

Monthly Report

2/03

Contents

Poland's debt: history and outlook	2
Income inequality in the Czech Republic	8
Factors affecting T-bond yields in Poland.....	15
Online access to wiiw publications	24
Monthly statistics	
Selected monthly data on the economic situation in ten transition countries, 2001 to 2002	25
Guide to WIIW statistical services on Central and Eastern Europe, Russia and Ukraine	36

wiiw Spring Seminar 2003

'The Accession Deal: Consequences for New Members

Vienna, Friday, 28 March 2003, 9:00 a.m.

PROGRAMME (preliminary)

Morning

(Guest speaker)	<i>D. Hübner, Minister for European Affairs, Poland</i>
Overview on transition economies and outlook	<i>L. Podkaminer (wiiw)</i>
Financial and fiscal aspects of accession	<i>S. Richter, R. Römisch (wiiw)</i>
Lessons from earlier accessions	<i>K. Laski, R. Römisch (wiiw)</i>

Afternoon

CEE agriculture in an enlarged EU: a hard landing ahead?	<i>Z. Lukas (wiiw)</i>
CEE industry in an enlarged Europe	<i>P. Havlik (wiiw)</i>
The services sectors in the CEECs	<i>H. Vidovic (wiiw)</i>

More detailed information will be sent to you in the course of February.
If you wish to register already now, please use the form attached to the end of the report.

The Vienna Institute Monthly Report is exclusively available to subscribers to the wiiw Service Package

Poland's debt: history and outlook

BY PIOTR RACHTAN*

Poland's public finances are in a quite poor state although the public debt does not seem to threaten the finances themselves. At the end of 2000 total public debt, including debts of local governments and the so-called funds for special purposes, reached 280.5 billion zlotys (PLZ), or 40.9% of the GDP. This is a relatively low level: among the OECD members only Luxembourg, South Korea, Australia, Norway and Iceland are less indebted than Poland. Table 1 shows how the public debt, its structure and share in the GDP changed in the years 1991-2000.

Despite the favourable trend, reflected by the gradual decrease (since 1995) in the ratio of external debt to GDP from 43.6% in 1991 to 13.7% in 2001, the total external debt amounts to as much as USD 80 billion today. The enterprise sector has increased its share in Poland's total debt. Debt repayments are increasing year by year. In four years they are scheduled to reach their climax – over USD 12 billion. So far Poland was able to meet its obligations despite the recent stagnation in GDP growth. The question is, will the country be able to continue to do so in the future?

After World War II Poland began to rebuild its economy, and its external debt rose to about USD 200 million at the end of the 1960s. That debt of the Polish economy (which was becoming increasingly autarkic) was serviced from the gold reserves of the pre-war Polish National Bank (BP). Debt remained low until 1971, primarily for political reasons, as indebtedness was then considered a threat to national sovereignty (much as this was restricted by the Soviet influence anyway). After the fall of Mr. Gomulka, the new Polish leader, Mr. Gierek, inaugurated an economic policy stipulating high reliance on foreign credits.

The strategy was to borrow heavily in order to import huge quantities of modern capital goods and technology from the West. That was to accelerate overall growth and modernization, and to allow for radical improvements in the living standards whose protracted stagnation had precipitated Mr. Gomulka's fall.

Western bankers proved very co-operative. Poland (and at that time also other Communist countries) had the reputation of honouring their financial obligations. The worry was that Poland did not take more rather than less credits. This attitude strengthened after the Israeli-Arab war in October 1973, when there was a fast accumulation of growing deposits by oil-exporting countries in the banks. As the West plunged into 'stagflation', banks were quite desperate to find good borrowers. Poland, ruled by the apparently enlightened, reformist and Western-oriented Mr. Gierek, seemed an ideal customer.

The debt rose fast. Already at end-1973 Poland's debt in western currencies exceeded the annual export revenue. And in 1975 about 32% of income from exports were used to service debt owed to Western countries. Also the structure of the debt was changed unfavourably: short-term credits were growing faster as they were used to repay the proper debt – in the peak year of 1976 the ratio of short-term credits to income from exports reached more than 46%.

Credits were used to finance many investment and technology projects. These included the purchase of the licence to produce a small Fiat car, which was supposed to be a car for every Pole. It was believed that the purchases of the licences (and equipment) to produce the outdated model of the Berliet bus was a politically motivated courtesy to the French. Also, the erection of a gigantic tractor plant at Ursus (with the British Massey-Fergusson as supplier) eventually turned out a flop. So did the huge steel plant at Katowice. More successful projects included the Gdansk petroleum complex and some infrastructure projects (sea ports, railways

* Freelance economist, Warsaw.

Table 1

Poland's public debt											
PLN million											
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total	65841	99607	138151	152238	167267	185603	221650	237402	264370	266817	383939
- internal	12663	2588	40081	55876	66160	79609	104058	121184	134676	145982	185030
- external	53178	73719	98070	96361	101107	105994	117592	116218	129694	120835	98909
Total (% of GDP)	54.0	60.0	83.3	67.6	54.3	47.8	46.9	42.9	42.8	38.9	39.3
- internal	10.4	15.6	24.2	24.8	21.5	20.5	22.0	22.0	21.8	21.3	25.6
- external	43.6	44.4	59.1	42.8	32.8	27.3	24.9	20.9	21.0	17.6	13.7

Source: The Government Centre for Strategic Studies, 'The Socio-economic Transformation in Poland,' Warsaw, July 2002.

and hotels). Western credits financed also the construction of the so-called Polish route of the oil pipeline from the Soviet Union to Western Europe. The contract with the USSR included a provision under which the entire equipment used by Poles at the construction sites in the USSR was to be left to the Soviets. This equipment used by the Polish construction company, which was a subcontractor on the Soviet territory, consisted of American state-of-the-art equipment. The Polish crews somehow learned about the provision and exploited the machines mercilessly, until their technical disintegration. What did not break down was sunk in the surrounding swamps. Thus Russians did not get anything while Poland was left with debts to repay.

Already in 1978 the Bank of England (as well as WIIW) forecasted that Poland would not be able to service its debt. However, the banks did not see any threats – after all they may have been reluctant to admit to their shareholders that they had wrongly estimated Poland's potential. Also in Poland there was a reluctance to admit that it was high time to consider negotiations on debt rescheduling.

The first contacts with the Paris Club (government creditors) started as late as 1980. In April 1981 an agreement was signed on rescheduling repayments due that year. No such agreement however was concluded for repayments due in 1982.

Table 2

Poland's external debt by main groups of creditors, 1990-1994						
USD million						
	1990	1991	1992	1993	1994	1994 (in %)
Total	48 474	48 411	47 044	47 246	42 174	100.00
including						
Paris Club	32 778	31 525	29 558	28 666	26 818	63.59
Guaranteed outside						
Paris Club	530	443	358	276	224	0.53
London Club	11 163	11 733	12 163	12 695	7 988	18.94
Former USSR and former CMEA	2 407	2 572	2 591	2 711	2 395	5.68

Source: Ministry of Finance.

The first agreement with commercial banks was signed in Frankfurt a year later. But following the introduction of martial law in Poland (December 1981) and the imposition of economic sanctions, including putting an end to crediting the Polish economy, the next meeting with commercial banks was held in Vienna only in November 1982.

Meanwhile the debt grew further. On 30 June 1983, Poland's debt owed to western countries climbed to USD 24.5 billion. Poland was practically in default.

The breakthrough came only as a result of the collapse of the old regime in 1989. Afterwards the negotiations with the Paris Club creditors proceeded swiftly. In 1991 the Polish government signed an agreement on the reduction and rescheduling of the Polish debt. It covered all debts of the country owed to 17 creditors as short- and medium-term credits taken until the end of 1983. The majority of the money was owed to France (over USD 4.8 billion) and Brazil (USD 3.7 billion). The United States ranked eighth with USD 1.5 billion. Poland's debt to the Paris Club members totalled USD 26.8 billion at that time (see Table 3).

The signing of the agreement paved the way for negotiating bilateral agreements in which one of three variants of debt reduction was chosen. In the first stage the reduction of Poland's commitments to Paris Club creditors totalled more than USD 6 billion.

What made the operation easier was the so-called ecoconversion, that is the transfer of part of the payments not to the creditors' accounts but to a special Ecofund, which was expected to finance investments serving environmental improvements in Poland.

In tune with the agreement with the Paris Club the timetable for payments was adjusted to Poland's envisaged solvency. Payments in the first three years were therefore rather small: interest payments were reduced by 80% and principal payments deferred.

Table 3

Poland's debt to Paris Club members, 1994

USD million and per cent of total

France	4 874	18.17
Brazil	3 731	13.91
Austria	3 537	13.19
West Germany	3 401	12.68
Canada	2 709	10.10
Japan	1 681	6.27
Italy	1 647	6.14
USA	1 591	5.93
Great Britain	1 441	5.37
Switzerland	514	1.92
Holland	390	1.46
Sweden	347	1.29
Belgium	325	1.21
Norway	267	1.01
Denmark	191	0.71
Spain	92	0.34
Finland	76	0.28
Total	26 818	100.00

Source: Ministry of Finance.

Negotiations with the London Club were much more difficult. Despite the fact that Poland's debt to commercial financial institutions, i.e. the members of the Club, was much smaller than that owed to western governments (nearly USD 12.7 billion, that is 19% of debt overall) it was easier to negotiate the reduction with political authorities than with boards of companies being subject to commercial law, and accountable for their activities to their shareholders. The negotiations lasted until 1994. At the same time they were much more complicated. The main part in their favourable conclusion was played by Poland's negotiator Mr. Krowacki, who set up a task group and had the courage to break the rules adopted by the Ministry of Finance. 'I did not consult anything outside the negotiating team, and the negotiations were not discussed with the outside officials from the Finance Ministry or from the Prime Minister's Chancellery', he admitted in 1995.

The negotiations ended with swapping the old debt for the new one with the use of an instrument called Brady Bonds.

The difficulties in forging the agreement with the London Club were to a considerable degree the result of strongly conflicting interests of individual creditor banks.

One should also remember that an important part of the Polish debt – some USD 2.5 billion at the beginning of the 1990s – consisted of obligations towards the Soviet Union and some CMEA countries. Poland signed a relevant agreement with Russia only in 1995 under which both sides obliged themselves to mutually cancel their commitments – hence the substantial reduction of the external debt (by 10 percentage points in relation to the GDP) in that year.

In addition a considerable part of the public debt was repaid from loans acquired in the country, this being a specific conversion of external debt into internal debt. Also, in recent years a significant role in repaying the external debt was played by funds coming from the privatization of state-owned enterprises.

According to estimates of the National Bank of Poland (NBP) issued in September 2002, Poland's external debt reached USD 78.4 billion at the end of the second quarter of the year (see Table 4). Thus in comparison to the early 1990s, the period of negotiations with the Paris and London Clubs, the debt has become much larger. But, of course, Poland's economy has also changed radically. Exports to the West have increased enormously. Besides, at the beginning of its transformation Poland was a country without hard-currency reserves. Today its reserves exceed USD 27 billion. There has also been a change in the composition of foreign debt. Public, or government foreign debt has been overshadowed by private foreign debt (see Table 4).

The debt of the Polish state to government creditors is permanently on the decrease while its obligations towards private investors have been at least relatively growing.

Apart from foreign debt denominated in foreign currencies, there is public domestic debt (treasury bonds) denominated in zlotys owned by foreigners. That debt (equivalent to about USD 5 billion at end-2001) may also be considered a kind of external debt. Certainly, the behaviour of the foreign owners of the domestic securities may have an impact on the exchange rate of the zloty.

Table 4

Poland's foreign debt in mid-2002

USD million

	as of end of 4Q 2001	as of end of 2Q 2002	change in USD million	in per cent
NBP	428	201	-227	-53.0
Government and local government sector	29 237	33 596	4 359	14.9
Banking sector	6 598	7 221	623	9.4
Sector of enterprises	34 785	37 349	2 564	7.4
Total debt	71 048	78 367	7 319	10.3
of which long-term debt	60 491	67 543	7 052	11.7

Source: National Bank of Poland.

Table 5

Total external debt of the enterprise sector

USD million

	End of 2000	End of 2001	End of 1Q 2002	End of 2Q 2002
Sector:	30 020	34 785	34 371	37 349
Non-government and non-banking				
Credits of direct investors	8 817	10 041	9 447	10 279
Loan stock owned by foreign portfolio investors	3 487	4 179	4 019	4 398
Long-term loan stock	3 386	4 166	3 955	4 358
Instruments of the monetary market	101	13	64	40
Remaining foreign investments	17 716	20 565	20 905	22 672

Source: Ministry of Finance and National Bank of Poland.

The share of enterprises (the non-government and non-banking sector) in Poland's debt is continuously on the increase. In the first half of 2002 it reached USD 37.3 billion.

49% of credits (excluding trade credits) were provided by foreign non-financial firms; 34% by foreign commercial banks; and 9% by international financial institutions. According to the NBP the foreign debt of the enterprise sector has been accumulated by a narrow group of debtors: 30% of the entire sector's debt goes to a group of nine enterprises and 50% to a group of 36 enterprises.

The first ten biggest debtors include companies in telecommunications, the petrochemical industry and transport.

In the coming years much of Poland's foreign debt is expected to be repaid. According to schedule, in 2003-2004 Poland will have to repay some USD 10 billion annually. In 2005 the burden will be smaller (less than USD 8 billion) but the following year will bring about the most difficult phase (USD 12.1 billion). The principal to be repaid in 2006 is over USD 10.5 billion. The majority of this will be debts of the public sector; the principal of government and local government debts alone is nearly USD 6 billion. Enterprises will have to repay

less (some USD 5.4 billion). After that difficult phase things will be easier – USD 8 billion in 2007, 7 billion in 2008 and so on, the trend moving downward, though inconsistently (see Table 6).

However, in view of Mr. Bratkowski, deputy president of the NBP, that timetable does not pose any threat to public finances. The ratio of the external debt to the GDP oscillates between 40% and 44%. Also the debt service does not exceed 10% of the GDP. Provided that Poland does not face any fall in GDP, its repayments should not be threatened and come on time. Recent foreign trade improvements suggest that Poland's foreign financial position need not deteriorate. Anyway, according to Mr. Bratkowski, the payments climax in 2006 necessitates some preventive measures, to be taken a year or even two earlier. It seems that Poland will have to roll over its debt, by taking additional credits with sufficiently long maturity. In his opinion Poland will be ready to enter the Eurozone (though this is not expected to take place earlier than in 2007-2008). Further improvements in Poland's credit rating, which is one of the expected consequences of EU membership and then of euroization, should make the roll-over easier and cheaper. Clearly, net transfers from Brussels and possibly also rising foreign exchange revenue from privatization (which was stalled in 2001-2002) will also be of some importance.

Table 6

**Timetable for the repayment of principal and interests of Poland's long-term debt,
recorded at the end of the second quarter of 2002**

USD thousand

	3Q and 4Q 002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	beyond 2013	no timetable	Total
<i>NBP</i>	2 655	2 743	1 661	1 082	415	0	0	0	0	0	0	0	0	0	8 556
- principal	2 623	2 715	1 653	1 082	415	0	0	0	0	0	0	0	0	0	8 486
- interest	32	30	8	0	0	0	0	0	0	0	0	0	0	0	70
<i>Public sector</i>	1 232 350	3 859 843	4 395 086	4 310 933	6 482 230	4 940 359	4 441 326	3 012 709	1 926 790	1 806 188	1 155 831	627 776	2 341 252	16 709	40 549 392
- principal	838 391	2 951 154	3 523 109	3 524 971	5 766 218	4 310 910	3 922 462	2 603 725	1 563 347	1 506 592	936 658	475 881	1 491 133	16 709	33 431 260
- interest	393 959	908 689	872 977	785 962	716 012	629 449	518 864	408 984	363 443	299 596	219 173	151 895	850 119	0	7 118 122
<i>Banking sector</i>	747 354	1 523 490	402 264	478 833	266 686	404 134	571 506	3 940	2 107	10 867	279 789	1 385	5 783	0	4 698 138
- principal	740 219	1 510 128	391 897	455 809	260 949	401 870	569 006	3 620	1 880	10 666	279 614	1 235	5 243	0	4 632 136
- interest	7 135	13 362	10 367	23 024	5 737	2 264	2 500	320	227	201	175	150	540	0	66 002
<i>Enterprise sector</i>	3 900 007	4 543 167	4 829 727	3 023 037	5 399 292	2 731 510	2 160 201	1 585 390	1 024 261	1 239 225	445 606	301 392	2 199 393	3 257 879	36 640 087
- principal	3 184 685	3 392 767	3 737 192	2 072 661	4 529 977	2 158 253	1 729 860	1 260 992	786 983	1 079 009	350 653	223 060	1 860 384	3 104 749	29 471 225
- interest	715 322	1 150 400	1 092 535	950 376	869 315	573 257	430 341	324 398	237 278	160 216	94 953	78 332	339 009	153 130	7 168 862
<i>Total</i>	5 882 366	9 929 243	9 628 738	7 813 885	12 148 623	8 076 003	7 173 033	4 602 039	2 953 158	3 056 280	1 881 226	930 553	4 546 428	3 274 588	81 896 163
- principal	4 765 918	7 856 762	7 653 851	6 054 523	10 557 559	6 871 033	6 221 328	3 868 337	2 352 210	2 596 267	1 566 925	700 176	3 356 760	3 121 458	67 543 107
- interest	1 116 448	2 072 481	1 974 887	1 759 362	1 591 064	1 204 970	951 705	733 702	600 948	460 013	314 301	230 377	1 189 668	153 130	14 353 056

Source: Ministry of Finance.

Income inequality in the Czech Republic

BY JIŘÍ VEČERNÍK*

After the collapse, in 1989, of a particularly hard-line communist regime, the Czech Republic has become a market economy with a largely privatized economy. The transition entailed important changes in income distribution. Formerly frozen differences in earnings widened, also on account of the development of new private businesses and foreign-owned firms. Income from property and financial speculation, and from the informal economy expanded as well. Social transfers and taxes became more transparent. In the mid-1990s redistribution policies moderated the effects of rising inequality.

This article deals with the evolution of disposable household income, which equals to gross market income plus transfers received net of personal taxes and social insurance contributions. We use two household income measurements: the first is total disposable income per household and the other is household income per capita, i.e. adjusted for the number of household members. In the latter case, household members are 'weighted' by demographic scales (as in the international Luxembourg Income Study). While most of the article analyses statistical surveys covering the period 1988-1996, we discuss, in the concluding section, possible omissions as well as the more recent developments.

Trends and patterns of income disparities

The regime change also affected the scope of household income surveys. Under the old regime, refusal to participate in the surveys was rare. Besides, the state administration had perfect knowledge (and control) of the population's incomes and expenditures. After 1989, the direct transfer of income information from the state organizations was discontinued. As elsewhere,

self-reporting became the sole source of information. The percentage of households surveyed has decreased substantially and a growing fraction of sampled households refuse to co-operate (see Table 1).

Over the period 1988-1996 inequality rose more slowly in per household terms and faster in per capita terms (see Table 2). The disparity between shifts in the distribution of income per household and per capita is explained by the changing composition of households. While the average size of households in the period 1988-1996 remained exactly the same (2.66 members) and the number of dependent children fell slightly (from 0.76 to 0.69), the number of economically active household members decreased considerably, from 1.48 to 1.24. The falling number of working family members followed the policy of forcing the working pensioners out of the labour force which was achieved through heavy taxation of extra income supplementing pension benefits. Besides there was a tendency for women to withdraw from the labour market, in part due to rising incomes of better-off husbands.

Table 3 shows the income distribution by deciles. In per-household terms, the bottom share increased slightly and the top share rose considerably. In per-capita terms, the top share rose as well, but other deciles changed differently in the two periods. Between 1988 and 1992, the relative position of the lower half was largely maintained while the upper half (but not the top decile) declined somewhat. This was the 'pre-privatization period' of the social-liberal government, which maintained universal social benefits and kept wages under control. Between 1992 and 1996, relative stability or even an increase was registered in the upper half while the lower half lost out. This was the 'privatization period' of the self-declared liberal government, which replaced universal benefits with targeted ones, removed wage regulation, froze the minimum wage, and allowed for a rapid rise of earnings unrelated to growth in the productivity of labour.

* Institute of Sociology, Czech Academy of Sciences, Prague.

Table 1

Characteristics of income surveys

	1988	1992	1996
Targeted percentage of households	2	0.5	1
Survey sample (N of households)	69,912	15,677	27,314
Non-response rate, %	4.2	15.7	23.8
<i>Household income per capita according to income surveys¹⁾</i>			
- in nominal terms (CZK thousands yearly)	22.3	33.7	63.5
- index, in real terms (1988 = 100)	100.0	78.1	93.4
<i>Population income per capita according to aggregate statistics²⁾</i>			
- in nominal terms (CZK thousands yearly)	25.9	42.0	83.5
- index, in real terms (1988 = 100)	100.0	84.2	103.7

Notes: 1) Income per capita in surveys is weighted by persons. - 2) According to the Balance of Incomes and Expenditures of the Population in 1988 and 1992 and National Accounts in 1996.

Source: Microcensus 1988, 1992 and 1996; Statistical Yearbooks; Czech National Bank.

Table 2

Distribution of household income: coefficients and correlations

Indicator	Income per household			Income per capita		
	1988	1992	1996	1988	1992	1996
<i>Coefficients and decile ratio:</i>						
Variation	0.53	0.69	0.73	0.40	0.56	0.65
Gini coefficient	0.29	0.32	0.33	0.20	0.23	0.26
Decile ratio (D90/D10)	5.12	4.95	5.21	2.43	2.51	2.91

Source: Microcensus 1988, 1992 and 1996.

Table 3

Distribution of household income by deciles and the real growth (per cent)

Income decile	Per household (HH)			Per capita (PC)			Real growth in 1988-1996	
	1988	1992	1996	1988	1992	1996	HH	PC
1	2.5	2.9	2.8	5.3	4.9	4.3	105.6	74.6
2	4.1	4.1	3.9	6.6	6.4	5.9	88.5	82.8
3	5.9	5.8	5.6	7.4	7.3	6.8	88.7	85.9
4	7.6	6.9	6.7	8.1	7.9	7.6	81.7	87.7
5	9.3	8.1	7.9	8.8	8.6	8.3	79.7	88.5
6	10.7	9.6	9.4	9.6	9.2	9.1	81.4	88.6
7	12.0	11.1	10.9	10.6	10.1	10.1	84.5	89.2
8	13.2	12.8	12.7	11.8	11.3	11.5	88.9	90.8
9	15.1	15.2	15.4	13.6	13.2	13.7	95.0	93.7
10	19.6	23.5	24.7	18.2	21.1	22.6	117.3	116.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	93.4	93.4

Source: Microcensus 1988, 1992 and 1996.

In both periods, the middle of the income distribution was squeezed. In terms of real disposable income per household, while the lowest and highest income categories increased their living standards, middle incomes lost some 10-20% of their purchasing power. However, the rise in the bottom income decile is rather spurious because there was considerable demographic mobility within it. In terms of income per capita, only the top decile gained, and the bottom decile lost the most. Income analysis thus confirms the hypothesis that the middle-income class has not gained significantly from the transition.¹

In a multivariate analysis (see Table 4) we compare, (1) demographic or life-cycle variables (age of the head, the size and composition of the household) and (2) economic or labour market variables (education and type of occupation of the head). We observe a weakening of the life-cycle profile of income distribution in favour of its labour market profile. In per-household terms, the specific importance of the age of the household's head is close to zero in 1996 and the weight of the number of children tends to disappear. In per-capita terms, the specific weight of the number of children almost halved. On the other hand, the importance of the labour market characteristics of individuals (household heads) increased. The manual/non-manual distinction, not perceptible in the communist period, re-appeared in both income indicators. In the per-capita terms, education tripled in importance as a determinant of income.

Changing redistribution through taxes and benefits

The redistribution system, which was rather obscure under the communist regime, was made more transparent after 1989. Price subsidies were abolished first and the wage tax (almost flat at the time) was replaced by a new progressive income tax next, together with a new formula for the employees'

and employers' pension and health contributions. By 1996, the system of social benefits was simplified and their targeting had been introduced. In 1991, the official 'living minimum' was established, and its level has served since 1993 as a benchmark for various social benefits within the state support scheme (especially family allowances).

The general level of redistribution in a country is usually reflected in the share of taxes and tax-like contributions in GDP (the so-called tax quota). The new system started with a rather high level of redistribution. Nevertheless, both tax and contribution rates have decreased slowly but consistently up to 1998. Currently, the Czech tax quota, which is about 40%, is located somewhere between the liberal Anglo-Saxon and the social-democratic Scandinavian countries, close to Germany, and Austria (which redistribute somewhat less), the Netherlands and France (which redistribute somewhat more).

Data on taxes and benefits by income deciles for the sub-sample (excluding households of agricultural employees) reveal important changes over time (see Table 5). While the burden of income tax and social contributions increased, social benefits decreased on average by about 5 percentage points. If we take the population as a whole, the rise in the financial burden of households is less striking, but still apparent. On the whole the redistribution system has become much less advantageous, especially for families with children. One has to remember that, under the old regime, there were many social transfers in-kind provided by the state-owned firms or trade unions to their employees or members (such as crèches and nursery schools, recreation, canteens etc.). Those transfers were not yet captured by the household income statistics.

Both taxes and social benefits are distributed less evenly now. During the communist regime the wage tax system (with rates which were fixed in the late 1950s) had completely lost its progressiveness over time. In practice the overwhelming majority of workers had their wages taxed at the highest (17%)

¹ See J. Večerník (1999), 'The middle classes in the Czech reforms: The interplay between policies and social stratification', *Communist and Post-Communist Studies*, 32: 397-416.

Table 4

Analysis of variance of (ln) household income (per cent of total variance)

Factor	N of categories	Per household			Per capita		
		1988	1996	1996	1988	1996	1996
Main effects		62.82	43.73	48.88	59.26	48.22	53.75
N of active earners	3	24.21	27.86	27.34	3.84	3.92	3.85
N of children	5	5.42	2.40	2.84	31.84	19.43	22.79
Age of the head	7	1.89	0.23	0.16	3.03	0.22	0.29
Non-manual	2	0.16	0.70	0.53	0.00	1.43	0.76
Education	4	3.29	3.45	4.88	1.19	3.59	4.79
Locality	3	0.08	0.18	0.18	0.07	0.64	0.64
Branch	11	-	-	1.58	-	-	1.35
2-ways interactions		3.16	2.36	¹⁾	2.60	1.75	¹⁾
Explained		65.98	46.08	48.88	61.86	49.97	48.88

Notes: 1) Due to empty cells or a singular matrix, higher order interactions are not available.

Only households with head in prime age (25-54).

All coefficients are significant on the level < 0.001.

Sources: Microcensus 1988 and 1996.

Table 5

Relative taxes and social benefits by income decile (per cent)

Income decile	According to income per household				According to income per capita			
	Taxes		Social benefits		Taxes		Social benefits	
	1988	1996	1988	1996	1988	1996	1988	1996
1	16.1	16.6	17.0	17.9	10.3	11.9	30.1	30.5
2	14.1	16.0	23.4	22.0	11.9	14.8	24.0	22.0
3	13.6	16.3	24.2	21.8	13.0	16.4	20.4	17.6
4	14.4	17.2	21.2	18.3	13.7	17.4	18.0	15.5
5	14.9	18.0	18.5	15.4	14.1	18.3	16.6	14.1
6	15.2	18.2	16.6	13.6	14.8	18.8	15.3	13.8
7	15.3	19.7	15.6	11.2	15.4	19.8	14.4	11.7
8	15.7	20.2	14.7	9.9	16.0	20.4	14.2	10.1
9	16.0	21.4	13.8	7.8	17.2	21.6	14.1	7.8
10	16.1	24.1	12.4	4.8	17.4	24.6	15.4	4.4
Total	15.3	20.0	16.7	11.9	15.3	20.0	16.7	11.9

Only households of non-agricultural employees included.

Relative tax is computed as the percentage of income tax and social contributions in gross household income. Relative social benefits are computed as the percentage of social benefits in net household income.

Source: Microcensus 1988 and 1996.

Table 6

Linear regression analysis of relative taxes and social benefits

(standardised regression coefficients)

Factor	No of categories	Taxes and contributions		Social benefits		Summary effect	
		1988	1996	1988	1996	1988	1996
<i>Employee households¹⁾</i>							
N of active earners	3	0.19	0.06	-0.31	-0.32	-0.28	-0.25
N of children	5	-0.53	-0.31	0.38	0.18	0.47	0.23
Age of the head	7	0.04	-0.01	-0.02	0.03	-0.03	0.02
Household income	continual	0.01	0.43	0.04	-0.10	0.02	-0.22
R ²		0.33	0.29	0.24	0.18	0.30	0.21
<i>All households</i>							
N of active earners	3	0.63	0.52	-0.62	-0.61	-0.64	-0.60
N of children	5	-0.31	-0.16	0.15	0.05	0.20	0.08
Age of the head	10	-0.37	-0.32	0.46	0.39	0.45	0.38
Household income	continual	-0.01	0.23	-0.01	-0.07	0.00	-0.11
R ²		0.57	0.67	0.78	0.79	0.77	0.79

Note: 1) Only households of non-agricultural employees with head in prime age (25-54) included.

Relative tax and social benefits are calculated the same way as in Table 5.

Summary effect is computed as benefits – taxes in percentages of net household income.

All coefficients are significant on the level < 0.001.

Source: Microcensus 1988 and 1996.

rate. The present income tax system is much more progressive, though the majority of the active population still earns incomes taxed at 15%. But the top decile households have their gross incomes taxed at over 24%, compared to 16% in 1988 (see Table 5). Also the distribution of social benefits has changed considerably. While the share of these contributions in households' net income has hardly changed for the low-income deciles, they have declined radically for the high-income deciles.

Table 6 presents a regression analysis of taxes, social benefits and their summary (net) redistribution effect. The relationship of taxation to both the number of active earners and especially children weakened over time, and the effect of household income on the tax level increased from negligence before 1989 to becoming a factor of prime importance for employees and of major importance also for all households. The

determination of social benefits has moved in the same sense but to a lesser extent. Generally speaking, Czech society has been moving from redistribution based on family life-cycle variables to redistribution based on household income. Unlike the communist system, which was shaped according to the basic needs of individuals, the new system stresses more the economic capacity of the household.

Conclusions

Using three large statistical surveys of household income, we can detect changes in the distribution of income between 1988 and 1996. Income inequality increased considerably during the period. The income hierarchy became fixed at the bottom, and opened up but compressed in the middle. Whereas in 1988 pensioners had almost exclusively occupied the bottom decile, to a considerable extent they have moved to the lower

middle income ladders, to be partly replaced by households with children. Household income is currently much less determined by demographic variables than in the former regime.

With regard to direct redistribution, the state takes more from and gives less to households. In the determination of both taxes and transfers, the number of children is not the prominent factor as it was under the communist regime. Instead, household income has become the dominant determinant of taxes, and also a more important determinant of social transfers. At the same time, the flows of redistribution have strengthened, be it in connection with tax reform (more progression) or social reform (more targeting). The equalizing intervention of the state in favour of the poor and near-poor (and to the detriment of the middle classes) appears to be very high in comparison with even the most 'welfare-state' Western countries.

Our statistical analysis of income ends with 1996 because the evidence of income distribution after 1996 is rather incomplete. A new Microcensus that should have been carried out already in 2001 was postponed several times. In 2002 a large survey 'on material conditions of households' was conducted by the Czech Statistical Office (partly as a pilot survey for the next Microcensus), but its results are not available yet. The other relevant source – the Family Expenditures Survey – cannot be used as it is based on a quota sample and, moreover, one criterion of the selection of households is the income category. Thus the only source on income changes are wage surveys.

In fact the wage disparities have increased only negligibly after 1996.² One reason for this is that the top wage group, which emerged already in the early 1990s, may be currently losing out as there is a tendency now to reduce managers' excessive

earnings. (The privatization of the remaining state shares in big banks and companies is nearing completion.) The other, even more important reason is that since 1998 the ruling social-democrats have implemented their programme. In effect the minimum wage is rapidly increasing. In these circumstances one cannot assume that slightly stagnating family allowances could have produced considerable disparities in household income. Thus in our judgement the income distribution after 1996 has not been changing very much, if at all – at least as far as the incomes earned in the 'official' economy are concerned.

The surveys cannot really capture incomes of the informal economy, effects of changing relative prices, and the changing quality of consumer goods and services. In all these areas, important changes have taken place, with some consequences for inequality and households' welfare.

First, the size of the informal economy has certainly increased, alongside with the state's reduced ability and will to control it. Actual consumption (and the huge increases in the purchases of cars, houses and recreation services) suggests that the official national income figures are underestimated by about 20%.³ Quite obviously incomes from the informal activities must be very unevenly distributed. Whereas employee households living exclusively from officially paid wages and those dependent on social transfers are disadvantaged, the self-employed and businessmen are favoured. Being employed full-time and at the same time self-employed is also advantageous and thus widespread. Besides, there are huge hidden incomes of the insiders of the privatization process.

Second, relative prices have changed considerably, initially due to the abolition of communist price subsidies for 'basic goods' and

² See J. Večerník (2001), *Earnings disparities in the Czech Republic: Evidence of the past decade and cross-national comparison*, The William Davidson Institute Working Paper Series No. 373 (<http://eres.bus.umich.edu/docs/workpap-dav/wp373.pdf>).

³ V. Benáček (1994), 'Small business and private entrepreneurship during transformation: The case of the Czech Republic', *Working Papers* No. 53, CERGE/EI, Prague; J. Večerník (1996), *Markets and People. The Czech Reform Experience in a Comparative Perspective*, Aldershot, Avebury.

high indirect taxes levied on 'luxury goods', and later due to the market forces. The resulting market equilibrium stipulates availability of goods satisfying the needs of consumers with different tastes, different preference for quality, and different incomes. At the same time, the costs of housing increased considerably, and even though the rents of former state apartments remained regulated, they were still allowed to rise. In this way, the previously very different costs of housing in rented, co-operative and family-owned apartments drew closer.

Third, the quality of consumer goods and services improved considerably. Open borders and market competition enhanced both the supply and quality of most goods. In place of the formerly uniform and mostly inferior goods, customers can now buy domestic and imported goods of much higher quality, especially electronics, automobiles, textiles and furniture. The same applies to the freedom to travel abroad. The consumer price index fails to reflect the tremendous changes in quality and availability. Consequently, the health situation and life expectancy have improved due to better supply of pharmaceuticals and the radical change in dietary customs (away from animal products).

Factors affecting T-bond yields in Poland

BY STANISŁAW KLUZA* AND ANDRZEJ SŁAWINSKI**

The main factors attracting foreign investors to the bond markets in the emerging countries are high yields and relatively low correlation with their core holdings. In the case of Poland there are two additional factors attracting foreign investors: The first is the opportunity of the 'convergence play'. The second is the liquidity of the Polish bond market.

The Polish bond market

There are three main groups of foreign players in the Polish T-bond market: commercial banks, investment banks and long-term investment funds. The behaviour of these three groups of players is determined largely by their investment horizon and the regulations imposed on their risk taking.

Commercial banks have short-term liabilities (in the form of deposits and short-term loans) and they are highly regulated. With short-term liabilities they do not hold large *investment* (long-term) portfolios of bonds. In most cases they hold mainly *trading* (short-term) portfolios of bonds in order to take short-term risk exposures in the OTC market.

International investment banks have also relatively short-term liabilities (in the form of funds borrowed in the money market and the commercial paper market). Due to their relatively short-term sources of funding, investment banks also do not hold large *investment* portfolios of bonds. They also hold bonds in *trading* portfolios to take short-term exposures in the OTC market. However, investment banks are less strictly regulated than commercial banks. This allows them to take relatively more market (price) risk.

Due to their long experience and the related *know-how*, investment banks are engaged in financial engineering as well, which enables them to sell structured products (e.g. credit derivatives). They also offer various kinds of financial services to long-term investors (e.g. custodian and settlements services).

Institutional investors are called *real money* in the language of the financial markets, because they do not have to borrow short-term funds to finance their assets. Instead, they use *real money*, which flows to them in the form of contributions as in the case of pension funds and insurance companies. With long-term liabilities a 'buy-and-hold' strategy is exercised by *real money*. They buy bonds to their *investment* (long-term) portfolios. Thus, they take mainly credit (issuer insolvency) risk. They do not take much market (price) risk, because they are highly regulated.

There were the two major reasons making the Polish T-bond market attractive for *real money*. The first was the relatively low level of T-bond prices in relation to the actual credit risk. The second reason was the opportunity to take part in the *convergence play* in the T-bond market of a country that is a prospective member of the EMU.

For banks the Polish bond market is attractive due to its liquidity and price volatility related to successive interest rate cuts along with continuing disinflation.

From the point of view of a foreign investor, liquidity of a given emerging market may be measured by the price reactions to the flows of portfolio capital. From this point of view the Polish bond market has become much safer during the last few years. The risk that unwinding of an investment in Poland might lead to a substantial fall in the bond prices has become much smaller.

Liquidity of the Polish T-bond market improved substantially due to the liberalization of forward transactions at end-1998. This phase of capital flow liberalization made possible the rapid growth of the

* Lecturer at Warsaw School of Economics

** Professor at Warsaw School of Economics, Adviser to the Governor of the National Bank of Poland.

foreign exchange swap market for the Polish zloty and accelerated the development of the London swap market for the Polish interest rates.

Foreign exchange swaps are in fact synthetic zloty deposits. Accordingly, the development of the *fx swap* market provided for investors easy access to short-term funding in zlotys. Due to the development of the IRS market investors could easily manage the interest rate risk taken in the Polish T-bond market. A factor adding to the liquidity of the T-bond market was the development of the asset swap market, which was also made possible by the liberalization of forward transactions.

The improved liquidity of the T-bond market in Poland was illustrated by the bond price behaviour in the first half of 2002, when the rise in bond prices (due to expected interest cuts) was not stopped by the substantial increase in their supply, which resulted from the widening of the budget deficit.

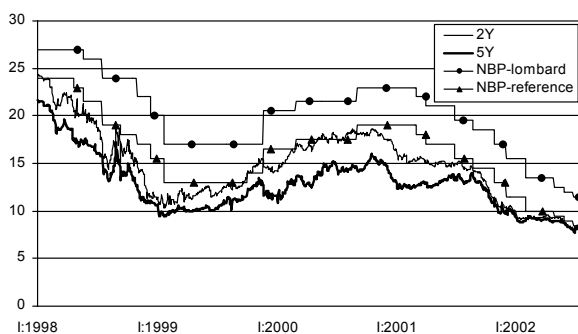
Bond prices and the NBP interest rates

Our analysis covers the period January 1998 through June 2001. There are 1150 daily or 54 monthly observations.

The raw daily data of the NBP interest rates and the yields on the 2-year and 5-year T-bonds (denoted as 2Y and 5Y respectively) are shown in Figure 1.

Figure 1

Lombard and reference interest rates of NBP, and bond yields

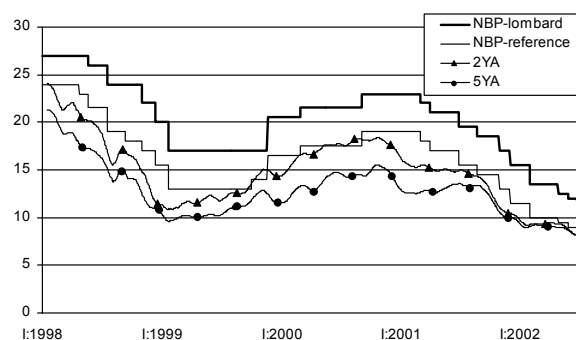


Source: NBP.

Figure 1 suggests the existence of a relationship between the NBP interest rates and bonds yields. Statistically, that relationship is not particularly strong because the daily yields are highly volatile while the NBP interest rates change rather infrequently. This problem can be solved by applying moving averages¹ for bond yields. The transformed variables are presented in Figure 2.

Figure 2

Lombard and reference interest rates of NBP, and bond yields as moving averages (2YA and 5YA)



Source: NBP; own analysis.

The econometric models with the averaged time series for yields produced much better results. They suggest that yields in the bond market dependent on the *future* NBP interest rates. Bond prices respond to the changes in NBP rate more than one week (even up to 10 quotation days) before the change of the central bank intervention rate. This probably reflects the fact that a week before the meeting of the Monetary Policy Council (MPC) the markets have the full set of the available data on the economy and make precise assessment of the change in the NBP interest rate.

Econometric models based on daily data may be useful for market players engaged in the daily trading. The models based on monthly data may be useful for longer-term investors. The best two models based on monthly data are presented in Table 1. In both cases we can see that the bond

¹ We used n=21 observations centralised moving average. On average there are 21 observations (working days) per month.

Table 1

Bond yields as a function of future NBP reference rate for period I 1998 – VI 2002.

Model (A)					
Modelling 5Y by OLS					
The present sample is: 1998 (3) to 2002 (6)					
Variable	Coefficient	Std.Error	t-value	t-prob	PartR ²
Constant	0.93728	0.39776	2.356	0.0226	0.1037
5Y_1	0.89927	0.13868	6.485	0.0000	0.4670
5Y_2	0.29497	0.10635	2.774	0.0079	0.1381
NBP+1	0.25188	0.055835	4.511	0.0000	0.2977
R ² = 0.94962 F(3,48) = 301.59 [0.0000] \sigma = 0.568024 DW = 1.86					
RSS = 15.48728495 for 4 variables and 52 observations					
Model (B)					
Modelling 5Y by OLS					
The present sample is: 1998 (3) to 2002 (5)					
Variable	Coefficient	Std.Error	t-value	t-prob	PartR ²
5Y_1	0.94416	0.14217	6.641	0.0000	0.4737
5Y_2	-0.22105	0.11305	-1.955	0.0563	0.0724
NBP+2	0.21609	0.048229	4.481	0.0000	0.2906
R ² = 0.998002 \sigma = 0.586363 DW = 1.96					
RSS = 16.84725832 for 3 variables and 52 observations					

Notes: $5Y_1 = 5Y_{t+1}$, $5Y_2 = 5Y_{t+2}$, $NBP+1 = NBP_{t+1}$, $NBP+2 = NBP_{t+2}$.

Variables $5Y_t$ and NBP_t are used as arithmetic averages for proper month (t).

NBP_t – National Bank of Poland reference rate.

Source: Own analysis.

yield is a second order autoregressive process AR(2) with an autocorrection. However, both models suggest a statistically significant role of the future NBP rate for bond pricing. In model (A) the reference rate is for the upcoming month: (t+1), in the second model (B) it is for the period (t+2). In practice the optimal shift may be between one and two months.

Model (B), which seems statistically more adequate, implies the following relationship:

$$5Y_t = 0,944 * 5Y_{t-1} - 0,221 * 5Y_{t-2} + 0,216 * NBP_{t+2} \quad (1)$$

As can be seen, there seems to be a short-run tendency for the current month's yields to take into account changes in the NBP reference rate about 2 months before the actual change of the rate.

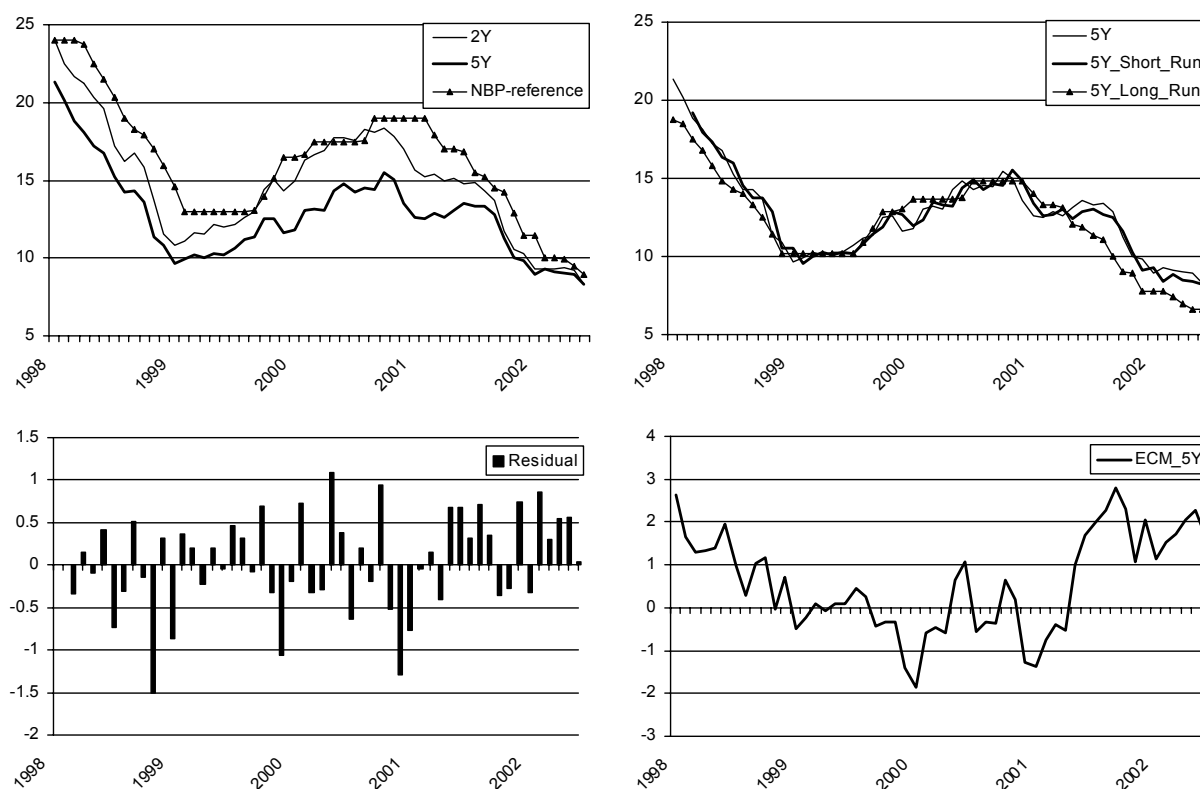
Further econometric analysis proves the existence of co-integration between the 5-year bond yields and the NBP reference rate. Existence of co-integration means that it is possible to model a long-term relationship between the two variables. That relationship (given by equation 2) has the status of long-term equilibrium.

$$5Y_t = 0,7804 * NBP_{t+2} + ECM_t \quad (2)$$

where ECM is the so-called error-correction term (or mechanism). The estimated short- and long-run equilibrium values for 5Y (given by equations 1 and 2 respectively) are presented in the upper-right part of Figure 3. The estimated values of the ECM term are in the bottom-left part of Figure 3.

Figure 3

Reference interest rate, bond yields (monthly averages) observed and predicted



Source: Own analysis.

As can be seen, the short- and long-run relationships are quite close to each other with only some discrepancies. Those discrepancies (denoted as ECM_{5Y}) in Figure 3 have the tendency to oscillate around 'zero'. This is a positive result suggesting that the market has neither positive nor negative bias towards the expected NBP rates. Despite that there are situations when markets overestimate or underestimate the expected changes in NBP interest rate. The misjudgement tends to get corrected within about three months, on average, with more than 30% of it corrected within one month.

The largest divergence, expressed by an error term (ECM_{5Y}), occurred in 2002. This can be interpreted as a persistent strong downward pressure on bonds yields. The model predicted this direction and size of change correctly.

The largest underestimation of expectations on the size of the fall in T-bond yields occurred in the third quarter of 2001. A similar situation was observed in the first quarter of 2002. The major reason for this

was the underestimation of the speed of disinflation.

The opposite situation emerged at the beginning of 2001. Investors overestimated the size of the expected cuts in the NBP rate. The NBP monetary policy turned out to be more cautious than markets expected. A similar situation occurred at the end of 1999 and the beginning of 2000. One reason for this was that investors could not predict precisely the moment of the floating of the zloty in April 2000, which increased the risk premium for Polish bonds. Also, investors could not predict the acceleration of the fall of the euro against the dollar, which added to the nominal depreciation of the zloty.

Market Optimism Indicator and the deviation of the zloty rate from its 'old' parity

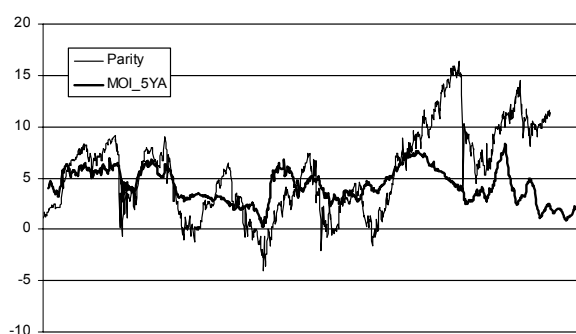
The Market Optimism Indicator (MOI) is defined as the difference between average T/N interest rate and yield on T-bonds. (MOI is then the difference between costs of the bond portfolio and bond yield:

dealers in large international banks finance their bond portfolios with T/N foreign exchange swaps.) The changes in MOI represent the changes of expectations on future NBP actions and the changes in the risk premium. Of course, occasionally, a liquidity squeeze in the interbank money market can blur the information offered by the MOI.

The first model analyses the relationship between MOI and the deviation of the zloty rate from its 'old' parity (see Figure 4). The initial analysis was based on daily observations. Due to noisy daily fluctuations it did not offer any interesting results. Useful models required monthly data.

Figure 4

**Fx deviation from the NBP parity of
currency basket; MOI for 5-year bonds**
(for period: I 1998 – VI 2002; daily observations)



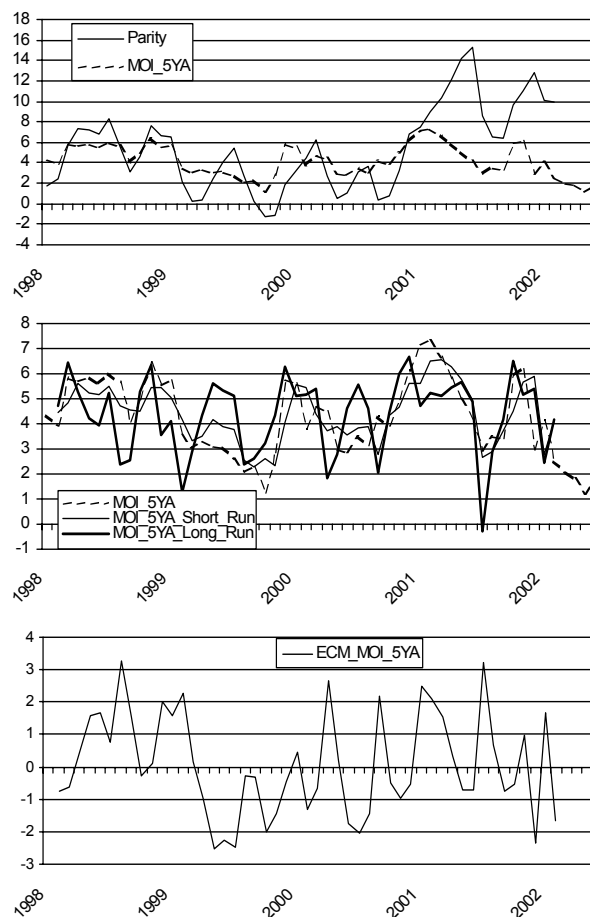
Source: NBP data; own analysis.

The estimations were done for 50 monthly observations. The best model obtained is presented in Table 2. Despite $R^2 = 60\%$ the model has very good other statistical properties. According to this model, the market optimism index (MOI_5YA) turned out to be dependent not only on its previous size but also on the change of the divergence of the zloty rate from its old parity (Δ Parity). Thus, the size of the divergence from parity is not important, but the size and direction of change are important.

From Table 2 also a long-run relation for the model can be estimated (see Table 3). The comparison of empirical observations, short-run and long-run relationships are presented in Figure 5 (middle

Figure 5

**Deviation of the zloty from its old parity
(basket) rate; MOI for 5-year bonds**
(for period: I 1998 – VI 2002; monthly averages)



Source: Own analysis.

panel). The difference between long-run equilibrium and observed data is the error-correction term (see Figure 5, bottom panel). Its ECM shows a kind of frequent oscillations around zero. There are about 2.5 to 3 oscillations a year. Accordingly, one full cycle covers a period of about four to five months. This suggests that the market goes through an 'optimism – pessimism' cyclical fluctuation affecting the bond prices.

The expected value of ECM should be zero if we wish to maintain the assumptions taken at the beginning of this sub-section. Here the mean for ECM is equal to +0.10% and thus very close to zero. This supports the notion that there are long-term equilibria for the MOI and for the divergence of the zloty from its parity rate. The periods of

disequilibrium are probably caused by 'optimism cycles' and other short-term factors.

A more detailed analysis of ECM (see Table 4) shows that the error-correction mechanism is

important. The parameter (-0.413) suggests that the full correction of discrepancy takes on average about two and a half months ($1/0.413=2.4$). The optimism cycles measured by ECM are a significant factor explaining fluctuations of foreign

Table 2

MOI as an autoregressive process with the change from the parity divergence as a variable

Modelling MOI_5YA by OLS					
The present sample is: 1998 (2) to 2002 (2)					
Variable	Coefficient	Std.Error	t-value	t-prob	PartR^2
Constant	1.4714	0.44822	3.283	0.0020	0.1898
MOI_5YA_1	0.65299	0.096002	6.802	0.0000	0.5014
Dparity	0.23539	0.062164	3.787	0.0004	0.2376
R^2 = 0.59807 F(2,46) = 34.224 [0.0000] \sigma = 0.953101 DW = 2.06					
RSS = 41.78647916 for 3 variables and 49 observations					

Notes: MOI_5YA = MOI_5YAt, MOI_5YA_1 = MOI_5YAt-1, DParity = ΔParityt.
 ΔParityt – Change in deviation of PLN from the NBP fx parity.

Source: Own analysis.

Table 3

Long run relationship for the model presented in Table 2

ECM_MOI_5YA / DParity [1998 (1) to 2002 (6)]		
Solved Static Long Run equation		
MOI_5YA =	+4.24	+0.6783 DParity
(SE)	(0.3976)	(0.242)
ECM = MOI_5YA - 4.24031 - 0.678339*DParity;		
WALD test Chi^2(1) = 7.8554 [0.0051] **		

Notes: MOI_5YA = MOI_5YAt, DParity = ΔParityt.

Source: Own analysis.

Table 4

Error Correction Model for the model presented in Table 3

Modelling DMOI_5YA by OLS					
The present sample is: 1998 (3) to 2002 (2)					
Variable	Coefficient	Std.Error	t-value	t-prob	PartR^2
Constant	0.017429	0.13733	0.127	0.8996	0.0004
DDParity	0.20830	0.054592	3.816	0.0004	0.2444
ECM_MOI_5YA_1	-0.41280	0.093191	-4.430	0.0001	0.3036
R^2 = 0.363925 F(2,45) = 12.873 [0.0000] \sigma = 0.948843 DW = 1.85					
RSS = 40.51366468 for 3 variables and 48 observations					

Notes: DMOI_5YA = ΔMOI_5YAt, DDParity = ΔΔParityt, ECM_MOI_5YA_1 = ECM(5YA)t-1.

Source: Own analysis.

players' participation in the Polish T-bond market. The difference between short-term interest rates and the yields is cyclically over-priced or under-priced, which results from the zloty rate behaviour.

PLN/USD exchange rate

The purpose of the analysis presented in this section is to estimate the influence of the changes in the PLN/USD rate on bond yields.

The introductory graphical analysis for daily data suggests the same problems as we met in the previous section. Accordingly, we use again the monthly data. The monthly time series are presented in Figure 6 (left-hand panels). Next the comprehensive search for the best model ends with a similar conclusion.

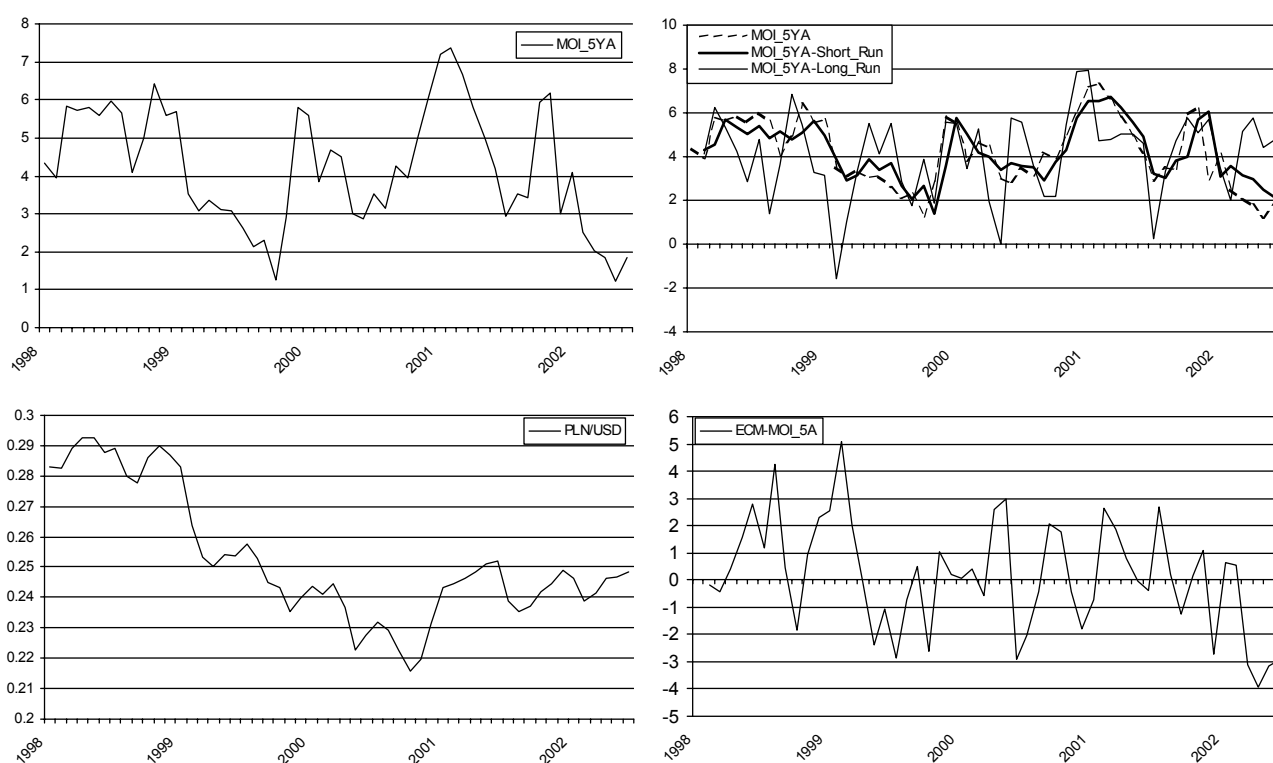
The best USD-based model has a better $R^2 = 0.65$ than the model working with the currency basket.

But it is also more sensitive: its ECM (see Figure 6, right-bottom panel) has bigger and more random oscillations. Also the parameter in front of the (ECM_{t-1}) term (see Table 6) is much lower (-0.27). The disturbances get corrected at a slower pace. The full adjustment takes place after almost four months on average.

All in all, statistically there are no big differences between the two models linking MOI and the exchange rates. The similarity stems from the fact that the exogenous variables are also similar. The 'parity model' has worse R^2 and better error adjustment properties. This may have some practical consequences. The long-term 'parity' is a better benchmark variable for the expected equilibrium. However, the short-term investors do not analyse it for 'in' and 'out' purposes. Short-term decisions and current market behaviour can perhaps be better described by the model phrased in PLN/USD terms.

Figure 6

Exchange rate of PLN/USD; MOI for 5-year bonds (monthly averages).



Source: Own analysis.

Table 5

MOI as an autoregressive process also dependent on a change for PLN/USD fx rate

Modelling MOI_5YA by OLS					
The present sample is: 1998 (2) to 2002 (6)					
Variable	Coefficient	Std.Error	t-value	t-prob	PartR^2
Constant	1.0850	0.38923	2.787	0.0075	0.1345
MOI_5YA_1	0.74677	0.085599	8.724	0.0000	0.6035
DPLN/USD	77.500	21.323	3.635	0.0007	0.2090
R^2 = 0.65049 F(2,50) = 46.529 [0.0000] \sigma = 0.956571 DW = 1.94					
RSS = 45.75144163 for 3 variables and 53 observations					
ECM-MOI_5A [1998 (1) to 2002 (6)]					
Solved Static Long Run equation					
	MOI_5YA =		+4.285		+306 DPLN/USD
(SE)			(0.5218)		(129.8)
ECM = MOI_5YA - 4.28452 - 306.048*DPLN/USD;					
WALD test Chi^2(1) = 5.5613 [0.0184] *					

Notes: MOI_5YA = MOI_5YA_t, MOI_5YA_1 = MOI_5YA_{t-1}, DPLN/USD = ΔPLN/USD_t.

Source: Own analysis.

Table 6

Error Correction Model for the model presented in Table 5.

Modelling DMOI_5YA by OLS					
The present sample is: 1998 (3) to 2002 (6)					
Variable	Coefficient	Std.Error	t-value	t-prob	PartR^2
Constant	0.0099718	0.13437	0.074	0.9411	0.0001
DDPLN/USD	73.981	19.646	3.766	0.0004	0.2245
ECM-MOI_5A_1	-0.26998	0.072533	-3.722	0.0005	0.2204
R^2 = 0.296668 F(2,49) = 10.334 [0.0002] \sigma = 0.96374 DW = 1.85					
RSS = 45.51096329 for 3 variables and 52 observations					

Notes: DMOI_5YA = ΔMOI_5YA_t, ECM-MOI_5A_1 = ECM(5YA)_{t-1}, DDPLN/USD = ΔΔPLN/USD_t.

Source: Own analysis.

Budget deficit

The Ministry of Finance reports the budget deficit on a monthly basis. Accordingly, it is possible to estimate the real (price-deflated) size of the budgeted deficit. What is much more difficult is to define the variable which would be a proper proxy for the bond market behaviour. Nominal yields are not appropriate because they depend mainly on other factors. Some opportunities provides the Market Optimism Index, which corresponds to the risk premium.

A brief graphical presentation of the nominal budget deficit (BD) shows its seasonality and the constant growth in its volume (Figure 7).

The econometrically best model relating BD and MOI is given in Table 7 and in equation (7). It implies that MOI at time (t) depends on the future budget deficits, apparently unknown, but somehow predicted by the market.

$$MOI_{5YA_t} = 0,881 * MOI_{5YA_{t-1}} - 0,223 * BD_{t+3} + e_t \quad (7)$$

Table 7

Current market optimism (MOI) as a function of expected budget deficit.

Modelling MOI_5YA by OLS					
The present sample is: 1998 (2) to 2002 (3)					
Variable	Coefficient	Std.Error	t-value	t-prob	PartR ²
MOI_5YA_1	0.88128	0.041647	21.161	0.0000	0.9032
BD+3	-0.22284	0.072853	-3.059	0.0036	0.1631
R ² = 0.950838 \sigma = 1.04541 DW = 2.07					
RSS = 52.45872543 for 2 variables and 50 observations					

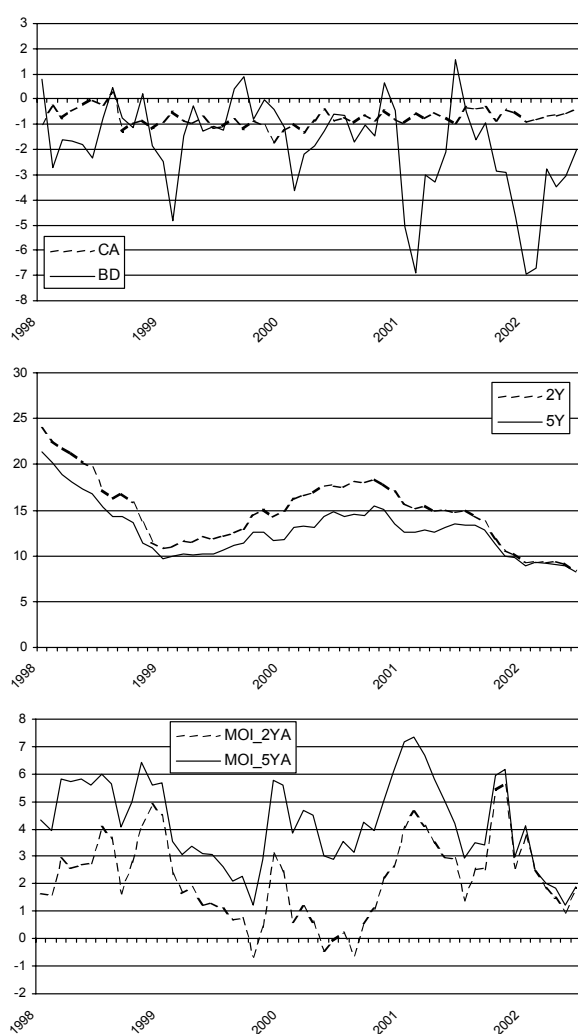
Notes: MOI_5YA = MOI_5YA_t, MOI_5YA_1 = MOI_5YA_{t-1}, BD+3 = BD_{t+3}.

Source: Own analysis.

Figure 7

**Current account deficit (USD billion),
budget deficit (PLN billion), MOI**

(for period: I 1998 – VI 2002; 54 monthly observations)



Source: NBP.

Concluding remarks

Our research confirms that there is a relationship between expected interest rates and bond prices. It also confirms that the changing fundamentals affect bond prices. Likewise, the empirical results show that the exchange rate volatility and the fluctuations of market sentiment affect the bond pricing. Some of the models presented seem to be potentially helpful in the decision-making process in the case of investors, the central bank and fiscal authorities.

Online access to wiiw publications for wiiw Members

wiiw publications are generally available in printed format and, more recently, also in electronic format (PDF) via the Internet. As an additional service to our Members, we can now offer you the possibility to download from our website all publications (excluding books) included in the wiiw Service Package. This means you can read all reports immediately upon publication, without the delay caused by sending them by mail.

Please note: the former URL, www.wiiw.ac.at, and the former e-mail domain, @wsr.ac.at, are still valid as well.

Please go to our homepage, www.wiiw.at, and follow the link 'Publications' (under the heading 'Products & Services').

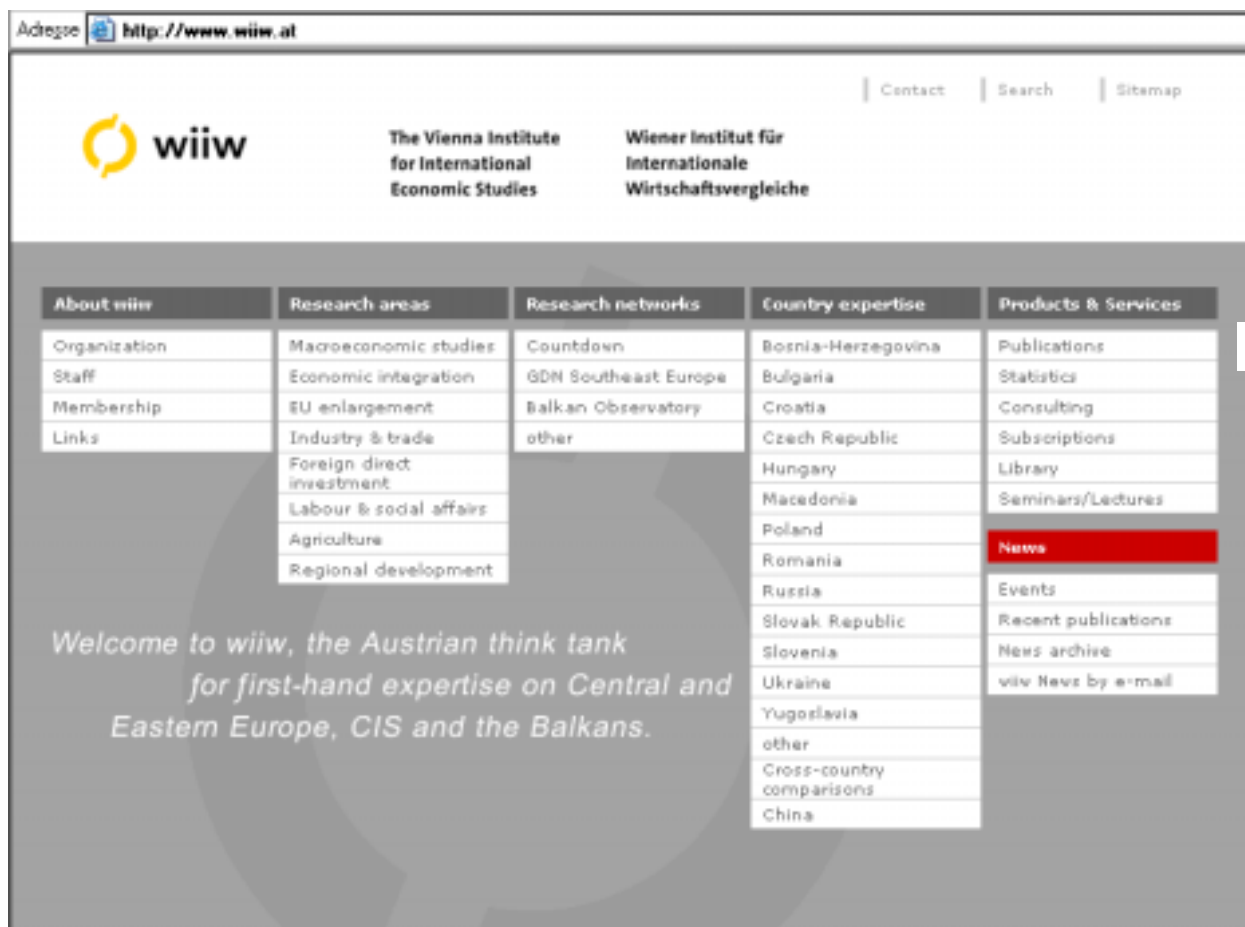
If you do not have a password yet, please register as a Member first, by following the link on the left margin, and you will get your password by e-mail.

Log in with your username and password, and you will be able to download the PDF files of the individual publications.

(If you do not log in, you will just get the list of publications and summaries.)

In case of technical questions please contact Mr Péter Fóti, wiiw, phone (+43 1) 533 66 10-18, e-mail: foti@wiiw.at.

For questions concerning wiiw Membership please turn to Ms Gabriele Stanek, wiiw, phone (+43-1) 533 66 10-10, e-mail: stanek@wiiw.at.



CONVENTIONAL SIGNS AND ABBREVIATIONS

used in the following section on monthly statistical data

.	data not available
%	per cent
CMPY	change in % against corresponding month of previous year
CCPY	change in % against cumulated corresponding period of previous year (e.g., under the heading 'March': January-March of the current year against January-March of the preceding year)
3MMA	3-month moving average, change in % against previous year.
CPI	consumer price index
PM	change in % against previous month
PPI	producer price index
p.a.	per annum
mn	million
bn	billion
BGN	Bulgarian lev (1 BGN = 1000 BGL)
CZK	Czech koruna
ECU	European currency unit
EUR	Euro, from 1 January 1999
HRK	Croatian kuna
HUF	Hungarian forint
PLN	Polish zloty
ROL	Romanian leu
RUB	Russian rouble (1 RUB = 1000 RUR)
SIT	Slovenian tolar
SKK	Slovak koruna
UAH	Ukrainian hryvnia
USD	US dollar
M0	currency outside banks
M1	M0 + demand deposits
M2	M1 + quasi-money

Sources of statistical data:

National statistical offices and central banks; wiiw estimates.

Please note: wiiw Members have **free online access** to the wiiw Monthly Database Eastern Europe. To receive your personal password, please go to <http://mdb.wiiw.ac.at>

B U L G A R I A: Selected monthly data on the economic situation 2001 to 2002

(updated end of Jan 2003)

		2001				2002											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PRODUCTION																	
Industry, total	real, CMPY	2.7	-0.7	1.3	-5.0	-2.9	0.1	-2.5	15.5	5.3	3.0	8.5	6.0	6.7	0.6	11.0	.
Industry, total	real, CCPY	2.2	1.5	2.4	0.7	-2.9	-2.7	-3.1	1.3	2.1	1.5	2.8	3.8	3.9	3.2	3.3	.
LABOUR																	
Employees total	th. persons	1896	1912	1903	1879	1879	1883	1890	1896	1906	1913	1918	1914	1925	.	.	.
Employees in industry	th. persons	628	626	625	619	651	648	647	652	651	651	652	652	657	.	.	.
Unemployment, end of period	th. persons	629.9	637.3	657.0	662.3	687.8	683.9	669.0	678.6	673.8	659.0	653.3	650.0	644.7	644.3	624.9	602.5
Unemployment rate ¹⁾	%	16.5	16.7	17.2	17.3	18.0	17.9	17.5	17.8	17.6	17.2	17.6	17.5	17.4	17.4	16.9	16.3
Labour productivity, industry	CCPY	7.4	6.6	7.5	5.7	-4.1	-3.8	-4.0	0.3	1.1	0.5	1.5	2.3	2.0	.	.	.
Unit labour costs, exch.r. adj.(EUR)	CCPY	0.1	0.9	-0.1	1.6	9.2	10.0	10.2	5.0	4.1	4.4	3.3	2.3	2.2	.	.	.
WAGES, SALARIES																	
Total economy, gross	BGN	256.0	253.0	255.0	270.0	251.0	252.0	265.0	262.0	269.0	265.0	267.0	265.0	272.0	.	.	.
Total economy, gross	real, CMPY	4.1	7.4	4.1	4.7	1.6	2.0	1.6	-3.3	-0.9	-0.8	1.6	2.3	2.2	.	.	.
Total economy, gross	USD	120	117	116	123	113	112	119	119	126	129	135	132	136	.	.	.
Total economy, gross	EUR	131	129	130	138	128	129	135	134	138	135	137	135	139	.	.	.
Industry, gross	USD	127	122	121	127	116	115	122	120	126	134	136	135	138	.	.	.
PRICES																	
Consumer ²⁾	PM	1.3	1.7	0.2	0.6	2.7	1.6	0.8	-0.1	-2.1	-1.7	0.1	-0.7	0.8	1.0	0.2	1.2
Consumer ²⁾	CMPY	4.7	5.2	4.6	4.8	7.0	8.4	9.2	9.2	6.9	5.2	5.5	4.5	4.0	3.2	3.2	3.8
Consumer ²⁾	CCPY	8.2	7.9	7.6	7.4	7.0	7.7	8.2	8.4	8.1	7.6	7.3	7.0	6.6	6.3	6.0	5.8
Producer, in industry	PM	0.4	0.2	0.1	-0.5	0.4	1.3	0.8	1.0	-0.4	-1.1	0.5	1.0	1.1	0.6	.	.
Producer, in industry	CMPY	3.3	1.2	1.2	0.7	1.2	2.4	2.7	3.4	2.3	1.6	2.7	3.7	4.4	4.8	.	.
Producer, in industry	CCPY	9.3	8.4	7.7	7.1	1.2	1.8	2.1	2.4	2.4	2.3	2.3	2.5	2.7	2.9	.	.
RETAIL TRADE																	
Turnover	real, CMPY	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Turnover	real, CCPY	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FOREIGN TRADE²⁾³⁾																	
Exports total (fob), cumulated	EUR mn	4303	4795	5301	5714	428	890	1356	1838	2291	2826	3438	3968	4492	4878	.	.
Imports total (cif), cumulated	EUR mn	5975	6717	7466	8128	563	1154	1776	2481	3203	3865	4622	5259	5932	6572	.	.
Trade balance, cumulated	EUR mn	-1672	-1922	-2165	-2414	-135	-264	-419	-643	-913	-1039	-1184	-1291	-1439	-1693	.	.
FOREIGN FINANCE																	
Current account, cumulated	USD mn	-427	-541	-697	-842	-131	-181	-236	-373	-474	-376	-259	-99	-60	-216	.	.
EXCHANGE RATE																	
BGN/USD, monthly average	nominal	2.141	2.159	2.202	2.192	2.215	2.248	2.234	2.210	2.131	2.048	1.972	2.000	1.995	1.994	1.953	1.924
BGN/EUR, monthly average	nominal	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956	1.956
BGN/USD, calculated with CPI ⁴⁾	real, Jan98=100	107.6	106.4	108.0	106.5	105.1	105.3	104.4	104.0	102.4	100.2	96.5	98.8	98.0	97.1	95.0	92.5
BGN/USD, calculated with PPI ⁴⁾	real, Jan98=100	94.9	93.4	94.8	93.7	94.6	94.7	94.3	93.1	90.2	87.7	84.3	84.9	84.1	84.3	.	.
BGN/EUR, calculated with CPI ⁴⁾	real, Jan98=100	88.6	87.1	86.7	86.3	84.4	83.2	82.9	83.4	85.3	86.7	86.6	87.2	86.8	86.0	85.8	84.8
BGN/EUR, calculated with PPI ⁴⁾	real, Jan98=100	79.3	78.8	78.3	78.6	78.5	77.5	77.0	76.7	77.0	77.7	77.5	76.9	76.2	75.8	.	.
DOMESTIC FINANCE																	
M0, end of period ⁵⁾	BGN mn	2602	2571	2642	3081	2925	2897	2855	2873	2781	2828	2900	2997	3022	2998	2987	3335
M1, end of period ⁵⁾	BGN mn	4275	4241	4982	4884	4651	4584	4594	4603	4475	4403	4589	4750	4805	4804	4936	5547
Broad money, end of period ⁵⁾	BGN mn	11319	11383	11673	12600	12514	12517	12503	12631	12359	12335	12696	12998	13094	13227	13432	14152
Broad money, end of period	CMPY	25.0	15.6	18.6	25.2	23.0	21.8	20.2	25.2	19.1	15.8	15.6	17.0	15.7	16.2	15.1	12.3
BNB base rate (p.a.) ^{end of period}	%	4.8	4.7	4.9	4.7	4.9	4.6	4.5	4.0	4.0	3.8	3.7	3.8	3.8	3.8	3.8	3.3
BNB base rate (p.a.) ^{end of period⁶⁾}	real, %	1.5	3.5	3.6	4.0	3.6	2.2	1.7	0.6	1.6	2.1	1.0	0.2	-0.6	-0.9	.	.
BUDGET																	
Government budget balance, cum. ⁷⁾	BGN mn	-559.1	-409.6	-408.3	-669.4	154.2	116.0	205.6	251.3	511.1	521.9	523.8	577.9	657.4	828.2	.	.

1) Ratio of unemployed to total employment, from July 2002 according to new labour force base.

2) Based on cumulated national currency and converted with the average exchange rate.

3) Cumulation starting January and ending December each year.

4) Adjusted for domestic and foreign (US resp. EU) inflation. Values less than 100 mean real appreciation.

5) According to International Accounting Standards.

6) Deflated with annual PPI.

7) Including some extrabudgetary accounts and funds.

C R O A T I A: Selected monthly data on the economic situation 2001 to 2002

(updated end of Jan 2003)

		2001				2002											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PRODUCTION																	
Industry, total ¹⁾	real, CMPY	5.7	8.3	4.6	5.2	3.3	3.9	-1.0	5.8	3.9	-2.1	10.5	1.3	12.7	9.4	9.9	8.3
Industry, total ¹⁾	real, CCPY	5.9	6.2	6.0	6.0	3.3	3.6	1.9	2.9	3.1	2.2	3.4	3.1	4.2	4.8	5.2	5.5
Industry, total ¹⁾	real, 3MMA	7.5	6.2	6.1	4.4	4.1	1.9	2.8	2.8	2.5	4.0	3.2	8.2	7.8	10.6	9.2	.
Construction, total, effect.work.time ²⁾	real, CMPY	2.6	11.0	7.8	2.8	9.6	12.8	9.5	19.9	11.7	7.2	17.1	11.5	15.9	12.7	.	.
LABOUR																	
Employment total	th. persons	1359.1	1354.7	1350.2	1337.9	1305.2	1324.0	1326.8	1332.8	1341.5	1352.4	1360.8	1362.3	1357.1	1349.4	1344.0	.
Employees in industry ²⁾	th. persons	287.2	288.3	287.0	284.0	282.2	280.1	279.6	279.4	278.4	277.1	276.0	276.0	275.1	275.6	274.7	.
Unemployment, end of period	th. persons	376.6	383.5	385.3	395.1	411.1	414.4	415.4	407.7	394.1	385.0	382.8	379.7	375.8	375.0	369.7	366.2
Unemployment rate ³⁾	%	22.0	22.3	22.5	23.1	24.0	23.8	23.8	23.4	22.7	22.2	22.0	21.8	21.7	21.7	21.6	21.4
Labour productivity, industry ¹⁾	CCPY	9.6	9.8	9.5	9.3	7.2	7.4	5.6	6.6	6.8	6.0	7.3	7.1	8.3	9.0	9.5	.
Unit labour costs, exch.r. adj.(EUR) ⁴⁾	CCPY	1.5	1.1	1.2	1.2	-1.6	-0.8	0.9	1.2	0.7	1.6	0.2	0.3	-0.4	-1.0	.	.
WAGES, SALARIES																	
Total economy, gross	HRK	4885	5051	5325	5142	5159	5017	5224	5352	5507	5374	5433	5398	5289	5447	.	.
Total economy, gross	real, CMPY	-2.3	-0.5	1.3	-0.1	-1.5	0.9	0.2	4.7	4.0	5.2	4.8	4.7	6.7	5.6	.	.
Total economy, gross	USD	592	612	639	621	610	582	618	640	682	698	734	716	707	719	.	.
Total economy, gross	EUR	650	676	719	696	690	669	706	724	746	732	739	732	720	733	.	.
Industry, gross	USD	536	565	589	561	555	526	554	581	634	644	682	652	642	661	.	.
PRICES																	
Retail	PM	0.3	-0.1	-0.2	-0.2	0.8	0.1	0.4	0.4	0.2	0.1	-0.4	-0.1	0.5	0.5	-0.3	0.1
Retail	CMPY	3.8	3.2	2.8	2.6	3.3	2.8	3.2	2.2	1.8	2.2	2.3	1.3	1.5	2.1	2.0	2.3
Retail	CCPY	5.7	5.3	5.1	4.9	3.3	3.0	3.2	2.9	2.6	2.5	2.6	2.4	2.2	2.2	2.3	2.2
Producer, in industry	PM	0.6	0.2	-0.5	-1.0	-0.1	0.6	-1.1	0.9	0.2	0.3	0.5	-0.1	0.4	1.4	-0.6	-0.1
Producer, in industry	CMPY	3.0	2.1	-2.0	-3.1	-2.6	-2.8	-2.3	-1.4	-1.2	-1.0	0.2	0.7	0.4	1.6	1.5	2.3
Producer, in industry	CCPY	5.2	4.8	4.2	3.6	-2.6	-2.7	-2.6	-2.3	-2.1	-1.9	-1.6	-1.3	-1.1	-0.8	-0.6	-0.4
RETAIL TRADE																	
Turnover	real, CMPY	6.8	8.5	8.7	7.7	10.9	13.5	14.7	9.4	12.0	9.1	19.3	14.4	14.0	12.1	10.8	.
Turnover	real, CCPY	10.5	10.4	10.2	10.0	10.9	12.2	13.0	12.1	12.1	11.6	12.7	12.8	13.0	13.0	12.7	.
FOREIGN TRADE⁴⁾⁵⁾																	
Exports total (fob), cumulated	EUR mn	3831	4381	4768	5209	359	722	1181	1658	2143	2525	3060	3403	3840	4323	4713	.
Imports total (cif), cumulated	EUR mn	7549	8480	9320	10082	683	1502	2448	3453	4458	5442	6558	7347	8325	9429	10374	.
Trade balance, cumulated	EUR mn	-3718	-4099	-4552	-4873	-324	-780	-1267	-1796	-2314	-2917	-3498	-3943	-4485	-5106	-5661	.
Exports to EU (fob), cumulated	EUR mn	2109	2458	2666	2853	196	417	657	952	1188	1405	1735	1913	2122	2327	2538	.
Imports from EU (cif), cumulated	EUR mn	4169	4702	5210	5653	350	797	1308	1844	2428	2971	3620	4043	4679	5260	5797	.
Trade balance with EU, cumulated	EUR mn	-2060	-2243	-2544	-2800	-154	-380	-651	-893	-1240	-1566	-1885	-2130	-2557	-2933	-3259	.
FOREIGN FINANCE																	
Current account, cumulated	USD mn	-237	.	.	-642	.	.	-821	.	.	-1549	.	.	-524	.	.	.
EXCHANGE RATE																	
HRK/USD, monthly average	nominal	8.248	8.254	8.333	8.286	8.452	8.626	8.455	8.359	8.072	7.697	7.405	7.542	7.484	7.571	7.464	7.298
HRD/EUR, monthly average	nominal	7.516	7.475	7.408	7.391	7.477	7.500	7.403	7.393	7.378	7.344	7.350	7.377	7.347	7.427	7.468	7.422
HRK/USD, calculated with CP ⁶⁾	real, Jan98=100	119.6	119.5	120.6	119.8	121.5	124.4	122.0	120.9	116.5	111.1	107.4	109.8	108.6	109.6	108.4	105.8
HRK/USD, calculated with PP ⁶⁾	real, Jan98=100	120.5	117.7	119.0	118.1	120.9	122.6	122.8	121.3	116.9	111.2	106.8	109.1	108.3	109.0	108.2	105.9
HRD/EUR, calculated with CP ⁶⁾	real, Jan98=100	98.1	97.7	96.8	96.8	97.6	98.0	96.7	96.7	96.5	95.8	96.3	96.9	96.3	96.8	97.7	97.0
HRD/EUR, calculated with PP ⁶⁾	real, Jan98=100	100.3	99.1	98.2	98.8	100.3	100.1	100.2	99.6	99.2	98.4	98.1	98.7	98.1	97.8	98.9	98.4
DOMESTIC FINANCE																	
M0, end of period	HRK mn	7475	7182	7423	8507	8255	8345	9146	9112	9277	9904	10288	10296	9680	9507	.	.
M1, end of period	HRK mn	20285	20065	20976	23704	22398	22165	24375	26418	26716	28254	28947	29502	28914	29090	29092	.
Broad money, end of period	HRK mn	88344	90102	95006	106071	108647	107184	106245	106333	106445	106593	109734	113037	113275	114826	114261	.
Broad money, end of period	CMPY	28.1	29.1	34.8	45.2	46.7	41.9	37.1	36.9	36.8	33.8	33.8	28.8	28.2	27.4	20.3	.
Discount rate (p.a.), end of period	%	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	4.5	.	.
Discount rate (p.a.), end of period ⁷⁾	real, %	2.8	3.7	8.1	9.3	8.7	9.0	8.4	7.4	7.2	7.0	5.7	5.2	5.5	2.9	.	.
BUDGET																	
Central gov. budget balance, cum. ⁸⁾	HRK mn	-5435.0	-2175.5	-2232.1	-3758.5	-498.2	-842.3	-2614.0	-2289.5	-2445.1	-2867.5	-2065.0	-2176.2	-2489.9	-2803.0	-3255.9	.

1) In business entities with more than 19 persons employed.

2) In business entities with more than 10 persons employed.

3) Ratio of unemployed to the economically active population.

4) Based on cumulated national currency and converted with the average exchange rate.

5) Cumulation starting January and ending December each year.

6) Adjusted for domestic and foreign (US resp. EU) inflation. Values less than 100 mean real appreciation.

7) Deflated with annual PPI.

8) From January 2002 including social security funds.

C Z E C H REPUBLIC: Selected monthly data on the economic situation 2001 to 2002

(updated end of Jan 2003)

		2001				2002											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PRODUCTION																	
Industry, total	real, CMPY	1.1	4.1	6.6	3.7	2.6	5.8	4.1	8.2	5.1	1.3	10.8	-2.8	9.2	3.5	4.4	.
Industry, total	real, CCPY	7.1	6.8	6.8	6.5	2.6	4.2	4.2	5.2	5.2	4.5	5.3	4.3	4.8	4.7	4.7	.
Industry, total	real, 3MMA	2.7	4.0	4.8	4.4	4.0	4.2	6.0	5.7	4.9	5.5	2.8	5.5	3.3	5.5	.	.
Construction, total	real, CMPY	3.6	7.0	2.5	-6.8	3.1	13.8	-2.7	5.2	5.0	-1.5	-1.3	-4.9	6.7	3.5	3.5	.
LABOUR																	
Employees in industry ¹⁾	th. persons	1170	1170	1172	1164	1160	1163	1163	1158	1160	1158	1161	1154	1147	1144	1141	.
Unemployment, end of period	th. persons	440.5	437.3	439.2	461.9	489.0	485.2	471.7	456.4	447.9	454.3	479.2	488.3	492.9	486.7	489.8	514.4
Unemployment rate ²⁾	%	8.5	8.4	8.5	8.9	9.4	9.3	9.1	8.8	8.6	8.7	9.2	9.4	9.4	9.3	9.3	9.8
Labour productivity, industry ¹⁾³⁾	CCPY	6.4	6.3	6.4	5.8	1.3	3.6	3.5	5.2	5.0	4.3	5.7	4.7	5.5	5.8	6.2	.
Unit labour costs, exchr. adj.(EUR) ¹⁾³⁾	CCPY	4.6	4.8	4.6	5.1	16.3	13.6	13.5	13.1	13.3	13.3	12.2	12.9	12.3	11.8	10.8	.
WAGES, SALARIES																	
Industry, gross ¹⁾	CZK	13802	14770	16937	15512	14607	13770	14511	14973	15943	15374	15692	15013	14776	15835	17696	.
Industry, gross ¹⁾	real, CMPY	0.3	2.5	0.5	0.7	3.8	3.8	2.5	5.5	3.2	2.7	6.7	4.3	5.8	5.2	3.3	.
Industry, gross ¹⁾	USD	367	399	452	426	402	377	405	437	479	485	524	477	480	507	576	.
Industry, gross ¹⁾	EUR	404	440	508	476	455	433	462	493	522	507	527	487	489	517	575	.
PRICES																	
Consumer	PM	-0.7	0.0	-0.1	0.1	1.5	0.2	-0.1	-0.1	-0.1	-0.3	0.5	-0.2	-0.5	-0.3	-0.2	0.2
Consumer	CMPY	4.7	4.4	4.2	4.1	3.7	3.9	3.7	3.2	2.5	1.2	0.6	0.6	0.8	0.6	0.5	0.6
Consumer	CCPY	4.8	4.8	4.7	4.7	3.7	3.8	3.7	3.6	3.4	3.0	2.7	2.4	2.2	2.1	1.9	1.8
Producer, in industry	PM	0.0	0.7	-0.4	-0.3	0.2	0.2	0.0	-0.5	-0.2	-0.1	-0.4	-0.1	0.0	0.6	-0.1	-0.3
Producer, in industry	CMPY	1.8	1.4	0.9	0.8	0.6	-0.1	-0.2	-0.1	-0.5	-0.8	-1.1	-0.9	-0.9	-0.9	-0.7	-0.7
Producer, in industry	CCPY	3.5	3.3	3.1	2.9	0.6	0.2	0.1	0.0	-0.1	-0.2	-0.3	-0.4	-0.4	-0.5	-0.5	-0.5
RETAIL TRADE																	
Turnover	real, CMPY	3.6	8.4	8.7	-0.3	4.1	4.3	4.2	5.6	3.3	-0.6	5.4	-4.5	6.7	1.4	0.1	.
Turnover	real, CCPY	4.2	4.7	5.0	4.5	4.1	4.2	4.2	4.6	4.3	3.5	3.8	2.6	3.1	2.9	2.6	.
FOREIGN TRADE⁴⁾⁵⁾																	
Exports total (fob), cumulated	EUR mn	27355	30924	34483	37265	3071	6343	9863	13516	16927	20336	23582	26404	30113	33935	37723	40623
Imports total (fob), cumulated	EUR mn	29671	33549	37277	40690	3252	6437	10146	13797	17563	20999	24563	27570	31424	35489	39533	43039
Trade balance, cumulated	EUR mn	-2316	-2625	-2793	-3425	-181	-95	-282	-280	-636	-663	-981	-1166	-1311	-1554	-1809	-2416
Exports to EU (fob), cumulated	EUR mn	18965	21389	23801	25692	2149	4459	6938	9485	11809	14173	16360	18264	20781	23300	25860	27789
Imports from EU (fob), cumulated	EUR mn	18575	20965	23196	25148	1997	3968	6224	8495	10748	12871	15089	16882	19157	21542	23897	25903
Trade balance with EU, cumulated	EUR mn	390	424	605	543	152	490	714	990	1061	1302	1270	1382	1624	1758	1962	1886
FOREIGN FINANCE																	
Current account, cumulated	USD mn	-1994	.	.	-2625	.	.	-427	.	.	-972	.	.	-2535	.	.	.
EXCHANGE RATE																	
CZK/USD, monthly average	nominal	37.6	37.0	37.5	36.5	36.3	36.5	35.8	34.3	33.3	31.7	30.0	31.5	30.8	31.2	30.7	30.7
CZK/EUR, monthly average	nominal	34.2	33.6	33.3	32.6	32.1	31.8	31.4	30.4	30.6	30.3	29.7	30.8	30.2	30.7	30.8	31.2
CZK/USD, calculated with CPI ⁶⁾	real, Jan98=100	102.9	101.1	102.3	99.2	97.5	98.3	97.0	93.4	90.9	86.9	81.7	86.3	85.0	86.7	85.4	85.0
CZK/USD, calculated with PPI ⁶⁾	real, Jan98=100	102.6	98.2	99.5	95.9	95.6	95.9	95.1	92.1	89.7	85.6	81.4	85.8	84.2	85.7	84.4	84.6
CZK/EUR, calculated with CPI ⁶⁾	real, Jan98=100	84.4	82.8	82.1	80.3	78.2	77.5	76.9	74.8	75.6	75.1	73.3	76.2	75.3	76.6	77.0	78.0
CZK/EUR, calculated with PPI ⁶⁾	real, Jan98=100	85.3	82.8	82.2	80.4	79.2	78.4	77.6	75.8	76.5	75.8	74.8	77.7	76.3	77.0	77.3	78.7
DOMESTIC FINANCE																	
M0, end of period	CZK bn	177.1	175.9	181.8	180.4	179.9	182.3	182.8	183.3	184.9	188.5	185.6	190.5	192.2	195.1	198.6	.
M1, end of period ⁷⁾	CZK bn	556.5	553.1	566.7	583.6	572.8	575.2	568.8	582.5	605.0	617.5	619.2	639.6	647.4	658.0	669.8	.
M2, end of period ⁷⁾	CZK bn	1532.5	1540.5	1564.8	1596.0	1590.9	1585.3	1581.6	1606.5	1625.0	1580.5	1594.6	1622.3	1605.6	1635.8	1646.6	.
M2, end of period	CMPY	11.9	12.2	12.5	13.0	11.1	10.2	9.8	9.5	7.4	4.4	4.3	4.8	4.8	6.2	5.2	.
Discount rate (p.a.), end of period	%	4.25	4.25	3.75	3.75	3.50	3.25	3.25	2.75	2.75	2.75	2.00	2.00	2.00	2.00	1.75	1.75
Discount rate (p.a.), end of period ⁸⁾	real, %	2.4	2.8	2.8	2.9	2.9	3.4	3.5	2.9	3.3	3.6	3.1	2.9	2.9	2.9	2.4	2.4
BUDGET																	
Central gov. budget balance, cum.	CZK mn	-22644	-35432	-59797	-67698	-3417	-24923	-15737	-41863	-32401	-915	-26854	-32956	-21434	-32321	-41726	.

1) Enterprises employing 20 and more persons.

2) Ratio of job applicants to the sum of economically active, women on maternity leave and job applicants.

3) Calculation based on industrial sales index (at constant prices).

4) Based on cumulated national currency and converted with the average exchange rate.

5) Cumulation starting January and ending December each year.

6) Adjusted for domestic and foreign (US resp. EU) inflation. Values less than 100 mean real appreciation.

7) Revision based on new methodology starting January 2002 - excluding extrabudgetary funds.

8) Deflated with annual PPI.

H U N G A R Y: Selected monthly data on the economic situation 2001 to 2002

(updated end of Jan 2003)

		2001				2002											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PRODUCTION																	
Industry, total	real, CMPY	-6.9	5.5	-1.2	-2.3	-5.6	1.5	3.3	4.1	-4.2	4.0	7.9	-2.5	11.0	-0.8	4.0	.
Industry, total	real, CCPY	4.7	4.8	4.1	3.6	-5.6	-2.1	-0.4	0.6	-0.3	0.4	1.4	0.9	2.0	1.7	2.0	.
Industry, total	real, 3MMA	-0.2	-0.9	0.6	-3.0	-2.2	-0.4	2.9	1.0	1.3	2.5	3.0	5.4	2.5	4.5	.	.
Construction, total	real, CMPY	6.4	6.6	2.9	8.4	12.6	21.8	32.6	33.7	24.1	14.0	17.8	22.8	28.3	10.2	9.4	.
LABOUR																	
Employees in industry ¹⁾	th. persons	828.1	824.1	821.8	812.6	830.5	831.1	828.3	823.6	816.9	815.4	818.7	811.2	809.8	810.6	.	.
Unemployment ²⁾	th. persons	218.3	227.5	235.2	216.9	229.3	230.4	235.3	231.5	229.4	229.7	241.8	242.8	245.0	242.7	244.8	.
Unemployment rate ²⁾	%	5.3	5.6	5.8	5.4	5.6	5.7	5.8	5.7	5.6	5.6	5.9	5.9	5.9	5.9	5.9	.
Labour productivity, industry ¹⁾	CCPY	6.6	7.0	6.6	5.3	-1.2	1.7	2.8	4.0	3.2	3.6	4.7	4.2	4.7	3.7	.	.
Unit labour costs, exchr. adj.(EUR) ³⁾	CCPY	7.9	7.9	8.6	10.1	24.5	20.8	19.5	19.3	19.4	17.3	15.3	15.0	14.4	15.3	.	.
WAGES, SALARIES																	
Total economy, gross ¹⁾	HUF	99416	106173	124074	136593	112494	108851	113860	114234	118163	118892	116571	113386	120253	125958	142076	.
Total economy, gross ¹⁾	real, CMPY	10.3	12.9	14.8	10.5	11.9	12.2	12.8	8.5	13.6	11.6	12.5	11.2	15.7	13.2	9.3	.
Total economy, gross ¹⁾	USD	354	377	438	493	408	389	407	418	445	468	469	452	484	508	598	.
Total economy, gross ¹⁾	EUR	389	416	494	552	461	447	465	471	485	490	473	463	493	517	597	.
Industry, gross ¹⁾	USD	356	375	438	433	388	375	403	413	455	453	470	461	456	474	568	.
PRICES																	
Consumer	PM	0.5	0.3	0.1	0.1	1.3	1.0	0.7	0.9	0.5	-0.4	-0.1	-0.3	0.6	0.6	0.0	0.1
Consumer	CMPY	8.0	7.6	7.1	6.8	6.6	6.2	5.9	6.1	5.6	4.8	4.6	4.5	4.6	4.9	4.8	4.8
Consumer	CCPY	9.9	9.6	9.4	9.2	6.6	6.4	6.2	6.2	6.1	5.9	5.7	5.5	5.4	5.4	5.3	5.3
Producer, in industry	PM	0.7	-0.3	-0.8	-0.7	0.1	0.3	0.3	0.3	0.1	-0.5	0.2	0.0	-0.1	-0.1	0.0	.
Producer, in industry	CMPY	2.9	1.9	0.0	-0.4	-2.0	-2.3	-2.8	-2.7	-2.0	-1.1	-0.9	-1.0	-1.8	-1.5	-1.9	.
Producer, in industry	CCPY	6.8	6.3	5.7	5.2	-2.0	-2.2	-2.4	-2.5	-2.4	-2.2	-2.0	-1.9	-1.9	-1.8	-1.8	.
RETAIL TRADE																	
Turnover ³⁾	real, CMPY	3.3	5.5	3.2	3.7	13.7	10.1	15.6	10.0	9.1	11.2	8.4	8.1	8.5	10.1	.	.
Turnover ³⁾	real, CCPY	5.2	5.2	5.0	4.8	13.7	11.8	13.2	12.3	11.6	11.5	11.0	10.6	10.3	10.3	.	.
FOREIGN TRADE⁴⁾⁵⁾																	
Exports total (fob), cumulated	EUR mn	25079	28251	31550	34087	2605	5592	8859	12034	15170	18266	21167	23728	26797	30075	33368	.
Imports total (cif), cumulated	EUR mn	27762	31266	34713	37659	2963	6225	9597	13057	16373	19595	22944	25776	29034	32773	36315	.
Trade balance, cumulated	EUR mn	-2683	-3015	-3163	-3573	-358	-632	-738	-1024	-1203	-1329	-1776	-2048	-2237	-2697	-2947	.
Exports to EU (fob), cumulated	EUR mn	18929	21313	23622	25319	1923	4169	6588	9031	11418	13731	15834	17813	20155	22600	25103	.
Imports from EU (cif), cumulated	EUR mn	16203	18216	20129	21764	1623	3410	5284	7260	9172	11036	13025	14584	16408	18543	20518	.
Trade balance with EU, cumulated	EUR mn	2726	3097	3493	3554	299	759	1304	1771	2246	2695	2809	3229	3747	4057	4585	.
FOREIGN FINANCE																	
Current account, cumulated	USD mn	-637	-702	-812	-1105	-345	-517	-493	-847	-1252	-1631	-1845	-1933	-2292	-2520	-2976	.
EXCHANGE RATE																	
HUF/USD, monthly average	nominal	280.9	281.5	283.1	277.0	275.9	279.9	279.5	273.6	265.8	254.1	248.6	250.9	248.7	248.2	237.6	231.9
HUF/EUR, monthly average	nominal	255.9	255.5	251.1	247.6	243.9	243.5	244.7	242.4	243.7	242.7	246.6	245.1	243.9	243.6	238.1	236.1
HUF/USD, calculated with CPI ⁶⁾	real, Jan98=100	107.6	107.2	107.5	104.8	103.2	104.1	103.7	101.2	97.9	94.0	92.2	93.6	92.4	91.8	87.9	85.7
HUF/USD, calculated with PPI ⁶⁾	real, Jan98=100	113.4	111.5	112.6	109.6	109.4	110.5	111.2	109.4	106.2	102.1	100.0	101.2	100.8	101.6	97.4	.
HUF/EUR, calculated with CPI ⁶⁾	real, Jan98=100	88.4	88.0	86.2	85.0	83.0	82.2	82.4	81.3	81.4	81.4	82.8	82.6	81.9	81.3	79.5	78.8
HUF/EUR, calculated with PPI ⁶⁾	real, Jan98=100	94.4	94.2	92.9	92.0	90.9	90.4	90.9	90.2	90.6	90.6	92.0	91.6	91.4	91.4	89.3	.
DOMESTIC FINANCE																	
M0, end of period	HUF bn	957.4	965.6	1006.8	1037.6	986.0	991.8	1005.0	1029.4	1077.1	1100.7	1136.2	1153.5	1149.4	1161.7	1191.5	1175.1
M1, end of period	HUF bn	2457.9	2478.7	2537.4	2775.9	2564.1	2569.9	2644.2	2662.3	2765.8	2808.5	2830.0	2913.3	2893.8	2930.6	3062.8	3306.1
Broad money, end of period	HUF bn	6544.8	6637.4	6715.1	7089.8	6984.2	6927.4	6985.2	7133.7	7191.4	7214.0	7317.8	7523.0	7491.1	7701.1	7975.1	8409.8
Broad money, end of period	CMPY	15.2	15.4	13.9	17.1	17.0	15.9	16.2	17.7	16.8	17.0	17.2	15.5	14.5	16.0	18.8	18.6
NBH base rate (p.a.) _{end of period}	%	11.0	10.8	10.3	9.8	9.0	8.5	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	9.0	8.5
NBH base rate (p.a.) _{end of period} ⁷⁾	real, %	7.9	8.7	10.3	10.2	11.2	11.1	11.6	11.5	11.2	10.2	10.5	10.6	11.5	11.2	11.1	.
BUDGET																	
Central gov.budget balance _{cum.}	HUF bn	-170.6	-194.9	-178.5	-413.2	-59.3	-143.1	-186.9	-240.2	-280.2	-359.6	-343.5	-413.7	-507.4	-801.9	-586.3	.

1) Economic organizations employing more than 5 persons.

2) According to ILO methodology, from 2002 3-month averages comprising also the two previous months.

3) Excluding catering.

4) Based on cumulated national currency and converted with the average exchange rate.

5) Cumulation starting January and ending December each year.

6) Adjusted for domestic and foreign (US resp. EU) inflation. Values less than 100 mean real appreciation.

7) Deflated with annual PPI.

P O L A N D: Selected monthly data on the economic situation 2001 to 2002

(updated end of Jan 2003)

		2001				2002											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PRODUCTION																	
Industry ¹⁾	real, CPMY	-3.7	1.8	-1.1	-4.8	-1.4	0.3	-3.2	0.3	-4.2	2.1	5.7	-1.2	6.7	3.3	3.1	5.1
Industry ¹⁾	real, CCPY	1.0	1.1	0.9	-0.2	-1.4	-0.6	-1.5	-1.1	-1.7	-1.1	-0.1	-0.2	0.5	0.8	1.1	1.5
Industry ¹⁾	real, 3MMA	-0.4	-1.0	-1.3	-2.5	-2.1	-1.5	-0.9	-2.4	-0.7	1.1	2.2	3.7	2.9	4.3	3.8	.
Construction ¹⁾	real, CPMY	-10.9	-9.7	-9.5	-10.5	-21.5	-13.9	-14.3	-6.2	-20.3	-13.2	-3.8	-7.8	-6.1	-8.8	-8.4	.
LABOUR																	
Employees ¹⁾	th. persons	5060	5044	5020	4952	4940	4931	4924	4907	4896	4898	4884	4876	4864	4870	4862	4839
Employees in industry ¹⁾	th. persons	2584	2589	2576	2528	2494	2492	2486	2475	2471	2471	2462	2457	2451	2462	2462	.
Unemployment, end of period	th. persons	2920.4	2944.3	3022.4	3115.1	3253.3	3277.9	3259.9	3203.6	3064.6	3090.9	3105.3	3105.6	3112.6	3108.1	3150.8	3217.0
Unemployment rate ²⁾	%	16.3	16.4	16.8	17.5	18.1	18.2	18.2	17.9	17.3	17.4	17.5	17.5	17.6	17.5	17.8	18.1
Labour productivity, industry ¹⁾	CCPY	6.3	6.4	6.3	5.8	5.5	6.5	5.5	6.0	5.2	5.7	6.6	6.3	7.1	7.2	7.3	.
Unit labour costs, exch.r. adj.(EUR) ³⁾	CCPY	10.8	10.3	10.4	10.4	8.4	5.0	3.8	2.0	0.5	-2.2	-4.7	-5.1	-6.0	-6.7	-7.4	.
WAGES, SALARIES																	
Total economy, gross ¹⁾	PLN	2218	2252	2302	2471	2188	2189	2252	2226	2255	2232	2289	2253	2302	2263	2343	2532
Total economy, gross ¹⁾	real, CPMY	1.8	3.9	3.0	1.8	2.1	2.0	1.5	-0.6	2.5	2.5	2.8	1.5	2.4	-0.8	-2.9	-6.2
Total economy, gross ¹⁾	USD	526	545	562	616	538	523	544	549	557	555	556	539	555	549	592	647
Total economy, gross ¹⁾	EUR	577	602	633	690	609	601	621	619	609	580	560	551	565	559	592	635
Industry, gross ¹⁾	USD	512	532	579	636	545	526	542	549	546	556	561	539	546	548	604	.
PRICES																	
Consumer	PM	0.3	0.4	0.1	0.2	0.8	0.1	0.2	0.5	-0.2	-0.4	-0.5	-0.4	0.3	0.3	-0.1	0.1
Consumer	CPMY	4.3	4.0	3.6	3.6	3.4	3.5	3.3	3.0	1.9	1.6	1.3	1.2	1.3	1.1	0.9	0.8
Consumer	CCPY	6.1	5.9	5.7	5.5	3.6	3.6	3.5	3.4	3.1	2.8	2.6	2.4	2.2	2.1	2.0	1.9
Producer, in industry	PM	0.5	-0.6	-0.6	-0.3	0.1	0.2	0.2	0.3	0.1	0.2	0.8	0.4	0.3	0.0	-0.5	0.1
Producer, in industry	CPMY	0.7	-0.5	-1.0	-0.4	0.0	0.2	0.3	0.4	0.5	1.2	1.7	1.3	1.1	1.7	1.7	2.2
Producer, in industry	CCPY	2.5	2.2	1.9	1.6	0.1	0.2	0.3	0.3	0.4	0.5	0.7	0.8	0.8	0.9	1.0	1.0
RETAIL TRADE																	
Turnover ¹⁾	real, CPMY	0.2	5.1	2.1	1.1	3.9	6.6	8.2	1.0	1.1	1.8	7.7	3.9	3.6	3.8	4.8	.
Turnover ¹⁾	real, CCPY	-0.4	0.1	0.4	0.7	3.9	5.3	5.8	4.0	3.3	3.1	3.3	2.5	2.6	2.9	1.7	.
FOREIGN TRADE^{3,4)}																	
Exports total (fob), cumulated	EUR mn	29948	33899	37388	40372	3284	6559	10260	13996	17351	20917	24431	27819	31582	35428	.	.
Imports total (cif), cumulated	EUR mn	41518	46871	51754	56220	4121	8583	13522	18865	23608	28399	33390	37732	42635	47862	.	.
Trade balance, cumulated	EUR mn	-11570	-12971	-14365	-15847	-837	-2023	-3262	-4869	-6256	-7482	-8958	-9913	-11053	-12434	.	.
Exports to EU (fob), cumulated	EUR mn	20902	23532	25930	27940	2384	4669	7224	9779	12094	14572	17020	19260	21810	24305	.	.
Imports from EU (cif), cumulated	EUR mn	25484	28814	31783	34510	2455	5267	8374	11532	14552	17585	20789	23398	26425	29568	.	.
Trade balance with EU, cumulated	EUR mn	-4582	-5282	-5852	-6569	-71	-598	-1151	-1753	-2458	-3013	-3769	-4138	-4615	-5264	.	.
FOREIGN FINANCE																	
Current account, cumulated	USD mn	-5413	-6249	-6667	-7166	-868	-1684	-2336	-2970	-3527	-3956	-4066	-4335	-4859	-5465	-6205	.
EXCHANGE RATE																	
PLN/USD, monthly average	nominal	4.219	4.133	4.094	4.014	4.065	4.187	4.143	4.059	4.045	4.025	4.118	4.179	4.150	4.123	3.956	3.911
PLN/EUR, monthly average	nominal	3.845	3.743	3.639	3.583	3.595	3.641	3.629	3.595	3.703	3.847	4.088	4.085	4.074	4.045	3.959	3.988
PLN/USD, calculated with CPI ⁵⁾	real, Jan98=100	102.2	99.4	98.2	95.8	96.4	99.6	98.9	97.0	96.8	96.8	99.7	101.9	101.1	100.3	96.3	95.2
PLN/USD, calculated with PPI ⁶⁾	real, Jan98=100	106.1	102.3	101.5	98.6	100.1	102.8	102.6	101.0	100.6	100.0	101.8	103.1	102.4	102.7	99.1	97.9
PLN/EUR, calculated with CPI ⁵⁾	real, Jan98=100	83.9	81.4	78.9	77.6	77.5	78.6	78.5	77.8	80.4	83.8	89.5	89.9	89.6	88.7	86.9	87.5
PLN/EUR, calculated with PPI ⁶⁾	real, Jan98=100	88.3	86.1	83.8	82.6	83.1	84.0	83.8	83.2	85.6	88.7	93.5	93.3	92.9	92.3	90.8	91.3
DOMESTIC FINANCE																	
M0, end of period	PLN bn	36.6	36.6	36.6	38.2	36.8	37.9	38.8	40.0	39.8	41.2	41.8	42.1	41.9	42.0	42.1	42.2
M1, end of period ⁴⁾	PLN bn	110.5	110.2	108.2	118.3	111.7	115.4	114.8	116.3	121.6	126.1	128.5	126.1	127.4	126.9	130.7	.
M2, end of period ⁴⁾	PLN bn	325.4	329.2	321.2	328.2	322.2	324.6	319.0	317.6	322.0	321.9	324.2	322.9	320.7	321.1	317.5	.
M2, end of period	CPMY	12.6	11.4	7.5	9.2	7.8	6.9	3.2	2.4	3.1	2.4	1.3	-0.2	-1.4	-2.5	-1.1	.
Discount rate (p.a.)end of period	%	17.0	15.5	14.0	14.0	12.0	12.0	12.0	11.0	10.5	10.0	10.0	9.0	8.5	7.8	7.5	7.5
Discount rate (p.a.)end of period ⁷⁾	real, %	16.2	16.1	15.2	14.5	12.0	11.8	11.7	10.6	10.0	8.7	8.2	7.6	7.3	5.9	5.7	5.2
BUDGET																	
Central gov.budget balance, cum.	PLN mn	-21865	-24739	-27651	-32358	-6963	-13668	-16437	-19911	-22985	-24923	-25597	-27280	-29147	-34045	-37073	-39412

1) Enterprises employing more than 9 persons.

2) Ratio of unemployed to the economically active.

3) Based on cumulated national currency and converted with the average exchange rate.

4) Cumulation starting January and ending December each year.

5) Adjusted for domestic and foreign (US resp. EU) inflation. Values less than 100 mean real appreciation.

6) Revised according to ECB monetary standards.

7) Deflated with annual PPI.

R O M A N I A: Selected monthly data on the economic situation 2001 to 2002

(updated end of Jan 2003)

		2001				2002											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PRODUCTION																	
Industry, total ¹⁾	real, CPMY	2.5	9.5	8.4	5.3	5.0	5.0	-0.1	5.6	0.1	6.6	9.1	6.4	9.1	9.6	7.0	.
Industry, total ¹⁾	real, CCPY	8.3	8.4	8.4	8.2	5.0	5.0	3.1	3.8	3.0	3.6	4.4	4.7	5.1	5.6	5.8	.
Industry, total	real, 3MMA	5.6	6.8	7.8	6.3	5.1	3.1	3.4	1.8	4.0	5.2	7.4	8.2	8.4	8.6	.	.
LABOUR																	
Employees total	th. persons	4551.7	4544.8	4507.3	4470.3	4314.2	4333.8	4377.7	4386.8	4397.5	4404.2	4405.1	4399.4	4395.5	4375.1	.	.
Employees in industry	th. persons	1843.6	1843.5	1829.7	1820.0	1833.8	1831.3	1830.2	1823.7	1824.2	1814.0	1812.6	1808.6	1801.7	1797.6	.	.
Unemployment, end of period	th. persons	747.1	742.4	774.0	826.9	1193.7	1267.4	1257.4	1069.7	983.3	929.7	867.4	815.5	786.2	767.7	755.9	.
Unemployment rate ²⁾	%	7.8	7.7	8.0	8.6	12.4	13.2	13.0	11.1	10.2	9.6	9.0	8.5	8.2	8.0	8.1	.
Labour productivity, industry	CCPY	12.1	12.1	11.9	11.5	3.8	4.2	2.5	3.4	2.8	3.6	4.6	5.1	5.8	6.5	.	.
Unit labour costs, exch.r. adj.(EUR)	CCPY	5.0	4.5	4.1	3.9	14.3	14.9	14.4	10.8	7.9	4.6	1.3	-0.1	-1.0	-1.9	.	.
WAGES, SALARIES																	
Total economy, gross	th. ROL	4424.0	4534.1	4719.7	5299.7	5144.8	4778.5	5091.1	5585.4	5329.1	5327.1	5498.5	5469.6	5404.1	5570.8	5704.7	.
Total economy, gross	real, CPMY	12.8	11.3	7.8	2.3	10.5	10.1	9.5	3.9	2.5	0.3	0.7	1.3	2.0	3.4	1.9	.
Total economy, gross	USD	146	147	151	168	161	148	155	169	159	160	167	165	163	168	170	.
Total economy, gross	EUR	161	163	170	188	182	170	177	191	173	167	168	169	166	171	170	.
Industry, gross	USD	150	151	153	170	150	147	155	170	159	161	174	170	165	167	165	.
PRICES																	
Consumer	PM	1.9	2.4	2.7	2.2	2.3	1.2	0.4	2.0	1.9	1.2	0.5	0.8	0.6	1.6	2.6	1.5
Consumer	CPMY	31.2	30.8	30.7	30.3	28.6	27.2	25.1	24.4	24.5	24.0	23.0	21.3	19.8	18.8	18.7	17.9
Consumer	CCPY	36.0	35.4	34.9	34.5	28.6	27.9	26.9	26.3	25.9	25.6	25.2	24.7	24.1	23.5	23.0	22.5
Producer, in industry	PM	2.0	2.1	1.4	1.4	2.0	1.7	1.6	2.3	2.1	1.4	2.3	1.2	1.8	1.6	1.6	.
Producer, in industry	CPMY	36.4	33.7	31.3	30.1	28.3	25.9	25.2	26.1	25.9	25.7	24.8	23.7	23.5	22.9	23.2	.
Producer, in industry	CCPY	44.9	43.6	42.2	41.0	28.3	27.1	26.4	26.3	26.3	26.2	26.0	25.7	25.4	25.1	24.9	.
RETAIL TRADE																	
Turnover	real, CPMY	1.7	5.1	2.6	-1.9	-4.1	-1.3	-1.3	8.2	-2.5	-0.6	3.3	2.4	2.3	0.1	.	.
Turnover	real, CCPY	-0.2	0.4	0.6	0.3	-4.1	-2.7	-2.2	0.6	-0.1	-0.1	0.4	0.7	0.9	0.8	.	.
FOREIGN TRADE^{3,4)}																	
Exports total (fob), cumulated	EUR mn	9672	10693	11795	12711	1034	2134	3309	4497	5639	6923	8291	9515	10769	12117	13486	.
Imports total (cif), cumulated	EUR mn	12637	14221	15787	17363	1332	2710	4170	5742	7264	8880	10698	12086	13698	15510	17262	.
Trade balance, cumulated	EUR mn	-2965	-3528	-3992	-4652	-298	-576	-861	-1245	-1626	-1957	-2407	-2570	-2929	-3393	-3776	.
Exports to EU (fob), cumulated	EUR mn	6535	7254	8011	8619	746	1532	2347	3148	3923	4786	5711	6524	7350	8211	9130	.
Imports from EU (cif), cumulated	EUR mn	7190	8161	9100	9957	780	1545	2404	3362	4271	5278	6395	7140	8030	9076	10083	.
Trade balance with EU, cumulated	EUR mn	-655	-907	-1089	-1338	-34	-13	-57	-214	-349	-492	-684	-615	-680	-865	-953	.
FOREIGN FINANCE																	
Current account, cumulated	USD mn	-1225	-1575	-1833	-2317	-61	-179	-286	-543	-665	-909	-1050	-937	-957	-1115	-1291	.
EXCHANGE RATE																	
ROL/USD, monthly average	nominal	30236	30786	31299	31556	32052	32233	32766	33102	33491	33392	32979	33094	33116	33242	33545	33654
ROL/EUR, monthly average	nominal	27549	27899	27806	28205	28281	28054	28698	29316	30774	31912	32721	32365	32481	32629	33592	34239
ROL/USD, calculated with CPI ⁵⁾	real, Jan98=100	113.8	112.8	111.4	109.6	109.0	108.8	110.7	110.3	109.5	108.0	106.2	106.1	105.7	104.7	102.9	101.7
ROL/USD, calculated with PPI ⁶⁾	real, Jan98=100	109.6	106.9	106.8	104.9	104.8	103.5	104.7	104.2	103.3	101.6	98.4	97.8	96.5	96.2	95.7	.
ROL/EUR, calculated with CPI ⁵⁾	real, Jan98=100	93.5	92.4	89.5	88.9	87.5	86.0	87.9	88.5	91.4	93.5	95.4	93.7	93.8	92.7	93.0	93.4
ROL/EUR, calculated with PPI ⁶⁾	real, Jan98=100	91.4	90.2	88.3	88.1	86.9	84.7	85.6	85.9	88.3	90.2	90.5	88.6	87.6	86.6	87.7	.
DOMESTIC FINANCE																	
M0, end of period	ROL bn	32645	30835	31080	35636	30021	32411	33416	37683	34997	39615	39106	41257	42334	41324	41688	.
M1, end of period	ROL bn	51073	50032	50331	64309	50757	54482	55881	60373	59796	64366	65733	69383	71435	72319	72822	.
M2, end of period	ROL bn	235145	236890	244841	270512	259932	267090	275326	286066	290629	300912	303477	314850	317333	324933	334584	.
M2, end of period	CPMY	44.0	44.4	48.8	46.2	44.3	43.4	43.7	44.0	45.4	44.3	40.3	39.0	35.0	37.2	36.7	.
Discount rate (p.a.) ^{end of period⁶⁾}	%	35.0	35.0	35.0	35.0	35.0	34.6	34.2	34.1	32.2	30.6	28.3	27.2	25.6	23.8	22.2	20.4
Discount rate (p.a.) ^{end of period⁶⁾⁷⁾}	real, %	-1.0	1.0	2.8	3.8	5.2	6.9	7.2	6.3	5.0	3.9	2.8	2.8	1.7	0.7	-0.8	.
BUDGET																	
Central gov.budget balance, cum.	ROL bn	-30417	-31250	-32016	-35809	-4416	-8978	-11228	-14009	-14789	-29334	-31292	-29983	-32043	-31386	-39426	.

1) Enterprises with more than 50 (in food industry 20) employees.

2) Ratio of unemployed to economically active population as of December of previous year, from 2001 as of December 2000.

3) Based on cumulated USD and converted using the ECB EUR/USD average foreign exchange reference rate.

4) Cumulation starting January and ending December each year.

5) Adjusted for domestic and foreign (US resp. EU) inflation. Values less than 100 mean real appreciation.

6) From 1, February 2002 reference rate of RNB.

7) Deflated with annual PPI.

R U S S I A: Selected monthly data on the economic situation 2001 to 2002

(updated end of Jan 2003)

		2001				2002											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PRODUCTION																	
Industry, total	real, CMPY	3.8	5.1	4.7	2.6	2.2	2.0	3.7	4.3	2.8	4.4	7.8	3.4	5.5	3.9	0.8	3.2
Industry, total	real, CCPY	5.2	5.2	5.1	4.9	2.2	2.1	2.6	3.0	3.0	3.2	3.9	3.8	4.0	4.0	3.7	3.7
Industry, total ¹⁾	real, 3MMA	4.7	4.5	4.1	3.2	2.3	2.6	3.3	3.6	3.8	5.0	5.2	.	.	.	.	.
Construction, total	real, CMPY	12.3	12.2	13.5	16.7	4.1	1.5	2.0	3.3	3.1	2.8	2.4	3.1	.	.	.	.
LABOUR																	
Employment total ²⁾	th. persons	65200	64900	64700	64800	64900	65000	65300	65700	66000	66500	67000	67500	67300	67200	67400	.
Unemployment, end of period ³⁾	th. persons	6200	6252	6303	6190	6077	5964	5819	5674	5529	5420	5312	5203	5160	5145	5142	.
Unemployment rate ³⁾	%	8.7	8.8	8.9	8.7	8.6	8.4	8.2	8.0	7.7	7.5	7.3	7.2	7.1	7.1	7.1	.
WAGES, SALARIES																	
Total economy, gross	RUB	3405.0	3515.0	3578.0	4541.0	3760.0	3725.0	4031.0	4110.0	4187.0	4460.0	4597.0	4511.0	4521.0	4646.0	4785.0	.
Total economy, gross	real, CMPY	19.8	21.9	20.1	26.3	15.5	19.0	16.3	20.9	18.0	18.2	18.7	15.9	15.4	14.9	16.1	.
Total economy, gross	USD	116	119	120	151	123	121	130	132	134	142	146	143	143	147	150	.
Total economy, gross	EUR	127	131	135	169	140	139	148	149	146	149	147	146	146	149	150	.
Industry, gross	USD	148	153	155	177	147	146	158	160	159	165	174	.	.	.	.	.
PRICES																	
Consumer	PM	0.6	1.1	1.4	1.6	3.1	1.2	1.1	1.2	1.7	0.5	0.7	0.1	0.4	1.1	1.6	1.5
Consumer	CMPY	20.1	18.9	18.8	18.8	19.2	17.9	17.0	16.3	16.2	14.9	15.1	15.2	15.0	15.0	15.2	15.1
Consumer	CCPY	22.6	22.2	21.9	21.6	19.2	18.5	18.0	17.5	17.3	16.8	16.6	16.4	16.3	16.1	16.0	16.0
Producer, in industry	PM	-0.1	0.4	0.3	0.2	0.4	-0.3	-0.1	2.2	2.5	3.1	2.6	1.7	1.2	2.1	1.1	.
Producer, in industry	CMPY	15.0	12.5	11.4	10.7	9.0	6.9	5.5	6.8	8.5	9.6	11.4	13.3	14.9	16.7	17.7	.
Producer, in industry	CCPY	22.0	21.0	20.0	19.1	9.0	7.9	7.1	7.0	7.4	7.7	8.3	8.9	9.6	10.3	11.0	.
RETAIL TRADE																	
Turnover ⁴⁾	real, CMPY	11.1	12.2	11.6	10.8	9.4	8.3	8.9	9.5	6.1	7.6	10.2	8.6	9.6	9.6	10.0	.
Turnover ⁴⁾	real, CCPY	10.1	10.3	10.5	10.5	9.4	8.9	8.9	9.0	8.4	8.3	8.6	8.6	8.7	8.8	8.9	.
FOREIGN TRADE⁵⁾⁽⁶⁾⁽⁷⁾																	
Exports total, cumulated	EUR mn	86174	94938	104350	113455	7534	15112	24635	35274	44553	53155	62480	72646	82622	92940	102128	.
Imports total, cumulated	EUR mn	42588	47903	53594	60029	4168	8767	14090	19891	25003	30201	35692	40908	46099	52000	57572	.
Trade balance, cumulated	EUR mn	43585	47035	50756	53426	3366	6345	10545	15383	19550	22954	26789	31738	36523	40940	44556	.
FOREIGN FINANCE																	
Current account, cumulated	USD mn	28487	.	.	34842	.	.	6852	.	.	14982	.	.	23984	.	.	.
EXCHANGE RATE																	
RUB/USD, monthly average	nominal	29.430	29.538	29.797	30.100	30.473	30.806	31.064	31.174	31.255	31.405	31.515	31.554	31.627	31.693	31.811	31.837
RUB/EUR, monthly average	nominal	26.821	26.784	26.478	26.852	26.952	26.781	27.201	27.596	28.682	29.965	31.323	30.875	31.006	31.103	31.831	32.443
RUB/USD, calculated with CPI ⁸⁾	real, Jan98=100	159.5	157.8	156.7	155.3	152.8	153.3	153.7	153.3	151.1	151.2	150.9	151.4	151.4	150.4	148.6	146.5
RUB/USD, calculated with PPI ⁹⁾	real, Jan98=100	176.8	172.8	173.1	172.4	174.4	176.7	180.3	178.4	174.5	170.3	167.0	164.8	163.9	162.3	161.3	.
RUB/EUR, calculated with CPI ⁸⁾	real, Jan98=100	130.9	129.3	125.8	125.7	122.8	120.9	121.9	122.8	125.8	130.6	135.6	133.6	134.1	133.0	134.0	134.6
RUB/EUR, calculated with PPI ⁹⁾	real, Jan98=100	147.1	145.8	143.0	144.4	144.8	144.3	147.2	146.8	148.9	150.7	153.7	149.3	148.4	145.8	147.6	.
DOMESTIC FINANCE																	
M0, end of period	RUB bn	531.0	531.5	527.3	584.3	533.4	543.4	552.9	610.3	607.5	645.9	659.7	679.0	672.6	675.8	690.5	.
M1, end of period	RUB bn	1074.9	1084.4	1058.1	1192.6	1079.4	1084.6	1106.3	1147.5	1204.1	1254.5	1268.0	1282.1	1301.7	1313.3	1337.4	.
M2, end of period	RUB bn	1925.5	1974.7	1984.9	2122.7	2056.3	2105.0	2137.7	2213.5	2288.3	2356.8	2403.6	2445.2	2494.7	2538.6	2602.7	.
M2, end of period	CMPY	38.7	39.5	36.2	36.1	34.3	30.3	31.0	31.5	32.3	31.0	30.5	30.7	29.6	28.6	31.1	.
Refinancing rate (p.a.) _{end of period}	%	25.0	25.0	25.0	25.0	25.0	25.0	25.0	23.0	23.0	23.0	23.0	21.0	21.0	21.0	21.0	21.0
Refinancing rate (p.a.) _{end of period} ⁹⁾	real, %	8.7	11.1	12.2	12.9	14.6	17.0	18.4	15.2	13.3	12.3	10.4	6.8	5.3	3.6	2.8	.
BUDGET																	
Central gov. budget balance, cum.	RUB bn	178.6	214.7	257.4	264.7	82.9	89.2	108.1	132.3	148.0	162.9	209.9	210.6	.	.	.	.

1) Seasonally adjusted.

2) Based on labour force survey.

3) According to ILO methodology.

4) Including estimated turnover of non-registered firms, including catering.

5) Based on cumulated USD and converted using the ECB EUR/USD average foreign exchange reference rate.

6) Cumulation starting January and ending December each year, incl. estimates of non-registered imports.

7) Based on balance of payments statistics.

8) Adjusted for domestic and foreign (US resp. EU) inflation. Values less than 100 mean real appreciation.

9) Deflated with annual PPI.

S L O V A K REPUBLIC: Selected monthly data on the economic situation 2001 to 2002

(updated end of Jan 2003)

		2001				2002											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PRODUCTION																	
Industry, total	real, CPMY	6.8	8.3	3.9	2.0	0.2	4.8	-1.6	10.2	3.7	3.8	12.0	6.5	9.7	8.7	9.1	.
Industry, total	real, CCPY	7.7	7.8	7.4	6.9	0.2	2.5	1.0	3.3	3.4	3.4	4.6	4.8	5.4	5.8	6.1	.
Industry, total	real, 3MMA	7.0	6.3	4.8	2.1	2.3	1.0	4.3	3.9	5.8	6.4	7.3	9.4	8.3	9.1	.	.
Construction, total	real, CPMY	-6.7	-1.2	-4.1	-8.2	-4.3	-5.8	-0.8	9.9	8.2	-1.5	6.3	1.5	3.8	6.9	7.8	.
LABOUR																	
Employment in industry	th. persons	556.0	554.1	553.5	549.1	542.9	543.0	544.2	561.9	561.7	564.7	555.5	558.1	562.1	564.5	562.9	.
Unemployment, end of period ¹⁾	th. persons	497.6	499.3	513.1	533.7	563.9	560.2	546.3	521.0	510.2	507.0	505.0	492.6	481.0	478.6	488.0	504.1
Unemployment rate ¹⁾	%	17.4	17.3	17.7	18.6	19.7	19.6	19.1	18.1	17.7	17.6	17.6	17.2	16.6	16.4	16.8	17.5
Labour productivity, industry	CCPY	6.4	6.6	6.3	5.9	2.2	4.5	3.0	4.4	4.0	3.7	4.9	5.0	5.4	5.6	5.8	.
Unit labour costs, exch.r. adj.(EUR)	CCPY	0.7	0.9	1.5	2.3	9.8	8.5	9.9	8.1	7.3	6.2	4.1	3.5	3.2	3.2	2.9	.
WAGES, SALARIES																	
Industry, gross	SKK	12667	13763	15835	15258	13529	12866	13565	13674	14314	14663	14567	14053	13822	14443	16529	.
Industry, gross	real, CPMY	-0.3	3.1	4.4	7.0	2.8	6.3	4.2	3.9	3.1	3.5	7.2	4.3	6.1	1.9	1.5	.
Industry, gross	USD	265	286	326	316	281	265	283	290	305	315	325	312	315	339	399	.
Industry, gross	EUR	291	316	367	354	318	304	323	328	333	331	327	320	321	345	398	.
PRICES																	
Consumer	PM	0.2	0.0	0.0	0.2	1.5	0.4	0.0	0.4	0.2	-0.4	-0.3	0.5	0.3	0.0	0.0	0.7
Consumer	CPY	7.3	6.9	6.4	6.4	6.2	4.3	3.6	3.6	3.2	2.6	2.0	2.7	2.8	2.9	2.9	3.4
Consumer	CCPY	7.3	7.3	7.2	7.1	6.2	5.2	4.7	4.4	4.2	3.9	3.6	3.5	3.4	3.3	3.3	3.3
Producer, in industry ²⁾	PM	-0.1	0.0	-0.3	-0.1	0.4	1.8	0.0	0.8	-0.2	-0.4	0.2	0.0	0.1	0.0	-0.2	.
Producer, in industry ²⁾	CPY	4.8	3.5	2.4	2.2	2.4	2.4	1.5	1.9	2.0	1.4	1.8	2.0	2.2	2.2	2.2	.
Producer, in industry ²⁾	CCPY	7.8	7.3	6.9	6.5	2.4	2.4	2.1	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	.
RETAIL TRADE³⁾																	
Turnover	real, CPMY	5.8	9.1	11.7	12.4	11.5	-1.3	7.4	4.4	8.8	10.5	5.6	2.9	0.9	-2.0	-6.9	.
Turnover	real, CCPY	2.4	3.1	3.8	4.5	11.5	5.1	5.9	5.5	6.2	6.9	6.7	6.2	5.6	4.9	3.8	.
FOREIGN TRADE⁴⁾⁵⁾																	
Exports total (fob), cumulated	EUR mn	10580	11861	13099	14117	1066	2189	3401	4698	5905	7207	8553	9752	11114	12560	13986	.
Imports total (fob), cumulated	EUR mn	12074	13570	15103	16489	1200	2473	3860	5288	6751	8183	9682	10968	12521	14277	15936	.
Trade balance, cumulated	EUR mn	-1494	-1708	-2004	-2373	-134	-284	-459	-591	-846	-976	-1128	-1217	-1407	-1717	-1950	.
Exports to EU (fob), cumulated	EUR mn	6374	7123	7871	8450	665	1370	2118	2897	3604	4395	5207	5889	6712	7569	8445	.
Imports from EU (fob), cumulated	EUR mn	6057	6802	7558	8207	584	1221	1922	2655	3383	4123	4909	5542	6323	7216	8053	.
Trade balance with EU, cumulated	EUR mn	318	321	313	243	81	148	196	242	221	272	298	347	388	354	392	.
FOREIGN FINANCE																	
Current account, cumulated	USD mn	-1131	-1251	-1492	-1756	-84	-168	-312	-446	-762	-868	-987	-1018	-1210	.	.	.
EXCHANGE RATE																	
SKK/USD, monthly average	nominal	47.8	48.1	48.5	48.2	48.1	48.6	47.9	47.1	46.9	46.5	44.8	45.0	43.8	42.6	41.5	41.1
SKK/EUR, monthly average	nominal	43.5	43.6	43.1	43.1	42.5	42.3	41.9	41.7	43.0	44.3	44.5	44.0	43.0	41.8	41.5	41.8
SKK/USD, calculated with CPI ⁶⁾	real, Jan98=100	110.6	111.0	111.8	110.5	108.7	109.9	108.9	107.4	106.6	106.4	102.7	103.1	100.3	97.7	95.0	93.6
SKK/USD, calculated with PPI ⁶⁾	real, Jan98=100	117.1	115.2	116.1	114.1	113.6	112.8	112.4	110.6	110.3	110.0	105.9	106.7	104.3	102.3	99.8	.
SKK/EUR, calculated with CPI ⁶⁾	real, Jan98=100	90.7	90.8	89.6	89.5	87.3	86.6	86.3	85.9	88.5	91.6	92.2	90.8	88.8	86.3	85.7	85.6
SKK/EUR, calculated with PPI ⁶⁾	real, Jan98=100	97.3	97.1	95.8	95.7	94.3	92.1	91.7	90.9	93.8	97.1	97.3	96.4	94.4	91.8	91.4	.
DOMESTIC FINANCE																	
M0, end of period	SKK bn	72.7	74.9	79.1	81.0	79.7	80.1	79.6	78.8	79.0	79.6	79.3	80.4	80.7	81.4	83.1	.
M1, end of period	SKK bn	207.4	207.0	214.0	228.5	217.8	214.2	210.3	210.6	212.1	218.7	219.3	222.5	221.1	222.8	228.6	.
M2, end of period	SKK bn	641.8	635.3	651.3	680.3	668.4	674.8	666.0	662.8	668.7	678.9	692.7	696.3	689.7	694.7	703.9	.
M2, end of period	CPY	9.5	9.3	12.0	13.1	10.2	10.9	8.8	6.9	8.0	8.6	9.3	8.1	7.5	9.3	8.1	.
Discount rate (p.a.), end of period ⁷⁾	%	8.8	8.8	8.8	8.8	7.8	7.8	7.8	8.3	8.3	8.3	8.3	8.3	8.3	8.0	6.5	6.5
Discount rate (p.a.), end of period ⁷⁾⁸⁾	real, %	3.8	5.1	6.2	6.5	5.2	5.3	6.2	6.2	6.1	6.8	6.3	6.1	5.9	5.7	4.2	.
BUDGET																	
Central gov. budget balance, cum.	SKK mn	-22878	-27560	-29797	-44371	-2902	-10851	-15185	-13497	-20825	-24661	-34768	-35706	-32192	-39930	-36488	-51642

1) Ratio of disposable number of registered unemployment calculated to the economically active population as of previous year.

2) Based on revised index schema of 2000, excluding VAT and excise taxes.

3) According to NACE (52 - retail trade), excluding VAT.

4) Based on cumulated national currency and converted with the average exchange rate.

5) Cumulation starting January and ending December each year.

6) Adjusted for domestic and foreign (US resp. EU) inflation. Values less than 100 mean real appreciation.

7) From January 2002 corresponding to the 2-week limit rate of NBS.

8) Deflated with annual PPI.

S L O V E N I A: Selected monthly data on the economic situation 2001 to 2002

(updated end of Jan 2003)

		2001				2002											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PRODUCTION																	
Industry, total	real, CPMY	-1.1	7.2	0.1	0.2	3.9	3.2	-1.5	9.6	0.1	-1.9	4.6	0.1	6.8	1.5	0.6	.
Industry, total	real, CCPY	3.0	3.5	3.2	2.9	3.9	3.5	1.7	3.7	2.9	2.1	2.5	2.2	2.7	2.6	2.4	.
Industry, total	real, 3MMA	3.0	2.0	2.5	1.3	2.4	1.7	3.6	2.6	2.5	0.9	0.9	4.0	2.9	2.9	.	.
Construction, total ¹⁾	real, CPMY	-3.9	1.6	-3.2	-9.0	-11.5	-3.9	-6.1	-0.1	-4.8	-8.0	-1.2	-5.3	-1.2	-3.3	.	.
LABOUR																	
Employment total	th. persons	786.2	786.6	785.6	782.1	779.5	781.3	782.8	784.3	785.3	785.6	783.9	782.6	784.5	.	.	.
Employees in industry ²⁾	th. persons	221.8	221.5	221.2	219.8	220.2	220.2	220.5	219.8	219.6	219.3	218.2	217.5	217.3	.	.	.
Unemployment, end of period	th. persons	99.8	102.2	103.2	104.3	106.2	105.0	103.5	102.7	101.1	100.1	101.7	102.2	103.4	.	.	.
Unemployment rate ³⁾	%	11.3	11.5	11.6	11.8	12.0	11.8	11.7	11.6	11.4	11.3	11.5	11.6	11.7	.	.	.
Labour productivity, industry	CCPY	3.1	3.8	3.6	3.5	6.9	6.6	4.8	6.9	6.2	5.4	5.9	5.6	6.0	5.9	5.6	.
Unit labour costs, exch.r. adj.(EUR)	CCPY	1.7	1.1	1.1	1.1	-3.2	-3.3	-1.2	-2.6	-1.7	-1.0	-1.1	-1.0	-1.2	-0.9	.	.
WAGES, SALARIES																	
Total economy, gross	th. SIT	214.1	219.2	234.8	234.1	226.4	223.3	227.0	228.8	231.1	229.2	232.1	236.1	236.2	239.9	252.9	.
Total economy, gross	real, CPMY	3.0	3.3	3.0	2.6	0.8	0.9	2.0	2.0	2.1	2.5	3.0	1.7	2.9	2.1	0.9	.
Total economy, gross	USD	890	903	946	945	901	870	888	901	939	967	1016	1015	1016	1029	1103	.
Total economy, gross	EUR	976	997	1066	1059	1020	1001	1014	1019	1026	1014	1024	1039	1036	1049	1103	.
Industry, gross	USD	757	779	818	791	771	735	760	767	806	816	877	865	869	890	.	.
PRICES																	
Consumer	PM	0.9	0.5	0.4	0.1	1.6	0.9	0.7	1.4	0.3	-0.2	0.5	0.1	0.8	0.5	0.0	0.6
Consumer	CPMY	7.9	7.8	7.0	7.0	8.4	8.1	7.6	8.4	7.5	6.8	7.2	7.3	7.2	7.2	6.7	7.2
Consumer	CCPY	8.8	8.7	8.6	8.4	8.4	8.3	8.1	8.2	8.0	7.8	7.7	7.7	7.6	7.6	7.5	7.5
Producer, in industry	PM	0.4	1.0	0.5	1.0	0.3	0.6	0.4	0.4	0.1	0.2	0.2	0.2	0.1	0.3	0.3	0.6
Producer, in industry	CPMY	8.0	7.2	7.1	7.5	5.8	5.3	6.3	5.7	5.7	5.6	5.3	5.2	4.9	4.2	4.1	3.7
Producer, in industry	CCPY	9.5	9.3	9.1	8.9	5.8	5.6	5.8	5.8	5.7	5.7	5.7	5.6	5.5	5.4	5.3	5.1
RETAIL TRADE⁴⁾																	
Turnover	real, CPMY	5.5	9.4	5.3	6.4	10.1	9.6	9.3	9.1	7.2	9.6	12.9	9.2	13.6	.	.	.
Turnover	real, CCPY	7.9	8.1	7.8	7.7	10.1	9.9	9.7	9.5	9.0	9.1	9.7	9.6	10.1	.	.	.
FOREIGN TRADE⁵⁾⁶⁾																	
Exports total (fob), cumulated	EUR mn	7782	8741	9627	10348	829	1686	2653	3621	4539	5460	6444	7167	8170	9214	10146	.
Imports total (cif), cumulated	EUR mn	8466	9481	10464	11343	878	1792	2818	3862	4846	5764	6750	7516	8526	9571	10590	.
Trade balance total, cumulated	EUR mn	-684	-740	-837	-995	-48	-106	-165	-240	-307	-305	-305	-349	-355	-358	-444	.
Exports to EU (fob), cumulated	EUR mn	4881	5467	6009	6436	553	1082	1670	2253	2789	3331	3908	4309	4906	5519	.	.
Imports from EU (cif), cumulated	EUR mn	5723	6411	7087	7674	587	1204	1913	2622	3306	3954	4639	5136	5823	6540	.	.
Trade balance with EU, cumulated	EUR mn	-842	-944	-1078	-1238	-34	-122	-242	-369	-517	-623	-731	-827	-917	-1021	.	.
FOREIGN FINANCE																	
Current account, cumulated	USD mn	49	99	118	31	57	82	65	64	72	146	193	238	370	459	486	.
EXCHANGE RATE																	
SIT/USD, monthly average	nominal	240.7	242.7	248.2	247.8	251.4	256.6	255.7	254.0	246.1	237.1	228.3	232.6	232.5	233.2	229.2	226.2
SIT/EUR, monthly average	nominal	219.4	219.9	220.4	221.1	222.0	223.0	223.8	224.6	225.3	226.0	226.7	227.4	228.0	228.7	229.3	230.0
SIT/USD, calculated with CPI ⁷⁾	real, Jan98=100	117.9	118.0	119.9	119.3	119.3	121.2	120.5	118.8	114.8	110.9	106.4	108.6	107.9	107.8	106.0	104.0
SIT/USD, calculated with PPI ⁷⁾	real, Jan98=100	122.7	119.8	121.4	118.6	120.3	122.0	122.4	122.0	118.2	113.7	109.6	111.7	111.9	112.9	110.8	108.7
SIT/EUR, calculated with CPI ⁷⁾	real, Jan98=100	96.8	96.6	96.2	96.5	95.8	95.5	95.6	95.1	95.3	95.7	95.5	95.8	95.6	95.4	95.7	95.3
SIT/EUR, calculated with PPI ⁷⁾	real, Jan98=100	102.2	101.0	100.2	99.4	99.8	99.6	99.9	100.3	100.6	100.5	100.8	101.1	101.5	101.4	101.4	101.1
DOMESTIC FINANCE																	
M0, end of period	SIT bn	122.6	124.7	126.5	142.1	129.4	130.0	135.9	134.3	135.1	146.0	137.2	140.0	138.6	141.4	.	.
M1, end of period	SIT bn	438.1	440.3	455.3	502.2	471.8	469.2	485.2	489.5	502.8	524.1	509.4	509.6	525.5	510.8	556.9	.
Broad money, end of period	SIT bn	2555.2	2617.3	2705.7	2876.7	2911.5	2929.0	2970.8	3010.4	3036.4	3025.5	3061.0	3080.7	3100.6	3223.9	3353.0	.
Broad money, end of period	CPMY	20.2	21.8	23.4	30.4	29.9	29.1	27.5	27.9	26.0	23.7	23.6	22.5	21.3	23.2	23.9	.
Discount rate (p.a.)end of period	%	11	11	11	11	9	9	9	10	10	10	10	10	10	10	10	10
Discount rate (p.a.)end of period ⁸⁾	real, %	2.8	3.5	3.6	3.3	3.0	3.5	2.5	4.1	4.1	4.2	4.5	4.6	4.9	5.6	5.7	6.1
BUDGET																	
General gov.budget balance, cum.	SIT mn	-129993	-127649	-135450	-63193	-71267	-103933	-128682	-117290	-122559	-174263	-163593	-158299	-162326	-159476	.	.

1) Effective working hours.

2) Enterprises with 3 or more employed, excluding employees of self-employed persons.

3) Ratio of unemployed to the economically active.

4) According to NACE (52 - retail trade, 50 - repair of motor vehicles), excluding turnover tax.

5) Based on cumulated national currency and converted with the average exchange rate.

6) Cumulation starting January and ending December each year.

7) Adjusted for domestic and foreign (US resp. EU) inflation. Values less than 100 mean real appreciation.

8) Deflated with annual PPI.

U K R A I N E: Selected monthly data on the economic situation 2001 to 2002

(updated end of Jan 2003)

		2001				2002											
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PRODUCTION																	
Industry, total ¹⁾	real, CMPY	11.3	-2.2	-0.4	-5.0	-1.2	1.4	-0.8	.	.	.	.	.	.	.	.	.
Industry, total	real, CCPY	16.7	16.2	15.4	14.2	1.7	3.5	3.1	3.5	3.1	5.8	6.1	5.9	6.0	6.0	6.3	7.0
Industry, total ¹⁾	real, 3MMA	6.2	2.6	-2.5	-2.2	-1.7	-0.2	.	.	.	.	.	.	.	.	.	.
LABOUR																	
Unemployment, end of period	th. persons	984.6	971.2	981.6	1008.1	1028.7	1067.4	1079.0	1087.0	1051.0	1023.4	1005.2	1002.8	991.8	980.0	999.4	1034.2
Unemployment rate ²⁾	%	3.6	3.5	3.6	3.7	3.8	3.9	3.9	4.0	3.8	3.7	3.7	3.7	3.6	3.6	3.6	3.8
WAGES, SALARIES¹⁾																	
Total economy, gross	UAH	326.3	335.8	334.4	378.5	320.8	328.7	354.8	355.8	358.9	377.4	398.1	390.1	391.1	397.5	395.7	.
Total economy, gross	real, CMPY	22.1	24.6	22.3	20.4	19.9	20.5	23.6	20.6	16.9	20.0	22.7	19.5	21.1	19.1	18.8	.
Total economy, gross	USD	61	63	63	71	60	62	67	67	67	71	75	73	73	75	74	.
Total economy, gross	EUR	67	70	71	80	68	71	76	76	74	74	75	75	75	76	74	.
Industry, gross	USD	81	84	83	89	80	.	.	.	87	89	96	95	95	97	95	.
PRICES																	
Consumer	PM	0.4	0.2	0.5	1.6	1.0	-1.4	-0.7	1.4	-0.3	-1.8	-1.5	-0.2	0.2	0.7	0.7	1.4
Consumer	CMPY	7.3	6.0	6.1	6.1	5.6	3.5	2.2	2.1	1.4	-1.1	-0.9	-0.9	-1.1	-0.6	-0.4	-0.6
Consumer	CCPY	14.1	13.2	12.5	12.0	5.6	4.5	3.7	3.3	2.9	2.2	1.8	1.5	1.2	1.0	0.9	0.8
Producer, in industry	PM	0.1	-0.7	0.7	-0.5	-0.4	0.7	-0.8	1.2	1.5	2.2	1.0	-0.4	0.3	0.2	0.2	0.0
Producer, in industry	CMPY	5.9	3.8	3.5	0.9	-0.3	-0.2	-0.5	0.5	2.0	4.0	5.0	4.6	4.9	5.8	5.3	5.8
Producer, in industry	CCPY	10.8	10.0	9.4	8.6	-0.3	-0.3	-0.3	-0.1	0.3	0.9	1.5	1.9	2.2	2.6	2.8	3.1
RETAIL TRADE																	
Turnover ³⁾	real, CCPY	11.5	11.8	12.3	12.6	.	18.7	16.8	18.0	18.1	16.1	15.6	15.5	14.8	14.9	14.7	14.8
FOREIGN TRADE⁴⁾⁵⁾																	
Exports total (fob), cumulated	EUR mn	13389	15054	16684	18160	1376	2862	4419	6089	7581	9054	10539	12040	13770	15552	17206	.
Imports total (cif), cumulated	EUR mn	12683	14242	15946	17613	1161	2478	4047	5662	7047	8519	10044	11512	13001	14632	16098	.
Trade balance, cumulated	EUR mn	706	812	738	547	215	384	372	427	534	535	495	527	770	920	1108	.
FOREIGN FINANCE																	
Current account, cumulated	USD mn	1246	.	.	1402	.	.	722	.	.	1322	.	.	2085	.	.	.
EXCHANGE RATE																	
UAH/USD, monthly average	nominal	5.339	5.310	5.287	5.294	5.313	5.321	5.322	5.327	5.328	5.329	5.329	5.329	5.330	5.330	5.330	5.332
UAH/EUR, monthly average	nominal	4.869	4.809	4.703	4.718	4.696	4.630	4.660	4.712	4.865	5.079	5.288	5.211	5.229	5.228	5.338	5.419
UAH/USD, calculated with CPI ⁶⁾	real, Jan98=100	167.7	165.9	164.1	161.2	160.5	163.7	165.7	164.6	165.1	168.3	171.0	171.9	171.9	171.0	169.9	167.6
UAH/USD, calculated with PPI ⁶⁾	real, Jan98=100	156.2	153.0	150.7	149.8	151.4	150.4	153.3	152.9	150.6	147.6	146.5	147.4	147.6	148.6	148.5	148.5
UAH/EUR, calculated with CPI ⁶⁾	real, Jan98=100	137.5	135.5	131.6	130.1	128.7	128.9	131.2	131.5	136.5	144.9	153.2	151.4	152.1	151.0	153.1	153.3
UAH/EUR, calculated with PPI ⁶⁾	real, Jan98=100	129.8	128.6	124.3	125.1	125.4	122.8	124.9	125.5	127.6	130.2	134.4	133.2	133.5	133.2	135.8	137.8
DOMESTIC FINANCE																	
M0, end of period	UAH mn	16208	16685	17325	19465	18101	18666	19646	20980	20394	21441	22561	23568	23655	23713	24100	.
M1, end of period	UAH mn	25884	26406	26782	29773	27586	28416	30287	30672	30670	32494	34037	35367	36504	36373	.	.
Broad money, end of period	UAH mn	39643	40750	41508	45555	43619	45032	47345	48389	48813	51195	53913	56294	57729	58697	59600	.
Broad money, end of period	CMPY	36.8	41.2	41.2	42.0	41.5	42.3	43.4	41.9	38.8	38.5	44.3	47.1	45.6	44.0	43.6	.
Refinancing rate (p.a.) ^{end of period}	%	15.0	15.0	15.0	12.5	12.5	12.5	11.5	10.0	10.0	10.0	8.0	8.0	8.0	8.0	8.0	7.0
Refinancing rate (p.a.) ^{end of period} ⁷⁾	real, %	8.6	10.8	11.1	11.5	12.8	12.7	12.1	9.5	7.9	5.7	2.9	3.2	3.0	2.1	2.6	1.1
BUDGET																	
General gov. budget balance, cum. ⁸⁾	UAH mn	1379.7	1616.3	982.3	-1263.6	1381.7	1516.6	660.6	564.2	1626.6	1366.6	1851.7	2409.7	2722.6	3284.8	3828.3	.

1) Excluding small firms.

2) Ratio of unemployed to the economically active.

3) Official registered enterprises.

4) Based on cumulated USD and converted using the ECB EUR/USD average foreign exchange reference rate.

5) Cumulation starting January and ending December each year.

6) Adjusted for domestic and foreign (US resp. EU) inflation. Values less than 100 mean real appreciation.

7) Deflated with annual PPI.

8) Including pension fund.

**GUIDE TO WIIW STATISTICAL SERVICES
ON CENTRAL AND EASTERN EUROPE, RUSSIA AND UKRAINE**

	Source	Type of availability	How to get it	Time of publication	Price*
					*Unless otherwise stated, wiiw members (subscribers to the wiiw Service Package) receive a 30% discount on prices quoted
Annual data	<i>Statistical Handbook 2002</i>	printed	to be ordered from WIIW	October 2002 (next update: October 2003)	EUR 90.00 for members free of charge
	<i>Statistical Handbook 2002</i> on CD-ROM	computerized (PDF files)	to be ordered from WIIW	October 2002 (next update: October 2003)	EUR 90.00
	<i>Statistical Handbook 2002</i> on CD-ROM	computerized (MS-Excel tables + PDF files); plus printed version	to be ordered from wiiw	October 2002 (next update: October 2003)	EUR 225.00
	<i>Statistical Handbook 2002: individual chapters</i> on diskette	computerized (MS-Excel tables)	to be ordered from wiiw	October 2002 (next update: October 2003)	EUR 36.00 per chapter
	computerized wiiw Database	online access	via WSR http://www.wsr.ac.at	continuously	EUR 2.50 per data series
Quarterly data (with selected annual data)	<i>Research Report</i>	printed	to be ordered from WIIW	January/February June/July	EUR 70.00
	<i>Monthly Report</i> (2nd and 4th quarters)	printed, online (PDF) or via e-mail	for WIIW members only	<i>Monthly Report</i> nos. 10 and 11, nos. 4 and 5	only available under the wiiw Service Package for EUR 2000.00
Monthly data	<i>Monthly Report</i> (approx. 40 time series per country)	printed	for wiiw members only	monthly (11 times a year)	
	Internet	online access	see http://mdb.wiiw.ac.at	continuously	for members free of charge
Industrial data	diskette	computerized	to be ordered from WIIW	June	EUR 650.00

Orders from wiiw: fax no. (+43 1) 533 66 10-50
e-mail address: koehrl@wiiw.at
attention Ms. Ursula Köhrl

INDEX OF SUBJECTS – February 2002 to February 2003

Albania	<i>economic situation</i>	2002/6
Bulgaria	<i>economic situation</i>	2002/10
	privatization, FDI.....	2003/1
Croatia	<i>economic situation</i>	2002/10
Czech Republic	<i>economic situation</i>	2002/10
	income inequality.....	2003/2
	labour market.....	2002/3
	real convergence, real appreciation	2002/4
Hungary	<i>economic situation</i>	2002/10
	elections.....	2002/5
	manufacturing.....	2002/12
Kosovo	<i>economic situation</i>	2003/1
Macedonia	<i>economic situation</i>	2002/10
Poland	<i>economic situation</i>	2002/10
	bond market.....	2003/2
	debt.....	2003/2
	exchange rate.....	2002/7 2002/2
	inequality.....	2002/4
	labour market.....	2002/6
Romania	<i>economic situation</i>	2002/10
Russia	<i>economic situation</i>	2002/10
	barter trade.....	2002/5
	economic policy.....	2002/11
Slovakia	<i>economic situation</i>	2002/10
	labour market.....	2002/3
Slovenia	<i>economic situation</i>	2002/10
Turkey	<i>economic situation</i>	2002/5
Ukraine	<i>economic situation</i>	2002/10
Yugoslavia	<i>economic situation</i>	2002/10
Region Eastern Europe and CIS (multi-country articles and statistical overviews)	agriculture.....	2002/8-9 2002/4 2002/2
	Baltics, capital flows.....	2002/2
	Baltics, EMU.....	2002/12
	EU enlargement.....	2003/1 2002/12 2002/11 2002/7 2002/5
	euro introduction.....	2002/11
	metals sector.....	2002/3
	regional economic development.....	2002/3
	taxation.....	2002/8-9
	textiles and clothing.....	2002/7
	trade.....	2002/6

The monthly publication *The Vienna Institute Monthly Report* summarizes wiiw's major research topics and provides current statistics and analyses exclusively to subscribers to the wiiw Service Package. This information is for the subscribers' internal use only and may not be quoted except with the respective author's permission and express authorization. Unless otherwise indicated, all authors are members of the Vienna Institute's research staff or research associates of wiiw.

Economics editor: Leon Podkaminer

PLEASE RETURN TO (no later than 21 March 2003):

The Vienna Institute for International Economic Studies (wiiw)
attn. Ms. Gabriele Stanek
Fax (+43-1) 533 66 10 50

<p style="text-align: center;">PARTICIPATION FORM</p> <p style="text-align: center;">wiiw SPRING SEMINAR 2003</p> <p style="text-align: center;">'The Accession Deal: Consequences for New Members'</p> <p style="text-align: center;">Vienna, 28 March 2003, 9:00 a.m.</p>
--

Name

.....

.....

Institution

.....

.....

Address

.....

.....

Phone

Fax

E-mail

I will join the 'Heurigen' excursion (at about 6 p.m.):

yes / no