27	Minimum 28-day reverse repo rate lowered from annual 7% to 6.75%
	Rediscount rate lowered from 7.75% to 7.50%
	Lombard rate lowered from 9% to 8.75%
	Deposit rate lowered from 5.0% to 4.75%

[a] Date decision taken.

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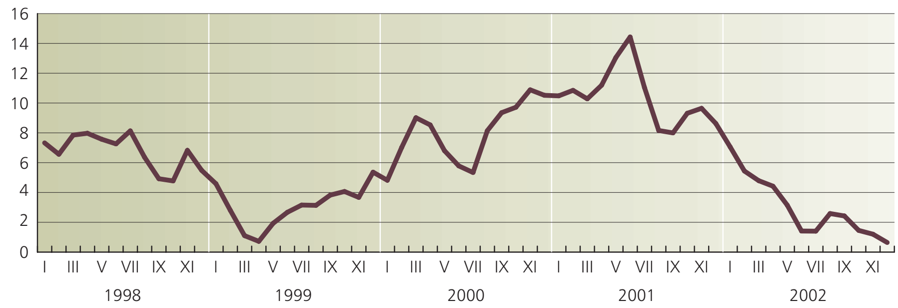
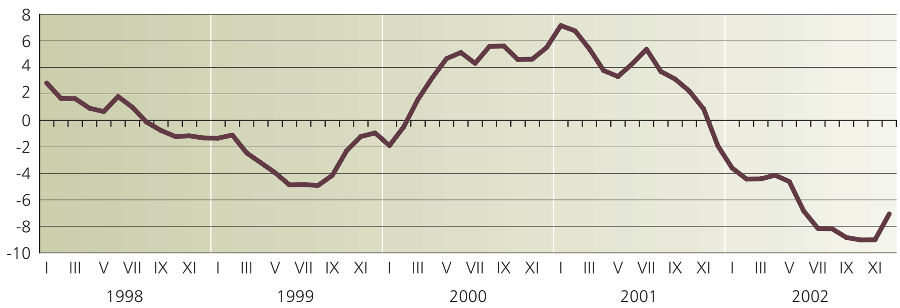
Figure 61
Monetary Conditions Index (MCI) Base period: December 1994



Source: NBP figures.

Figure 62
Monetary Conditions Index (MCI) Base period: corresponding month previous year



Source: NBP figures.

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December 2002 the reference rate was reduced nominally by 4.75 points, and in real terms (CPI deflated) by 1.7 points). The fall in nominal and real interest rates was accompanied by equally important PLN depreciation.

Owing to the impact of these factors, monetary policy in 2002 was further eased. This conclusion is supported by Monetary Conditions Indices (MCIs) calculated at NBP. They take into consideration shifts in both short-term real interest rate and real effective PLN exchange rate. In the course of the last year, these showed an almost uninterrupted decline, while their temporary increases were due to the statistical effect of the reference base.

6.1.2. Monetary policy conditions

From December 2001 to December 2002, annual CPI was brought down from 3.6% to 0.8%. This was accompanied by a fall in all measures of core inflation: from the 3.1%–5.1% bracket applicable in December 2001 to the 0.2%–2.0% bracket applicable in December 2002. At the same time, low inflationary expectations strengthened both among individuals and bank analysts. In the case of individuals, the annual inflation rate measured using CPI (the so-called unbiased measure of inflationary expectations) and anticipated by them within the twelve-month time horizon fell from 2.9% in December 2001 to 0.8% in December 2002, whereas the corresponding inflation index expected by bank analysts within 11 months declined respectively from 4.7% to 2.5%.

It is estimated that in 2002 officially registered gross disposable household income showed a slight nominal growth (by approx. 1%), and a real decline (by 1%). Given rising unemployment, nominal wage growth, both in the enterprise sector and the entire national economy, was lower that the year before. In conjunction with decreasing average employment, this meant lower pay than in 2001 (in the enterprise sector – nominally by 1.4% and in real terms by 3.3%). The growth in pensions and disability benefits was also lower than in 2001. Compared to the preceding year, these grew nominally by 5.7%[31], whereas in real terms by 3.6%.

Personal consumption growth in 2002 (3.3% annually) considerably exceeded officially registered disposable income. As one of the reasons could be quoted increased incomes outside the officially registered economy or a lower propensity of households to save.

Deposits placed by households, following a period of waning growth in the first half of 2002, shrank steadily in the latter half. These changes were due to the decreasing attractiveness of bank term deposits (the effect of falling interest rates, additionally enhanced by the imposition of tax on interest income), as well as a low growth in officially registered household disposable income and related drive to "smooth out" the consumption path. They were accompanied by high annual growth in banknotes and coins in circulation which at the end of the year amounted to 10.4%.

In the meantime, growth in household credits showed a falling trend in 2002 which was not overcome until August and stayed at roughly 8.5% p.a. until the end of the year. Reasons for last year's slowdown in household crediting – other than high interest on credits – should be sought in the deterioration of the population's income prospects in the face of constantly growing unemployment.

Following the above changes in deposits and credits, net household savings at banks grew in 2001 by approx. PLN 14 bn, to fall by PLN 13.7 bn last year.

Some funds from bank term deposits were transferred in 2002 to alternative forms of saving offering a return higher than the interest assured by banks (bonds, treasury bills, units in investment funds). All in all, households' financial savings outside the banking system increased last year almost threefold.

Relatively high consumer demand growth was accompanied in 2002 by a further decline in investment expenditure. Annually, gross fixed investments shrank by 7.2% and in Q4 2002 continued to be lower (by 4.1%) than in the corresponding period of the previous year, despite the low base effect.

Extremely low investment demand was reflected in the decline in construction prevailing all year. Low investment growth was also visible in very slow corporate credit growth in 2002. Following a period of falling, and even negative, annual growth in these credits recorded in the first half of 2002, the latter half saw stabilisation at a low positive level (below 2%).

A key factor discouraging corporates from undertaking investment activity in 2002 were increasingly bad evaluations of demand growth, primarily the external one. That was the case as enterprises with large shares of exports in their output showed higher propensity to invest than those operating primarily in the domestic market.

MPC decisions on interest rate cuts in 2002 derived, among others, from the assessment of prospects for increased economic activity, including shifts in the structure of final demand as the factor affecting future inflation.

In the course of the year unfavourable indicators of the current and forecast economic situation in the euro area economies (in particular in Germany) and in the US steadily distanced the perspective of the impact of improved global economic situation on the acceleration of economic recovery in Poland. An additional contributing factor was the year-long political tensions related to Iraq and the associated increasingly real threat of armed conflict in that region. The threat to the continuity of oil supplies stimulated the growth of current and forecast oil prices.

In the meantime, signals coming from the national economy in 2002 were inconclusive. In the first half of 2002, economic activity remained weak. Domestic demand, after four quarters of decline, stood in Q1 2002 at the same level as the year before, to finally grow in Q2 by 1% higher than in 2001. At the same time, the falling trend in added value in industry and construction persisted, with still

[31] Net of compensatory payments made in 2001. After factoring them in, nominal growth amounts to 3.5% and real to 1.5%.

relatively high growth of added value in commercial services. As late as Q3 2002, the first symptoms of economic recovery manifested themselves: stagnation in industrial output was overcome, the decline in the volume of construction output was reduced, high sales growth was sustained in the subsections classified as commercial services, and the financial standing of enterprises improved. These factors indicate that economic growth is bound to increase in the coming quarters.

On the other hand, however, the above attitude was not clearly reflected in the expectations regarding levels of the factors stimulating demand. The situation in the labour market suggests that marked growth in hired labour income should not be expected in the coming months. In conjunction with the anticipated low social benefit income growth and the falling trend in investment expenditure, this suggests the maintenance of low growth of domestic demand.

In total, despite an inconclusive image of the macroeconomic situation in Q3 2002, the Council assumed that gradual economic recovery will take place. Its expected moderate pace did not pose, however, according to MPC, any threat to the attainment of the inflation target in 2002 and 2003, which favours further cuts in interest rates.

At the same time, when taking decision on interest rates, the factors were considered which could potentially threaten the stabilisation of inflation at a low level, and thus reduce the scale of interest rate cuts in 2002.

Apart from the already mentioned consumption growth: faster than that of household disposable income (which, examined in isolation from the scale of "grey economy" income growth, signalled the risk of a falling savings rate in this sector) and the risk of further growth in oil prices, an essential limitation of the room for manoeuvre in monetary policy last year was the uncertainty as to the situation of public finances. In particular, it concerned the scale of the economic deficit of the public finance sector both in 2002 and 2003. In the face of the deteriorating situation of special funds in 2002, there was a danger that the economic deficit in both years would be higher than planned.

Concerns were also raised by the draft *2003 Budget* Act. According to MPC, contrary to earlier declarations by the government, it did not contain any proposals of systemic solutions necessary to curtail budget expenditure growth and shifts in its structure. Given the faster economic growth forecast for 2003, it assumed instead the maintenance of a high financial deficit in relation to GDP, which would mean further easing of the fiscal policy.

The factor which could threaten stabilisation of inflation at a low level was also the depreciation of the zloty, especially pronounced in the second half of 2002[32].

Further, prudence shown by the Council in taking decisions on subsequent interest rate cuts was due to the awareness that the full impact of earlier cuts, including those made back in 2001, had not yet been shown[33]. Moreover, their forecasting is clouded by substantial uncertainty, which results, among other things, from the fact that the Polish economy, for the first time since the early nineties, found itself in a position where it expected substantial growth in domestic demand.

In December 2002, the annual inflation rate stood at 0.8%, thus remaining below the short-term inflation target adopted for 2002 in June. (3% +/- 1 percentage point). The lower than forecast inflation rate in the last months of 2002 was due, however, to a large extent, to factors beyond the control of monetary policy, namely:

- Unexpectedly severe falls in the prices of food and non-alcoholic beverages,
- Lower than forecast increases in officially controlled prices, including a decline in the prices of alcoholic beverages and tobacco products, and
- The worse than forecast situation in the world economy (lower prices of many raw materials and imported goods).

[32] Cf. Subsection *6.3.2. Exchange rates*.
[33] According to MPC, the economy responds to interest rate cuts with a lag of 6 to 8 quarters.

Among others, due to high crop harvests in 2002 (and higher than forecasted), compared to the average value in recent years, and a growth in livestock production, a high supply of foodstuffs was maintained in the market. As a result, prices of food and non-alcoholic beverages were in December 2.7% lower than in the year before.

In connection with the necessity to bring the Polish rates of indirect taxes in line with the rates applicable in the European Union, it could be expected in 2002 (based on the available assumptions for the 2002 state budget and the announcements of the bodies responsible for determining levels of officially controlled prices) that there would be a higher growth of excise duty rates and that at least some of applicable reduced VAT tax rates would be abandoned. In short, it was expected that following the above changes officially controlled prices will grow in 2002 by a minimum of 5%, whereas in fact they increased by a mere 2.7%. One of the reasons was the decline in the prices of alcoholic beverages and tobacco products (by 3.1%) provoked by an unexpected reduction in excise duty made in the last months of 2002.

The impact of the above changes on the 2002 inflation rate was significant. If the prices of food and non-alcoholic beverages and alcoholic beverages grew at the rate similar to that recorded the year before, the annual CPI in December 2002 would reach approx. 2.5%.

Inflationary pressure last year was also eased by a considerably worse than presumed situation in the global economy. It was manifested by a weaker than expected growth of external demand and lower prices of many raw materials and imported goods.

Summing up, in 2002 the inflation rate in Poland was brought down to the lowest level recorded in recent years in developed countries. Even after taking into account the fact that this was achieved also thanks to factors monetary policy had no control over, it should be kept in mind that the process of deflation has come to an end.

The end of the deflation process, which has lasted many years, creates qualitatively new conditions for monetary policy development. Nowadays, it should be streamlined to the stabilisation of inflation at a low level. This allows for giving up annual inflation targets established at the end of a given calendar year for the benefit of the performance of a continuous target contained in the *Monetary policy strategy beyond 2003* published in March 2003.

The need to adopt the *Strategy* came from the Council's belief that the public announcement of the medium-term inflation target and the expected conditions for its performance will contribute to the stabilisation of low inflationary expectations, and – because of delays in the monetary transmission mechanism – the preservation of a transparent monetary policy. With the prospect of Poland joining the European Union in 2004, it has become necessary, according to the Council, to stabilise inflation at a level consistent with the strategy of an economic policy which assumes possibly rapid accession to the euro area.

6.1.3. Monetary policy instruments

In 2002, the basic instrument of NBP monetary policy was the interest rate. By influencing the level of nominal short-term interest rates of the money market, MPC aimed at achieving the same level of interest rates throughout the economy which would be consistent with the assumed inflation target. In order to adequately determine short-term interest rates as desired, NBP utilised open market operations, lending and deposit-taking operations, and required reserves.

Open market operations[34] constituted the key instrument allowing the central bank to eliminate fluctuations in interest rates and maintain these at the level desired in terms of monetary policy. In order to improve liquidity management by commercial banks and the central bank, as well as ensure higher stability of market rates, as of February 1, 2002 basic open market operations in the form of issues of money market bills were performed regularly every Friday.

[34] Open market operations are transactions conducted by the central bank with commercial banks, performed on the initiative of the central bank. The scope of open market operations includes: conditional or unconditional sale or purchase of securities, as well as the issues of own debt securities by the central bank.

In emergency situations (e.g. in the case of considerable liquidity dislocations or threats to the operations of the payment system), NBP could resort to adjustment operations, such as:

- Issues of NBP money market bills with a 1 to 7-day maturity,
- Purchase from banks, in the tender mode, of Treasury securities for periods ranging from 1 to 7 days, and
- Advance buyout of NBP money market bills.

Approximation operations could, therefore, take the form of both supplying and absorbing operations, and their date was to depend on the length of a given dislocation. In the course of 2002, the utilisation of approximation operations was not necessary.

Given the persistence of excess liquidity, the NBP confined itself to liquidity-absorbing operations. To this end, it issued 28-day money market bills, thereby directly influencing one-month interbank rates. The minimum rate on these short-term liquidity-absorbing open market operations (the reference rate) provided information on the current direction of monetary policy.

The nominal value of issued money market bills decreased along with the gradual decline in liquidity from PLN 14,271 million at the end of 2001 to PLN 7,252 million at the end of 2002.

A major factor contributing towards reducing the extent of excess liquidity were continued outright sales by the NBP of Treasury securities[35]. In 2002, these sales nominally amounted to PLN 5,300 million.

Since the NBP conducted its basic regular open market operations for 28-day maturities, swings occasionally took place in shorter interbank rates, especially one-day rates. To smooth out this volatility, the NBP carried out short-term (one-day) **lending and deposit-taking operations** with the commercial banks, at their initiative, providing **lombard loans** collateralised by Treasury securities and accepting **overnight deposits** (a time deposit facility for commercial banks at the NBP.

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The lombard rate served as a maximum interest rate determining the marginal cost of funds for the shortest maturities on the interbank market. At certain points in time, however, interbank rates exceeded the lombard rate. This was associated with certain banks being unable to draw on lombard facilities for lack of appropriate collateral.

The deposit rate constitutes the price at which the central bank is willing to accept overnight deposits from the banks. The rates applied in lending and deposit-taking operations function as a corridor for fluctuations in money market rates.

It is symmetrical, i.e. the difference between the deposit rate and reference rate equals the difference between the interest charged on lombard loan and the reference rate. The width of the corridor was concurrently gradually brought in line with the level of NBP interest rates – the difference (spread) between the deposit rate and the lombard rate was narrowed down from 8% at the beginning of 2002 to 4% at the year-end.

The basic role of **required reserves**[36] was to cushion the impact on interbank rates of ongoing movements in banking sector liquidity. This made it easier for the NBP to maintain a selected market rate at the level desired. The value of required reserves evolved depending on the value of accumulated funds constituting the basis for calculating required reserves.

Until February, 27, 2002, the reserve ratio stood at 5% of all deposits. Vault cash declared by the banks was eligible for inclusion as up to 10% of the reserves required. As of February 28, 2002,

[35] Unconditional (outright) operations are one of the forms of open market operations. Under this type of operations, the central bank purchases or sells securities. Purchase of a security by the central bank supplies liquidity (additional funds) to the banking sector, whereas the sale of a security absorbs this liquidity. Liquidity absorption (supply) takes place for the period corresponding to the maturity of securities.

[36] Required reserves – portion of funds, expressed in zloty, accumulated in bank accounts and acquired from the sale of securities and of other returnable funds accepted by the bank, except for the funds accepted from another domestic bank, as well as attracted from abroad for at least two years. Required reserves are kept in NBP accounts. The size of required reserves is determined by the Monetary Policy Council.

the rate of required reserves was lowered to 4.5%, with concurrent elimination of the possibility to keep a portion of the reserves in cash in the bank's vault. The principles and procedures for calculating and maintaining regulatory required reserves were those specified in Resolution no. 64/2002 of the NBP Management Board, December 21, 2001.

In order to reinforce the role of reserve requirements as an instrument stabilising market interest rates every day figures are published on the amount of required reserves and on the balances on banks' current accounts at the NBP and on reserve accounts the previous day.

In order to facilitate liquidity management and impart more flexibility to the interbank settlement system, commercial banks had a possibility to refinance themselves through a **intra-day credit facility**. The intra-day facility is designed to smooth interest rate fluctuations arising from liquidity dislocations. The collateral taken against this credit is the transfer to the NBP of title to Treasury securities.

6.2. The money supply

Changes in the money supply in 2002 were characterised by two major trends: a decrease of the M3 wide monetary aggregate and shifts in its structure caused by the increase in narrow monetary measures: the M1 aggregate and notes and coins in circulation.

M3 money supply fell in 2002 by PLN 6.9 bn, that is by 2.1% nominally and by 2.9% in real terms. The reduction in M3 aggregate resulted primarily from a decrease in the liabilities of the banking sector with respect to households. Also subject to reduction were liabilities towards non-

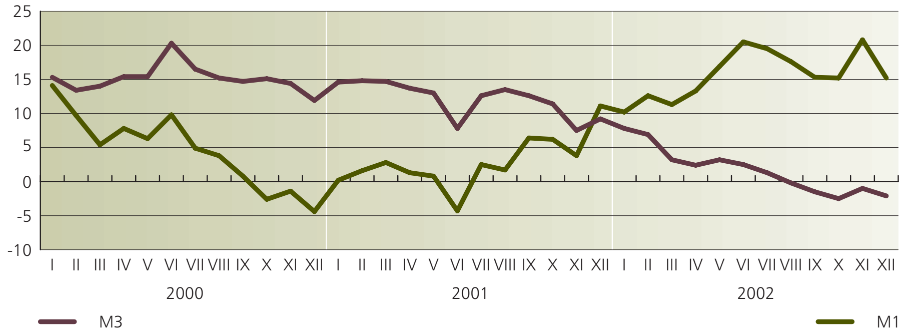
Table 23
Money supply in 2001–2002

Specification	2001	2002			
	Balance		Change	Nominal annual growth	Real annual growth[1]
	in PLN bn			%	
I. M1 money supply	118.3	136.3	18.0	15.2	14.3
II. M3 money supply	328.4	321.6	-6.9	-2.1	-2.9
1. Notes and coins in circulation (excluding vault cash)	38.2	42.2	4.0	10.4	9.5
2. Deposits and others liabilities	290.1	277.5	-12.6	-4.3	-5.0
2.1. Households	203.9	195.9	-7.9	-3.9	-4.7
2.2. Non-monetary financial institutions	10.6	7.2	-3.4	-31.7	-32.3
2.3. Corporates	54.3	55.0	0.7	1.3	-0.8[2]
2.4. Non-commercial institutions operating for the benefit of the households	9.8	8.3	-1.5	-15.5	-16.2
2.5. Local government institutions	7.7	8.4	0.7	9.7	8.9
2.6. Social security funds	3.8	2.7	-1.1	-28.5	-29.1
3. Other M3 constituents	0.2	1.8	1.6	755.1	649.1

[1] CPI deflated, [2] PPI deflated.
Source: NBP figures.

[37] Cf. Subsection *6.3.1. Interest rates impact on deposits*.

Figure 63
M3 and M1 nominal growth (corresponding month previous year = 100)



Source: NBP figures.

monetary financial institutions, non-commercial institutions operating for the benefit of the households and local government institutions. In the meantime, however, decreased the balance of the liabilities towards corporates, notes and coins in circulation balance and other M3 constituents. A substantial growth in other M3 constituents was due to the issue at the end of the year by some commercial banks of bonds targeting households which, although in fact playing the role of term deposits, still enabled the holder to avoid paying tax on income in the form of interest.

When analysing the fall in the value of the M3 aggregate in 2002, it should be kept in mind that it does not include liabilities with maturity in excess of two years, nor such close substitutes for bank savings as investment in treasury securities or purchase of investment fund units. The introduction in late 2001 of a tax on interest income contributed largely to the growing popularity of this form of saving. In 2002, assets managed by investment funds in treasury bonds held by households increased by a combined amount of approximately PLN 14 bn, whereas deposits with maturity in excess of two years – by PLN 1.4 bn[37]. The M3 aggregate, combined with the above-mentioned categories grew by roughly 2% in 2002. However, the annual growth of the wide aggregate, similarly to the annual growth of the M3 money supply, followed a downward trend throughout 2002.

The slowdown in the growth of the wide monetary aggregate was accompanied in 2002 by a dynamic increase in narrow monetary measures. The M1 aggregate, made up of notes and coins in circulation as well as current deposits in the banking system, rose last year by PLN 18 bn (by 15.2% nominally and 14.3% in real terms). The rapid growth of the M1 aggregate was caused by shifts in the time-structure of the M3 money supply towards a growing share of more liquid components. At the same time, deposits with a maturity in excess of two years, not included in M3, went up. Increased M3 liquidity was, to a large extent, the result of falling interest rates, further enhanced by the imposition of the tax on interest income, which negatively affected the attractiveness of bank deposits.

The share of currency deposits in total deposits of the banking system remained stable at ca. 17% in 2002. Exchange-rate fluctuations had no major impact on the levels of money supply.

Money supply factors

Changes in the structure of money supply factors in 2002 in comparison to the previous year are shown in the table below. The year 2002 witnessed an increase in the importance of claims as the main factor creating money (despite their slower growth than in 2001). Meanwhile, net indebtedness of general government institutions which, in 2001 represented a key factor increasing the money supply, turned in 2002 into a major source of money absorption.

According to the new methodology of the monetary statistics, on the side of money supply factors are also shown in 2002 fixed assets (exclusive of financial assets) and long-term financial liabilities (negative value).

Table 24
Money supply factors

Specification	2001 Change PLN bn	2001 Share in change %	2002 Change PLN bn	2002 Share in change %
M3 money supply (1+2+3-4+5+6)	**27.7**	**100.0**	**-6.9**	**100.0**
Money supply factors:				
1. Net foreign assets	0.8	2.9	-0.5	7.9
2. Claims	20.1	72.6	11.8	-171.1
3. Net indebtedness of central government	13.1	47.4	-3.3	47.6
4. Long-term financial liabilities	25.5	91.9	9.2	-133.5
5. Fixed assets (exclusive of financial assets)	4.7	16.8	2.6	-37.3
6. Other net item balance	14.4	52.1	-8.2	119.4

Source: NBP figures.

Claims

Total claims of the banking system increased in 2002 by PLN 12 bn (by 5.2% nominally and by 4.4% in real terms), and constituted the key factor creating money. Still, their annual growth fell steadily in the course of the year.

In 2002, claims on households[38] grew by PLN 7.1 bn (by 7.7% in real terms). This growth was considerably lower than that observed in previous years; average annual growth of claims on households in the years 1998–2001 amounted to 16.7% in real terms. Due to the differences in the interest charged on PLN and foreign currency credits, household indebted themselves more readily in foreign currencies. The share of foreign currency claims on households climbed

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Table 25
Structure of claims in 2001–2002

Specification	Balance at: 31.12.2001 PLN bn	Balance at: 31.12.2002 PLN bn	Nominal annual growth %	Real nominal growth[1] %
Total claims on	**232.2**	**244.3**	**5.2**	**4.4**
1. Households	82.7	89.8	8.6	7.7
2. Non-monetary financial institutions	10.6	10.3	-2.9	-3.7
3. Corporates	127.6	129.5	1.4	-0.8[2]
4. Non-commercial institutions operating for the benefit of households	1.1	1.0	-10.9	-11.7
5. Local government institutions	8.4	11.3	33.7	32.6
6. Social security funds	1.7	2.4	42.7	41.6

[1] CPI deflated.
[2] PPI deflated.
Source: NBP data.

[38] Cf. Subsection *6.3.1 Interest rates vs. loan demand*.

from 17.7% in December 2001 to 22.9% in December 2002. Foreign currency credits taken out by households were allocated primarily to meet their housing needs. The main item in the structure of credits granted to individuals (32.4%) represented credits for purchase of housing property. On the other hand small enterprises classified as households[39] took out mainly investment (36.0%) and operating (26.4%) credits.

The interest displayed by enterprises in incurring new credits was much weaker in 2002 than in previous years; claims on enterprises grew by a mere PLN 1.8 bn (fell by 0.8% in real terms)[40], whereas their average annual growth over the previous four years had amounted to 10.1% in real terms.

Claims on the other entities increased in 2002 by PLN 3.1 bn, of which the largest share was that of increased claims on local government institutions representing PLN 2.9 bn (by 32.6% in real terms). This growth was comparable with the growth recorded over the four previous years.

Net general government indebtedness

Although in 2001 net general government indebtedness represented the main factor creating money, in 2002 this category appeared on the side of money-absorbing factors. At the end of 2002 net general government indebtedness amounted to PLN 65.9 bn; that is, it decreased in the course of the year by PLN 3.3 bn (by 4.7%). The reasons for that decline were as follows:

- Claims from credits and debt securities lower by PLN 0.3 bn (by 0.3%),
- Liabilities higher by PLN 3.0 bn (by 22.7%).

The rate and direction of changes in net general government indebtedness in 2002 were determined on the one hand by the financial standing of the entities making up this sector, and on the other by shifts in the structure of financing sources for their expenditure. Revenues and expenditure of the state budget, the largest entity in this sector, were decisive. In the face of considerably lower privatisation receipts than those assumed in the 2002 budget act, the main source of financing for general government borrowing needs were funds generated from the sale of treasury securities. Issues of euro bonds represented an additional source of financing budget liabilities.

Last year's decrease in net general government indebtedness at monetary financial institutions (NBP and commercial banks) points to the growing share of non-bank entities involved in financing the state budget deficit.

Net foreign assets

Net foreign assets of the banking system reached PLN 132.0 bn by the end of December 2002 and decreased compared to December 2001 by PLN 0.6 bn, that is by 0.4%. This decline was due on the one hand to a reduction in foreign assets by PLN 0.3 bn (0.2%), and on the other by an increase in foreign liabilities by PLN 0.3 bn (0.7%). In US dollars, the value of net foreign assets at the end of 2002 amounted to USD 34.4 bn.

Change in the level of foreign assets resulted from the growth of this category at NBP by 11.4% and its fall by 15.7% at commercial banks. Increases in foreign assets held by NBP was, among other factors, due to the funds acquired by the state budget from the issue of euro bonds in foreign markets, deposited in a foreign currency account at NBP. In fact, these funds did not contribute to the higher money supply as they reflected the NBP's increased liabilities towards general government, representing PLN 3.0 bn in 2002.

[39] Private entrepreneurs employing up to 9 persons.
[40] Analysis of this phenomenon and its causes is provided in Subsection *6.3.1. Interest rates vs. loan demand*.

The share of NBP foreign assets in the foreign assets of monetary financial institutions rose from 66.3% at the end of 2001 to 72.3% at the end of 2002. The key item of NBP foreign assets was the official reserve assets, which recorded an increase of 12.2% last year.

Meanwhile the foreign liabilities of monetary financial institutions increased in 2002 as a result of a 10.4% rise in the liabilities of other monetary financial institutions (commercial banks). Thus, their share in this category grew in 2002 to 84.2%, up from 78.5% the previous year.

Other items (net) balance[41]

In 2002, negative balance of other net items deteriorated by PLN 8.2 bn, or 17.1%, and at the end of December 2002 amounted to PLN -56.2 bn. The scale and direction of changes in this category were determined *by other net assets at NBP* whose negative balance increased last year by PLN 6.1 bn, or 24.5%, and stood at PLN -31 bn at the end of December. Shifts within this category were primarily due to the change in the balance of reserves to cover the FX risk, as a result of differences in the valuation of foreign currency assets and liabilities converted into PLN.

Other elements which greatly contributed to the deterioration of the negative balance of other net items in 2002 were settlements with various debtors and creditors which grew by PLN 5.8 bn, or 219.3%, and amounted to PLN -3.2 bn at the end of December 2002. This shift was due mainly to the increased balances of the ‘special funds’ item in other monetary financial institutions.

To the decrease in the balance of other net items also contributed financial performance of other monetary financial institutions which deteriorated last year by PLN 3.4 bn, or 55.4%. At the end of 2002, their value reached PLN -2.7 bn (as a constituent of “other items net”). The fall in the value of this item was determined by “the current year performance”. The same impact was exercised on “the balance of other net items” by interbranch and interbank settlements at NBP which decreased by PLN 1.4 bn (i.e. by 85.1%), and at the end of December 2002 their value amounted to PLN -0.2 bn.

Banks’ fixed assets

The value of banks’ fixed assets at the end of 2002 stood at PLN 28.9 bn, that is grew by PLN 2.6 bn (by 9.7%) compared to the end of 2001. That was the smallest annual growth in this category in the last 6 years. The low growth of fixed assets could be related to the poorer financial performance of monetary financial institutions.

Long-term financial liabilities

The long-term financial liabilities of the banking system rose in 2002 by PLN 9.2 bn, that is by 10.1%, and at the end of December 2002 reached PLN 99.7 bn. That was the smallest annual growth in this category in the last 6 years (for comparison’ sake: average annual growth of that figure in the years 1997–2001 amounted to 29.0%). These liabilities are made up of capitals and reserves, deposits with original maturity in excess of 2 years and debt securities with original maturity in excess of 2 years. The largest share in the examined liabilities (ca. 80.0%) was held by capitals and reserves. Growth in this category over the period discussed stood at PLN 6.4 bn (8.8%). Deposits with original maturity in excess of 2 years rose by PLN 2.8 bn, or 15.5%, and amounted to PLN 20.8 bn last year.

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[41] *“Other items net”* constitute the difference between other assets and other liabilities not qualified for the calculation of M3 money supply and factors of its creation. That category “closes” the balance sheet of the banking system. Its negative balance results from higher value of other liabilities from the balance sheets of banks and NBP than other assets. Other assets and other liabilities which make up *“other items (net)”* were aggregated into a number of larger analytic categories. The key elements of *“other items (net)”* are: interbranch and interbank settlements, prepayments and accruals, profit/loss of other monetary financial institutions (MFI), reserved revenues at other MFIs, deferred income, various debtors/creditors, other net assets at other MFIs and other net assets at NBP.

6.3. Monetary policy transmission mechanisms

6.3.1. Interest rates

Monetary policy and interbank rates

The year 2002 was characterised by a persistent falling trend in money market rates[42]. From January to December 2002, interest on deposits in the interbank market followed the movements of the NBP reference rate. The scale of WIBOR 1M and 3M rate movement depended on the deposit's maturity, decreasing as it became longer.

Table 26
Movements in WIBOR rate in 2002

Year 2002	NBP reference rate	1M	3M	6M	12M
31.12.2002	6.75	6.98	6.87	6.87	6.35
31.12.2001	11.50	12.08	11.91	11.32	10.65
Change	-475.0	-510.0	-504.0	-445.0	-430.0

The reduction in the interdependence force between movements in WIBOR 1M rate and other short-term interest rates is confirmed by the correlation indicator[43]. Its average annual value was the highest for the WIBOR 1M–3M rate couple, and the lowest for the WIBOR 1M–12M rate couple. The generated result agrees with the theory of expectations, according to which the longer the maturity of transactions, the growing impact on their interest have the expectations related to the future level of short-term interest rates, and not their current value.

The increasing role of expectations in determining the level of short-term interest rates beyond 3 months is reflected in the course of the historical volatility of the 1-, 3-, 6- and 12-month interest rate[44]. The highest average annual volatility in 2002 was displayed by WIBOR 1M rate, which is due to the fact that movements in this rate are largely influenced by changes in the liquidity status of banks. The lowest volatility was observed for WIBOR 12M rate as the expectations impacting mainly the volatility of that rate are not subject to such considerable fluctuations as the short-term liquidity of banks.

Short-term volatility indicators, calculated for 63 observations, showed in Q4 2002 a growth trend. Growth of volatility of short-term interest rates started with the October reduction in reference rate by 50 base points (bps)[45] and intensified after its November cut by another 25 bps The liquidity disruption noted from December 16 to 19,2002, additionally contributed to the stabilisation of volatility above the levels recorded at the beginning of the quarter.

The correlation indicator[46] between WIBOR 1M rate and other short-term interest rates (3M, 6M and 12M) reached in Q4 for WIBOR 1M–6M and 1M–12M rate couples maximum values at the beginning of November, to subsequently gradually fall to one of the lowest values in 2002 at the end of December.

Both the increased volatility of short-term interest rates and the large fluctuations of the 63-day correlation indicator for WIBOR 1M–6M and WIBOR 1M–12M interest rate couples were primarily due to a rapid revision of market expectations as to the scale and rate of interest rate cuts by MPC after the positive outcome of the referendum in Ireland held on October 19. Another factor

[42] Money market rates are the interest on debt instruments (interbank term deposits, treasury bills, currency swaps) with a maturity of up to 1 year.
[43] As calculated for 252 observations.
[44] As calculated for 252 observations.
[45] One base point corresponds to one-hundredth of a percentage point (0.01%).
[46] 63-day.

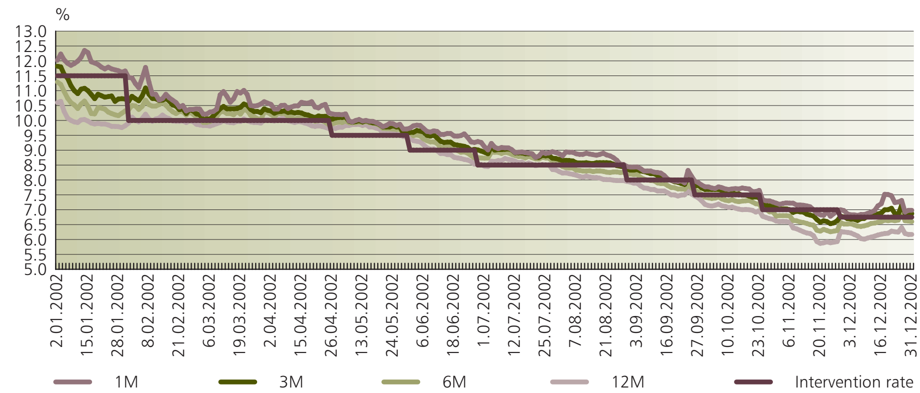
Table 27
Average annual value of correlation indicators for WIBOR rates (calculated for 252 observations)

2002	1M	3M	6M
1M			
3M	0.81		
6M	0.66	0.80	
12M	0.57	0.73	0.82

Table 28
Annual average volatility of WIBOR rates (calculated for 252 observations)

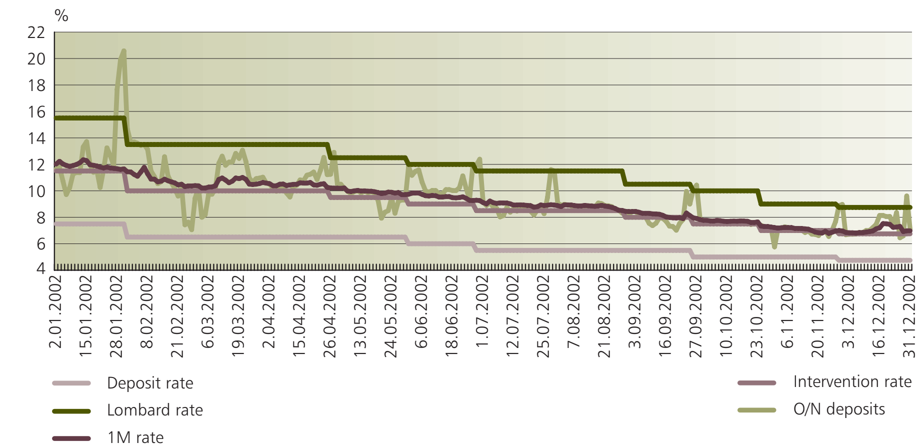
Volatility (in %)	1M	3M	6M	12M
2002	23.10	15.62	13.66	11.58

Figure 64
Intervention rate and interest charged on interbank deposits 1M, 3M, 6M, 12M



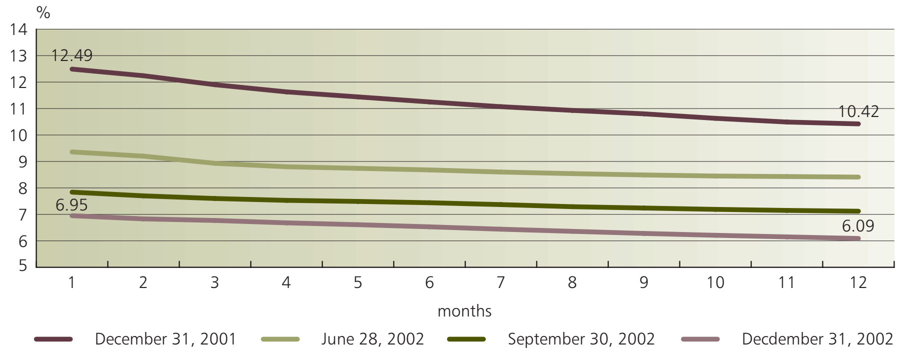
Source: Reuters figures, NBP.

Figure 65
NBP rates and interest charged on interbank O/N and 1M deposits



Source: Reuters figures, NBP.

Figure 66
Movements in yield curve in Q3 2002 based on currency swap price quotations



Source: Reuters figures, NBP.

affecting volatility growth and correlation decline was the change by MPC of the base cut scale in November from 50 pbs to 25 pbs.

Despite substantial volatility growth and fluctuations of the correlation indicator, the shift of the money market profitability curve in Q4 2002 at its short end corresponded to the scale of interest rate cuts performed, whereas in the long run – additionally to the expectations regarding continuation of the cycle of interest cuts in 2003. (Figure 66)[47].

Commercial bank reactions to central bank policies

Changes in deposits and credit rates offered by commercial banks usually do not exactly reflect changes in money market rates. While reserving in their service provision rules the right to possible changes in the interest charged on their products in the case of market rate cuts, banks leave themselves a lot of freedom in deciding on the timing and scale of such changes. As a result, changes in interest charged on credits and deposits may be asymmetrical, varied depending on the client category and may be introduced with a delay in relation to market rate changes, in particular the short-term rate determined directly by the central bank.

In 2002, similarly to previous years, commercial banks responded to market interest rate cuts with more significant cuts of deposit rates than credit rates. Reductions in the interest charged on credits also took place with a longer delay with respect to market rates than cuts in interest on deposits. The effect of this process was the increase in margins contained in credit rates which reflected their higher credit risk and the banks' attempt to compensate for the decline in interest income, as a result of an increased volume of bad claims[48].

Below (Table 29) are listed changes in PLN household credit and deposit rates in the period from March to December 2002. The analysis focuses on this period because of the changes introduced in March 2002 in the monetary statistics and related incomparability of earlier figures. Any comparisons of interest rates from the period prior to and after changes in reporting may only be for illustrative purposes and considerable caution is to be recommended when interpreting these values.

The striking feature of the table above is the varying rate of interest rate reductions for different types of PLN credits offered to households. In the period examined, the smallest decline was recorded

[47] Yield curve illustrates the relationship between the rate of return and period outstanding to the buyout date of a debt instrument. Yield curve for short-term interest rates reflects the situation in the market of currency swaps as it is the most liquid segment of the interbank market where zloty may be placed/borrowed.
Currency swap is a type of derivative whose operating principle consists in exchanging capital amounts in two different currencies at a predetermined date. Under such transaction, one currency (e.g. PLN) is sold at a given date in exchange for another currency (e.g. USD), and following the expiry of the term of contract a reverse transaction is performed, e.g. purchase of PLN and sale of USD.
[48] Share of irregular claims in total claims on the non-banking sector rose from 17.8% in December 2001 to 20.7% in December 2002.

6

Table 29
PLN household deposit and credit rates
From March to December 2002

Type	III	VI	IX	XII	Change III–XII
		2002			2002 (%)
Personal savings accounts	2.5	1.9	1.6	1.2	-1.3
Term deposits declared for 3 months	6.8	5.7	4.7	3.9	-2.9
Household term deposits	7.1	6.0	5.1	4.2	-2.9
Credit granted in current account	18.0	17.7	17.5	17.6	-0.4
Consumer loans granted for 1 year	19.0	18.8	18.4	18.1	-1.0
Total consumer credit	18.5	18.1	17.8	17.5	-1.0
Housing loans granted for periods in excess of 5 years	12.4	10.9	10.3	9.4	-3.0
Total housing loans	11.1	10.2	9.7	9.0	-2.1

Source: www.nbp.pl, section: Statystyka/Szeregi czasowe/Statystyka pieniężna i bankowa.

by interest rate on credits granted within current accounts. This could stem from a substantial deterioration in the quality of that credit category and the prospect of further increases in banks' risk in connection with that product. The higher risk associated with credits extended within current account results from the fact that banks have no control over their utilisation by clients. These funds may be, for example, used for financing current household consumption when their incomes decline. Drops in household creditworthiness in 2002 led to a further increase in the risk associated with extending that type of credit. As a result, in an attempt to increase their margins to cover risk, over the examined period banks cut interest rates on credits offered in current accounts at a slower rate than in the case of other household credits, raising them even slightly in the last quarter of 2002[49].

Among household credits, interest on mortgage credits was reduced the most over the period. In the case of such credits – as opposed to credits granted on current accounts – the purpose is strictly defined and banks have a possibility to monitor the utilisation of the funds placed at the borrower's disposal. Mortgage credit risk is also mitigated by the establishment of a relatively secure collateral. The limited risk, compared to other products in the credit offer, enabled banks to lower their interest rates more than in the case of other credits.

A comparison of changes and levels of consumer deposit and credit rates over the analysed period shows that deposit rates dropped from a substantially lower level than credit rates.

From March to December 2002, average monthly WIBOR1M rate fell by 3.5% and amounted to 7.08% in December. Change in market rates was therefore more significant that that in the rates offered by banks in the same period. This led to a reduction in the spread between WIBOR1M and household deposit rates, and a growth in the spread between market rates and household credit rates. Thus, the banks' cost of acquiring funds from deposits approached the cost of acquiring funds in the interbank market. Thus, the benefits associated with the possession of an extensive deposit base by a bank diminished. In the meantime, the gap expanded between the costs of acquiring funds by banks (liability financing) and asset yields.

As a result of these changes, margins on PLN household credit rates rose. That applied to both margins calculated at the difference between credit rates and money market rates, and those calculated as the difference between credit and deposit rates[50].

[49] For comparison, from March 2001, when the current cycle of NBP interest rate cuts began, to February 2002, the interest on PLN cash credits offered to retail clients decreased by 3 percentage points, from 22.2% to 19.2%.

[50] From March 2001 (beginning of the current cycle of NBP interest rate cuts) to February 2002, the interest rate on 12-month PLN consumer deposits dropped by 6.9 percentage points – from 13.7% to 6.8%. Over the same period, in the interbank market WIBOR1M rate decreased by 7.53 percentage points, while PLN cash credit rate for natural persons fell by 3% (cf. previous footnote).

Table 30
Zloty corporate credit rates March–December 2002

Type	III	VI	IX	XII	Change III–XII
		2002			2002 (%)
Corporate credits offered in current accounts	13,0	12,2	11,1	10,3	-2,7
Corporate credits offered for 1 year	13,1	12,2	11,1	9,9	-3,2
Total corporate credits	13,4	12,5	11,5	10,6	-2,9
Credits for individual entrepreneurs* offered for 1 year	14,5	13,7	12,8	12,2	-2,3
Total credits for individual entrepreneurs	14,4	13,7	12,9	12,3	-2,1

* entrepreneurs employing up to 9 persons.
Source: www.nbp.pl, sekcja: Statystyka/Szeregi czasowe/Statystyka pieniężna i bankowa.

In the case of interest on banking products offered to corporates, the developments in the period under analysis were different. Below (Table 30) are listed changes in PLN corporate credit rates and individual entrepreneurs[51].

Growth in the difference between the cost of acquiring funds originating from household deposits by banks and credit rates is connected to higher credit risk, which finds its reflection in the increased value of irregular credits. Therefore, it is required to incorporate into the interest rate differential the increased margin to cover the risk. One could put forward a hypothesis that the lower growth of credit demand hampered competition among banks for funds acquired in the form of household deposits.

Interest rates and credit demand

6

In 2002, nominal household and corporate credit rates decreased, although at a lower rate than NBP interest rate path would suggest. Real corporate credit rates fell, whereas those of household consumer credits remained stable[52].

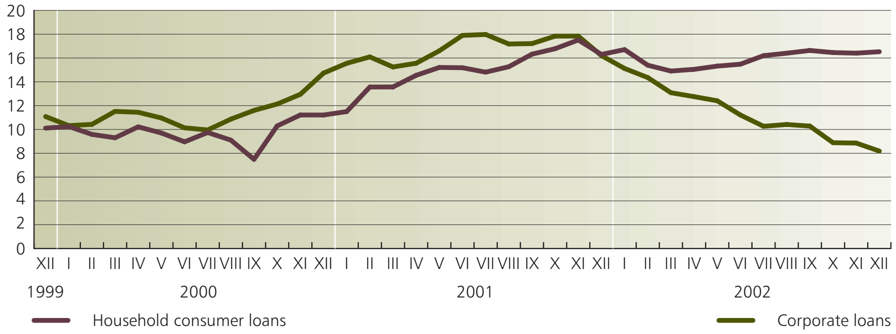
Inconsistency of credit rate changes extended by commercial banks with the changes of the central bank's interest rates stemmed from the impact of many factors, including, among others, a high supply of treasury bonds whose purchase by banks resulted in the 'crowding out' of private investment, the large share of irregular credits in the banks' credit portfolio and the uncertain prospects of economic growth and related cautious assessments of investment projects by banks.

In the context of high real rates and their poor availability, demand for credit in 2002 dropped. The annual growth of household credits slowed down from 14.7% in December 2001 to 8.6% in December 2002. This fall however, was recorded in the first half of the year and starting from August 2002 this category remained stable at roughly 8.5%. On the one hand, this was due to shrinking household demand for consumer credits, and on the other, their strong demand for real estate credits. In 2002, the value of household credits granted grew by PLN 7.1 bn, of which roughly PLN 6.3 bn represented growth in housing credit. The reasons for last year's slowdown in household credit should be sought not only in the high price of credit but also in the deteriorating income prospects of households related to the downturn in the labour market.

Higher interest on PLN-denominated housing credits than on credits denominated in foreign currencies was charged through the whole 2002. That contributed to the higher attractiveness of foreign currency credits, although PLN housing credits rose last year by approximately PLN 1.4 bn,

[51] Between March 2001 and February 2002, average PLN corporate credit rate dropped by 5 percentage points (the fall was bigger than in the case of credits offered to natural persons but not as deep as the fall in market rates) – from 19.6% to 14.6%.
[52] When calculating real credit rates, average weighted credit rates at commercial banks were applied. In the case of household consumer credits, as a deflator were adopted household inflation expectations (available at www.nbp.pl), whereas in the case of corporate credits – the current PPI index.

Figure 67
Real corporate credit rates and household consumer credit rates



Note: Due to methodological changes introduced as of March 2002 in the statistics of interest rates, direct comparison of interest rates prior to and after that period is not recommended. In March 2002, some small enterprises were incorporated into the household category. The above chart until February 2002 shows rates of credits offered to individuals and, starting from March 2002 – household credit rates.
Source: NBP figures.

currency credits by about PLN 4.9 bn, that is 3.5 times faster. Further, it should be stressed that foreign currency housing credits usually held options of rapid and inexpensive currency conversion, which enabled their holders to mitigate the impact of FX risks on the volume of debt.

Annual growth rate of claims on corporates fluctuated in 2002 around zero. The main reason was, first of all, the low – according to banks – creditworthiness of enterprises and the substantial degree of unutilised production capacity. Meanwhile the level of interest rates ceased to be the factor limiting credit availability. According to the findings of the studies into economic situation conducted by NBP[53] interest rates ranked in Q4 2002 as a distant fourteen among other barriers to corporate operations. Excessively high interest rates constituted a serious problem only for 5% of the enterprises questioned. The NBP studies also point to a demand for working capital loans higher than that for investment credits. Higher credit availability did not substantially increase the inclination by enterprises to implement new investment projects.

6

Enterprises may finance their operations not only through credits offered by the Polish banking system but may also secure debt financing abroad or issue of debt securities. The value issued corporate bonds rose last year by 79% to reach PLN 4.5 bn at the year end, 2002. The ratio of total corporate indebtedness based on the issue of debt securities to banking system indebtedness amounted to 12.4% at year end 2002. However, some debt securities issued by enterprises were in the possession of commercial banks and constituted claims on non-banking sector.

External corporate indebtedness (in US dollars) amounted to USD 38.8 bn at the year end 2002.

Last year the annual growth of currency corporate debt was higher than that of credits denominated in PLN and amounted in December to 7.34% (in US dollars). The main reason for taking out currency credits in 2002 was still their lower interest rate compared to PLN–denominated credits. Enterprises were also looking forward to the stabilisation of the PLN exchange rate in the context of Poland's accession to the EU, and subsequently to ERM2. By incurring debt in foreign currencies, enterprises expose themselves to FX risks. Their protection against this risk are exports revenues and the purchase of futures.

Interest rates and deposit levels

In 2002, NBP interest rate cuts were accompanied by significant reductions in deposit rates throughout the banking system. The average weighted interest on household term deposits fell from 7.8% in December 2001 to 4.2% in December 2002, and the average interest

53 Research on economic situation conducted by NBP is based on a poll exercise carried out on a sample of 400 enterprises. Detailed analysis of research findings is available on the Internet at www.nbp.pl/publikacje/inne.

on corporate term deposits dropped respectively from 8.3% to 4.3%. Falls in real interest rates were also significant. Changes in interest rates resulted in changes in the size and structure of deposits in the banking system.

The volume of household deposits making up the M3 wide monetary aggregate decreased last year by PLN 7.9 bn. The fall in this category (also in real terms) was unprecedented since the onset of transformations in Poland. It was an off-shoot of interest rate cuts, further enhanced by the imposition of tax on interest income.

The decline in household deposits under M3 observed in 2002 does not provide a full explanation of household savings behaviour. A fuller picture appears when we take into account the change in the definition of wide monetary aggregate in March 2002 and the transfer of funds to long-term deposits at year end 2001 which allowed for the avoidance of the tax on interest income. Additionally, in 2002 ways of saving other than in bank deposits, such as the purchase of investment fund units, treasury bonds etc. enjoyed growing popularity.

Figure 68 shows the level of annual growth in household deposits from two perspectives – one incorporating only M3 components of these deposits and the other considering additionally other deposits and alternative forms of saving – compared against average interest rates on household term deposits. In both cases, the decline in interest rates was accompanied by a slowdown in household deposit growth. Growth of deposits including 'anti-tax placements' and alternative forms of saving was however sustained until the year end 2002 at a considerably higher and positive level. At this point it should be stressed that the dramatic fall in household deposit growth under M3 at the turn of 2001/2002 and its increase in November 2002 were of a statistical nature and resulted from a change in the definition of the wide monetary aggregate and an escape from the tax on interest income.

Yield rates on treasury bonds and investment funds stayed in 2002 at a considerably higher level than bank deposit rates[54]. Some offers of investment fund associations also allowed for the avoidance of tax on interest income for the whole of 2002. In these circumstances, the dynamic growth of the popularity of saving methods alternative to bank placements was indicative of the households' active response to falling interest rates, further enhanced by the tax on interest income. Given the low likelihood of any improvement in the competitiveness of bank placements, it can be expected that the process of substituting savings in the banking sector with placements in treasury securities and investment fund units will be continued.

6

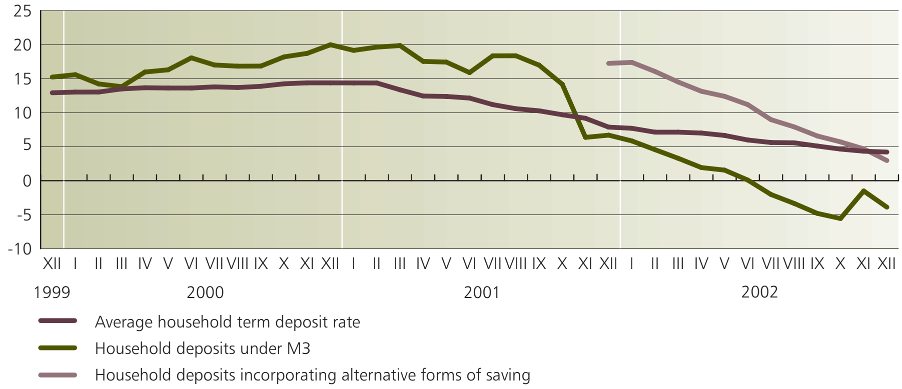
The response of enterprises to falling interest in their deposits in 2002 was less pronounced than in the case of households. This was due to the fact that they tended to use bank accounts primarily for financial settlement purposes. Nevertheless, starting from mid-2002, a distinct falling trend was observed in the annual growth of corporate deposits which at the end of December 2002 amounted to 1.4% against 16.4% the year before.

As a result of the reduction of interest rates, the structure of term deposits placed in the banking sector was subject to significant change. These changes consisted in the substitution of term deposits with current deposits, with persistent high growth in term deposits of the longest maturity. Figure 69 shows the annual growth in current deposits and term deposits included in the M3 wide monetary aggregate. In the first half of 2002, the annual growth in current deposits increased, whereas in the second it stayed at a relatively high level. Meanwhile, in the case of term deposits their annual rate of growth throughout 2002 fell rapidly.

The substitution of term deposits with current deposits and cash gave rise to changes in the share of narrow monetary measures in the wide monetary aggregate. The share of current deposits and cash in M3 increased from 37.5% in December 2001 to 44% in December 2002. The share of corporate current deposits in their total deposits included under M3 rose on that occasion from 45.8% to 54%, and for households, respectively from 21.7% to 25.3%.

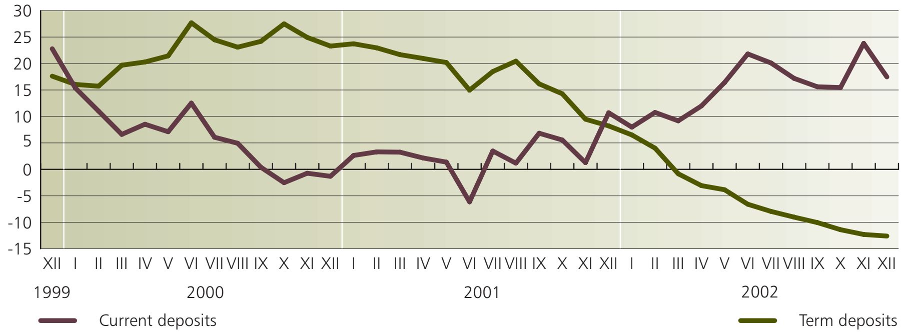
[54] Many investment funds generated in 2002 yield rates in excess of 15%, i.e. significantly higher than average weighted rates of 12-month bank deposits opened in December 2001 (a 8% return) and annual treasury bond rates totalling at that time 10.8%.

Figure 68
Annual growth of household deposits (two perspectives) and average household term deposit rates



Note 1: Comparability of household deposit rates prior to and after March 2002 is limited due to changes in the methodology of interest rates statistics.
Note 2: Household forms of savings alternative to deposits included under M3 are as follows: investment fund units, treasury securities and deposits at SKOK savings fund.
Source: NBP figures.

Figure 69
Annual growth in current and time deposits



Source: NBP figures.

Summing up, the process of lowering NBP interest rates, to which commercial banks responded with rapid and significant reductions of deposit rates was reflected in a slowdown of deposit growth and their increased liquidity. The impact of falling rates was further compounded by tax on interest income. The above factors, combined with a slowdown in economic growth in 2002 encouraged households to take measures aimed at optimised allocation of their financial savings.

Expected interest rates

Short-term expectations

In early 2002, bank analysts forecast that the NBP reference rate will amount to 8.7% , whereas its actual value at year end stood at 6.75% and was by 200 bps lower than anticipated 12 months earlier. The expectations of FRA market participants, though more optimistic also underestimated the scale of the actual cuts. In January 2002, the market assumed that the central bank's base rate would be reduced by 350 bps, whereas the actual change equalled 475 bps (Figure 70).

Revision of the expectations regarding the scale of NBP rate cuts was unevenly spread throughout the year. The acceleration of the disflation rate in the summer months and the absence of previously expected clear symptoms of economic recovery gave rise to higher expectations as to the scale of NBP rate cuts. Revision of the expectations regarding interest rate levels found its reflection in a strong falling trend in the interest rate based futures market (FRA) in May 2002 (Figure 71)[55].

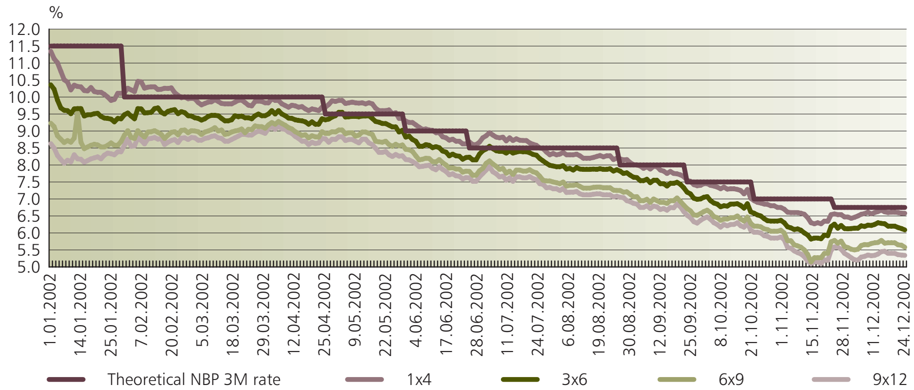
At the beginning of Q4 2002, markets were strengthened in their conviction that the scale of NBP rate cuts may turn out to be bigger than originally assumed. This was related to the MPC decision to lower the reference rate as early as October, and not in November as earlier expected. This decision was interpreted as a signal that in the absence of inflationary threats NBP will attempt to make more significant interest rate cuts.

The factor which fuelled market expectations that NBP would reduce its interest rates in November by 50 bps was the assumption that MPC may follow the example of other countries in the region and reduce rates to avoid excessive zloty appreciation (on November 15, the Slovakia's central bank lowered the discount rate by 150 bps, and on November 18 the Hungarian central bank cut the 2-week deposit rate by 50 bps). In both cases, the interest rate cut was made to counteract the strong appreciation of the local currency). The intensity of

Figure 70
3-month time deposit rate based on contracts with maturities at the end of December 2002

Source: Reuters figures, NBP.

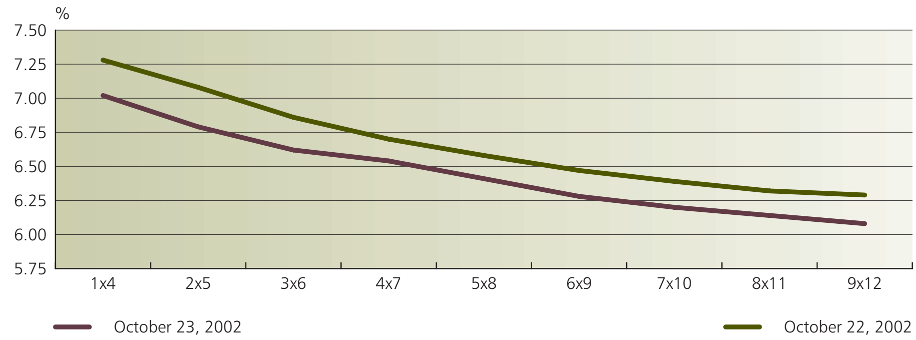
Figure 71
FRA contract rates for WIBOR 3M



Source: Reuters figures, NBP.

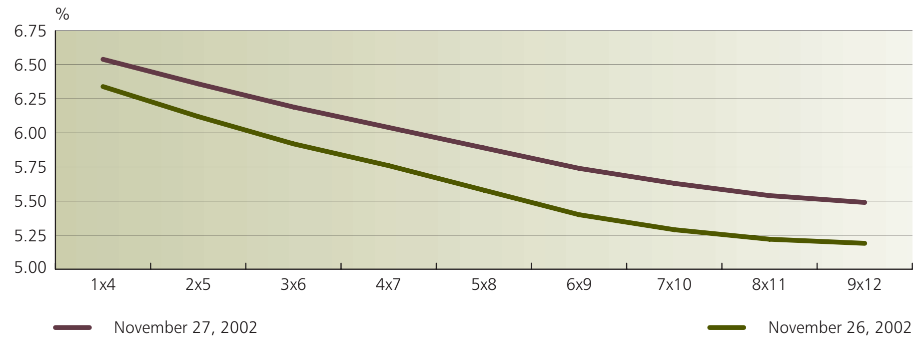
[55] FRA market is an interbank market where FRA (Forward Rate Agreement) transactions are concluded. These are futures written against short-term interest rates (WIBOR 1M, 3M or 6M). FRA contracts 1x4, 2x5 and 3x6 are futures concluded for an interest rate, written against a 3-month WIBOR rate whose settlement date was agreed in one month (1x4), in two months (2x5) and in three months (3x6), counting from the date of the contract.

Figure 72
Change in position of 3-month forward interest rates, following MPC meeting in October 2002



Source: Reuters figures, NBP.

Figure 73
Change in position of 3-month forward interest rates, following MPC meeting in November 2002



Source: Reuters figures, NBP.

market expectations regarding the NBP rate cuts is attested to by the fact that on November 19 forward rates achieved their annual minimum values.

The November decision of MPC to reduce the reference rate by a mere 25 bps took the market by surprise. It was decided that earlier assumptions regarding the scale of reference rate cuts did not come true. The market performed another revaluation of its expectations. Its effect proved to be the adjustment in the FRA market, after which forward rates did not reach the minimum levels recorded on November 19 until year end (Figure 72, Figure 73).

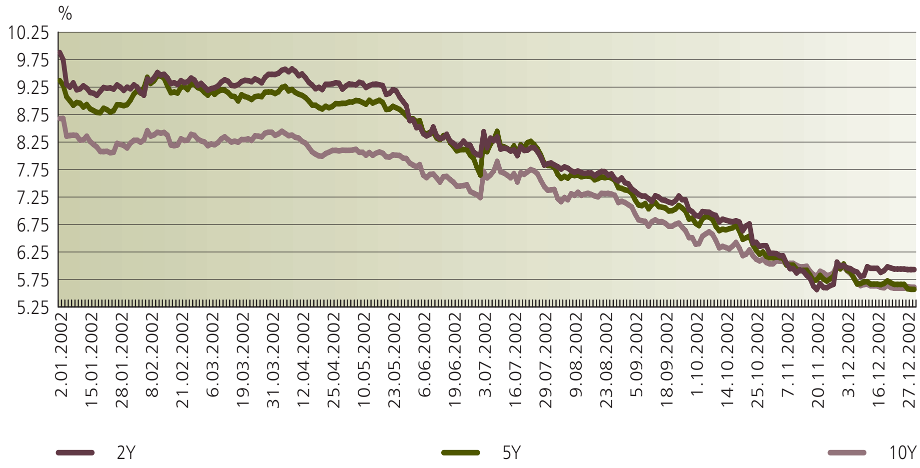
Long-term expectations

In 2002, treasury bond yield rates decreased. Looking back, it seems right to assume that the falling trend in bond yield rates (especially pronounced in 2nd HY 2002) was the extension of the earlier trend observed since August 2001 (Figure 74).

The scale of decrease in the profitability of bonds with relatively short maturities basically overlapped with the volume of interest rate cuts made by the central bank. From January to December 2002, the combined scale of the NBP reverse repo rate cuts amounted to 475 base points. In the same period, the yield rate for two-year bonds declined by 420 base points.

Therefore, bond yield rates almost mechanically adjusted to subsequent reductions in the central bank's rates. The falling trend of bond profitability rates accelerated before the meetings of the Monetary Policy Council as further cuts of the NBP reference rate were expected.

Figure 74
Treasury bond yield rates



Source: Reuters figures, NBP.

The effect of expectations on the levels of bond yield rates is well illustrated by the fall in bond prices after the November decision of MPC to reduce rates only by 25 base points in the situation when the market was looking forward to a 50 bps cut. The investors' response to the MPC decision, though short-lived, was nevertheless violent in nature: bond yield rates rose by ca. 50 base points. The biggest growth was recorded by the return on two-year bonds.

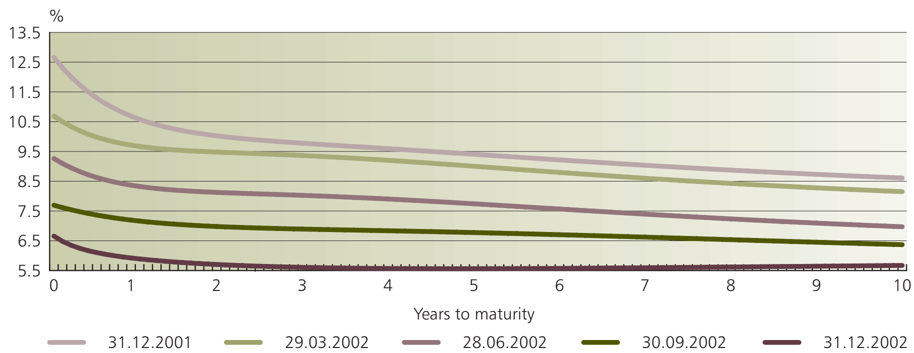
5- and 10-year bond yield rates fell in the course of 2002 by 393 and 381 base points respectively. A relatively smaller fall in the profitability of long-term bonds contributed to a further flattening of the zero-coupon yield curve (Figure 75).

6

The reasons for the non-parallel course of the yield curve were subject to change over the year. In Q1 2002, it was growing investor uncertainty as to the scale of possible interest rate cuts and concerns related to the anticipated higher supply of bonds in the primary market. In the second half of the year, a decisive role was played by the increasingly widespread belief of market players that the prospect of Poland's EU membership was becoming real in the relatively close future. In this context, flattening of the curve and the appearance at certain times of a positive slope in its central and long section may be interpreted as the effect of gradual adjustment to the shape of the yield curve in the euro area.

The main factor supporting the falling trend of bond yield, especially pronounced in the 2nd HY 2002 was – as it seems – the growing investor optimism as to the likelihood of Poland's

Figure 75
Zero-coupon curves of treasury bond market



Source: Reuters figures, NBP.

integration with the European Union. Positive mood was fuelled by progress being made in closing subsequent negotiation chapters, as well as the successful outcome of the October referendum in Ireland on the Treaty of Nice. By the end of the year, the official deadline for welcoming candidate states to join the EU structures was announced (May 2004). In December 2002, at the summit in Copenhagen, the negotiation process was closed, crowned with the extension of an official invitation to Poland as one of ten countries applying for EU membership.

Summing up, long-term interest rates in 2002 were determined by the following factors with long-term impact:

- In the first months of 2002 – increased uncertainty as to the direction of the central bank's policy on interest rates, as well as persistent uncertainty related to the supply of treasury securities in the primary market.
- In the second half of 2002 – the investors' conviction regarding the higher likelihood of Poland's integration with the European Union in the relatively close future.

A temporary build-up of expectations regarding interest rate cuts, especially in the periods preceding directly MPC meetings, had an impact on short-term swings in the profitability of treasury instruments.

6.3.2. Exchange rates

In 2002, PLN exchange rate weakened considerably, both in nominal and real terms[56]. The nominal effective PLN exchange rate against a basket of the currencies most important to the Polish economy fell by 3.9% (annualised average), whereas in the two previous years it appreciated: by 1.5% in 2000 and by 9% in 2001 (Figure 76). Given the progressive appreciation of the euro in the course of 2002 on the world market[57] – the złoty lost appreciably against the common European currency (Figure 77): annualised average depreciation of the nominal EUR/PLN exchange rate amounted to 5.1% (as against its appreciation by 8.5% in 2001). The PLN/USD exchange rate, on the other hand, remained basically at its 2001 level.

6

The PLN depreciation trend became evident as early as Q1 2002, and was strongly enhanced in the following two quarters. In Q3, zloty weakened against both the euro and the US dollar; the scale of nominal effective depreciation amounted to almost 8% (compared to the previous quarter). In Q4 2002, the PLN exchange rate strengthened, however, it was still clearly weaker against the euro than in 2001(compared to Q4 2001 – by 9.4%).

The aggravation of zloty depreciation in Q3 resulted in a temporary increase in the volatility of the exchange rate of the Polish currency. Still, for most of the year the PLN exchange rate was relatively stable (Figure 78). Its average monthly volatility against the dollar and the euro decreased as compared to 2001 to 2.6% from 3.3%.

The year 2002 saw a change in the arrangement of basic factors determining the PLN exchange rate, compared to the period when zloty was subject to appreciation pressures (Table 31).

The analysis of PLN exchange rate fluctuations[59] in the years 1999–2002 helped identify three stages within that period. In the first stage, covering the period of Q4 1999 – Q2 2001, a clear appreciation of the exchange rate by 20.4% was recorded. It was attributed to two basic factors. Firstly, foreign investors – in the face of high interest rate disparity – placed their capital in the Polish treasury securities whose high supply was related to the growing budget deficit. As a result, the value of treasury securities issued and earmarked for the domestic market and held in foreign investors' portfolios grew from PLN 7.2 bn at the end of 1999 to PLN 20.7 bn at year end, 2001.

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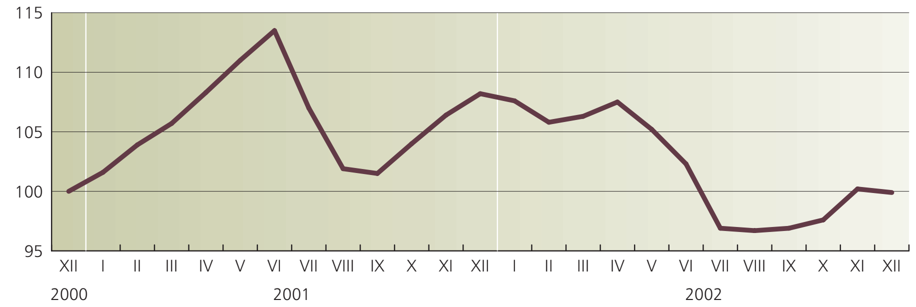
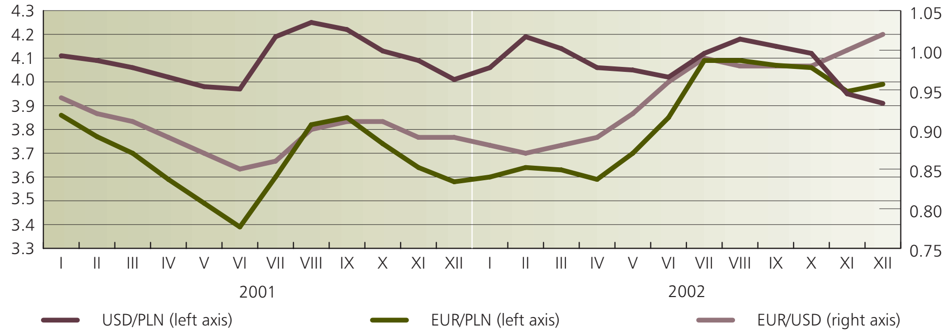
[56] Determination of real PLN exchange rate indices was discussed in the Section *Foreign trade and the balance of payments*.
[57] Appreciation of the EUR/USD exchange rate was systematically enhanced: following a slight depreciation in Q1 2002, in Q2 the euro rate strengthened against the US dollar by 5.4%, followed by a 10.2% growth in Q3 and almost 12% in Q4. That trend was sustained in Q1 2003.
[58] Monthly standard deviation of daily percentage movements in nominal effective PLN exchange rate.
[59] The analysis relates to effective real quarterly average exchange rate, deflated by PPI prices in industrial processing.

Figure 76
Nominal effective PLN exchange rate in the years 2001 – 2002 (monthly figures, Dec. 2000 = 100)



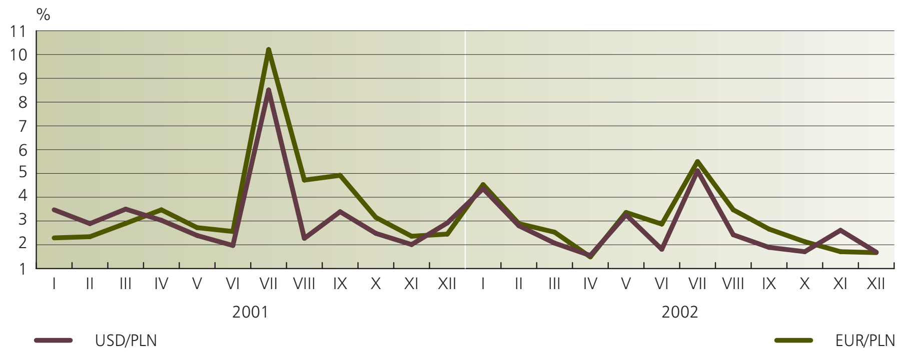
Source: NBP figures.

Figure 77
PLN exchange rate against USD and EUR and EUR/USD relation



Source: NBP figures.

Figure 78
Volatility of PLN exchange rate against USD and EUR



Source: NBP figures.

The second factor encouraging the zloty appreciation was the inflow of foreign direct investment which, in the period from Q4 1999 to Q2 2001, amounted to USD 12.7 bn.

At the following stage, until Q1 2002, the real exchange rate remained at a high level. This was encouraged by the still high disparity of real interest rates combined with increased budget deficit. In 2001, annualised average real disparity of three-month WIBOR and LIBOR USD interest rates stayed at 9.5%, while the nominal value of the state treasury wholesale bond supply in the primary market stood at PLN 36.6 bn. Additionally, the strong zloty was sustained in 2001 by the inflow of direct investment to the amount of PLN 6.9 bn.

Table 31
Factors affecting PLN exchange rate in the years 1999–2002

	1999	2000	2001	2002	2002			
					Q1	Q2	Q3	Q4
Nominal disparity of 3-month WIBOR and LIBOR USD rate[a]	8.9	12.0	12.1	7.0	8.5	7.7	6.6	5.4
Real disparity of 3-month WIBOR and LIBOR USD rate[a]	3.8	5.3	9.5	6.7	6.3	6.8	6.9	6.6
State budget balance (PLN billion)	-12.5	-15.4	-32.4	-39.1	-16.4	-8.5	-4.2	-10.0
Treasury securities held by foreign investors (PLN billion)[b]	7.2	17.8	20.7	31.4	26.4	30.8	31.3	31.4
Inflow of net direct investment (USD million)	6,352	8,169	6,928	3,754	997	868	563	1,326
Inflow of net portfolio investment (USD million)	867	2,591	1,109	1,692	1,469	336	536	-649
Current account balance (USD million)	-11,553	-9,952	-7,166	-6,734	-2,336	-1,620	-903	-1,875

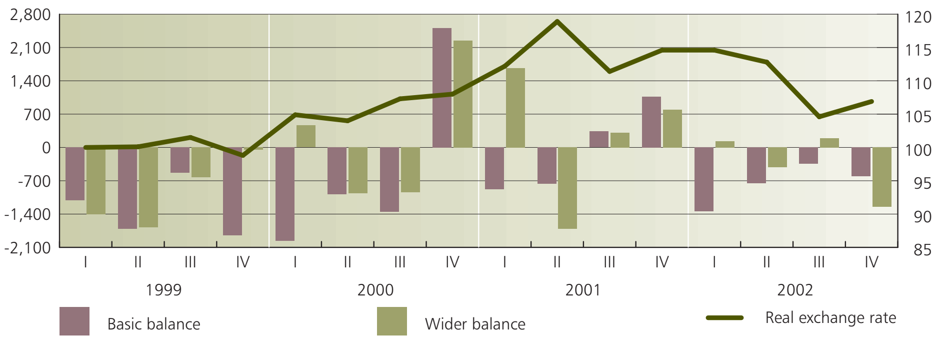
[a] annualised average values
[b] Period end.
Source: Bloomberg, Ministry of Finance, NBP.

At the last stage, in 2002, the real PLN exchange rate depreciated; in Q4 2002 it was 6.7% weaker compared to the Q1 figure[60]. Last year annualised average real disparity of 3-month WIBOR and LIBOR USD interest rates declined to 6.7 percentage points. Lower than in previous years was also the volume of incoming foreign capital, especially in the form of direct investment (Figure 79). The above factors determined the depreciation of the PLN exchange rate in 2002.

6

From time to time, the PLN exchange rate in 2002 was also affected by political factors which primarily contributed to the depreciation of the Polish currency. These included, for example, politicians' attacks on MPC aimed at limiting the independence of the central bank, verbal interventions (mainly on the part of the Ministry of Finance) with a view to weaken the PLN exchange rate, or market expectations

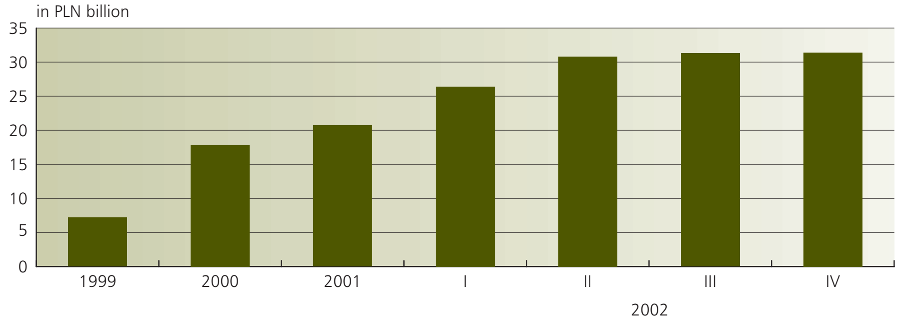
Figure 79
Payment balance items and real effective PLN exchange rate



A basic balance of payments is a sum of a current account balance and direct investments balance. A wider balance is a sum of a basic balance and portfolio investments balance.
Source: NBP.

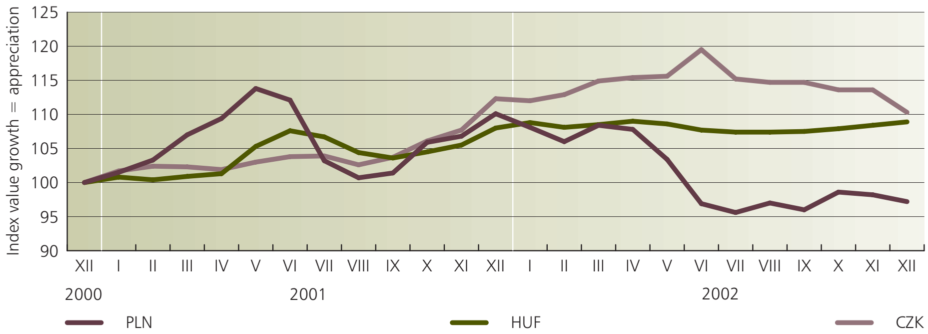
[60] As a result, depreciation of real PLN exchange rate in the period from Q2 2001 to Q4 2002 amounted to 10%.

Figure 80
Value of treasury securities held in foreign investors' portfolios (period end)



Source: Ministry of Finance.

Figure 81
Real PLN, forint and Czech crown exchange rate against EUR
(PPI deflated, December 2000 = 100)



regarding the uncertain outcome of the Irish referendum on the adoption of the Treaty of Nice. Nonetheless, the impact of the above factors of the PLN exchange rate was short-lived.

A basic balance of payments is a sum of a current account balance and direct investments balance. A wider balance is a sum of a basic balance and portfolio investments balance.

Meanwhile, the strengthening of the PLN exchange rate over that period was still supported by high borrowing needs of the state budget which resulted in a 51% increase in the value of Polish treasury securities issued for trading in the domestic market and held by foreign investors (Table 31 and Figure 80).

* * *

Changes in the exchange rate made in response to the changes in the disparity of interest rates, the term structure of domestic interest rates and risk premiums, while affecting the level of prices of imported goods expressed in the local currency, resulted in the changes of the consumer price index (CPI) both directly (via prices of imported consumer goods), and indirectly – via changes in the prices of sold industrial output (PPI) caused by fluctuations in the prices of input imports. On the other hand, fluctuations of internal prices generated by exchange rate changes stimulate domestic demand by altering relations between potential and actual demand. Movements in the demand gap translate directly into CPI growth.

By analogy, though regardless of fluctuations in the exchange rate, CPI value is affected by movements in external prices.

The combined effect of transferring movements in external factors onto CPI, taking into account both movements in external prices (supply shocks) and the exchange rate (exchange rate shock), and the demand gap (demand shock), known in the economic literature as **pass-through coefficient**. Additionally, the following were defined:

- the short-term *pass-through* effect as the transfer of the effects of changing external prices and exchange rate into local prices in the course of 2 quarters;
- the long-term *pass-through* effect as the effects of changing external prices and exchange rate into local prices, as cumulated in the course of 8 quarters.

In the case of transactional prices in the Polish imports, short-term *pass-through* effects amount to 0.51, whereas the long-term coefficient is 0.79[61]. Both values do not differ much from the figures estimated for OECD countries which correspond to 0.6 and 0.75, respectively (for example, for Germany it is 0.6 and 0.8). The speed of the response of the Polish import prices to movements in the exchange rate also does not differ substantially from the OECD average: some 65% of the cumulated pass-through effect takes place between the first and second quarter after the shocks, and 87% within 4 quarters. The impulse is completely neutralised after 7 to 8 quarters.

For sold production prices in processing industry, the long-term *pass-through* coefficient amounts to 0.59 and is similar to the share of the supply imports in Poland's total imports (60.8% in 2001). The short-term coefficient stands at 0.26, whereas the most pronounced response on the part of PPI should be expected between the second and fourth quarters after the shocks.

For consumer goods and services prices, the long-term *pass-through* coefficient is 0.42, and 41% of the total pass-through effect cumulates in the first two quarters (short-term coefficient), and 85% in the first year.

While the response of transactional prices in Polish imports is typical of an open economy, the force of further pass-through of supply and exchange rate shocks – onto PPI and CPI – is definitely higher in Poland than in developed countries. For example, for the US, France and Switzerland the long-term pass-through coefficient stands at 0.1, for Germany 0.15, for the Netherlands and Belgium 0.35, and the Republic of South Africa 0.54.

Given the size of the *pass-through* coefficient and time structure of the reactions of internal prices to movements in the exchange rate and external prices, it may be estimated that in the course of 2002 prices of consumer goods and services (annualised average index) climbed 0.48 percentage point as a result of movements in the exchange rate[62], whereas due to movements in external prices (represented by Brent oil prices) fell by 0.1 percentage point. The strongest deflationary effect (a CPI fall by 1.1 percentage point) took place in Q2 2002 (CPI growth by 0.06 percentage point due to movements in the exchange rate and CPI fall by 1.18 as a result of movements in external prices). In Q3 2002, the pass-through effect was neutral against CPI; the 0.16 percentage point fall in that coefficient due to movements in the exchange rate was accompanied by an increase in inflation rate by 0.15 percentage point due to external price rises. On the other hand, in Q4 2002 external factors contributed to CPI growth: in the case of the exchange rate – by 0.14 percentage point, and in the case of external prices – by almost 1 percentage point.

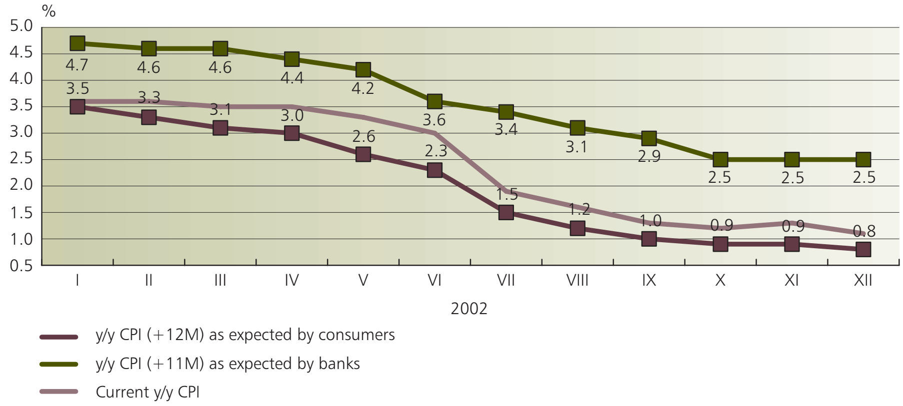
6.3.3. Inflation expectations

The observation of inflation expectations in the economy and attempts to evaluate the process of their formulation constitute an area of particular interest to modern central banks. Expectations as to the inflation rate form a criterion of the credibility of monetary authorities. Further, forecast properties of inflation expectations are utilised in relation to future inflation, and macroeconomic consequences of their movements are analysed (these include, among others: adjustments of demand to movements in real interest rates, movements in wage demands, movements in the corporate propensity to adjust wages and prices).

[61] This means that combined growth of nominal effective PLN exchange rate and external prices (represented by Brent oil price) by 1 percentage point leads to an increase of transactional prices in Polish imports by 0.51 percentage point in the course of two subsequent quarters and by 0.79 percentage point in the course of 8 quarters.

[62] For CPI calculated December-on-December, the price index increased by 0.2 percentage point due to movements in nominal effective PLN exchange rate.

Figure 82
Inflation expectations of consumers and bank analysts in 2002



Source: Reuters figures, GUS, own calculations based on Ipsos-Demoskop figures.

In 2002, favourable changes were introduced in the manner of formulating inflation expectations by individuals. This is attested to by both the shifts in the structure of responses provided to the poll question of the Ipsos-Demoskop and a marked reduction in quantified measures of inflation expectations of that group of entities. At the same time, in subsequent quarters of 2002 the distribution of inflation expectations expressed by bank analysts and examined based on Reuters questionnaires was subject to gradual shift towards lower inflation rates. Movements in inflation expectations of individuals and bank analysts observed in 2002 create, therefore, favourable conditions for the stabilisation of price growth at a low level.

6

Inflation expectations of individuals and bank analysts are not fully comparable due to the different time-horizon: bank analysts declare their forecasts for the month preceding the corresponding month of the following year and for December of the current year, whereas individuals predict for the corresponding month of the next year. Moreover, it should be taken into consideration that inflation expectations of individuals are quantified based on the assumption that respondents perceive the course of price processes through official inflation statistics (more relevant information can be found, among others, in the *Inflation report 2001*).

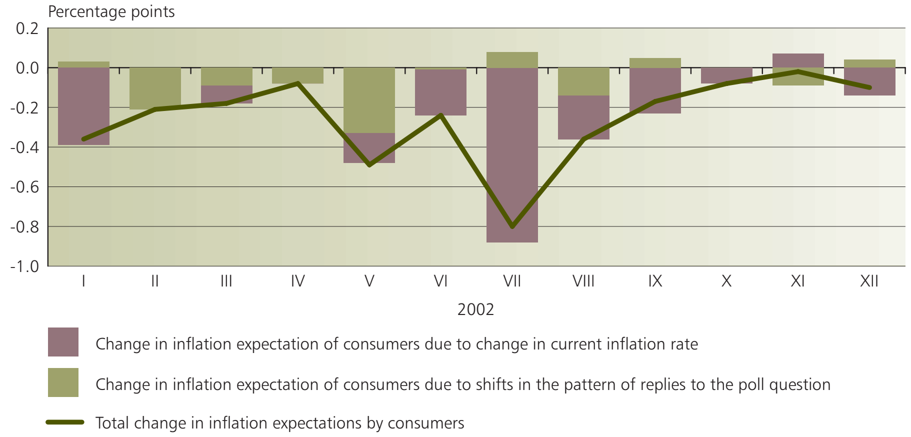
Consumer inflation expectations

In 2002, objectified measure of consumer inflation expectations – being a function of the pattern of replies to the question of the Ipsos-Demoskop poll and the current inflation rate (against which respondents make their predictions as to the course of price processes in the future[63]) – fell by 3.1 percentage points compared to year end 2001 and in December 2002 reached 0.8%.

The fall in consumer inflation expectations in 2002 may be attributed in 75% to the considerable slowdown in price growth obtaining in the examined period, and in the remaining

[63] The Ipsos-Demoskop poll question is framed in the following manner: *"Given what is currently happening, do you believe that over the next 12 months prices will: (1) rise faster than at present, (2) rise at the same rate, (3) rise more slowly, (4) stay at their present level, (5) go down, (6) difficult to say"*. The quantification of the inflation rates expected by consumers is performed using the probabilistic method (its detailed description can be found in: T. Łyziak (2000), *Badanie oczekiwań inflacyjnych podmiotów indywidualnych na podstawie ankiet jakościowych* [Investigating consumer inflation expectations using qualitative surveys], „Bank i Kredyt", nr 6, NBP). The quantified results constitute the objectified measure of the price growth expected by consumers within the next 12 months in that sense that in the calculation procedure the official measure of inflation quoted by GUS, known at the moment of providing the reply to the question, is adopted as the current inflation rate perceived by respondents. As the Ipsos-Demoskop poll is conducted in the first half of the month, that is before the announcement by GUS of inflation indicators for the previous month, for the current inflation rate is adopted the year-on-year inflation rate dated two months back.
Current information on consumer inflation expectations can be found on the website of the National Bank of Poland at www.nbp.pl, in the Statystyka/Szeregi czasowe section.

Figure 83
Breakdown of movements in consumer inflation expectations in 2002



Source: own calculations based on GUS figures, Ipsos-Demoskop.

25% to the change in the manner of formulating inflation expectations, expressed by transfers in the pattern of replies to the poll question (Figure 83).

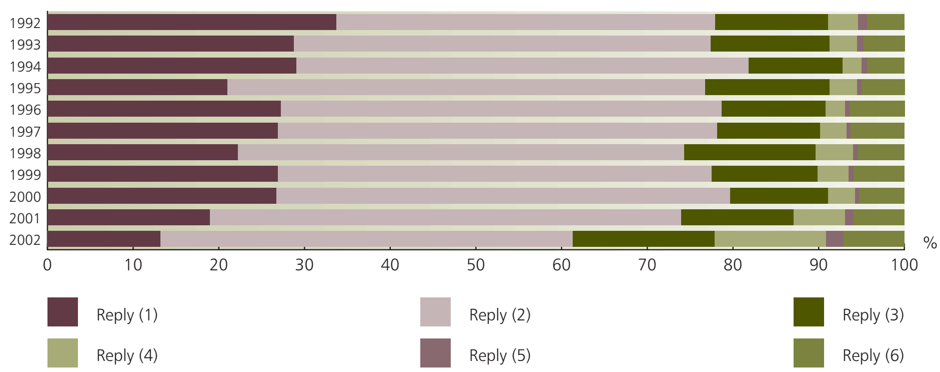
Since the beginning of 2001, the pattern of replies to the Ipsos-Demoskop poll question underwent important transformations reflecting the increased optimism of respondents in evaluating the course of price processes in the future (Figure 84).

Ipsos-Demoskop poll question: "Given what is currently happening, do you believe that over the next 12 months prices will: (1) rise faster than at present, (2) rise at the same rate, (3) rise more slowly,(4) stay at their present level, (5) go down, (6) difficult to say"

Taking into consideration the pattern of replies to the poll question in December 2002 and adopting, as the point of reference, the distribution of respondent fractions as at year end 2001, it turns out that:

- The percentage of most pessimistic respondents predicting that within the next 12 months prices will rise faster than at present decreased by 10.3 percentage points;
- The percentage of respondents claiming that prices will rise at the same rate decreased by 8 percentage points;

Figure 84
Pattern of replies to Ipsos-Demoskop poll question for the years 1992–2002 (annual average)

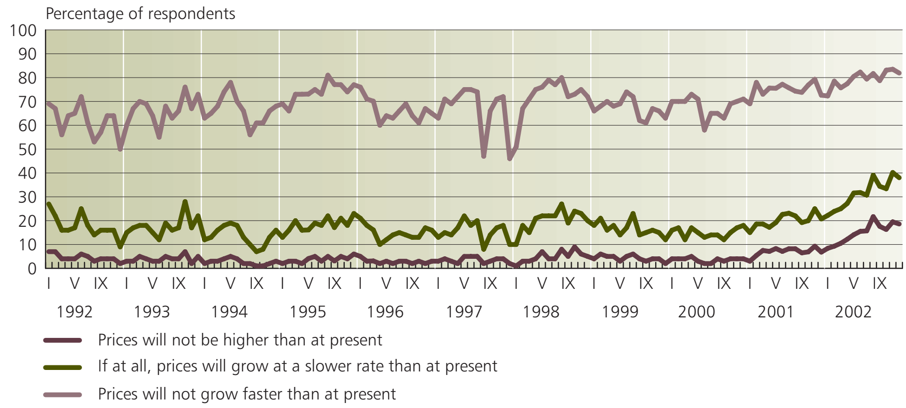


Ipsos-Demoskop poll question: *"Given what is currently happening, do you believe that over the next 12 months prices will: (1) rise faster than at present, (2) rise at the same rate, (3) rise more slowly,(4) stay at their present level, (5) go down, (6) difficult to say"*
Source: Ipsos-Demoskop, own calculations.

6

Figure 85

Respondent declarations regarding the course of price processes over next 12 months



Source: Ipsos-Demoskop, own calculations.

- The percentage of respondents declaring that prices will rise more slowly increased by 5.5 percentage points;
- The percentage of respondents claiming that in the course of the next year prices will stay at their present level grew by 10.4 percentage points;
- The percentage of respondents predicting that in 12 months prices will be lower than today rose by 1.4 percentage point.

It is worth noting that in 2002 the percentage of respondents claiming that in the course of the next 12 months prices would not rise at a faster rate than to date (the sum of (2), (3), (4) and (5) fractions) exceeded 80%. The percentage of consumers predicting that prices would, at best, rise at the rate slower than to date climbed to 40% (sum of (3), (4) and (5) fractions); in the previous years, the percentage of such persons stayed well below 30%. At the end of 2002, every fifth respondent believed that in 12 months prices would not be higher that at present (sum of (4) and (5) fractions), whereas in the previous year such opinion was expressed by no more than 10% of respondents (Figure 85). The movements described in the pattern of replies to the Ipsos-Demoskop opinion poll testify that the belief in the sustainability of price stability – the statutory objective of the central bank – is increasingly present in social awareness.

6

Inflation expectations of bank analysts

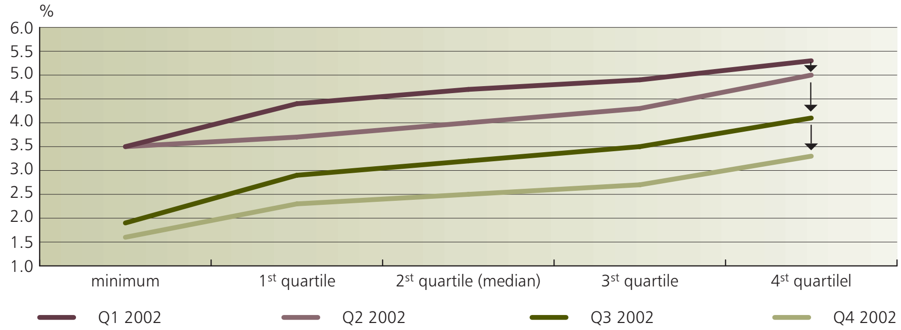
The data obtained from Reuters questionnaires show that in the period under analysis bank analysts also considerably reduced their expectations of inflation. In December 2002, their expected annual inflation rate for the month preceding the corresponding month of the following year amounted to 2.5% and was by 2.2 percentage points lower than at year end 2001. The fall in the value of average declaration by individual banks was accompanied by a shift of the whole distribution of inflation expectations towards lower price growth rates. This is attested to by the findings of the quartile analysis[64] presented below (Figure 86).

When assessing the degree of uniformity of the declarations made by bank analysts regarding expected price growth in the month preceding the corresponding month of the following year, a difference may be spotted between the course of absolute and relative measures of the volatility of the distribution of inflation expectations (Figure 87, Figure 88):

Despite a considerable fall in the level of inflation expectations of bank analysts, absolute measures of the volatility of the distribution – such as the spread of the bracket of declarations

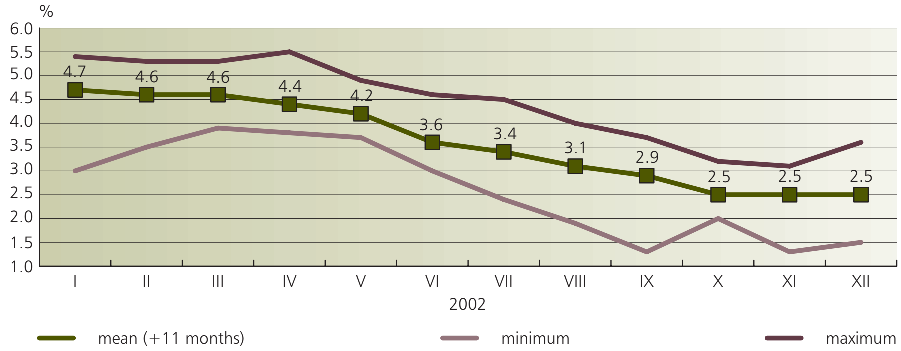
[64] Quartile analysis consists in comparing position means dividing into four equal parts a number of replies arranged according to their size.

Figure 86
Distribution of bank analysts' inflation expectations formulated with regard to annual inflation rate in the month preceding the corresponding month of the following year



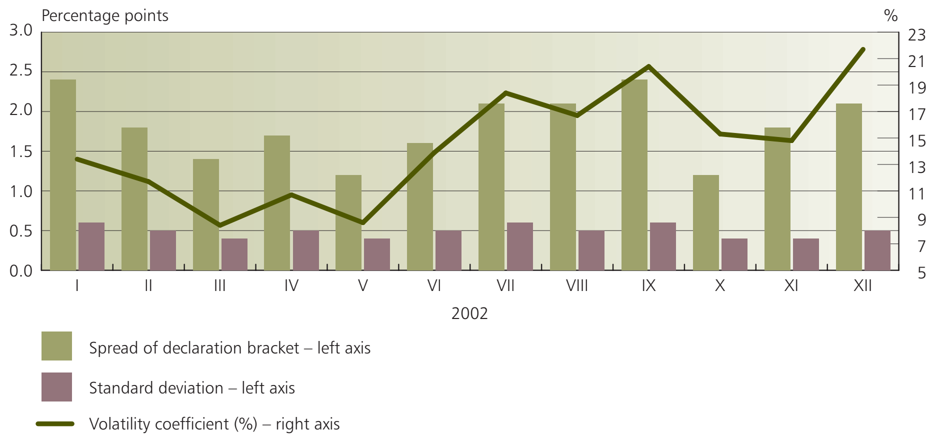
Source: Reuters figures, NBP calculations.

Figure 87
Minimum, average and maximum declarations of bank analysts regarding annual price growth in the month preceding the corresponding month of the following year by month in 2002



Source: Reuters figures.

Figure 88
Volatility measures of distribution of inflation expectations by bank analysts regarding annual price growth in month preceding the corresponding month of the following year by month in 2002



Source: Reuters figures, NBP calculations.

Figure 89
Inflation expectations of bank analysts regarding annual inflation rate in December 2002 by month in 2002

Source: Reuters figures, GUS.

made by bank analysts or standard deviation – remained relatively stable (the main reason for major movements in the difference between maximum and minimum declarations being the change in the number of banks participating in the poll research).

Given the above, the volatility coefficient, referring the volume of standard deviation of the distribution of inflation expectations to the average value of this distribution rose visibly in 2002. In the second half of the year declarations of bank analysts deviated from the average distribution by roughly 18% of its value, whereas in the first half by only some 11%, although in absolute terms standard deviation in both sub-periods was equal and amounted to 0.5 of a percentage point.

The scale of uncertainty associated with the course of price processes is reflected in the declarations of bank analysts regarding the expected annual price growth in December 2002. According to GUS figures, it amounted to 0.8%, whereas at the beginning of the year bank analysts predicted that it would reach 4.7%. As late as in August 2002, inflation expectations formulated within that time horizon exceeded the level of 2%. It was not until January 2003, prior to the publication of GUS figures, that inflation expectations of bank analysts dropped below 1%, approaching the rate of inflation actually recorded (Figure 89).

6

6.3.4. The wealth effect

The year 2002 was another year of downturn in world equity markets. It was primarily attributable to weaker economic growth on a global scale and concerns related to the possible war in Iraq.

This affected greatly the income situation of natural persons, in particular in countries where investment was predominantly placed (directly or indirectly) in the share market (e.g. in the US). A strong fall in share prices in 2002 (the US Dow Jones –17.5%, Germany's DAX –44%) limited household demand potential and change in the structure of equity investment towards increased share of investment placements in the markets of energy raw materials, gold, and treasury bonds, with lower interest in placements in corporate shares.

A similar process took place in Poland in 2002, as shown in Table 32.

As shown by the figures (Table 32), in 2002 the following processes took place in the personal capital savings segment:

- A pronounced decline in interest in share investment, and, as a result, a considerable fall in trading at the Warsaw Stock Exchange (from PLN 80.4 bn in 2001 to PLN 63.6 bn in 2002),
- A shift also took place in personal investment preferences, in the direction of debt instruments offered by the State Treasury,

Table 32
Direct and indirect forms of household investment in equity market
(balances at period end, in PLN billion)

Type of involvement in equity investment	2001	2002	
	XII	VI	XII
1. Direct portfolio investment – securities (combined)*	**22.7**	**22.7**	**24.3**
Shares	9.9	8.1	8.1
Treasury securities (combined)	12.8	14.6	16.2
a) tradeable bonds	3.5	4.1	5.9
b) savings bonds	6.0	7.0	7.7
c) treasury bills	3.3	3.5	2.6
2. Indirect portfolio investment (combined)	**32.7**	**41.2**	**55.9**
Open investment funds (household investment assets)**	10.2	12.6	20.1
Open-ended pension funds (net assets)	19.4	25.1	31.6
Life assurance (life assurance placements, whereby placement risk is borne by the insuring party)	3.1	3.5	4.2
Total (1+2)	**55.4**	**63.9**	**80.2**
Above investment forms (combined) to deposits and other liabilities towards household in the banking system	**25.2**	**28.8**	**37.7**

* securities in clients' investment accounts held in brokerage houses and offices
** NBP estimates, data on funds, known to address their offer exclusively to legal persons, were not incorporated.
Source: materials of the Ministry of Finance, NBP, GUS.

- Strong growth in the financial assets managed by investment funds, especially those trading in bonds, which offer a possibility of avoiding the taxation on capital gains covering placements in debt instruments and bank deposits,
- Further growth in the open-ended pension fund segment, where personal financial holdings of the population are concentrated under the pension program (2nd pillar). Investment by these institutions (as at end of December 2002) were in 66.95% placed in treasury bonds and in 26.83% in shares.

Cautious forecasts of an improved economic outlook for 2003, both globally and locally, do not promise significant movements in the volume of financial assets invested directly by natural persons in the Polish equity market. Meanwhile, the growing trend of personal indirect investment in that market will be sustained. Nonetheless, the expected low profitability of portfolio investment means that the equity sector will stimulate demand growth in the internal market to only a limited extent.

7
Prospets for inflation

In the *Medium-term monetary policy strategy for the years 1999–2003,* adopted in 1998, MPC set as the strategic objective of monetary policy the reduction, by the end of 2003, of the inflation rate (measured by a 12-month growth of consumer goods and services price index) to less than 4%. In June 2002, the Council resolved that the monetary policy target in 2003 would be the achievement at the end of this year of an inflation rate of 3% +/- 1 percentage point. The twelve-month consumer price index in April 2003 amounted to 0.3%.

Forecasts speak of an acceleration in GDP growth in 2003 up to roughly 2.5%[65] At the same time, further consumer demand growth is assumed and a reversal of the falling trend in investment demand.

Despite progressive economic recovery, low growth in officially registered household income will be sustained this year. There will be a further decline – although at an increasingly slower rate – in employment. Wage growth in the enterprise sector, and in consequence, also that of hired labour income, will be slower than in 2002. Given low valorisation and limits on the number of beneficiaries, growth in income from social benefits will also be lower. It is expected, however, that, similarly to 2002, growth in disposable household income in 2003 will still exceed growth in their registered components.

Growing personal consumption will be accompanied in 2003 by moderate growth of gross fixed investments. The following factors testify to that: upgrading needs conditioning sustainability of the competitiveness of the output of Polish enterprises, the imminent prospects of Poland's accession to the European Union and allocation of the EU aid funds to central and local government investment. Meanwhile, investment growth will be negatively affected over that period by relatively low levels of own funds of enterprises, persistent poor prospects for foreign and domestic demand growth and low levels of domestic savings.

The share of the public finance sector in consumer (collective consumption) and investment demand growth in 2003 cannot be exactly determined right now as, according to MPC, it is likely that the economic deficit of that sector planned in the draft budget act for 2003 will be exceeded.

As shown in forecasts of world economic growth[66], an improvement in the external economic environment will proceed very slowly. Within our immediate economic environment, i.e. in the euro area, and in particular in Germany, a more pronounced acceleration in economic growth is not expected until Q4 2003.

High uncertainty accompanies the forecasting of domestic food prices, which have a material influence on the inflation rate. It is expected that food-price growth will rise gradually in the course of 2003 and reach 1 to 2% p.a. at year end 2003[67].

Based on the assumptions adopted for the budget act for 2003 and the announcements of the bodies responsible for determining the levels of officially controlled prices, it may be estimated that the annual growth in officially controlled prices at the end of 2003 will amount to 3–5%[68].

It should be remembered that this year's inflation will also be affected by earlier NBP interest rate cuts, contributing, with a delay, to gradual growth of domestic demand.

[65] February 2003 forecast.
[66] As above.
[67] As above.
[68] As above.

Summing up, the analysis of the above major demand and supply factors impacting the 2003 inflation rate shows that any predictions in that respect are highly uncertain. All in all, however, based on available information and forecasts, the most likely scenario is that at the end of this year the annual inflation rate will be close to the bottom limit of the adopted inflation target.

APPENDIX A
The Food Market in 2002

Supply situation in food market

The situation in the agriculture in 2002 was determined primarily by the high cereal supply (well above demand), growth of the pig population (initiated by improved profitability of pig fattening for slaughter in 2001) and expansion of poultry output, with a persistently falling trend in cattle breeding.

According to GUS preliminary estimates, global agricultural output in 2002 decreased on the previous year's figure. This decline could be traced to a significant reduction in vegetable production due mainly to a low potato, root vegetables and fruit yields. Table 33 shows the global agricultural output growth (in constant prices).

Movements in vegetable and livestock production in the years 1997–2002 is presented in Figure 90 and Figure 91.

The high supply of most agricultural products resulted in their low prices both in purchasing and at fairs. The biggest growth was recorded in the supply in the slaughter animals and meat market, especially pork, dairy products and potatoes. The average purchasing prices of basic agricultural products and retail prices of some foodstuffs are shown in Table 34.

Table 33
Global agricultural output growth

	1996	1997	1998	1999	2000	2001	2002
	Previous year =100						
Total	100.7	99.8	105.9	94.8	94.4	105.8	98.1
Vegetal production	101.7	95.8	109.2	91.3	94.2	108.6	91.3
Livestock production	99.2	105.4	102.2	99.1	94.7	102.5	105.7

Source: GUS figures (January 2003).

Figure 90
Movements in volume of major field crops in the years 1998–2002

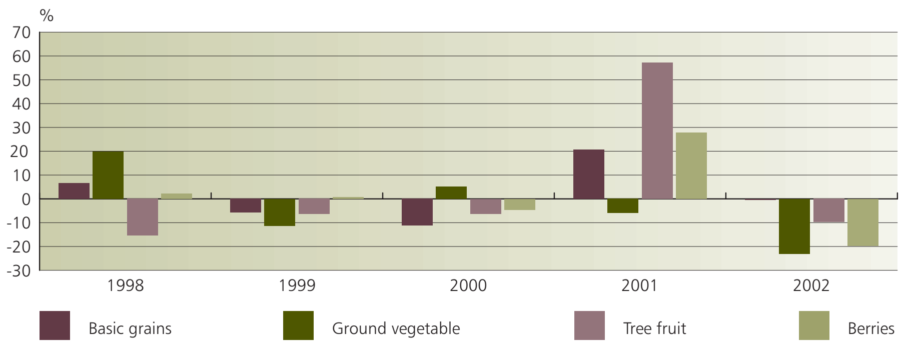


Figure 91
Movements in meat production volume in the years 1998–2002

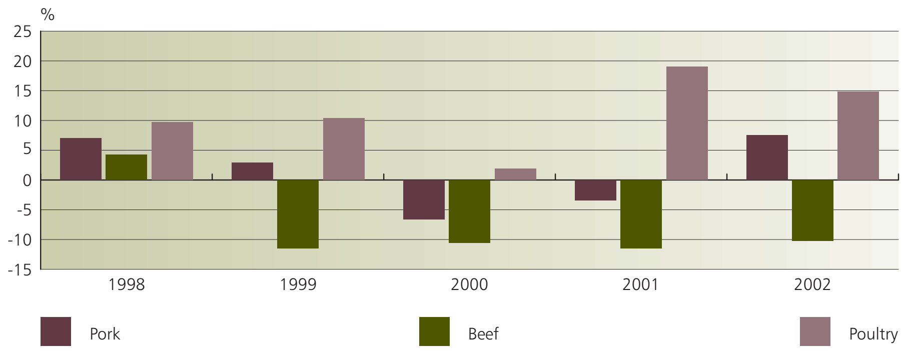


Table 34
Price indices of agricultural product purchasing and retail prices

Specification	2000	2001	2002
		Previous year = 100	
Purchasing prices			
– wheat	118.2	99.2	87.1
– rye	121.0	101.4	90.6
– potatoes	123.6	89.3	88.8
– milk	128.5	101.0	91.6
– slaughter pigs	120.4	120.2	83.9
– slaughter cattle	109.8	100.3	96.7
– slaughter poultry	109.2	103.4	86.8
Retail prices			
– bread and cereal products	114.3	107.7	100.3
– potatoes	117.8	87.3	118.1
– milk	112.9	103.3	98.3
– pork	110.9	111.5	97.1
– beef	110.4	107.9	100.4
– poultry	106.9	103.9	88.1

Source: GUS figures.

Characteristics of selected markets

Cereal market

In the cereal market, a high cereal supply was maintained throughout the year, resulting in a constant decline in prices paid to agricultural producers (Table 35).

The high cereal supply from the 2001 harvest as well as a good harvest in 2002 (lower only by 0.6% than the record crops the year before) created low prices in the cereal market. Average purchasing prices for wheat and rye for the whole of 2002 remained at a lower level than in 2002. Average wheat purchasing prices in the first half of 2002 were lower than the year before by roughly 17%, in the latter half – by some 12%. The most severe fall in wheat purchasing prices in the course of the last year took place in July (by 6.8%). Afterwards, prices stabilised and at year end

A

Table 35
Cereal balance

Specification	1999/2000	2000/2001	2001/2002	2002/2003
	In thousand tonnes			
Inventory	3,955	3,215	2,538	3,685
Production	25,690	22,267	26,902	26,733
Imports	1,340	2,418	972	680
Utilisation	27,644	25,268	26,570	27,587
of which				
– consumption	5,793	5,792	5,794	5,796
– grazing	17,636	15,510	16,520	17,620
	Previous economic year = 100			
Inventory	97.6	81.3	78.9	145.2
Production	94.8	86.7	120.8	99.4
Imports	102.4	180.4	40.2	67.0
Utilisation	98.8	91.4	105.2	103.8
of which				
– consumption	100.1	100.0	100.0	100.0
– grazing	97.8	87.9	106.5	106.7

Data: GUS, IERiGŻ [Institute of Agricultural Economics and Food Economy], NBP calculations.

2002 were by 9.2% lower than the year before. Rye purchasing prices also showed a decline in the first half of 2002 on the previous year by about 17%, and in the second half – by about 9%, respectively. The most severe fall in rye purchasing prices in 2002 also happened in July (by 13.4%), and at the year end these prices were down by 8.4% on the previous year.

The situation in the cereals market in 2002 was determined by measures taken by the Agricultural Market Agency (AMA). In the first half of 2002, AMA sold cereals from its inventories. That sale did not attract much interest from potential buyers as the market was already balanced at that time. In the second half of the year (after the new harvest), slightly modified measures were taken constituting the extension of the cereal purchasing scheme with an AMA subsidy for producers, initiated in 1999. The intervention measures taken in the 2002/2003 season, according to the AMA scheme, covered some 5.4 million tonnes of cereal (i.e. by roughly 0.5 million more than in the previous season). Entrepreneurs purchasing cereals with the producer subsidy were obliged to apply in the process prices not lower than the minimum values set for 2002: for wheat – by 13.7%, and for rye – by 8.5% lower than in 2001. In order to avoid cumulated deliveries, a financial incentive was kept for producers in the form of higher subsidies for cereals delivered in September and October. As it was the case in the previous season, the market price in purchasing was lower than the final price set for the producer (minimum price + AMA subsidy). In the 2001/2002 season, the average purchase price of wheat was lower by approx. 21% than the final price, whereas that of rye – by 18% (from July to December 2002, by approx. 23% and 19%, respectively).

Low cereal prices undoubtedly contributed to the improved profitability of livestock production, and thus to its significant growth.

Meat market

The situation in livestock production in 2002, in the context of higher cereal resources and their falling prices, was affected mainly by the pig population and poultry production growth and a persisting decline in cattle breeding. Higher pig and poultry slaughter supply entailed a rapid fall in livestock production prices. In the first half of 2002, pig prices, pursuing a downward trend since

Table 36
Meat production and purchasing prices in the years 2000–2002

Specification	2000	2001	2002
		In thousand tonnes	
Meat production	2,865	2,872	3,086
– pork	1,950	1,884	2,025
– beef	331	293	263
– poultry	584	695	798
Imports	72	69	85
		Previous year = 100	
Meat production	94.7	100.2	107.5
– pork	93.4	96.6	107.5
– beef	89.5	88.5	89.8
– poultry	101.9	119.0	114.8
Imports	105.9	95.8	123.2
Purchasing prices of		December previous year = 100	
– slaughter pigs	126.6	111.4	72.8
– slaughter cattle	115.3	96.7	93.8
– slaughter poultry	114.6	89.0	91.3

Data: GUS, IERiGŻ [Institute of Agricultural Economics and Food Economy], NBP calculations.

November 2001 (i.e. when the falling trend in slaughter pigs supply had been reversed), decreased in purchases compared to the previous year by approx. 10%, and in the second half of the year – by almost 26%. Still, despite deteriorating economic conditions of slaughter pigs production, the pig population growth initiated in 2001 was sustained.

In 2002, similarly to the previous year, high supply of slaughter poultry was maintained, whereas slaughter poultry prices, which at the beginning of the year showed a slight falling trend, began to rise as of May. Nonetheless, in 2002 on average 1 kg of slaughter poultry cost approx. 13% less than the year before.

In spite of decreased supply of slaughter cattle (against a marked reduction in beef consumption), cattle slaughter prices kept falling since early 2002. The average annual price of slaughter cattle in 2002 was by 3.3% lower year-on-year.

Intervention activities pursued by AMA in the meat market in 2002 basically consisted on the one hand in maintaining prices for pig and cattle producers through buying in surpluses, and on the other – in supporting exports.

Milk market

Given the persisting falling trend in the cow population, the milk supply for purchasing purposes in 2002 (as a result of, among others, improved livestock efficiency and the higher attractiveness of milk production) was higher than the year before. Because of that, a high supply persisted in the milk market leading to price decreases. Milk purchasing prices in 2002 were, on average, by 8.4% lower than in 2001.

Fruit and vegetable market

The situation in the fruit market in 2002 was determined by yields being lower than the year before for most fruit species. Total crops were by 9.3% lower than in the record year of 2001 but at the same time by 22.3% higher than average production in the years 1996–2000. As a result, the prices of most fruit were higher in 2002 than the year before.

According to GUS, field vegetable crops in 2002 were by 23% lower than in 2001. The main reason for such a substantial fall in vegetable crops were adverse weather conditions and a significant reduction in their growing area. From January to May 2003, vegetable prices rose rapidly, but since June their growth rate was subject to a seasonal slowdown and absolute prices of many vegetable species was lower than a year ago.

Food demand

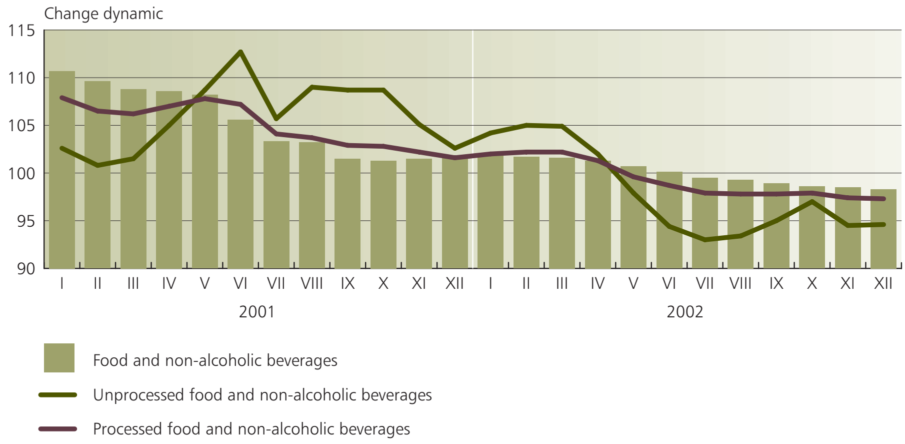
Food and non-alcoholic beverages prices contributed dominantly to the lowering of the CPI index in 2002. In December 2002, these prices reached levels some 2.7% lower than the year before, diminishing CPI by 0.8 of a percentage point. The general decline in the inflation rate was attributable to the prices of almost all groups of foods (except for fish and fruit), including:

- meat prices (which fell by 6.8% in the course of the year) – by 0.58 percentage point,
- vegetable prices (a fall by 3.9% during the year) – by 0.1 percentage point,
- milk and dairy product prices (a 2.3% fall) – by 0.09 percentage point.

Reductions in the retail prices of food, both unprocessed and processed are shown in Figure 92.

The relative decline in food prices in 2002 encouraged food demand growth but low income levels limited it. According to the research on household budgets conducted by GUS, in the first half of 2002 there was a slowdown in the consumption of fish and processed fish products, milk and dairy processed goods and vegetal fats. Meanwhile, egg, butter, fruit and vegetable consumption surged. On the other hand, the consumption of cereal and meat products, animal fats and confectionery products was maintained at a level similar to that recorded in the corresponding period of 2001.

Figure 92
Price indices for total food and non-alcoholic beverages, unprocessed and processed (corresponding month previous year = 100)



Appendix B
Balance of investments and savings in 2002[69]

Income

According to GUS preliminary estimates, the nominal gross domestic product in 2002 amounted to roughly PLN 769.4 bn and was by some PLN 20 bn higher compared to the previous year. Gross income (GI), differing from GDP by the value of net income from work and capital obtained abroad and the balance of foreign transfers, as shown in estimates, recorded lower growth (Table 37). The declining GDP and GI growth observed in recent years reflects the economy's entrance into a recession phase of the economic cycle. Real GDP growth, which stood at an average level of 5.1% in the years 1995–2000, in 2001 dropped to 1.0%, whereas in 2002 it was 1.3%.

Table 37
GDP and GI in the years 1996–2002

	GDP PLN billion	GDP growth PLN billion	Gross income PLN billion	Gross income growth PLN billion
1996	387.8	79.7	385.1	82.2
1997	472.4	84.6	473.9	88.8
1998	553.6	81.2	558.5	84.6
1999	615.1	61.5	604.7	46.2
2000	685.0	69.9	689.0	84.3
2000*	712.3		716.3	
2001*	749.3	37.0	755.6	39.3
2002*	769.4	20.1	773.3	17.7

* Since 2000, adjustment for a fuller incorporation of the accrual item of the enterprise sector as against the public finance sector.
Source:
– for 1998–2001 GDP – Statistical Yearbooks 2000 and 2002, GUS, Warsaw; for 2002 GDP – preliminary estimates of the National Accounts and Finance Department of GUS, www.stat.gov.pl.
– for 1998–2001 gross income – own estimates based on GUS product account and payment of balance figures, transactions basis. Year 2002 – based on preliminary information on GDP and balance of payments, payments basis.

Investment

Capital formation is a factor contributing to output growth. Real value of gross fixed assets in the years 1995–2000 grew at 4.1% annually, or by 1 percentage point slower than the GDP growth at the time. In 2001, that growth slowed down to 2.7%. Nevertheless, GDP growth recorded an even stronger decline and, as a result, the capital formation growth rate began to overtake the GDP growth rate. A similar situation was probably also sustained in 2002.

Basic indicators characterising the capital-product relationship are shown in Table 38. The capital-product coefficient, calculated in current prices, decreased as output grew in the years

[69] Calculations based on GUS preliminary estimates on 2002 GDP.

B

Table 38
Capital – product relation characteristic

	PKB/K %	K/PKB	ΔK/ΔPKB	ΔK/PKB %	S/PKB %	R1
			Current prices			
1996	35.7	2.80	0.92	18.9	9.3	3.9
1997	40.8	2.45	1.20	21.5	8.6	4.8
1998	44.5	2.25	1.61	23.5	8.9	5.0
1999	45.7	2.19	2.37	23.7	9.4	4.8
2000	47.4	2.11	2.28	23.3	9.8	4.8
2001	49.2	2.03	3.95	19.5	10.4	4.7
2002*	48.2	2.07	6.80	17.7	11.3	4.3

	PKB/K %	K/PKB	ΔK/ΔPKB	ΔK/PKB %	R2**
			Constant prices		
1996	42.8	2.34	3.26	18.4	4.6
1997	44.1	2.27	3.33	21.2	5.1
1998	44.5	2.25	5.14	23.5	5.0
1999	44.6	2.24	6.10	24.0	4.7
2000	44.5	2.25	6.20	23.8	4.6
2001	45.5	2.20	20.77	20.6	4.4
2002*	45.0	2.22	14.59	18.7	4.0

* Estimates,
** Product-capital coefficient in constant prices, whereas profit rate (S/PKB) in current prices
K – value of gross fixed assets at year end in current prices for accounting records;
ΔK – gross capital growth equal to net investment, i.e. gross investment expenditure for fixed assets (according to national accounts) less recorded value of liquidated fixed assets. For the year 2002, K estimate, with assumed share of depreciation in GDP at the same level as in 2001:
ΔGDP – gross domestic product growth in current prices;
S – estimated corporate profits, i.e. gross savings of the enterprise sector;
R – profitability ratio, relation of (GDP/K) to S.
Source: Own calculations based on *1997–2002 Statistical Yearbooks*, GUS, Warsaw and statistics of GUS national accounts.

1996–2000; whereas in constant prices it remained fairly stable. In 2001, we witnessed the halting of that trend, followed by its reversal in 2002.

The supply potential present in the economy evolves under the impact of net investment, while the expectations regarding the future levels of that potential give rise to the disequilibrium of output volume, as a result of movements in expected productivity. Net investment expenditure which, according to estimates[70] in the years 1995–2000 rose in constant prices by an average of approx. 15%, in 2001 declined by 9.4%, and in 2002 – by 7.7%. A fall in expenditure, preceded by a decline in investment decisions, led to a reduction in output growth in the years 2001 and 2002.

When investment expenditure growth is considerably higher than income growth (as it was the case in the years 1996–98), a trend is established to lower the profitability ratio. This phenomenon, called the capital furnishing growth effect was observed in the years 1999–2002. (Tab. 2) As indicated by estimates, in 2002 profitability was still declining, although economic growth was strengthened owing to exports, which may positively affect profitability. Therefore, if no new factors heightening investment risk are identified, the entire process will be cumulative in nature, initiating a new (the second in Poland's market economy history) economic cycle.

[70] Own estimates based on the assumption that the share of liquidated fixed assets in gross investment equals, in constant prices, its share in current prices. Net investment in current prices represents the difference between gross fixed investment expenditure and wear and tear book value.

B

Investment-return feedback is a typical internal mechanism justifying the formation of an economic cycle. In the Polish economic practice, total investment risk is lowered by profit financing. Thus, a decrease or increase in profits may have a bearing on investment. Given low demand, falling profits slow down investment more effectively as the total investment cost goes up.

Savings

In a closed economy, the equivalence of investment and savings in terms of identity signifies that income evolves so that total completed investment projects and savings are equal. In an open economy, on the other hand, private sector savings equal private sector investments plus the state budget deficit and the current account balance. The personal and government sector savings total constitutes all savings. This is an element of Gross Income which is allocated for capital formation, capital transfers and net claims (or indebtedness). Total gross savings finance completed investment projects and the current account balance.

Table 39 shows a comparison of total savings (S) and savings in each of the four sectors: households (Sh), non-finance enterprises (Sn-f), finance sector (Sf) and consolidated public finance sector (Sg), as well as Sp – private sector savings, for Poland and the European Union in % of GDP.

Table 39
Gross savings in Poland and the European Union, as % of GDP

	S		Sh		Sn-f		Sf		Sg		Sp=S-Sg	
	PL	UE	PL	UE	PL	UE	PL	UE	PL	UE	PL	UE
1996	20.8	21.2	9.1	11.6	7.0	10.0	2.6	1.3	1.9	-1.7	18.9	22.9
1997	21.0	21.8	9.5	10.9	6.8	9.8	2.2	1.3	2.2	-0.2	18.8	22.0
1998	22.0	21.9	9.5	10.3	7.1	10.3	2.5	1.1	2.6	0.2	19.4	21.7
1999	20.9	21.8	8.0	10.0	7.6	9.6	2.3	1.1	2.5	1.2	18.3	20.6
2000	19.0	22.0	7.6	9.6	7.7	9.4	1.9	1.3	1.2	1.6	17.7	20.4
2001*	18.1	21.7	7.6	9.9	9.5	9.3	1.7	1.3	-0.7	1.2	18.8	20.5
2002*	16.3		5.9		10.1		1.7		-1.4		17.7	

* Own estimates for Poland based on preliminary information from GUS and Ministry of Finance.
Source: Figures for Poland 1995–2000: *Rachunki Narodowe według sektorów i podsektorów instytucjonalnych 1995–2000 [National Accounts by institutional sector and subsector in the years 1995–2000]* , GUS, Warsaw, June 2002; Figures for the European Union: ECB Monthly Bulletin, August 2002.

Table 40
Gross investment in Poland and the European Union, as % of GDP

	I		Ih		In-f		If		Ig		Ip=I-Ig	
	PL	UE	PL	UE	PL	UE	PL	UE	PL	UE	PL	UE
1996	21.9	20.0	3.8	6.7	13.4	10.2	0.7	0.6	3.9	2.5	18.0	17.5
1997	24.6	20.0	3.3	6.4	15.9	10.6	1.2	0.6	4.2	2.3	20.4	17.7
1998	26.2	20.6	4.0	6.4	16.4	11.2	1.5	0.6	4.2	2.4	22.0	18.2
1999	26.4	21.0	4.0	6.5	16.9	11.4	1.7	0.6	3.7	2.4	22.7	18.5
2000	25.1	21.4	4.6	6.6	15.5	12.8	1.4	0.6	3.6	1.4	21.5	20.0
2001	21.0	21.0	4.4	6.5	11.9	11.4	1.2	0.6	3.5	2.5	17.5	18.5
2002*	19.2								3.5		15.7	

* Own estimates of private investment and public finance sector investment based on preliminary information from GUS and Ministry of Finance.
Markings as in the case of savings: Ih – household investment, In-f – non-finance sector, If – finance sector, Ig – public finance sector, Ip – private investment.
Source: As in the table above.

B

Holdings of savings in Poland in 2001 were lower than their average levels in the EU by 3 percentage points, due to the current account deficit recorded in Poland. The gross investment rate (fixed assets and inventories combined) in Poland in the second half of the nineties was considerably higher than the investment rate in the EU countries. However, in 2001 they were already equal and amounted to 21% of GDP. In 2002, the difference in savings between Poland and the European Union probably increased further, following a fall in the investment rate in Poland by roughly 2 percentage points of GDP.

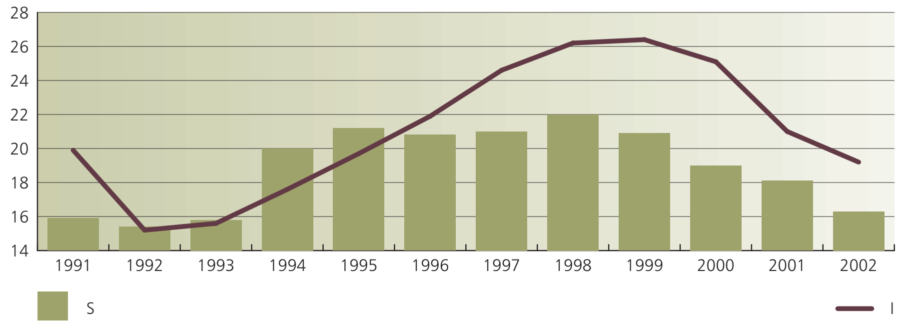
Table 41
Balance of investment and savings in Poland and the European Union, as % of GDP

	(Sp-Ip)		(Sg-Ig)		(S-I)=CA	
	PL	UE	PL	UE	PL	UE
1996	0.9	5.4	-2.0	-4.2	-1.0	1.2
1997	-1.6	4.3	-2.0	-2.5	-3.6	1.8
1998	-2.6	3.5	-1.5	-2.2	-4.2	1.3
1999	-4.3	2.0	-1.2	-1.2	-5.5	0.8
2000	-3.8	0.4	-2.3	0.2	-6.1	0.6
2001	1.3	2.0	-4.2	-1.3	-2.9	0.7
2002	2.0		-4.9		-2.9	

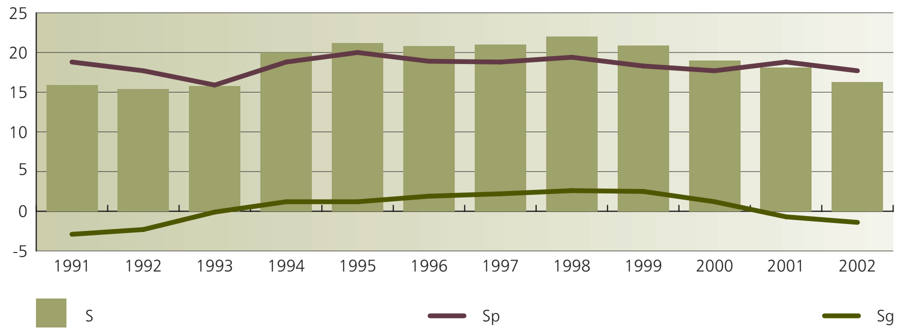
Source: Table 39 and Table 40.

Figure 93
Total gross savings (S) and investment (I) in the private sector (p) in the government sector (g) and current account deficit (CA), as % of GDP

a) Total savings (S) and investment (I)

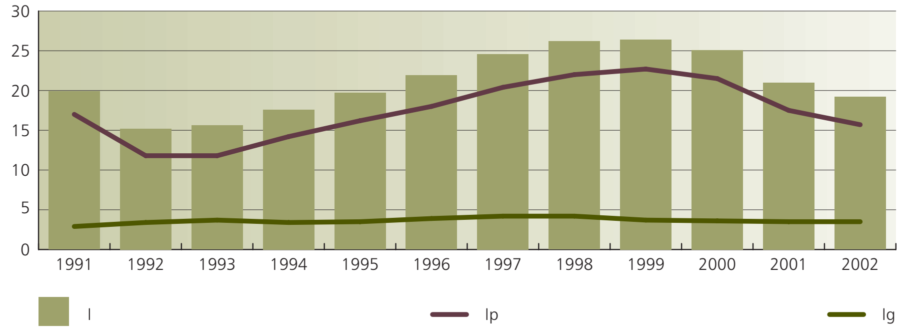


b) Savings: total (S), private (Sp) and in public finance sector (Sg)

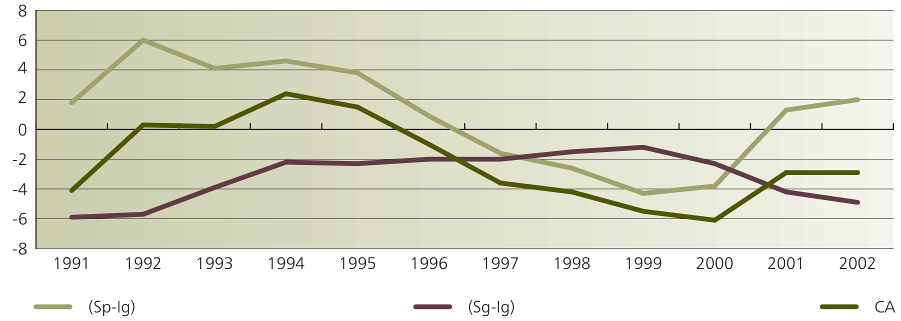


B

c) Investment: total (I), private (Ip) and in the public finance sector (Ig)



d) Current account deficit as balance of savings and investment in (p) and (g) sectors



B

Appendix C
Voting of the Monetary Policy Council members on motions and resolutions adopted in 2002

Date of resolution	Subject	Decision taken by MPC	Voting of Council members	
29.01.2002	Procedures for	To modify the	**For:**	L. Balcerowicz
	the conduct of	procedures for the		M. Dąbrowski
	open market operations	conduct of open		B. Grabowski
		market operations		C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
30.01.2002	Lowering the reference	Motion failed	**For:**	D. Rosati
	rate by two percentage	to receive a majority		G. Wójtowicz
	points and lombard rate	of votes		W. Ziółkowska
	by two and a half		**Against:**	L. Balcerowicz
	percentage points			M. Dąbrowski
				B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
30.01.2002	Lowering the reference	Motion failed	**For:**	B. Grabowski
	rate by one percentage	to receive a majority		C. Józefiak
	point	of votes		W. Łączkowski
			Against:	L. Balcerowicz
				M. Dąbrowski
				J. Krzyżewski
				J. Pruski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska

C

30.01.2002	The rediscount rate,	To lower the reference	**For:**	L. Balcerowicz
	the reference rate,	rate by one and a half		J. Krzyżewski
	the refinancing rate	percentage point and		D. Rosati
	and the NBP term	lombard rate by two		G. Wójtowicz
	deposit rate	percentage points		W. Ziółkowska
			Against:	M. Dąbrowski
				B. Grabowski
				C. Józefiak
				W. Łączkowski
				J. Pruski
27.03.2002	Lowering interest rates	Motion failed	**For:**	D. Rosati
	by one percentage point	to receive a majority		G. Wójtowicz
		of votes		W. Ziółkowska
			Against:	L. Balcerowicz
				M. Dąbrowski
				B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
24.04.2002	Resolution approving the		**For:**	L. Balcerowicz
	NBP annual financial report			M. Dąbrowski
	drawn up as at			B. Grabowski
	December 31, 2001			C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				G. Wójtowicz
				W. Ziółkowska
			Absent:	D. Rosati
25.04.2002	Lowering the reference rate,	Motion failed	**For:**	J. Krzyżewski
	the rediscount rate, and the	to receive a majority		G. Wójtowicz
	refinancing rate by one	of votes		W. Ziółkowska
	percentage point, and		**Against:**	L. Balcerowicz
	leaving the NBP deposit			M. Dąbrowski
	rate unchanged			B. Grabowski
				C. Józefiak
				W. Łączkowski
				J. Pruski
			Absent:	D. Rosati

C

25.04.2002	Resolution on the rediscount rate, the reference rate, the refinancing rate and the NBP term deposit rate	To lower the reference rate by 0.5 percentage point, the rediscount rate and refinancing credit rate by one percentage point, and to leave the NBP term deposit rate unchanged	**For:**	L. Balcerowicz B. Grabowski C. Józefiak J. Krzyżewski W. Łączkowski
			Against:	M. Dąbrowski J. Pruski G. Wójtowicz W. Ziółkowska
			Absent:	D. Rosati
16.05.2002	Resolution approving the report on the execution of monetary policy guidelines in 2001		**For:**	L. Balcerowicz B. Grabowski C. Józefiak J. Krzyżewski W. Łączkowski J. Pruski G. Wójtowicz
			Against:	D. Rosati W. Ziółkowska
			Absent:	M.Dąbrowski
16.05.2002	Resolution assessing the activity of the NBP Management Board in implementing monetary policy guidelines in 2001		**For:**	L. Balcerowicz B. Grabowski C. Józefiak J. Krzyżewski W. Łączkowski J. Pruski D. Rosati G. Wójtowicz W. Ziółkowska
			Absent:	M.Dąbrowski
16.05.2002	Resolution approving the NBP activity report for 2001		**For:**	L. Balcerowicz B. Grabowski C. Józefiak J. Krzyżewski W. Łączkowski J. Pruski D. Rosati G. Wójtowicz W. Ziółkowska
			Absent:	M.Dąbrowski

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29.05.2002	Lowering of the reference	Motion failed	**For:**	D. Rosati
	rate by 0.75 percentage	to receive a majority		G. Wójtowicz
	point, the rediscount rate	of votes		W. Ziółkowska
	and the refinancing rate		**Against:**	L. Balcerowicz
	by one percentage point			M. Dąbrowski
	and the deposit rate			B. Grabowski
	by 0.5 percentage point			C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
29.05.2002	Resolution on the	To lower interest rates	**For:**	L. Balcerowicz
	rediscount rate, the	by 0.5 percentage point		B. Grabowski
	reference rate, the			C. Józefiak
	refinancing rate and			J. Krzyżewski
	the NBP term deposit rate			W. Łączkowski
				J. Pruski
				D. Rosati
				G. Wójtowicz
			Against:	M. Dąbrowski
				W. Ziółkowska
26.06.2002	Lowering interest rates	Motion failed	**For:**	D. Rosati
	by one percentage point	to receive a majority		G. Wójtowicz
		of votes		W. Ziółkowska
			Against:	L. Balcerowicz
				M. Dąbrowski
				B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
26.06.2002	Resolution on the	To lower interest rates	**For:**	L. Balcerowicz
	rediscount rate,	by 0.5 percentage point		B. Grabowski
	the reference rate,			C. Józefiak
	the refinancing rate			J. Krzyżewski
	and the NBP term		W. Łączkowski	
	deposit rate			D. Rosati
				G. Wójtowicz
				W. Ziółkowska
			Against:	M. Dąbrowski
				J. Pruski

26.06.2002	Resolution amending the resolution on monetary policy guidelines for the year 2002	To review the inflation target for 2002 and to set it at 3 percent +/-1 percentage point	**For:**	L. Balcerowicz
				M. Dąbrowski
				B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
			Against:	D. Rosati
				G. Wójtowicz
				W. Ziółkowska
19.07.2002	Lowering interest rates by 0.5 percentage point	Motion failed to receive a majority of votes	**For:**	J. Krzyżewski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
			Against:	L. Balcerowicz
				M. Dąbrowski
				B. Grabowski
				C. Józefiak
				W. Łączkowski
				J. Pruski
28.08.2002	Lowering the reference rate by 0.75 percentage point and lombard rate by one percentage point, and leaving the NBP term deposit rate unchanged	Motion failed to receive a majority of votes	**For:**	G. Wójtowicz
				W. Ziółkowska
			Against:	L. Balcerowicz
				M. Dąbrowski
				B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
			Absent:	D. Rosati
28.08.2002	Resolution on the rediscount rate, the reference rate, the refinancing rate and the NBP term deposit rate	To lower the reference rate by 0.5 percentage point, the rediscount rate and refinancing rate by one 1 percentage point, and to leave the NBP term deposit rate unchanged	**For:**	L. Balcerowicz
				M. Dąbrowski
				B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				G. Wójtowicz
				W. Ziółkowska
			Absent:	D. Rosati

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25.09.2002	Resolution establishing		**For:**	L. Balcerowicz
	monetary policy			M. Dąbrowski
	guidelines for 2003			B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				G. Wójtowicz
				W. Ziółkowska
			Absent:	D. Rosati
25.09.2002	Resolution on the	To lower interest rates	**For:**	L. Balcerowicz
	rediscount rate, the	by 0.5 percentage point		C. Józefiak
	reference rate, the			J. Krzyżewski
	refinancing rate and			W. Łączkowski
	the NBP term			G. Wójtowicz
	deposit rate			W. Ziółkowska
			Against:	M. Dąbrowski
				B. Grabowski
				J. Pruski
			Absent:	D. Rosati
22.10.2002	Resolution approving		**For:**	L. Balcerowicz
	amendments to the NBP			M. Dąbrowski
	financial plan for 2002			B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
23.10.2002	Resolution on the	To lower the reference	**For:**	L. Balcerowicz
	rediscount rate, the	rate by 0.5 percentage		J. Krzyżewski
	reference rate, the	point, the rediscount		D. Rosati
	refinancing rate and	rate by 0.75 percentage		G. Wójtowicz
	the NBP term deposit rate	point, the refinancing		W. Ziółkowska
		rate by 1 percentage	**Against:**	M. Dąbrowski
		point, and to leave the		B. Grabowski
		NBP term deposit rate		C. Józefiak
		unchanged		W. Łączkowski
				J. Pruski

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26.11.2002	Resolution approving the NBP financial plan for 2003		**For:**	L. Balcerowicz M. Dąbrowski B. Grabowski C. Józefiak J. Krzyżewski W. Łączkowski J. Pruski D. Rosati G. Wójtowicz W. Ziółkowska
27.11.2002	Lowering interest rates by 0.5 percentage point	Motion failed to receive a majority of votes	**For:**	J. Krzyżewski D. Rosati G. Wójtowicz W. Ziółkowska
			Against:	L. Balcerowicz M. Dąbrowski B. Grabowski C. Józefiak W. Łączkowski J. Pruski
27.11.2002	Resolution on the rediscount rate, the reference rate, the refinancing rate and the NBP term deposit rate	To lower interest rates by 0.25 percentage point	**For:**	L. Balcerowicz J. Krzyżewski D. Rosati G. Wójtowicz W. Ziółkowska
			Against:	M. Dąbrowski B. Grabowski C. Józefiak W. Łączkowski J. Pruski
17.12.2002	Resolution on the procedures for the conduct of open market operations		**For:**	L. Balcerowicz M. Dąbrowski B. Grabowski C. Józefiak J. Krzyżewski W. Łączkowski J Pruski D. Rosati G. Wójtowicz W. Ziółkowska

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