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SUMMARY

The year 2001 witnessed a systematic deterioration in the world economy. In the euro area, economic growth slipped from 2.8% in the fourth quarter of 2000 to 0.6% in the fourth quarter of 2001, while the German economy, the most important for Poland, saw its growth fall from 2.5% to 0%.

The global downturn, additionally aggravated by September's terrorist attack on the United States, led to foreign companies reducing their investment expenditure, including investment in Poland. This was compounded by a decline in domestic capital spending, which followed very strong growth in the years 1995–98. Furthermore, the economy began to feel the delayed effects of monetary policy tightening in 2000, together with the adverse consequences of movements in the relative exchange rates for the dollar and euro that year (despite the zloty depreciating against the dollar in that period, it registered nominal appreciation against the euro). The heightening of external competition compelled businesses to take adjustment measures, which involved trimming their production costs, principally via staff downsizing and slower nominal wage growth; in conjunction with the high cost of borrowing, this produced slacker growth in consumer demand. One factor cushioning the demand effects of stagnation in aggregate corporate sector wages was a sharp increase in government spending, yet the accompanying rise in the government deficit restricted private sector access to credit. As a result, aggregate consumer demand growth dropped from 2.4% in 2000 to 1.8% in 2001.

More subdued consumer demand growth than a year before, coupled with the low level of industrial capacity utilisation seen since the Russian crisis, forced companies to seek sales markets abroad. Despite the gradual weakening of the world economy, Poland's exports grew swiftly in 2001, substantially outpacing imports, which were held back by low domestic demand. Thanks to this, the narrowing of the current account deficit continued. At year end 2001, this deficit had fallen to 4.1% of GDP, as against 6.3% a year earlier.

The difficult external environment and dull domestic demand growth meant that businesses downgraded their assessment of sales opportunities. In these circumstances, with utilisation of the capacity developed thanks to investment in previous years relatively low and still declining, corporate capital expenditure flagged, and output growth decreased further.

The cumulative impact of these negative factors was seen in the fourth quarter, causing a drop in export growth, along with a 2.5% contraction in industrial output and an 8% fall in construction output. At this point, GDP growth sank to 0.3%. Such an acute slowdown of economic growth considerably diverged from all the macroeconomic forecasts published in 2000 and at the beginning of 2001. A similar reduction in economic activity was reported in the euro area countries, and in the case of Poland's largest trading partner, Germany, the downswing was even sharper than in Poland.

These macroeconomic developments, different from those projected (one reason being the good harvest), accelerated the fall in inflation, which was much more pronounced than expected by analysts and research centres. Twelve-month consumer price growth tumbled from 8.5% in December 2000 to 3.6% in December 2001. This decline in the CPI was paralleled last year by a decrease in all measures of core inflation. This indicates that the reduction in the headline inflation rate was not solely the result of temporary factors. However, these factors did lend substantial momentum to the process. For example, had it not been for the movements recorded in food and fuel prices, the decline in the CPI would have been some 1.5 points smaller.

A similarly rapid decrease was seen in industrial producer price growth: in the fourth

quarter, these prices dipped below their level in the same period a year earlier. This stemmed from steep price cuts in the section of manufacturing (associated with ebbing consumer demand at home and abroad, with more competitive imports, one reason for this being zloty appreciation, and with more sluggish investment activity); these cuts included prices in oil refining (the effect of the downward trend in world oil prices). It should be stressed in this regard that the decline in the PPI reflected a generalised tendency throughout the world last year (in the euro area, the twelve--month PPI dropped to a negative 1.1% in December 2001, compared to a positive 5.5% in December 2000, while in the USA the corresponding decrease was from 3.6% to minus 1.8%, in the Czech Republic it was from 5.0% to 0.8%, and in Hungary it was from 12.4% to minus 0.4%).

The year 2001 brought a surge in the disequilibrium within public sector finances. There were three main reasons for this. Firstly, a very swift rise in expenditure had been planned. Secondly, the projected level of government receipts was overoptimistic, even in terms of the macroeconomic assumptions adopted. Thirdly, those macroeconomic assumptions – which, while relatively optimistic, were still in line with "mainstream" market expectations – proved very different from the actual course of economic developments. The difficulties in securing central government receipts led the Government to revise the national budget twice, in July and December. As a result, the degree of fiscal policy discipline was significantly eroded last year: the central government deficit amounted to 4.5% of GDP (as against an original Budget target of 2.6%), while the adjusted public sector financial deficit came to some 4.8% of GDP (as against a projected 1.8%).

The growth in the government deficit was accompanied by a decrease in privatisation receipts, and in consequence by a major increase in issues of Treasury securities, chiefly purchased by domestic banks and foreign investors. This had a considerable negative effect on exchange rate stability and on growth in money stocks, and also on the pattern of that growth and on the cost of credit.

The fourth quarter of 2001 saw a decline in the household propensity to save at the banks, combined with a change in the maturity structure of deposits (with a relative increase in longer-term deposits). One factor behind this, aside from the low nominal growth in total personal incomes and the decrease over the year of the deposit rates being offered by the banks, was the announcement that interest income on bank deposits was to be taxed. Part of these deposits were shifted into other financial assets (bonds and units in investment funds).

A further deterioration was seen on the labour market, traceable to the failure of earlier attempts to increase the flexibility of that market, to the fall in domestic demand, to the worldwide economic downturn, and to the entry to the labour market of a demographic high. Both the employed labour force and average corporate sector employment shrank, while the unemployment rate rose to 17.4% from 15.1% a year before. Regardless of this, however, nominal wage growth was sustained, and the large reduction in inflation meant that in real terms wage growth was faster than a year previously. This restrained the decline in the purchasing power of aggregate incomes from employment caused by the level of employment coming down.

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In a situation of great uncertainty as to the lasting nature of the downward trend in inflation observed since the third quarter of 2000, and with expectations prevalent that strong economic growth would be maintained in 2001, the Monetary Policy Council (MPC) resolved to embark on a process of gradual interest rate cuts from February onwards. By the end of March, rates had been lowered by two

points. The prime factors counselling against more profound rate cuts in this period, without exposing the economy to the threat of disinflation being halted, were the following:

- the relatively optimistic economic forecasts, projecting considerably higher growth than was actually achieved,
- the persistence in the first months of 2001 of a risk of further rapid food price growth,
- the negative experience of the previous cycle of monetary easing at the turn of 1998–99 (when inflation had quickened sharply and the current account deficit had swollen dangerously), which testified to the relatively weak impact on macroeconomic developments in Poland of monetary policy instruments, as opposed to external shocks and changes in the fiscal situation.

The steep and unexpected decline in economic growth and in inflation that began in the second quarter of 2001, which formed the basis for widespread revisions of macroeconomic forecasts, led the MPC to carry out further rate cuts. These decisions to reduce interest rates were also influenced by the fact that the danger had receded of a further accelerated growth of the government deficit in 2002. All in all, the MPC lowered NBP base interest rates six times in the course of 2001, by a total of seven and a half points.

Nevertheless, the decisions taken in the latter half of the year could not have any greater bearing on the development of the macroeconomic situation in 2001, since the maximum impact of interest rate adjustments on inflation and economic growth is not observed until several quarters later. Given that the fall in inflation gathered speed due to non-monetary factors (these including disinflationary supply shocks on the food and fuel markets), real NBP interest rates came down more slowly than nominal rates. Owing to the unfavourable macroeconomic environment, lending rates at the commercial banks were reduced even more slowly. On the one hand, the banks had to factor heightening credit risk into their pricing policies. On the other, the mounting borrowing requirements of government ensured them a safe investment vehicle for their funds. This situation did not encourage lending to corporates and households.

The upshot was that by December 2001 annual inflation had dropped to 3.6%. The *Monetary Policy Guidelines for the Year 2001* had set the short-term inflation target within a range of 6% – 8%. However, the MPC had also made the proviso that, were the influence of supply factors in 2001 to prove different from that projected, causing inflation to fall below the lower bound of the target range, then the Council's approach to the relative tightness of interest rate policy would be conditioned by the pursuit of the medium-term target. In these circumstances, deeper rate cuts than were actually performed would have posed the risk of a resurgence of inflation once the above--mentioned factors had subsided, making it necessary to incur additional costs in lowering inflation in subsequent years.

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A proper assessment of inflation processes in 2001 requires a view that goes beyond last year alone. The development of the macroeconomic situation in the years 1998–2001, which refuted expectations and was influenced by an unfavourable external environment and waning fiscal discipline, meant that the process of disinflation in that period proved slower than anticipated. Annualised average inflation in 2001 was a mere 1.8 points lower than it had been two years before. Further, twelve-month inflation in December 2001 was only 2 points down on February 1999, which had been the previous low point of the disinflation process. The slackening of Polish economic growth was unavoidable in circumstances where the international economy was deteriorating dramatically. However, the strong swings in zloty exchange rates, triggered both by changes in the external situation and by the deepening

Basic macroeconomic indicators

	1999	QI	QII	QIII	QIV	2000	QI	QII	QIII	QIV	2001
				2000					2001		
						real growth					
GDP	**4.1**	6.0	5.0	3.1	2.3	**4.0**	2.3	0.9	0.8	0.3	**1.1**
Domestic demand	**4.8**	5.1	3.3	1.3	1.7	**2.8**	-1.3	-1.8	-2.0	-2.9	**-2.0**
Total consumption	**4.4**	4.1	2.7	1.2	1.6	**2.4**	1.2	1.3	1.8	2.8	**1.8**
Gross capital formation	**5.2**	4.8	3.0	1.1	1.6	**2.6**	1.5	1.6	2.1	3.2	**2.1**
Gross fixed investment	**6.1**	10.4	5.7	1.6	1.7	**3.9**	-13.1	-12.5	-14.2	-13.5	**-13.8**
Gross spending on fixed assets	**6.8**	5.4	2.8	2.0	2.1	**2.7**	1.5	-8.4	-13.6	-14.3	**-10.2**
Household savings ratio (%)[1]	**11.3**	9.0	10.9	11.3	14.0	**11.4**	11.4	10.4	10.4	11.7	**11.0**
Household financial savings ratio (%)[2]	**5.2**	5.7	10.8	0.2	5.8	**5.6**	9.5	3.9	5.2	4.9	**5.9**
Unemployment (%)	**13.1**	14.0	13.6	14.0	15.1	**15.1**	16.1	15.9	16.3	17.4	**17.4**
Disposable incomes (corresponding period previous year = 100)	**102.2**	101.8	101.1	99.6	103.1	**101.4**	103.7	99.7	100.7	100.1	**101.1**
Treasury debt (million zloty. nominal)[3]	**264 370.3**	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**
Central government deficit (million zloty)	**-12 479.0**	-6 927.4	-10 650.2	-14 041.9	-15 391.0	**-15 391.0**	-14 992.5	-18 805.5	21 865.0	-32 352.2	**-32 352.2**
Foreign debt (US$ million)	**65 397.0**	65 702.0	66 882.0	65 607.0	69 610.0	**69 610.0**	70 977.0	70 098.0	72 375.0	70 160.0	**70 160.0**

[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 sum total of growth in bank deposits, notes & coin and investments in securities, less growth in household borrowings).
[3] Period end.

Source: GUS, Ministry of Finance & NBP figures; NBP estimates.

Basic monetary indicators

	1999	QI	QII	QIII	QIV	2000	QI	QII	QIII	QIV	2001
			2000						2001		
						corresponding period previous year = 100					
Consumer prices [1]	**109.8**	110.3	110.2	110.3	108.5	**108.5**	106.2	106.2	104.3	103.6	**103.6**
Industrial producer prices [1]	**108.1**	107.3	108.9	108.3	105.6	**105.6**	103.8	100.9	100.7	99.7	**99.7**
						nominal growth. period end (corresponding period previous year = 100)					
M0	**98.4**	83.9	87.7	110.7	92.4	**92.4**	106.8	93.6	94.5	122.4	**122.4**
M1	**122.0**	105.1	108.1	99.6	94.3	**94.3**	100.8	95.1	105.7	110.8	**110.8**
M2	**119.3**	113.8	120.6	114.1	111.7	**111.7**	114.9	108.0	114.3	113.7	**113.7**
Due to persons & corporates	**118.3**	115.5	123.3	116.1	115.5	**115.5**	116.8	109.1	115.5	113.9	**113.9**
persons	**115.2**	114.2	118.5	117.3	120.9	**120.9**	120.1	116.3	117.5	112.0	**112.0**
corporates	**125.5**	119.1	136.0	113.0	103.7	**103.7**	108.3	92.5	110.3	118.8	**118.8**
Due from persons & corporates	**127.1**	123.9	130.6	122.0	117.3	**117.3**	114.6	105.0	110.7	107.6	**107.6**
persons	**153.1**	152.1	179.4	140.9	131.7	**131.7**	125.7	98.7	118.7	114.7	**114.7**
corporates	**121.6**	118.1	119.7	117.4	113.5	**113.5**	111.7	107.1	108.4	105.4	**105.4**
						real growth[3]. period end (corresponding period previous year = 100)					
M0	**89.7**	76.0	79.6	100.4	85.1	**85.1**	100.6	88.2	90.6	118.1	**118.1**
M1	**111.1**	95.3	98.1	90.3	87.0	**87.0**	94.9	89.5	101.3	107.0	**107.0**
M2	**108.7**	103.2	109.4	103.4	103.0	**103.0**	108.2	101.7	109.6	109.8	**109.8**
Due to persons & corporates	**107.7**	104.7	111.9	105.3	106.5	**106.5**	110.0	102.8	110.8	110.0	**110.0**
persons	**104.9**	103.5	107.5	106.4	111.5	**111.5**	113.1	109.6	112.7	108.1	**108.1**
orporates	**114.3**	108.0	123.4	102.4	95.7	**95.7**	102.0	87.1	105.8	114.7	**114.7**
Due from persons & corporates	**115.7**	112.3	118.5	110.6	108.1	**108.1**	107.9	98.9	106.1	103.8	**103.8**
persons	**139.4**	137.9	162.8	127.7	121.4	**121.4**	118.4	93.0	113.8	110.7	**110.7**
orporates	**110.8**	107.1	108.6	106.5	104.6	**104.6**	105.2	100.8	103.9	101.7	**101.7**
Reference rate (minimum reverse repo rate) (%)[2]	**16.5**	17.5	17.5	19.0	19.0	**19.0**	17.0	15.5	14.5	11.5	**11.5**
Rediscount rate (%)[2]	**19.0**	20.0	20.0	21.5	21.5	**21.5**	19.5	18.0	17.0	14.0	**14.0**
Lombard rate (%)[2]	**20.5**	21.5	21.5	23.0	23.0	**23.0**	21.0	19.5	18.5	15.5	**15.5**

[1] Final month of quarter.
[2] Period end.
[3] Deflated by reference to CPI.

Source: GUS, NBP.

fiscal imbalance, accentuated the downtrend, both directly, at times of nominal appreciation, and also indirectly. In the latter case, this was related to the need to maintain a highly restrictive monetary policy in the fact of the continuing risk of a slump in the value of the zloty and the attendant danger of inflation increasing. Meanwhile, the non-monetary factors causing fluctuations in the inflation rate generated unpredictable movements in real interest rates, weakening the effects of rate rises in 2000 and reinforcing these effects in 2001. This provoked political pressure for a loosening of monetary policy to a degree that would have jeopardised the performance of inflation targets.

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The interest rate cuts performed in 2001, in a context of low inflation and a marked improvement in external equilibrium, will assist the economy to pick up gradually in 2002 and 2003. Since long-term economic growth is only possible provided macroeconomic equilibrium is sustained, the MPC must continue to pursue a very judicious policy. The experience of recent years indicates that in Poland the influence of monetary policy instruments on the real economy is very moderate when compared to non-monetary factors. A radical easing of this policy would therefore make little contribution to accelerating economic growth in the short term, yet it would undermine the basis for that growth over the long term.

The level of inflation achieved in 2001 is not only attributable to the monetary policy implemented, but also to supply and demand shocks that will most probably be reversed in direction in the latter half of 2002 or at the beginning of 2003. Were these future shocks to be compounded by the lagged effects of an overly relaxed monetary policy, as was the case in 1999, the process of disinflation would again be reversed as well, and a return to the path of stable growth would require additional costs. Monetary conditions must therefore exert a stabilising influence on prices.

Aside from the policy conducted with respect to NBP interest rates, a major factor conditioning monetary processes in 2002 and 2003 will be the public sector borrowing requirement. In the absence of an improvement in public finances, this factor will drastically curtail the possibility of expanding the supply of credit to the private sector. For this reason, the pace of further monetary easing will be strictly contingent on the pace of achieving equilibrium within public finances.

1. DOMESTIC DEMAND AND SUPPLY[1]

1.1. General remarks

In 2001, domestic demand was lower than the year before. This fall in demand stemmed from a substantial reduction in capital formation. Consumption rose, although more slowly than a year earlier. The decline in domestic demand contributed to a weakening of business activity. Nevertheless, in absolute terms domestic demand was still greater than GDP. The fact that GDP growth was achieved despite the decrease in domestic demand was made possible by a further improvement in net exports. Growth rates for GDP and domestic demand, and the relationship between these in the years 1996–2001, are presented in Table 1.

The fall in capital formation can be traced both to the scaling back of fixed investment and to the much smaller

[1] Unless otherwise indicated, all growth rates in this section are given in real terms, on a twelve-month basis.

Table 1
GDP and domestic demand, 1996–2001

	1996	1997	1998	1999	2000	2001
	previous year = 100, constant prices					
GDP	106.0	106.8	104.8	104.1	104.0	101.1
Domestic demand	109.7	109.2	106.4	104.8	102.8	98.0
Growth differential, percentage points	-3.7	-2.4	-1.6	-0.8	+1.2	+3.1
Consumption	107.2	106.1	104.2	104.4	102.4	101.8
Capital formation	119.5	120.8	113.8	106.1	103.9	86.2
Exports	112.0	112.2	114.3	97.4	123.2	.
Imports	128.0	121.4	118.5	101.0	115.6	.
	percentage of GDP, current prices					
Domestic demand	101.6	104.3	105.2	106.4	106.9	103.5
Consumption	79.7	79.7	79.0	80.0	80.8	81.8
Capital formation	21.9	24.6	26.2	26.4	26.1	21.7
Net exports	-1.6	-4.3	-5.2	-6.4	-6.9	-3.5

Source: GUS, NBP estimates.

increase in stocks of tangible current assets. The reduction in capital expenditure represented the continuation of a downward trend in growth observable since as far back as 1999, and could have been related to the very powerful growth previously seen in the years 1995–98. In industry, investment activity already began to falter in 1999, while in the distributive trades this occurred in 2000. At the same time, the view gained ground that domestic sales markets had contracted, while utilisation of the productive capacity built up by investment in previous years was relatively low and diminishing further. Given the high cost of borrowing, investment was also constrained by the low level of capital employed by companies, a result of the deterioration in corporate finances in 1999. Although these finances then strengthened significantly in 2000, the tendency to cut back capital expenditure became more pronounced in 2001. This was accompanied by cuts in the investment expenditure carried out by the general government sector.

The decline in total capital expenditure reported from the second quarter of 2001 onwards was also associated with this expenditure being reduced in the remaining sections of the economy and with a further deepening of this trend in industry and distribution. It is believed that there was also a substantial decrease in the investment performed by foreign undertakings, which had risen in previous years. This was connected with the increasingly marked downturn within the world economy and dwindling sales opportunities for output within large trans-national corporations.

Despite the worsening situation on the labour market and a real decrease in aggregate incomes from employment for the second year in succession, there was only a minor slowdown in personal consumption growth. This was due to an increase in the purchasing power of other components of gross household incomes, particularly social benefits. The reduction in the growth of social consumption was sharper than in the case of personal consumption.

The decline in domestic demand helped hold down import growth. At the same time, export growth continued to be strong, particularly in the first half of the year. As a result, the level of negative net exports dropped significantly. It is estimated that, as a proportion of GDP, the volume of these negative exports halved compared to 2000.

The effect of the more favourable balance of trade was a distinct lessening of external disequilibrium. On a cash basis, the current account deficit came down from 6.3% of GDP in 2000 to 4.1% in 2001. This lower requirement for external savings, expressed in the smaller current deficit, stemmed from the decline in capital formation together with only a slight decrease in gross savings within the Polish economy.

The particular quarters of 2001 brought a slowdown in both GDP and domestic demand growth, and changes in the composition of these categories. Due to the increase in fixed investment and very rapid export growth recorded in the first quarter of the year, GDP growth in that quarter was similar to that reported in the fourth quarter of 2000; value added in industry also

Table 2
Quarterly growth in GDP & domestic demand, 2000-2001

	Year	QI	QII	QIII	QIV	QI – IV
		corresponding period previous year = 100				
Gross value added	2000	105.7	104.8	102.9	102.2	103.7
	2001	**102.1**	**100.8**	**100.6**	**100.1**	**100.9**
Industry	2000	110.2	109.1	106.0	102.3	106.8
	2001	**103.3**	**98.7**	**98.5**	**97.5**	**99.4**
Construction	2000	104.3	100.7	97.7	97.6	99.3
	2001	**94.8**	**92.0**	**91.8**	**92.0**	**92.4**
Commercial services	2000	105.4	104.8	103.1	104.0	104.2
	2001	**103.5**	**103.7**	**104.1**	**104.2**	**103.8**
GDP	2000	106.0	105.0	103.1	102.3	104.0
	2001	**102.3**	**100.9**	**100.8**	**100.3**	**101.1**
Domestic demand	2000	105.1	103.3	101.3	101.7	102.8
	2001	**98.7**	**98.2**	**98.0**	**97.1**	**98.0**
Total consumption	2000	104.1	102.7	101.2	101.6	102.4
	2001	**101.2**	**101.3**	**101.8**	**102.8**	**101.8**
Personal consumption	2000	104.8	103.0	101.1	101.6	102.6
	2001	**101.5**	**101.6**	**102.1**	**103.2**	**102.1**
Capital formation	2000	110.4	105.7	101.6	101.7	103.9
	2001	**86.9**	**87.5**	**85.8**	**86.5**	**86.2**
Gross fixed investment	2000	105.4	102.8	102.0	102.1	102.7
	2001	**101.5**	**91.6**	**86.4**	**85.7**	**89.8**

Source: GUS, NBP estimates.

rose. In subsequent quarters, fading export growth and the deepening fall in investment acted to depress GDP growth, one reason being a decrease in industrial value added. In the second half of the year, higher household incomes boosted personal consumption growth, which contributed to faster growth in value added within commercial services. Growth rates for GDP and domestic demand, by quarter, are shown in Table 2.

1.2. Domestic demand

1.2.1. Capital formation and investment expenditure

Preliminary estimates from GUS (the Central Statistical Office) indicate that gross capital formation in 2001 was 13.8% lower than the year before, with gross fixed investment down 10.2% and the increase in tangible current assets only 10% of that registered in 2000.

Low investment in current assets was related to companies realigning their stocking levels to the decline in business activity that took place during the year. At "large enterprises" (employing a staff of over 49), year--end inventories were in nominal terms only slightly higher than twelve months before. A particular decline was reported in stocks of finished goods and of raw materials and intermediates. However, it should be noted here that the decrease in the nominal value of stocks of production supplies was also associated with falling prices, including oil prices. Significant destocking was recorded in manufacturing, particularly in "manufacture of coke and refined petroleum products" and in "manufacture of motor vehicles, trailers and semi-trailers".

The fall in gross fixed investment mainly stemmed from reduced capital spending in the corporate sector. However, the investment expenditure of general government was also curbed. In 2001, the capital expenditure undertaken by companies employing more than 49 people was around 18% lower than a year earlier. Investment in buildings and structures was down some 26%, while investment in machinery, equipment and apparatus was down some 13%. The decrease in investment in machinery and equipment came for the second consecutive year. One factor in this was the

further contraction of manufacturing investment, which accounts for a large proportion of total purchases of capital goods.

The year 2001 was the third year running to witness a decline in capital expenditure. However, due to the very rapid investment growth noted in the years 1996–98, the current level of investment in certain divisions of manufacturing is well above that seen in 1995 (e.g., in the motor vehicle industry, or in the manufacture of audio-visual equipment). Relatively high investment growth was sustained in certain industries continuing to enjoy sound production performance (e.g., in paper, and in wood and wood products). Although the overall number and cost-estimate value of new investment projects came down, in the latter industries they continued to rise. Going by the growth reported in new projects, an increase in capital spending can also be expected in chemical products and in textiles. By contrast, in the distributive trades, which had shown swift growth in preceding years, a decrease was observed in the cost-estimate value of new projects, indicating that the fall in investment seen in the years 2000–2001 is set to continue.

1.2.2. Personal consumption

In 2001, real consumption growth was slower than in previous years (1.8%, as against 2.4% in 2000 and over 4% in the years 1998–99). Owing to the difficulties encountered within public finances, the slowdown was especially pronounced in social consumption. Initial estimates indicate that this was up only 0.3% compared to 2000 (in the years 1998–2000, growth in social consumption stood at around 1.5%). Personal consumption growth slipped to 2.1% in 2001, as against 2.6% in 2000.

The reduction in the growth of personal consumption last year was relatively small, despite the worsening economy and rising unemployment. This was due to a substantial increase in incomes from social benefits. Preliminary estimates are that the purchasing power of aggregate incomes from employment fell in 2001 for the second year running. This was the result of a considerable decrease in employment (down 3.3% in the corporate sector), although real growth in average employee earnings was higher than in 2000. The purchasing power

of average wages in the Polish economy rose 3.3% last year, compared to 1.0% in 2000. This acceleration in real wage growth, in spite of the deterioration on the labour market, can be traced to the steep reduction in consumer price growth. Since cost-of-living adjustments to old-age and disability pensions had failed to keep pace with real price growth in 2000, a very large increase in payouts of social insurance benefits was seen last year (in real terms, average pensions went up 4.7%). After having gone down for five years, it is estimated that private farmers' incomes also grew in real terms last year, as agricultural output rose. Further, the increase in incomes from property was also faster than inflation. Altogether, it is estimated that real growth in gross household disposable incomes came to over 1.5%.

The rise in total household incomes was stronger than that of disposable incomes. This was related to a substantial increase in the net share of households in pension fund reserves. Preliminary estimates by the NBP indicate that both the gross household savings ratio and the net financial savings ratio were similar in 2001 to 2000, standing at some 11% and over 5.5%, respectively.

Movements in the composition and growth rates of particular components of gross household disposable incomes in the years 1999–2001 produced an increase in the contribution of the sector of public finances to consumer demand. Having risen in the years 1999–2000, in 2001 incomes from government sector employment decreased as a proportion of total incomes. By contrast, monetary social benefits climbed faster than other income components throughout this period. This reflected changes in the procedures for paying out certain benefits[2], and also the worsening labour market. In 2001, the growth in social benefit payments was very large. Initial estimates are that household incomes directly or indirectly connected with general government expenditure (in the form of either social benefits or government sector wages) accounted for more than 34% of total household incomes in 2001, compared to 30%–32% in the years 1999–2000. At the same time, the decline in employment and in the pace of corporate sector wage growth led to a fall in the

[2] Including an increase in the base amounts used to calculate certain benefits, the lengthening of maternity leave, and the extension of entitlement to pre-retirement benefits.

share of total incomes represented by incomes from corporate sector employment (coming down to around 26% of gross disposable incomes in 2001, from 29% in 2000 and 27% in 1999).

Changes in the structure of incomes and the lesser role played by credit in financing consumption were mirrored in the pattern of retail sales. Although the strongest growth in sales volumes was reported at companies retailing furniture, audio-visual equipment and household appliances, the collapse of motor vehicle sales resulted in a decline in the total value of sales made on credit. Retail sales of foodstuffs and non-food articles purchased by households were up 0.7% (at constant prices) on the previous year (whereas in 2000 this growth had been 1.5%). Compared to 2000, lower sales were reported at companies trading in motor vehicles, motorcycles and related parts, and at "other retailers", which include firms selling jewellery, contemporary art, and office and computer equipment, among other things.

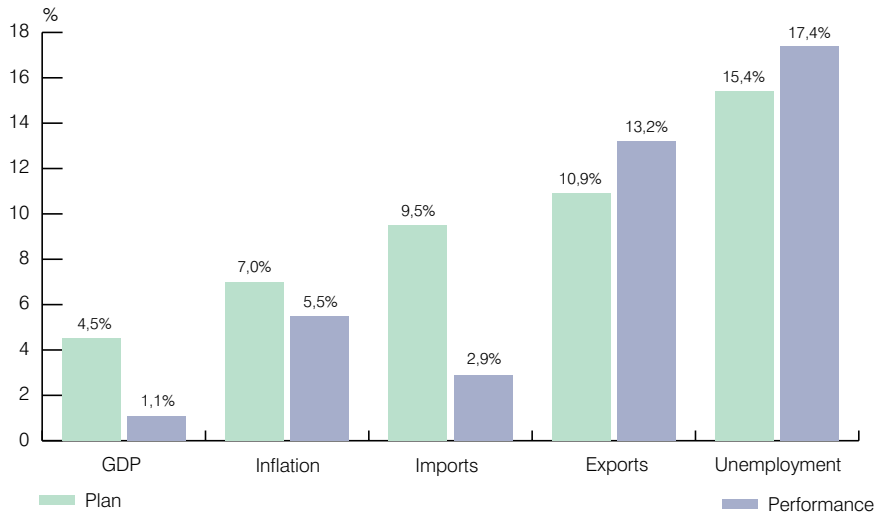
1.2.3. The public sector financial deficit

The year 2001 brought a significant fiscal loosening. The central government deficit rose to some 4.5% of GDP, compared to the 2.6% targetted in the Budget and the 2.2% recorded in 2000. The adjusted public sector financial deficit (the adjusted fiscal deficit), on the other hand, climbed to 4.8% of GDP, as against a target 1.8% and the previous year's 2.1%.

The projection written into the Budget for 2001 was that central government receipts would amount to 161.1bn zloty, whereas in fact the sum collected was 20bn less. While a large part in this was played by adverse and very much unexpected macroeconomic developments (cf. Fig. 1), a substantial contribution was also made by the assumptions adopted in drafting the Budget, including an overestimation of reference GDP in 2000 and overoptimism as to the possibility of improving the collectibility of taxes and customs duty last year[3]. Government receipts were to some degree

[3] The Budget assumed that an increase of some 2bn zloty in tax receipts would be derived from an improvement in collectibility, yet figures from the Ministry of Finance indicate that the amount of tax due and unpaid at year end 2001 totalled over 4.5bn zloty, and was 33.3% higher than the tax arrears recorded in 2000.

Figure 1
Basic macroeconomic assumptions, 2001 Budget, plan against performance



Source: Ministry of Finance.

Table 3
Performance of central government receipts, 2001

	2001		Growth rate, 2001/2000			Performance against plan
	Budget*	performance	Budget*	performance		
			nominal		real	
	billion zloty		%			
TOTAL RECEIPTS	**161.1**	**140.5**	**118.7**	**103.5**	**98.1**	**87.2**
Tax receipts of which:	**137.7**	**119.1**	**115.0**	**99.5**	**94.3**	**83.6**
Indirect taxes	94.5	82.5	118.6	103.5	98.1	87.3
Personal income tax	17.6	13.2	104.8	78.6	74.5	75.0
Corporate income tax	25.6	23.4	110.8	101.3	96.0	91.4
Non-tax receipts of which:	**21.8**	**20.2**	**137.1**	**127.0**	**120.4**	**92.7**
Transfer of NBP profit	4.9	4.9	222.7	222.7	211.1	100.0
Customs revenues	4.8	4.1	94.1	80.4	76.2	85.4
UMTS receipts	3.1	2.7				87.1
External receipts	**1.5**	**1.2**				**78.2****

* Budget for the year 2001, adopted on March 1, 2001.
** Percentages calculated using figures in million zloty.

Source: Ministry of Finance.

shored up by exceptionally high non-recurring or irregular revenues (UMTS licence fees, proceeds from the sale of collateral held against Polish Brady bonds, and the transfer of NBP profit). Were these items to be deducted, total government receipts would prove lower than the year before.

In terms of expenditure, the Budget provided for a nominal increase of over 20% in relation to 2000. Even after deducting the most rigid items in government spending, i.e., debt service expense and subsidies for pension payments to the Social Insurance Board and Farmer's Pension Fund, the total nominal growth in other expenditure was to have come to 13.5%, or around 6.1% in real terms.

In the course of the year, however, given the crumbling of projected receipts, it became necessary to cut back government expenditure. This ultimately totalled 172.9bn zloty, representing real growth of 8.5% compared to 2000. Nonetheless, the reduction in central government spending relative to plan was accompanied by a statutorily authorised increase in the budget deficit.

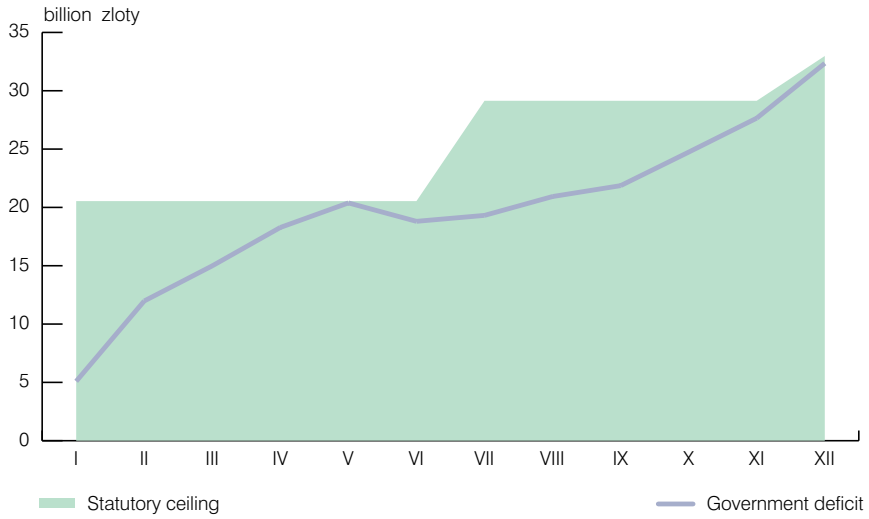
Table 4
Performance of central government expenditure, 2001

	2001		Growth rate, 2001/2002			Performance against plan**
	Budget*	performance	Budget*	performance		
			nominal		real	
	billion zloty		%			
TOTAL EXPENDITURE	**181.6**	**172.9**	**120.2**	**114.5**	**108.5**	**95.2**
Subsidies & grants	102.8	98.5	123.1	118.0	111.9	95.9
Transfers to personal sector	14.9	14.6	113.1	111.1	105.3	98.2
Current expenditure of government institutions	31.6	29.1	117.5	108.1	102.5	92.1
Settlements with banks	1.8	3.3	86.3	161.6	153.2	187.2
Public debt service	21.7	20.9	120.6	115.9	109.9	96.1
Property expenditure	8.8	6.4	118.6	86.6	82.0	73.0

* Budget for the year 2001, adopted on March 1, 2001.
** Percentages calculated using figures in million zloty.

Source: Ministry of Finance.

Figure 2
Utilisation of government deficit ceiling, 2001



Source: Ministry of Finance.

At year end, this amounted to 32.4bn zloty, as against an original target of 20.5bn, and was over twice as large as in 2000.

The problems afflicting central government finances and the unfavourable development of macroeconomic conditions resulted in a deterioration in the situation of other institutions in the sector of public finances. The reduction in government subsidies also had a negative effect on the finances of the Social Insurance Fund, which was compelled to borrow at the banks, despite the relatively good collectibility of social insurance contributions. Furthermore, contrary to the assumptions of the Budget, which projected that the arrears in the Fund's payments to open-ended pension funds would be paid off in full, these liabilities in fact rose further, topping 6bn zloty (excluding accrued interest). Large deficits were also reported by other special-purpose funds, including the Employment Fund and the Guaranteed Employee Benefit Fund, which had to grapple with soaring expenditure due to the major worsening of the situation on the labour market.

Although government expenditure was trimmed during the year in relation to the original target, it was

Box 1
Budget performance, 2001

March 1, 2001	Budget for 2001 adopted.
May 2001	Ministry of Finance projects that government receipts will be some 6bn zloty less than targetted in the Budget. Restrictions placed on transfer of funds to disbursing agencies.
July 2001	Ministry of Finance projects that shortfall in government receipts may reach 13bn zloty. Parliament therefore enacts revision to the Budget, raising government deficit target by 8.6bn zloty, while lowering planned receipts by same amount and leaving expenditure unchanged. This measure, providing for less funds to be transferred to disbursing agencies without any legal mandate for that reduction, leads to liabilities being incurred by central government. Ah hoc cuts in support grants also cause increase in deficit of local government, and thereby in whole public sector financial deficit.
October 2001	Government blocks expenditure of 8.5bn zloty, authorising ongoing spending cuts relative to amounts previously planned and prohibiting utilisation of special-purpose reserves.
December 2001	Government submits second revision to the Budget, duly adopted by parliament; expenditure and government deficit targets are increased by 3.8bn zloty, which is assigned to settlement of central government payment arrears, including those to Employment Fund and to banks on housing subsidies. Target for receipts remains at unrealistically high 152.5bn zloty.

still very high compared to the previous year. This expenditure amounted to 23.9% of GDP, as against 22.0% in 2000. It can therefore be estimated that the spending carried out by the whole sector of public finances was markedly larger than a year before. Initial estimates indicate that total public spending came to some 44.5% of GDP, compared to 42.7% in 2000. Given the character of public expenditure, it acts to stimulate growth in consumption. At the same time, the retrenchment of government capital expenditure deepened the slide in investment activity. The structure of public spending worsened further last year. A preliminary assessment is that expenditure on property represented around 5.6% of total public spending, whereas in 2000 the corresponding figure was 6.8%, and in 1999 it was 7.2%.

A consequence of the overly lax budgetary policy pursued in 2001 was an unfavourable policy mix that contributed to the slowdown in economic growth. The large public sector financial deficit, in conjunction with low privatisation receipts, led to a substantial increase in government borrowing requirements and a rise in the

role of the banking sector in funding those requirements. This played a part in some of the banks keeping their lending rates high.

Last year's experience highlights the weakness of Poland's system of public finances; more profound reforms of this system were shelved. As a result, it has proved ill-suited to operation in conditions of weakening economic activity, additionally exacerbated by low privatisation revenues. In this situation, a high government deficit poses a danger of exceeding statutory ceilings on the level of the public debt and falling into a debt trap. To avoid these threats, it is essential to carry out deep-going reforms that lower the proportion of rigid expenditure items in the national budget and allow the government deficit to be reduced.

1.3. Domestic supply

Gross value added rose 0.9% in 2001. This slower growth was related to flagging growth in domestic demand, particularly investment demand. For the second time in succession, last year brought a decrease in value added in construction, now aggravated by a decrease in industry as well. By contrast, agricultural output increased after two years of consecutive decline, and relatively strong growth was sustained in value added in commercial services.

Industrial output was similar to that seen the year before (slipping 0.2%), although growth was reported in 15 of the 29 particular divisions of industry. Production rose in the section of electricity, gas and water supply, while dropping in mining and in manufacturing. Changes in the level and pattern of demand resulted in various divisions finding themselves in different situations. The increase in personal consumption led to a rise in output at those manufacturing companies mainly producing consumer goods (up around 3%). On the other hand, the fall in fixed investment caused a decline in production at companies manufacturing capital equipment (down around 7%). With the expansion of business activity generally halted, sales decreased in those industries manufacturing production supplies (down some 1%). Almost all the divisions that recorded output growth also saw a rapid increase in exports.

The maintenance of relatively fast growth in commercial services was supported by a rise of over 10%

in sales of communication services and a further expansion of financial intermediation and insurance, and also by growth in the divisions of real estate activities, renting, research and development, and other business activities. High turnover was reported in wholesale, which may be connected with the swift growth in exports. By contrast, growth in retail sales was modest, indicating that retailers were lowering their margins. Sales of transport services were only slightly above the level observed in 2000.

The year 2001 brought an accentuation of the fall in construction output already witnessed in 2000. This fall was greater in the case of capital construction works, and smaller in repair services. While output was down in all groups of construction activity, the drop was sharpest in site preparation. In 2000, companies involved in this activity had registered a steep, 23.6% increase in output.

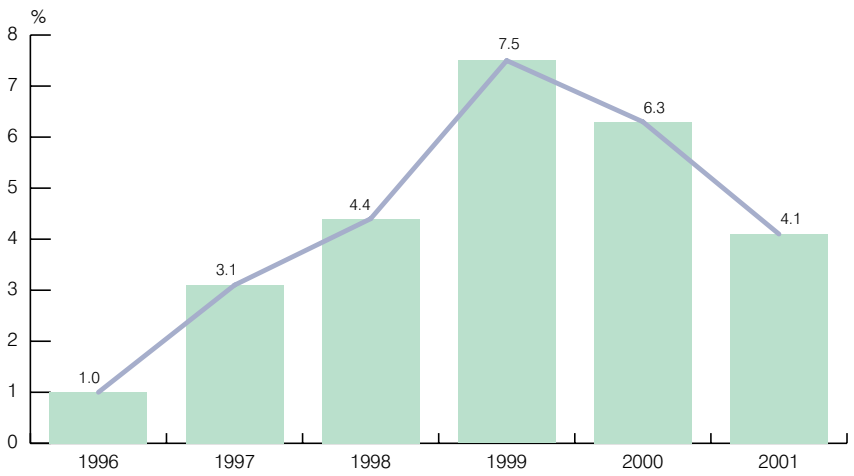
Having come down for two years previously, gross agricultural output rose in 2001. An increase was seen in both crop and livestock production. Higher crop production was the end result of much larger harvests of grain and fruit than in the previous year, combined with smaller crops of potatoes, sugar beet and vegetables. In livestock farming, a decline was seen in the production of fat cattle and pigs, with a considerable increase in poultry production. Milk production was up on the year before.

2. FOREIGN TRADE & THE BALANCE OF PAYMENTS

The year 2001 saw a continuation of the restoration of external equilibrium within the Polish company, a process begun the previous year (cf. Fig. 3). This had been made possible in 2000 by two concurrent developments: an improvement in the relationship between domestic investment and savings, and demand and exchange rate conditions in 1999 that had promoted growth in Polish exports. In 2001, further progress was made in the relationship between investment and savings[4]. At the same time, however, sales opportunities abroad shrank (cf. Fig. 4). This was because the growth of import demand in the euro area weakened (cf. Table 5), as did the competitiveness of Polish exports to this region, due to zloty appreciation in both nominal and real terms (cf. Fig. 5). Nonetheless, given the lagged response of exports to movements in

[4] Cf. Appendix 1, "Balance of investment and savings, 2001".

Figure 3
Current account deficit as proportion of GDP, 1996–2001

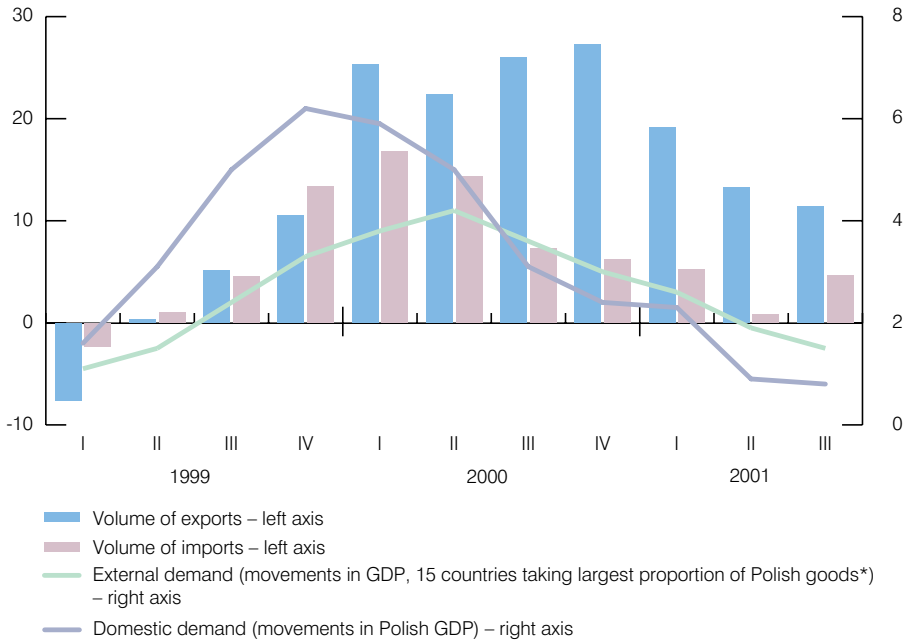


Source: NBP.

Figure 4

Movements in export & import volumes vs. movements in external & domestic demand

(percentage change on corresponding period previous year, constant prices)



* Weighted by structure of Polish exports.

Source: GUS, Bloomberg; NBP calculations.

Table 5

Growth in GDP & its components, euro area and Germany

(percentage change on corresponding period previous year, constant prices)

	Euro area					Germany				
	2000	2001				2000	2001			
		Quarters								
	IV	I	II	III	IV	IV	I	II	III	IV*
Gross domestic product	2.8	2.4	1.6	1.4	0.6	2.5	1.8	0.6	0.4	0.0
Domestic demand	2.2	1.7	1.1	0.8	-0.1	2.1	1.1	-0.2	-1.3	-2.0
Personal consumption	1.9	2.0	1.7	1.7	1.6	0.7	1.5	1.2	1.3	1.0
Social consumption	1.6	2.0	1.9	2.1	1.8	0.9	1.5	1.6	1.4	1.8
Gross fixed investment	3.2	1.8	0.3	-1.1	-1.9	1.7	-1.7	-3.5	-5.1	-6.6
Movements in inventories**	0.4	-0.2	-0.1	-0.2	-0.4	1.0	-0.2	-0.3	-1.1	-1.6
Exports	12.0	8.6	5.6	1.8	-1.8	14.3	9.0	7.3	4.9	-0.1
Imports	10.7	7.4	4.0	-0.3	-3.6	13.4	7.2	5.2	0.0	-6.0

* Bundesbank figures.

** As percentage of GDP.

Source: Eurostat.

Box 2
Synchronisation of business cycles within the global economy

A characteristic feature of the state of the international economy in 2001 was the sharp, parallel weakening in business activity that took place in the economically most important regions of the world. In contrast to the first half of the 1990s, the business cycle in the USA and the euro area has in recent years become more synchronised (cf. Fig. A). In 2001, this synchronisation, strongest with respect to investment demand, developed markedly, to include a larger number of economies (cf. Fig. B). The forecasts for the development of the world economy made in 2000 proved off target*, while those made in 2001 were systematically revised downwards for all countries (cf. Fig. C).

The synchronisation of movements in world economic cycles is rooted in the greater integration of particular economies and their increasing resemblance**. One expression of this is the decreasing amplitude of fluctuation as regards GDP within the group of the world's largest economies. This process, observable over the last 20 years, is linked to structural factors, including:

- the relative increase in the contribution of services to GDP (this sector is marked by lower output volatilities),
- the reduction of corporate inventory levels, largely thanks to the development of the IT/ telecommunications sector, which has significantly lessened the impact of inventories on movements in GDP,
- the reduction in the volatility of consumer demand (the "smoothing" of that demand), a development more distinctly visible in the West European economies,
- an improvement in the effectiveness of macroeconomic policy, reflected in a better coordination of monetary and fiscal polices over the course of the business cycle.

The globalisation of the business cycle has also been made possible by the intensification of trade and investment links between particular countries and regions. This is mirrored in the increase in the proportion of trade carried on within trans-national corporations, which fund their investment on the international capital market***. These processes facilitate the transmission of shocks from one economy or region to another. A major role in this is also played by the increasingly strong interrelationship of corporate and consumer expectations among the largest world economies.

The development of Poland's external economic environment in 2001 was affected by the consequences of the shocks of the years 1999–2000, which first led to a sharp fall in demand in the United States. These shocks comprised the rise in world oil prices, the collapse of the IT/telecoms boom and accompanying steep drop in world share prices (cf. Fig. D), the tightening of monetary policies, and then on top of all that, in September 2001, the terrorist attack on the USA. The further transmission of these shocks was additionally reinforced by circumstances specific to particular regions. For example, in Western Europe the slackening of growth was also connected with the effects of "mad cow" disease, the Japanese recession was aggravated by structural factors, while the slump in South-East Asia was associated with plunging exports of IT products.

The US recession exerted its strongest impact on the economy in Germany (cf. Fig. E), which is Poland's largest sales market (cf. Fig. F). German investment demand went down 4.1% in 2001, whereas in 2000 it had gone up 2.3%****. This was the result of the rapid expansion of trade and investment links between the US and German economies in the second half of the 1990s (cf. Fig. G) and a strong correlation of economic expectations (cf. Figs. H and I). The scale of this has been examined using a lag distribution model. The analysis in question concerned four measures: GDP growth, industrial output growth, the CLI (the OECD index of leading indicators) and the consumer confidence index for the period 1996–2001*****.

The coefficient of determination R^2 (see table below) indicates that the evolution of US GDP explains 36% of the volatility in German GDP. For industrial output, the CLI and the consumer confidence index, the corresponding figures were 55%, 59% and 82%. The findings of this research demonstrate that changes in the United States lead those in Germany by around one to two quarters******.

---

* For example, IMF forecasts in October 2000 and December 2001 indicated, respectively, that GDP growth in 2001 would come to 3.2% and 1.0% in the USA, 1.8% and minus 0.4% in Japan, 3.3% and 0.5% in Germany, and 3.4% and 1.5% in the euro area. Actual growth in 2001 was 1.1% in the USA, minus 0.4% in Japan, 0.6% in Germany and 1.4% in the euro area.

** *Cf. World Economic Outlook*, October 2001, IMF; *OECD Economic Outlook*, November 2001; and *Economic Survey of Europe*, no. 2/2000, ECE UN.

*** These processes were reinforced by the IT/telecoms revolution, which is expressed, among other things, in the increased share of IT products in world trade (rising from 7.5% in 1990 to 11% in 1999), in the investment expansion abroad carried out by IT companies (examples include Intel, Cisco, IBM, Motorola, Sony, Ericsson or Nokia), and in the growing correlation between these companies' share prices, which from the mid-1990s has been greater than in other sectors.

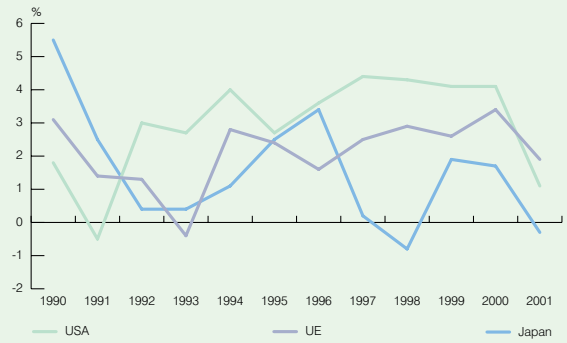
**** Investment in the sector of machinery and equipment fell even more sharply in this period, down 3.4% as against an increase of 8.7% in 2000.
***** In the first stage, the variables were suitably differentiated, to achieve a zero order of integration. In the second stage, the relationships were examined in line with a modelling methodology "from general to specific", assuming a maximum lag of three quarters.
****** Similar findings were produced by studies at the DIW institute in Berlin; cf. *Wochenbericht des DIW Berlin*, no. 1-2/2002.

Table
Interrelationship between German and US business cycles

	GDP	Industrial output	CLI	Consumer confidence
Lag (quarters)	0 and 2	1	0 and 1	2 and 3
R^2 (%)	36.4	54.9	58.7	81.6

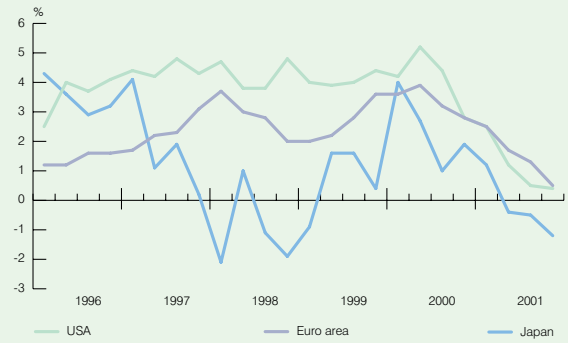
Source: NBP calculations based on Bloomberg figures.

Figure A
Movements in GDP, largest world economies
(compared to previous year)



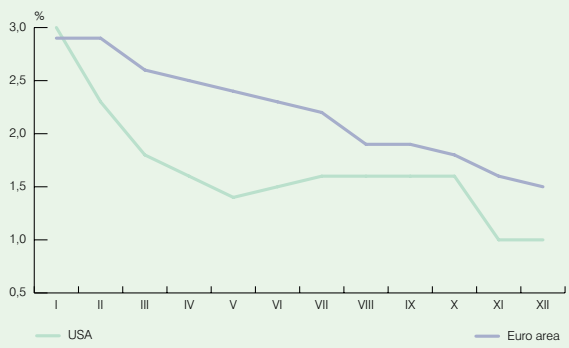
Source: Bloomberg.

Figure B
Movements in GDP, largest world economies
(compared to corresponding quarter previous year)



Source: Bloomberg.

Figure C
Evolution of GDP forecast consensus for USA & euro area, 2001 *(GDP change on 2000)*

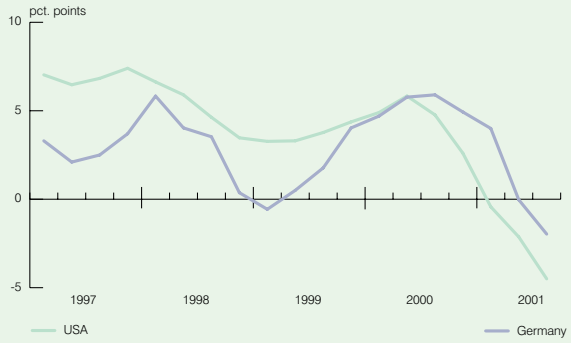


Source: Bloomberg.

Figure D
Synchronisation of stock exchange indices

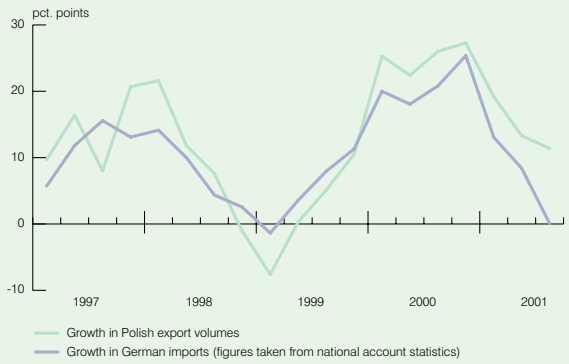
Source: Bloomberg.

Figure E
Annual growth, industrial output



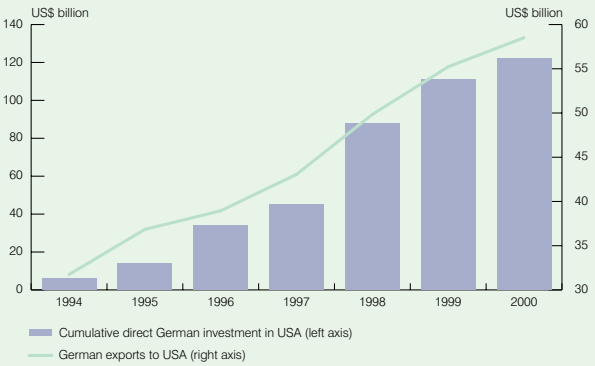
Source: Bloomberg.

Figure F
German import growth and Polish export growth



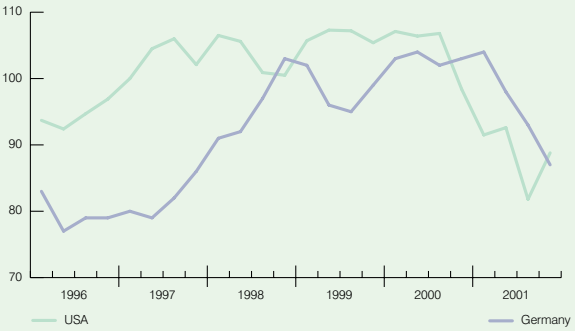
Source: GUS, Statistisches Bundesamt.

Figure G
Capital & trade links between Germany and the USA



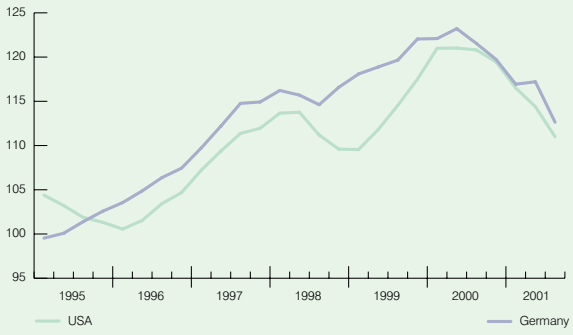
Source: Bloomberg.

Figure H
Consumer confidence indices



Source: Bloomberg.

Figure I
OECD index of leading indicators



Source: OECD.

external demand and in zloty exchange rates (delays of two and three quarters, respectively), export growth in the first half of last year was still conditioned by the more favourable environment obtaining in 2000. This growth was also propped up by industries dominated by foreign capital. In addition, the rise in sales abroad, including unregistered sales, was encouraged by demand continuing to run high on the markets of Central and Eastern Europe.

Import growth in the euro area, having accelerated distinctly in 2000, gradually waned in the course of last year. To a large extent, a contributing factor in this was the decline in investment and inventories in Germany (cf. Table 5).

The weakening of euro area import demand was greater with respect to machinery and transport equipment; in the third quarter of last year, imports in this product group fell 13% by value. Lower industrial and construction output also depressed EMU imports of production supplies. Exports of Polish timber and timber products declined in absolute terms, while there was markedly slower growth in exports of metallurgical products.

As regards Poland's most important export markets in Central and Eastern Europe, the economies there were in better shape, although they, too, worsened during the year. In the first three quarters of last year, Russia's GDP grew 5.4%, while the value of that country's imports (in US dollar terms) climbed 21.2% (whereas the corresponding increase over the whole of 2000 had come to 8%)[5]. During the same period, Czech GDP rose 3.6%, accompanied by import growth of 14.8%[6]. The expansion of the import capacity of these two economies helped invigorate Polish exports to this region. In the first eleven months of 2001, Polish exports to Russia rose 22.1%, while those to the Czech Republic increased 19.5% The stronger economy in Russia, which also stimulated demand growth in Ukraine and Belarus[7], was largely responsible for the

[5] Source: Ministry of Economic Development of the Russian Federation.

[6] Russia and the Czech Republic are Poland's largest export and import markets within Central and Eastern Europe.

[7] For Ukraine and Belarus, Russia remains the chief export and import market; in 2000, Russia accounted for 35% of the foreign trade of Ukraine and 59% of the foreign trade of Belarus.

Table 6
Effective zloty exchange rates, 1999–2001

Zloty exchange rate index	1999	2000	2001
Nominal	-8.8	2.2	8.8
Adjusted by CPI	-3.2	10.1	12.1
Adjusted by PPI	-4.3	5.8	7.8
Adjusted by unit labour costs	-7.6	-3.8	10.6
Adjusted by export prices	-1.5	1.5	4.2
Real exchange rate adjusted by export prices to real exchange rate adjusted by unit labour costs	6.7	5.4	-5.5

„+" signifies zloty appreciation.
Source: NBP.

increase in Poland's surplus on the balance of payments item "unclassified current transactions".

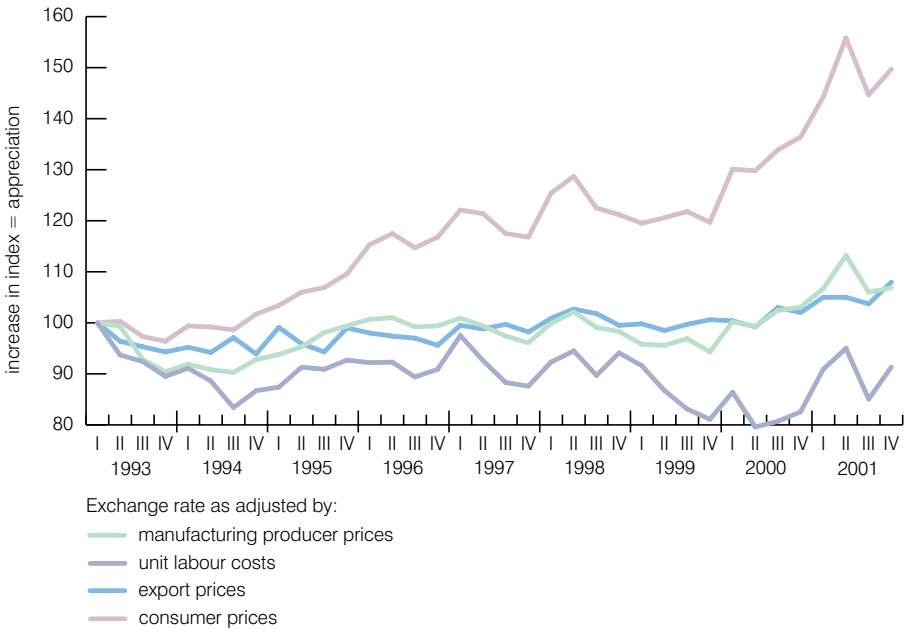
The rapid, although ebbing growth of exports in the years 2000-2001 was assisted by the improvement in the competitive position of the Polish economy in 1999–2000, particularly as regards unit labour costs (cf. Table 6).

In 2000, unit labour costs in Poland came down over the year by an average of 7%, while these same costs remained steady abroad. This decline in Poland was primarily attributable to a reduction in the employed labour force together with rapid output growth, which was also combined with slower wage growth. Last year, the consolidation of disinflationary tendencies meant that prices in Poland now rose at a similar pace to those abroad, while in the case of producer prices this rise was even smaller. Compared to the situation abroad, there was only a modest increase in domestic unit labour costs in 2001 (up 1.5%). The fact that they went up compared to 2000 stemmed from the decline in Polish GDP growth[8]. However, the strong nominal appreciation of the zloty last year offset the positive trends in relative prices, and real zloty exchange rates, as adjusted using all the deflators, strengthened (cf. Fig. 5).

In measuring the relative profitability of Polish export production compared to that of export production at Poland's trading partners, the relevant index of zloty

[8] It should be noted that unit labour costs are sensitive to changes in the level of business activity.

Figure 5
Real effective zloty exchange rates, 1993–2001
(quarterly figures, January 1993 = 100)



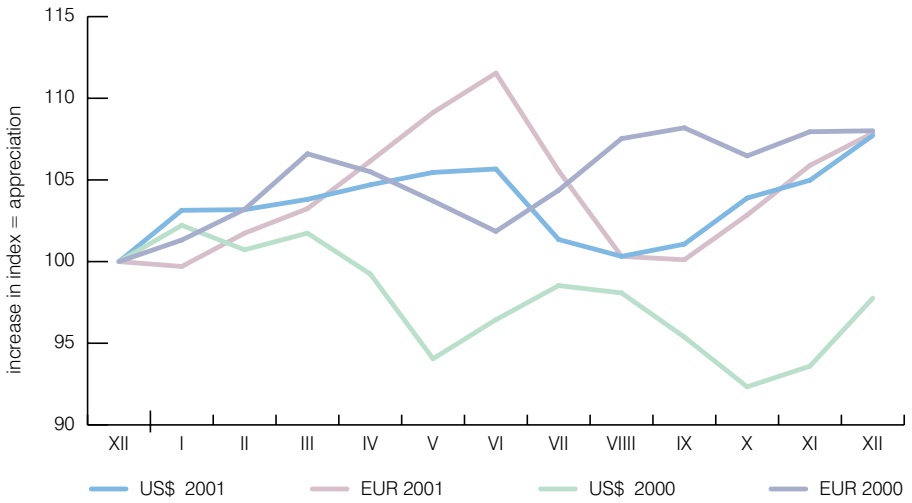
Source: NBP.

exchange rates deteriorated in 2001 compared to the previous year[9]. The decline in this index signifies that the growth of the profit margin on export receipts slowed compared to the growth of costs incurred by producers. In 2001, the growth rate of export transaction prices was 6.4 points lower than that of unit labour costs. These indications of exporters recording shrinking profitability in 2001 are confirmed by analyses of their financial condition carried out by GUS on the basis of the F-01 quarterly company reports.

The worsening competitive environment for Polish exporters was strongly impacted by the softening of the euro against the dollar, a process that accentuated from the launch of the single currency onwards. In January 1999,

[9] Relative profitability is calculated here by the relationship of the real effective exchange rate as adjusted by export prices to the real effective exchange rate as adjusted by unit labour costs.

Figure 6
Real zloty exchange rates* against currencies of major trading partners, 2000–2001
(December previous year = 100)



* Adjusted by PPI

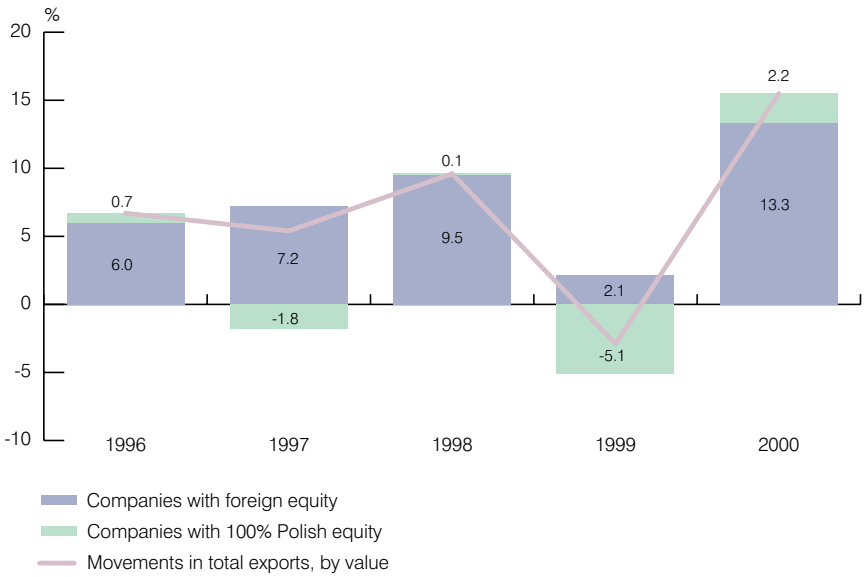
Source: NBP.

the euro was trading at an average of US$ 1.16, over the whole of 1999 this average was US$ 1.07, in 2000 it stood at US$ 0.92, while in 2001 it came to US$ 0.90; this represents a weakening of over 20% in the space of three years. At the same time, the exchange rate for the zloty against the euro became increasingly contingent on euro/dollar rates (see subsection 6.3.2., "Exchange rates").

In 2001, the exchange rate for the zloty against the euro, deflated by manufacturing producer prices, firmed 4.5%, having strengthened 5.4% the year before. By comparison, on the same basis the zloty gained 3.8% against the dollar in 2001, while in 2000 it had lost 2.5% (cf. Fig. 6). Pressure for appreciation was restrained in 2000 by the acceleration of price growth abroad, which continued in the first half of 2001. In the latter half of last year, however, producer prices began coming down abroad as well, which reinforced the real appreciation of the zloty, particularly in the fourth quarter.

During the first three quarters of the year, Poland's terms of trade were favourable (see subsection 4.2., "External prices"). A 25% increase in the dollar price of coal led to a rise in the value of exports of mineral fuels,

Figure 7
Share of companies with foreign equity in growth of total Polish exports
(compared to previous year)



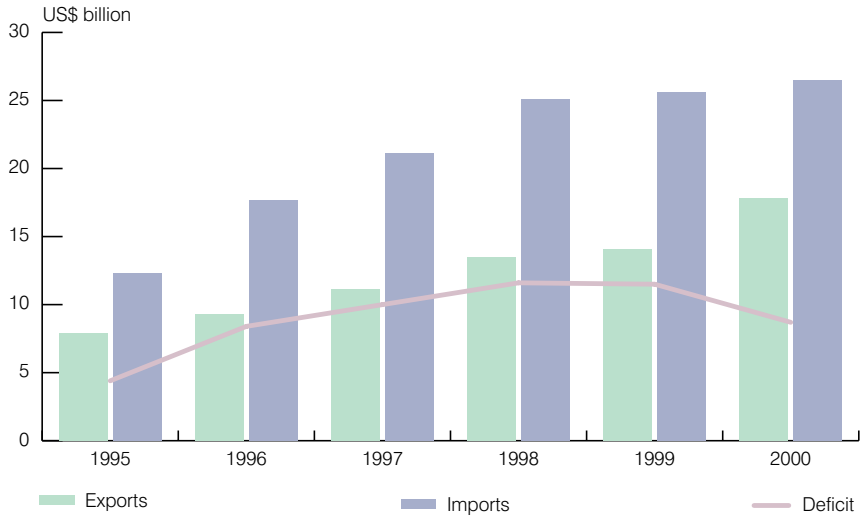
Source: Institute for Foreign Trade Cycles and Prices; NBP calculations.

contributing 1.5 points to the faster growth of total exports. At the same time, lower world oil prices, together with a decrease in the volume of oil imports, shaved 0.7 points off the pace of total import growth.

One factor behind strong export growth in both 2000 and 2001 was the increasing share of Polish foreign trade carried on by companies with foreign equity operating in Poland. While in the mid-1990s these companies had primarily been responsible for import growth, in the years 2000-2001 they played a large part in boosting export growth (cf. Figs 7, 8 and 9)[10]. In 2000, these companies accounted for 56% of Polish exports by value, and were the source of 86% of export growth. Over the first eleven months of 2001, export growth remained high in those industries where foreign capital

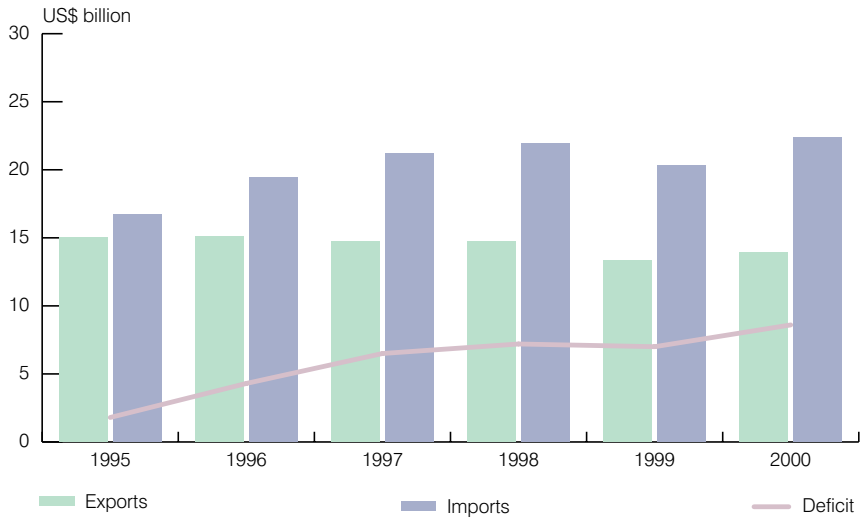
[10] The sharp increase in exports by companies with foreign equity as of 2000 was the result of operations being begun in Poland by large international corporations solely geared towards export production; this included Isuzu Motors Ltd, at their plant in Tychy, and Volkswagen Motor Polska, at Polkowice Dolne.

Figure 8
Foreign trade conducted by companies with foreign equity, 1995–2000



Source: Institute for Foreign Trade Cycles and Prices.

Figure 9
Foreign trade conducted by companies with 100% Polish equity, 1995–2000



Source: Institute for Foreign Trade Cycles and Prices.

predominates, which include the manufacture of TV sets, and of vehicle engines and parts. The increase in exports in these two groups of activity alone hoisted overall export growth over this period by 3 points.

Companies with foreign equity suffer comparatively less than those with 100% Polish equity from a deterioration in the terms of trade or in the exchange rate environment, and are also more resistant to any decrease in external demand. This is because they generally have a guaranteed market for their products, since they are either sub-contractors supplying components to other affiliates of the same corporation, or they deliver finished goods directly to the sales network run by their head office. Any losses that they might take on the lower prices of their products can be offset by the profits of other undertakings affiliated to the parent corporation. Companies with foreign equity are also in a better position to access cheaper foreign currency loans, while those operating in Poland's "special economic zones" benefit from a relatively broader range of business incentives, particularly tax relief.

Export growth last year was also fuelled by certain industries with a small proportion of foreign direct investment. The product group that experienced the highest increase in the value of its exports last year was ships. Growth in export sales of over US$ 800m in this group (almost twice that recorded the previous year) contributed 2.8 points to total export growth. In recent years, exports of ships have shown sizeable fluctuations in value that impact movements in export growth overall. This is related to the specific nature of the shipbuilding industry, where the value of a single order is very large. The export of ships responds with some delay to swings in current business activity, since the lead times for completing orders are much longer than in other industries. However, the order books of Polish shipyards are affected more quickly, as foreign shipowners react to changes in the business cycle.

The decline in the level of domestic demand last year (see Section 1, "Domestic demand and supply"), led to a sharp slowdown in imports of goods and services[11],

[11] The time lag in the response of imports to movements in domestic demand and exchange rates is less than one quarter. The impact on import growth of zloty appreciation and the relatively rapid export growth still being recorded in 2001 was cancelled out by the fall in domestic demand.

while at the same time lending impetus to the process already seen in 2000 of production being "crowded out" of the domestic market and exported instead. There was also a widening disparity between the growth rates of imports assigned to export production and those directed to the domestic market. The determining factors behind the positive growth of imports last year were the high unit consumption of imports in export production, and zloty appreciation. This was manifest in the marked increase in imports in industries where there is a high proportion of foreign investment (thus, higher exports of TV sets were accompanied by higher imports of cathode-ray tubes, while higher exports of vehicle engines were paralleled by higher imports of components for those engines, etc.). The fourfold increase in imports in the product group that includes ships (a rise of over US$ 500m) was linked to the greater exports of these products and accounted for 1.1 points of overall import growth[12]. By contrast, low domestic demand produced a pronounced decrease in imports by industries that principally sell to the domestic market. Imports of vehicle parts, for example, were down 8.5% on 2000, which was mirrored in falling output in the car industry[13].

The upshot of the various factors outlined above was that the reduction of Poland's trade growth in 2001 was much sharper in imports than in exports. This is most clearly illustrated by the statistics on physical trade volumes (cf. Figs. 4 and 10). By volume, import growth tailed off almost 75% in the first three quarters of 2001 compared to the corresponding period of the previous year, while in the case of exports this decline was less than 50%[14].

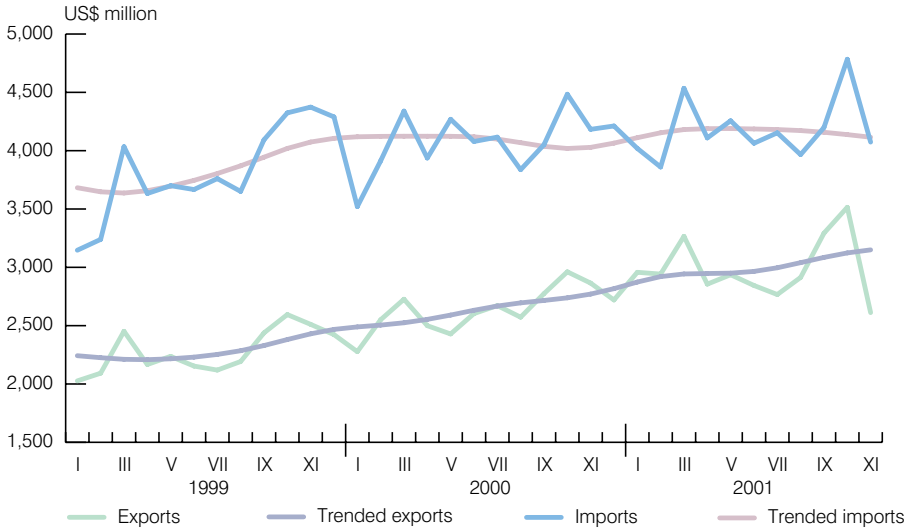
Balance of payments statistics, on a cash basis (cf. Fig. 11) show the growth in export receipts in 2001 holding steady at the previous year's level (7.1%), while import payments rose only 1.3% (compared to growth

[12] This was probably related to inclusion of ship repairs within foreign trade figures.

[13] It should be noted that the weakening of demand last year concerned similar sectors of production both at home and abroad, which aggravated the decline in their output.

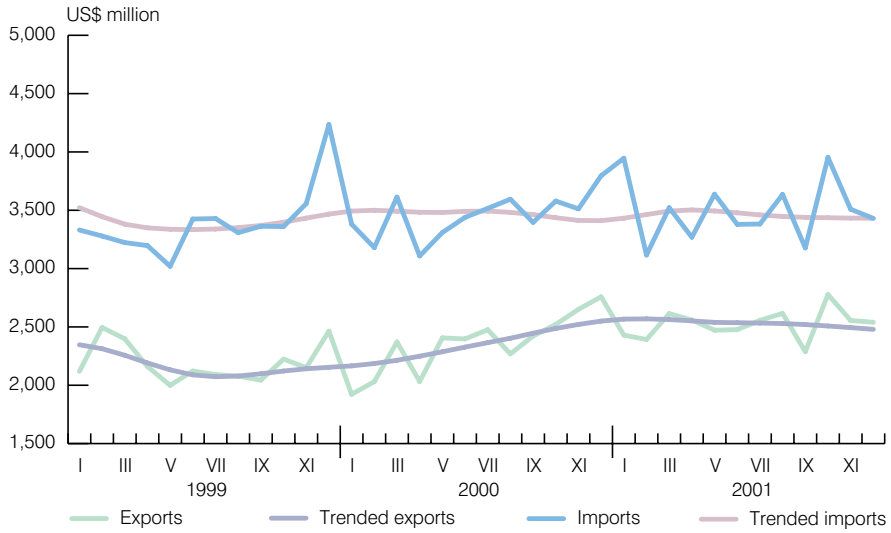
[14] The swift growth of Polish exports is also indicated by figures published by Eurostat. From January to September, EU imports from Poland (as expressed in US dollars) rose 10.5%, while exports to Poland edged up only 0.8%. Growth in EU imports from Poland was similar to that in imports from other countries of Central and Eastern Europe. For example, imports from the Czech Republic increased 12.9%, while those from Hungary were up 9%.

Figure 10
Foreign trade, customs statistics (monthly figures)



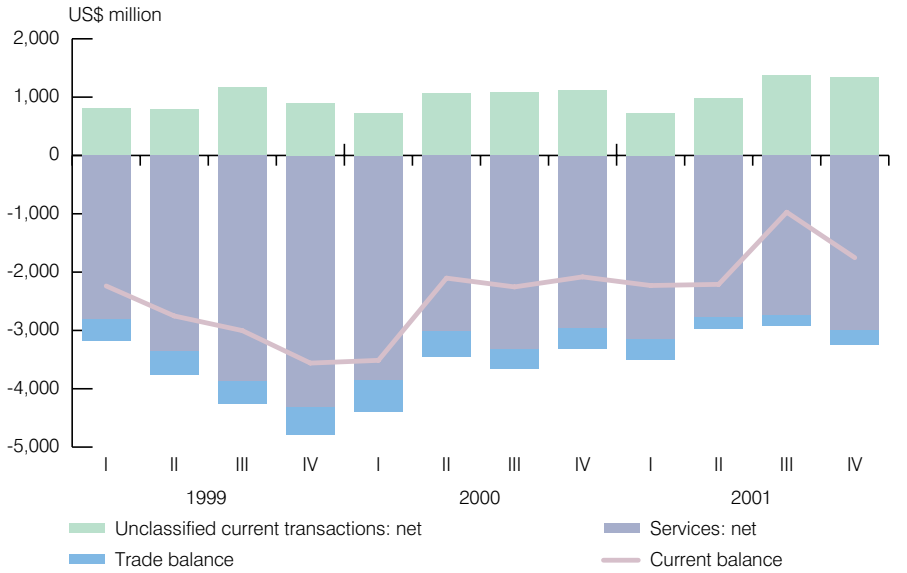
Source: GUS; NBP calculations.

Figure 11
Foreign trade, cash basis (monthly figures)



Source: NBP.

Figure 12
Current balance, 1999–2001 (quarterly figures)



Source: NBP.

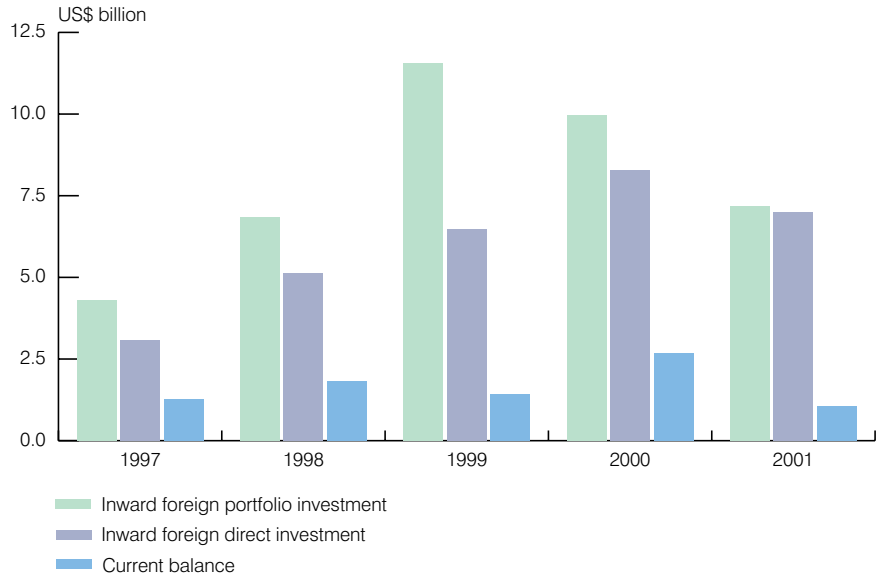
of 1.7% in 2000). It should be stressed in this regard, however, that export growth systematically declined during the year; while first-quarter exports were up 17.6% on the corresponding period of 2000 (in dollar terms), in the fourth quarter they were down 0.7%.

This trend is portrayed even more clearly by the figures on physical trade volumes. While year-to-date growth in the volume of exports at the end of June 2001 stood at 16.1% compared to the same period twelve months earlier, by the end of November this growth had slipped to 11.6% year-on-year (growth in exports by volume was severely reduced in this period by a 12.9% fall in exports in November).

As Figure 12 shows, the narrowing of the current account deficit last year was assisted by movements in all items of current transactions, on a cash basis: trade in goods (accounting for 54% of the decrease in the deficit), trade in services (25%) and unclassified current transactions (15%)[15]. The improved performance on the

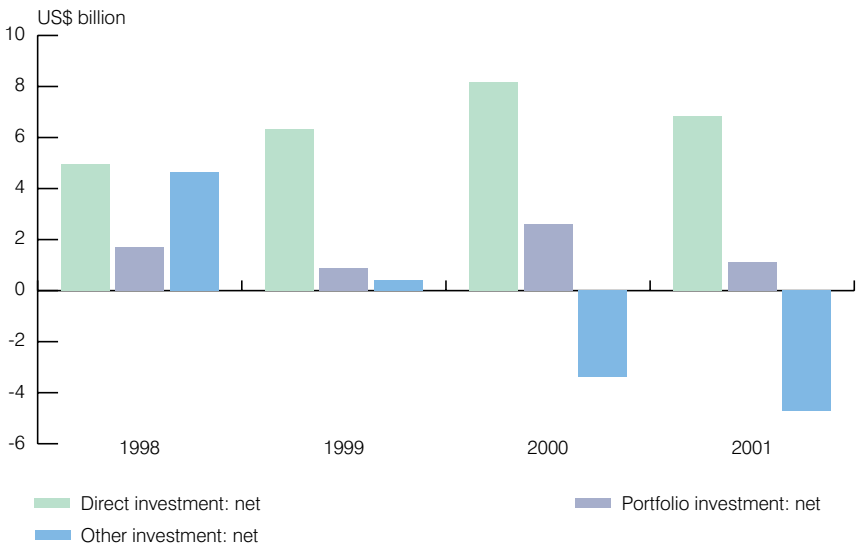
[15] It should be underlined that the latter item only partly comprises trading activity ("unregistered" trading).

Figure 13
Current deficit and impact of foreign investment



Source: NBP.

Figure 14
Structure of financial account (balance of payments)



Source: NBP.

current account was also helped by an increase in the surplus on current transfers (up 18%)[16].

The end result of all these developments was that the current account deficit amounted to US$ 7.2bn in 2001, falling almost 30% compared to 2000. As a proportion of GDP, the deficit dropped to 4.1% last year, from 6.3% the year before. The financing of the shortfall on the current account also improved very appreciably. The share of the current account deficit funded by inward direct investment rose from 82.2% in 2000 to 96.7% in 2001 (cf. Figs 13 and 14). Progress was also made in the financing of the current deficit by incoming equity capital[17], which accounted for 81.1% of the deficit last year, as against 72.9% a year earlier.

The inflow of foreign capital in the shape of direct investment decreased last year compared to 2000, coming down to US$ 7.0bn as against US$ 8.3bn. This was primarily due to a decline in privatisation receipts, which were equivalent to 1/4 of those obtained in 2000 and 1/2 of those received in 1999[18]. Credits received from foreign direct investors remained flat in 2001 at the same level as in 2000, i.e., at around US$ 1.0bn. However, as a proportion of total direct investment, these credits rose to 16.8%, compared to 12.2% in 2000.

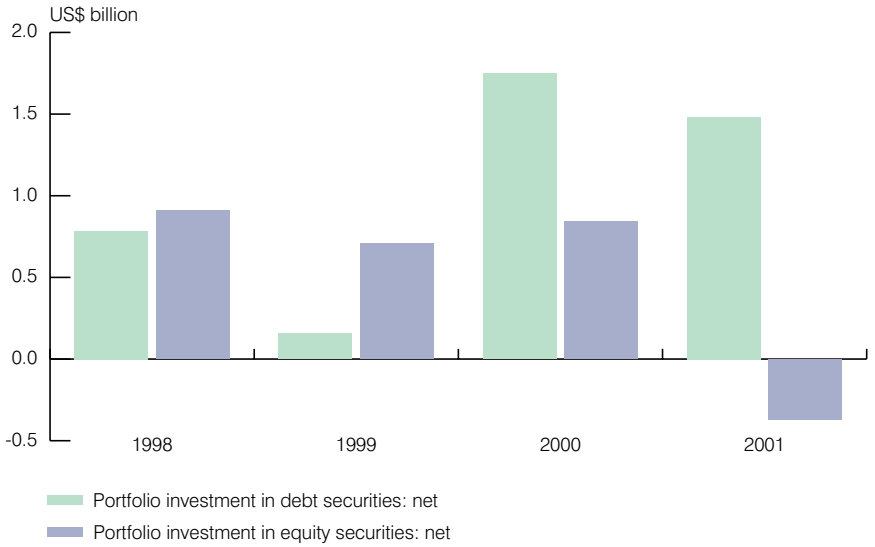
The year 2001 brought a change in the structure of portfolio investment compared to previous years (cf. Fig. 15). Net portfolio investment in equity securities came to minus US$ 0.4bn, which was over US$ 1bn less than the average in the years 1998-2000. This decrease was principally caused by the downturn on equity markets and the worldwide trend towards investing in safe Treasury paper. Net portfolio investment in debt securities came down from US$ 1.7bn in 2000 to US$ 1.5bn in 2001. Net investment in Treasuries in 2001 stayed at the high level seen in 2000, i.e., at around US$ 1bn; by comparison, the corresponding figure in 1998

[16] This was connected with an inflow of foreign currency represented by compensation payments to victims of forced labour under the Third Reich.

[17] The net inflow of capital on investments in equity and additional payments to company capital.

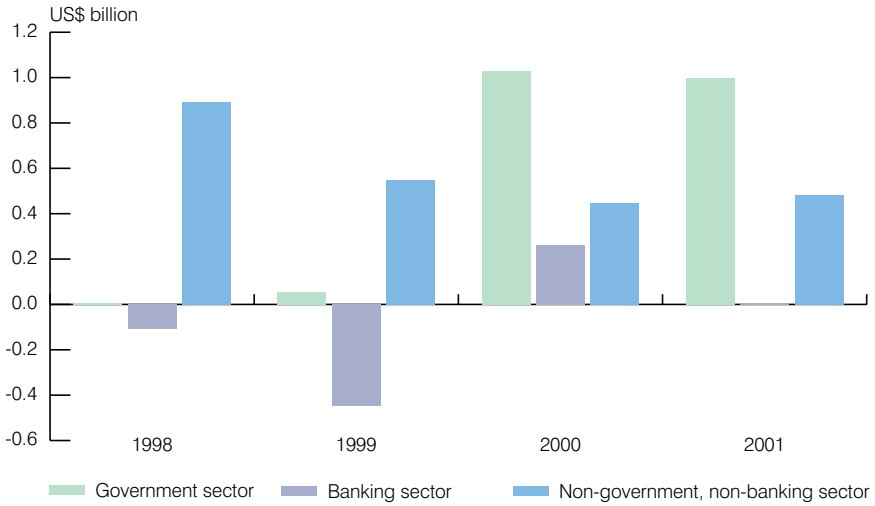
[18] Initial estimates indicate that, of the 6.8bn zloty collected in privatisation receipts, 5.1bn zloty was provided in foreign currencies, which is equivalent to some US$ 1.2bn.

Figure 15
Structure of portfolio investment



Source: NBP.

Figure 16
Sectoral composition of net portfolio investment in debt securities



Source: NBP.

was US$ 6m, while in 1999 it was US$ 56m (cf. Fig. 16). This reflected larger issues of Treasury bonds on the domestic market, the result of the mounting government deficit and the maintenance of differentials between interest rates in Poland and abroad.

As was the case a year earlier, an increase was seen last year in the foreign assets of Polish banks held at banks abroad. The fact that Polish banks placed funds at foreign institutions was related to the inflow of foreign capital to finance purchases of Polish Treasuries and also to privatisation transactions, given that there was no longer any opportunity to carry out exchange operations with the NBP.

External indebtedness, although going up US$ 0.6bn in 2001 relative to December 2000, still did not constitute a threat to Poland's financial stability. This increase in debt, recorded primarily in the non-government, non-banking sector (where it rose US$ 3.6bn), was largely the result of companies effectively financing themselves abroad. Short-term indebtedness remained stable as a proportion of overall foreign debt (at around 14%).

Table 7
Safety ratios

Safety ratio	1998	1999	2000	2001
Current balance/GDP (%)	- 4.3	- 7.6	- 6.3	-4.1
Trade balance/GDP (%)	- 8.7	- 9.4	- 8.4	-6.6
FDI/Current balance* (%)	74.8	55.9	82.2	96.7
Incoming equity capital/Current balance * (%)	49.1	37.5	72.9	81.1
Current balance less FDI/GDP * (%)	-1.2	-3.4	-1.1	-0.1
Portfolio investment/Official reserve assets (%)	4.9	5.7	9.4	4.2
Current balance/Official reserve assets (yrs)	4.0	2.2	2.8	3.7
Foreign debt service/Exports (%)	.	39.0	41.7	59.3
Short-term external indebtedness/Total external indebtedness (%)	14.2	17.1	13.7	14.3
Corporate external indebtedness/Total external indebtedness (%)	31.1	38.1	43.2	48.0
Official reserve assets as months of imports	7.5	7.5	8.0	7.6

* It should be noted that the improvement registered in 2001 in ratios that refer to foreign direct investment was to some degree linked to the capital inflows arising from privatisations, particularly that of Telekomunikacja Polska SA (TP SA).

Source: NBP.

The year 2001 saw an improvement in the level of selected safety ratios (shown in Table 7), which indicate the probability of disruptions to financial markets as a result of the scale of external disequilibrium and the way this is financed. Exceptions were the level of short-term debt and corporate debt relative to total external indebtedness, and also the level of import coverage provided by the official reserves.

The deterioration in the ratio of foreign debt service to export receipts is temporary in character. This was caused by an increase in the level of debt service related to the early retirement of debt to Brazil, part of Poland's indebtedness to the Paris Club.

3. THE LABOUR MARKET

The year 2001 brought a further decline in employment and a substantial rise in the number of jobless, including those entering the labour market for the first time. There were various reasons for this, including the inflexibility of the labour market, demographic factors and the slowing of economic growth.

Last year again failed to witness any comprehensive **reforms to increase labour market flexibility** and to support job creation by small businesses.

Amending the Labour Code to make it more flexible, and the introduction of a lower minimum wage for young people beginning employment, together with school leavers and college graduates, would create a system conducive to employers raising staffing levels[19]. Increasing the number of jobs, particularly low-paid jobs that do not require any special qualifications, would also be assisted by varying the minimum wage according to the level of unemployment in particular regions and bringing it down in relation to average employee earnings.

Due to the slower cost-of-living adjustments made to the lowest earnings in recent years, the latter had decreased as a proportion of the average wage within the Polish economy, yet last year this process was halted (cf. Fig. 18). The lowest pay continues to be too high compared to the market price for unskilled labour.

The regulations still in place in Poland, which guarantee a high degree of labour protection (principally via collective agreements, which continue to be strongly centralised above the level of the individual workplace), are at the same time the main barrier to restructuring and optimising staffing at company level. In focussing on protection for those already in employment, they fail to encourage the recruitment of new staff.

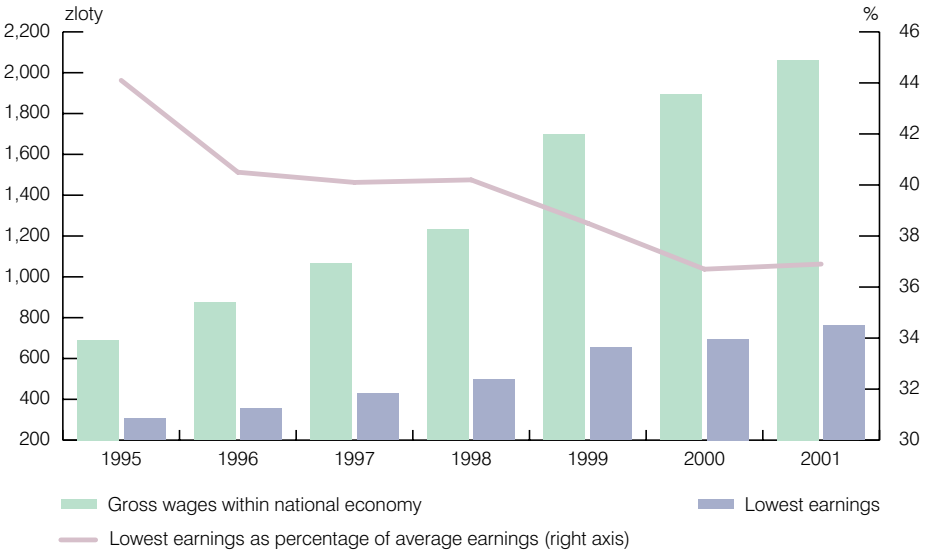
In the years 2000–2001, many young people from the **demographic high** of the 1980s entered the labour

[19] Article 65, para. 4, of the Polish Constitution requires that the determination of the minimum wage, and the method of establishing it, be regulated by statute law. Work is under way to draft such a law; an option being considered is that the level of the minimum wage be negotiated at the Trilateral Commission. By contrast, pursuant to Article 774 of the Labour Code, the lowest earnings are currently set in an ordinance issued by the Minister of Employment and Social Policy.

Figure 17
Growth in employed labour force** (previous year = 100) **and unemployment rate

Source: GUS, statistical yearbooks.

Figure 18
Average vs. lowest employee earnings



Source: GUS; NBP calculations.

Table 8
Unemployment by age group and level of education

	QIV 2000	QIV 2001
unemployment rate by age group, %		
24 and less	34.1	41.1
25–34	16.2	18.0
35–44	13.2	16.0
45 and over	10.7	11.8
unemployment rate by level of education, %		
Higher	4.8	6.4
Secondary vocational, including FE colleges	13.6	16.1
Secondary comprehensive	19.6	22.9
Junior vocational	19.2	22.4
Primary (including uncompleted primary)	20.2	22.6

Source: BAEL Labour Force Survey.

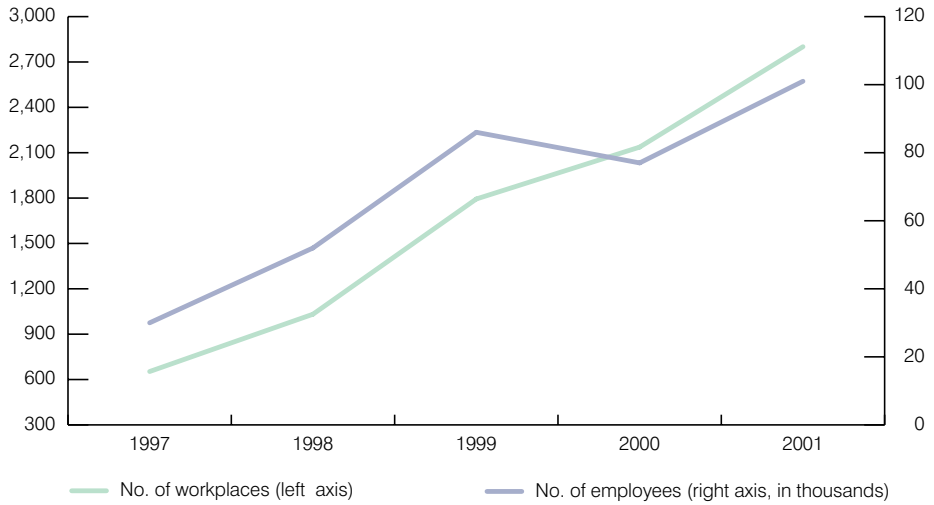
market. This process will continue over the nearest three to four years. However, the fact that an increasingly large percentage of young people are going into further education eases the situation somewhat and helps defer the mounting problem of youth unemployment (cf. Table 8).

The reduction in the employed labour force and increase in unemployment in 2001 was also related to the **slowdown in economic growth** in Poland and among the country's main trading partners. An illustration of the impact of this factor is provided by an estimate of the divergence between the actual rate of unemployment and the "natural" rate of unemployment. After all, movements in the rate of unemployment within an economy can be traced to two sources: to shifts in the natural rate of unemployment, reflecting developments on the supply side, and to deviations from a given natural rate of unemployment, which reflect fluctuations in aggregate demand.

Estimates performed at the NBP indicate that in the years 1999-2001 the natural rate of unemployment went up from around 12% prior to 1999 to around 15% in 2001[20], one reason being the entry to the labour market

[20] M. Dudek, NBP Research Department, mimeograph. These findings are also confirmed using another method in a study by A. Kocięcki; see *Informacja na temat naturalnej stopy bezrobocia w Polsce* ["Report on the natural rate of unemployment in Poland"], NBP Department of Statistics, mimeograph.

Figure 19
Redundancy plans
(end of Q4)



Source: BAEL Labour Force Survey.

Figure 20
Movements in labour productivity, unit labour costs and productivity remuneration in industry
(corresponding quarter previous year = 100)

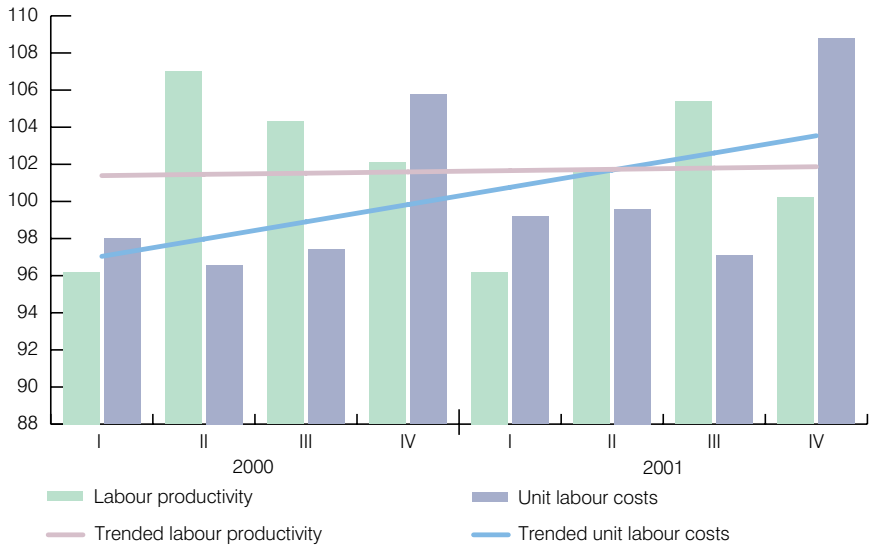
Source: GUS; NBP calculations.

of people from the demographic high of the 1980s. The deviation of the actual rate of unemployment from the natural rate in 2000 thus stood at some 2.4 points, which is attributable to demand dislocations which reduce inflationary pressure.

The pattern of change within the employed labour force in 2001 mirrored the variations in the financial situation of particular sectors of the economy. The fall in employment was sharper than the year before in construction above all, but also in many other divisions of industry which account for a smaller proportion of the employed labour force. Employment even declined in the sector of commercial services, which up to 2000 was still absorbing those who had lost jobs in other areas of the economy. An increasing number of employers were announcing redundancy plans (cf. Fig. 19)

Given the downturn in Poland and its surrounding economic environment, and in the context of high non-wage payroll costs, in 2001 companies were forced to shed jobs as their basic cost-cutting strategy. These

Figure 21
Movements in labour productivity and unit labour costs
(previous quarter = 100)



Source: GUS; NBP calculations.

Table 9
Corporate sector employment, by section and division, 2000–2001

	I-XII 2000			I-XII 2001		
	Average employment, thousands	Change* on previous year		Average employment, thousands	Change on previous year	
		thousands	%		thousands	%
Total, corporate sector of which:	**5,312**	**-181**	**-3.3**	**5,138**	**- 174**	**-3.3**
Total, industry	**2,770**	**- 186**	**-6.3**	**2,629**	**- 141**	**-5.1**
Coal & lignite mining	190	- 30	-13.8	176	- 14	-7.4
Manufacturing	2,300	- 147	-6.0	2,181	- 119	-5.2
of which:						
food products & beverages	433	- 30	-6.4	411	- 22	-5.1
chemical products	109	- 9	-7.9	103	- 6	-6.1
basic metals	99	- 22	-18.5	83	-15	-15.4
fabricated metal products	159	- 4	-2.3	158	- 1	-0.2
machinery & equipment	212	- 24	-10.2	195	- 17	-8.0
motor vehicles, trailers						
and semi-trailers	95	- 4	-3.7	85	- 10	-9.8
Electricity, gas						
& water supply	185	- 8	-4.1	179	- 6	-3.3
Construction	**523**	**- 23**	**-4.2**	**481**	**- 42**	**-8.0**
Distribution & repairs	**839**	**+ 18**	**+2.2**	**828**	**- 11**	**-1.2**
Hotels & restaurants	**82**	**+ 2**	**+2.1**	**83**	**+ 1**	**+2.1**
Transport, storage						
& communication	**578**	**- 24**	**-4.0**	**550**	**- 28**	**-4.9**
of which: post & telecommunications	182	- 2	-0.8	181	- 1	-0.5
Real estate & business activities	**379**	**+ 37**	**+10.7**	**404**	**+25**	**+6.6**

* As of 2000, GUS reporting requirements began to apply to undertakings employing a staff of over nine (previously this had been five). As a result, to calculate the decline in employment in absolute terms in 2000 compared to 1999, the level of employment in 1999 was restated using the growth rates given by GUS, as calculated on a comparable basis.

Source: GUS; NBP calculations.

downsizing measures meant that, although industrial output growth slowed, companies reported a relatively small rise in their unit labour costs last year (cf. Fig. 20). Nor did any reduction take place in labour productivity growth during this period. However, in spite of the efforts undertaken by businesses, a certain worsening of the relationship between the two was seen compared to the beginning of 2000 (cf. Fig. 21).

4. OTHER SUPPLY FACTORS

4.1. Structural factors

The processes of privatisation, demonopolisation and restructuring that are essential in order to reduce effectively the costs of disinflation to the Polish economy proceeded in 2001 with some difficulty and were behind schedule in relation to previously adopted timetables. This principally concerned such sectors as energy and fuels, coal mining, the iron and steel industry, rail transport or telecommunications services. The financial condition of these sectors and their failure to complete structural reforms have had a major impact on both the development capacity of the Polish economy and on inflation.

The sectors of metal manufacture, rail transport and gas fuels all reported negative profitability last year (reasons for this included high production costs, international competition and the use of obsolete technologies) (cf. Fig. 10). By contrast, coal mining, where restructuring has for many years not yielded the anticipated effects, showed positive earnings both before and after tax. This was possible thanks to the financial restructuring performed from the second quarter onwards (the mines concluded debt relief agreements with the Social Insurance Board and with tax offices, which mainly involved writing off their debt arrears). The profitability of coal mines was also boosted by the rise in hard coal prices.

Most of the sectors analysed here did not fulfil basic safety criteria in terms of liquidity, as measured by their cash ratios[21]. In three of the sectors, however (production of gas, lignite mining and post & telecommunications), these ratios were higher than the normal safety requirement.

In post and telecommunications, rail transport and hard coal mining, short-term liabilities were greater than current assets (in hard coal mining, they were a huge 3.5 times greater, as they had been in 2000). The short-term liabilities of hard coal mining were

[21] Cash and held-for-trading securities to short-term liabilities. This ratio is considered safe when it is around 20%.

predominantly composed of debts to government (on taxes and customs duties) and to the Social Insurance Board (on social insurance contributions). In the remaining sectors, the largest item in these liabilities were accounts payable. The role of short-term loans in financing current assets in these sectors was generally relatively small, and declined last year compared to 2000. The proportion of assets supported by loans was usually no greater that the average within industry as a whole, which in 2001 stood at 21.3% (cf. Table 11).

In 2001, companies in the sectors of liquid fuels, mining, electricity production and distribution, gas production, and postal and telecommunications services operated on markets that were not fully competitive, since

Table 10
Net profitability and cost/sales ratios, selected sectors (%)

		1999	2000	2001
a) net profitability				
b) cost/sales ratio				
Total industry	**a**	**-0.6**	**0.3**	**-0.3**
	b	**99.5**	**98.7**	**99.4**
Hard coal mining & agglomeration	a	-16.3	-7.0	1.0
	b	117.9	107.0	98.4
Lignite mining & agglomeration	a	1.7	0.8	3.0
	b	97.2	98.0	95.2
Manufacture of coke & refined petroleum products	a	3.5	2.8	0.9
	b	95.6	96.3	98.7
Manufacture of basic metals	a	-8.8	-4.3	-11.4
	b	108.5	104.0	111.1
Production & distribution of electricity	a	0.4	0.3	0.3
	b	98.6	98.9	98.8
Production of gas	a	-3.7	-7.0	-3.0
	b	103.6	106.9	102.6
District heating	a	0.4	0.3	0.5
	b	98.6	99.0	98.4
Rail transport	**a**	**-24.4**	**-21.7**	**-8.3**
	b	**124.3**	**121.6**	**107.9**
Post & telecommunications	**a**	**0.7**	**3.5**	**0.1**
	b	**96.5**	**92.3**	**97.6**

Source: GUS data from financial statements submitted on the F-01 report by companies employing a staff of over 49.

Table 11
Basic sources of current asset financing, selected sector (%)

Proportion of current assets financed by:		**1999**	**2000**	**2001**
a) total short-term liabilities, of which:				
b) short-term bank loans				
c) accounts payable				
d) tax, customs & insurance liabilities				
Total industry	**a**	**97.3**	**93.6**	**92.6**
	b	**20.6**	**21.3**	**21.3**
	c	**42.2**	**41.0**	**39.5**
	d	**15.0**	**14.7**	**12.8**
Hard coal mining & agglomeration	a	322.9	358.9	352.3
	b	7.9	5.1	4.7
	c	48.6	48.3	56.1
	d	154.8	191.2	143.5
Lignite mining & agglomeration	a	37.3	37.4	36.2
	b	0.2	0.8	0.1
	c	12.4	10.0	13.1
	d	14.0	15.8	12.8
Manufacture of coke & refined petroleum products	a	79.4	71.8	72.1
	b	20.3	20.6	20.5
	c	36.9	32.4	26.4
	d	17.1	14.7	16.4
Manufacture of basic metals	a	125.7	150.8	182.8
	b	21.8	21.8	27.5
	c	68.8	84.0	91.5
	d	12.5	14.8	24.7
Production & distribution of electricity	a	90.6	93.1	84.8
	b	19.9	22.7	17.6
	c	54.5	52.5	51.2
	d	7.1	6.3	6.9
Production of gas	a	135.2	173.7	58.1
	b	51.6	68.9	7.3
	c	72.6	82.0	21.0
	d	3.4	8.7	6.1
District heating	a	74.8	81.0	92.3
	b	11.2	17.3	15.9
	c	46.4	43.0	53.5
	d	9.4	9.1	11.0
Rail transport	**a**	**131.1**	**209.7**	**138.9**
	b	**6.1**	**17.4**	**29.5**
	c	**42.2**	**35.8**	**53.0**
	d	**66.6**	**119.1**	**19.7**

Post & telecommunications	**a**	**67.1**	**66.6**	**67.3**
	b	**5.8**	**10.0**	**9.9**
	c	**30.8**	**23.3**	**23.5**
	d	**4.3**	**4.2**	**3.2**

Source: GUS data, as for Table 10.

• ownership reform in these sectors had been curbed or completely halted,

• there were legislative delays (e.g., in introducing implementing regulations to the Telecommunications Act),

• the maintenance of part of the monopoly positions held in these sectors was guaranteed by law (i.e., that of Telekomunikacja Polska SA as regards international telephone services, or of the Polish Gas and Oil Extraction Company, PGNiG, under a ruling of the Minister of the Treasury staying the commencement of operations by companies hived off from PGNiG),

• the capital position of particular companies was powerful enough to ensure the maintenance of their market dominance (e.g., Orlen SA with respect to oil refining and the distribution of liquid fuels),

• no generally accepted solution had been developed to the problem of long-term electricity contracts (which blocked the launch of trading in electricity and of privatisation within the power industry),

• grassroots initiatives gained ground for the regional consolidation of electricity producers and distributors,

• the privatisation of small firms was put on hold, making this contingent on the privatisation of large companies (the sale of small refineries was made conditional on the privatisation of the Gdansk Refinery),

• the liquidation of mines was put back further in terms of the provisions of the relevant restructuring programmes (to around 2–7 years),

• strong lobbying persisted for protection for the coal industry.

The factors outlined above were instrumental in these sectors displaying producer price growth that was much faster than overall growth in industrial

Table 12
Annualised average producer prices, selected sectors *(previous year = 100, %)*

	1999	2000	2001
Total industry	**105.7**	**107.8**	**101.6**
Manufacturing	105.0	107.5	99.8
Hard coal mining & agglomeration	101.4	107.9	109.0
Lignite mining & agglomeration	109.1	111.7	113.1
Manufacture of coke & refined petroleum products	124.5	138.2	88.7
Manufacture of basic metals	102.5	107.9	99.8
Production & distribution of electricity	110.7	108.3	113.0
Production of gas	109.0	110.3	109.1
District heating	108.3	106.8	107.2
Rail transport	**103.5**	**108.4**	**108.7**
Post & telecommunications	**102.4**	**107.7**	**105.1**

Source: GUS.

producer prices, and particularly manufacturing prices (cf. Table 12).

The year 2001 saw price growth in electricity supply and in coal mining play a significantly larger role in movements in the overall PPI. The contribution to the PPI of producer price growth in electricity supply is estimated to have climbed from some 9% in 2000 to around 68% in 2001, while the

Table 13
Relationship between average energy prices for industry and for households, selected countries
(December 2001; charges for households = 100; %)

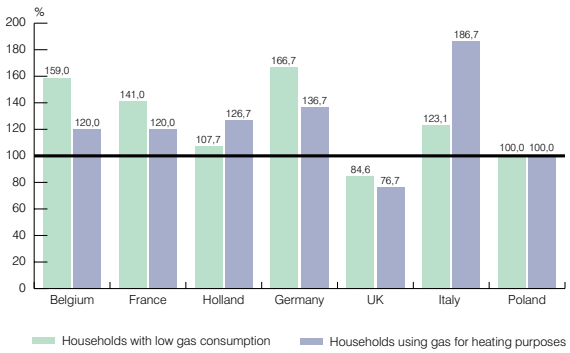
	Natural gas	Electricity
Belgium	30.6	43.6
France	36.3	45.2
Holland	40.0	41.8
Germany	46.2	47.5
UK	53.6	58.6
Italy	33.7	40.0
Poland	**55.1**	**78.6**
Hungary	.	74.6[a]
Czech Republic	.	74.1[a]

[a] Figures for Q4 2001.

Source: Energy Market Agency; NBP calculations.

Figure 22
Comparison of natural gas prices in Poland and selected EU countries
(December 2001, prices in Poland = 100)

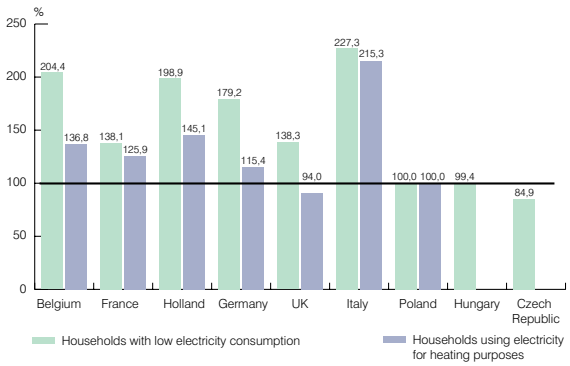
a) charges for households



b) charges for distribution, services & industry

Figure 23
Comparison of electricity prices in Poland, Hungary and Czech Republic with those in selected EU countries *(December 2001, prices in Poland = 100)*

a) charges for households



b) charges for distribution, services & industry

Source: Energy Market Agency.

contribution of price growth in coal mining went up from some 5% to 27%.

On the one hand, energy prices affect the cost of producing goods and providing services, while on the other they constitute an important element in the cost of running a household. International comparisons of electricity and gas prices for different categories of customer indicate that, at the end of 2001:

• Prices for households (both those with low consumption of a given type of energy and those using it for heating purposes) were much higher in the EU countries than in Poland (with the exception of the UK in the case of gas), as is illustrated in Figures 22a and 23a. In Hungary and the Czech Republic, on the other hand, household electricity charges were similar to those in Poland.

• The prices charged to industry for both types of energy were in general higher in Poland in relative terms than in the other countries (cf. Figs 22b and 23b).

• The distribution and services sector usually pays less for electricity in the EU than in Poland, yet more for gas.

• In Poland, Hungary and the Czech Republic, industrial electricity charges were substantially higher in relation to household charges than they were in the EU countries (where households benefitted from protective measures). In the case of gas, the corresponding price differential in Poland differed less from that in the EU (cf. Table 13).

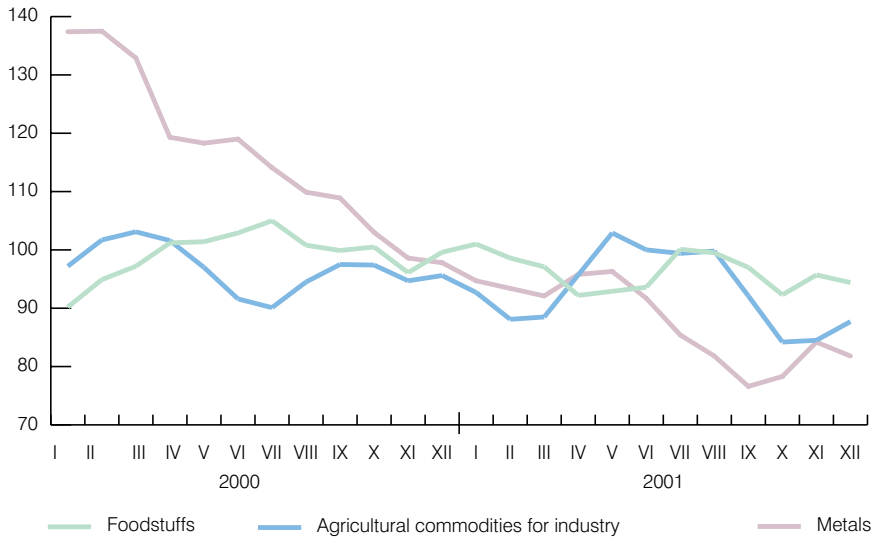
Comparisons of electricity and gas prices in Poland and in the EU countries show that charges for these basic sources of household energy are set to continue trending upwards in Poland. It is therefore to be expected that the pro-inflationary role of these prices will be maintained.

4.2. External prices

With a sharp weakening of demand and fall in industrial output in the major world economies (see Section 2, "Foreign trade & the balance of payments"), the decline in world prices for the most important commodities, begun in the second half of 2000, gained pace in 2001. This process accelerated in the latter half of last year (especially following the terrorist attack on the United States), particularly affecting oil and metal prices (cf. Table 14). On the other hand, there was a relatively slower decrease last year in prices for foodstuffs and for agricultural commodities used in industry (cf. Fig. 24)[22].

[22] The halting of the downward trend in foodstuff prices in the years 2000–2001 was related to a decrease in excess supply (relative to demand), which was most conspicuous on the market for wheat.

Figure 24
World price indices, basic non-energy commodities
(corresponding period previous year = 100)



Source: *The Economist*.

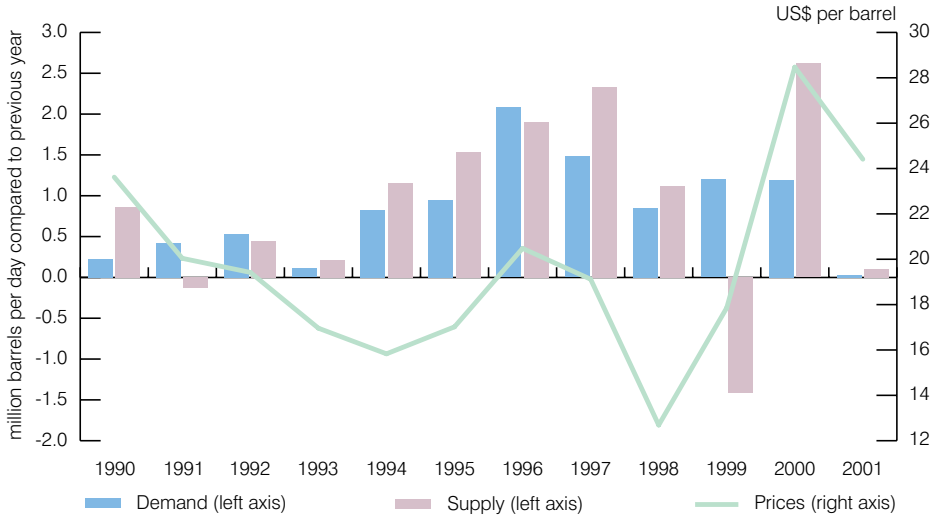
Table 14
Movements in basic commodity prices *(compared to previous year, %)*

	1998	1999	2000	2001
Non-energy commodities	**-18.3**	**-9.2**	**3.5**	**-6.6**
of which:				
Foodstuffs	-16.3	-17.5	-1.0	-3.8
Industrial commodities	-20.6	0.6	7.1	-10.1
of which:				
Agricultural commodities for industry	-20.2	-1.4	-3.2	-7.0
Metals	-20.9	2.2	15.0	-12.4
Oil (Brent)	**-33.7**	**40.3**	**59.6**	**-14.1**

Source: "The Economist", Bloomberg.

Following the rise in oil prices seen in 1999–2000, last year the average price for Brent was over US$ 4 less than the year before. Aside from the worldwide economic downturn, demand for oil also flagged due to the sharp reduction in air traffic after the terrorist attacks on the USA. As a result, world demand for oil in 2001 was on average just 30,000 barrels per day higher

Figure 25
Movements in oil supply, demand & prices (Brent), 1999–2001



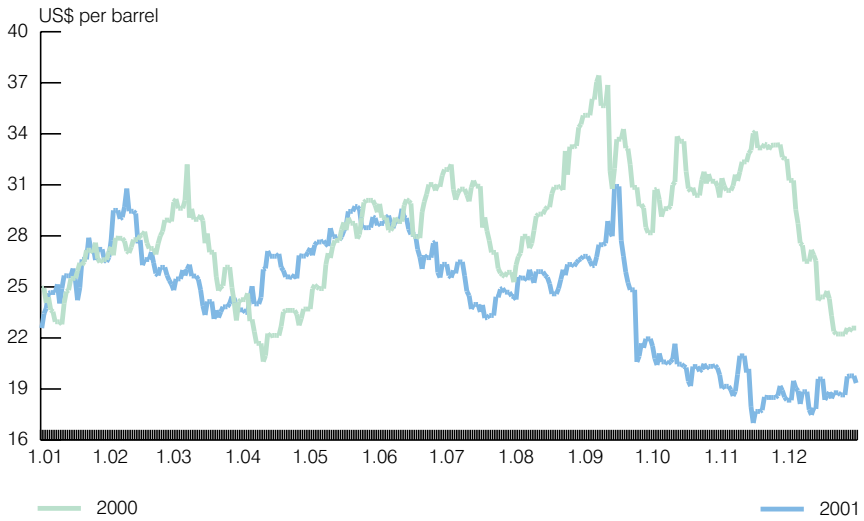
Source: *Monthly Oil Market Report*, International Energy Agency; Bloomberg.

than a year earlier[23], whereas in 2000 the corresponding increase had been 1.2 million barrels. This represented the lowest growth in oil demand since the beginning of the 1990s (cf. Fig. 25).

A steeper decline in oil prices was prevented by the supply policy conducted by OPEC. In response to waning demand growth, OPEC on three occasions announced cuts in production quotas, totalling 3.5 million barrels per day. However, a lack of discipline in observing their agreed output ceilings meant that in 2001 the OPEC countries delivered only 600,000 barrels per day less than they had in 2000. Meanwhile, oil supplies from countries outside the cartel went up 700,000 barrels per day last year[24], with Russia playing the largest part in this[25]. Altogether, the supply of oil

[23] *Monthly Oil Market Report*, OPEC, January 2002.
[24] *Oil Market Report*, International Energy Agency, January 2002.
[25] Thanks to rising output in the non-OPEC countries, their share in world supply of this commodity increased to almost 61%. This represents a trend witnessed since the second half of the 1990s, albeit interrupted in 2000. The changes taking place in Russia's fuel and oil sector, and in particular the lifting of export duty on oil, give reason to believe that the role of this country on the world oil market will strengthen significantly in the near future. In undermining the influence of OPEC on world supplies, this may lessen the likelihood of the sharp swings in oil prices seen in the past.

Figure 26
Oil prices (Brent), 2000 & 2001
(daily quotes)



Source: Bloomberg.

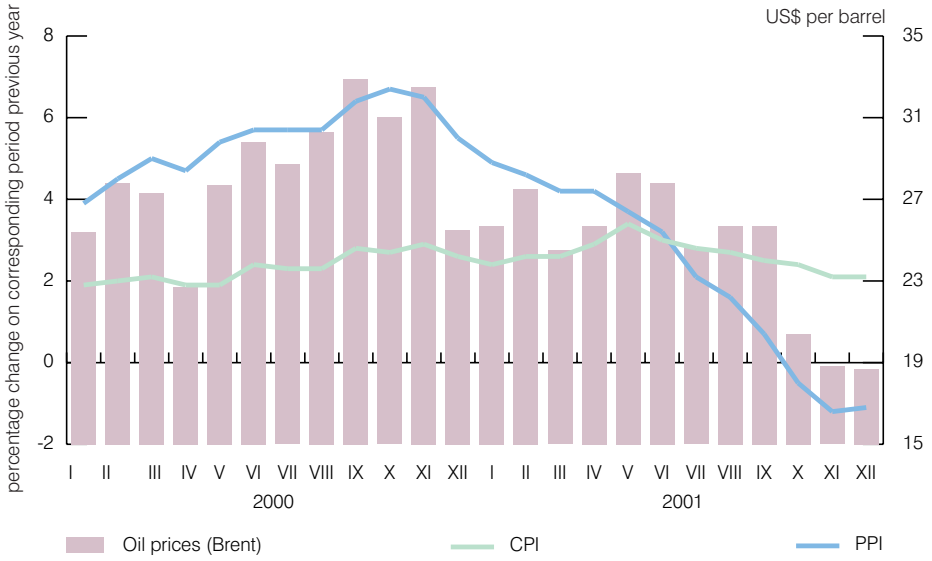
thus rose 100,000 barrels per day in 2001 (as against 2.6 million barrels per day in 2000), which was one of the lowest figures recorded in recent years.

The maintenance of excess supply over demand for the second year in succession (a difference of 800,000 barrels per day) made it possible to replenish world oil stocks, previously much diminished in the years 1999–2000. This factor, in addition to weak demand, led to oil prices coming down (cf. Fig. 26)[26].

Falling commodity prices contributed to a decrease in industrial producer prices and slowing of consumer price growth on Poland's largest external market, the euro area (cf. Fig. 27). Growth in the industrial PPI came down there from 5.5% in December 2000 to minus 1.1% in December 2001[27], while over the same period the Harmonised Index of Consumer Prices slipped from 2.6% to 2.0%[28].

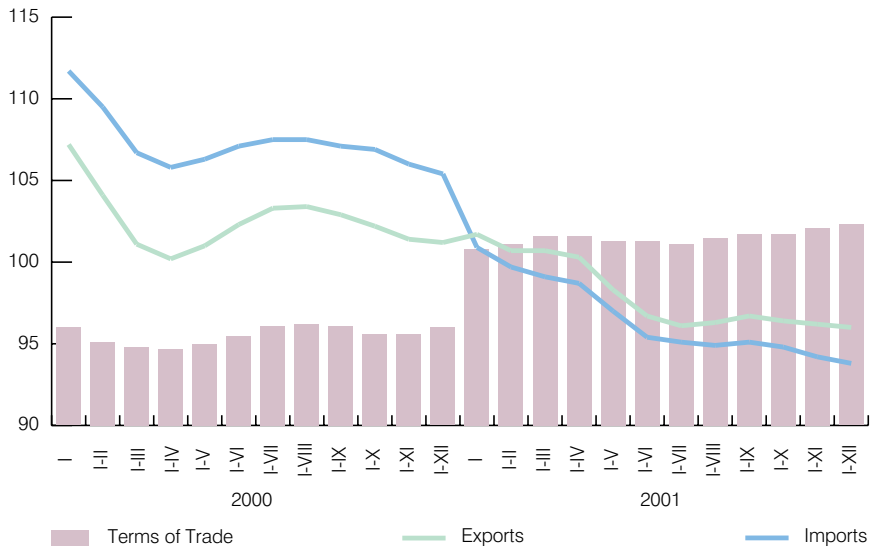
[26] This overall tendency was disrupted for brief periods in 2001 by seasonal and political factors (including September 11).
[27] *Euro-Indicators*, Eurostat News Release no. 39/2002, April 3, 2002.
[28] *Euro-Indicators*, Eurostat News Release no. 34/2002, March 18, 2002.

Figure 27
Euro area CPI & PPI vs. oil prices



Source: Bloomberg.

Figure 28
Cumulative indices of transaction prices in Polish foreign trade
(corresponding period previous year = 100)



Source: GUS.

Lower prices in international commerce and the maintenance of zloty appreciation for most of 2001 resulted in a decline in transaction prices in Polish foreign trade. In 2001, zloty import prices were down 6.2% year-on-year, while export prices were down 4%[29]. On the basis of component pass-through coefficients calculated for exchange rates and external prices (see subsection 6.3.2), we estimate that in 2001 zloty appreciation accounted for 65% of the reduction in transaction prices in Polish foreign trade. The greater fall in import transaction prices than in export ones yielded an improvement in Poland's terms of trade. In 2001, these stood at 102.3, as against 96 for the year 2000 as a whole (cf. Fig. 28).

In all the major product groups, import transaction prices were lower in 2001 than a year earlier. The overall decline of 6.2% in these transaction prices is principally attributable to the following product groups: machinery and transport equipment, which accounted for 1.7 points of this decline (28%); "industrial goods classified by raw material" (particularly metals and metal products), which accounted for 1.6 points (25%); mineral fuels, which accounted for 1.2 points (20%); and chemical products, which accounted for 0.8 points (12%). By contrast, agricultural produce had a relatively minor impact on the index of import transaction prices. Higher prices for imported grain eased the fall in overall import prices for agricultural products (which came to 0.1%).

The largest part in the decrease in export transaction prices was played by lower prices for machinery and transport equipment (which contributed 1.6 points to this decrease) and by "industrial goods classified by raw material" (1.3 points). Owing to the rise in coal prices, however (up 18% compared to 2000), the sole product group of exports to show price growth were mineral fuels (up 4.5% on 2000). This was the determining factor in last year's improvement in Poland's terms of trade.

[29] Cf. *Handel zagraniczny styczeń-grudzień 2001* ["Foreign Trade, January-December 2001"], GUS, Warsaw 2002.

5. INFLATIONARY PROCESSES IN 2001

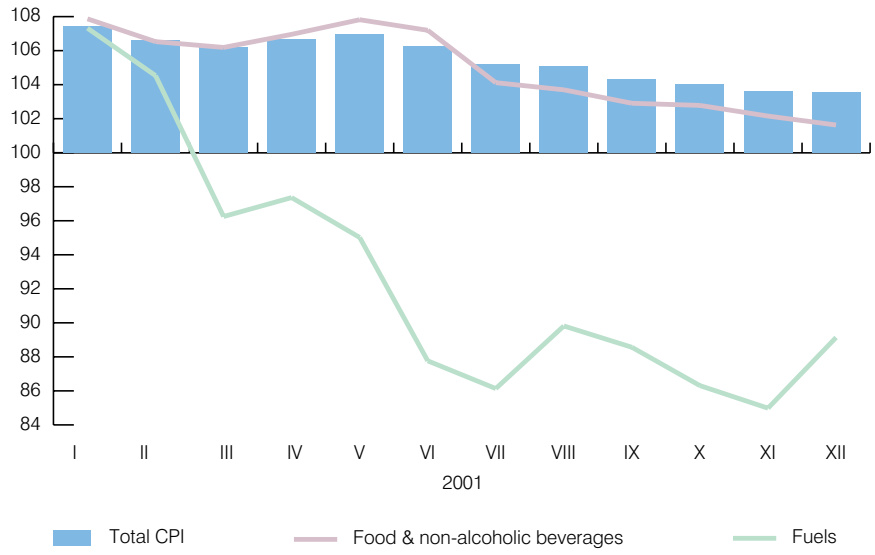
5.1. Consumer prices

The twelve-month Consumer Price Index stood at 3.6% in December, having come down 4.9 points since December 2000, and thereby reached its lowest point since the beginning of Poland's economic transition. Inflation was at an annual high last year in January (at 7.4%), and then steadily trended downwards in subsequent months, with the exception of April and May. Annualised average inflation came to 5.5% in 2001, as against 10.1% the year before.

The unexpectedly rapid fall in inflation last year was rooted in several factors. First and foremost, movements in prices for food and non-alcoholic beverages were very favourable (cf. Fig. 29). This was the result of last year's seasonal decline in food prices coming earlier than the year before, and also proving larger and lasting longer than had been projected in setting the inflation target. The process of disinflation was also assisted in 2001 by lower fuel prices. In forecasting inflation during the development of the *Monetary Policy Guidelines for the Year 2001*, it had been assumed that average world oil prices (per barrel) would be US$ 1 dollar higher than they turned out to be in reality. Further, the zloty had been expected to depreciate in 2001 against the US dollar, whereas in fact it strengthened 5.8%. Were food and fuel prices to be excluded from the CPI, overall inflation at year end would have been 1.5 points higher. Stripping out the impact on the CPI of the nominal appreciation of effective zloty exchange rates would raise inflation another 0.9 points. The above price movements coincided with last year's decline in domestic demand. The combined effect of all the above factors was that twelve-month consumer price growth, which throughout 2000 had been running above the trend line, was in 2001 pushed below that line (cf. Fig. 30)

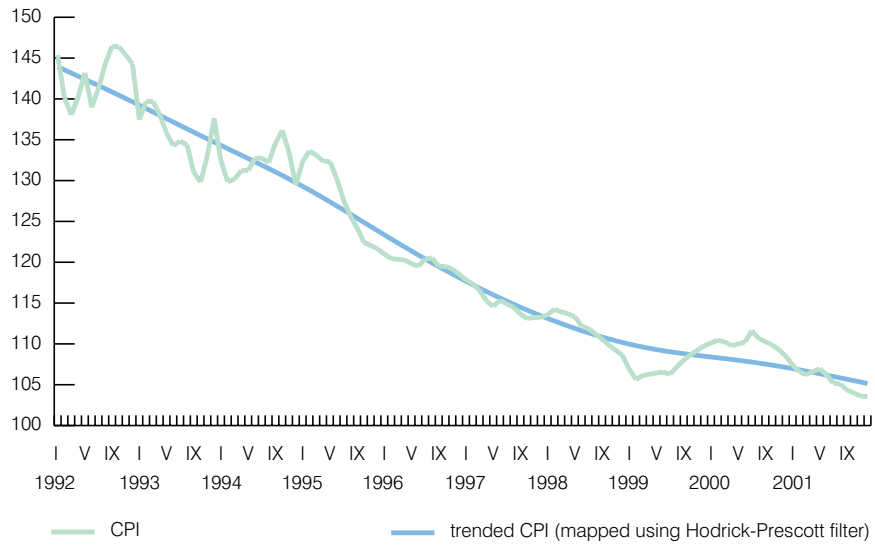
Movements in the CPI and in particular price categories in the years 2001–2001, on a twelve--month and year-to-date basis, are presented in Figures 31 and 32, while growth indices for consumer prices and particular component categories are given in Table 15.

Figure 29
CPI vs. prices for food & non-alcoholic beverages and fuel prices, 2001
(corresponding month previous year = 100)



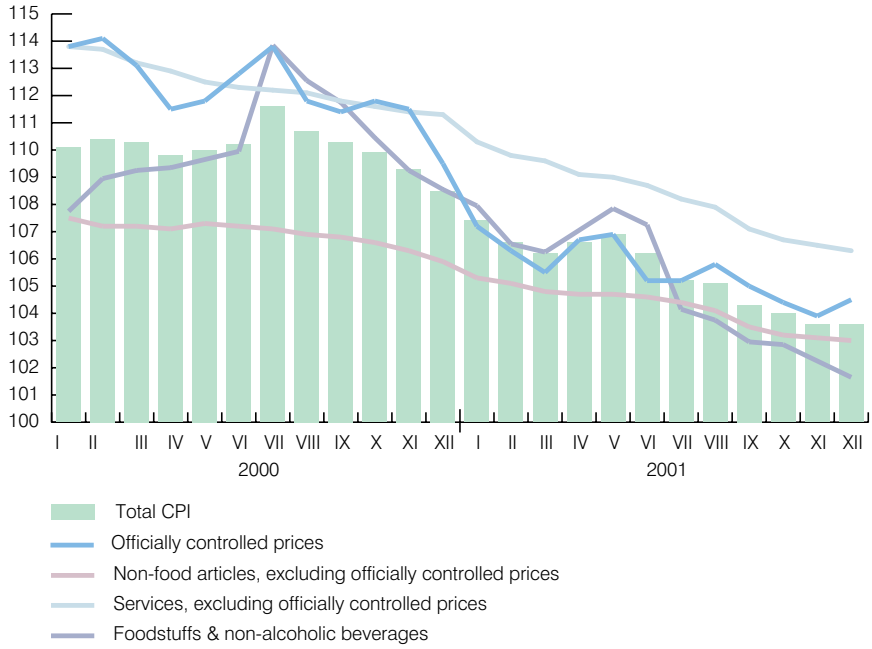
Source: GUS.

Figure 30
CPI and trended CPI, 1992–2001
(corresponding month previous year = 100)



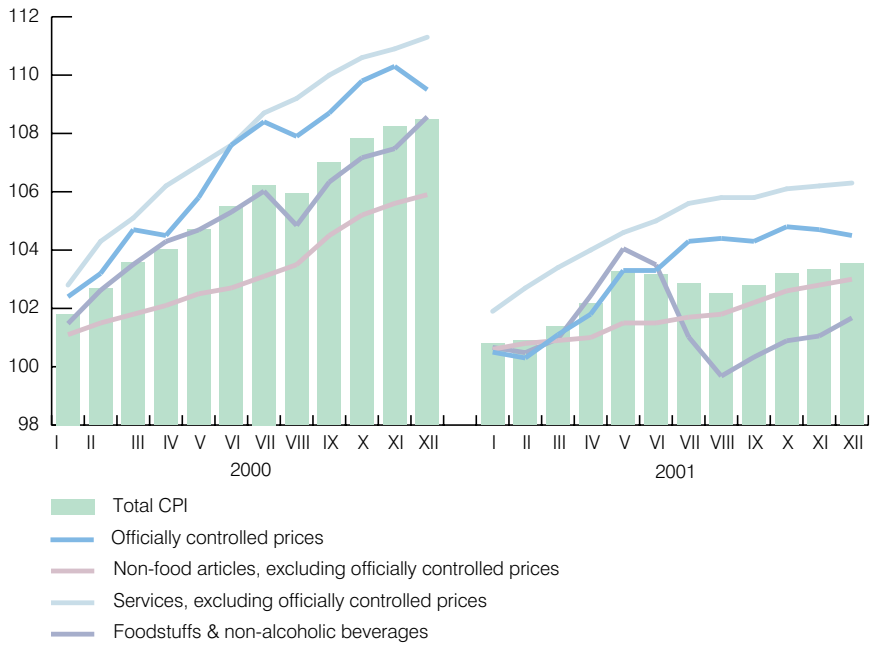
Source: GUS; NBP calculations.

Figure 31
CPI and principal price categories, 2000–2001
(corresponding month previous year = 100)



Source: GUS; NBP calculations.

Figure 32
CPI and principal price categories, 2000–2001 (December previous year = 100)



Source: GUS; NBP calculations.

Table 15
Price growth, basic categories of consumer goods & services

	1999	2000	2001				
	XII	XII	III	VI	IX	XII	I-XII
	corresponding period previous year = 100						
Consumer goods & services	**109.8**	**108.5**	**106.2**	**106.2**	**104.3**	**103.6**	**105.5**
Officially controlled prices	114.7	109.5	105.5	105.2	105.0	104.5	105.5
of which: fuels	152.7	111.0	96.2	87.8	88.6	89.1	92.5
Food & non-alcoholic beverages	106.0	108.5	106.2	107.2	102.9	101.6	105.0
Non-food articles							
(excluding officially controlled prices)	107.1	105.9	104.8	104.6	103.5	103.0	104.2
Services (excluding officially							
controlled prices)	114.0	111.3	109.6	108.7	107.1	106.3	108.3

Source: GUS; NBP calculations.

The CPI growth of 3.6% recorded at the end of 2001 was the result of the following movements within particular price categories:

- growth of 4.5% in officially controlled prices, which contributed 1.2 points to the overall increase in the CPI,
- growth of 6.3% in service prices (excluding those officially controlled), which contributed 1.1 points to the CPI[30],
- growth of 3.0% in prices for non-food articles (excluding those officially controlled), which contributed 0.8 points to the CPI,
- growth of 1.6% in prices for food and non-alcoholic beverages, which contributed 0.5 points to the CPI.

The decline in inflation in 2001 was accompanied by significant changes in the pattern of price movements compared to the year before (cf. Table 16 and Fig. 33). The part played by food and non-alcoholic beverages in overall CPI growth was more than halved (dropping to 14% from 31% a year previously). By contrast, there was a major increase in the contribution to the CPI of service prices (excluding officially controlled prices), up from some 22% to almost 31%. Changes in the relative weight of the other two price categories were smaller,

[30] A particularly noteworthy development within this price category were soaring housing occupancy costs, which were responsible for around 45% of CPI growth.

Table 16
Contribution of basic categories of consumer goods & services to 12-month CPI

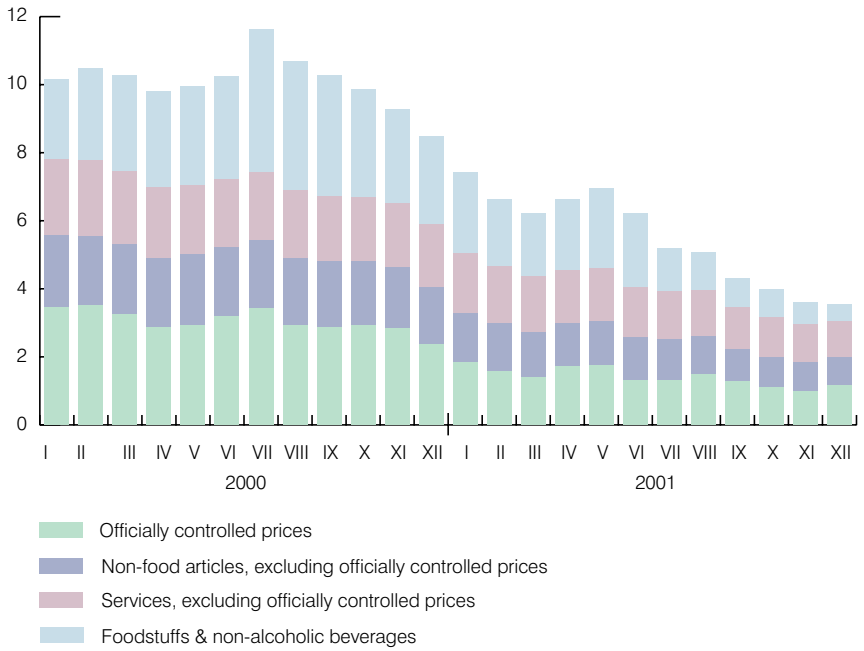
	1999	2000	2001				
	XII	XII	III	VI	IX	XII	I-XII
	Contribution to CPI growth (percentage points)						
CPI	**9.8**	**8.5**	**6.2**	**6.2**	**4.3**	**3.6**	**5.5**
Officially controlled prices	3.6	2.4	1.4	1.3	1.3	1.2	1.4
of which: fuels	1.3	0.3	-0.1	-0.4	-0.4	-0.4	-0.3
Food & non-alcoholic beverages	1.9	2.6	1.9	2.2	0.9	0.5	1.5
Non-food articles (excluding officially controlled prices)	2.0	1.7	1.3	1.2	0.9	0.8	1.2
Services (excluding officially controlled prices)	2.3	1.8	1.7	1.5	1.2	1.1	1.4
	Composition of CPI growth (%)						
CPI	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Officially controlled prices	36.9	28.0	22.6	21.4	29.8	33.0	26.0
of which: fuels	13.1	3.6	-2.1	-6.8	-9.2	-10.7	-4.8
Food & non-alcoholic beverages	19.5	30.6	29.9	34.8	20.3	13.8	27.3
Non-food articles (excluding officially controlled prices)	20.4	19.7	21.0	20.0	21.7	22.7	20.8
Services (excluding officially controlled prices)	23.2	21.7	26.5	23.8	28.2	30.5	25.9

Source: GUS; NBP calculations.

with officially controlled prices accounting for 33% of CPI growth (as against 28% in 2000), while non-food articles (excluding officially controlled prices) accounted for around 23% (as against 20%).

In 2001, as was also the case in 2000, the sharpest increase was reported in **service prices (excluding officially controlled prices)**. Faster growth in consumer service prices than in the overall CPI has persisted, with varying intensity, since the very beginning of Poland's systemic transition. This situation is typical in rapidly developing countries, one of the underlying reasons being the "Balassa-Samuelson effect". The strongest growth seen last year in service prices (excluding officially controlled ones) was in water supply and other services related to the dwelling, housing occupancy, and social protection; annual price growth in these areas ranged from 8% to 14%. It should be noted here that demand is rigid for many of these services that have been swiftly rising in price. Prices in

Figure 33
Contribution of particular price categories to CPI growth, 2000–2001
(corresponding month previous year = 100)



Source: GUS; NBP calculations.

this group are not sensitive to the level of monetary policy tightness and act to slow down disinflation.

As in previous years, the growth registered in 2001 in **officially controlled prices** (governed by market mechanisms to a limited extent) exceeded that of overall consumer price growth. However, compared to 2000, the pace of price increases in this group clearly waned. This was primarily associated with the fall in fuel prices. The annualised average decline in fuel prices came to 7.6% in 2001, while in 2000 these prices had risen 36.8% From December 2000 to December 2001, fuel prices came down 10.9%, as against an increase of 11.0% over the preceding twelve months. Movements in fuel prices in 2001 were a function of changes in world prices, increases in rates of excise duty and the pricing policies applied by domestic refineries and retailers (cf. Table 17). At the end of 2001, the decrease in world petrol prices was accompanied by a weakening of the dollar, which

Table 17
Composition of gross retail price for Eurosuper 95 petrol (%)

Month	Import price	Taxes	Market factors
January 2001	27.2	62.5	10.4
June 2001	25.8	61.3	12.8
December 2001	17.2	65.3	17.5

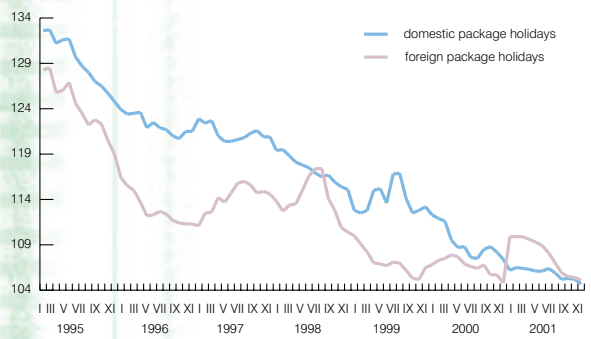
Source: Nafta Polska SA (Polish Oil SA); NBP calculations.

provided an additional impulse to the fall in domestic fuel prices.

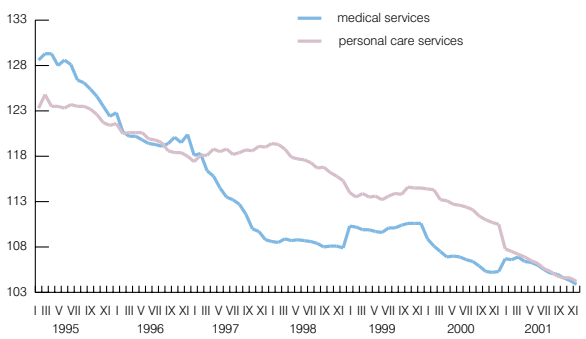
As regards other goods and services subject to officially controlled prices, those that went up most in price in 2001 were mains gas, electricity, municipal bus transport, hot water supply, TV and radio licence fees, district heating and alcoholic beverages; in these product groups, annual price growth was between 5% and 15%. Against this background, there was a drastic increase (of 131%) in civil service fees (which shot up due to higher stamp duty on the issue of registrar's certificates), and also in the telephone rental charges collected by TP SA, which went up 40% in a single price rise.

Figure 34.1
Price indices, services *(corresponding month previous year = 100)*

a) Price indices: domestic & foreign package holidays



b) Price indices: medical & personal care services

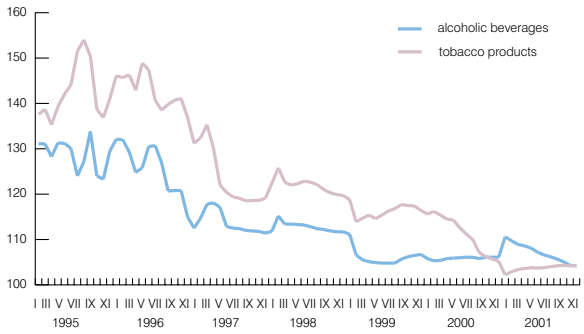


Source: GUS.

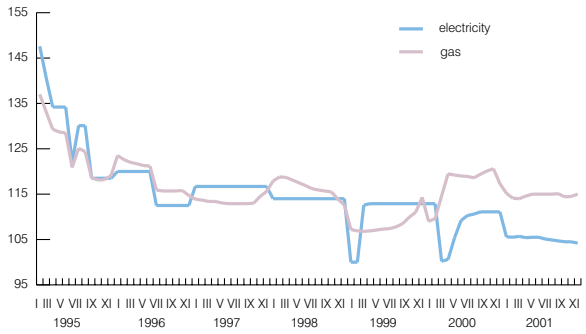
Figure 34.2

Price indices, officially controlled prices *(corresponding month previous year = 100)*

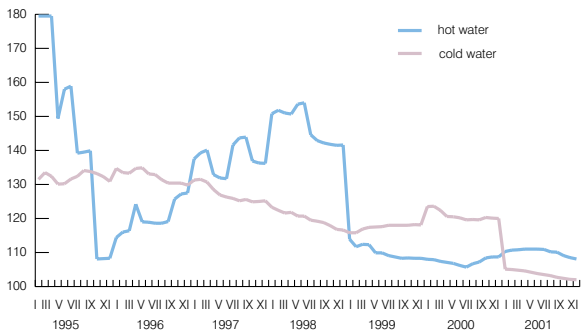
a) Price indices: alcoholic beverages & tobacco products



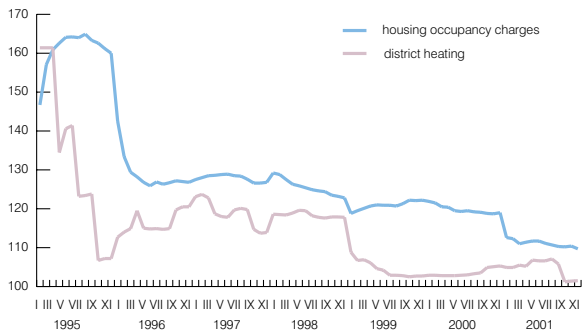
b) Price indices: electricity & gas



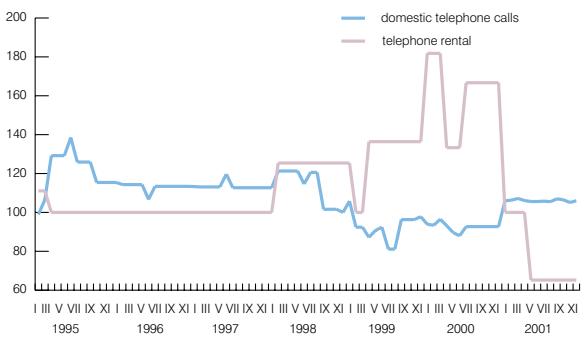
c) Price indices: hot & cold water



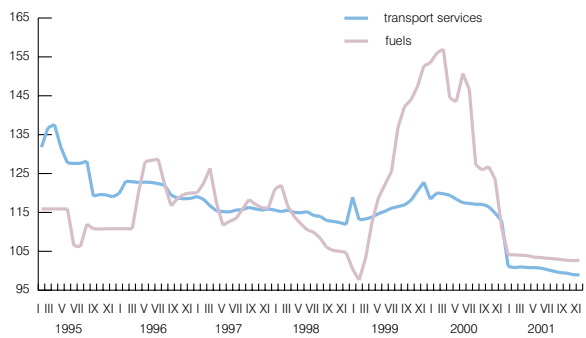
d) Price indices: housing occupancy charges & district heating



e) Price indices: domestic telephone calls & telephone rental



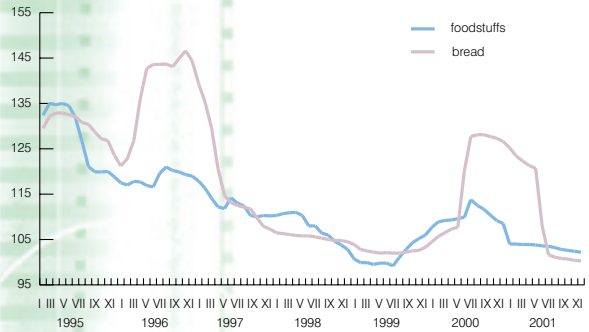
f) Price indices: transport services & fuels



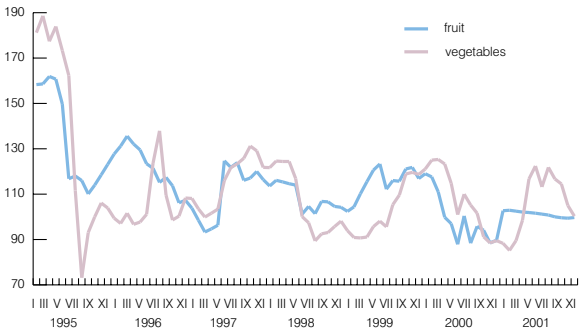
Source: GUS.

Figure 34.3
Price indices, foodstuffs *(corresponding month previous year = 100)*

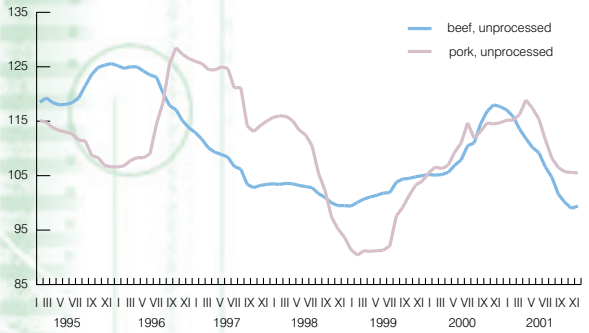
a) Price indices: foodstuffs & bread



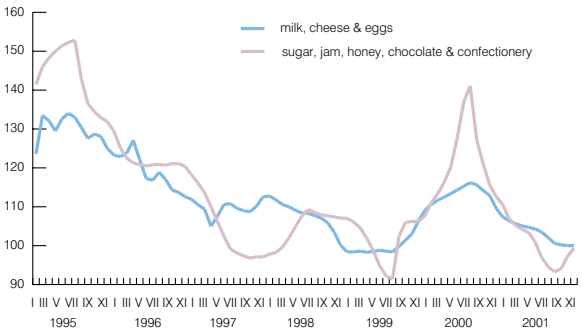
b) Price indices: fruit & vegetables



c) Price indices: pork & beef



d) Price indices: milk, cheese & eggs; sugar, jam, honey, chocolate & confectionery



Source: GUS.

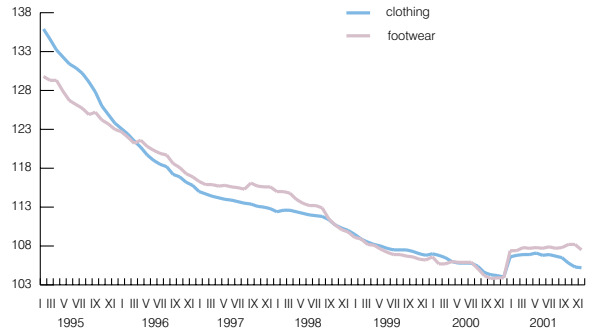
Prices of foodstuffs and non-alcoholic beverages displayed minor growth in 2001 (growth had been five times higher the year before), rising 2.0 points less than the overall CPI. In the basic groups of foodstuff, the largest price increases in relative terms were seen for fish and vegetables. By contrast, the prices of poultry, beef, sugar, edible oil and fats all came down.

The key factor conditioning prices on the market for agricultural produce in 2001 was the much bigger grain harvest (up 20.7%), which led to lower prices in the second half of the year for both grain and compound

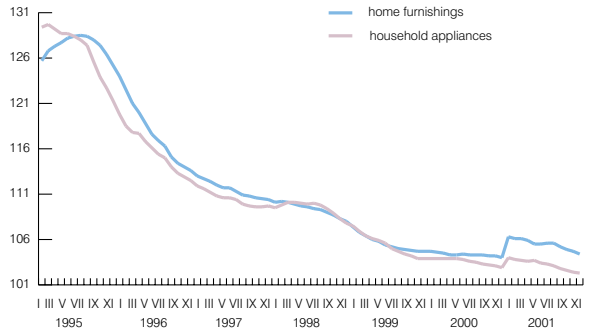
Figure 34.4

Price indices, non-food articles *(corresponding month previous year = 100)*

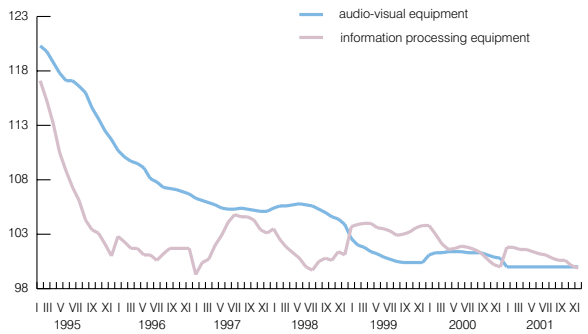
a) Price indices: clothing & footwear



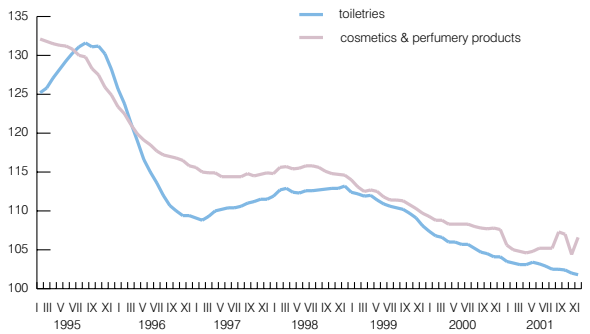
b) Price indices: home furnishings & household appliances



c) Price indices: audio-visual & information processing equipment



d) Price indices: toiletries; cosmetics & perfumery products



Source: GUS.

animal feeds. Procurement prices (December-on--December) dropped 15% for wheat and 14% for rye. One factor in this was the supply situation, with large grain imports in the first and second quarters of the year and greater grain deliveries under official intervention purchases. On the market for livestock products, the period in question saw a smaller supply of fat pigs and fat cattle, and a larger supply of poultry and cow's milk.

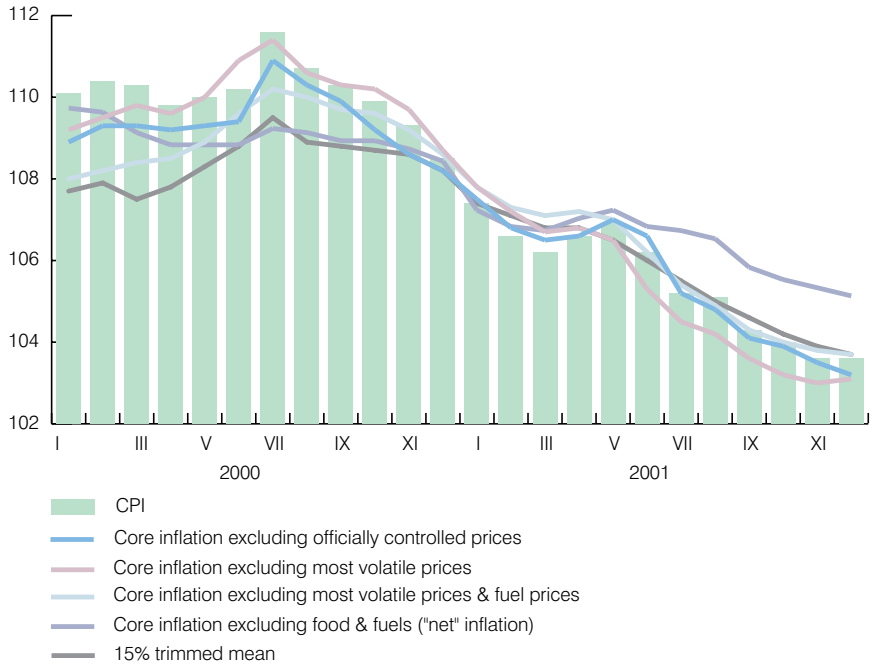
Prices of non-food articles (excluding officially controlled prices) represent the price category most sensitive to demand fluctuations and one that is subject

to strong foreign competition. For this reason, these prices tend to exhibit relatively weaker growth than those in other categories. Last year's decline in domestic demand and slower growth in external demand reinforced the systematic decrease seen in the growth of these prices. At year end 2001, prices of non-food articles (excluding officially controlled prices) were 3.0% higher than they had been at the end of 2000, giving growth 0.6 points less than the CPI. This price growth thereby almost halved last year compared to the year before.

5.2. Core inflation

In common with the headline CPI, in 2001 all indices of core inflation continued on a downward trend that had begun in August 2000 (cf. Fig. 35). It was only in April and May that this was temporarily reversed, with most indices going up, after which they began to trend downwards once again. By year end, both the CPI and all measures of core inflation had reached an all-time low

Figure 35
CPI vs. core inflation *(corresponding month previous year = 100)*



Source: GUS; NBP calculations.

since the beginnings of Poland's systemic transition (with the exception of core inflation excluding the most volatile prices, which edged up slightly in December compared to November).

At the end of 2001, twelve-month indices of core inflation ranged from 3.1% to 5.1% (as against 8.2%–8.7% at year end 2000). The particularly strong impact of food and fuel prices in lowering inflation in 2001 is illustrated by the index of "net" inflation, obtained by stripping out these items from the CPI. From February last year onwards, this was the sole measure of core inflation to run above the all-items CPI. The steady slide in all core inflation indices in the course of 2001 indicates that the decline in price growth affected most groups of consumer goods and services, and was not just the result of temporary factors.

The greatest contribution to bringing down inflation last year was made by the fall in fuel prices, in charges for domestic phone calls, and in food prices (poultry, eggs, flour, sugar and butter). On the other hand, the steepest rise in prices was for municipal services and energy (housing occupancy, cold water, electricity, gas, district heating and hard coal), and also medicines, telephone rental, and newspapers and periodicals.

Table 18
Movements in various measures of core inflation

	1999	2000	2001	2001											
	annualised average			I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
	change on corresponding month previous year														
CPI	**7.3**	**10.1**	**5.5**	**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:															
ex officially															
controlled prices	6.3	9.4	5.5	7.5	6.8	6.5	6.6	7.0	6.6	5.2	4.8	4.1	3.9	3.5	3.2
ex most															
volatile prices	7.2	10.0	5.1	7.8	7.2	6.7	6.8	6.5	5.3	4.5	4.2	3.6	3.2	3.0	3.1
ex most volatile															
prices & fuels	6.7	9.1	5.7	7.8	7.3	7.1	7.2	7.0	6.2	5.4	4.9	4.3	4.0	3.8	3.7
ex food & fuels															
("net" inflation)	9.3	9.0	6.4	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	6.9	8.4	5.6	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; NBP calculations.

Table 19
Comparison of weighting structure for consumer price categories included in particular measures of core inflation

	Oficially controlled prices	Most volatile prices	Most volatile prices & fuel	Food & fuel prices
Officially controlled prices	25.7*	8.0	11.5	3.5
Most volatile prices	8.0	15.9*	15.9	4.3
Most volatile prices & fuels	11.5	15.9	19.4*	7.8
Food & fuel prices	3.5	4.3	7.8	33.6*

* Percentage share of given price category in CPI.
Remaining figures represent percentage share in CPI of component common to two price categories.

Source: GUS; NBP calculations.

5.3. Producer prices in industry and construction

In 2001, for the first time since systemic transition was launched in Poland, a decline was reported in *industrial producer prices*. After showing weakening growth over the first three quarters of the year, in the fourth quarter these prices dropped below their level in the same period of 2000 (cf. Table 20). This decrease in the PPI[31] was a generalised tendency last year the world over (e.g., in the euro area, the twelve-month PPI dipped to minus 1.1% in December, while in the USA it fell to minus 1.8%).

The overall reduction in industrial producer price growth that took place in Poland last year was exclusively the result of a major fall in prices in the section of manufacturing. In this section of industry, year-on-year price growth had already begun coming down from mid-2000 onwards, but it was only in June 2001 that prices sank below those of the corresponding period a year before (cf. Fig. 36). Further, in no month of 2001 did the level of manufacturing producer prices exceed that of December 2000 (cf. Fig. 37b).

Last year's movements in manufacturing prices were primarily the result of sagging consumer demand at

[31] The industrial Producer Price Index.

Table 20
Producer price growth, selected areas, 2000–2001
(corresponding quarter previous year = 100; %)

	2000					2001				
	QI	QII	QIII	QIV	annual average	QI	QII	QIII	QIV	annual average
Industry of which:	**107.9**	**108.1**	**108.5**	**106.9**	**107.8**	**104.2**	**102.2**	**100.8**	**99.4**	**101.6**
Mining & quarrying	109.4	110.3	112.2	111.0	110.7	108.9	105.3	104.5	102.0	105.1
Manufacturing	107.6	108.1	108.2	106.2	107.5	102.7	100.4	98.8	97.3	99.8
Electricity, gas & water supply	108.1	106.5	109.1	109.9	108.4	111.5	111.7	111.5	110.8	111.3
Construction	**107.7**	**108.6**	**108.5**	**107.3**	**107.9**	**106.3**	**104.4**	**103.4**	**102.5**	**103.8**

Source: *Biuletyn Statystyczny GUS* [GUS Statistical Bulletin].

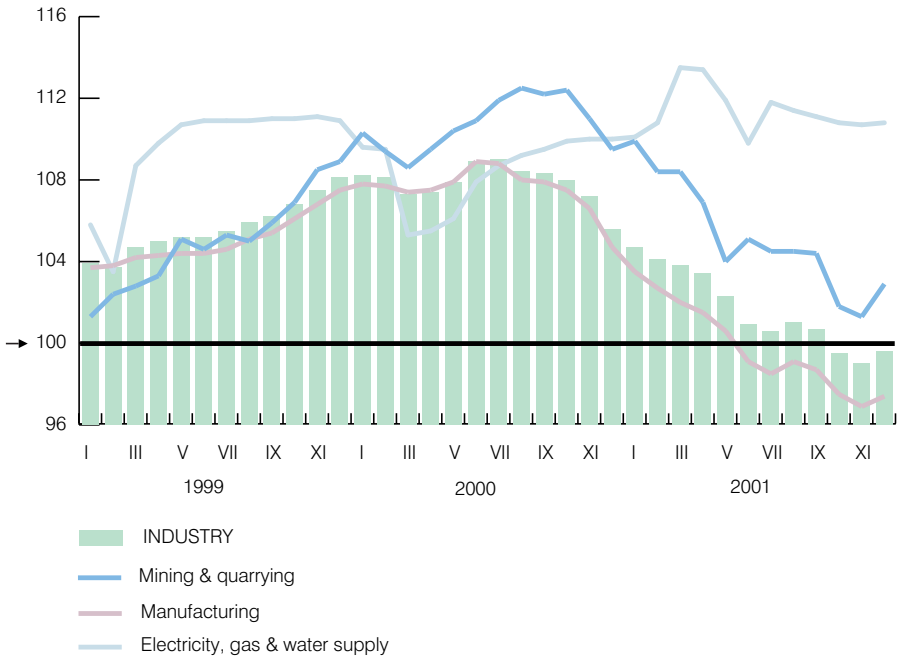
home and abroad, of competition from imports (which cheapened in relative terms, factors here including zloty appreciation and a decline in external prices), and of the contraction of investment activity within Poland[32].

In contrast to manufacturing, prices in the section of electricity, gas and water supply rocketed in 2001 (the largest monthly growth figures were 3.5% in March and 2.8% in July). At the turn of the first and second quarters, the twelve-month price index peaked here at 13.5%, while in December it stood at 10.8% (cf. Fig. 36).

As in previous years, last year's rises in producer prices in electricity, gas and water supply were part of a certain cycle determined by increases in production costs, which allowed producers associated with the energy market to maintain a privileged position. These companies – in contrast to manufacturers – enjoyed natural monopolies in a situation of relatively rigid demand for electricity, gas, district heating and water on local markets, which were furthermore governed by long-term agreements with suppliers. As a result, falling profitability did not induce these companies to search

[32] Another contributing factor was the decrease in prices in oil refining, associated with the fall in world oil prices.

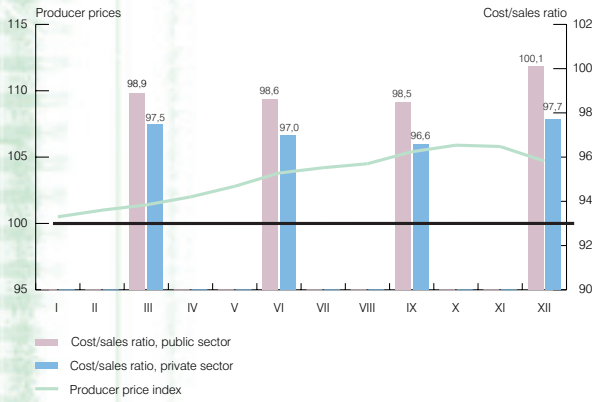
Figure 36
Industrial producer price growth, by section
(corresponding month previous year = 100)



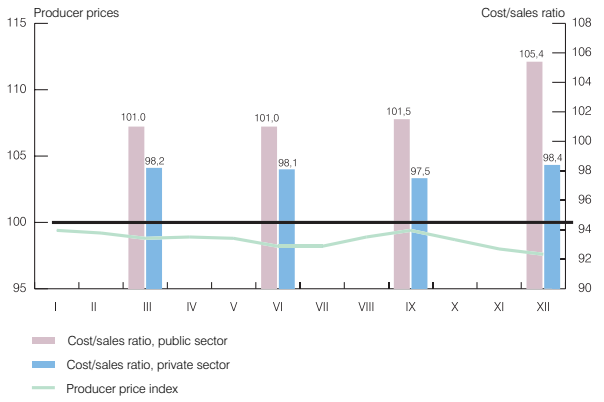
Source: GUS.

Figure 37
Producer price index (December previous year = 100) & cost/sales ratio, manufacturing

a) 2000



b) 2001



Source: GUS.

for ways to cut costs, but rather encouraged them to bump up prices once again.

Price growth was also high in mining and quarrying, although over the course of 2001 it trended downwards. Annualised average producer price growth in this section of industry came to 5.1% last year, as against 10.7% in 2000. However, within this section itself, price movements differed in two classes of activity: mining and agglomeration of hard coal, and mining and agglomeration of lignite. In hard coal mining, price growth quickened from 7.9% in 2000 to 9% in 2001, while in lignite mining it rose from 11.7% to 13.1%.

Annualised average growth in *construction output prices* was slower in 2001 than it had been a year before, coming to 3.8% (compared to 7.9% in 2000). Over the year, construction output dropped 10.6% (at constant prices). In all groups of construction activity, price increases were much more subdued than a year earlier. The largest price growth last year was seen in specialist works, particularly in building installation, where prices went up 6.1% on average (as against 9.7% in 2000).

Reduced growth in construction output prices was on the one hand due to smaller demand for construction services, a product of shrinking investment activity, while on the other it was related to mounting competition on the market for these services. Compared to the PPI, however, growth in construction output prices was relatively high. This was linked to the character of construction works (long lead times and the settlement of projects at contractual prices agreed on well beforehand), to the comparatively strong growth in the price of building materials (prices charged by companies producing for the construction industry went up 2.6% in 2001, as against a decline of 0.2% in manufacturing), and to the substantial price growth reported at specialised companies using heavy construction machinery, which requires highly-qualified operators.

6. MONETARY POLICY AND PERFORMANCE OF THE INFLATION TARGET

6.1. Monetary policy in 2001

The gradual decline in twelve-month consumer price growth over the course of 2001, together with the anticipated weakening of inflationary pressure, formed the basis for a pronounced reduction in NBP base interest rates. During the year, the Monetary Policy Council carried out six rate cuts, lowering interest rates by a total of seven and half points (cf. Table 20). The result was that nominal NBP interest rates were brought down to their lowest level since the process of systemic transition began. Real interest rates also dropped; from the first rate cut at the end of February to year end, the NBP reference rate (minimum reverse repo rate) came down three and half points in real terms. The Monetary Conditions Index (MCI) calculated at the NBP, which takes account of movements both in short--term real interest rates and in the real effective

Figure 38
*Monetary Conditions Index**

* Base period = December 1994

Box 3
The Monetary Conditions Index (MCI)

The MCI is measured against a constant base period and constitutes the weighted average (linear combination) of the real market interest rate and the annual movement in the real exchange rate, in line with the following formula:

$$MCI_t = [w_1 \text{ x } (r_t - rb) + w_2 \text{ x } (q_t - qb)]$$

where:

r_t – real interest rate, period t

rb – real interest rate, base period

q_t – annual movement in real exchange rate

qb – annual movement in real exchange rate, base period

w_1 – weight assigned to real interest rate

w_2 – weight assigned to real exchange rate

The variable reflecting the real interest rate is the 3-month WIBOR rate (Warsaw Interbank Offered Rate), as deflated by the Consumer Price Index (CPI).

The real exchange rate is represented by the real effective exchange rate, i.e., an index of the nominal effective exchange rate as adjusted for price movements (the CPI) at home and abroad, taking account of the relative share of particular countries in trade with Poland. The real effective exchange rate is determined by the following formula:

$$REER = E\frac{P}{P^*},$$

where:

E – movements in nominal effective exchange rate, where 1 unit of domestic currency is equivalent to x units of a foreign currency

P – index of domestic prices

P^* – index of foreign prices

The design of the Monetary Conditions Index requires the application of appropriate weights to the particular variables in the Index. On the basis of a model of the relationship between a series of variables – the difference between the potential and actual real value of output (the dependent variable), and real yields on 26-week T-bills, the real dollar exchange rate and the inflation rate (independent variables) – it has been demonstrated that the weights applied within the Index should be assigned in a ratio of 2:1 (i.e., 2 for the real interest rate and 1 for the annual movement in the real exchange rate).

exchange rate for the zloty, moved down markedly from mid-2001, and in December was lower than it had been in December 2000.

The easing of monetary policy was assisted by a substantial improvement in Poland's current balance. The current account deficit was successfully brought down from over 8% of GDP at the beginning of 2000 to 6.3% at year end 2000 and 4.1% at year end 2001. This proved possible, on the one hand, thanks to a cautious monetary policy, and on the other – due to the maintenance within the EU, until mid-2001, of relatively strong economic growth and demand for

Polish exports. In consequence, the likelihood greatly diminished of the zloty slumping in value and of inflation accelerating in the future.

Despite the considerable lowering of NBP base rates, annual inflation at year end 2001 was less than expected, at 3.6% This was the combined effect of both supply factors, i.e., a situation on the markets for food and fuels that was exceptionally favourable for a slowdown in inflation, and of demand factors, i.e., a sharper reduction than projected in external demand and a decrease in domestic absorption (these tendencies are discussed in more detail in earlier sections of the present Report). Zloty appreciation also acted to restrain price growth.

The short-term inflation target set in the *Monetary Policy Guidelines for the Year 2001* was 6%–8%. However, given the large degree of uncertainty concerning the development in 2001 of factors that would condition performance of that target, yet which remained outside the control of monetary policy, the MPC made the reservation that it would not automatically loosen monetary policy were inflation to fall below the target range due to supply shocks.

As it turned out, supply shocks that encouraged the reduction of inflation did indeed take place in Poland in 2001, on the food and fuel markets. As a result, "net" inflation, i.e., core inflation obtained by stripping out food and fuel prices from the CPI, came to 5.1%. This means that, were movements in food and fuel prices to be excluded, the decline in the headline CPI at year end 2001 would have been 1.5 points lower. Further, it should be noted that adjusting the CPI to deduct the impact of appreciation in the nominal effective zloty exchange rate also adds another 0.9 points to consumer price growth. In these circumstances, "allowing" the inflation target range to be undershot was a consequence of the MPC seeking to stabilise inflation at a low level, in line with the medium-term target. Had any deeper interest rate cuts been performed, this would have threatened to trigger a resurgence of inflation once the effects of the above-mentioned supply shocks faded away, and would thereby have made it necessary to incur additional costs in reducing inflation in the coming years.

Apart from two rate cuts of one point each, carried out at the MPC meetings in February and March, last

year's downward adjustments to NBP interest rates were concentrated in the latter half of the year[33]. Studies conducted at the NBP indicate that interest rate adjustments exert their maximum impact on inflation with a time lag of seven to nine quarters[34], while the corresponding impact on economic growth is delayed by four to six quarters. This implies that last year's decisions of the MPC were incapable of having a significant effect on either of these two variables in 2001.

The policy of cautious rate reductions that was pursued in the first half of 2001 was determined by several considerations:

- Most forecasts available in the first months of 2001 indicated that last year's GDP growth in Poland would come to around 4%–4.5%, peaking in the third quarter. Even the most pessimistic projections then being made (by CASE) pointed to much stronger growth last year (3%) than was actually achieved (1.1%). It was expected that a major increase in social benefits (high cost-of-living adjustments to old-age and disability pensions) and in incomes from employment would lead to a significant rise in personal disposable incomes. It was also anticipated that the decline in investment growth observed since the last quarter of 1999 would be reversed; this was based on forecasts that economic growth in the European Union would come down only slightly, and on the assumption that corporate finances in Poland would improve.
- The first months of 2001 saw a continued risk of rapid food price growth, which had previously been one of the basic factors speeding up inflation.
- The experiences of the previous cycle of monetary easing at the turn of 1998–99 additionally inclined the MPC to trim rates carefully. The profound cuts in interest rates carried out at the beginning of 1999, in an environment of slackening economic growth, declining inflation and pressure for zloty appreciation, prompted a distinct acceleration of lending growth and weakening

[33] The decision to lower NBP base rates by one and a half points taken on June 27 could not have had any economic consequences until the second half of the year.

[34] Although analyses of the transmission mechanism indicate that particular transmission channels affect inflation with varying intensity and at varying speed, the maximum impact on quarterly inflation of interest rate policy measures is visible after seven to nine quarters, while on twelve-month inflation it is felt after eight to ten quarters.

of deposit growth, which in conjunction with supply shocks on the food and fuel markets resulted at that point in a rise in inflation and a dangerous burgeoning of the current account deficit. Mindful of those experiences, the MPC therefore displayed particular caution in order to sustain the downward tendency in inflation visible since July 2000 (when it was running at a high 11.6%), and thereby to allow achievement of the medium-term monetary policy target, which is to bring inflation down to under 4% by year end 2003[35].

- The MPC was also guided in its policy by the aim of lowering and stabilising inflation expectations.
- A major role in reducing CPI growth was played by supply shocks; a reversal of these, in conditions where monetary policy was more expansionary, could have re-ignited inflation and threatened performance of the medium-term target.
- In the course of the year, the household propensity to save at the banks declined. This was linked to low nominal growth in aggregate personal incomes on the one hand, and to falling bank deposit rates on the other.

In the event, the course taken by most key macroeconomic variables was unfavourable to Polish economic growth. Demand growth weakened both at home and abroad, clearly cancelling out inflationary pressure.

Monetary policy instruments

The basic monetary policy instrument employed by the NBP in 2001 were interest rates. By impacting the level of nominal, short-term money market rates, the MPC sought to attain a level of interest rates within the Polish economy that would correspond to the adopted inflation target. In order to influence short-term interest rates as desired, the NBP utilised open market operations, lending and deposit-taking operations, and required reserves.

Open market operations constituted the key instrument allowing the central bank to eliminate

[35] Comparing inflation at the start of 1999 with the inflation recorded in January and February 2002, in a similar situation of demand for Polish exports substantially contracting, we see that it is currently only around 2 points lower.

Table 21
Most important Monetary Policy Council decisions, 2001

Date[a]	Decision
February 28	Minimum 28-day reverse repo rate lowered from annual 19% to 18%
	Lombard rate lowered from 23% to 22%
	Rediscount rate lowered from 21.5% to 20.5%
March 28	Minimum 28-day reverse repo rate lowered from annual 18% to 17%
	Lombard rate lowered from 22% to 21%
	Rediscount rate lowered from 20.5% to 19.5%
June 27	Minimum 28-day reverse repo rate lowered from annual 17% to 15.5%
	Lombard rate lowered from 21% to 19.5%
	Rediscount rate lowered from 19.5% to 18%
August 22	Minimum 28-day reverse repo rate lowered from annual 15.5% to 14.5%
	Lombard rate lowered from 19.5% to 18.5%
	Rediscount rate lowered from 18% to 17%
	Adoption of *Monetary Policy Guidelines for the Year 2002*
October 26	Minimum 28-day reverse repo rate lowered from annual 14.5% to 13%
	Lombard rate lowered from 18.5% to 17%
	Rediscount rate lowered from 17% to 15.5%
November 28	Minimum 28-day reverse repo rate lowered from annual 13% to 11.5%
	Lombard rate lowered from 17% to 15.5%
	Rediscount rate lowered from 15.5% to 14%
	Introduction of deposit rate (7.5%)
December 19	Reserve ratio lowered from 5% to 4.5%, vault cash no longer eligible
	for inclusion in required reserves (as of February 28, 2002)

[a] Date decision taken.

Source: NBP.

fluctuations in interest rates and maintain these at the level desired in terms of monetary policy. 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

direction of monetary policy. Over the year, the open market operations conducted by the NBP to stabilise market rates were scaled down. At the end of 2001, the nominal value of money market bills issued and outstanding totalled 14,271m zloty, as against 20,475m zloty at year end 2000.

A major factor contributing towards reducing the extent of excess liquidity were continued outright sales by the NBP of Treasury securities. At 49 tenders held last year, the Bank put up for sale converted Treasury bonds to a nominal value of 15,600m zloty. Total demand from investors during the year amounted to 23,955m zloty, equivalent to 153.56% of supply. In all, the NBP accepted bids to a nominal value of 6,370m zloty, representing 40.83% of supply and 26.59% of demand.

Since the NBP conducted its basic 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.

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.

In December 2001, the NBP introduced a central bank deposit rate in order to establish a floor on fluctuations in the shortest interbank rates. The deposit rate constitutes the price at which the central bank is willing to accept overnight deposits from the banks. Thanks to this, as of December 2001 the rates applied in the Bank's lending and deposit-taking operations functioned as a corridor for fluctuations in one-day money market rates. The introduction of overnight deposits conforms to the long-term plan for bringing the instruments employed by the NBP into line with the system utilised by the European Central Bank.

The basic role of **required reserves** 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 lowering of reserve requirements in 1999 lessened their importance as an instrument for the lasting absorption of liquidity from the banks. The actual amount of the reserve held during a reserve maintenance period continued to be calculated in 2001 as the sum of averaged daily balances on the bank's current account or reserve account at the NBP and of daily balances of vault cash, these being no greater than declared by the bank. Reserve requirements varied depending on the value of reservable funds taken by banks and on the amount of any exemptions from the reserve under rulings of the NBP Management Board.

The reserve ratio in 2001 stood at 5% of all deposits. Vault cash declared by the banks was eligible for inclusion as up to 10% of the reserves required. The principles and procedures for calculating and maintaining regulatory required reserves were those specified in Resolution no. 10/98 of the NBP Management Board, June 5, 1998.

In order to reinforce the role of reserve requirements as an instrument stabilising market interest rates, the NBP broadened the scope of information made available to the banks on banking sector liquidity. As of December 2001, the NBP began publishing daily figures 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 December 2001, the NBP also introduced an intra-day credit facility allowing the commercial banks to access refinancing in the course of the business day. The purpose of this was to impart more flexibility to the system of interbank settlements and facilitate intra-day liquidity management at the banks. 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. The introduction of this facility is a desirable development in the context of the growing importance of gross interbank settlements. The operation of this facility also represents a precondition for NBP participation in the TARGET system, and thus also in the Eurosystem itself.

6.2. The money supply

At the end of 2001, the money supply (M2) totalled 334.7bn zloty, representing an increase on year end 2000 of 40.4bn zloty, or 13.7%[36]. Real growth came to 9.8% and was slightly down on the average for the years 1997-2000, which stood at 10.3%.

The slowdown in GDP growth, allied with relatively rapid monetary expansion, resulted in an increase in the monetisation of the Polish economy. It is estimated that the ratio of money stocks (annualised average M2) to GDP stood at 43.0% in 2001, as against 40.0% in 2000. As measured by the ratio of domestic money stocks to GDP, the degree of monetisation last year came to 36.4%, (compared to 33.7% in 2000)[37]. At year end, the ratio of the total money supply to GDP was 46.3% (as against 43.0% at the end of 2000).

Twelve-month money supply growth during 2001 was lower than in previous years and comparatively stable (cf. Fig. 39). Growth rates in particular months showed no more than minor deviations from the annualised average, which came to 13.4%. The distinctly more muted growth in M2 seen in June was a consequence of the high reference base represented by June 2000. At that point in the previous year, non-financial sector deposits and loans had soared, taking the money supply with them, due to the public offering of sales in the PKN Orlen Polish Oil Corporation.

The direction of movement in domestic money stocks last year substantially coincided with that in the overall money supply as measured by M2. Over the first three quarters of the year, twelve-month growth in domestic money stocks fluctuated mildly around the 15% mark. The sole more significant disruption to this was the fall in growth in June, as already mentioned. In the fourth quarter, growth dipped to around 12%.

At year end, domestic money stocks accounted for 84.2% of total M2, as against 85.4% a year earlier. Throughout the year, the monthly figures for this stayed within a narrow range of 84.2%–85.5% (compared to 83%–85.4% in 2000).

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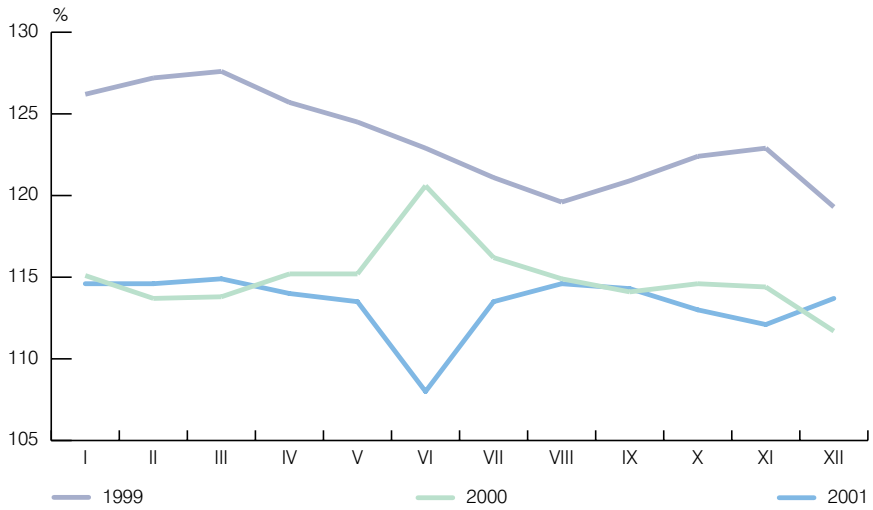
[36] Money supply growth in 2001 was thus close to the lower bound of the range forecast in the *Monetary Policy Guidelines for the Year 2001*, i.e., 40–46bn zloty.

[37] Domestic money stocks are defined as the sum of notes and coin in circulation (excluding vault cash) and zloty balances held at banks by persons and corporates.

Figure 39
Total money supply, nominal growth
(corresponding month previous year = 100)



Source: NBP.

One factor behind the slight decrease recorded last year in domestic money stocks as a proportion of M2 were changes in the composition of M2 at the end of 2001, with the relative share of zloty deposits declining in favour of foreign currency deposits.

At the end of 2001, total zloty deposits taken from persons and corporates amounted to 243.5bn zloty. This constitutes an increase over the year of 26.2bn zloty, or 12.1%, which is 5 points less than in 2000. This was the end result of much weaker growth in personal deposits and stronger growth in corporate deposits.

At year end, corporate deposits stood at 71.5bn zloty, having risen 8.3bn zloty during the year, or 13.1%. While this growth was considerably faster than in 2000 (2.8%), it was still much slower than in the years 1998–99 (26.5% and 30.1%, respectively). The final growth figures for these deposits were impacted by a very sharp increase in corporate zloty deposits in the fourth quarter, coming to a huge 11.2bn zloty. In November, 4.7bn zloty was placed on account at the banks by non-bank financial institutions, with this sum being earmarked for the purchase of units in investment funds and Treasury securities. Further, in the final ten days of

Table 22
Composition of total money supply, 1999–2001 *(%, year end)*

	1999	2000	2001
Notes & coin	14.5	11.6	11.4
Zloty liabilities	70.5	73.8	72.8
Foreign currency liabilities	15.0	14.6	15.8

Source: NBP.

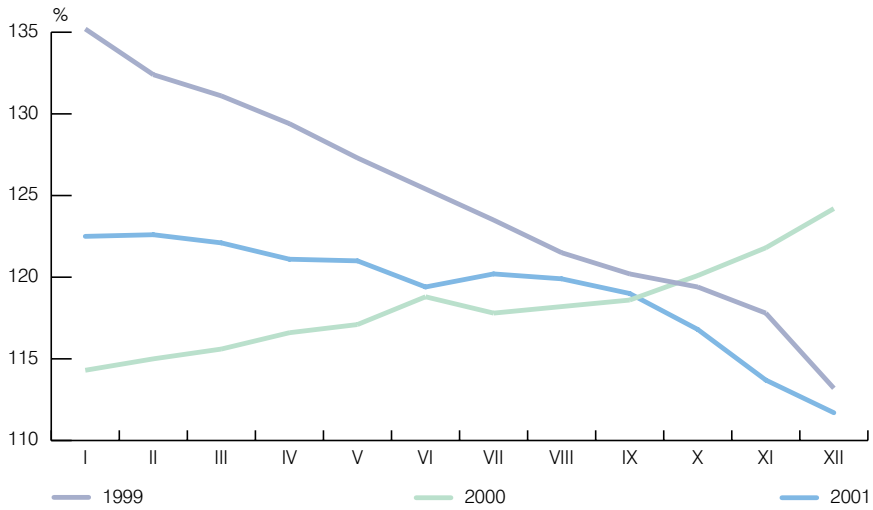
the year business organisations deposited some 5bn zloty at the banks, equivalent to over 60% of their annual deposit growth. This was a seasonal development, associated with companies posting funds from settlement accounts at the banks to deposit accounts as they closed out their annual balance sheets.

Last year's personal deposit growth, of 11.7%, was well below the 24.1% reported in 2000 (cf. Fig. 40). This growth represented 2.5% of GDP in 2001, compare to 4.4% in 2000. At year end, personal balances totalled 172.0bn zloty, having gone up 18.0bn zloty over the year, whereas in 2000 the corresponding increase had been 30bn zloty.

The reasons for this should be sought in the low growth of nominal personal incomes. In addition, a series of reductions in deposit rates at the commercial banks, in response to cuts in NBP interest rates, lessened the attractions of bank deposits. Weighted average rates on personal zloty time deposits came down from 14.4% at the beginning of last year to 7.9% at the end, which in real terms meant a decline from 6.5% to 4.1%.

In the last two months of 2001, most particularly in November, there was also a huge runoff of personal bank deposits, with these being shifted to such savings vehicles as units in investment funds and Treasury savings bonds. Confirmation of this is given by the monthly increase in the assets of investment funds caused by purchases of new units, which in November amounted to an unprecedented 3.1bn zloty. November's boom at the investment funds was then continued with additional growth of 2.2bn zloty in December. Personal holdings of Treasury securities climbed 1bn zloty in November, and then 0.1bn zloty in December.

Figure 40
Personal zloty deposits, nominal growth
(corresponding month previous year = 100)



Source: NBP.

This reallocation of funds resulted from a desire to avoid the taxation of interest income on bank deposits, which was announced at that time. Further, bonds and units in investment funds provided higher returns compared to bank deposits. As a result, for the first time since the beginning of Poland's systemic transition, November 2001 saw a fall in personal zloty deposits at the banks compared to the month before.

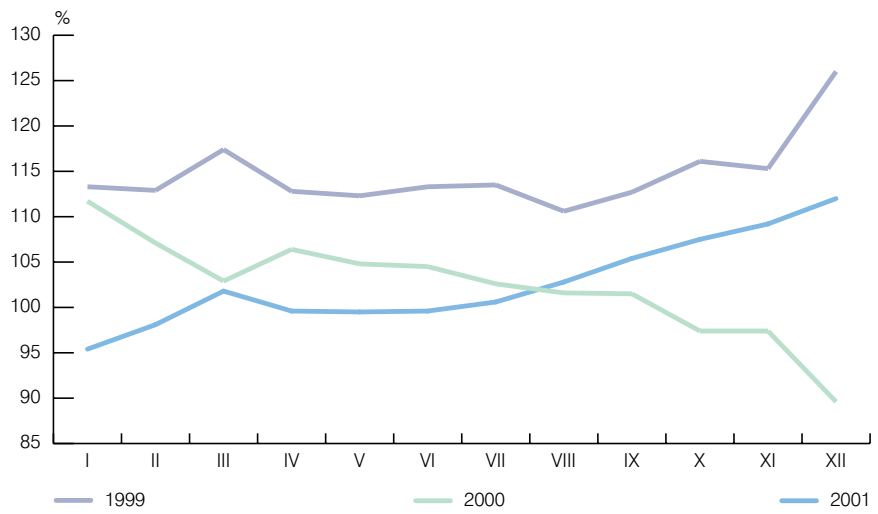
The desire to escape the tax on bank interest income also led to a surge in the interest shown by private individuals in non-taxable bank deposits. These deposits were not created from new funds placed at the banks, but arose from existing short-term deposits being converted into long-term ones. The upshot was that the greatest decrease was seen in deposits maturing in up to one month and those maturing in one to three months, while the largest increase was registered in deposits maturing in over two years. There was also substantial growth in deposits maturing in from six months to one year, and from one to two years. All in all, personal customers withdrew 26.6bn zloty from current accounts and short-term deposit accounts in November and December, while at the same time increasing the balances on their long-term deposits by 25.6bn zloty.

At the end of 2001, the foreign currency balances held by persons and corporates amounted to the equivalent of US$ 13.3bn. Compared to year end 2000, this represented growth of 28.2%.

Personal savings in foreign currencies totalled US$ 9.3bn at year end, having risen 18.2% during the year. The largest increase in foreign currency accounts, US$ 0.5bn, was reported in December. This was primarily related to private individuals making deposits in the national currencies of the countries about to introduce euro notes and coin.

Corporate foreign currency balances shot up 60.2% last year, to stand at around US$ 4.0bn. December brought a strengthening of the trend seen since October for the zloty to appreciate in both nominal and real terms. The firming of the Polish currency was encouraged by expectations of a further easing of monetary policy, which mounted as disinflation became more pronounced and political pressure on the MPC was stepped up. These factors may have induced corporates to invest an increasing proportion of their idle funds in foreign currencies in anticipation of zloty depreciation.

Figure 41
Notes & coin in circulation, nominal growth
(corresponding month previous year = 100)



Source: NBP.

Brief swings in the level of corporate foreign currency balances were also caused by the proceeds of bond issues denominated in euro being placed on time deposit accounts; in both March and October, the amounts involved here were €0.5bn.

Expressed in zloty, the foreign currency liabilities of the banks to persons and corporates went up 10bn last year, to stand at 53bn. Personal foreign currency balances at year end were equivalent to 37.2bn zloty, giving an increase over the year of 4.5bn zloty (in 2000, this increase had come to 2.4bn zloty). Meanwhile, corporate foreign currency balances were equivalent to 15.8bn zloty, a rise of 5.5bn zloty (compared to an increase of 0.9bn zloty in 2000). Zloty appreciation during the year reduced the zloty value of foreign currency deposits by around 1.8bn.

The year 2001 brought a reversal of the downward trend in the volume of notes and coin in circulation that had been observed in 2000. This trend was sustained until mid-year, whereupon from July onwards, growth in cash stocks gradually began to speed up, reaching 12.0% in December. At year end, currency in circulation amounted to 38.2bn zloty, representing an increase over the year of 4.1bn zloty (cf. Fig. 41).

One of the reasons for this change was that the appeal of bank deposits diminished in the course of the 2001, while the opportunity cost involved in holding cash was reduced as inflation came down. The growth of notes and coin in circulation was also related to the deterioration in corporate finances, one expression being the difficulties which companies encountered in collecting on their receivables. In these circumstances, many businesses, particularly small ones, safeguarded their liquidity position by holding larger stocks of cash. The faster growth seen in notes and coin could also have been a symptom of the expansion of the "grey economy".

Another factor behind the higher volume of notes and coin may also have been increased purchases of Euroland national currencies in November and December 2001, prior to their being retired from circulation. The equivalent of US$ 737m was purchased in this period, of which 40% was then exchanged into zloty (according to a survey by the PBS polling organisation in Sopot). A substantial part of these funds may have swollen cash stocks.

Table 23
Money supply growth, 2000–2001

	2000	2001			
	volume		growth	annual growth rate	
				nominal	real
	million zloty			%	
Total money supply	**294,388**	**334,753**	**40,365**	**113.7**	**109.8**
Domestic money stocks	251,417	281,761	30,344	112.1	108.2
Notes & coin	34,113	38,213	4,100	112.0	108.1
Total zloty deposits,					
persons & corporates	217,305	243,549	26,244	112.1	108.2
Personal zloty deposits	154,047	172,024	17,977	111.7	107.8
Corporate zloty deposits	63,258	71,525	8,267	113.1	109.2
Total foreign currency deposits,					
persons & corporates	42,971	52,992	10,021	123.3	119.0
Personal foreign currency deposits	32,716	37,190	4,474	113.7	109.7
Corporate foreign currency deposits	10,254	15,801	5,547	154.1	148.7

Source: NBP.

In analysing monetary processes in 2000, one conclusion that has to be drawn is that an adverse development was evident in the fourth quarter, namely, the distinct weakening of the growth tendency in personal zloty deposits at the banks. This declining household propensity to save at the banks was on the one hand related to low growth in nominal personal incomes, and on the other to the marked reduction in bank deposit rates in the course of the year. In addition, the announcement that interest income on bank deposits was to become taxable meant that in the fourth quarter households held back from placing their savings at the banks, preferring to use their surplus funds to purchase bonds and units in investment funds, and also to invest in real estate.

Counterparts to changes in money stocks

The relative contribution of particular items to changes in money stocks underwent major changes in 2001 compared to the previous year. The most significant of these was that the net indebtedness of general government, which in 2000 had restrained money supply growth, became the main driver of that

Table 24
Counterparts to changes in money stocks

	2000		2001	
	growth, billion zloty	share in growth, %	growth, billion zloty	share in growth, %
Total money supply	**30.9**	**100.0**	**40.4**	**100.0**
Net foreign assets	21.4	69.1	2.6	6.4
Claims on persons & corporates	30.4	98.3	15.6	38.7
General government net debt	-13.8	-44.7	17.2	42.5
Other items (net)	-7.0	-22.7	5.0	12.4

Source: NBP (Banking System Statistics).

growth in 2001. The second most important counterpart to changes in money stocks last year were claims on persons and corporates, which a year earlier had made the principal contribution to money supply growth. A distinct increase was seen in the part played by the balance on "other items (net)", while a lesser role was played by net foreign assets (cf. Table 24).

Net general government indebtedness within the domestic banking system rose 17.1bn zloty in 2001, thereby going up 33.8% to stand at 67.9bn zloty. The swift growth seen in this indebtedness was traceable to:

- the Treasury issue of dollar-denominated bonds for the NBP, to a value of 8.5bn zloty, in connection with the Bank making available funds from the foreign exchange reserves for the early redemption of Polish debt to Brazil,
- an 8.6bn zloty increase in the net liabilities of general government associated with the ongoing financial situation of this sector; of this amount, 7.3bn zloty represented growth in claims on government and in securities outstanding, while 1.3bn zloty represented a decline in government deposits at the banks.

Figure 42 presents movements in net general government indebtedness in 2000 and 2001 in relation to the total money supply.

The general government sector increased its role last year in overall money creation. The increase in the net debt of the particular components of this sector was as

follows: central government – 12.43bn zloty; special-purpose funds – 1.45bn zloty; local government – 3.28bn zloty.

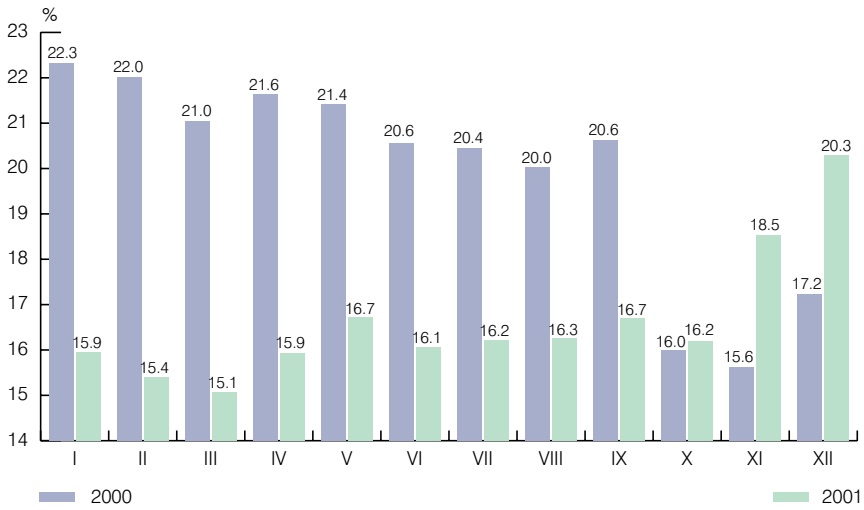
Last year's substantial rise in the net debt of central government was the result of its high borrowing requirements, which were accompanied by a marked decrease in privatisation receipts. These receipts were originally planned to come to 18bn zloty, whereas the proceeds actually received from privatisations were just over a third of that figure (6.5bn zloty). In 2000, it was the large revenues collected from privatisations (26.7bn zloty) that allowed a major reduction in the net debt of central government (which came down 13.82bn zloty).

The principal source of funding for central government borrowing requirements in 2001 thus remained revenues from the sale of Treasury securities on the domestic market and from two international bond issues that were performed during the year. The funding from the non-bank sector provided to meet government financing requirements increased considerably compared to 2000 (going up around 37%). The banks also displayed greater interest in purchasing Treasuries (as risk-free investments), being additionally drawn by the attractive price of this paper.

The year 2001 saw a surge in central government debt on short-term securities issued and outstanding. Over the year as a whole, the value of Treasury bills held by the banks amounted to 18.6bn zloty, climbing 7.3bn (64.2%), while in 2000 central government liabilities on T-bills had sunk by as much as 4.9bn zloty (30.1%). At the same time, the value of outstanding Treasury bonds fell 3.7bn zloty (7.5%), to stand at 45.5bn zloty, while the year before it had risen 3.4bn zloty (7.4%). Thus, a substantial change was effected last year in the maturity structure of Treasury securities held by the banks, with holdings of T-bills now increasing to 23.3% of those securities (from 16.4% in 2000) and holdings of zloty-denominated T-bonds slipping sharply to 56.9% (as against 71.2% in 2000).

Both special-purpose funds and local government saw a rise last year in their net debt to the banks. For the first time in a decade, claims on local authorities exceeded the amount due to them from the banks on deposits, which was due to a hefty 58.3% increase in borrowings and issues of municipal bonds. Bank claims on special-purpose funds were also significantly higher

Figure 42
General government debt (net) in total money supply



Source: NBP.

than in 2000, the result of loan finance provided to the Social Insurance Board and Employment Fund.

Deducting the bonds issued to fund redemption of the debt to Brazil considerably reduces the growth in net general government debt, yet in comparison with the previous year, which saw a major decrease in this item of the aggregate balance sheet of the banking system (a year-on-year decline of over 21.4%), growth was still rapid (an increase of 17%). It should be added that, despite the difficult situation faced by general government last year, its net debt to the banking system exhibited negative year-on-year growth to the end of the third quarter, and was it only in October that this trend was reversed.

A particularly steep rise was recorded last year in net domestic assets, which went up around 23.3%. The net indebtedness of general government accounted for a huge 45.4% of growth in these assets. Adjusting these figures for the effects of the operation involving redemption of the debt to Brazil, growth in domestic assets comes to 18%, while the share of net general government debt in this growth comes to 29.5%. The need to expand the volume of outstanding Treasury securities in order to finance government borrowing requirements was also

indirectly responsible for the maintenance of high lending rates for non-financial customers.

At the end of 2001, **claims on persons and corporates** were equivalent to 66.3% of total money stocks within the banking system[38]. The relative weight of claims on corporates within the money supply trended downwards throughout the year, and at year end stood at 49.8% (compared to 53.7% in 2000). By contrast, the proportion of money stocks represented by claims on persons held steady, and at the end of the year represented 16.5% (as against 16.4% in 2000).

In nominal terms, claims on persons and corporates rose 7.6% in 2001, with claims on corporates up 5.4% and those on persons up 14.7%. However, nominal growth in claims on persons and corporates came down systematically over the whole year, with the exception of July and August, when this trend levelled out somewhat (cf. Fig. 43). In real terms, growth in personal and corporate outstandings came to 3.8% at the end of December (compared to 8.1% a year before)[39].

Foreign currency claims trended upwards last year as a proportion of total claims, accounting for 24.4% at year end (a year earlier this had been 21.1%). In the first three quarters of the year, claims denominated in foreign currencies rose faster than those in zloty, although in the fourth quarter this relationship was reversed.

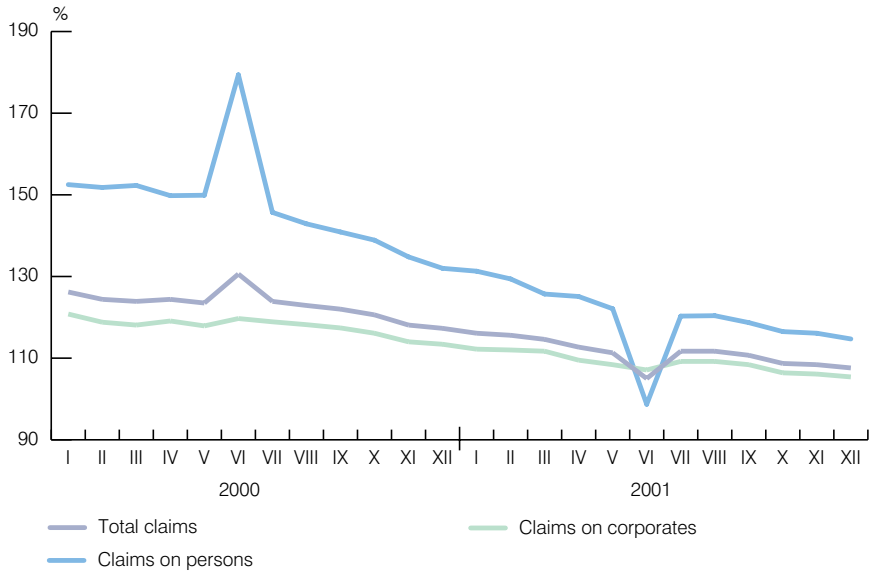
The ratio of **irregular classifications** to total claims increased to 16.1% in 2001, from 13.7% in 2000 (cf. Fig. 44), with irregular claims on persons growing more rapidly than those on corporates.

The increase in claims on corporates classified irregular was fuelled by growth in loss classifications. This could have been the result of the downgrading of a substantial portion of doubtful classifications (due to the deteriorating financial condition of the corporate borrowers concerned and repayment delinquency), with new adverse classifications being classed as doubtful or substandard.

[38] Claims on persons and corporates consist of all categories of loan irrespective of risk classification, and also of purchased debt, funds disbursed under guarantees and endorsements, interest receivable, and claims arising on interest subsidies to preferential agricultural loans.

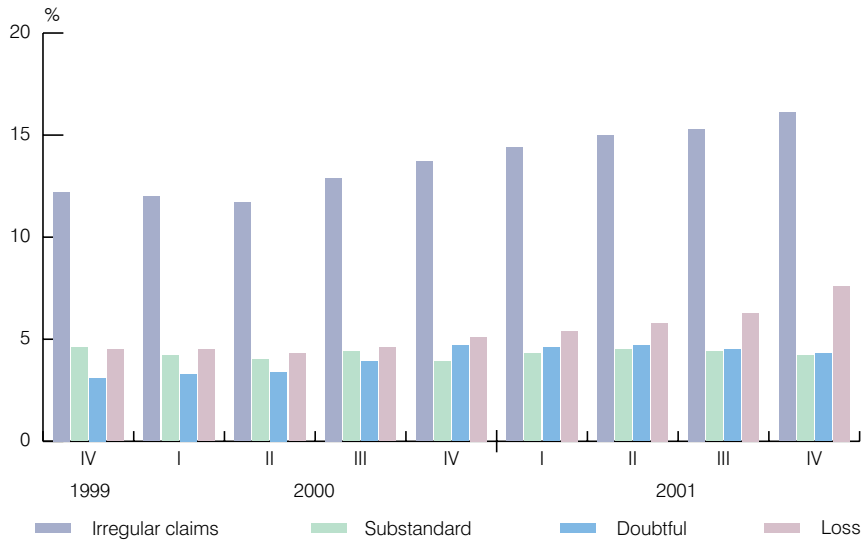
[39] As adjusted by reference to twelve-month consumer price growth of 3.6%.

Figure 43
Claims on persons and corporates
(corresponding month previous year = 100)



Source: NBP.

Figure 44
Severity of irregular claims on non-financial customers
(end of quarter)



Source: NBP.

In the fourth quarter of 2001, the negative balance on "**other items (net)**" shrank 9.1bn zloty (9.2%), and at year end amounted to 89.8bn zloty. Over the year as a whole, however, this negative balance narrowed 5bn zloty, or 5.3%.

The scale and direction of movements in this category were chiefly determined by *other assets (net) at the NBP*. In the fourth quarter, the liability balance on these assets contracted by 8.8bn zloty, or 25.7%, while over the entire year it diminished 11.8bn zloty, or 31.5%. This decrease was principally related to a reduction in the balance on the currency translation reserve due to zloty appreciation yielding translation losses on the revaluation of foreign currency assets and liabilities. The movements that took place in "other assets (net) at the NBP", although significant, were associated with memorandum entries on the currency translation reserve account. As such, they did not affect the total money supply in the fourth quarter, since they resulted neither in the creation of money stocks, nor in their absorption.

Another component of "other items (net)" to show a substantial decline in its negative balance were *interbank and interoffice settlements at the commercial banks*. In the fourth quarter of the year, the negative balance on these settlements came down 1.2bn zloty (39.4%), while over the whole year it decreased 1.9bn zloty (50.5%). At the end of their financial year, the banks normally seek to post the sums on their settlement accounts to other accounts. The amounts posted from these settlement accounts to corporate and personal deposit accounts stimulated money supply growth, both in the fourth quarter and throughout the year.

A further component of "other items (net)" where the negative balance was reduced was *net interest at the commercial banks* due to non-financial customers and government. In the fourth quarter of 2001, this interest payable fell 0.6bn zloty, while over the entire year it came down 1.6bn zloty. The movements in this item are traceable to accrued interest being taken to deposit balances at the end of particular quarters. The interest thus credited to customer accounts increased the total money supply.

One item that acted to raise the negative balance on "other items (net)" was the *capital of the commercial banks and NBP*. In the fourth quarter of 2001, this capital

Table 25
Net foreign assets

	Year end 2001 (billion zloty)	Growth since Dec. 2000 (billion zloty)	Growth rate, Dec. 2000 = 100
Net foreign assets, total banking system	134.7	2.6	102.0
Net foreign assets, NBP	103.8	-8.4	92.5
Net foreign assets, commercial banks	30.8	10.9	154.8

went up 1.8bn zloty, or 4.4%, while during the year as a whole it grew 7.5bn zloty, or 21.2%. The chief component propelling this growth was the core capital of the commercial banks. In the fourth quarter of 2001, this rose 1.5bn zloty, while over the whole year it climbed 6.9bn zloty. These movements in capital resulted in an absorption of money stocks proportionate to the amount of funds accessed from the non-bank sector to finance this capital growth.

Movements in the remaining components of "other items (net)" within the aggregate balance sheet of the banking system had no material effect on the total money supply.

The **net foreign assets** of the banking system grew 2.0% in 2001[40]. This represented the end result of an increase in both foreign assets (up 3.0% to 172.6bn zloty) and foreign liabilities (up 6.8% to 37.9bn zloty). Expressed in dollars, net foreign assets at year end totalled 33.8bn.

The part played here by the commercial banks continued to increase, as reflected in a rise in their share of both the foreign assets of the banking system (up from 28.0% at year end 2000 to 35.3% at year end 2001) and of foreign liabilities (up from 76.1% to 79.7%). The foreign assets of these banks grew 30.1% to stand at 61.0bn zloty, while their foreign liabilities went up 11.9% to 30.2bn zloty.

[40] The net foreign assets of the banking system comprise the foreign assets administered by the NBP (the official reserve assets and other assets denominated in foreign currencies), together with the foreign assets held by the commercial banks, less the liabilities of the NBP and the commercial banks to non-residents, whether denominated in foreign currencies or in zloty.

The lack of NBP intervention on the currency market in 2001 had a stabilising effect on the level of the Bank's foreign assets and liabilities. At year end, the foreign assets held by the NBP amounted to 111.6bn zloty, representing 67.4% of the foreign assets within the whole banking system (compared to 72.0% at the end of 2000). The decline in the foreign assets of the NBP is primarily attributable to the early redemption of Polish debt to Brazil. The share held by the NBP in foreign liabilities came down as well, dropping from 23.9% at the end of 2000 to 20.3% at the end of 2001. Expressed in zloty, the official reserve assets, the main component of the Bank's foreign assets, remained within a range of 105.9–119.9bn during the year. The largest fluctuations took place in the fourth quarter, in connection with the Brazilian operation. Incoming privatisation receipts were transferred to the government foreign currency account. These funds were then applied to servicing Poland's foreign debt, and partly financed retiring the debt to Brazil.

6.3. Monetary policy transmission mechanisms

6.3.1. Interest rates

Monetary policy and interbank rates

In 2001, the central bank reference rate (the minimum reverse repo rate) was lowered on six occasions, coming down a total of seven and a half points. Money market interest rates, conditioned by expectations of a fall in official rates, also trended downwards. From January to December, one-month WIBOR slid 741 bps, while 12-month WIBOR dropped 799 bps (cf. Fig. 45).

Despite the maintenance of the downtrend in interbank rates, these rose temporarily three times during 2001. This was the result of:

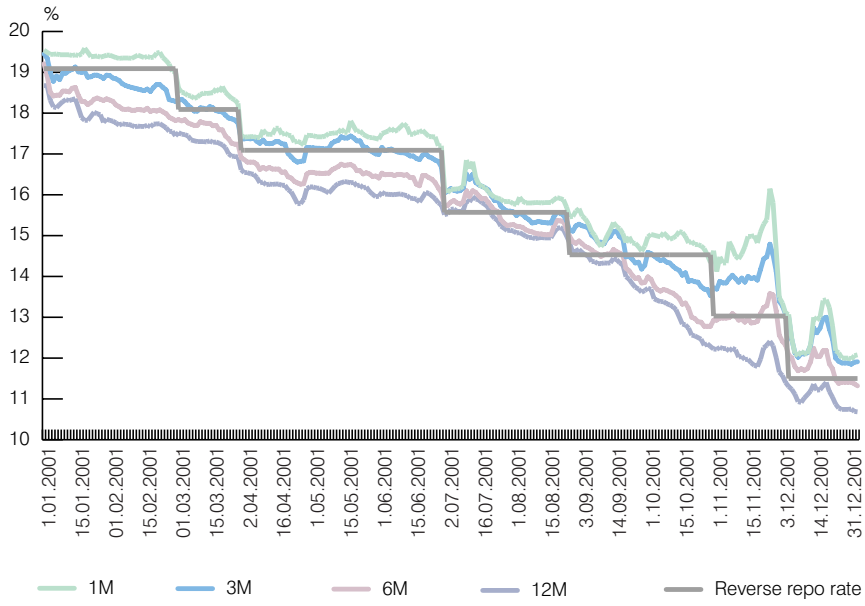
- sharp zloty depreciation at the beginning of July,
- liquidity disruptions in November,
- the knock-on effect of those disruptions in December.

The disruptions seen in November proved particularly prolonged. Although the NBP cut its reference rate from 14.5% to 13% on October 24, from October 26 to November 22 WIBOR O/N rates

averaged 17.73%, while 1M WIBOR also rose over this period, climbing from 14.63% to a high point of 16.15% on November 21.

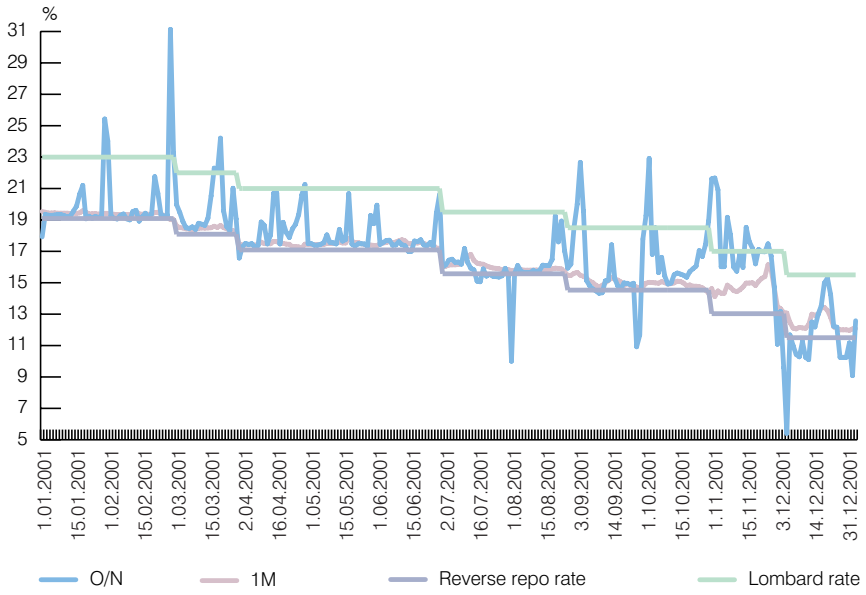
Prior to October's meeting of the Monetary Policy Council, there were strong market expectations of a rate cut. These sparked higher demand for NBP money market bills. Where the demand for these bills exceeds supply, the central bank has to scale down the bids received in corresponding proportion. Anticipating such a situation, and seeking to purchase as many of the bills available as possible, many banks submitted bids for much larger volumes of bills than warranted by the funds at their disposal. This tactic of overbidding was one the banks had already employed earlier (e.g., on August 22 last year they submitted bids totalling 23.2bn zloty, while the NBP was offering bills to a value of 5bn). On this occasion, however, not all the banks took this approach, leaving many of the others forced to buy more bills than they really wanted. This compelled them to go to the market for funding. This in turn drove short-term

Figure 45
Money market rates, 2001: 1M, 3M, 6M & 12M



Source: Reuters, NBP.

Figure 46
O/N rates vs. 1M WIBOR



Source: Reuters, NBP.

market rates up to the NBP lombard rate, and even higher. With market rates at this level, the banks then began borrowing at the NBP.

However, at the beginning of the new reserve maintenance period, the banks had to repay the lombard loans they had taken out at the NBP. As a result, the funds on the bank's accounts at the NBP were significantly lower than the averaged reserves required for that period. This situation continued for some time due to the large government balances at the NBP (the Treasury was attempting to set aside funds for large-scale expenditures at year end) and also because of the very limited amount of additional liquidity obtained by the banks from the redemption of NBP money market bills maturing in the first two weeks of November (already part of the new maintenance period). This meant that the cumulative shortfall in the balances held by the banks relative to their reserve requirements rose from one day to the next. This prompted mounting concern at the banks and led to interbank rates going up, even for the longest maturities. From mid-November onwards, the

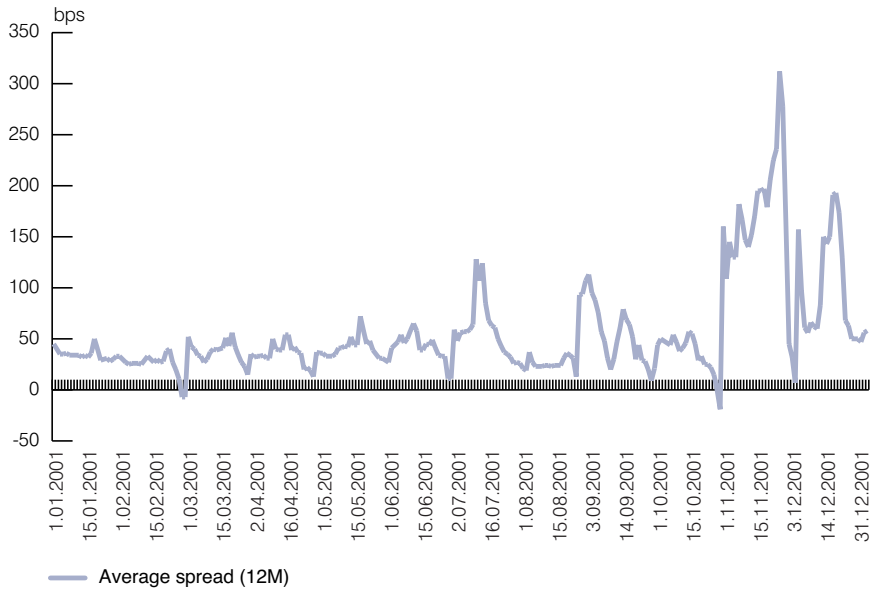
banks gradually began to recover funds as the NBP redeemed its bills. Yet despite this, short-term rates failed to come down, while longer rates, such as 1M WIBOR, continued to rise. Although the banks now held ample funds on their accounts, they were unwilling to lend these out on the market, as they were attempting to reduce the very large shortfall they still had in relation to the reserves required for that maintenance period. Nonetheless, the funds released from maturing NBP bills progressively allowed the banks to replenish their liquid reserves, to the extent that, on November 23, O/N rates at close of business fell back below the NBP reference rate.

During this whole period, the National Bank of Poland refrained from taking any extraordinary measures to supply liquidity to the banking system, since liquidity forecasts indicated that the situation would revert to normal by itself. In addition, injecting liquidity into the system, on the basis of the reference rate as lowered relative to October, could in the longer term have only aggravated the scale of the speculative trading undertaken by the banks. Expecting interest rates to be reduced, the banks would have carried out fresh speculative purchases of money market bills, assuming that the central bank would come to their assistance, doing so at new and lower rates. Understanding the potential dangers of this type, the NBP carried out certain modifications to its system of operations (see "Monetary policy instruments" in subsection 6.1).

In the fourth quarter of 2001, a parallel downward shift occurred in the short-term yield curve of around 300 bps[41]. The fall in rates on one-month FX swaps corresponded to the size of the cuts in central bank interest rates performed by the MPC during that quarter (three points altogether). However, due to the liquidity dislocations within the banking system described above, the realignment of one-month money market rates to the new level of the reference rate did not take place until towards the end of November. The character of the

[41] The short-term yield curve reflects the situation on the FX swap market, since this is the most liquid segment of the interbank market where zloty can be placed or borrowed.

Figure 47
***Spread, 1M WIBOR vs. NBP reverse repo rate** (one-month basis)*



Source: NBP.

change in the yield curve (a parallel shift) attested to continuing expectations of rates being lowered in 2002.

Commercial bank reactions to central bank policies

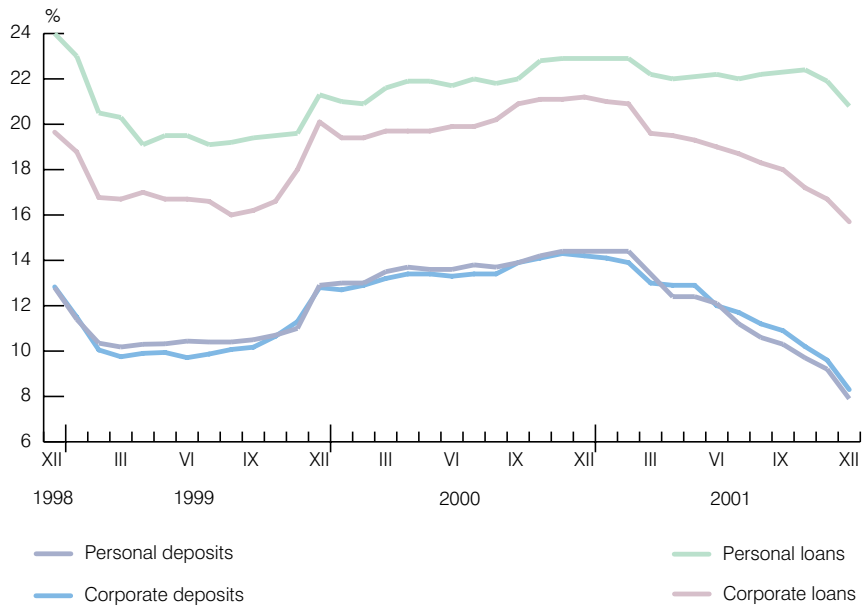
Two primary tendencies emerged in the pricing policies of the commercial banks in 2001: a more rapid adjustment of deposit rates to movements in official interest rates than had been seen in previous years, and smaller relative reductions in lending rates compared to deposit rates (most particularly as regards personal customers).

The speed with which banks adjusted their deposit rates was principally a function of their desire to cut costs. In 2001, the central bank shaved 7.5 points off its lombard and reference rates. The commercial banks, on the other hand, lowered rates on personal zloty deposits by an average of 6.5 points, rates on corporate deposits by 5.9 points, corporate lending rates by 5.5 points, and personal lending rates by 2.1 points (cf. Fig. 48). The figures available to the NBP (which do not encompass the whole market, however) indicate that the policies applied by the banks to secured loans (especially mortgages and housing

loans) differed from those applied to loans that were unsecured or poorly secured (cash advances, overdrafts, instalment loans).

In maintaining relatively high rates on loans that were unsecured, or secured by collateral of poor quality or not easily marketable in present conditions, the banks attempted to block out the highest-risk borrowers. The rise in credit risk was linked to the worsening economy, characterised by falling GDP growth and mounting unemployment. The banks also tried to compensate themselves in this way for both the expense of specific provisioning and the interest income lost on bad loans. The year 2001 saw a steady increase in the proportion of irregular loans in bank portfolios, with faster growth in adverse classifications of personal loans than corporate ones. It is noticeable that the decline in the quality of personal loans was determined by consumer loans, including instalment finance. This growth in irregular portfolios at the banks depressed the ratio of interest income to total outstandings.

Figure 48
Time deposit & lending rates, weighted averages

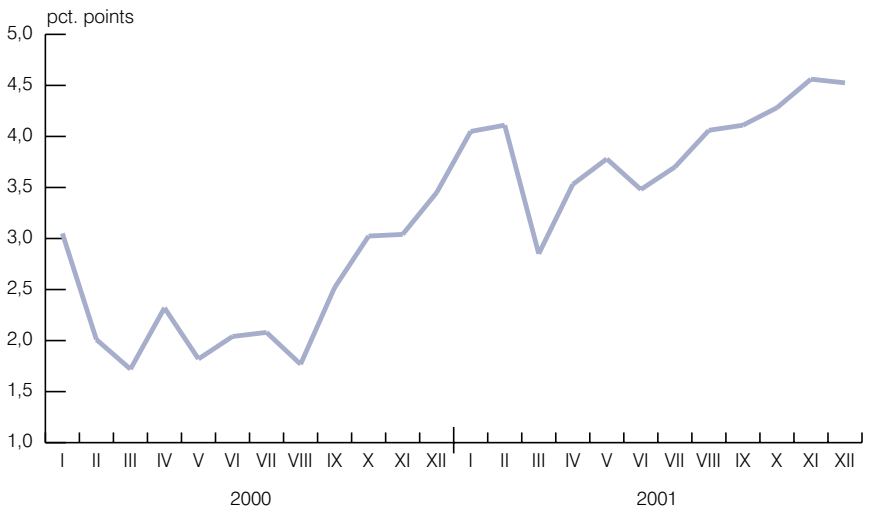


Source: NBP.

The response of particular banks to adjustments in NBP base rates varied, as is demonstrated by the large breadth of lending rates. Several banks, holding substantial shares of the loan market, applied comparatively high interest rates throughout 2001. The remaining banks lowered their lending rates to a greater extent, particularly in the second half of the year. This is illustrated by the differences reported in this period between minimum and maximum rates.

One factor that impacted the level of lending rates were the heightened borrowing requirements of general government. Money market rates (1M and 3M WIBOR) fell during the year at almost the same speed as NBP rates (a difference of 0.1 points), while yields on 52-week T-bills came down 6.9 points. Yields on T-bonds slipped even less. The rates charged on loans, especially those maturing in over one year, are strongly contingent on the yields obtainable on Treasuries, since these represent alternative investment vehicles for the banks. The scale of the reduction in lending rates was less than that in T-bill yields, yet greater than that in T-bond yields. Increased government borrowing requirements

Figure 49
Spread, 3-yr corporate loans vs. T-bill yields



Source: NBP.

Table 26

Minimum & maximum lending rates, corporates & persons, vs. average rates*

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Corporate lending rates (one-year loans)												
1. Average**	20.73	20.57	19.57	19.31	19.07	18.75	18.21	17.91	17.58	16.93	16.34	15.39
2. Minimum	19.45	19.50	17.91	17.50	17.50	16.66	16.19	15.79	15.00	14.00	12.97	12.50
3. Maximum	24.84	24.43	21.33	21.25	21.25	21.25	21.25	21.75	21.75	21.75	21.75	20.75
4. Difference (3-2)	5.39	4.93	3.42	3.75	3.75	4.59	5.06	5.96	6.75	7.75	8.78	8.25
Personal lending rates (cash advances)												
5. Average	22.87	22.87	22.20	21.99	22.12	22.21	22.04	22.18	22.25	22.39	21.86	20.84
6. Minimum	19.00	19.00	18.42	18.42	18.42	19.70	16.98	16.48	16.33	16.33	14.07	13.58
7. Maximum	24.75	24.75	23.40	23.50	23.25	23.25	23.25	23.00	22.75	22.50	22.50	21.50
8. Difference (7-6)	5.75	5.75	4.98	5.08	4.83	3.55	6.27	6.52	6.42	6.17	8.43	7.92

* Figures taken from 12 largest commercial banks.

** The average rate would have been almost 2 points lower had it not been for two banks that applied rates markedly above those of other market participants.

acted to prop up lending rates at the banks. However, there were also additional factors that induced the banks to keep their interest rates relatively high. A considerable widening of the differential between corporate lending rates and T-bill yields was noted in the latter half of the year (cf. Fig. 49). This stemmed from the growing credit risk and systematic deterioration in loan portfolio quality as the economy weakened. In these circumstances, the banks sought to move an increasing proportion of their asset portfolios into risk-free Treasury paper.

As a result of the readjustments performed by the banks, rates on personal deposits maturing in up to one year fell by between 6.3 points (1-month deposits) and 7 points (12-month deposits). Rates on 2- and 3-year savings dropped 6.6 points. Rates on corporate deposits maturing in up to one year came down by between 5.7 points (1-month deposits) and 7.4 points (12-month deposits). Longer-term corporate deposits are of no greater significance.

Rates on personal loans were reduced by between 1.5-2.3 points (car loans, cash advances, instalment loans) and 3.2 points (mortgages). Corporate lending rates fell by between 5.5 and 5.8 points, depending on the maturities involved.

Interest rates and demand for loans & deposits

Real growth in claims on persons and corporates declined in 2001[42]. This was primarily due to flagging personal loan demand (cf. Fig. 50).

At the end of 2001, real year-on-year growth in claims on persons stood at 10.7%, which was half the rate of growth recorded a year before. Given that at year end 2000 almost 60% of bank claims on persons had maturities of over two years, this decline has to be considered very large indeed. The decline occurred despite growth in real average wages (gross) being slightly faster than a year earlier[43]. This was because the determining factor at work were real interest rates,

[42] Claims on persons consist of loans and advances, purchased debt, funds disbursed under guarantees, and outstanding unpaid interest. In 2001, around 98% of these claims were made up of loans and advances. Claims on corporates comprise the items mentioned above together with debt securities, repurchase transactions and "other items". In 2001, loans and advances represented some 92% of claims on corporates. Claims on persons have been adjusted for inflation by reference to the CPI, claims on corporates by reference to the PPI (for industry).

[43] The purchasing power of average wages in the Polish economy went up 3.3% in 2001, as against 1.0% in 2000.

Figure 50
Real growth in claims on persons & corporates
(compared to corresponding period previous year)

Source: NBP.

which remained high in a context of economic downturn and a sharp rise in unemployment, which had a negative effect on consumer sentiment. Housing loans extended in foreign currencies accounted for 65% of the growth in personal loan outstandings. These borrowings were encouraged by the maintenance during the year of a substantial interest rate differential between housing loans denominated in zloty and in foreign currencies, together with the trend for the zloty to appreciate against the euro and US dollar, which was sustained throughout virtually the whole year. In addition, it cannot be ruled out that another factor increasing the appeal of long-term housing loans in foreign currencies was the expectation that the prospect of Poland joining the EU and then ERM2 would lessen exchange-rate risk. A steep rise in demand for housing loans was seen in December, which is traceable to the changes announced in personal income tax allowances.

Real growth in corporate lending came to 5.8% last year, thereby holding comparatively stable at 1.7 points less than the year before. Corporate loan demand was conditioned on the one hand by the financial situation of the companies concerned, and on the other by their own projections of demand for their products and services. The business surveys conducted by the NBP indicate that the deterioration over the year in corporate credit capacity curtailed access to bank loans, with the result that the year 2001 saw an increase in the share of internal funding for both current operations and capital expenditure[44]. On the other hand, payment bottlenecks meant that many businesses were compelled to take out additional working capital finance in order to shore up their liquidity.

The surveys mentioned above also showed that the level of interest rates undermined corporate loan demand. Nevertheless, the significance of this factor declined from one quarter to the next, and by the fourth quarter the companies polled had essentially ceased to view bank interest rates as one of the barriers to their development. At the same time, however, companies

[44] The surveys referred to here involved 400 selected firms from throughout Poland. The sample used is not fully representative and mainly reflects the situation of large domestic companies. A full analysis of the survey findings is presented in *Koniunktura* ["The business cycle"], NBP 2002 (www.nbp.pl/publikacje/koniunktura).

Figure 51
External indebtedness, non-government & non-banking sector (US$ million)

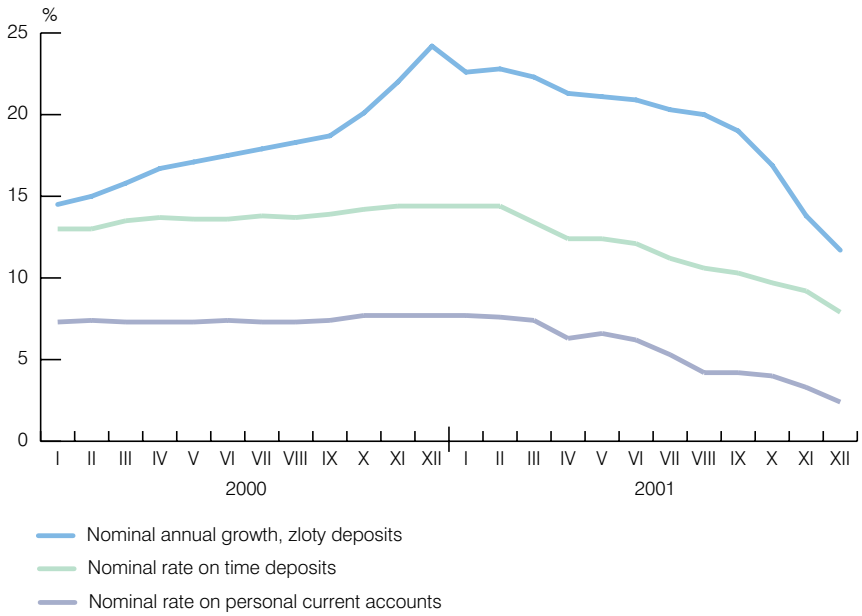
Source: NBP.

were not assuming more debt due to weakening demand and spare capacity.

In addition to loan finance obtained on the domestic market, sources of external corporate funding also included the issuance of securities at home and abroad, and foreign borrowings. In 2001, the level of corporate foreign debt rose US$ 3,599m, or 12%[45] (cf. Fig. 51). Compared to 2000, growth in foreign indebtedness was down 8.8 points. The largest increase in corporate debt was in the second half of the year, i.e., at the time when zloty lending rates began coming down more rapidly. Indebtedness on foreign borrowings (excluding trade credits) totalled US$ 23,667m at year end, having risen US$ 2,694m (13%) since the end of 2000. This debt was concentrated within a small group of companies (some 26% represented borrowings by 6 companies involved in telecommunications, oil and transport, while 31 companies accounted for 50% of those borrowings).

[45] Preliminary figures.

Figure 52
Household zloty deposits and nominal interest rates



Source: NBP.

Corporate debt on trade credits went up just US$ 162m during the year (2.8%), to stand at US$ 5,774m. By contrast, there was a sharp increase in debt securities issued and outstanding, which by year end had risen 21.3% to total US$ 4,230m. This chiefly involved bonds issued abroad. The largest issuers were Telekomunikacja Polska SA and the Turow Power Station.

Aside from the question of interest rate differentials, Polish companies also access financing though foreign borrowings and securities issues because this can be done on terms not offered by banks on the domestic market (more attractive maturities and levels of financing).

*

In addition to low nominal growth in total personal incomes, last year's slower growth in household zloty deposits (cf. Fig. 52) was a response to the reduction in bank deposit rates over the course of the year. In the fourth quarter, an additional factor detracting from the appeal of bank deposits was the announcement at that point that interest income on those deposits was to

become taxable. The reaction to this was that personal depositors shifted part of their funds into other financial assets (bonds, units in investment funds).

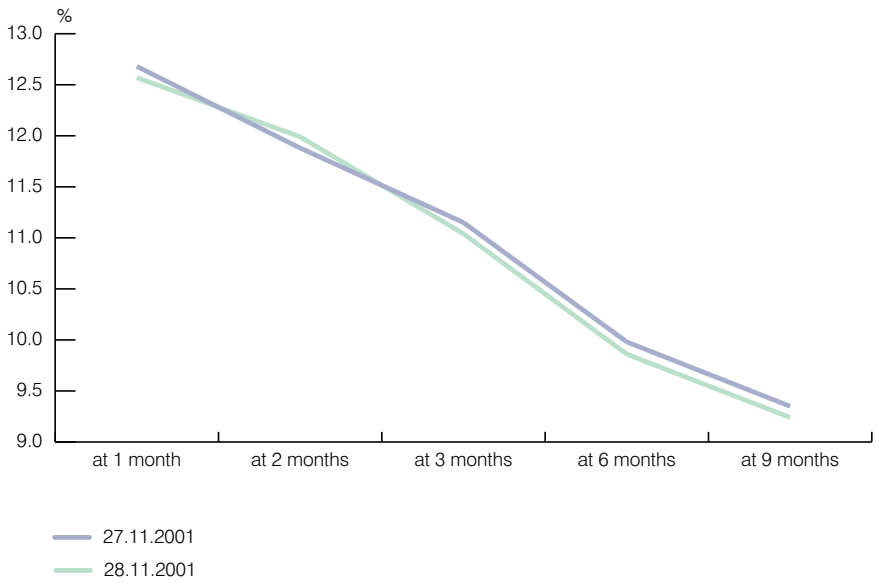
Studies conducted at the NBP indicate that, in the longer time frame, the level of household zloty deposits is primarily contingent on disposable incomes, while in the short term it is linked to the interest rates obtainable. Further, it is nominal rates that are of decisive importance here. Nonetheless, it is difficult to predict how households will respond to changes in those rates, particularly in the low inflation environment now obtaining in Poland, with interest rates falling to single figures. In these circumstances, a particularly judicious monetary policy is required.

Interest rate expectations

Short-term expectations

In the short term (to 12 months), how expectations of interest rate movements evolve is monitored by observing the market for forward rate agreements (FRAs).

Figure 53
Shift in 3-month forward yield curve following MPC meeting, November 2001



Source: Reuters, NBP.

An analysis of movements in rates on FRAs written against 3M WIBOR (3*6, 2*5 and 1*4 FRAs[46]) indicates that the two rate cuts carried out by the MPC in the fourth quarter of 2001 (cuts of one and half points each in October and November) had largely been anticipated by the market.

Both the timing and the scale of October's rate adjustment had been widely expected by market participants.

November's rate cut, on the other hand, partially caught the market by surprise. This is attested to by the fact that, on the day a change in the NBP reference rate was announced, a downward shift averaging 20 bps took place in the 3-month forward yield curve. The relatively large size of this shift reflects surprise at the scale of the rate cut, and also to a certain extent at its timing (part of the market believed rates would not be lowered until December) (cf. Fig. 53).

The development of market expectations concerning future short-term interest rates in the fourth quarter is shown by movements in the price of 3*6 contracts concluded at the beginning of October. At the start of October, it was thought that 3M WIBOR would be running at 12.68% at the end of December, while one month later the rate expected was 12.30%, and at the beginning of December it was 12.05%. Meanwhile, expectations of the NBP reference rate (as converted to

[46] 1*4, 2*5 and 3*6 FRAs constitute forward interest rate contracts written with a reference rate of 3M WIBOR, where the settlement date for interest payments is set one month from conclusion of the contract (1*4), two months from that date (2*5) or 3 months from that date (3*6).

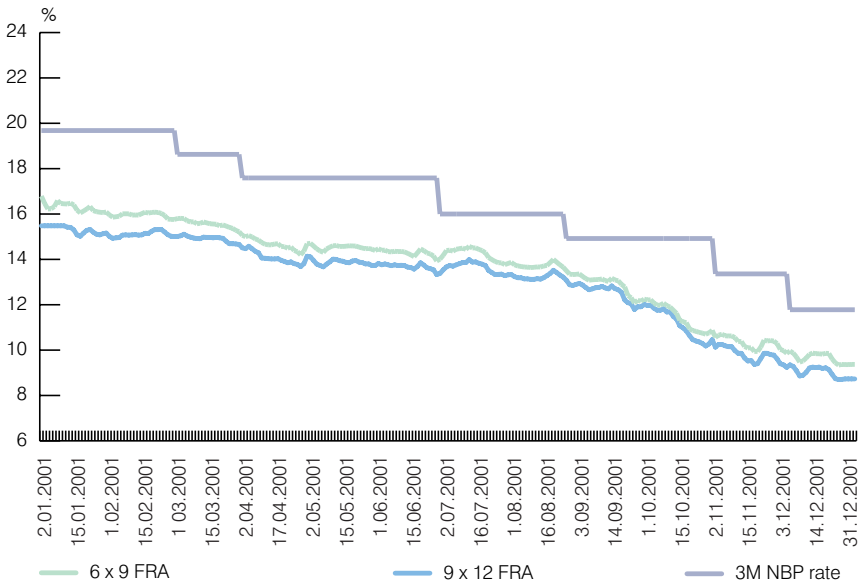
Table 27

Movement in rate on 3*6 FRA written October 1, 2001

	3*6 FRA	Rate on 3*6 FRA after 1 month (2*5)	Rate on 3*6 FRA after 2 months (1*4)	3 M WIBOR
Oct. 1, 2001	12.68			
Nov. 2, 2001		12.30		
Dec. 1, 2001			12.05	
Dec. 31, 2001				11.91

Source: Reuters, NBP.

Figure 54
3M WIBOR FRAs



Source: Reuters, NBP.

a 3-month rate) changed 63 bps between the beginning of October and the beginning of December, i.e., over a period when the central bank lowered this rate by 300 bps. This indicates that the market was expecting a cut of 250 bps.

The rate payable on a 9*12 FRA written on October 1, 2001, moved some 250 bps over the next three months. This implies that in the course of the fourth quarter market players significantly revised their earlier expectations as to the scale of interest rate cuts over the following 12 months (cf. Fig. 54).

Table 28
*Movement in rate on 9*12 FRA written October 1, 2001*

	9*12FRA	Rate on 9*12 FRA after 3 months (6*9)
Oct. 1, 2001	11.85	
Oct. 31, 2001		9.37

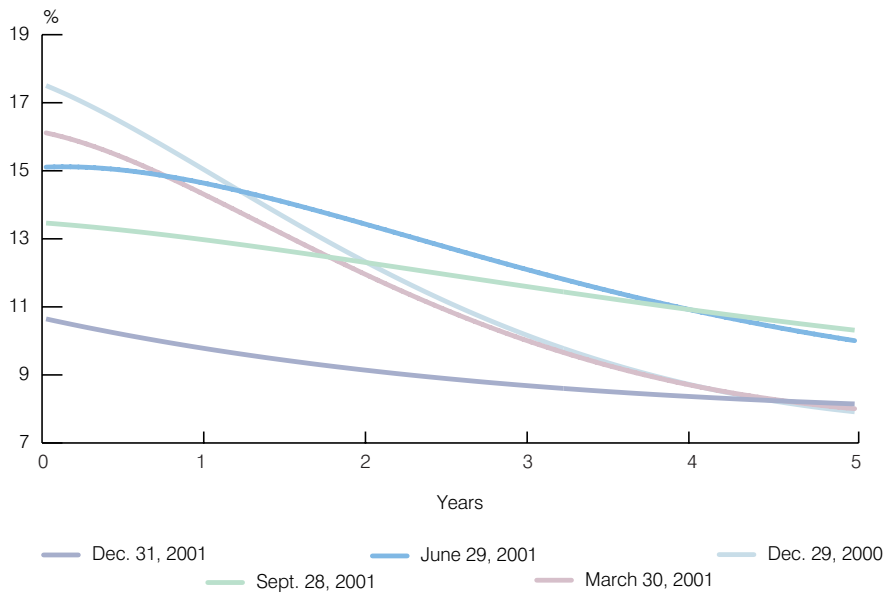
Long-term expectations

Investor expectations of future interest rate movements are reflected in the shape and position of the zero-coupon Treasury yield curve. This is because factors affecting the zero-coupon yield curve include changes in forward interest rates. Forward interest rates tell us the yields at which Treasury securities could be sold for forward delivery. Movements in forward interest rates and the ensuing evolution of the zero-coupon curve can therefore be treated as a source of information on market expectations concerning future interest rates.

The year 2001 was marked by a gradual flattening of the forward yield curve. This process was not continuous (cf. Fig. 55). From the end of December 2000 to year end 2001, 12-month forward rates at two years came down 309 bps, while 12-month rates at five years went up 27 bps.

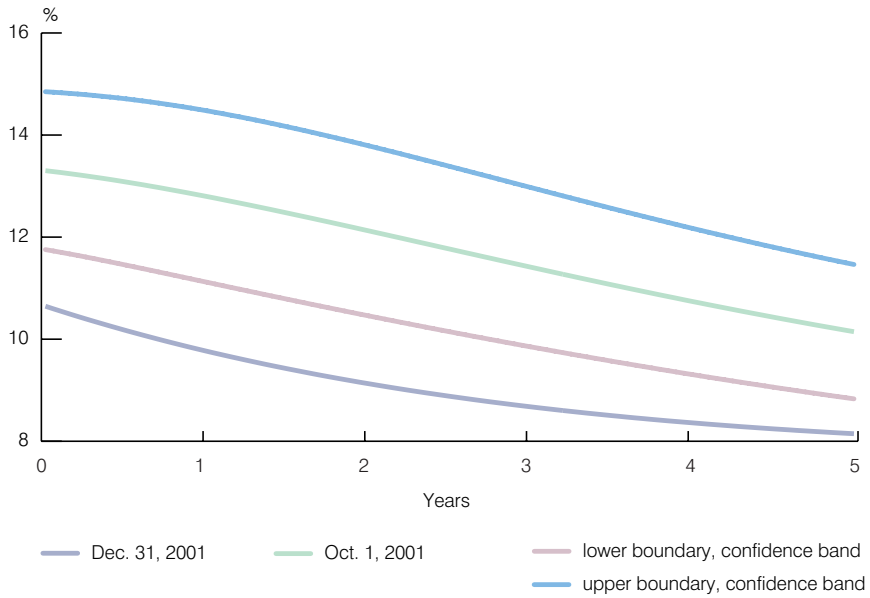
A distinct acceleration in this flattening of the forward curve took place between March and August. This was caused by the following factors:

Figure 55
Implied 12-month forward rates
(year end 2000 & end of particular quarters 2001)



Source: NBP, Reuters.

Figure 56
Implied 12-month forward rates, confidence band



Source: NBP, Reuters.

• a revision of expectations concerning the timing of cuts in short-term rates,

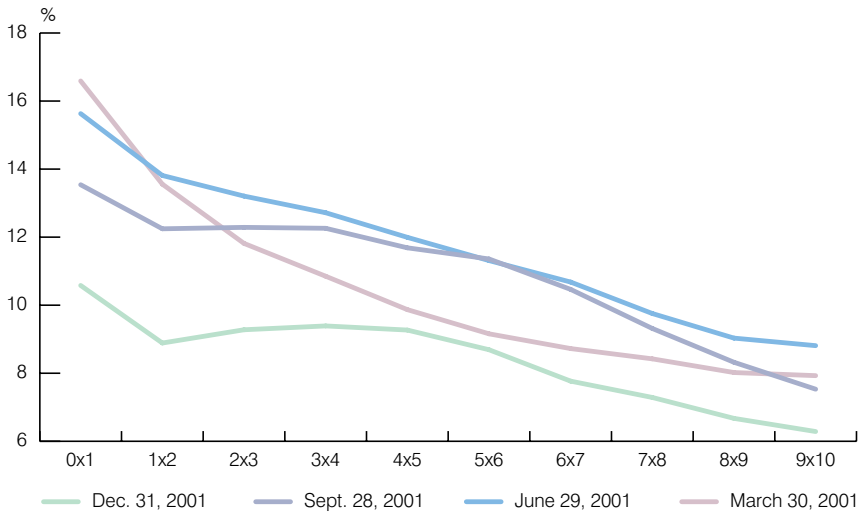
• an increase in risk premiums due to the mounting risk of a slump in zloty exchange rates and the swelling government deficit,

• uncertainty as to possible changes in the expected volume and structure of the supply of Treasury paper.

The first of the factors listed above exerted a particularly strong impact following the rate reductions in the first quarter of the year, which were smaller than expected. At that point, some investors (particularly those with short investment horizons) began to offload bonds. Given the relatively large cost of carry associated with Polish T-bond portfolios due to high rates on short--term borrowings and the receding prospect of further rate cuts, it proved too expensive for those with short investment horizons to hold Polish bonds in their trading portfolios.

The rise in risk premiums due to the overvalued zloty made its mark most visibly in May and June. It was then thought that a downward correction in zloty exchange rates had to happen sooner or later.

Figure 57
12-month forward yield curve



Source: NBP, Reuters.

Fears of the price effects of an increased supply of Treasury securities emerged relatively quickly when the market began to hear news of declining government receipts and the adoption by the Polish Sejm of successive legislation that raised government expenditure in the coming years. The flattening of the yield curve gained momentum in July and August. It was then officially confirmed that the Budget for 2001 would have to be revised and that there were serious problems with the provisions of the Budget for 2002, thereby indicating that there would be a significant increase in the supply of Treasuries.

The flattening of the yield curve was halted in the third quarter of the year, while in the fourth quarter a parallel shift occurred in the 12-month forward curve (cf. Fig. 56). This change was statistically significant.

The fall in 12-month forward rates in the fourth quarter averaged 271 bps and was similar in size to the rate cuts carried out by the NBP. However, this similarity does not imply that the supply factor had ceased to function and that movements in forward rates were a correct reflection of changing expectations of future 12-month interest rates.

Given the existence of supply factors that make it difficult to track expectations of future interest rates through yield curve analysis, it is necessary to seek alternative sources of information on this subject.

One such source of information could be movements in rates on the market for interest rate swaps (IRS). This is because these are solely contracts for difference, with settlement based on the difference between a floating leg representing short-term interest rates and a fixed leg representing long-term rates. As a result, changes in market supply and demand should not directly impact swap rates. Thus, the forward curve derived from the structure of swap rates would in theoretical terms appear to be more useful as a tool for analysing expectations of future interest rates than the forward curve derived from the zero-coupon curve. Unfortunately, in practice, supply and demand on the T-bond market also have an indirect influence on prices on the swap market. Speculative trading in asset swaps generates a tendency for the mutual alignment of the zero-coupon Treasury yield curve and the swap curve[47]. As a result, movements in the shape and position of the swap curve cannot be viewed as solely resulting from changes in market expectations.

The gradual flattening of the forward yield curve last year was also in evidence on the market for interest rate swaps. In the third quarter of 2001, a positive-sloping curve developed in the time band from one to three years. This could be interpreted either as indicative of persisting investor uncertainty as to the size and structure of future bond supplies, or as a symptom of uncertainty concerning the effects of the rate cuts already performed. The latter explanation is supported by the fact that in the fourth quarter of the year the forward swap curve moved down an average of 249 bps, i.e., 50 bps less than the rate cuts carried out by the central bank (cf. Fig. 57). The steepest fall was in 12--month forward rates for contracts with notional maturities of one year (down 336 bps) and two years (down 301 bps).

[47] Asset swaps involve the spot purchase or sale of a particular instrument (e.g., a bond) combined with a simultaneous hedge (e.g., an interest rate swap).

6.3.2. Exchange rates

The zloty strengthened in 2001, in both nominal and real terms[48]. The nominal effective exchange rate for the zloty against a basket of the currencies most important to the Polish economy rose by 8.8% (annualised average), compared to appreciation of 2.2% in 2000 (cf. Fig. 58). The zloty firmed in relation to both the US dollar and the euro, with annualised average nominal appreciation greater in terms of the euro than the dollar (8.5% and 5.8%, respectively). This was linked to the softening of the euro against the dollar on world markets, although euro depreciation was markedly smaller in 2001 than it had been the previous year (2.2% in 2001, compared to 13.3% in 2000). Euro/dollar cross rates continued to exert a strong influence on the value of the zloty against the euro (cf. Fig. 59)[49].

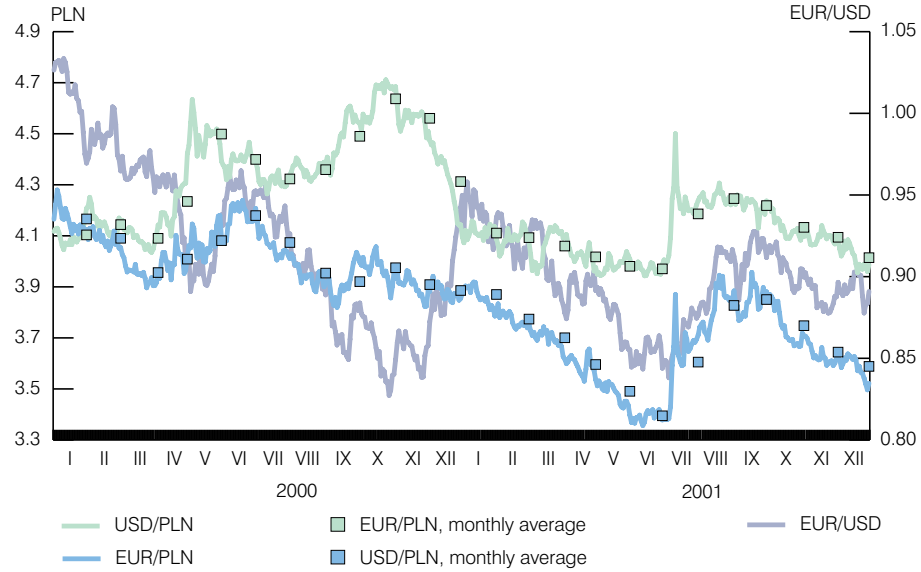
[48] Movements in real exchange rates are discussed in Section 2, "Foreign trade & the balance of payments".

[49] The correlation coefficient for euro/dollar and euro/zloty rates stood at 0.83 (compared to 0.66 in 2000), while for dollar/zloty rates it came to 0.23 (minus 0.88 in 2000).

Figure 58
Nominal effective zloty exchange rates, 2000–2001
(monthly figures; December 1999 = 100)

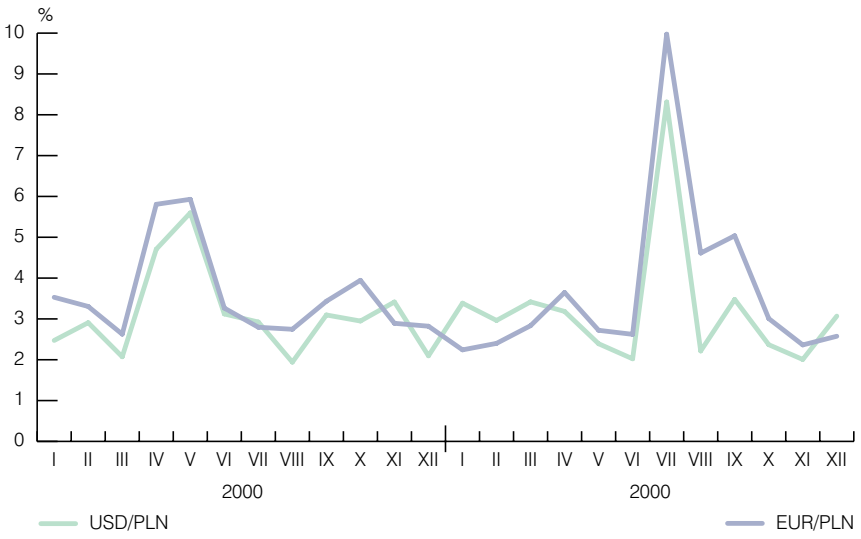
Source: NBP.

Figure 59
Zloty exchange rates against US dollar & euro; euro/dollar rates



Source: NBP.

Figure 60
Volatility of zloty exchange rates against USD & EUR



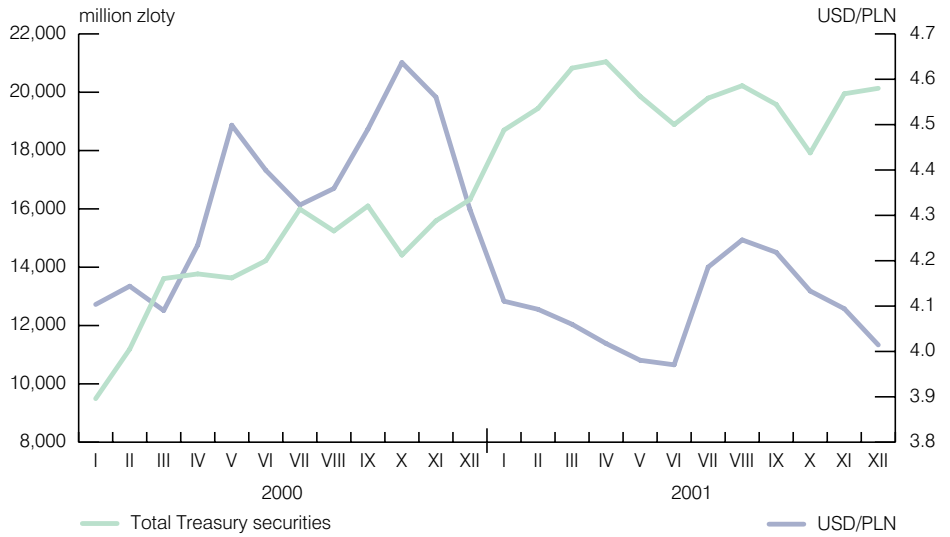
Source: NBP.

The tendency for the zloty to appreciate, observable in the latter half of 2000, became more pronounced in the first half of 2001. The zloty then weakened appreciably in the third quarter, after which it returned to its upward course in the fourth. The depreciation recorded in the third quarter resulted in a temporary rise in the volatility of zloty exchange rates. However, for the greater part of the year these exchange rates remained relatively stable. Average monthly zloty volatility against both the dollar and the euro was only slightly higher than in 2000, an increase of 0.1% (cf. Fig. 60).

Zloty appreciation in 2001 was primarily fuelled by the following factors:

- The macroeconomic risk associated with the Polish economy declined substantially due to the major reduction of the current account deficit (see Section 2, "Foreign trade & the balance of payments") and decline in inflation. Further, the shortfall on the current account was increasingly financed by inflows of stable foreign investment. This found reflection in the relatively high assessment of the Polish economy maintained by international rating agencies in the years 2000–2001.
- Despite shrinking privatisation receipts, the strengthening of the zloty continued to be encouraged by inward flows of foreign direct investment (see Section 2, "Foreign trade & the balance of payments").
- Strong demand for Poland's currency was accompanied by a marked increase in the supply of Treasury paper stemming from the mounting borrowing requirements of general government. This facilitated access to zloty-denominated assets for non-residents and curbed the fall in bond yields. Compared to the previous year, the year 2001 saw growth of almost 20% in sales of Treasury securities, while non-resident holdings of Polish Treasuries climbed by an average of 40% (cf. Fig. 61). The growth referred to here was almost exclusively confined to T-bonds; investment in T-bills basically remained flat.
- The demand for Polish Treasuries forthcoming from long-term foreign investors was also a function of the advancing process of integrating the Polish economy with that of the European Union and the future prospects for monetary unification. Zloty appreciation was thus to a certain degree supported by the steady influx of foreign investment generated by the perspective of diminishing inflation in Poland in the long term and the alignment of

Figure 61
Non-resident holdings of Polish Treasuries



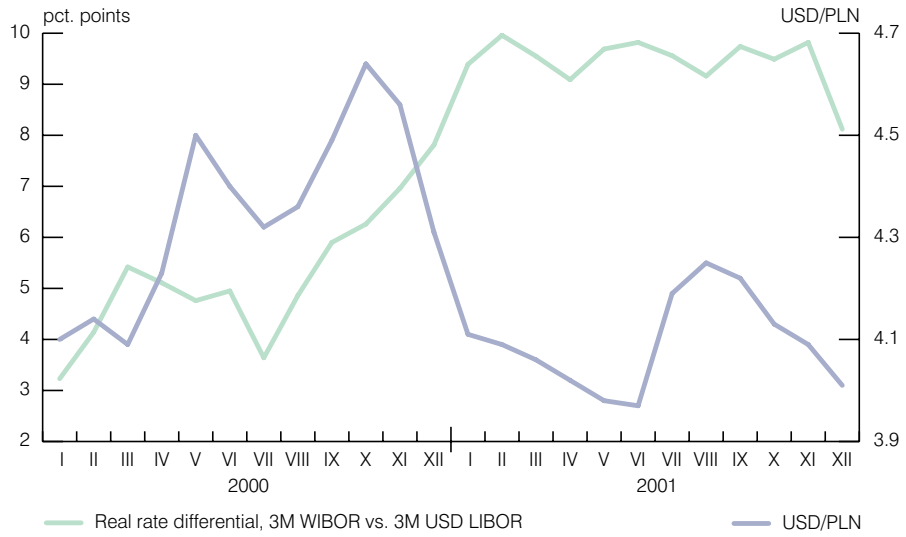
Source: NBP.

Polish interest rates with those obtaining in the euro area[50]. This is a process observable not only in Poland, but also in the other EU candidate countries, particularly in the Czech Republic and Hungary. The positive signals received as regards Poland's admission to the EU in 2004 may also have reinforced this investment motive in 2001.

• Interest rate differentials remained relatively wide in 2001, although they gradually narrowed due to last year's rate cuts in Poland (cf. Fig. 62). Yet despite the steady lowering of rates by the MPC, they were still higher than the external rates of greatest importance to the Polish economy, particular in real terms. There were two reasons for this, namely, the steep fall in domestic inflation, partially rooted in supply factors independent of monetary policy, and the intensification of interest rate cuts abroad in response to recessionary developments in the world economy. Rate differentials were especially large at the short end of the yield curve. Advantage of this was taken

[50] Capturing the impact of this factor on the volume of investment in Polish bonds, and therefore on the strengthening of the zloty, would require a precise categorisation of the particular parties active on the bond market in order to identify those with a long investment horizon. The information available to the NBP does not allow such a categorisation.

Figure 62
Real interest rate differentials vs. zloty exchange rates



Source: Reuters, NBP.

primarily by non-residents investing on the FX swap market (investment in other money market instruments was very limited). The application by these investors of a "carry trade" strategy[51] was visible throughout the year to a greater or less extent, one reflection of this being significantly heavier trading on the swap market[52]. For example, the more obvious shift of investor demand from the bond market to the swap market that became apparent in the second quarter of 2001 was principally associated

[51] The carry trade strategy involves a combination of two trades: a spot sale of a low-interest currency (e.g., US dollars) in order to obtain zloty, and an FX swap. Under the FX swap, the investor sells the zloty for spot value and at the same time purchases zloty forward, at a forward rate agreed at trade date. The combination of the spot and swap effectively gives the investor an outright forward position. The investor's gain comes from the forward premium arising on the difference between dollar and zloty interest rates. The carry trade strategy is profitable when the expected movement in zloty exchange rates is not greater than the interest rate differential between the two currencies. Zloty appreciation is a by-product of the initial spot sale of foreign currency to secure the original zloty. The purchase of foreign currency under the spot leg of the swap does not exert pressure for zloty depreciation, since this constitutes a form of hedge against the placing of zloty on the money market, rather than a stand-alone transaction.

[52] It should be noted that existing statistical systems do not allow an estimate to be made of the scale of non-resident investment on the swap market in terms of the part played by swaps as hedges against exchange-rate risk. The data available refer to all transactions by non-residents on the swap market.

with the heightening risk of zloty depreciation[53]. In the latter half of 2001, non-resident investment on the domestic money market played a smaller role, in relative terms, in conditioning zloty exchange rates. After the series of Polish interest rate cuts, foreign investors found the Hungarian market more attractive (as of Q4 2001, the nominal reference rates of the Polish and Hungarian central banks are at similar levels).

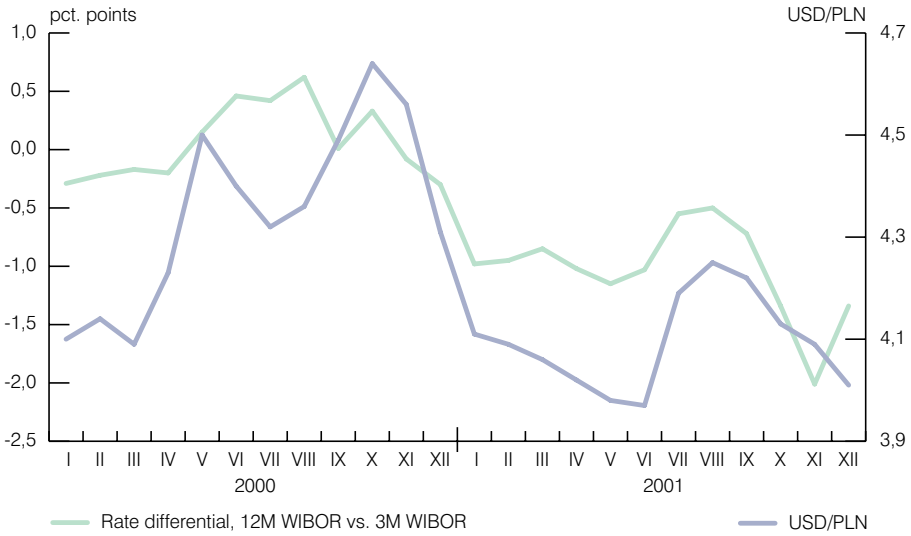
• Market expectations of MPC rate cuts persisted over virtually the whole period under analysis (cf. Fig. 63). These expectations were reinforced by information on the slackening economy at home and abroad, and by the progressive monetary easing carried out by the major foreign central banks, especially in the second half of 2001 (cf. Fig. 64). This encouraged purchases of Polish bonds and speculative trading by non-residents on the market for interest rate swaps. The lowering of NBP rates had a dual effect on investor behaviour. On the one hand, it reduced the cost of carry for positions in Polish bonds, while on the other it discouraged investment on the Polish market, since the rate cuts diminished the protection afforded against the consequences of any exchange rate adjustment.

• As in previous years, the appreciation of the zloty in 2001 was also partly attributable to one-off factors. This time, these chiefly involved expectations of an influx of foreign currency from compensation payments to victims of forced labour under the Third Reich (in the first half of the year) and from the government sale of UMTS licences for third-generation mobile phone systems (also in the first half of the year).

Zloty depreciation in the third quarter of 2001 was linked to the escalation of local financial crises in Argentina, Brazil and Turkey, which temporarily upset confidence in emerging markets. Due to the "contagion effect", speculative plays on a weakening of the local currency affected not only those countries directly hit by these crises, but also Poland, Hungary and South Africa. This external impulse undermining the zloty was compounded by news of problems in Poland's public finances and existing expectations of zloty depreciation.

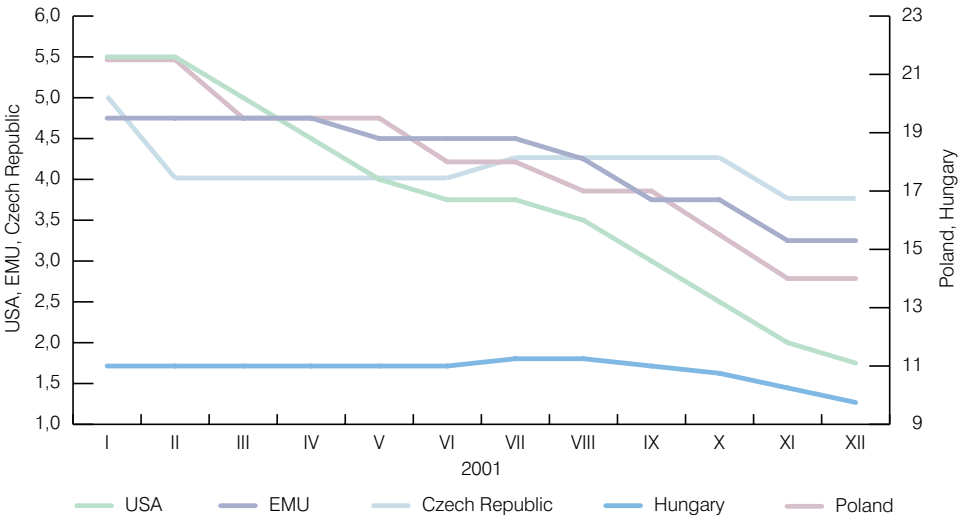
[53] This risk became more acute due to the increasing overvaluation of the zloty. This overvaluation, as measured by the divergence from the trended real effective exchange rate for the zloty, adjusted by producer price movements, stood at 10.9% in June 2001, compared to an average for the year of 4.8%.

Figure 63
Rate cut expectations vs. zloty exchange rates



Source: NBP calculations.

Figure 64
Official interest rates



Source: Bloomberg.

As a result, from July 5 to 11, the zloty lost 14.4% to the euro and 12% to the US dollar. For the remainder of the quarter, the zloty stabilised against the dollar at around 4.23, while in relation to the euro it continued to soften gradually. This stemmed from the considerable gains made by the single currency against the dollar on world markets as the US economy showed signs of recession.

The direct impact on zloty exchange rates of the terrorist attacks in the USA was short-lived and relatively minor. It was limited to activity on the domestic FX market dying down for around four days. The mid-rate for the zloty against the dollar at that point stood at 4.24 (while the average for September was 4.22). Indirectly, however, September's events contributed to the Polish currency strengthening in the fourth quarter of the year. Following July's downward correction in the value of the zloty and the stabilisation of the political situation after the general election, Polish investment risk lessened, while zloty-denominated assets continued to offer good returns.

Zloty exchange rates helped reduce domestic inflation in 2001. Exchange rate movements, in affecting the price of imported goods as expressed in domestic currency, impact the CPI both directly (via the price of imported consumer goods) and indirectly (via movements in industrial producer prices due to fluctuations in the price of imported production supplies). Further, changes in domestic prices produced by exchange rate movements affect domestic demand, altering the demand gap. Changes in the demand gap directly feed into CPI growth. An analogous process is the impact on the CPI of movements in external prices.

The total effect of changes in external factors on the CPI, which includes both external price movements (supply shocks) and the demand gap (the demand shock) is known in economic literature as the pass-through coefficient[54]. The **statistical** pass-through coefficient estimated for the nominal effective zloty

[54] The statistical effect of the pass-through of exchange rate movements to the CPI is measured by the following coefficient:

$$\mathbf{PT}_{t,t+j} = \mathbf{CPI}_{t,t+j} / \mathbf{EXR}_{t,t+j}$$

where:

$\mathbf{PT}_{t,t+j}$ is the cumulative pass-through effect of exchange rate movements on the CPI after j months,

CPI is the cumulative CPI for the particular months of the year being analysed,

EXR is the cumulative exchange rate index.

exchange rate stood at minus 0.45 in 2001 (as against minus 0.53 in 2000). This means that in 2001 **external factors together with the appreciation of the nominal effective zloty exchange rate** reduced the CPI, December-on-December, by 2.2 percentage points.

Calculating the pass-through coefficient using a recurrent VAR model, on the other hand, yields the following results:

• The pass-through coefficient calculated exclusively for the impact of exchange rate movements on the CPI is stable regardless of the particular period selected within the years 1996–2001, and is within the range (0.09; 0.12). The time lag for a significant CPI response to exchange rate movements is from three to four months. Given the value of the coefficient for the period 2000-2001, standing at 0.11, and the time lags involved, it can be inferred that appreciation of the **nominal effective zloty exchange rate** reduced the CPI in 2001 by 0.9 points.

• The coefficient for the pass-through of external price movements to the CPI is less stable than that for exchange rate movements. This coefficient falls within the range (0.07; 0.15) and assumes lower values at times of high price volatility on world markets (0.09 for the period 2000–2001). The time lag in the response of the CPI is around four months. Estimates for 2001 indicate that the decline in external prices lowered the CPI by around 0.5 points.

• The least stable coefficient is that for the pass-through of external conditions and exchange rates to the CPI via the demand gap; this is within the range (0.04; 0.18). The average response time of the CPI is six months. The reason for this volatility in the sensitivity of prices to changes in the demand gap is the overlapping of two tendencies that characterise the size and volatility of that gap. On the one hand, there is **a positive correlation between the pass--through coefficient and the size of the demand gap**. It can be concluded that **the value of the pass-through coefficient is significantly dependent on the phase of the business cycle**[55]. On the other hand, in countries with unstabilised economies, the demand gap exhibits large

[55] A smaller demand gap at the phases of upturn and downturn should lessen the pass-through coefficient. However, when the cycle stabilises at either its peak or its trough, this coefficient should be greater, exerting a deflationary effect during the trough (a negative demand gap). This relationship is confirmed by studies carried out by the IMF (*World Economic Outlook*, May 2001, IMF).

volatility not only between particular phases of the cycle, but also within those phases. C. Mann asserts that, in conditions of imperfect competition, **the high volatility of the demand gap**, combined with fluctuations in local exchange rates, has a greater impact on the profit margins of importers than on movements in domestic prices, **reducing the pass-through effect**[56]. As a result, it can be estimated that the end result of these tendencies in 2001 was the lowering of the CPI by around 0.2 points.

The total effect of external factors and exchange rates, calculated on an analytical basis in consideration of the relationships and time lags described above, was to slow down CPI growth in 2001 by 1.6 points, with the full pass-through coefficient coming to 0.33, a level similar to the import penetration ratio.

The difference between the statistical pass-through coefficient and the coefficient calculated analytically (taking account of time lags) is minus 0.6 points and may be interpreted as the potential decline in the CPI carried over to 2002.

6.3.3. Inflation expectations

Inflation expectations constitute a subject of particular interest to modern central banks, especially those conducting a monetary policy based on a strategy of direct inflation targetting. The development of inflation expectations is important for at least two reasons. Firstly, changes in projections of future price movements, particularly sharp changes, may – all other things remaining equal – cause major adjustments to the behaviour of economic agents in the fields of consumption, savings or wage demands. Inflation expectations are therefore one of the determinants of the pace of overall price growth. Secondly, observations of the inflation expectations of particular groups of economic agents (households, banks, businesses) allow judgements to be made on the degree of confidence enjoyed by the central bank, on the credibility of the monetary policy targets set by the monetary authorities, and on the opinions of those agents as to whether those targets are attainable.

[56] C. Mann, *Profit Margins and Exchange Rates*, Federal Reserve Bulletin no. 72/1986.

Box 4
The research into consumer inflation expectations conducted at the National Bank of Poland

Research into consumer inflation expectations represents a particular challenge, since it involves much greater difficulties of interpretation than research into the expectations of agents specialised in this area, such as bank analysts. Owing to the specific character of this group of respondents, the questions put to consumers concerning their view of future price movements are generally of a qualitative rather than quantitative nature. This means that the respondents do not declare outright what level of price growth they expect in the future, but express an opinion as to the direction of movement. This is the approach followed in the polls carried out by the Ipsos-Demoskop firm, where the question posed 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*". It should be noted that the question itself suggests that the level of the respondents' inflation expectations is determined not only by the pattern of replies to the question, but also by current price movements, which form the point of reference for the respondents' predictions concerning future developments.

The research into consumer inflation expectations conducted at the NBP has two components, namely, analysing the pattern of replies to the Ipsos-Demoskop poll question, and quantifying the expected rate of inflation. Both components are closely interrelated.

An analysis of the pattern of replies to the Ipsos-Demoskop poll provides a picture of the sentiment of the respondents and of how they are formulating their inflation expectations. For example, if there is an increase in the percentage of respondents who believe that prices will rise faster than at present, and a corresponding decrease in the percentage who consider that prices will rise more slowly, then even if a simultaneous fall in the rate of current inflation results in a decline in the level of inflation expected, the way in which expectations are formulated has nonetheless deteriorated. However, not every deterioration in the formulation of inflation expectations necessarily entails a rise in those expectations.

Were we to limit ourselves in our examination of consumer inflation expectations to analysing changes in the pattern of poll replies, we would come up against two major problems. Firstly, due to the extensive response options available to respondents, there are quite often situations where it is difficult to form a definitive view of the direction of change in the sentiment of respondents solely on the basis of shifts in the distribution of replies. Secondly, given that the poll requires expectations concerning future inflation to be compared against current price growth, the same pattern of replies to the poll may at different times signify completely different rates of expected inflation. This is because the latter are contingent on both the pattern of replies received and present price movements. The method employed to quantify inflation expectations is designed to resolved these two problems.

The quantification of the inflation rates expected by consumers is performed using the probabilistic method developed by Carlson and Parkin (1975), suitably adjusted to the form of the question posed*. The method assumes that the expected inflation rate has a normal distribution of unknown parameters. In order to calculate the mean and variance of the distribution, use is made of the fact that the respondents give their opinion on future inflation by relating it to current price growth, which is expressed in the quantification procedure by the "current inflation rate". Since the Ipsos-Demoskop poll is carried out in the first half of each month, i.e., prior to the publication by GUS of inflation figures for the previous month, the current inflation rate is taken to be the year-on-year inflation rate known to the respondents at the time the poll was conducted, i.e., the inflation rate obtaining two months previously.

The assumption that price movements within the economy are perceived by consumers in terms of official inflation statistics means that the quantification procedure "translates" the sentiment of respondents into the language of official statistics. We therefore obtain an objectified measure of inflation expectations. For example, the quantification result for inflation expectations in December 2001, i.e., 3.9%, signifies that, if the respondents viewed existing inflation processes from the perspective of the current inflation rate known to them when they gave their replies (yr/yr inflation in October 2001, running at 4.0%), then the price growth they expected for the coming twelve months would be equivalent to 3.9%. However, this does not imply that the subjective expectations of those respondents as regards price growth over the year ahead would be exactly the same. The way in which consumers perceive price movements may diverge significantly from official statistics, especially in economies where people

still remember high and volatile rates of inflation in the past. Nevertheless, given the method used to calculate inflation rates, these statistics should be closely correlated to subjective consumer opinion. The findings of the quantification of expected inflation rates should thus be interpreted on the basis of "if *a*, what would be *b*?", and should primarily be taken into account in assessing the direction of change in the level of inflation expectations and the scale of that change.

The existence of a given point of reference for consumer responses (expressed by the current inflation rate) not only permits inflation expectations to be quantified, but first and foremost allows a clearcut judgement on whether changes in the pattern of poll replies reflect an improvement or a deterioration in the sentiment of respondents, or whether this has remained unchanged. This judgement can be made, for example, by assuming that the current inflation rate is constant at *x*, and on that basis then calculating, in line with the quantification method employed, a synthetic indicator that depicts the pattern of responses received. This indicator would answer the following question: "Given a current inflation rate of *x*, what would be the value of inflation expectations for the coming 12 months?" This procedure does not require subjective assumptions as to the rate of current inflation. Although it does not lead to a measurement of the level of inflation expected nor resolve the issue of whether inflation expectations have risen, fallen or remained unchanged, it does allow an explicit conclusion as to the direction of change in sentiment expressed by shifts in the pattern of replies to the poll.

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* This adjusted method, based on that developed by Carlson and Parkin (1975), is a probabilistic one. An exhaustive description of this method can be found in: T. Łyziak, "Badanie oczekiwań inflacyjnych podmiotów indywidualnych na podstawie ankiet jakościowych" [Investigating consumer inflation expectations using qualitative surveys], *Bank i Kredyt* No. 6/2000, NBP.

Significant changes were seen in 2001 in the way consumers formulated their inflation expectations. This is borne out by changes in the pattern of replies to the poll used by the Ipsos-Demoskop firm and by a decline in the quantified measures of inflation expectations for this group of respondents. At the same time, in the particular quarters of 2001, the distribution of the inflation expectations of bank analysts surveyed by Reuters gradually shifted towards lower inflation rates.

The strategy of direct inflation targetting that has set the framework for the operations of the National Bank of Poland since 1998 is a forward-looking strategy. This means that decisions concerning monetary policy instruments are made on the basis of projections regarding future price processes. In terms of assessing the inflation outlook, the changes that took place in 2001 with respect to the inflation expectations of economic agents have to be considered positive. They testify to the credibility of the medium-term monetary policy target and are conducive to that target being achieved.

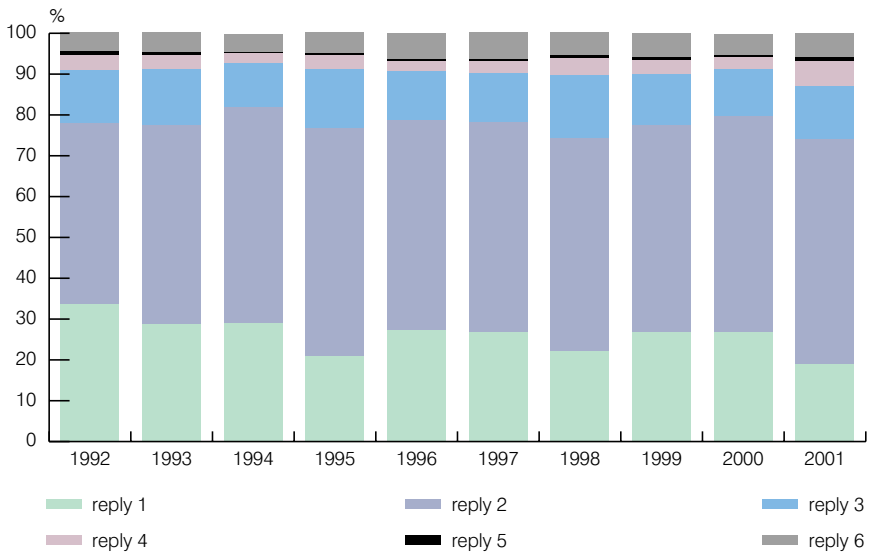
Consumer inflation expectations

The changes that occurred in 2001 in the pattern of replies to the Ipsos-Demoskop poll on consumer inflation expectations point to a significant improvement in the way this group of economic agents formulate their projections (cf. Fig. 65).

In 2001, the proportion of respondents that was most pessimistic, believing that prices would grow faster in the future, averaged 19% of those polled[57]. This represents a decrease of 7.8 points compared to the figures for 2000 and 14.8 points compared to 1992. At the same time, there was a fairly substantial increase in the percentage of respondents choosing the reply that prices would rise at the same rate (55% of respondents in 2001, up 2.1 points on 2000 and 10.8 points since 1992). There were also more respondents who thought that prices would stay at their present

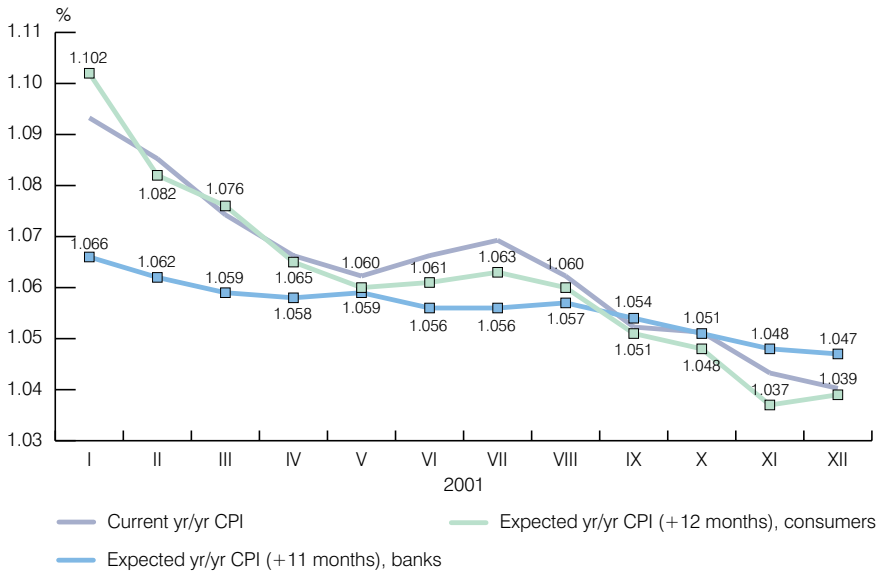
[57] In November 2001, this reply was selected by 13.8% of those polled. This was the lowest ever percentage of most pessimistic respondents in the history of the polls conducted by Demoskop/Ipsos-Demoskop.

Figure 65
Pattern of replies to Demoskop/Ipsos-Demoskop poll, 1992–2001



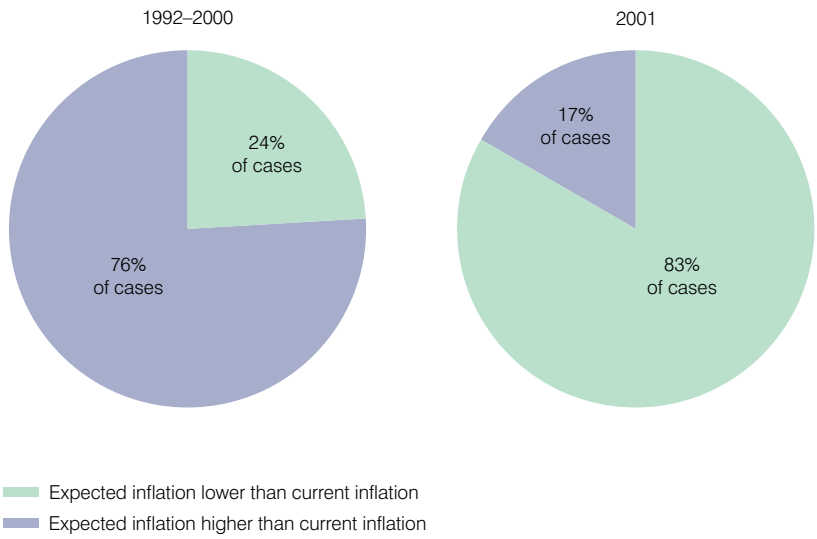
Source: Ipsos-Demoskop, Reuters, GUS; NBP calculations.

Figure 66
Inflation expectations of consumers & bank analysts, 2001



Source: Ipsos-Demoskop, Reuters, GUS; NBP calculations.

Figure 67
Expected inflation vs. current inflation



Source: NBP calculations.

level (this reply was given by an average of 6% of respondents in 2001[58], an increase of 2.9 points on 2000 and 2.5 points on 1992).

Consumer inflation expectations in December 2001 were 6.6 points lower than they had been in December 2000. A noteworthy fact is the steep fall in consumer inflation expectations in February 2001. This came to 2 percentage points and reflected a considerable improvement in the pattern of replies to the Ipsos-Demoskop poll, together with a decline in the current inflation rate.

It is worth observing that, for an impressive ten months of 2001, the future rate of inflation expected by consumers remained below the current inflation rate. As was already indicated in the previous *Inflation Report*, this constitutes a major change compared to the past, when situations of this sort were sporadic occurrences (cf. Fig. 67).

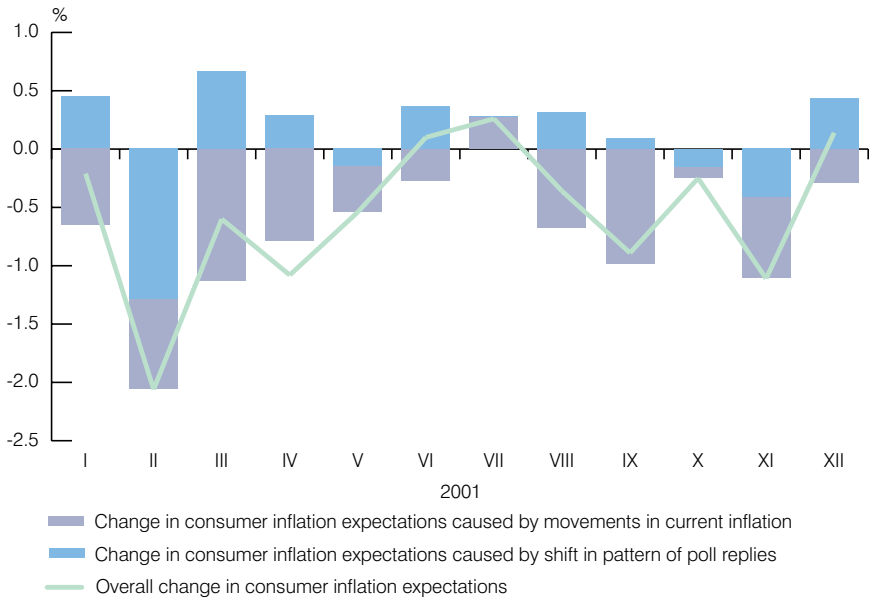
Distinguishing between the subjective views and forecasts of respondents, and the objectified measures of their expectations (obtained through the quantification procedure, see Box 4), is particularly important in interpreting the fact that from September 2001 onwards the quantified indicators of consumer inflation expectations have run below the inflation expectations of bank analysts. In this connection, it should once again be emphasised that the objectified measures of consumer inflation expectations generated under the quantification procedure may diverge substantially from the subjective projections of respondents[59].

In the procedure applied to quantify consumer inflation expectations, the level of these expectations is determined both by the pattern of replies to the Ipsos-Demoskop poll and by the current inflation rate. One aspect of interest here would appear to be a breakdown of changes in consumer inflation expectations expressed in 2001 by those attributable to shifts in the pattern of

[58] In November 2001, this opinion was given by 7.8% of those polled. This was the highest ever percentage for this response in the history of the polls conducted by Demoskop/Ipsos-Demoskop.

[59] The inflation expectations of consumers and bank analysts are not fully comparable due to the different time horizons employed, with bank analysts giving their forecasts for the month preceding the corresponding month of the following year, and consumers doing so for the corresponding month of the following year. In addition, it should be borne in mind that consumer inflation expectations are objectified, i.e., quantified on the assumption that the respondents perceive price movements in terms of official inflation statistics.

Figure 68
Changes in consumer inflation expectations, 2001



Source: NBP calculations.

poll replies and those resulting from movements in the current inflation rate. Figure 68 presents the results of such a breakdown. It turns out that the decline in consumer inflation expectations seen last year is primarily traceable to the decrease in the current inflation rate. The overall reduction in consumer inflation expectations between December 2000 and December 2001 came to 6.6 points, of which some 5.8 points reflected the decrease in the current inflation rate, while some 0.8 points was derived from an improvement in the pattern of poll replies. In other words, had the current inflation rate in 2001 remained constant at the level of December 2000 (i.e., 9.9%), consumer inflation expectations would have gone down some 0.8 points in the course of the year and in December 2001 would have stood at around 9.6%[60].

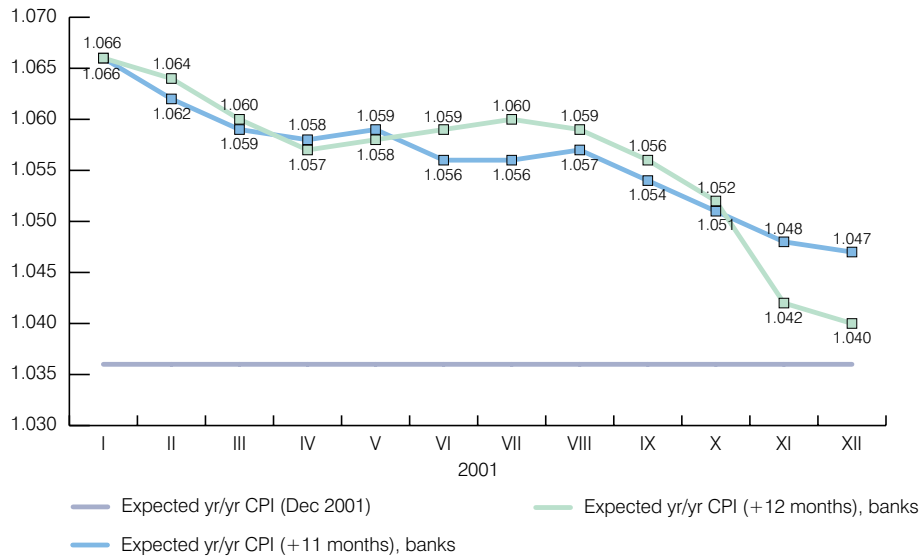
[60] It is worth noting that, even if the current inflation rate had stayed flat in 2001 at the level recorded in December 2000, consumer inflation expectations in December 2001 would still have been below the level of current inflation.

There were only two months in 2001, February and October, when the dominant factor in the fall in consumer inflation expectations were shifts in the pattern of poll replies. Let us note that there were also months last year when the two factors that condition the level of consumer inflation projections under the quantification procedure worked in opposite directions. This was the case in January, March, August, September and December (a deterioration in the pattern of poll replies coupled with a decrease in current inflation), and also in June and July (an improvement in the pattern of poll replies coupled with an increase in current inflation).

Inflation expectations of bank analysts

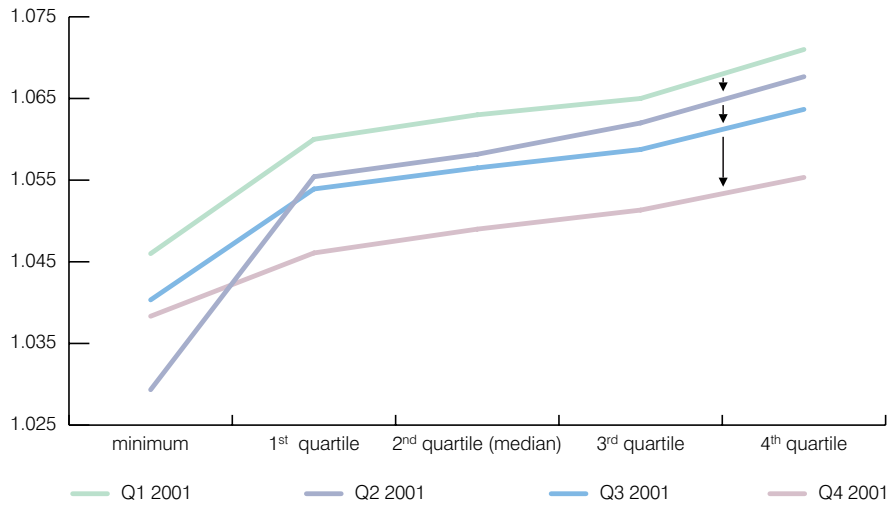
The inflation expectations expressed by those who have a large amount of information on the operation of the economy can be treated not only as predictions, but also as the result of formalised quantitative analyses. A good indication of the scale of uncertainty that surrounds such analyses, and also of the limited predictability of inflation processes last year, would seem

Figure 69
Bank analyst inflation expectations, 2001



Source: Reuters, GUS.

Figure 70
Distribution properties of bank inflation expectations, 2001



Source: Reuters; NBP calculations.

to be given by the findings of the surveys conducted by Reuters. These refer to the expectations of bank analysts concerning the rate of twelve-month inflation in December 2001. As is shown by the figures presented in Figure 69, at the beginning of last year the rate expected was 6.6%, whereupon it more or less stabilised within the range of 5.5%-6% from March to September, and subsequently began to fall very sharply. Even at the beginning of December, bank inflation expectations were still 0.4 points higher than the inflation in fact recorded at year end. It was not until January 2002, several days prior to the Central Statistical Office releasing official figures for price growth in 2001, that the inflation rate expected by bank analysts, at 3.7%, came close to the actual rate registered.

The year 2001 brought a decline in the expectations of bank analysts concerning year-on-year inflation in the month preceding the corresponding month of the following year. These came down in virtually monotonic fashion – with the exception of May and August, when they edged up 0.1 points – dropping from 6.6% in January 2001 to 4.7% in December. It is worth noting that the decrease in the average value declared by particular banks was accompanied by a shift in the

Table 29
Volatility measures for distributions of bank analyst inflation expectations, 2001
(quarterly averages)

	2001			
	QI	QII	QIII	QIV
Range of bank responses				
(percentage points)	2.4	3.8	2.3	1.7
Standard deviation (percentage points)	0.6	0.9	0.6	0.5
Volatility coefficient (%)	9.3	14.8	10.7	9.5

Source: Reuters; NBP calculations.

whole distribution of bank inflation expectations towards lower levels of price growth. This is demonstrated by the quartile analysis presented in Figure 70.

From the first to the fourth quarter of 2001, the minimum value of the distribution of twelve-month inflation rates expected by bank analysts (in the month preceding the corresponding month of the following year) came down 0.8 points. In the period under consideration, the first three quartiles slipped 1.4 points, while the fourth quartile (the maximum value) dipped 1.5 points. The decrease in the minimum value of the distribution was thus not monotonic. The non--monotonic character of movements in the minimum value of the distribution can primarily be ascribed to changes in the number of banks participating in the monthly Reuters survey, which in the course of 2001 oscillated between 13 and 22. These rather large fluctuations in the number of participating banks cause difficulties in interpreting the survey results. They also largely explain changes in particular measures of the uncertainty shown by bank analysts concerning future price movements, such as the range between the minimum and maximum values, the standard deviation or the volatility coefficient (and especially the increase in these in the second quarter of 2001).

6.3.4. The wealth effect

The year 2001 brought an increase in the relative volume of personal savings placed on the capital

Table 30
Direct & indirect forms of personal capital market investment
(billion zloty)

Type of capital investment	Year end 2000	End Q3	Year end 2001
1. Direct portfolio investment – securities held on personal accounts (total)	**23.5**	**20.6**	**22.7**
Shares*	16.6	9.0	9.9
Treasury securities (total)	6.9	11.6	12.8
a) market bonds*	3.1	3.3	3.5
b) savings bonds	1.9	4.8	6.0
c) T-bills**	1.9	3.5	3.3
2. Indirect portfolio investment (total)	**17.1**	**21.5**	**31.5**
Open-ended investment funds (net assets)***	7.2	6.1	12.1
Open-ended pension funds (net assets)	9.9	15.4	19.4
Total (1+2)	**40.6**	**42.1**	**54.2**
Above investments (total) as proportion of bank liabilities to persons, in zloty & foreign currency (%)	*21.7*	*21.0*	*25.9*

* securities belonging to domestic persons
** as reported by dealer banks
*** in the above table. the total net assets of investment funds are taken as representing personal savings; from time to time. however – due to the tax advantages obtainable. for example – a significant part of the assets placed at these funds may in fact belong to juridical persons (chiefly businesses). as was the case at the end of 2000

Source: Ministry of Finance, NBP, GUS, open-ended pension funds, investment fund companies.

market in relation to the savings held at banks. This was mainly associated with growth in personal indirect portfolio investment. A shift also took place in personal investment preferences, in the direction of debt instruments. These tendencies are illustrated in Table 30.

The basic trends discernible in personal savings in 2001 were as follows:

• A pronounced decline in the volume of shares held by this group of investors. This chiefly stemmed from the downturn on the stock market, which was due to:

– falling share prices worldwide as a result of the collapse of the boom driven by new technology companies,

– slackening economic growth, globally and in Poland,

– the repercussions of September 11, which led to significant movements on securities markets the world over.

• An increase in holdings of Treasury securities, particularly savings bonds, offering attractive rates of return at low levels of risk. This process accelerated in the fourth quarter following the announcement of the proposed tax on income from capital investment. In this period, investment in savings bonds climbed over 25% compared to the end of the third quarter, to reach 6bn zloty.

• Strong growth in the financial assets managed by open-ended pension funds. In the course of the year, their net assets doubled, to stand at 19.4bn zloty at year end[61].

• Changes in the volume of investment fund assets in the fourth quarter. This was mainly related to "anti-tax" investment products and in this period resulted in the assets of these funds doubling in size. This rapid growth was principally derived from personal investment.

The use of the capital market as an investment vehicle by private individuals was still minor in 2001 compared to the funds held at banks. A natural consequence of the anticipated weakening of the domestic economy was to shift investor interest towards debt instruments. It should also be noted that the capacity of households to generate a financial surplus was limited last year, which conditioned potential demand on the capital market.

[61] The assets managed by these funds should actually be over 7bn zloty higher, since this amount was due to them on arrears in transfers of pension contributions and accrued interest on those contributions.

7. PROSPECTS FOR INFLATION

From August 2000 to January 2002, the rate of inflation trended downwards in Poland, as measured both by the Consumer Price Index and by various indices of core inflation. However, an analysis of the figures on the economy indicates that at the end of 2002 this downtrend could be halted, and twelve-month inflation could again rise slightly.

The maintenance of low inflation in 2002 is supported by very weak domestic demand growth. Domestic demand fell 2.9% year-on-year in the fourth quarter of 2001, with investment down 14.5% and personal consumption up 3.2%. A rapid resurgence of personal demand seems unlikely, signifying that in 2001 this should once again not be a significant source of inflation.

The tendency for lending growth to decline is persisting. In January 2002, year-on-year growth in outstanding bank claims on persons stood at 14.4%, while growth in corporate outstandings came to 5%. Nonetheless, a tendency can be expected for the volume of loans to non-financial customers to rise in the course of 2002, one reason for this being the interest rate cuts performed since February 2001.

A factor that should help sustain low inflation in 2002 is the development of inflation expectations. These fell considerably in 2001. The moderate level of consumer inflation expectations, which are running below the current inflation rate, in conjunction with the difficult situation on the labour market, where unemployment has risen to over 18%, should restrain wage claims this year, thereby alleviating inflationary pressure.

Neither should inflationary pressure be fuelled by the prudent monetary policy pursued by the NBP in 2001. Despite a marked decline during the year in central bank interest rates, which came down seven and a half points, the reduction in real interest rates was smaller. However, it should be borne in mind that in Poland there is still a danger of the "money illusion", whereby companies and households respond to movements in nominal interest rates rather than in real ones. Were this to come into effect at present, it could lead to a rise in

demand and in inflation. At the same time, it should be remembered that the cumulative effects of the rate cuts carried out since February 2001 should already make themselves felt in the latter half of 2002.

Another factor exacerbating inflationary processes could be the steadying of money supply growth (M2) within a band of 12%–15%, which in an environment of falling inflation would mean a marked increase in real growth. Expansion in M1 was much faster last year than in 2000, although GDP growth was slower; growth in M1 rose to 10.7% in December 2001. The distinctly swifter growth in money stocks than in prices indicates that the real demand for money is continuing to expand. Were this to prove a lasting development, it would solely increase the degree of monetisation of the Polish economy. However, it cannot be excluded that the rising demand for money may turn out to be temporary; this dictates caution in assessing the inflationary pressure that could emerge in 2002 due to money supply growth.

The next factor that could potentially have a pro-inflationary impact is the public sector financial deficit. The deficit will probably be in excess of 5% of GDP this year, which will strengthen domestic demand pressure. The ultimate effect, however, will depend on the extent to which greater government borrowing requirements boost private sector consumption and investment. Since the third quarter of 2001, there has been increasingly rapid growth in general government indebtedness at the banks. This signifies that the public sector financial deficit has played an increasing role in credit creation. The general government sector was already the basic source of credit creation last year, and this year the situation in this respect could deteriorate further. In the event of increasing problems with the state of government finances, the risk of zloty depreciation would heighten.

A significant source of uncertainty this year will also be food and oil prices. There appears to be little likelihood of a repeat of 2001, when a good harvest coincided with a fall in world oil prices. If weather conditions are not favourable, the supply of domestic foodstuffs can be expected to decline compared to last year, thereby quickening food price growth. Further, the OPEC countries will no doubt attempt to scale down oil supplies in order to drive prices up to around US$ 25 per barrel. If this scenario were to be accompanied by sharp

zloty depreciation, this could accelerate inflation at the end of 2002.

Empirical research shows that the exchange rate channel is the fastest of the monetary transmission channels; movements in exchange rates impact domestic inflation with a time lag of just one month. Thus, any depreciation or appreciation of the zloty – absolutely normal events under a floating exchange rate regime – may rapidly trigger an increase or decrease in the rate of inflation. Nonetheless, assuming responsible macroeconomic policies are pursued, and given the forecast current account deficit for 2002, projected to be slightly above 4% of GDP, the risk of steep zloty depreciation does not seem great.

All in all, there is no straightforward judgement to be made on the balance of factors that could produce a rise or fall in inflationary pressure this year. There will most probably be a moderate increase in the twelve-month inflation rate during the year, yet not one that would threaten performance of the inflation target. This target has been set by the Monetary Policy Council at 5%, with a permissible bandwidth around this target of ±1 percentage point.

It should also be noted that an analysis of macroeconomic factors reveals no more serious threats so far to performance of the medium-term monetary policy target, set at under 4% in 2003.

APPENDIX 1

Balance of investment and savings, 2001 (based on preliminary and estimated economic data)

In the years 1998–2000, Poland's GDP growth (of around 5% per year) was significantly dependent on foreign sources of finance, which led to mounting external disequilibrium. In 2000, growth in export receipts (which rose to 29.3% of GDP from 26.1% a year earlier) yielded an improvement in the balance of trade, and thereby also boosted performance on the current account. This tendency was also sustained in 2001, albeit to a lesser extent, causing private sector savings to grow thanks to an increase in incomes.

Private sector savings represent a balancing item for private sector investment expenditure (gross), the surplus of government sector spending on goods and services relative to the net income of that sector, and the balance on the current account. Private sector savings represent the sum total of household savings and undistributed corporate profits.

Leaving aside temporary fluctuations, private sector savings grew slightly faster than GDP in the years 1991–2001, as is indicated by the increase in the average savings ratio in the years 1991–95 and 1996–2001 (cf. Table 31). Initial estimates show that in the private sector the growth of savings was considerably stronger than the growth in incomes. However, this was combined with a decline in the corporate propensity to invest, which testifies to the weakening of effective demand.

Last year's waning domestic demand and worsening assessment of the economic situation abroad meant that the economy found itself in a situation of instability due to rising uncertainty. Sagging investment demand, from both the private and public sectors, had already resulted in a slowdown in the growth of the social productivity of labour in 2000 and a real decline in incomes from employment. This tendency persisted last year. True, household consumption expenditure grew more rapidly than disposable incomes, yet the associated increase in output failed to bring a corresponding rise in employee earnings. This was because businesses cut their labour

costs, shedding staff and probably lengthening the working week.

The key factor in the balance of investment and savings last year was the situation within the corporate sector. The surveys carried out by the NBP indicate that, over the year as a whole, with the business outlook pessimistic, a larger percentage of companies reported a decrease in their outstanding borrowings at the banks than reported an increase in those borrowings[62]. The Statistical Yearbook for Industry, 2001 [*Rocznik Statystyczny Przemysłu 2001*], tells us that the long-term debt of industrial companies to the banks had already shrunk in 2000, and the overall liquidity position of these companies had deteriorated, as attested to by an increase in their trade payables and in liabilities on taxes, customs duty and social insurance contributions. A factor of no small importance in this was the barrier they encountered in terms of lending rates, a point mentioned by companies in the aforementioned surveys. It may be inferred that the circumstances in 2001 were such that the alternative profits obtainable from financial assets could have exceeded the rate of return to be gained on new productive investment. The fall in the propensity to invest, in conjunction with the rise in the propensity to save, demonstrates that investors expected a higher return on capital (at the given level of technology and input of labour), and the large cost of capital reproduction constricted the current production of investment goods.

The main source of investment funding in 2001, as was the case in previous years, was the capital employed by companies themselves. The survey findings indicate that the relative importance of this source of finance increased last year. However, poorer corporate incomes automatically translated into a curtailing of their investment activity.

The reduction of the level of investment in 2001 may also have to some extent been linked to the barrier of modernisation. The traditional pattern of investment maintained in the whole economy for years, with this investment directed towards industries marked by a low

[62] The surveys referred to here involved around 400 firms selected from throughout Poland. The sample used is not fully representative and mainly reflects the situation of large domestic companies. A full analysis of the survey findings is presented in *Koniunktura* ["The business cycle"], NBP 2002 (www.nbp.pl/publikacje/koniunktura).

degree of processing, does not ensure a sufficient foundation for growth. Investment in industries manufacturing machinery, equipment and computers still accounts for a small percentage of all industrial investment (3.2% in 2000). Despite a general improvement in the product structure of capital expenditure in the 1990s, capital spending on machinery, equipment and apparatus (around one third of all capital spending) fell 2.4% in real terms already in 2000, and the corresponding decline last year was probably even greater. The private sector investment ratio (total investment minus government sector investment as a proportion of GDP), which in the years 1996–2000 had averaged 21.2%, stood at 22.9% of GDP in 2000, yet dropped to 18.6% in 2001.

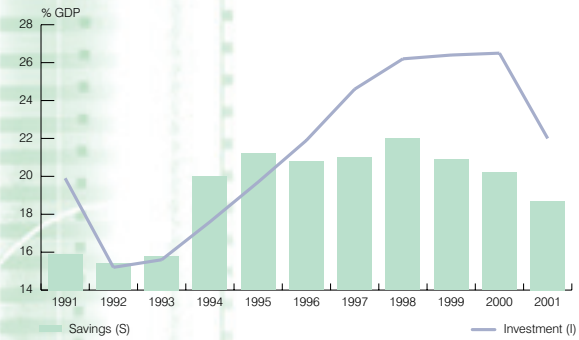
In 2001, the government sector was characterised by a substantial mismatch between the planned structure of the national budget and the impact of cyclical factors on government receipts and expenditure. Weakening growth in current receipts, together with the need to index-link growing social expenditure, resulted in a surge in the government deficit to 4.5% of GDP. This situation did not conform to the classical "crowding out", whereby – in conditions of full employment – fiscal expansion constrains growth in the other components of aggregate demand. In 2001, estimated government sector spending on goods and services (the sum of social consumption and investment) slipped from 10.8% of GDP to 10.4%. An increase in this demand component might indicate that the crowding out effect was operative in its classical form. However, the growth in the government deficit in 2001 was accompanied by a decline both in the government sector investment ratio (which came down to around 3.4% of GDP) and in the social consumption ratio (down to around 7% of GDP, after secondary breakdown).

The identical equation for gross incomes indicates that disequilibrium on the current account represents a net import of capital to supplement the level of savings in the private and government sectors (cf. Table 32). Preliminary estimates imply that the reduction of this disequilibrium to 3.3% of GDP in 2001[63] (from 6.3% a year before) was attributable not only to an increase in exports, but also to a slowdown in imports.

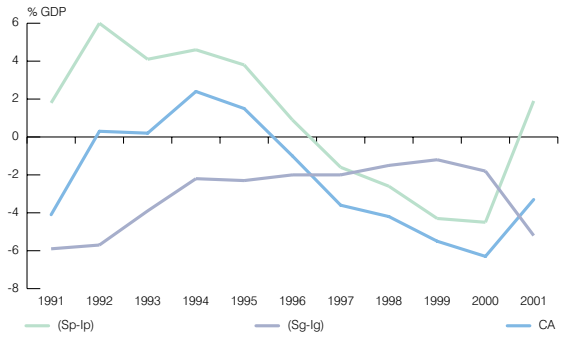
[63] Balance of payments figures, transactions basis.

Figure 71
Savings and gross investment as percentage of GDP

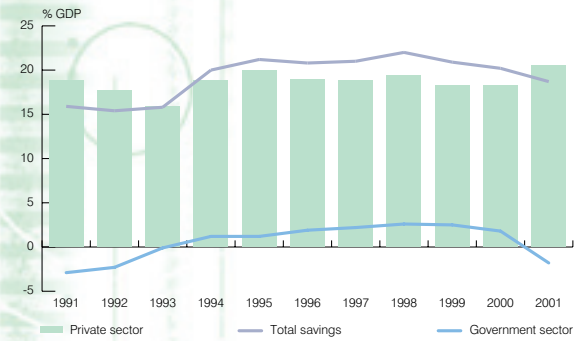
a) Savings and gross investment as percentage of GDP



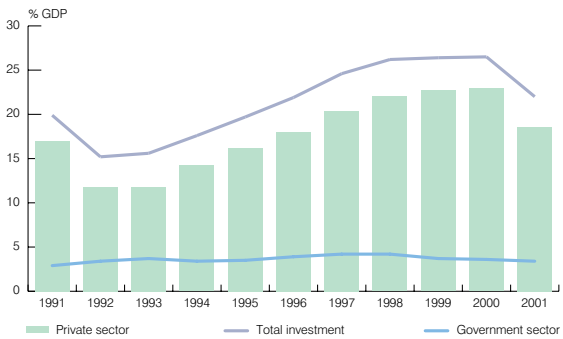
b) Balance on current account (CA) as sum of savings deficit/surplus in private and government sectors



c) Total savings and savings in private & government sectors



d) Total investment and investment in private & government sectors



These initial estimates indicate that the private sector savings ratio was over 2 points higher last year than in 2000, coming to 20.5% of GDP. It was also greater than the average for the years 1996–2000, which stood at 18.8% of GDP. This rise in the savings ratio was paralleled by a fall in investment. This demonstrates that effective demand diminished.

The household savings ratio has not undergone any major changes over the last three years. However, due to consumption increasing faster than incomes, this ratio was 0.8 points lower in 2001 than the average for the years 1996–2000. Preliminary estimates are that it came to 8% of GDP.

Table 31
Investment and gross savings as percentage of GDP
(NBP calculations based on available national accounts, by institutional sector)

Period	Total savings	Government sector savings	Private sector savings	Total investment	Private sector investment	Government sector investment
	S	*Sg*	*Sp=S-Sg*	*I*	*Ip=I-Ig*	*Ig*
1991–1995	17.7	-0.6	18.2	17.6	14.2	3.4
1996–2000	21.0	2.2	18.8	25.1	21.2	3.9
1998	22.0	2.6	19.4	26.2	22	4.2
1999	20.9	2.5	18.3	26.4	22.7	3.7
2000*	20.2	1.8	18.3	26.5	22.9	3.6
2001*	18.7	-1.8	20.5	22.0	18.6	3.4

* Own estimates of private-sector savings and investment.

Table 32
*Current account disequilibrium as sum of savings deficit/surplus in private and government sectors** (% of GDP)*

Period	Private sector	Government sector	Net import
	(Ip-Sp)	*(Ig-Sg)*	of capital *(-CA)*
1991–1995	-4.0	4.0	-0.1
1996–2000	2.4	1.7	4.1
1998	2.6	1.6	4.2
1999	4.4	1.2	5.5
2000*	4.6	1.8	6.3
2001*	-1.9	5.2	3.3

* see Table 31
** based on Table 31.

Government sector savings (i.e., tax receipts adjusted by transfer payments less social consumption) declined in 2001 and represented a negative value, at minus 1.8% of GDP. In the years 1996–2000, the government savings ratio was equivalent to 2.2% of GDP.

The total savings ratio (total private and government sector savings) stood at some 18%-19% of GDP in 2001, thereby dropping in comparison with both the previous year and the average for the years 1996–2000, when this ratio was 21% of GDP (cf. Fig. 71).

APPENDIX 2

Voting of Monetary Policy Council members in 2001

Date of resolution	Subject	Decision taken by MPC	Voting of Council members	
February 28, 2001	lowering all interest rates by sone and a half percentage points	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
February 28, 2001	the rediscount rate and refinance rate	to lower base interest rates by one percentage point	**For:**	L. Balcerowicz
				B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				G. Wójtowicz
			Against:	M. Dąbrowski
				D. Rosati
				W. Ziółkowska
February 28, 2001	procedures for the conduct of open market operations	to lower the reference rate by one percentage point	**For:**	L. Balcerowicz
				B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				G. Wójtowicz
			Against:	M. Dąbrowski
				D. Rosati
				W. Ziółkowska

March 28,	the rediscount rate	to lower base interest rates	**For:**	L. Balcerowicz
2001	and refinance rate	by one percentage point		J. Krzyżewski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
			Against:	M. Dąbrowski
				B. Grabowski
				C. Józefiak
				W. Łączkowski
				J. Pruski
March 28,	procedures for the conduct of open	to lower the reference	**For:**	L. Balcerowicz
2001	market operations	rate by one percentage point		J. Krzyżewski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
			Against:	M. Dąbrowski
				B. Grabowski
				C. Józefiak
				W. Łączkowski
				J. Pruski
April 25,	approving the accounts of the NBP		**For:**	L. Balcerowicz
2001	at December 31, 2000			B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
			Was	
			absent	
			during the vote:	M. Dąbrowski
May 30,	approving the report on the performance		**For:**	L. Balcerowicz
2001	of monetary policy guidelines in 2000			M. Dąbrowski
	and assessing the activity of the NBP			B. Grabowski
	Management Board in implementing			C. Józefiak
	those guidelines			J. Krzyżewski
				W. Łączkowski
				J. Pruski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska

May 30, 2001	approving the report on NBP operations in 2000		**For:**	L. Balcerowicz
				M. Dąbrowski
				B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
May 30, 2001	lowering all interest rates by two percentage points	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
May 30, 2001	lowering all interest rates by one 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
June 27, 2001	lowering all interest rates by two percentage points	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

June 27,	the rediscount rate and refinance rate	to lower base interest rates	**For:**	L. Balcerowicz
2001		by one and a half percentage points		B. Grabowski
		.		C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
			Against:	M. Dąbrowski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
June 27,	procedures for the conduct	to lower the reference rate	**For:**	L. Balcerowicz
2001	of open market operations	by one and a half percentage points		B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
			Against:	M. Dąbrowski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
August 22,	the rediscount rate and refinance rate	to lower base interest rates	**For:**	L. Balcerowicz
2001		by one percentage point		B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
			Against:	M. Dąbrowski
August 22,	procedures for the conduct	to lower the reference rate	**For:**	L. Balcerowicz
2001	of open market operations	by one percentage point		B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
			Against:	M. Dąbrowski

September 26, 2001	establishing monetary policy guidelines for 2001		**For:**	L. Balcerowicz
				M. Dąbrowski
				B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
October 24, 2001	approving amendments to the NBP financial plan for 2001		**For:**	L. Balcerowicz
				M. Dąbrowski
				B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
October 25, 2001	lowering interest rates by two percentage points	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
October 25, 2001	lowering interest rates by one percentage point	motion failed to receive a majority of votes	**For:**	B. Grabowski
				C. Józefiak
				W. Łączkowski
				J. Pruski
			Against:	L. Balcerowicz
				M. Dąbrowski
				J. Krzyżewski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska

October 25,	the rediscount rate	to lower all interest rates	**For:**	L. Balcerowicz
2001	and refinance rate	by one and a half		J. Krzyżewski
		percentage points		D. Rosati
				G. Wójtowicz
				W. Ziółkowska
			Against:	M. Dąbrowski
				B. Grabowski
				C. Józefiak
				W. Łączkowski
				J. Pruski
October 25,	procedures for the conduct	to lower the reference rate	**For:**	L. Balcerowicz
2001	of open market operations	by one and a half		J. Krzyżewski
		percentage points		D. Rosati
				G. Wójtowicz
				W. Ziółkowska
			Against:	M. Dąbrowski
				B. Grabowski
				C. Józefiak
				W. Łączkowski
				J. Pruski
November 28,	the rediscount rate	to lower the rediscount rate	**For:**	L. Balcerowicz
2001	and refinance rate,	and refinance rate by one and half		B. Grabowski
	and the NBP deposit rate	percentage points,		C. Józefiak
		and to set the NBP		J. Krzyżewski
		deposit rate at 7.5%		W. Łączkowski
				J. Pruski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
			Against:	M. Dąbrowski
November 28,	procedures for the conduct	to lower the reference rate	**For:**	L. Balcerowicz
2001	of open market operations	by one and a half		J. Krzyżewski
		percentage points		D. Rosati
				G. Wójtowicz
				W. Ziółkowska
			Against:	M. Dąbrowski
				B. Grabowski
				C. Józefiak
				W. Łączkowski
				J. Pruski

December 18, 2001	approving the NBP financial plan for 2002		**For:**	L. Balcerowicz
				M. Dąbrowski
				B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska
December 19, 2001	the reserve ratio for banks	to lower the reserve ratio to 4.5%	**For:**	L. Balcerowicz
				M. Dąbrowski
				B. Grabowski
				C. Józefiak
				J. Krzyżewski
				W. Łączkowski
				J. Pruski
				D. Rosati
				G. Wójtowicz
				W. Ziółkowska