



Macroeconomic overview

Chapter 10 Recent macroeconomic developments

10.1 Output and employment

10.2 Macroeconomic stabilisation:
inflation and the external account

10.3 Divergence

Appendix 10.1: Selected economic indicators
for each country in transition

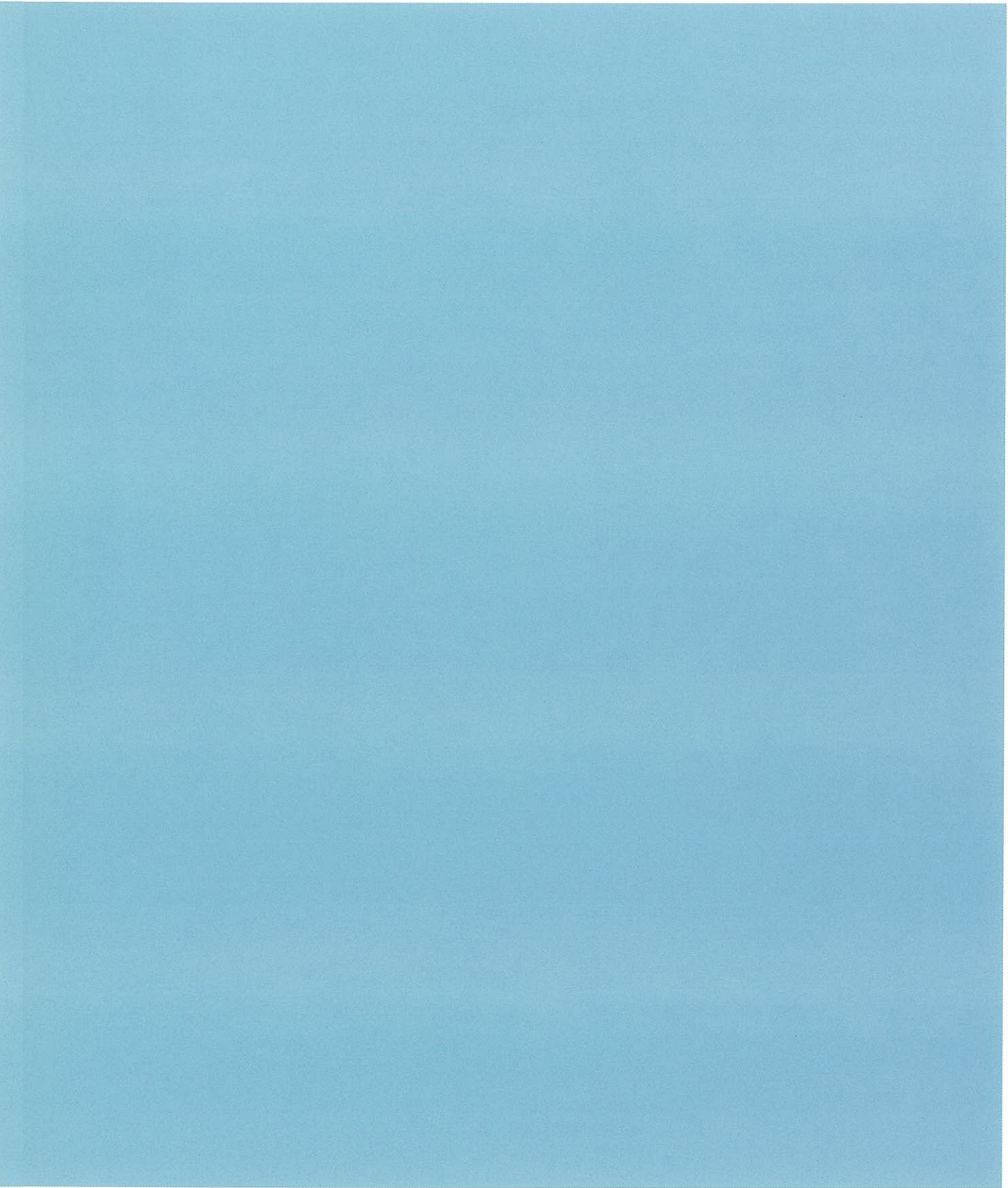
Chapter 11 Macroeconomic forecasting in transition

11.1 A comparison between forecasts and outturns

11.2 Prospects

11.3 Methodological issues

Appendix 11.1: Are growth estimates for
eastern Europe too pessimistic?



10. Recent macroeconomic developments

The economies of eastern Europe and the former Soviet Union are becoming increasingly disparate, as former command systems and international trading links are being dismantled. The initial apparent homogeneity, especially within the former Soviet Union, of similar economies with centralised planning and heavy price distortions, is rapidly being eroded. The emerging heterogeneity has many sources, including political pressures and varying attitudes towards reform. There is also no doubt that the earlier apparent similarities concealed fundamental differences.

The experience of countries in the region ranges from the success story of the Czech Republic, where both inflation and unemployment have been kept low during the comprehensive market-oriented transition over the past three to four years, to some former Soviet republics that have suffered badly from the consequences of the break-up of the Union and have yet to embark upon serious market-oriented reform (see the tables in Appendix 10.1). These gaps are likely to widen in the coming years. Most east European countries appear poised to enter a more prosperous period in a stable financial environment. Meanwhile some countries of the former Soviet Union are likely to experience further output declines and high inflation, although Russia, which currently finds itself between these two extremes, may see more positive developments in the medium term.

10.1 Output and employment

Eastern Europe and the Baltic countries

The recession is over in many parts of eastern Europe. In 1992 Poland became the first country in the region to record positive growth in real GDP since the market-oriented transition began. In 1993, modest growth spread further to Romania and Slovenia, and Albania followed suit with a remarkable expansion, from a very low base. During the first half of 1994 most countries in the region saw increases in economic activity, including the Czech Republic, Hungary, the Slovak Republic and the Baltic countries, all of which had recorded falls in GDP in 1993.

There are, however, serious uncertainties over the official data on which these assessments are based. It has been widely argued that difficulties associated with measurement of activity in the rapidly growing private sector pull in the direction of underestimation of GDP-growth in official series. However, a counter-argument can be made for some countries, including Poland and Hungary, where official measures of the increase in domestic demand and exports fall short of recorded growth in production and imports (see

Appendix 11.1 for further details). This discrepancy may in part arise from underestimation of domestic demand and exports, but it does raise doubts about the notion that output-growth is under-recorded.

Nevertheless, despite these uncertainties, the measured output change since 1992 clearly shows a favourable trend. The region appears to have endured the harshest consequences of the dramatic systemic shifts of recent years, including in particular the collapse during 1990-91 of the former socialist trading block. The latter resulted in a sharp reduction in export-demand from Russia and much higher prices for Russia's energy deliveries. These external shocks came largely at the same time as the economies in eastern Europe experienced domestic policy-induced shocks from the initiation of comprehensive market-oriented reform and macroeconomic stabilisation. Some medium-term benefits of these measures are now beginning to emerge.

That most countries in eastern Europe are now recording positive growth reflects the relative decline in importance of the "old" mega-companies, most of which are still struggling. Performance in the private sector, which now accounts for more than half of GDP in most countries in the region (see Table 2.1), has become the main determinant of aggregate economic growth. The activity of private enterprises is generally growing at a rapid pace.

Measured unemployment ranges from 3½ per cent of the labour force in the Czech Republic to around 30 per cent in FYR Macedonia. The low rate in the Czech Republic represents the outlier in a region characterised mostly by unemployment rates of 10-15 per cent. Possible explanations for the modest level of unemployment in the Czech Republic include strict eligibility rules for unemployment benefits and low real wages (measured in US dollar terms), which have contributed to labour retention in export-oriented enterprises. Hungary's unemployment rate has declined over the past year primarily as a result of tighter eligibility rules.

The Commonwealth of Independent States

Recorded output continues to fall in the CIS. However, the pace of decline has slowed. Official data show real GDP for the CIS down by 12 per cent in 1993, following a drop of 18 per cent in 1992. There can be little doubt that these data exaggerate the fall in output: statistical systems in the CIS countries are dependent to an even greater extent than their counterparts in eastern Europe on reporting from

large “old” companies, and it is these companies that are contracting most rapidly. The coverage by official statistical agencies of the emerging private sector is very patchy.

Even after allowing for the prospect of rapid expansion of private sector activity, aggregate production is expected to shrink in the CIS for at least another year (see Chapter 11). This expectation is based on the assumption that industrial restructuring, with its attendant short-term costs and disruption, will intensify, especially in Russia.

According to official data Russian private consumption rose in 1993. This rise may at first sight appear inconsistent with the recorded production decline which might have been expected to entail a sharp drop in personal incomes. However, personal incomes have been buoyed by a terms-of-trade gain and by a fall in income-transfers out of Russia. These gains stem from Russia’s decisions to switch energy exports away from CIS countries towards higher-yielding Western markets, and to cut back sharply their provision of subsidies and soft trade credits to other CIS countries. In addition, growing real incomes from non-recorded activities are likely to account for a part of the increase in consumption.

Throughout the CIS the contrast between the falls in output and the relative stability of unemployment is striking. Russia’s official estimate for unemployment is just over 2 per cent, but would be far higher if the partially unemployed and those workers on unpaid leave were included. Many unemployed in Russia have preferred to remain on “unpaid leave” since access to the social support systems comes via the enterprise sector. The prospect of free or cheap shares in privatisation is an added incentive to remain linked to the firm.

10.2 Macroeconomic stabilisation: inflation and the external account

Eastern Europe and the Baltic countries

Efforts since 1990 at restraining inflation and checking external imbalances through control of credit expansion and state budget deficits have met with some success, most notably in the Czech Republic, Hungary, Poland, the Slovak Republic and Slovenia. In all of these countries annual inflation in mid-1994 was below 35 per cent (in the Czech Republic below 10 per cent). Romania and Bulgaria have been less successful on this score, with inflation running in the first half of 1994 at more than 5 per cent per month. Both countries, however, have embarked on another round of IMF-supported financial policy adjustment, aimed *inter alia* at reducing the rate of inflation. Albania has pursued IMF-supported financial policies since August 1992 and has succeeded in reducing

inflation sharply, but the country is still struggling with a very large current account deficit. Croatia and FYR Macedonia have recently implemented vigorous macro-economic stabilisation programmes.

In some of these countries, including Bulgaria, Hungary and Poland, the current account began to deteriorate in the second half of 1992 and worsened in 1993. It had initially been hoped that most of the balance of payments deterioration could be attributed to temporary phenomena, such as a drought-induced decline in agricultural output and a weakening of export demand due to recession in western Europe.

However, as official data from Hungary and Poland indicated a persistent deterioration in the trade balance throughout 1993, some observers began to fear that the high household savings ratios recorded in preceding years had reflected mainly a one-off adjustment in portfolios, associated with a desire of individuals to guard themselves against the risk of unemployment, i.e. that the increase in the flow of savings represented the build-up by individuals of an “unemployment insurance”. Such a flow could be expected to stop once the desired “insurance level” had been reached. Thus the worsening current account position in Hungary and Poland in 1993 might reflect a lasting increase in domestic demand arising from a decline in the flow of household “unemployment insurance savings”. If the reduction in the flow of savings were indeed lasting rather than temporary then the current account problem would require policy action.

Such action was taken earlier in Poland than in Hungary. In Poland, where the fiscal imbalance has been reduced successfully in recent years, including in 1993, the officially measured trade deficit narrowed in the first half of 1994. In Hungary, the fiscal position worsened in early 1994 and the inflow of foreign direct investment slowed, although the officially measured current account deficit remained broadly unchanged. The new Hungarian Government – formed in July – has made it a top priority to reduce the external imbalance, primarily through fiscal action.

Having embarked in the second half of 1992 on tight stabilisation policies, the Baltic countries, especially Estonia and Latvia, saw a very sharp reduction in monthly inflation rates in 1993. Bound by their fixed exchange rate regimes, the Baltic states have, however, more recently seen financial inflows, attracted from abroad by high domestic interest rates, lead to an expansion in the money supply. They are therefore finding it difficult to reduce inflation below current rates of about 3 per cent per month (with substantial fluctuations from month to month).

The Commonwealth of Independent States

The largest CIS countries, Russia and Ukraine, have seen a substantial reduction in the rate of inflation over the past year. Monthly rates in Russia fell to about 5 per cent in the second quarter of 1994 after hovering during the last quarter of 1993 between 13 and 20 per cent. This reflected a sharp tightening in central bank financing of enterprises and of the state budget. In Russia, the adjustment of credit policies was helped by the cut-back in trade credits to other CIS states from 9 per cent of GDP in 1992 to less than 1 per cent of GDP now. However, the Russian government and central bank also took other measures during 1993 and the first quarter of 1994. They raised interest rates on rouble assets to levels that are positive in real terms and substantially reduced domestic fiscal expenditures, notably import subsidies and military outlays. The tightening of fiscal and monetary policy led to a sharp improvement in Russia's trade balance.

In Ukraine, the monthly rate of inflation was reduced to below 10 per cent in the first half of 1994, from 40-70 per cent in the last quarter of 1993, but there are doubts whether this achievement can be sustained in the absence of a much stronger state budget and further structural reform.

Part of the credit squeeze in both Russia and Ukraine reflects a large build-up of arrears on the part of the government – a method of reducing credit expansion that is clearly not sustainable in the longer run. Thus, a sharp fall in the US\$/rouble exchange rate during September of this year may be an indication that the credit and fiscal policies had been loosened during the preceding months.

The rouble zone collapsed between May and November 1993. Following the departure of the Baltic countries and Ukraine during 1992, Kyrgyzstan left the rouble zone in May 1993. The decision by Russia in July 1993 to withdraw old rouble notes from circulation and to restrict further the issuance of trade credits to other CIS countries left the other members of the zone dependent on a means of payment – the “old roubles” – for which there was no responsible authority. Against this background, Georgia left the zone in August and Turkmenistan, Uzbekistan, Kazakhstan and Moldova followed suit in November. Belarus has effectively departed as its national coupon has become the dominant means of payment. Tajikistan is now the only former Soviet state that has not established a new national currency or coupon.

The positive aspect of this development is that it leaves most of the CIS countries able to determine and implement their own policies on inflation and market-oriented reform. This could in principle provide at least some of the

governments with an opportunity to stem the economic setbacks of past years and prepare the ground for lasting growth, although it carries with it the responsibility for imposing their own monetary discipline.

However, the break-up of the rouble zone came at a particularly inopportune time for those countries. Since independence, fiscal pressures have intensified because of the sharp cutbacks in subsidies and credits from Russia and, in some cases, because of massive war-related budgetary outlays. Among the smaller CIS countries, only Moldova and Kyrgyzstan have implemented successful stabilisation programmes, reducing monthly inflation to 2-5 per cent in May-June this year in the wake of tough fiscal and credit policy adjustments over the preceding six months. War has severely impeded any attempt at stabilisation in Armenia, Azerbaijan, Georgia and Tajikistan.

10.3 Divergence

The economies of the countries in the region are diverging. This is reflected in a wide range of indicators including those associated with structural reform (see Chapter 2), real GDP and macroeconomic stabilisation.

An “advanced” group consisting of the Czech Republic, Hungary, Poland, the Slovak Republic and Slovenia appear to be in the recovery phase and have achieved substantial structural reform and a large measure of macroeconomic stabilisation. The Czech Republic and the Baltic states must now, as well as taking reform forward, cope with some of the problems of success, including inflationary pressures resulting from large inflows of foreign capital.

In an “intermediate group” major stabilisation and reform efforts have been made but, so far, with mixed results. Some, such as Romania and Bulgaria, have been wrestling with macroeconomic stabilisation for some years but with only limited success. Both of these countries as well as Croatia, FYR Macedonia, Kyrgyzstan and Moldova have recently implemented vigorous macroeconomic stabilisation programmes. Albania and the Baltic states, despite suffering even greater falls in GDP, have also made great strides towards macroeconomic stabilisation and the reduction of inflation. Following earlier declines, Albania's economy grew rapidly in 1993, and sustained growth and macroeconomic stability is in sight for Estonia, Latvia and Lithuania. For Russia, reform and stabilisation have been more gradual but privatisation has gone far and there are recent improvements regarding inflation.

Other CIS countries have made considerably less progress. It is unlikely that a decline in recorded output in much of the CIS will quickly be arrested. Economic reform has been limited and inflation remains high.

Appendix 10.1 Selected economic indicators for each country in transition

Growth and Inflation in eastern Europe and the former Soviet Union ¹								
	Real GDP ²				Retail/consumer prices (end-year)			
	1991	1992	1993	1994	1991	1992	1993	1994
	<i>Estimate Projection</i>				<i>Estimate Projection</i>			
Individual countries	<i>(Percentage change)</i>				<i>(Percentage change)</i>			
Albania	-27	-10	11	8	104	237	31	19
Armenia	-11	-52	-15	na	na	2,000	10,900	na
Azerbaijan	-1	-23	-13	-15	126	1,395	810	2,000
Belarus	-1	-10	-12	-30	93	1,050	2,775	na
Bulgaria	-12	-6	-4	0	339	79	64	70
Croatia	-14	-9	-3	2	149	937	1,150	0
Czech Republic	-14	-7	0	3	52	13	18	10
Estonia	-11	-26	-8	5	304	954	36	42
FYR Macedonia	-11	-15	-15	-8	115	1,691	244	70
Georgia	-21	-43	-40	na	119	1,653	2,656	na
Hungary	-12	-4	-2	1	32	22	21	20
Kazakhstan	-12	-13	-13	-11	150	1,176	1,925	900
Kyrgyzstan	-5	-25	-16	-10	170	1,771	1,366	90
Latvia	-8	-34	-12	5	262	958	35	25
Lithuania	-13	-38	-16	4	345	1,175	188	40
Moldova	-12	-25	-14	-3	162	1,275	837	120
Poland	-8	2	4	5	60	44	38	27
Romania	-13	-14	1	0	223	199	296	90
Russia	-9	-19	-12	-12	144	2,322	842	180
Slovak Republic	-15	-7	-4	1	58	9	25	13
Slovenia	-8	-5	1	4	247	93	23	16
Tajikistan	-13	-34	-28	na	204	1,362	7,344	na
Turkmenistan	-5	-5	-8	na	155	644	4,500	na
Ukraine	-12	-17	-14	-20	161	2,000	10,155	350
Uzbekistan	-1	-10	1	-8	169	787	927	600
Aggregates								
Eastern Europe and the Baltic countries ³	-10	-4	1	3				
The Commonwealth of Independent States ⁴	-9	-18	-12	-13				

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² NMP for Georgia and Tajikistan, GSP for FYR Macedonia. NMP excludes depreciation and the value added from most of the service sector. GSP excludes the value added by the government, the financial sector and some personal services.

³ Estimates for real GDP represent weighted averages for Albania, Bulgaria, the Czech Republic, Estonia, FYR Macedonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic and Slovenia. The weights used were national GDP estimates for 1992 converted into common currency at the average official exchange rate for 1992.

⁴ Here taken to include all countries of the former Soviet Union, except Estonia, Latvia and Lithuania. Estimates for real GDP represent weighted averages, using the nominal level of NMP in 1991 as weights.

Albania ¹

	1989	1990	1991	1992	1993 <i>Estimate</i>	1994 <i>Projection</i>
Output and expenditure						
			<i>(Percentage change)</i>			
GDP	9.8	-10.0	-27.1	-9.7	11	8
Industrial production	5.0	-7.6	-36.9	-44.0	-10	na
Prices and wages						
Consumer prices (annual average)	0	0	36	226	85	na
Consumer prices (end-year)	0	0	104	237	31	19
Average real wages (public sector)	na	na	-5.8	-45	0 to -2	na
Monetary sector						
Broad money (end-year)	14.8	23.4	104	153	75	30
Government sector						
			<i>(In per cent of GDP)</i>			
General government balance ²	-5.5	-3.7	-44	-22	-16	-8
General government expenditure	56.8	62.1	62	47	44	na
External data (convertible currency transactions)						
			<i>(In millions of US dollars)</i>			
Current account (excluding official transfers)	-49	-122	-293	-425	-399	na
Trade balance	-83	-150	-308	-454	-480	na
External debt, net of foreign exchange reserves	0	75	480	604	642	na
			<i>(Percentage change in the US dollar value)</i>			
Exports (data from the balance of payments)	25	-7	-41	-4	50	na
Imports (data from the balance of payments)	58	4	21	87	12	na
			<i>(In months of current account expenditures, excluding transfers)</i>			
Gross international reserves (end-year), excluding gold	12.5	6.6	0.3	0.6	2.2	na
Memorandum items						
			<i>(Denominations as indicated)</i>			
Population (in millions)	3.2	3.3	3.3	3.3	3.4	na
Employment (percentage change, annual average)	1.9	0.2	-5.8	-16.6	-9.3	na
Unemployment rate (in per cent of labour force, end-year)	1.9	2.1	10.7	26.3	17.5	na
Exchange rate (lek per US dollar, end-year)	8	10	25	97	101	na
Exchange rate (lek per US dollar, annual average)	8	8	15	75	102	na
GDP (in millions of lek)	18,681	16,813	15,971	49,517	113,026	na
Agriculture's share of GDP (per cent) ³	26.3	28.0	30.5	54.1	56	na
Industry's share of GDP (per cent) ³	36.5	32.6	29.4	17.0	14	na

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² Excluding from expenditures due but unpaid interest on foreign debt.

³ Based on national accounts at constant prices.

Armenia ¹

	1989	1990	1991	1992	1993
Output and expenditure					
		<i>(Percentage change)</i>			
GDP at constant prices	14.2	-7.4	-11	-52	-15
Exports at constant prices	na	na	-47	-36	-13
Imports at constant prices	na	na	-38	-34	-11
Prices and wages					
Consumer prices (annual average)	4.8	10.3	100	825	3,732
Consumer prices (end-year)	na	na	na	2,000	10,900
Monetary sector					
Domestic credit	na	33	38	201	734
Government sector					
		<i>(In per cent of GDP)</i>			
Consolidated central government balance (cash)	na	na	-1.9	-30.6	-46.4
Consolidated central government expenditure (cash)	na	na	28.0	64.2	68.6
External data					
		<i>(In millions US dollars)</i>			
Current account with non-FSU countries	na	na	na	-40.0	-6.5
Trade balance with non-FSU countries	na	na	na	-96	-142
Exports (data from the balance of payments)	na	na	na	335	207
to countries outside the former Soviet Union	na	na	na	12	29
to former Soviet republics	na	na	na	323	178
Imports (data from the balance of payments)	na	na	na	405	388
from countries outside the former Soviet Union	na	na	na	108	171
from former Soviet republics	na	na	na	297	217
Memorandum items					
		<i>(Denominations as indicated)</i>			
Population (in millions)	na	3.3	3.5	3.7	3.7
Unemployment rate (in per cent of the labour force, end-year)	na	na	3.5	3.5	5.8
Agriculture's share in NMP (per cent) ²	14.4	17.3	25.7	41	55
Industry's share in NMP (per cent) ³	50.2	45.4	54.8	53	32
GDP (in billions of roubles)	9.5	9.7	15.9	59.1	780
GNP per capita (in US dollars) at PPP exchange rates ⁴	na	na	na	2,500	na

¹ Data for 1989-93 represent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. For a discussion of some of the problems of interpreting official statistics, see Chapter 11.

² Includes forestry. NMP excludes depreciation and the value added from most of the service sector.

³ Includes the turnover tax. NMP excludes depreciation and the value added from most of the service sector.

⁴ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report 1994*. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Azerbaijan ¹

	1990	1991	1992	1993 <i>Estimate</i>	1994 <i>Projection</i>
Output at constant prices		<i>(Percentage change)</i>			
GDP	-11.7	-0.7	-22.6	-13	-15
Prices					
Consumer prices (annual average)	8	106	616	833	1,500
Consumer prices (end-year)	na	126	1,395	810	2,000
Government sector		<i>(In per cent of GDP)</i>			
General government balance	na	-5	2.8	-13.6	na
General government expenditure	na	40.7	46.4	52	na
External data		<i>(In millions of US dollars)</i>			
Current account	na	153	488	169	-100
Trade balance	na	60	489	55	na
vis-à-vis countries outside the former Soviet Union	na	-42	371	-23	na
vis-à-vis former Soviet republics	na	102	118	78	na
Exports	na	395	1,275	659	na
to countries outside the former Soviet Union	na	24	755	299	na
to former Soviet Republics	na	371	520	360	na
Imports	na	336	786	604	na
from countries outside the former Soviet Union	na	67	384	322	na
from former Soviet republics	na	269	402	282	na
Memorandum items		<i>(Denominations as indicated)</i>			
Population (in millions)	na	na	7.3	na	na
GDP (in billion of roubles, till 1992, in billions of manats thereafter)	1.5	2.7	25.1	165.8	na
Agriculture's share of NMP (per cent)	37.4	41.1	32.5	29.4	na
Industry's share of NMP (per cent)	34.8	37.2	50.5	45.6	na
GNP per capita (in US dollars) at PPP exchange rates ²	na	na	2,650	na	na

¹ Data for 1989-93 represent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report 1994*. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Belarus¹

	1989	1990	1991	1992	1993 <i>Estimate</i>	1994 <i>Projection</i>
Output and expenditure						
			<i>(Percentage change)</i>			
GDP at constant prices ²	8	-3	-1.2	-9.6	-11.6	-30
Consumption at constant prices	5	6	-6	-11	na	na
Investment at constant prices ³	29	-13	28	-6	na	na
Industrial production	na	na	-1.5	9.6	-10	na
Prices and wages						
Consumer prices (end-year)	na	na	93	1,050	2,775	na
Consumer prices (annual average)	1.7	4.5	94	969	1,188	na
Average real wages	na	11.1	-2.6	-11	12.5	na
Monetary sector						
Net domestic credit (end-year)	na	na	na	830	660	na
Broad money (M3, end-year)	na	na	na	482	927	na
Government sector						
			<i>(In per cent of GDP)</i>			
General government balance (incl. extra-budgetary funds)	na	na	3.6	-4.5	-9.4	-21
General government expenditure	na	na	45.5	48.5	57	na
External data						
Current account	na	na	na	3.7	-7.3	-6
Trade balance						
<i>vis-à-vis</i> countries outside the former Soviet Union	na	na	-2.8	5.8	-3.8	na
<i>vis-à-vis</i> former Soviet republics	na	na	6.3	0.5	-2.5	na
			<i>(In millions of US dollars)</i>			
Exports (merchandise)						
to countries outside the former Soviet Union	na	na	1,661	1,082	838	na
Imports (merchandise)						
from countries outside the former Soviet Union	na	na	1,957	741	996	na
			<i>(In billions of roubles)</i>			
Exports (merchandise)						
to former Soviet republics	na	na	37	380	2,004	na
Imports (merchandise)						
from former Soviet republics	na	na	32	374	2,277	na
			<i>(In months of current account expenditures, excluding transfers)</i>			
Gross international reserves of the central bank	na	na	0	0	0.1	na
Memorandum items						
			<i>(Denominations as indicated)</i>			
Population (in millions)	10.2	10.3	10.3	10.3	10.4	na
Unemployment (in per cent of labour force, end-year)	na	na	na	0.5	1.5	na
Agriculture's share of NMP (per cent)	na	29.3	25.2	24.0	na	na
Industry's share of NMP (per cent)	na	44.0	47.2	47.1	na	na
GNP per capita (in US dollars) at PPP exchange rates ⁴	na	na	na	6,840	na	na

¹ Data for 1989-93 represent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² Figures are for NMP until 1990, GDP thereafter. NMP excludes depreciation and the value added from most of the service sector.

³ The data for investment stems from the accumulation account of the NMP system.

⁴ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report* 1994. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Bulgaria¹

	1989	1990	1991	1992	1993 <i>Estimate</i>	1994 <i>Projection</i>
Output and expenditure						
			<i>(Percentage change)</i>			
GDP at constant prices	0.5	-9.1	-11.7	-5.6	-4.2	0
Industrial production ²	-1.4	-16.5	-22.4	-12.2	-7.0	-6
Prices and wages						
Consumer prices (annual average)	6.4	23.9	334	82.0	73.0	na
Consumer prices (end-year)	10	72.5	339	79.4	63.9	70
Wages in the state sector (annual average)	8.7	31.7	166	103	59	na
Monetary sector						
Broad money (end-year)	10.6	16.6	122	43.5	52.9	na
Government sector						
			<i>(In per cent of GDP)</i>			
General government balance ³	-1.4	-12.7	-15.1	-14	-15.1	na
General government cash balance ⁴	-1.4	-8.5	-3.3	-5	-11.1	na
General government expenditure ⁴	61.4	64.3	50.7	43.9	41.7	na
External data (convertible currency transactions)⁵						
			<i>(In billions of US dollars)</i>			
Current account	-1.5	-1	-0.3	-0.4	-0.9	na
Trade balance	-1.4	-0.6	0.4	0.5	-0.7	na
External debt, net of reserves	6.4	9.6	11.3	12.0	12.2	na
			<i>(Percentage change in the US dollar value)</i>			
Exports (data from the balance of payments)	-13.8	-1.7	7.8	27.9	-28.6	na
Imports (data from the balance of payments)	-3.0	-22.0	-24.0	48.0	-6.0	na
			<i>(In months of current account expenditure excluding transfers)</i>			
Gross international reserves (end-year), excluding gold	1.9	0	1.2	2.2	2.2	na
Memorandum Items						
			<i>(Denominations as indicated)</i>			
Population (in millions, end-year)	8.99	8.98	8.97	8.96	na	na
Employment (percentage change, end-year)	-2.3	-6.2	-13.0	-12.7	na	na
Unemployment (in per cent of the labour force, end-year)	na	1.5	11.1	15.3	16.4	16
Exchange rate (lev per US dollar, end-year)	2	7	21.8	24.5	32.7	na
Exchange rate (lev per US dollar, annual average)	1.8	5.7	17.7	23.4	27.9	na
GDP (in billions of leva)	39.6	45.4	131.1	210	350	na
Agriculture and forestry's share of GDP (per cent) ⁶	11	18	15	16	na	na
Industry's share of GDP (per cent) ⁶	59	51	48	43	na	na
GNP per capita (in US dollars) at PPP exchange rates ⁷	na	na	na	5,130	na	na

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² Including logging and fishing, excluding publishing, gas and water.

³ General government includes the state, municipalities and extra-budgetary funds.

⁴ Excluding (from expenditures) unpaid due interest.

⁵ Central bank data. Data for 1989-92 were compiled on a settlement basis, then the central bank switched to the FOB system. Settlement data for 1993 in US dollar terms would show a fall in exports by 7.7 per cent and in imports by 0.9 per cent with a trade surplus of US\$ 134 million.

⁶ At current prices.

⁷ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report 1994*. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Croatia ¹						
	1989	1990	1991	1992	1993 <i>Estimate</i>	1994 <i>Projection</i>
Output and expenditure						
			<i>(Percentage change)</i>			
GDP ²	-1.6	-8.6	-14.4	-9	-3.2	2
Industrial production	na	-11.3	-28.5	-15	-6	na
Prices						
Retail consumer prices (end-year)	na	136	149	937	1,150	0
Monetary sector						
Narrow money (end-year)	na	na	na	598	989	na
Government sector						
			<i>(In per cent of GDP)</i>			
General government balance ³	na	na	-5	-3	-1	na
General government expenditure	na	na	na	na	33.8	na
External data ⁴						
Current account	na	6.6	-4.3	6.6	2.4	na
Trade balance	na	-7.3	-3.9	1.1	-6.4	na
Exports	na	25.3	24.2	37.1	32.5	na
Imports	na	32.6	28.1	36.0	38.9	na
			<i>(In millions of US dollars)</i>			
Gross international reserves of the central bank (end-year)	na	na	0	167	619	na
Memorandum items						
			<i>(Denominations as indicated)</i>			
Population (in millions)	na	4.7	4.7	4.8	4.8	na
Unemployment rate (in per cent of labour force, end-year)	na	9.3	15.5	17.8	17.5	18
Exchange rate (end-year, in dinars per dollar)	na	na	19.7	798	6,471	na
GDP (millions of dollars)	na	15,900	13,619	12,393	11,997	na
Agriculture's share of GDP at factor cost (per cent)	na	10.6	10.2	10.6	na	na
Industry's share of GDP at factor cost (per cent) ⁵	na	30.4	26.5	25.0	na	na

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² For 1989, the data refers to GSP, the value-added concept of former Yugoslavia which excludes government, financial and some personal services.

³ General government includes the state, municipalities and extra-budgetary funds.

⁴ Data for 1990 and 1991 exclude trade with other states of the former Yugoslavia.

⁵ Including construction, figures predate revisions to GDP series.

Czech Republic¹						
	1989	1990	1991	1992	1993	1994
						<i>Projection</i>
Output			<i>(Percentage change)</i>			
GDP at constant prices	1.4	-0.4	-14.2	-7.1	-0.3	3
Industrial production	0.8	-3.5	-22.3	-10.6	-5.3	0
Prices and wages						
Consumer prices (annual average)	2.3	10.8	56.7	11.1	20.8	10
Consumer prices (end-year)	1.5	18.4	52.0	12.7	18.2	10
Producer prices (annual average)	-0.7	4.4	74.7	9.9	13.1	6
Average wages in industry	3.2	4.5	16.7	22.2	23.8	na
Monetary sector						
Broad money (end-year)	3.5	0.5	26.8	17.3	19.8	na
Net domestic assets (end-year)	0.9	5.2	21.9	14.8	na	na
Interest rate (3 month inter-bank deposit)	na	na	na	13.8	13.2	na
Government sector			<i>(In per cent of GDP)</i>			
General government balance	-2.4	0.1	-2	-3.3	1.4	0
General government expenditure	64.5	60.1	54.2	52.8	48.5	46
External data (convertible currency transactions)			<i>(In billions of US dollars)</i>			
Current account balance	0.4	-1.1	0.4	0.2	0.6	0
Trade balance	0.4	-0.8	-0.4	-1.6	-0.5	-1.5
External debt, net of reserves	6.8	7.7	8.3	8.6	3.9	na
			<i>(Percentage change in the US dollar value)</i>			
Exports (data from the balance of payments) ²	8.5	10.1	39.2	35.2	27.5	na
Imports (data from the balance of payments) ²	-1.5	35	29.6	46.2	13.9	na
			<i>(In months of current account expenditures, excluding transfers)</i>			
Gross international reserves (end-year) excluding gold	1.8	0.7	1.4	1	3.2	na
Memorandum items			<i>(Denominations as indicated)</i>			
Population (in millions, end-year)	10.3	10.3	10.3	10.3	10.3	10.3
Unemployment rate (end of period)	0	0.8	4.1	2.6	3.5	6
Exchange rate (crowns per US dollar, end-year)	14.3	28	27.8	28.9	29.8	na
Exchange rate (crowns per US dollars, annual average)	15.1	18	29.5	28.3	29.2	na
GDP (in billions of crowns)	758.8	567.3	716.6	803.3	923	1,015
Agriculture's share of NMP (in per cent) ³	6.3	8.4	6	na	na	na
Industry's share of NMP (in per cent) ³	59.6	63.2	67.7	na	na	na
GNP per capita (in US dollars) at PPP exchange rates ⁴	na	na	na	7,160	na	na

¹ Figures in bold type are those for the Czech Republic and figures in normal type are those for the former CSFR. As a rule, data for the Czech Republic are shown for years after 1991 where possible. Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² Increases in 1991 and 1992 reflect in part the fact that as CMEA's non-convertible trading arrangement collapsed, some trade that had previously been channelled through the multilateral clearing arrangements began to be settled in convertible currencies.

³ NMP excludes depreciation and the value added from most of the service sector.

⁴ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report* 1994. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Estonia ¹

	1989	1990	1991	1992	1993 <i>Estimate</i>	1994 <i>Projection</i>
Output						
			<i>(Percentage change)</i>			
GDP at constant prices ²	-1.1	-8.1	-11	-25.8	-7.8	5
Prices and wages						
Consumer prices (annual average)	6.1	23.1	210.5	1,076	89.8	47
Consumer prices (end of period)	na	na	303.8	953.5	35.6	42
Average real wages	3.6	1.1	-36.2	-45	5	na
Monetary sector						
Broad money (M3, end-year)	na	na	312.4	69.4	52.8	na
Government sector						
			<i>(In per cent of GDP)</i>			
General government balance ³	2.8	2.9	4.6	0.5	-1.4	0
General government expenditure ³	36.7	32.8	31.8	31.0	33.9	35
External data						
			<i>(In millions of US dollars)</i>			
Current account	na	na	570	113	40	-185
Trade balance	na	-249	560	-34	-128	na
Exports (merchandise)	na	1,843	2,822	457	812	na
to former Soviet republics	na	1,763	2,749	215	342	na
to countries outside the former Soviet Union	na	80	72	242	470	na
Imports (merchandise)	na	2,093	2,261	520	940	na
from former Soviet republics	na	1,887	2,079	266	243	na
from countries outside the former Soviet Union	na	206	183	254	697	na
			<i>(In months of goods imports)</i>			
Gross international reserves (end-year)	na	na	na	4.5	4.8	na
Memorandum items						
			<i>(Denominations as indicated)</i>			
Population (in millions)	1.6	1.6	1.6	1.6	1.6	1.6
Unemployment (in per cent of labour force, end-year) ⁴	na	na	0.1	1.9	2.6	na
Exchange rate (kroons per US dollar, end-year)	na	na	na	12.6	13.8	na
Exchange rate (kroons per US dollar, annual average)	na	na	na	12.1	13.2	na
GDP (in millions of kroons)	na	na	1,781	14,247	22,845	na
GDP per capita at current exchange rates (in US dollars)	na	na	na	738	1,079	na
Agriculture's share of GDP (per cent) ⁵	na	na	20.1	13.2	11.5	na
Industry's share of GDP (per cent) ⁵	na	na	40.4	32.5	26.3	na
GNP per capita (in US dollars) at PPP exchange rates ⁶	na	na	na	6,320	na	na

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² The figure for 1993 may underestimate real growth in the second half of the year.

³ General government includes the state, local governments and extrabudgetary funds.

⁴ Officially registered unemployment.

⁵ At current prices.

⁶ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report* 1994. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

FYR Macedonia ¹					
	1990	1991	1992	1993 <i>Estimate</i>	1994 <i>Projection</i>
Output					
			<i>(Percentage change)</i>		
GSP at constant prices ²	-9.9	-10.7	-14.7	-15.2	-8
Industrial production	-10.6	-17.2	-16.1	-17.2	na
Prices					
Retail prices (end-year)	608	115	1,691	244	70
Monetary sector					
Denar M2 (end-year)	na	na	450	1120	na
Government sector					
			<i>(In per cent of GSP)</i>		
General government balance	na	-3.6	-7.2	-10.7	-7
General government expenditure	na	40.4	36.1	45	na
Central government balance ³	na	na	-5.6	-6.8	na
Central government expenditure ³	na	18.2	19.6	25.2	na
External data					
			<i>(In millions of US dollars)</i>		
Current account	-400	-262	-10	-52	-50
Trade balance	-418	-225	-7	-47	na
Exports ⁴	1,113	1,150	1,199	1,009	na
Imports ⁴	1,531	1,375	1,206	1,056	na
External debt (end-year) ⁵	828	806	848	844	na
Memorandum items					
			<i>(Denominations as indicated)</i>		
Population (in millions) ⁶	2.13	2.15	2.17	2.19	na
Unemployment rate (annual average) ⁷	23.5	25.7	27.9	28.7	na
Official exchange rate (denar per US dollar, end of period)	11.3	19.7	509.1	42.7 ⁸	na

¹ Data for 1989-93 represent official estimates of outturns as reflected in publications from the national authorities the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to the official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² GSP is the value-added concept of former Yugoslavia which excludes the value added by government, financial and some personal services.

³ Include transfers to extrabudgetary funds. Figure for 1992 refers to end-December. Figure for 1993 is for end-September 1993.

⁴ The inclusion of trade with other republics of the former Yugoslavia from 1991 results in a discontinuity in this series.

⁵ Estimated stock of debt excluding interest arrears, penalty interest and the FYRM's share of the unallocated debt of the former Yugoslavia.

⁶ Figures for 1992-93 do not include refugees (30-60,000).

⁷ These data may overstate unemployment: some of the registered unemployed may work in the private sector.

⁸ Figure for 1993 expressed in new denar (=100 old denar).

Georgia ¹

	1989	1990	1991	1992	1993 <i>Estimate</i>
Output and expenditure at constant prices					
	<i>(Percentage change)</i>				
NMP ²	-4.8	-12.4	-20.6	-43.4	-40
Gross fixed investment	-1.2	-14.4	-47.3	-61.6	na
Industrial output	-6.9	-29.9	-24.4	-43.3	-21
Agricultural output	-24.3	61.8	-10.6	-34.2	-41.6
Prices					
Retail prices (end-year)	0.9	4.8	119	1,653	2,656
Retail prices (annual average)	na	3.3	79	913	3,126
Monetary sector					
Domestic credit	na	na	na	794	2,282
Broad money (end-year)	na	na	na	464	4,319
Government sector					
	<i>(In per cent of GDP)</i>				
Consolidated government balance (cash-basis)	na	na	-3	-28	-34
Consolidated government expenditure (cash-basis)	na	na	33	39	46
External data					
	<i>(In millions of US dollars)</i>				
Current account	na	na	na	-247.8	-191.1
Trade balance	na	na	na	-377.9	-363.1
Exports	na	na	na	266.6	359.8
to countries outside the former Soviet Union	na	na	na	160.6	222.1
to former Soviet republics	na	na	na	106	137.7
Imports	na	na	na	644.5	722.9
from countries outside former Soviet Union	na	na	na	269.1	460.5
from former Soviet republics	na	na	na	375.4	262.4
Memorandum items					
	<i>(Denomination as indicated)</i>				
Population (in millions)	5.4	5.4	5.4	5.4	5.4
Unemployment rate (in per cent of the labour force, end-year)	na	na	na	5.4	na
Exchange rate (coupons per US dollar, end-period)	na	na	na	na	102,300
Agriculture's share of NMP (per cent)	20.2	37.2	41.9	48.1	46.2
Industry's share of NMP (per cent)	43.7	35	33.3	32.9	42.8
GDP (in billions of roubles until 1992; in billions of coupons thereafter)	15.7	16.2	20.8	167.2	12,681
GNP per capita (in US dollars) at PPP exchange rates ³	na	na	na	2,470	na

¹ Data for 1989-93 largely represent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. For a discussion of problems of interpreting official estimates see Chapter 11.

² NMP excludes depreciation and the value added from most of the service sector.

³ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report* 1994. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Hungary¹						
	1989	1990	1991	1992	1993 <i>Estimate</i>	1994 <i>Projection</i>
Output and expenditure						
	<i>(Percentage change)</i>					
National accounts at constant prices						
GDP	0.7	-3.5	-11.9	-4.3	-2.3	1
Private consumption	-0.3	-3.6	-5.8	-2.3	1.4	na
Public consumption ²	0.2	2.6	-2.7	3.9	30.5	na
Gross fixed investment	8.8	-5.2	-0.6	-2.8	-0.7	na
Exports of goods and services	1.2	-5.3	-15.3	5.4	-11.9	na
Imports of goods and services	1.8	-4.3	-8.8	0.5	18.6	na
Industrial gross output	-1.0	-9.6	-18.8	-9.7	4.0	na
Agricultural gross output	-1.3	-3.8	-3.5	-11.6	-11.8	na
Prices and wages						
Consumer prices (annual average)	17.0	28.9	35.0	23.0	22.5	na
Consumer prices (end-year)	18.9	33.4	32.2	21.6	21.1	20
Producer prices (annual average)	15.4	22.0	32.6	11.5	10.8	na
Gross monthly earnings per employee	16.4	26.5	34.4	24.7	22	na
Monetary sector						
Broad money (end-year)	13.8	29.2	29.4	27.4	20.0	na
Government sector						
	<i>(In per cent of GDP)</i>					
General government balance ³	-1.3	0.5	-2.5	-5.5	-5.9	-8
General government expenditure ³	60.5	57.2	57.0	61.6	61.9	na
Central government balance ³	-0.8	0.8	-4.4	-6.9	-7.1	-8
Central government expenditure ³	49.3	47.5	54.9	54.1	54.6	na
External data (convertible currency transactions)						
	<i>(In billions of US dollars)</i>					
Current account	-1.4	0.1	0.3	0.3	-3.5	-3
Trade balance	0.5	0.3	0.2	0.0	-4.0	na
External debt, net of reserves	19.2	20.2	18.7	17.1	19.2	na
	<i>(Percentage change in the US dollar value)</i>					
Exports (data from the balance of payments) ⁴	17.1	-1.6	45.9	8.3	-19.3	5
Imports (data from the balance of payments) ⁴	17.8	1.5	51.2	11.1	12.5	5
	<i>(In months of current account expenditures, excluding transfers)</i>					
Gross international reserves (end-year), excluding gold	1.5	1.3	3.5	4.2	5.4	na
	<i>(In per cent of current account revenues, excluding transfers)</i>					
Debt service	48.8	47.1	34.8	35.5	45.5	na
Memorandum items						
	<i>(Denominations as indicated)</i>					
Population (in millions, end-year)	10.4	10.4	10.3	10.3	10.3	10.3
Employment (percentage change, end-year) ⁵	-0.6	-2.6	-9.1	-6.3	-6.6	na
Unemployment (in per cent of the labour force, end-year)	0.3	2.5	8.0	12.3	12.1	11
GDP (in billions of forints)	1,723	2,089	2,475	2,886	3,503	na
GDP per capita (in thousands of US dollars)	2.8	3.2	3.0	3.4	3.5	na
Agriculture's share of GDP (per cent) ⁶	9.7	9.6	8.6	7.3	6.4	na
Industry's share of GDP (per cent) ⁶	30.1	28.8	25.5	26.4	25.2	na
Exchange rate (forint per US dollar, end-year)	62.5	61.5	75.6	84.0	100.7	na
Exchange rate (forint per US dollar, annual average)	59.1	63.2	74.8	79.0	91.9	na
Interbank interest rate (14-30 days maturity, end-year)	na	na	35.4	15.4	19.9	na
GNP per capita (in US dollars) at PPP exchange rates ⁷	na	na	na	5,740	na	na

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² High growth in public consumption in 1993 reflects the receipt of aircraft from Russia as settlement of Russian CMEA-related debt to Hungary.

³ General government includes the state, municipalities and extra-budgetary funds. Central government comprises the state and extra-budgetary funds and includes the activities of the State Development Institution from 1990.

⁴ Balance of payments data are prepared by the central bank and are presented on a settlement basis.

⁵ For 1992: change between 1st quarter 1992 and 1st quarter 1993. For 1993: change between 1st quarter 1993 and 1st quarter 1994.

⁶ At constant 1991 prices through 1990. At current prices thereafter.

⁷ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report* 1994. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Kazakhstan ¹

	1989	1990	1991	1992	1993	1994 <i>Projection</i>
Output						
			<i>(Percentage change)</i>			
GDP at constant prices	-0.4	-0.4	-12	-13	-13	-11
Prices and wages						
Retail prices (annual average)	na	4.2	90.9	1,381	1,517	1,100
Retail prices (end-year)	na	na	149.5	1,176	1,925	900
Wages (annual average)	8.8	13.2	66.4	910	1,446	1,500
Monetary sector						
Broad money (end-year)	na	na	210.7	388.5	526	na
Government sector						
			<i>(In per cent of GDP)</i>			
General government balance	0	1.4	-7.9	-7.3	-1.1	-4
Total expenditure	35.4	31.4	32.9	31.9	23.5	na
External data						
Exports to countries outside the former Soviet Union ²	2.4	1.5	1.3	26.4	14.2	na
Exports to former Soviet republics	17.8	15.3	17.9	26.7	20.2	na
Imports from countries outside the former Soviet Union ²	3.4	2.9	3.6	21.4	17.1	na
Imports from former Soviet republics	31.6	26	21.8	40.7	22.9	na
Trade balance vis-à-vis countries outside the former Soviet Union	-0.7	-1.2	-1.1	0	0	na
Exports	1.6	1.3	0.8	1.5	1.6	na
Imports	2.3	2.5	1.9	1.5	1.6	na
Trade balance vis-à-vis other former Soviet republics	-5.8	-5.4	-3.5	-170	-445	na
Exports	7.5	7.7	16.5	324	3,371	na
Imports	13.4	13.1	20.0	494	3,816	na
Memorandum items						
			<i>(Denominations as indicated)</i>			
Population (in millions, end-year)	16.5	16.6	16.7	16.9	17.1	17.3
Unemployment rate (end-year)	0	0	0	0.5	9.3	11
Industry's share of GDP (per cent)	29.9	21	37.1	45.4	43	45.2
Agriculture's share of GDP (per cent)	34.8	41.8	34.1	37.7	36.1	38.2
Nominal GDP (in millions of US dollars)	64,205	64,906	78,581	14,592	21,400	25,600
GNP per capita (in US dollars) at PPP exchange rates ³	na	na	na	4,780	na	na

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² The value of trade was converted to roubles using the nominal exchange rate.

³ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report 1994*. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Kyrgyzstan ¹

	1989	1990	1991	1992	1993 Estimate	1994 Projection
Output						
			<i>(Percentage change)</i>			
GDP at constant prices	3.8	3.2	-5.0	-25.0	-16	-10
Prices and wages						
Consumer prices (annual average)	0	3	85	855	1,209	280
Consumer prices (end-year)	na	na	170	1,771	1,366	90
Monetary sector						
Net domestic assets	na	na	na	736	na	na
Government sector						
			<i>(In per cent of GDP)</i>			
Government balance	2.1	0.3	4.6	-13.5	-8.2	-4
Government expenditure	35.9	38.3	31.1	26.2	14.0	na
External data						
Current account balance ²	na	na	10.8	-10.1	-8.7	-8
Trade balance	-22.3	-18.9	-1.5	-10.1	-10.5	na
Memorandum items						
			<i>(Denomination as indicated)</i>			
Population (in millions, end-year)	4.3	4.4	4.4	4.4	4.4	4.4
GDP (in billions of roubles until 1992, in billions of soms thereafter)	7.6	8.3	15.4	183.0	9.4	na
GNP per capita (in US dollars) at PPP exchange rates ³	na	na	na	2,820	na	na

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² In 1991, the difference between the trade balance and the current account balance reflects mainly transfers from the Russian Federation.

³ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report 1994*. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Latvia ¹

	1989	1990	1991	1992	1993 <i>Estimate</i>	1994 <i>Projection</i>
Output						
			<i>(Percentage change)</i>			
GDP at constant prices ²	6.8	2.9	-8.3	-33.8	-11.7	5
Gross manufacturing output	na	na	0.4	-48.7	-32.6	na
Gross agricultural output	na	na	-2	-29	-14.1	na
Prices and wages						
Consumer prices (annual average)	4.7	10.5	124.4	951.2	109	36
Consumer prices (end-year)	na	na	262.4	958.1	34.8	25
Real average wage in the state sector ³	na	na	-16.3	-15.7	0.6	na
Monetary sector						
Domestic credit (end-year)	na	na	90.6	303.8	135	na
Broad money (M2) (end-year)	na	na	153.1	169.9	84.1	na
Government sector						
			<i>(In per cent of GDP)</i>			
General government balance, excluding lending	1	2	6.4	0	1	-2
General government expenditure	51	44	31	28.2	32.5	na
External data						
Current account balance	na	na	na	1.6	8.4	-7
			<i>(In millions of US dollars)</i>			
Exports (merchandise) ⁴	na	na	na	831	998	na
to CIS and Baltics	na	na	na	396	539	na
to other countries	na	na	na	435	460	na
of which: re-exports of energy	na	na	na	134	117	na
Imports (merchandise) ⁴	na	na	na	1,046	1,058	na
from CIS and Baltics	na	na	na	626	715	na
from other countries	na	na	na	420	343	na
Net service exports ⁴	na	na	na	236	253	na
Memorandum items						
			<i>(Denominations as indicated)</i>			
Population (in million)	2.7	2.7	2.7	2.7	2.7	na
Unemployment (end-year, per cent of labour force)	0	0	0.1	2.1	5.3	na
State sector in total employment (per cent)	89.5 ⁵	80.9	77.5	56.3	50.3	na
GNP per capita (in US dollars) at PPP exchange rates ⁶	na	na	na	4,690	na	na

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² The final figure for 1993 may be adjusted upwards.

³ Annual averages.

⁴ Because of valuation problems available pre-1992 data are not meaningful.

⁵ 1985 figure used for 1989.

⁶ PPP stands for purchasing parity. The estimate quoted here stems from the World Bank's *World Development Report 1994*. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Lithuania¹

	1989	1990	1991	1992	1993 <i>Estimate</i>	1994 <i>Projection</i>
Output						
			<i>(Percentage change)</i>			
GDP at constant prices ²	1.5	-5	-13.1	-37.7	-16.2	4
Domestic demand at constant prices	na	na	na	-40.5	-20.1	na
Industrial production ³	na	na	na	-50.9	-42.7	na
Prices and wages						
Consumer prices (annual average)	2.1	8.4	225	1,021	390	70
Consumer prices (end-year)	na	na	345	1,175	188	40
Average real wages	8.1	7.3	-18.3	-32.8	na	na
Monetary sector						
Domestic credit	4.6	11.1	79.2	427	123	na
Broad money (M2)	14.2	55.4	70.7	351	160	na
Government sector						
			<i>(In per cent of GDP)</i>			
General government balance ⁴	-3.8	-4.5	5	0.5	-4.6	1 to 2
General government expenditure ⁴	53.8	49.2	38.9	32.8	29.7	na
External data						
Current account	na	na	na	3.4	-6.2	-8
Trade balance	-8.4	-8.8	9.1	3.4	-8.6	na
			<i>(In millions of US dollars)</i>			
Exports (merchandise)	na	na	na	1,145	1,877	na
to countries outside the former Soviet Union	na	na	na	557	713	na
to former Soviet republics	na	na	na	588	1,164	na
Imports (merchandise)	na	na	na	1,084	2,144	na
to countries outside the former Soviet Union	na	na	na	341	486	na
to former Soviet republics	na	na	na	742	1,657	na
Net international reserves of the central bank	na	na	na	23.6	227	na
Memorandum items						
			<i>(Denominations as indicated)</i>			
Population (in millions)	3.69	3.73	3.75	3.76	na	na
Unemployment (end-year, per cent of labour force)	na	na	0.3	1	1.4	na
Exchange rate (end-year) ⁵	na	17.5	113.9	378.9	3.9	na
Agriculture's share of GDP at factor cost (per cent)	27.2	24.9	23.8	28.2	na	na
Industry's share of GDP at factor cost (per cent)	34.5	36.4	36.9	25.4	na	na
GNP per capita (in US dollars) at PPP exchange rates ⁶	na	na	na	3,710	na	na

¹ Data for 1989-93 represent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² Figures are for NMP until 1990, GDP thereafter. NMP excludes depreciation and the value added from most of the service sector.

³ All manufacturing in 1992; state enterprise sector only in 1993.

⁴ General government includes the state, municipalities and extra-budgetary funds.

⁵ Roubles per US dollar in 1990 and 1991, talonai per US dollar in 1992, and litai per US dollar in 1993.

⁶ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report* 1994. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Moldova¹

	1989	1990	1991	1992	1993 <i>Estimate</i>	1994 <i>Projection</i>
Output						
			<i>(Percentage change)</i>			
GDP at constant prices ²	8.8	-1.5	-11.9	-25	-14	-3
Prices						
Consumer prices (annual average) ³	na	4.2	98	944	789	350
Consumer prices (end-year) ³	na	na	162	1,275	837	120
Government sector						
			<i>(In per cent of GDP)</i>			
State budget balance ⁴	2	3	0	-23.4	-8.8	-4
State budget expenditures and net lending ⁴	na	na	na	43.6	25.9	na
External data						
			<i>(In millions of US dollars)</i>			
Current account	na	na	na	-39	-177	-250
<i>vis-à-vis</i> countries outside the former Soviet Union	na	na	na	-22	-21	na
<i>vis-à-vis</i> former Soviet Republics	na	na	na	-17	-156	na
Trade balance	na	na	na	-37	-162	na
<i>vis-à-vis</i> countries outside the former Soviet Union	na	na	na	-20	-35	na
<i>vis-à-vis</i> former Soviet Republics	na	na	na	-17	-127	na
Exports	na	na	na	868	449	na
to countries outside the former Soviet Union	na	na	na	185	174	na
to former Soviet Republics	na	na	na	683	275	na
Imports	na	na	na	-905	-611	na
from countries outside the former Soviet Union	na	na	na	-205	-210	na
from former Soviet Republics	na	na	na	-700	-402	na
Memorandum items						
			<i>(Denominations as indicated)</i>			
Population (in millions)	4.4	4.4	4.4	4.3	4.3	na
GDP (in millions of Moldovan lei)	na	na	na	215	2,131	na
GNP per capita (in US dollars) at PPP exchange rates ⁵	na	na	na	3,870	na	na

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² NMP at constant prices until 1991, GDP thereafter. NMP excludes depreciation and the value added from most of the service sector.

³ For 1989-91 the figures cover retail prices.

⁴ Includes republican and local budgets but exclude the Trans-Dniester region.

⁵ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report* 1994. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Poland¹

	1989	1990	1991	1992	1993 <i>Estimate</i>	1994 <i>Projection</i>
Output and expenditure						
			<i>(Percentage change)</i>			
GDP at constant prices ²	0.2	-11.6	-7.6	1.5	3.8	4.5
Consumption at constant prices	-1.3	-11.7	3.3	5	5.3	na
Gross fixed investment at constant prices	5.1	-24.8	-14.2	-2.6	2.9	na
Exports volumes	0.1	13.7	-2.4	-3.5	na	na
Imports volumes	1.5	-17.9	37.8	12.6	na	na
Industrial production	-1.4	-26.1	-11.9	3.9	5.6	na
Prices and wages						
Consumer prices (annual average)	251.1	585.8	70.3	43.0	35.3	30
Consumer prices (end-year)	639.5	249	60.4	44.3	37.6	27
Producer prices (annual average)	212.8	622.3	48.1	28.5	32.2	na
Wages and salaries (annual average)	291.8	398	70.6	38.9	37.9	na
Monetary sector						
Broad money (end-year)	526.5	160	36.9	57.5	36	na
Net domestic assets (end-year)	471.8	84.6	63.4	49.2	31.5	na
Government sector						
			<i>(In per cent of GDP)</i>			
General government balance ³	-7.4	3.1	-6.5	-6.7	-2.9	na
General government expenditure ³	48.8	39.8	48	50.7	48.4	na
State budget balance ⁴	-6.1	0.7	-7	-6.8	-3.4	-4
State budget expenditure ⁴	36.9	32.7	32.7	33.8	32.5	34
External data convertible currency transactions						
			<i>(In billions of US dollars)</i>			
Current account balance ⁵	-1.4	0.8	-2.3	-0.3	-2.3	-3
Trade balance	-0.1	1.4	-0.8	0.5	-2.3	-2
External debt	40.2	48.9	48.3	47.6	48.4	46
			<i>(Percentage change in the US dollar value)</i>			
Exports (data from the balance of payments)	4.5	43.4	17.5	9.7	-2.9	4
Imports (data from the balance of payments)	16.3	17.9	46.9	6.1	17.7	2
			<i>(In months of current account expenditures, excluding transfers)</i>			
Gross international reserves (end-year), excluding gold	2.4	3.8	2.5	2.9	2.6	1.7
Memorandum items						
			<i>(Denominations as indicated)</i>			
Population (in millions)	38	38.2	38.3	38.4	38.5	na
Employment (percentage change, end-year)	-0.8	-6.2	-3.9	-3.1	-2.8	-1.5
Unemployment (in per cent of the labour force, end-year)	0.1	6.1	11.8	13.6	15.7	na
Exchange rate (zloty per US dollar, end-year)	6,500	9,500	11,072	15,449	21,079	na
Exchange rate (zloty per US dollar, average)	1,446	9,500	10,583	13,631	18,145	na
Interest rate (refinancing rate, end of period)	140	55	40	38	35	na
GDP (in trillions of zloty)	118.3	591.5	824.3	1,142	1,552	na
Private sector share of GDP (per cent)	28.6	30.9	30	40	45	na
Agriculture's share of GDP (per cent) ⁶	7.8	8.4	9.3	8.3	na	na
Industry's share of GDP (per cent) ⁶	49.5	43.6	39.2	39.6	na	na
GNP per capita (in US dollars) at PPP exchange rates ⁷	na	na	na	4,880	na	na

¹ Data for 1989-93 represent the most recent official estimates of outcomes as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outcomes for the first half of 1994.

² A recent report from the Central Statistical Office puts the decline in real GDP between 1989 and 1991 at 5-10 per cent, significantly below the official figures quoted to date.

³ General government includes the state, municipalities and extrabudgetary funds. The data are compiled on a commitment basis, except for external interest payments which are cash-based (i.e. the exclude due but unpaid interest).

⁴ For the period 1988-90 the state budget includes central government accounts and accounts of local and regional authorities. The state budget for 1991 and subsequent years includes the central government accounts, the accounts of regional authorities and accounts of several previously extra-budgetary funds. Flows are compiled on a commitment basis, except for external interest payments which are cash-based.

⁵ Includes (in expenditures) due but unpaid interest on foreign debt.

⁶ At constant prices.

⁷ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report 1994*. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Romania¹

	1989	1990	1991	1992	1993 <i>Estimate</i>	1994 <i>Projection</i>
Output and expenditure	<i>(Percentage change)</i>					
National accounts at constant prices						
GDP ²	-5.8	-5.6	-12.9	-13.6	1.0	0
Private consumption ²	0.6	8.0	-15.7	-9.8	-3.0	na
Public consumption ²	1.2	14.0	10.0	2.9	-1.0	na
Gross fixed investment ²	-1.6	-35.5	-26.0	-1.1	0.8	na
Exports of goods and services ²	-10.2	-44.6	-4.4	15.1	12.0	na
Imports of goods and services ²	2.9	7.4	-14.1	9.4	5.6	na
Industrial output ³	-5.3	-23.7	-22.8	-21.9	1.3	na
Grain output ³	-5.8	-6.6	12.5	-36.3	26.0	na
Prices and wages						
Consumer prices (annual average)	1.1	5.1	174.5	210.9	256.1	na
Consumer prices (end-year)	0.6	37.7	222.8	199.2	295.5	90
Wholesale prices (annual average)	0.0	26.5	255.8	191.7	165.0	na
Wages (annual average)	3.9	10.6	121.2	170.0	202.1	na
Monetary sector						
Broad money (end-year)	5.3	22.0	101.2	79.6	143.2	na
Government sector						
	<i>(In per cent of GDP)</i>					
Central government balance (national definition)	na	na	-1.9	-4.4	-1.8	-2
General government balance ⁴	8.4	1.2	0.6	-4.6	-0.1	na
General government expenditure ⁴	42.7	39.3	40.4	42.2	31	na
External data (convertible currency transactions)						
	<i>(In billions of US dollars)</i>					
Current account balance	2.9	-1.8	-1.3	-1.7	-1.5	-1
Trade balance	2.6	-1.8	-1.3	-1.4	-1.1	na
Gross external debt, net of reserves (end-year)	-1.3	0.6	1.6	2.7	3.5	na
	<i>(Percentage change in the US dollar value)</i>					
Exports (data from the balance of payments)	-7.9	-44.0	-1.7	22.9	13.6	na
Imports (data from the balance of payments)	17.3	49.9	-10.2	16.3	6.2	na
	<i>(In months of current account expenditures, excluding transfers)</i>					
Gross international reserves (end-year), excluding gold	6.0	0.8	1.0	1.3	1.6	na
Memorandum items						
	<i>(Denominations as indicated)</i>					
Population (in millions, mid-year)	23.1	23.2	23.2	22.8	22.7	na
Employment (percentage change, end-year)	1.3	-1.0	-0.5	-5.4	-6.2	na
Unemployment rate (in per cent of the labour force, end-year)	na	na	3	8.4	10.2	na
Exchange rate (lei per US dollar, end-year) ⁵	14.4	34.7	189.0	460.0	1,276.0	na
Exchange rate (lei per US dollar, average) ⁵	14.9	22.4	76.3	308.0	760.1	na
Bank lending rate (end-year) ⁶	3	3	8.18	52	86	na
GDP (in billions of lei)	800	858	2,199	5,982	18,835	na
GDP per capita (in US dollars) at current exchange rates	2,321	1,649	1,242	852	1,087	na
Agriculture's share of GDP at current prices (per cent)	13.9	18.0	18.5	20.1	21	na
Industry's share of GDP at current prices (per cent)	52.8	48.2	43.6	44.3	41	na
GNP per capita (in US dollars) at PPP exchange rates ⁷	na	na	na	2,750	na	na

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² The source of these series is the Institute of International Finance, *Romania Country Report*, May 1994. Figures on national accounts for Romania differ substantially across different national and IFI sources.

³ For 1988 and 1989, the sector's is value added at constant prices.

⁴ General government includes the state, local governments and extra-budgetary funds.

⁵ During most of the period covered in this table, the exchange rate facing individuals has differed from that facing enterprises. The rates quoted here are the officially quoted rates facing enterprises.

⁶ For 1988-91, The central bank's refinancing rate. For 1992, commercial bank rate on medium-term lending to enterprises. For 1993, average end-year commercial bank rate on lending to enterprises.

⁷ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report* 1994. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Russian Federation ¹

	1989	1990	1991	1992	1993	1994 <i>Projection</i>
Output and expenditure						
			<i>(Percentage change)</i>			
GDP at constant prices	na	na	-9	-19	-12	-12
Investment at constant prices	4.1	0.1	-11	-45	-15	na
Industrial production	1.4	-0.1	-8	-18.8	-16	na
Prices and wages						
Retail prices (annual average)	2	5.6	92.7	1,354	896	300
Retail prices (end-period)	na	na	143.9	2,322	842	180
Wages (annual average)	9.9	14.8	73.9	1,065	885	na
Industrial wholesale prices (annual average)	1.2	3.9	138.1	1,949	na	na
Industrial wholesale prices (end-year)	na	na	236.3	3,275	1,007	na
Monetary sector						
Credit to enterprises and households	na	na	127	803	452	na
Broad money (end-period) ²	14.6	17.6	77	545	442	na
Government sector						
			<i>(In per cent of GDP)</i>			
General government balance (cash basis) ³	na	na	na	-18.8	-8.0	-10
External data ⁴						
			<i>(In billions of US dollars)</i>			
Current account balance						
<i>vis-à-vis</i> non-CIS countries (excl. gold)	na	-2.5	1.5	-1.7	7.9	7
Current account balance						
<i>vis-à-vis</i> non-CIS countries (incl. gold)	na	-0.9	3.6	-0.6	8.5	na
Trade balance <i>vis-à-vis</i> non-CIS countries	13.1	10.0	6.4	5.4	13.7	12
Gross external debt in convertible currencies (of the Soviet Union/Russia, end of period)	54.4	61.1	67	78.2	86.8	na
			<i>(Percentage change in US dollar value)</i>			
Exports to non-CIS countries	8.5	0.8	-19.8	-16.7	1.4	5
Imports from non-CIS countries	13.8	7.3	-16.9	-16.8	-21	13
Memorandum items						
			<i>(Denominations as indicated)</i>			
Population (in millions, end-year)	147.6	148.3	148.9	148.6	148.3	na
Unemployment rate (end-year, in per cent of the labour force) ⁵	0	0	0.1	0.8	1.1	3.5
Exchange rate (roubles per US dollar, end-year)	0.6	1.7	1.7	415	1,247	na
Exchange rate (roubles per US dollar, annual average)	0.6	na	1.7	222	930	na
Refinancing rate	na	na	6 to 9	80	210	na
Nominal GDP (in billion roubles)	573	622	1,130	18,065	162,300	na
GNP per capita (in US dollars) at PPP exchange rates ⁶	na	na	na	6,220	na	na

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² Excluding foreign currency deposits.

³ After inclusion of import subsidies on the expenditure side.

⁴ All external data (except projections for 1994) are PlanEcon estimates which are based on official data from Roskomstat.

⁵ Officially registered unemployed.

⁶ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report* 1994. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Slovak Republic¹

	1989	1990	1991	1992	1993	1994 <i>Projection</i>
Output			<i>(Percentage change)</i>			
GDP at constant prices	1.4	-0.4	-14.5	-7.0	-4.1	1
Industrial production ²	-0.7	-3.6	-17.6	-14.0	-10.6	-4
Prices and wages						
Consumer prices (annual average)	2.3	10.8	61.1	9.9	23.2	15
Consumer prices (end-year)	1.5	18.4	58.3	9.2	24.8	13
Producer prices (annual average)	-0.7	4.4	68.8	5.3	17.2	13
Average wages in industry	3.2	4.5	16.5	20.2	16.8	na
Monetary sector						
Broad money (end-year)	3.5	0.5	26.8	17.3	18.0	na
Net domestic assets (end-year)	0.9	5.2	21.9	14.8	21.0	na
Government sector			<i>(In per cent of GDP)</i>			
General government balance	-2.4	0.1	-2	-13.1	-7.5	-6
General government expenditure	64.5	60.1	54.2	63.8	55.5	50
External data in convertible currencies			<i>(In billions of US dollars)</i>			
Current account balance	0.4	-1.1	0.4	0.1	-0.4	-0.5
Trade balance	0.4	-0.8	-0.4	-0.7	-0.9	-1
External debt, net of gross reserves (excluding gold)	5.6	6.8	6.1	4.9	3.0	na
			<i>(Percentage change in the US dollar value)</i>			
Exports (data from the balance of payments) ³	8.5	10.1	39.2	35.2	-16.7	na
Imports (data from the balance of payments) ³	-1.5	35	29.6	46.2	-12.3	na
			<i>(In months of current account expenditures, excluding transfers)</i>			
Gross international reserves (end-year) ex. gold	1.8	0.7	1.4	1.1	2	na
Memorandum items			<i>(Denominations as indicated)</i>			
Population (in millions, end-year)	5.3	5.3	5.3	5.3	5.3	5.3
Unemployment rate (in per cent of the labour force, end of period)	0	1.5	11.8	10.4	14.4	na
Exchange rate (crowns per US dollar, end-year)	14.3	28	27.8	28.9	33.2	na
Exchange rate (crowns per US dollars, annual average)	15.1	18	29.5	28.3	30.8	na
GDP (in billions of crowns)	758.8	244	291.8	281.5	336	na
Agriculture's share of GDP (per cent) ⁴	6.3	8.2	5.8	6.3	6.7	na
Industry's share of GDP (per cent) ⁴	59.6	61.6	63.9	49.0	37.3	na
GNP per capita (in US dollars) at PPP exchange rates ⁵	na	na	na	5,620	na	na

¹ Figures in bold type are those for the Slovak Republic and figures in normal type are those for the former CSFR. As a rule, data for the Slovak Republic are shown for years after 1991 where possible. Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² Covers only state enterprises until 1991, but includes the private sector from 1992.

³ Increases in 1991 and 1992 reflect in part that as, CMEA's non-convertible trading arrangement collapsed, some trade that had previously been channelled through the multilateral clearing arrangements began to be settled in convertible currencies. From 1993, growth rates include transactions with the Czech Republic.

⁴ Share of NMP until 1991, GDP thereafter. NMP excludes depreciation and the value added from most of the service sector.

⁵ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report* 1994. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Slovenia¹

	1989	1990	1991	1992	1993 Estimate	1994 Projection
Output						
			(Percentage change)			
GDP at constant prices	-1.8	-4.7	-8.1	-5.4	1.3	4
Industrial production	1.1	-10.5	-12.4	-13.2	-2.8	na
Agricultural production	-0.7	3.5	0.4	-11.6	-3.5	na
Prices and wages						
Retail prices (annual average)	1,306.0	549.7	117.3	201.3	32.3	na
Retail prices (end-year)	2,829.6	104.6	247.1	92.9	22.9	16
Producer prices (annual average)	1,413.3	390.4	124.1	215.7	21.6	na
Real net wages (end-year) ²	15.5	-25.9	-10.9	-8.9	16.4	na
Monetary sector						
Broad money (end-year)	na	na	na	131.6	64.7	na
Government sector						
			(In per cent of GDP)			
General government balance	0.3	-0.3	2.6	0.2	0.5	-1
General government expenditure	42.1	49.6	41.1	46.8	49.4	49
External data						
			(In billions of US dollars)			
Current account ³	1.1	0.5	0.1	0.9	0.2	na
Trade balance ³	0.2	-0.6	-0.3	0.8	-0.1	na
External debt, net of reserves ⁴	na	1.7	1.5	0.6	0.3	na
			(Percentage change in US dollar value)			
Exports (data from the balance of payments) ³	3.2	21.8	-6	8.1	-9.0	4
Imports (data from the balance of payments) ³	9.9	47.7	-12.6	0.1	5.9	1
			(In months of current account expenditures, excluding transfers)			
Gross international reserves, excluding gold	na	0.6	0.9	2.8	2.5	na
Memorandum items						
			(Denominations as indicated)			
Population (in millions, annual average)	2	2	2	2	2	na
Employment (percentage change, annual average)	-1.1	-3.8	-7.2	-6.0	-4.1	na
Unemployment (in per cent of the labour force, annual average)	2.9	4.7	8.2	11.1	14.5	14
Exchange rate (tolar per US dollar, end-year) ⁵	11.8	10.7	57.7	96.2	131.8	na
Exchange rate (tolar per US dollar, annual average) ⁵	2.9	11.3	27.6	81.3	113.2	na
Working capital nominal interest rate (end-year)	na	na	562.6	72.2	42.6	na
GDP	34.8	196.1	349.6	1,005.6	1,414.7	na
Agriculture's share of GDP (per cent)	4.4	4.7	5.4	5	4.9	na
Industry's share of GDP (per cent)	44.4	37.7	42.2	37.8	33.8	na

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² Data for 1989-91 covers only the social sector; starting from 1992 private enterprises employing three or more persons are included.

³ Until 1991 excluding trade with former Yugoslavia.

⁴ Excluding non-allocated federal Yugoslav debt.

⁵ Dinars per US dollar prior to 8 October 1991.

Tajikistan ¹

	1989	1990	1991	1992	1993 <i>Estimate</i>
Output					
			<i>(Percentage change)</i>		
NMP at constant prices ²	-2.9	-1.6	-12.5	-33.7	-28
Industrial production	1.9	1.9	-7.4	-35.7	na
Agricultural production	-13	-9.2	-9.9	-27.7	na
Price and wages					
Retail prices (annual average) ³	na	4	103	1,156	2,195
Retail prices (end-period) ³	na	na	204	1,362	7,344
Average monthly wages	6	10	64	461	712
Monetary sector					
Broad money, end-year	na	na	68	579	1,429
Government sector					
			<i>(In per cent of GDP)</i>		
State budget balance	2.5	4	7	-37	na
State budget expenditure	38.6	44.7	37.4	63.7	na
External data					
			<i>(In per cent of GDP)</i>		
Trade balance					
<i>vis-à-vis</i> countries outside the former Soviet Union	-3.9	-6.5	0.1	na	na
<i>vis-à-vis</i> former Soviet republics	-15.4	-9.4	2.1	na	na
Exports					
to countries outside the former Soviet Union	5.2	4.3	2.9	na	na
to former Soviet republics	30.7	23.5	30.3	na	na
Imports					
from countries outside the former Soviet Union	9.1	10.8	2.8	na	na
from former Soviet republics	46.1	32.9	28.2	na	na
Memorandum items					
			<i>(Denominations as indicated)</i>		
Population (in millions)	5.1	5.2	5.3	5.6	na
Employment (in millions)	1.873	1.934	1.967	1.908	na
NMP (in millions of roubles)	4,817	5,490	10,540	43,105	na
GDP per capita (in US dollars) at PPP exchange rates ⁴	na	na	na	2,000	na
Industry's share in NMP at 1992 prices (in per cent)	67.6	71.2	73.3	77.7	71.3

¹ Data for 1989-93 largely represent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. For a discussion of problems of interpreting official statistics, see Chapter 11.

² GDP for 1993. NMP excludes depreciation and the value added from most of the service sector.

³ For consumer goods.

⁴ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report* 1994. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Turkmenistan¹

	1989	1990	1991	1992	1993
Output					
		<i>(Percentage change)</i>			
GDP at constant prices	-6.9	2	-5	-5	-8
Price and wages					
Consumer prices (annual average)	2.1	4.6	102	493	1,850
Consumer prices (end-period)	na	na	155	644	4,500
Government sector					
		<i>(In per cent of GDP)</i>			
General government expenditure	30.1	43.6	38.2	45	24
Balance before Union transfers	-8.7	-8.7	-5.8	14.1	-3
Balance before gas revenues	-1.9	1.2	1.1	-13.9	-14
Overall general government balance	-1.9	1.2	2.5	14.1	-3
External data					
		<i>(In millions of US dollars)</i>			
Current account <i>vis-à-vis</i> countries outside the former Soviet Union	na	-306	361	415	381
Trade balance <i>vis-à-vis</i> countries outside the former Soviet Union	na	-248	557	601	570
Exports to countries outside the former Soviet Union	na	148	1,037	1,145	1,247
Imports from countries outside the former Soviet Union	na	397	480	453	678
		<i>(In billions of roubles)</i>			
Trade balance <i>vis-à-vis</i> former Soviet republics	na	-0.5	1.1	104	625
Exports to former Soviet republics	na	2.5	6.7	194	1,510
Imports from former Soviet republics	na	2.9	5.6	90	886
Memorandum items					
		<i>(Denominations as indicated)</i>			
Population (in millions)	3.6	3.7	3.8	3.8	3.9
Employment (in millions)	1.49	1.54	1.57	1.57	na
GDP (in billions of roubles)	6.7	7.3	17	306	5,584
Agriculture's share of NMP (in per cent) ²	43	48	46	48	17
Industry's share of NMP (per cent) ^{2, 3}	23	16	20	11	39
GNP per capita (in US dollars) at PPP exchange rates ⁴	na	na	na	3,950	na

¹ Data for 1989-92 largely represent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Figures for 1993 are EBRD staff estimates. For a discussion of problems of interpreting official statistic, see Chapter 11.

² NMP excludes depreciation and the value added from most of the service sector.

³ The methodology used by the Turkmen Statistical Office leads to an understatement of the contribution from natural gas production.

⁴ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report* 1994. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Ukraine ¹

	1989	1990	1991	1992	1993	1994 <i>Projection</i>
Output and expenditure						
	<i>(Percentage change)</i>					
GDP at constant prices	4.1	-3.4	-12	-17	-14	-20
Industrial production	2.8	-0.1	-4.8	-6.5	-8	na
Prices and wages						
Consumer prices (annual average)	2.2	4.2	91	1,210	4,735	na
Consumer prices (end-year)	na	na	161	2,000	10,155	350
Producer prices (annual average)	na	4.5	125	2,384	3,962	na
Producer prices (end-year)	1.7	4.5	163	4,129	9,668	na
Real wages (monthly average)	6.9	9.5	19	-28	-30	na
Monetary sector						
Broad money (end-year)	na	13.2	101	921	1,768	na
Government sector						
	<i>(In per cent of GDP)</i>					
General government balance	na	na	-13.6	-29.3	-13.3	na
General government expenditure ²	na	na	51.9	73.3	55.6	na
State budget balance	5.8	2.6	-14.9	-34	-14.3	na
State budget expenditure	27.3	31.4	41.0	63.1	46.7	na
External data						
	<i>(In billions of US dollars)</i>					
Trade balance						
<i>vis-à-vis</i> countries outside the former Soviet Union	-0.8	-2.6	-2.7	0.5	1.6	na
<i>vis-à-vis</i> other former Soviet republics	-8.2	-10.1	-0.7	-1.1	-3.3	na
Exports						
to countries outside the former Soviet Union	14	13.2	7.3	6	6.3	na
to former Soviet republics	63.1	61.4	42.7	5.3	8.6	na
Imports						
from countries outside the former Soviet Union	14.8	15.8	10	5.5	4.7	na
from former Soviet republics	71.3	71.5	43.4	6.4	11.9	na
Memorandum items						
	<i>(Denominations as indicated)</i>					
Population (in millions)	51.7	51.8	51.9	52	52.1	52.1
Employment (percentage change, end-year)	na	-3.5	-1.6	-5	-5.9	na
Unemployment rate (in per cent, end-year)	0	0	0	0.3	0.4	na
Exchange rate (annual average) ³	0.62	0.59	1.74	198	6,185	na
GDP ⁴	154	165	295	4,090	153,490	na
Agriculture and fisheries' share of NMP (per cent)	28	30.3	30.2	22.5	16	na
Industry and mining's share of NMP (per cent)	42.6	41.3	42.4	50.7	52	na
Construction's share of NMP (per cent)	10.4	9.7	10.9	14.7	12	na
GNP per capita (in US dollars) at PPP exchange rates ⁵	na	na	na	5,010	na	na

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² General government includes the state, local governments and extra-budgetary funds.

³ Roubles per US dollar until 1991, karbovantsi per US dollar thereafter.

⁴ In billions of roubles until 1991, in billions of karbovantsi thereafter.

⁵ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report* 1994. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

Uzbekistan ¹

	1989	1990	1991	1992	1993 <i>Estimate</i>	1994 <i>Projection</i>
Output						
			<i>(Percentage change)</i>			
GDP at constant prices	3.7	1.6	-0.5	-9.6	1	-8
Industrial output	3.6	1.8	1.8	-12.3	-8.3	na
Agricultural output	-4.3	6.3	-5.2	-7.3	-0.7	na
Prices and wages						
Retail prices (annual average)	0.7	3.1	82	528	1,312	1,500
Retail prices (end-year)	na	na	169	787	927	600
Wholesale prices	2.1	7.2	147.3	2,700	1,970	na
Wages (annual average)	6.4	11.2	51.1	612	na	na
Government sector						
			<i>(In per cent of GDP)</i>			
General government balance ²	-0.9	-1.1	-3.6	-13	-15.7	-10
General government expenditure	35.9	46.1	52.7	46.5	50.5	na
External data						
			<i>(In millions of US dollars)</i>			
Current account ³	na	na	na	-238	-400	na
Trade balance ³	na	na	na	-235	-462	na
			<i>(In per cent of GDP)</i>			
Trade balance <i>vis-à-vis</i> countries outside the former Soviet Union	-1.2	-3.6	-2.5	-3.3	-10.4	na
Trade balance <i>vis-à-vis</i> other former Soviet republics	-11.4	-11.4	1.4	-9.4	1.2	na
Exports to countries outside the former Soviet Union	5.2	3.5	3.9	46.3	15.6	na
Exports to former Soviet republics	27.8	25.2	30.9	29.5	32.4	na
Imports from countries outside the former Soviet Union	6.4	7.1	6.4	49.5	26.0	na
Imports from former Soviet republics	39.2	36.6	29.5	38.9	31.2	na
Memorandum items						
			<i>(Denominations as indicated)</i>			
Population (in millions, end-year)	20	20.5	20.9	21.3	22	22.5
Unemployment rate (in per cent of the labour force, end-year) ⁴	0	0	0	0.1	0.2	na
Industry's share of GDP (per cent)	26.0	23.8	31	32.7	29.8	na
Agriculture's share of GDP (per cent)	42.3	44.3	45	38.9	34.9	na
GDP (in billions of roubles)	30.7	32.4	61.5	416.9	4,617.2	na
GNP per capita (in US dollars) at PPP exchange rates ⁵	na	na	na	2,600	na	na

¹ Data for 1989-93 represent the most recent official estimates of outturns as reflected in publications from the national authorities, the International Monetary Fund, the World Bank, the OECD, PlanEcon and the Institute of International Finance. Projections for 1994 should be treated with the same caveats as apply to official estimates and forecasts, as discussed in Chapter 11. They are based on government and EBRD evaluations of expected developments and on official estimates of outturns for the first half of 1994.

² In the narrow version of the budget the deficit was 5 per cent in 1993. The larger deficit quoted here includes unbudgeted import subsidies and extrabudgetary funds.

³ Consolidated balance of transactions with both former Soviet republics and countries outside the former Soviet Union.

⁴ Officially registered unemployed.

⁵ PPP stands for purchasing power parity. The estimate quoted here stems from the World Bank's *World Development Report 1994*. In the computation of this estimate the country's nominal GNP per capita was divided by the PPP, defined as the number of units of the country's currency required to buy the same amount of goods and services in the domestic market as one dollar would buy in the United States.

11. Macroeconomic forecasting in transition

This chapter presents macroeconomic forecasts for 1994-98 from a number of sources. Before the more detailed discussion of these forecasts, we note in Section 11.1 below that forecasters have found it very difficult in the past to predict developments in the transition economies accurately. Section 11.2 gauges the extent to which selected forecasters expect the macroeconomic performance in the region to change. Lastly, Section 11.3 highlights problems of interpretation, referring to the imprecision of past projections and the problem that most forecasters aim to predict what will at some stage be the “officially estimated outturn” rather than “what would be the correct estimate of the outturn, after adjusting for inadequacies in official data”. Comprehensive sets of EBRD forecasts for the region have not previously been published but Appendix 10.1 in this Report includes EBRD forecasts for 1994. We also intend to publish short-term forecasts in future editions of the *Transition Report*. The accuracy of these forecasts will be subject to analysis in next year’s Report alongside the forecasts of other institutions.

11.1 A comparison between forecasts and outturns

This section compares outturns for 1993 with forecasts prepared in the spring of 1993 by PlanEcon, the Vienna Institute for Comparative Economic Studies, the Organisation for Economic Cooperation and Development, the International Monetary Fund, the World Bank, the United Nations, the European Commission and JP Morgan.¹ Tables 11.1-11.7 contain the numerical comparison between forecasts and outturns for GDP, unemployment and inflation.² The applied data on out-turns are from the EBRD’s database as reflected in Appendix 10.1.

Output

How well did the forecasters predict last year’s growth in real GDP? The answer is given by Table 11.1 which includes an estimation of the average unweighted difference between outturns and forecasts – “the average error”³ – taking into account all collected predictions made by the mentioned institutions. The average error on forecasts for countries in eastern Europe and the Baltic

region was +1 percentage point. The implication is that growth in this group of countries was *underestimated*. Meanwhile the slowdown of the decline in the CIS was *overestimated*, as reflected in an average error on forecasts for CIS countries of -2.3 percentage points.

The forecasters erred badly on their predictions for individual countries. Thus the average absolute value of the errors⁴ came out at a considerable 3.7 percentage points for observations on eastern Europe and the Baltic countries, 5.5 for the CIS and 4.2 for the entire set of forecasts.

Within the set of observations for eastern Europe and the Baltics, only outcomes for Estonia, Hungary, Latvia and Lithuania were below expected levels. In some other cases, expectations were surpassed by a wide margin. For all the forecasters included in our survey Albania and Romania performed much better in 1993 than expected.

For the CIS countries, the sharp declines in Armenia, Georgia, Moldova and Tajikistan exceeded the forecasts. The contraction in Azerbaijan, Kyrgyzstan, Russia, Turkmenistan and Ukraine was roughly within the predicted range, while Belarus, Kazakhstan and especially Uzbekistan performed better than expected. It should be noted in this context that Turkmenistan is the one country for which the EBRD estimate of the outturn differs markedly from official data. Official estimates show positive growth in 1993 in excess of 7 per cent. While the forecasts for Turkmenistan fit well with the most recent EBRD estimate, they were poor forecasts for the officially estimated outturn. This example highlights the difficulty of deciding on a standard against which the forecasters’ performances can be measured. We return to this issue at the end of this chapter.

Inflation and unemployment

Table 11.2 focuses on inflation. It shows that price stabilisation in 1993 was pursued less successfully than expected in Ukraine, Romania and, albeit on a much more moderate scale, in the Czech Republic and Hungary. Albania, Bulgaria and Slovenia performed better than predicted.

¹ See the EBRD’s *Annual Economic Outlook*, September 1993, for an earlier discussion of such forecasts. Unfortunately, a serious error occurred in Table 5.2 (page 108) of that document, where the output growth forecasts for 1993 attributed to the Vienna Institute for Comparative Economic Studies (WIIW) were their forecasts for 1994. We apologise to the WIIW and are glad to publish the correct figures in Table 11.7.

² Due to methodological, administrative and political measurement problems, some of which we discuss below, the actual outturns are estimates, too. They vary over time and across different sources. The estimates for the 1993 outturns which we use here are taken from our own database. The original sources, with few exceptions, are publications from the national authorities, the International Monetary Fund, the World Bank, OECD, PlanEcon and the Institute of International Finance.

³ The *average error* represents a measure of the bias of the forecasts. The *average error* in PlanEcon’s forecasts points to a small overestimation (-0.7) for eastern Europe and the Baltics, but this is due to a considerable overestimation of growth in the Baltics. Growth in eastern Europe excluding the Baltics was underestimated.

⁴ The *average absolute error* is defined as the mean of the absolute value of the differences between forecasts and outturns across all countries and all forecasters. It represents a measure of the dispersion of forecasts around actuals.

Table 11.1 GDP growth in 1993
(in per cent) ¹

(in per cent) ¹																Eastern Europe and the Baltic states					
	Actual ²	PlanEcon forecast	PlanEcon error ³	Vienna Institute forecast	Vienna Institute error ³	OECD forecast	OECD error ³	EU forecast	EU error ³	UN forecast	UN error ³	JP Morgan forecast	JP Morgan error ³	Average absolute error ⁴	Average error ⁵	Range of forecasts ⁶					
Albania	11	3.0	8.0											8.0	8.0						
Bulgaria	-4.2	-4.6	0.4	-7	2.8	-4	-0.2	-6	1.8	-8	3.8			1.8	1.7	4.0					
Croatia	-3.2			-10	6.8									6.8	6.8						
Czech Republic	-0.3	-1.3	1.0	-3	2.7	0	-0.3					0.5	-0.8	1.2	0.7	3.5					
Estonia	-7.8	-4.4	-3.4	6	-13.8									8.6	-8.6	10.4					
Hungary	-2.3	1.7	-4.0	-1	-1.3	0	-2.3	0	-2.3	0	-2.3	-0.5	-1.8	2.3	-2.3	2.7					
Latvia	-11.7	-4.3	-7.4											7.4	-7.4						
Lithuania	-16.2	-7.1	-9.1											9.1	-9.1						
Poland	3.8	5.0	-1.2	2	1.8	2	1.8	2	1.8	2	1.8	1.9	1.9	1.7	1.3	3.1					
Romania	1	-5.1	6.1	-8	9.0	-9	10.0	-6	7.0	-6	7.0			7.8	7.8	3.9					
Slovak Republic	-4.1	-7.2	3.1	-6	1.9	-7	2.9							2.6	2.6	1.2					
Slovenia	1	1.5	-0.5	-1	2.0									1.3	0.8	2.5					
Average absolute error			4.0		4.7		2.9		3.2		3.7		1.5	3.7		3.9					
Average error			-0.6		1.3		2.0		2.1		2.6		-0.2		1.0						
Commonwealth of Independent States																					
Armenia	-20	-9.4	-10.6											10.6	-10.6						
Azerbaijan	-13	-13.4	0.4											0.4	0.4						
Belarus	-11.6	-14	2.4	-14	2.4									2.4	2.4	0.0					
Georgia ⁷	-40	-10.2	-29.8											29.8	-29.8						
Kazakhstan	-12	-16.1	4.1	-14	2.0									3.1	3.1	2.1					
Kyrgyzstan	-17	-15	-2.0											2.0	-2.0						
Moldova	-14	-7.7	-6.3											6.3	-6.3						
Russia	-12	-10.9	-1.1	-15	3.0									2.1	1.0	4.1					
Tajikistan ⁷	-28	-17.7	-10.3											10.3	-10.3						
Turkmenistan	-8	-8.7	0.7											0.7	0.7						
Ukraine	-14	-13.9	-0.0	-12	-2.0									1.1	-1.1	1.9					
Uzbekistan	1	-9.6	10.6											10.6	10.6						
Average absolute error			6.5		2.4									5.5		2.0					
Average error			-3.5		1.4										-2.3						
Former Soviet Union (CIS plus the Baltic states)																					
	Actual ²	PlanEcon forecast	PlanEcon error ³	Vienna Institute forecast	Vienna Institute error ³	World Bank forecast	World Bank error ³	IMF forecast	IMF error ³	UN forecast	UN error ³			Average absolute error ⁴	Average error ⁵	Range of forecasts ⁶					
Former Soviet Union	-12.4	-11.7	-0.7	-14	1.6	-5	-7.4	-12.0	-0.4	-14.0	1.6			2.3	-1.1	9.0					

¹ All forecasts in this table were published or reported to EBRD in June/July 1993.

² Here "actuals" represent the most recent official estimates of outturns in 1993, as reflected in publications from the national authorities, the IMF, the World Bank, the OECD, PlanEcon and the Institute of International Finance, except in the case of Turkmenistan for which the 1993 "actual" is an EBRD estimate.

³ What is referred to as "errors" denotes the difference between actuals and forecasts (measured in percentage points).

⁴ The number at the bottom of this column is calculated as the mean of all the absolute values of the errors shown in this table (i.e. it is not a simple average of the errors in this column).

⁵ The number at the bottom of this column is calculated as the mean of all the errors shown in this table (i.e. it is not a simple average of the errors in this column).

⁶ For the countries where more than one forecast is available, this column shows the difference between the highest and the lowest of the forecasts.

⁷ For Georgia and Tajikistan, "forecasts" and "actuals" refer to growth in real NMP rather than growth in real GDP.

Table 11.2 Inflation in 1993
(change in the average consumer price level in per cent) ¹

<i>Eastern Europe and the Baltic states</i>														
	Actual ²	PlanEcon forecast	PlanEcon error ³	Vienna Institute forecast	Vienna Institute error ³	OECD forecast	OECD error ³	EU forecast	EU error ³	UN forecast	UN error ³	Average absolute error	Average error	Range of forecasts
Albania	85	120.0	-35.0									35.0	-35.0	
Bulgaria	72.8	50.0	22.8	90	-17.2	90	-17.2	58	14.8	97	-24.2	19.2	-4.2	47.0
Czech Republic	20.8	11.5	9.3	15	5.8	16	4.8					4.0	6.6	4.5
Hungary	22.5	19.0	3.5	20	2.5	21	1.5	15	7.5	12	10.5	5.1	5.1	9.0
Poland	35.3	35.0	0.3	43	-7.7	40	-4.7	32	3.3	36	-0.7	3.3	-1.9	11.0
Romania	256.1	180.0	76.1	210	46.1	165	91.1	90	166.1	101	155.1	106.9	106.9	120.0
Slovak Republic	23	30.0	-7.0	24	-1.0	20	3					3.7	-1.7	10.0
Slovenia	32.3	30.0	2.3	61	-28.7							15.5	-13.2	31.0
<i>Commonwealth of Independent States</i>														
Belarus	1,188			1,000	188							188	188	
Kazakhstan	1,517			1,000	517							517	517	
Russia	896	773	123	1,000	-104					241	655	294	225	759
Ukraine	4,735			1,200	3,535							3,535	3,535	

¹ All forecasts in this table were published or reported to EBRD in June/July 1993.

² Here "actuals" represent the most recent official estimates of outturns in 1993, as reflected in publications from the national authorities, the IMF, the World Bank, the OECD, PlanEcon and the Institute of International Finance, except in the case of Turkmenistan for which the 1993 "actual" is an EBRD estimate.

³ What is referred to as "errors" denotes the difference between actuals and forecasts (measured in percentage points).

Table 11.3 Unemployment 1993
(in per cent of the labour force, end-year) ¹

<i>Eastern Europe and the Baltic states</i>										
	Actual ²	PlanEcon forecast	PlanEcon error ³	OECD forecast	OECD error ³	EU forecast	EU error ³	Average absolute error ⁴	Average error ⁵	Range of forecasts ⁶
Albania	17.5	15.0	2.5					2.5	2.5	
Bulgaria	16.4	16.6	-0.2	16	0.4	14	2.4	1.0	0.9	2.6
Czech Republic	3.5	5.8	-2.3	6	-2.5			2.4	-2.4	0.2
Hungary	12.1	13.9	-1.8	17	-4.9	15	-2.9	4.8	-3.2	3.1
Poland	15.7	14.9	0.8	17	-1.3	16	-0.3	1.2	-0.3	2.1
Romania	10.2	13.0	-2.8	14	-3.8			3.3	-3.3	1.0
Slovak Republic	14.4	15.0	-0.6	17	-2.6			1.6	-1.6	2.0
Slovenia	14.5	14.5	0.0					0.0	0.0	
<i>Average absolute error</i>			1.4		2.6		1.9	1.9		1.8
<i>Average error</i>			-0.6		-2.5		-0.3		-1.2	

¹ All forecasts in this table were published or reported to EBRD in June/July 1993.

² Here "actuals" represent the most recent official estimates of outturns in 1993, as reflected in publications from the national authorities, the IMF, the World Bank, the OECD, PlanEcon and the Institute of International Finance.

³ What is referred to as "errors" denotes the difference between actuals and forecasts (measured in percentage points).

⁴ The number at the bottom of this column is calculated as the mean of all the absolute values of the errors shown in this table (i.e. it is not a simple average of the errors in this column).

⁵ The number at the bottom of this column is calculated as the mean of all the errors shown in this table (i.e. it is not a simple average of the errors in this column).

⁶ For the countries where more than one forecast is available, this column shows the difference between the highest and the lowest of the forecasts.

For unemployment, relatively few forecasts are available. This probably reflects a low demand for such forecasts. In the preparation of our 1993 publication we were able to identify unemployment forecasts only from PlanEcon, the OECD and the European Commission. Table 11.3 shows that unemployment in eastern Europe has risen slightly less than expected by these institutions, particularly in Romania and Hungary.

The accuracy of forecasts from different institutions

The data we have compiled allow us also to make a comparison across forecasting institutions. This is carried out in Tables 11.4-11.7 which show the errors made on forecasts for Bulgaria, Hungary, Poland and Romania (these countries are referred to below as EE4). It should be noted that the comparison presented in this section is based on very limited information, namely that conveyed by forecasts and outturns for only one year. Well founded comparisons, based on a statistically adequate set of

Table 11.4 Comparison of growth forecasts for EE4

Institution	PlanEcon	Vienna	OECD	EU	UN
Average absolute error	2.9	3.7	3.6	3.2	3.7
Average error	0.3	3.1	2.3	2.1	2.6

Table 11.5 Comparison of growth forecasts for EE3

Institution	PlanEcon	Vienna	OECD	EU	UN
Average absolute error	1.9	2.0	1.4	2.0	2.6
Average error	-1.6	1.1	-0.2	0.4	1.1

observations, will become feasible only several years from now. Readers are encouraged to interpret the results below as tentative evidence on which improvements may be expected in future years.

The measures computed in Table 11.4 point to PlanEcon's growth forecasts as the best in terms of precision and bias. PlanEcon was considerably more optimistic than the other institutions and underestimated the (unweighted) average growth rate by only 0.3 percentage points.

However, these data are heavily influenced by large errors (representing under-estimation) on all forecasters' predictions for Romania. When the sample is reduced to observations for Bulgaria, Hungary and Poland (EE3), the comparison looks as shown in Table 11.5.

For these three countries, the OECD's forecasts were clearly the most accurate. An equivalent comparison based on observations for the Czech Republic, Hungary and Poland would rank growth forecasts from the OECD and JP Morgan above those from PlanEcon and the Vienna Institute. The EU and UN, which continued during the first half of 1993 to make predictions for the CSFR rather than for the two newly independent successor states, cannot be included in this comparison.

Table 11.6 shows a similar comparison with respect to inflation. All forecasters underestimated the (unweighted) average inflation rate in the EE4 group of countries. The Vienna Institute provided the most accurate forecasts, with a bias of 6 percentage points and an average absolute error of 18 percentage points.

The result in Table 11.6 is largely driven by the generally unforeseen developments in Romania. We therefore show in Table 11.7 the comparison of inflation forecasts for the EE3 group of countries which excludes Romania. On this basis, no clear ranking emerges; for all forecasters, the average absolute error falls within the range of 8-12 percentage points.

Table 11.6 Comparison of inflation forecasts for EE4

Institution	PlanEcon	Vienna	OECD	EU	UN
Average absolute error	26	18	29	48	48
Average error	26	6	18	48	35

Table 11.7 Comparison of inflation forecasts for EE3

Institution	PlanEcon	Vienna	OECD	EU	UN
Average absolute error	9	9	8	9	12
Average error	9	-8	-7	9	-5

11.2 Prospects

Short term – 1994

Table 11.8 shows updated forecasts for 1994 (as published or reported to the EBRD in June/July/August 1994). The forecasts from all institutions included in this table, as well as in the EBRD forecasts presented in Appendix 10.1, are characterised by optimism concerning the growth potential of the economies in transition. Growth rates are generally expected to increase in 1994 by several percentage points compared with 1993. According to PlanEcon's forecasts, only Albania, Belarus, Turkmenistan, Ukraine and Uzbekistan will see the growth rate fall in 1994 (in Albania's case this still implies a very strong economic expansion). The EBRD forecasts add Azerbaijan and Romania to this group of countries.

The gap between growth rates in eastern Europe and the CIS is expected to widen. This is reflected in the contrast between an (unweighted) average growth forecast for 1994 of 3 per cent for east European and Baltic countries, and a negative 9 per cent for the CIS countries. For the CIS countries, the equivalent average weighted by the countries' GDP would be a substantially greater number as the average forecasts for the two largest CIS countries, Russia and Ukraine, are, respectively -11 per cent and -20 per cent. The Baltic states look set to match the significantly positive growth rates forecast for the most successful east European economies. The summary table in Appendix 10.1 includes weighted averages of the EBRD forecasts for growth in 1994 (using observations of national GDP as weights); growth is expected to increase for the group of countries in eastern Europe and the Baltic states from 1 per cent in 1993 to 3 per cent in 1994, and to fall marginally in the CIS from a negative 12 per cent in 1993 to a negative 13 per cent in 1994.

The forecasters tend to believe that in 1994 almost all east European and Baltic countries will be members of the club of "growth countries", which in 1993 included only Albania, Poland, Romania, Slovenia and Uzbekistan. On average, the east European and Baltic economies are

Table 11.8 GDP-Growth forecasts for 1994
(in per cent) ¹

<i>Eastern Europe and the Baltic states</i>																	
	PlanEcon forecast	PlanEcon exp ch ²	Vienna Institute forecast	Vienna Institute exp ch ²	OECD forecast	OECD exp ch ²	EU forecast	EU exp ch ²	UN forecast	UN exp ch ²	IMF forecast	IMF exp ch ²	JP Morgan forecast	JP Morgan exp ch ²	Average forecast ³	Average exp ch ⁴	Range of forecasts ⁵
Albania	9.6	-1.4													9.6	-1.4	
Bulgaria	1.4	5.6	-2	2.2	0	4.2	0.5	4.7	-0.4	3.8			-1.9	2.3	-0.4	4.5	3.4
Croatia			-3	0.2											-3.0	0.2	
Czech Republic ⁶	4.8	5.1	2	2.3	2	2.3	2.5	2.8			2.5	2.8	2.4	2.7	3.0	3.4	2.8
Estonia	5.9	13.7													5.9	13.7	
Hungary ⁶	5.5	7.8	2	4.3	1	3.3	2.0	4.3	0.0	2.3			0.4	2.7	2.0	4.7	5.5
Latvia	3.0	14.7													3.0	14.7	
Lithuania	1.7	17.9													1.7	17.9	
Poland ⁶	6.0	2.2	4	0.2	4	0.2	2.5	-1.3	4.2	0.4	4.5	0.7	4.5	0.7	4.8	0.5	3.5
Romania	3.8	2.8	-2	-3.0	0	-1.0	1.4	0.4	1.2	0.2					0.9	-0.3	5.8
Slovak Republic ⁶	3.9	8.0	2	6.1	0	4.1	-3.1	1.0			0	4.1			0.6	5.5	7.0
Slovenia	5.3	4.3	3	2.0											4.2	3.2	2.3
<i>Average</i>	4.6	7.3	0.8	1.8	1.2	2.2	1.0	2.0	1.3	1.7	2.3	2.5	1.4	2.1	2.7	5.5	4.3
<i>Commonwealth of Independent States ⁷</i>																	
Armenia	11.8	31.8													11.8	31.8	
Azerbaijan	-4.3	8.7													-4.3	8.7	
Belarus	-19.0	-7.4													-19.0	-7.4	
Georgia	-13.2	26.8													-13.2	26.8	
Kazakhstan	-11.5	0.5													-11.5	0.5	
Kyrgyzstan	-6.9	10.1													-6.9	10.1	
Moldova	-3.1	10.9													-3.1	10.9	
Russia	-11.2	0.8	-10	2	-10	2							-14	-2	-11.3	0.7	4.0
Tajikistan	-8.1	19.9													-8.1	19.9	
Turkmenistan	-11.5	-3.5													-11.5	-3.5	
Ukraine	-20.3	-6.3	-20	-6											-20.2	-6.2	0.3
Uzbekistan	-7.1	-8.1													-7.1	-8.1	
<i>Average</i>	-8.7	7.0	-15	-2	-10	2							-14	-2	-8.7	7.0	2.2

¹ All forecasts in this table were published or reported to EBRD in June/July/August 1994 (see also the references at the end of this chapter).

² "Exp ch" refers to the expected change in the forecasted variables measured in percentage points, i.e. it is calculated as the difference between the rate forecasted for 1994 and the actual rate in 1993.

³ The number at the bottom of this column is calculated as the mean of all the average forecasts shown in this column.

⁴ The number at the bottom of this column is calculated as the mean of all the expected changes shown in this column.

⁵ This column shows the difference between the highest and the lowest of the forecasts.

⁶ The IMF expects growth in central European countries in transition in aggregate of 1.8 per cent for 1994.

⁷ For the former Soviet Union as a whole (CIS plus the Baltic countries), growth in 1994 has been forecast by the UN at -9.3 per cent, by the World Bank at -7 per cent, and by the IMF at -9.8 per cent.

expected to increase their growth rates by 5-6 percentage points (see the items "exp ch" in Table 11.8).

All these forecasts should be interpreted with great caution. One reason for this is the relatively large errors produced last year. A second reason is the variability of the new predictions across forecasting institutions. The range of the forecasts (i.e. the difference between the most optimistic and the most pessimistic available forecast) may be taken as an indication of the expected reliability of the forecasts for a particular country. The increase in the average range for eastern Europe from 3.9 percentage points in 1993 (Table 11.1) to 4.3 in 1994 (Table 11.8) does not indicate any improvement in the reliability of the forecasts.

Taking the example of Poland, which was so successful in 1993, the growth forecasts range from 2.5 to 6 per cent (Table 11.8). A similar picture is found for most other countries. For Hungary, the forecasts range from 0 to 5.5

per cent. This variation is remarkable, considering that these are short-term forecasts made in the spring of 1994 for the same year.

The 1994 forecasts of unemployment show an expected increase of more than 2 percentage points, on average (see Table 11.9). Especially in the Baltic states, unemployment could become a destabilising factor if the predicted sharp increase materialises. Hungary is the only country expected to see its unemployment rate fall. As noted in Chapter 10, this expectation for Hungary reflects to a large degree revisions to eligibility rules for unemployment benefits.

Optimism is evident in the short-term inflation forecasts (see Table 11.10). All countries in eastern Europe are expected to see a decline in their inflation rates. However, no country (with the possible exception of the Czech Republic) is expected to come close to price stability.

Table 11.9 Unemployment forecasts for 1994
(in per cent of the labour force, end-year) ¹

	<i>Eastern Europe and the Baltic states</i>									
	PlanEcon forecast	PlanEcon exp ch ²	Vienna Institute forecast	Vienna Institute exp ch ²	OECD forecast	OECD exp ch ²	EU forecast	EU exp ch ²	Average forecast ³	Range of forecasts ⁵
Albania	17.6	0.1							17.6	0.1
Bulgaria	16.3	-0.1	18	1.6	17	0.6	15.8	-0.6	16.8	0.4
Czech Republic	4.2	0.7	4	0.5	5	1.5	5.5	2.0	4.7	1.2
Estonia	5.0	2.4							5.0	2.4
Hungary	11.1	-1.0	12	-0.1	11	-1.1	12.6	0.5	11.7	-0.4
Latvia	9.5	4.2							9.5	4.2
Lithuania	4.0	2.6							4.0	2.6
Poland	16.1	0.4	17	1.3	16	0.3	16.8	1.1	16.5	0.8
Romania	14.3	4.1	12	1.8	13	2.8	16.1	5.9	13.9	3.7
Slovak Republic	15.6	1.2	16	1.6	16	1.6	14.0	-0.4	15.4	1.0
Slovenia	14.4	-0.1	15	0.5					14.7	0.2
Average	11.6	1.3	13.4	1.0	13.0	1.0	13.5	1.4	11.8	1.5
<i>Commonwealth of Independent States</i>										
Russia	3.5	2.4	3	1.9					3.3	2.4
Ukraine	4.5	4.1	2	1.6					4.5	4.1
Average	4.0	3.3	2.5	1.8					3.9	3.3

¹ All forecasts in this table were published or reported to EBRD in June/July/August 1994 (see also the list of references at the end of this chapter).

² "Exp ch" refers to the expected change in the forecasted variables measured in percentage points, i.e. it is calculated as the difference between the rate forecasted for 1994 and the actual rate in 1993.

³ The number at the bottom of this column is calculated as the mean of all the average forecasts shown in this column.

⁴ The number at the bottom of this column is calculated as the mean of all the expected changes shown in this column.

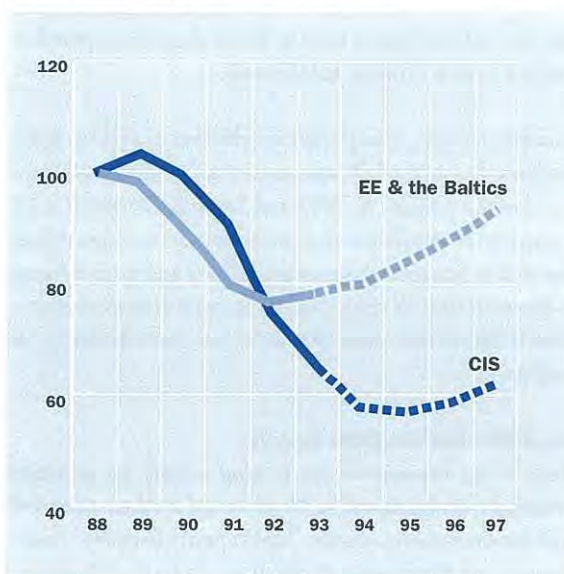
⁵ This column shows the difference between the highest and the lowest of the forecasts.

The medium term – 1995-98

Available predictions for 1995 (see Tables 11.11 and 11.12) and PlanEcon's forecasts for the years to 1998 (as presented in their half-yearly publications) suggest a continued divergence of growth paths in the medium term. PlanEcon expects growth in eastern Europe and the Baltic states to be around 4.5-6 per cent per annum starting in 1994 but foresees further stagnation/declines in Russia and Ukraine in 1994-95. This is broadly consistent with the IMF's expectation. PlanEcon expects a rebound in Russia from 1996 onwards, with growth rates of 5-6 per cent per annum; they expect an equivalent pick-up in Ukraine, beginning in 1997.

The widening of the gap between the output levels in eastern Europe and the Baltic states on the one side, and the CIS on the other side in 1994-95 is depicted in Chart 11.1. The forecasts imply that eastern Europe will achieve its pre-reform production levels by 1997 whereas the CIS will fail to reach pre-reform levels of output for a long time. However the Chart assumes that the decline in CIS-output between 1988 and 1993 is measured accurately by official statistics. In reality the decline may well, as noted in Chapter 10, have been substantially smaller than these statistics would indicate.

Table 11.13 quotes inflation forecasts for 1995. It reflects the same dichotomy as the growth forecasts, with price stabilisation being more advanced in eastern Europe and

Chart 11.1: Development in real GDP 1988-97
(index: 1988=100) ¹

¹ The figures used for 1988-93 are from the EBRD's internal database and are consistent with the numbers presented in Appendix 10.1. The weights used to aggregate country-specific observations were national estimates of 1992-GDP at average exchange rates prevailing in 1992. The figures used in the chart for 1994 represent the EBRD's forecasts (as reflected in the summary table in Appendix 10.1). Data used in the chart for the period 1995-97 represent a rough approximation of the scenario foreseen by PlanEcon; the chart assigns to eastern Europe 5 per cent growth in each year of this period, and to CIS -1 per cent in 1995, +3 per cent in 1996 and +5 per cent in 1997.

Table 11.10 Inflation forecasts for 1994¹

<i>Eastern Europe and the Baltic states</i>																
	Actual 1993 ²	PlanEcon forecast	PlanEcon exp ch ³	Vienna Institute forecast	Vienna Institute exp ch ³	OECD forecast	OECD exp ch ³	EU forecast	EU exp ch ³	UN forecast	UN exp ch ³	IMF forecast	IMF exp ch	Average forecast ⁴	Average exp ch ⁵	Range of forecasts ⁶
Albania	85	28	-57											28	-57	
Bulgaria	73	89	16	80	7	75	2	65	-8	52	-21			72	-0	37
Czech Republic	21	9	-12	10	-11	11	-10	10	-11	9	-12	10	-11	10	-11	2
Estonia	90	46	-44											46	-44	
Hungary	23	16	-7	22	-1	19	-4	18	-5	20	-3			19	-4	6
Latvia	109	35	-74											35	-74	
Lithuania	390	70	-320											70	-320	
Poland	35	28	-7	30	-5	30	-5	27	-8	24	-11	27	-8	26	-7	6
Romania	256	140	-116	180	-76	170	-86	150	-106	120	-136			152	-104	60
Slovak Republic	23	14	-9	16	-7	16	-7	17	-6			14	-9	15	-8	3
Slovenia	32	19	-13	20	-12									20	-13	1
<i>Average</i>	103													45	-58	16
<i>Commonwealth of Independent States⁷</i>																
Russia	896	310	-586	300	-596	450	-446							353	-543	150
Ukraine	4,735	813	-3,922	700	-4,035									757	-3,979	113

¹ All forecasts in this table were published or reported to EBRD in June/July/August 1994.

² Here "actuals" represent the most recent official estimates of outturns for 1993, as reflected in publications from the national authorities, the IMF, the World Bank, the OECD, PlanEcon, and the Institute of International Finance.

³ "Exp ch" refers to the expected change in the forecasted variables, measured in percentage points, i.e. it is calculated as the difference between the rate forecasted for 1994 and the actual for 1993.

⁴ The number at the bottom of this column is the mean of the average forecasts in the column.

⁵ The number at the bottom of this column is the mean of expected changes shown in this column.

⁶ This column shows the difference between the highest and the lowest of the forecasts.

⁷ The IMF forecasts inflation for the former Soviet Union as a whole at 457 per cent in 1994.

the Baltics than in the CIS countries. This is reflected in average expected inflation rates for 1995 of around 23 per cent for eastern Europe and the Baltic states, as opposed to 268 per cent for Russia and Ukraine.

In order to derive a projection for inflation in 1995 or later, the forecaster not only has to predict the economic changes but also the policies in 1995 and beyond. Clearly, it is an extremely demanding task to make predictions more than one year in advance of monetary policies and price reforms in the countries in transition. This implies that medium-term inflation forecasts have to be interpreted with great caution.

11.3 Methodological issues

Most of the forecasters are relying mainly on informal techniques and judgement. More formal methods are used only for consistency checks. This is partly because econometrics and time-series methods are inapplicable where radical changes in structure, ownership, behaviour and statistical reporting effectively destroy the relevance of historical data for projections of the future. A more formalised approach to forecasting will only be applicable when long post-reform time-series begin to emerge.

Forecasting errors of the order of magnitude shown above might suggest that range forecasts would be preferable to the point forecasts that are reported by all institutions

included in this survey (as well as by the EBRD in the country tables in Chapter 10). It may not seem meaningful to announce a growth forecast of, say, 1.3 per cent when the average projection error exceeds 4 percentage points. A range forecast or a central projection accompanied by a confidence interval could be used to indicate the reliability attached by the forecaster to each prediction and would help users make a macroeconomic risk assessment. Evaluations of macroeconomic risks are clearly of great importance for both investment and policy decisions and should ideally form part of the forecasts.

However, there are also costs associated with range forecasts. Most importantly, deriving country-specific confidence intervals for the forecasts requires either a long historical track record of forecasting errors or an in-depth knowledge of the methodology which underlies national statistics. In addition, the use of ranges, together with the forecasters' explanations of them, would add to the amount of information which the user would have to digest.

Table 11.1 indicates a relatively good forecasting accuracy for countries where price stabilisation and market-oriented transition are well entrenched, where the bulk of associated structural shocks are events of the past, and where progress on statistical methodology is comparatively advanced. In particular, the errors on growth forecasts for the Czech Republic, Poland and Slovenia were relatively small. It

Table 11.11 GDP growth in 1995
(in per cent) ¹*Eastern Europe and the Baltic states*

	PlanEcon forecast	Vienna Institute forecast	OECD forecast	EU forecast	UN forecast	JP Morgan forecast	Average forecast ²	Range of forecasts ³
Albania	8.1						8.1	
Bulgaria	5.4	-1	0	1.5	0.4	0.2	1.1	6.4
Czech Republic ⁴	6.3	3	5	4.0		4.4	4.5	3.3
Estonia	7.3						7.3	
Hungary ⁴	6.1	1	2	3.0	2.5	0.6	2.5	5.5
Latvia	7.2						7.2	
Lithuania	4.9						4.9	
Poland ⁴	5.4	4	3	2.5	4.1	4.7	4.0	2.9
Romania	5.0	0	1	2.1	1.1		1.8	5.0
Slovak Republic ⁴	3.3	1	2	1.0			1.8	2.3
Slovenia	5.3	4					4.7	1.3
Average	5.8	1.7	2.2	2.4	2.0	2.5	4.4	3.8

Commonwealth of Independent States ⁵

Russia	0.6	-5	-2			-8	-3.6	8.6
Ukraine	-4.9	-5					-5.0	0.0
Average	-2.2	-5	-2			-8	-4.3	4.4

¹ All forecasts quoted here were published or reported to EBRD in June/July/August 1994.

² The number at the bottom of this column refers to the mean of all the average forecasts shown in this table.

³ This column shows the difference between the highest and the lowest of the forecasts.

⁴ Aggregate growth in central European countries in transition in 1995 has been forecast by the IMF at 3.5 per cent.

⁵ Growth in the former Soviet Union as a whole in 1995 has been forecast by the IMF and the World Bank at, respectively, 0.4 per cent and -2 per cent.

Table 11.12 Unemployment forecasts for 1995
(in per cent of the labour
force, end-year) ¹*Eastern Europe and the Baltic States*

	PlanEcon forecast	Vienna Institute forecast	OECD forecast	EU forecast	Average forecast ²	Range of forecasts ³
Albania	15.8				15.8	
Bulgaria	14.7	19	17	14.7	16.4	4.3
Czech Republic	5.2	5	7	5.7	5.7	2.0
Estonia	8.0				8.0	
Hungary	9.7	12	11	12.6	11.3	2.9
Latvia	13.0				13.0	
Lithuania	9.0				9.0	
Poland	15.8	20	15	16.5	16.8	5.0
Romania	12.8	14	15	18.6	15.1	5.8
Slovak Republic	14.4	16	16	13.1	14.9	2.9
Slovenia	13.0				13.0	
Average	11.9	14.3	13.5	13.5	12.6	3.8

Commonwealth of Independent States

Russia	9.0	4			6.5	5.0
Ukraine	12.5				12.5	
Average	10.8	4			9.5	5.0

¹ All forecasts listed here were published or reported to EBRD in June/July/August 1994 (see also the list of references at the end of this chapter).

² The number at the bottom of this column refers to the mean of all the average forecasts shown in this table.

³ This column shows the difference between the highest and the lowest of the forecasts.

Table 11. 13 Inflation forecasts for 1995
(change in the average consumer price level, in per cent) ¹

	PlanEcon forecast ²	Vienna Institute forecast	OECD forecast	EU forecast	UN forecast	JP Morgan forecast ²	Average forecast ³	Range of forecasts ⁴
<i>Eastern Europe and the Baltic states</i>								
Albania	16						16.0	
Bulgaria	67	60	40	23.8	39	35.0	44.1	43.2
Czech Republic ⁵	6.0	10	10	10.0		8.0	8.8	4.0
Estonia	15.0						15.0	
Hungary ⁵	13.6	20	17	15.0	15	20.5	16.9	6.9
Latvia	15.0						15.0	
Lithuania	30.0						30.0	
Poland ⁵	25.0	25	25	20.0	19	22.0	22.7	6.0
Romania	50	100	80	40.0	23		58.6	77.0
Slovak Republic ⁵	10	10	15	15.0			12.5	5.0
Slovenia	14	14					14.0	0.0
<i>Average</i>	23.8	34.1	31.2	20.6	24.0	21.4	23.1	20.3
<i>Commonwealth of Independent States ⁶</i>								
Russia	111	300	150			230	198	150
Ukraine	175	500					337.5	100
<i>Average</i>	143	400	150			230	268	125

¹ All forecasts listed here were published or reported to EBRD in June/July/August 1994.

² J P Morgan's forecasts refer to end-year inflation (i.e. the change in the price index from December to December).

³ The number at the bottom of this column refers to the mean of the average forecasts shown in the column.

⁴ This column shows the difference between the highest and the lowest of the forecasts.

⁵ Aggregate inflation for central European countries in transition for 1995 has been forecast by the IMF at 53.7 per cent.

⁶ Aggregate inflation for the former Soviet Union (CIS plus the Baltic countries) for 1995 has been forecast by the IMF at 83.2 per cent.

could be argued that this type of information could form the basis for country-specific confidence intervals. However, the advocate of this point of view would have to argue that equally small errors for Azerbaijan, Russia, Turkmenistan and the Ukraine were flukes that will not be repeated in subsequent years.

Another difficulty relates to the fact that estimates of outturns for past years change over time. The main original source of data on outturns for a particular country is the government or the central bank of that country. Governments in many transition economies are gradually adapting their statistical systems to a more market-oriented environment (this issue is explored in greater detail in Appendix 11.1). As a result, measured outturns for all the variables discussed above keep varying over time. In many cases, government statisticians continue to revise data for a particular year several years after completion of the period.

This must lead the forecasters to question which concept they are trying to forecast. Is it the "official outturn", or is it the forecasters' own estimates of the outturn? For purists it may be tempting to argue in favour of forecasting "what

will really happen" as opposed to "what will be captured in a soon-to-be-available official estimate". In practice, however, this is rarely done. Even forecasters who believe that the unrecorded shadow economy accounts for a substantial fraction of GDP will not attempt to take into account this judgement when they make their forecasts. Typically, the accuracy of forecasts is judged by the users soon after the events to which they relate, and this puts pressure on the forecasters to "get close to the official government view". Public sector institutions among the forecasters may also be subject to political pressure to limit the differences between their forecasts and projections prepared by the national authorities as the latter are, in many cases, shareholders and/or important customers of these institutions.

Questions about what is really the phenomenon that is being measured further complicates the use of forecasts in general and of range forecasts in particular. If the real objective of forecasters is to predict what will, at some future point, be the estimate sanctioned by national authorities, then particularly broad confidence intervals might be needed for those countries that are making the

greatest progress in their statistical methodology. This might erroneously convey the impression to the user that, in these countries, data are particularly unreliable and macroeconomic risks severe.

Clearly, many of the methodological problems we have discussed here apply also to the macroeconomic measurement and forecasting in Western countries. What this chapter has shown, however, is that the measurement and forecasting errors, as well as the underlying political and economic uncertainties, are of a much greater order of magnitude in transition economies than in well-entrenched market economies.

References:

Note that in addition to the references listed below we have relied on extensive communication by fax with some of the forecasting institutions quoted in this chapter.

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Appendix 11.1. Are growth estimates for eastern Europe too pessimistic?

Introduction

Most countries in eastern Europe have begun to improve the quality of production statistics by broadening the coverage of economic activity in new enterprises. Recent analyses of small-scale activity in Hungary and Poland point to a need to increase substantially official estimates of GDP-growth for the past four years.¹ Official GDP series do not yet incorporate these results but are likely to do so within the next few years.

However, very little has been done in eastern Europe to use information on consumption and investment to improve the quality of GDP-estimates. Noting the widening gaps in the Czech Republic, Hungary and Poland between estimates of production on the one side and of the use of goods and services on the other, this appendix argues that the official GDP estimates should be modified to incorporate information conveyed by indicators of domestic expenditure. This modification would substantially alter the estimated growth pattern.

What would happen to growth estimates for eastern Europe if output-based series were adjusted to account fully for small-scale private activity, and thereafter combined with currently available data on consumption, fixed investment and the foreign balance to produce a “compromise” series of real GDP estimates? In the sections below a numerical experiment indicates (very tentatively) for Hungary that the resulting revision to growth in real GDP would be negative for 1993 and positive for 1991-92. A similar mixed picture emerges for Poland. In the case of the Czech Republic, statistical-methodological improvements would be likely to produce substantial increases in recorded growth rates for the entire period of market-oriented transition.

Widening statistical discrepancies

Most statistical offices in Europe collect primary data on production, absorption and income from tax and customs offices and from surveys among producers and consumers. Primary data are subject to stochastic errors. As a result, the “initial estimates” of items in the national accounts will often violate definitional identities. In the initial rounds of estimation, the measure of “aggregate supply” (represented by the sum of imports and domestically generated value added) usually differs from “aggregate demand” (represented by the sum of consumption, fixed investment, stock-building and exports) although the “true” values of the two concepts are by definition identical.

While initial discrepancies of this nature are inevitable in all countries that are sophisticated enough to produce

independent estimates for output and expenditure, their magnitude appears to be particularly great in eastern Europe. Statisticians in Hungary and Poland are finding it increasingly difficult to identify the uses of recorded increases in production and imports. Their colleagues in the Czech Republic are struggling to find the output and inflows of goods from abroad that appear to have allowed absorption to rise. Published versions of the national accounts for these countries bury statistical discrepancies in the items for “stock-building”, which have therefore shown implausibly sharp fluctuations in recent years.

In principle, GDP can be measured not only on the basis of data on production and absorption but also as the sum of wages and profits. However, in most countries in eastern Europe statistics on profits are weak. In others, including Hungary, data on wages and profits are used (together with banking data on financial savings) to establish a national accounts estimate of consumption. In the latter case, data on wages and profits fail to provide an independent check on the production-based estimate of GDP. They may instead be viewed as part of the statistical material that is used to establish absorption data which may indeed be used to check the reliability of the production-based GDP-estimates.

Given the inconsistencies between data on production and absorption, which data series should the user of the national accounts trust? One possibility is to trust estimates for production and the foreign balance and ignore observations of domestic absorption, the precision of which is generally perceived to be inferior. This practice is followed by the governments in eastern Europe and by international agencies that are active in the region. This practice is unsatisfactory. Indicators of expenditure must be presumed to convey some usable information about underlying trends – otherwise it would make little sense for the statistical agencies to go through the effort to produce them in the first place. To the extent that they are seriously defective, it would make good sense for governments and foreign providers of technical assistance to give priority to solving this problem. The availability of good indicators for consumption and investment would strengthen the scope for consistency checks on output-based GDP-estimates and provide knowledge about the final destination of national production. The latter is crucial to policy makers.

How should estimates of output and expenditure be combined to produce “compromise data”?

The famous economist Richard Stone argued for decades that the information value contained in accounting identities should be fully utilised. It follows from Stone’s line of thinking that maximum statistical use should be

¹ See Arvey and Vertes (1994) and the Polish Centre for Economic and Statistical Studies (1993).

made of the definitional equality of production on the one side and domestic expenditure plus the foreign balance on the other, combined with the availability of separate output- and expenditure-based estimates for value added.

The essence of Stone's argument is captured in the following quotation: "Data are always incomplete and rarely consistent; different bodies of statistics are often collected by a variety of agencies which do not all make use of an agreed set of definitions and classifications; different methods of collection give rise to sampling and other errors of many kinds. In such a situation, an intimate knowledge of the available statistics is not enough; a strategy and a certain amount of courage are also needed. The strategy is required in order to extract the best possible quantitative description of the economy from the statistical data available. Of course there may be so few data and what there are may be of such poor quality that very little can be done; but that is not the usual case and much is lost if we are not willing to compare statistics from different sources and adjust them so as to bring about a consistent and therefore usable description of the economic process. The courage is required because the methods that must be adopted run counter to the statistician's ingrained dislike of tampering with basic data even when it is obvious that not all these data can be correct".²

As mentioned above, many statistical agencies in eastern Europe balance their national accounts by assigning to stock-building whatever value is required to equate the estimate of production plus imports to the estimated sum of exports and domestic demand (including stock-building). This is arguably worse than publishing unbalanced national accounts – it conveys the erroneous impression that all available information has been used to establish the best possible estimate of every item in the accounts. In practice this procedure sometimes generates absurd estimates for stock-building (up to +/- 10 per cent of GDP).

What would be the preferred solution? Ideally, statisticians with intimate knowledge of procedures underlying the primary data should first eliminate from initial estimates all presumed systematic biases. As an integral part of this process the statisticians should settle for a realistic initial estimate for stock-building. Given the experience in other countries, 0-1/2 per cent of the preceding year's GDP might in most cases be a sensible initial estimate for stock-building in the absence of direct observations.³ Annual

data for 1983-92 on the ratio between stock-building and GNP in France, Germany, Japan, United Kingdom and United States of America include only two observations in excess of 1 per cent, namely 1.1 per cent for the UK in 1988 and 2.1 per cent for the USA in 1984.⁴

After "de-biasing" the estimates, the next step is to ensure compliance with the relevant accounting identities. To do this properly, the statisticians must first assess the relative reliability of the initial estimates. To the extent the accounting constraints allow it, most of the required adjustment should be borne by the least reliable initial estimates. A possible measure of relative reliability is a set of "error variances" which the statisticians can derive from their subjective stipulation of 95 per cent confidence-intervals for each of the initial estimates (the procedure is illustrated numerically in the example below). For stock-building, the confidence interval should be confined to a range that is consistent with international experience (such as the 0-1/2 per cent of GDP suggested above). Champenowne, Meade and Stone recommended, as far back as in 1942, that information conveyed by error variances⁵ and initial estimates be combined to produce a balanced set of accounts using the principles of generalised least squares estimation.⁶

Estimates of GDP from the output side

Market-oriented transition has weakened the ability of statistical agencies in eastern Europe to monitor output developments. Until the transition began, production statistics were based on information from the largest state-owned companies. The devolution over the past four years of economic activity to myriad smaller, often private entities has forced a switch towards more cumbersome survey-based methods of data collection, similar to those applied in the West. In parallel with this, eastern Europe's statistical agencies have gradually been phasing out, especially from 1989 onwards, the Material Product System (MPS) – the national accounting system that was applied by centrally planned economies and which excluded many services (in the so-called "non-material sphere") from the measure of value added.

Since 1992, all countries in eastern Europe have ceased to produce estimates of net material product, the MPS concept of value added. Focusing on the principles laid down in the UN System of National Accounts (SNA), most of the regions' statistical agencies have taken steps to

² Stone (1976), pp. 9-10.

³ In the Danish preliminary national accounts, the starting assumption, prior to the balancing process, is always that stock-building is zero (Bartholdy, 1987).

⁴ According to the International Monetary Fund's International Financial Statistics, 1993.

⁵ Ideally, covariances between errors on initial estimates should also be taken into account. However, in practice little tends to be known about the relative magnitudes of covariances. Error covariances have been ignored in most practical cases in which the generalised least squares approach has been used to balance social/national accounting matrices.

⁶ Their proposal was presented in Champenowne, Meade and Stone (1942). See Bartholdy (1987) for a concrete algorithm and a practical application.

improve their ability to monitor the growing private sector, notably service units, in order to be able to incorporate them fully in the SNA-concept of value added.⁷

One of the results of the gradual methodological change has been frequent, and sometimes massive, revisions to national accounts estimates. Among the more extreme cases of this was a change in 1992 to Bulgaria's national accounts which reduced the official estimate of the decline in real value added between 1989 and 1991 by about 12 percentage points.

Revisions of similar orders of magnitude may be forthcoming in Poland. According to estimates from the Polish Research Centre for Economic and Statistical Studies (1993), a more comprehensive treatment of new private entities would lower the measured decline in real GDP between 1988 and 1992 from the previously estimated 18-20 per cent to only 5-10 per cent.

Hungary's statistical office has made allowances in official GDP estimates for the growing private sector, including in the "hidden economy", but research by Arvay and Vertes (1994) indicates that adjustments made to date have been inadequate. Arvay (1994) puts the required cumulative (upward) revision to official estimates of real GDP growth for the period 1990-1992 at about 4 percentage points.

The Czech Republic, which has done less to explore this issue, might well be the east European country in which the negative bias in official estimates of GDP growth is greatest. Official data on changes between 1990 and 1992 point to a drop in real GDP of 21 per cent and a decline in employment in enterprises with more than 25 employees of 26 per cent. In the same period measured unemployment rose by less than 2 per cent of the labour force. The comparatively small rise in unemployment is due in part to the fact that staff representing up to 1-2 per cent of the labour force lost eligibility for benefits and were forced off the unemployment register (OECD 1994). But what happened to the remainder of newly redundant workers? It is possible that some found work abroad but hardly more than a few per cent of the labour force. The remainder may have found work in the informal sector – work which is yet to be reflected in the national accounts. The latter presumption is supported by information gathered by the EBRD on the methodology underlying the Czech national accounts. Interviews with statisticians in the Czech Central Statistical Office indicate that large inventory write-offs undertaken by companies over the past two years may have been recorded as negative stock-building on the expenditure side, matched on the output side by an entry of the

same magnitude under "use of inputs", i.e. an entry which would artificially reduce the estimate of value added.⁸

Another source of underestimation of growth in the Czech Republic is the use of 1984 as the base year for the national accounts. This results in a comparatively low weight being given to the most dynamic sectors in the economy.

Estimates of expenditure components

Unfortunately, indicators of expenditure fail to support the hypothesis that currently available data on production tend to underestimate growth in all the east European countries. In fact, expenditure data for Hungary and Poland point in the opposite direction. This is possibly in part because expenditure data suffer from a negative bias, reflecting (a) the gradual shift in retail trade away from long-established outlets that tend to constitute the population underlying retail trade surveys, as well as (b) rising investment by small enterprises the activities of which is difficult to monitor. Knowledge of these statistical problems is in fact used by statisticians in eastern Europe as a basis for adjusting upwards the national accounts estimates for consumption and investment. However, even after these adjustments, measured growth in domestic demand (excluding stock-building) falls short in both Poland and Hungary of the measured increase in supply to the domestic market (represented by domestic value added minus the net foreign balance). In both countries, the statisticians attribute the remaining large gap between measured supply and recorded demand to stock-building, although further efforts to reconcile the estimates might be more appropriate. More details on statistical discrepancies in Poland, Hungary and the Czech Republic are provided in the following subsections.

Poland

Difficulties in matching estimates of output and expenditure have been particularly noticeable in Poland, where the official output-based estimate of GDP-growth for 1993 has been put at 4 per cent. National accounts data released by the Polish Central Statistical Office in June 1994 put the contribution to GDP growth from the foreign balance at a negative 2½ percentage points. Thus the estimated growth in supply for the domestic market (domestic value added plus the foreign balance) was 6½ per cent of 1992-GDP. Regarding consumption, average nominal monthly per capita expenditure grew in households of employees by about 44 per cent and in households of retired persons and pensioners by 51 per cent in the first nine months of 1993 (compared with the same period of 1992)⁹ according to the Polish *Monthly Statistical Bulletin*. This would be consistent with a volume

⁷ A description of differences between the concepts of value added in MPS and SNA is included in Marer et al. (1992); this description is based on material from United Nations (1977 and 1981). Boote (1990) provides a good overview of issues pertaining to the production of statistics under central planning.

⁸ The Czech Central Statistical Office has confirmed in a letter to the EBRD that this treatment of stock write-offs may be pulling down the GDP growth estimates.

⁹ Source: *Monthly Statistical Bulletin*, Poland's Central Statistical Office, April 1994, p. 25.

increase of about 6 per cent for the former group and 11 per cent for the latter (using the consumer price index as deflator). Against this background, the national accounts estimate the growth in private consumption (which in 1992 represented 57 per cent of GDP) at 5½ per cent, absorbing about 3 percentage points of the estimated increase in real GDP. Public consumption is officially estimated to have risen by 3 per cent in real terms, which would absorb another ½ percentage point of the recorded growth in GDP. The Polish *Monthly Statistical Bulletin* points to an increase last year in nominal “investment outlays” of 10.6 per cent¹⁰ which corresponds to a decline in real terms of 16 per cent (after deflation by the producer price index). With investment accounting for about 17 per cent of GDP, this would represent a negative contribution to GDP-growth of almost 3 percentage points.

These developments in consumption and investment would leave supply for the domestic market equivalent to about 5½ per cent of GDP – i.e. more than the entire recorded growth in GDP – unaccounted for by recognisable developments in domestic demand components. One obvious contributor to the gap is that the quoted series on investment covers only large-scale enterprises. Aggregate investment, including outlays from small entities, is likely to have expanded more rapidly. Thus the most recent national accounts data put the real 1993-expansion in fixed investment at 3 per cent, despite the decline in recorded large-scale investment. This increase in capital outlays absorbs about ½ percentage point of the recorded GDP-growth (rather than the -3 percentage points estimated above) and reduces the unexplained gap between output and expenditure to about 2½ per cent of GDP. The June-release of national accounts data implicitly attributes this gap to stock-building. Both the estimate for stock-building and the assumed growth of investment in small enterprises appear at first sight implausibly large. There would appear to be a case here for the Polish statisticians to re-examine data for domestic production and the foreign balance instead of simply assigning statistical discrepancies to investment and stock-building. While some observers have indeed pointed to potential errors of measurement regarding the foreign balance, there appears to be great reluctance to use demand data as the basis for subjecting the output estimates to further scrutiny.¹¹

Hungary

Hungarian statistics are marred by similar problems. Preliminary national accounts for 1993 made available by the Hungarian Ministry of Finance in April 1994 (see Table 11.14) pointed to a decline in Hungarian real GDP of 2 per cent and a drop in the foreign balance of 9.7 per cent of GDP.¹² This implies an increase in real final domestic expenditure equivalent to 7.7 per cent of GDP. However, available expenditure indicators do little to support this picture. Measured retail trade at constant prices fell by ½ per cent, according to the Hungarian *Monthly Statistical Bulletin*. Taking into account a possible downward bias in these data due to under-recording of sales from informal outlets, and noting results of comparisons between data on personal income and financial savings,¹³ the national accounts statisticians put growth in private consumption at 2.5 per cent. The *Monthly Statistical Bulletin* points to an increase in nominal investment outlays of 17.5 per cent, which the national accounts statisticians have translated into a modest real increase of 1.3 per cent. Public consumption is thought to have grown by 2.5 per cent but has little weight in GDP. Thus there is little empirical evidence of a “demand-surge” to match the massive rise in supply which is indicated by data on production and trade. The preliminary national accounts for 1993 “solve” this problem by estimating stock-building residually at 3.3 per cent of GDP, up from -3.1 per cent of GDP the year before. The estimated massive swing in stock-building looks implausible. According to the *Monthly Statistical Bulletin*, industrial production grew by 4 per cent in 1993 while industrial sales grew by 2.9 per cent; i.e. industry was stocking finished goods to the tune of 1.1 per cent of sales. In agriculture, a sharp output contraction (caused by drought and structural production problems) is likely to have been accompanied by a rundown of stocks.

If the Hungarian estimate for stock-building is wrong, at least one of the other items in the national accounts is subject to a corresponding error. If data on production and foreign trade data are “right”, then this corresponding error relates to either consumption or investment which might have grown faster than assumed in the national accounts. However, other possibilities are that 1993’s swing in the balance of payments was less serious than hitherto thought or that production started growing later and less strongly than previously estimated.

It should be noted that Hungary’s statistics on wages, prices and employment lend more support to expenditure estimates than to the more favourable output-based

¹⁰ Source: *Monthly Statistical Bulletin*, Poland’s Central Statistical Office, April 1994, p. 112.

¹¹ The OECD (1994B) notes that “cross-border trade with Germany is thought to be significantly underestimated” (OECD 1994B p.116). However, as both imports and exports may be affected, this gives little hint of the sign of the error pertaining to the foreign balance.

¹² Note that these figures differ slightly from the revised official estimates prepared during the summer of 1994, which are the source of the GDP-series for Hungary that are quoted in Chapters 10 and 11.

¹³ In fact the estimate of consumption in nominal terms relies heavily on the computation from the income-part of the national accounts of the difference between net-of-tax income on the one side and the sum of financial savings and private housing investment on the other.

**Table 11.14 Hungary's Official National Accounts
as of April 1994 ¹**

	1990	1991	1992	1993 <i>Preliminary</i>
<i>(at fixed 1991-prices in billions of forint)</i>				
Output and imports	3,651.9	3,248.0	3,103.9	3,177.9
Domestically generated value added (GDP)	2,662.9	2,346.0	2,240.4	2,195.1
Imports of goods and non-factor services	989.0	902.0	863.5	982.8
Expenditure	3,651.9	3,248.0	3,103.9	3,177.9
Private consumption	1,700.6	1,605.4	1,570.7	1,588.0
Public consumption	297.3	289.3	286.0	293.2
Fixed investment	565.9	509.3	476.0	482.0
Stock-building	102.4	9.1	-69.0	72.0
Exports of goods and non-factor services	985.7	834.9	840.2	742.7
<i>(in per cent)</i>				
GDP growth ¹		-11.9	-4.5	-2.0

The source of data for 1991-1993 is national accounts tables released by the Ministry of Finance in April 1994. For 1990, the source is the Institute of International Finance's Hungary report from January 1994. The IIF report's growth rates for individual items were used to work backwards from the 1991 data, using stock-building for 1990 as a residual item.

¹ Note that revised figures released in the summer of 1994 pointed to a decline in real GDP in 1993 of 2.3 per cent, rather than the 2.0 per cent estimated in April.

**Table 11.15 GDP-estimates
for the Czech Republic**

	Absolute levels of GDP- components			Growth in GDP- components		Contributions to GDP growth	
	1991	1992	1993	1992	1993	1992	1993
	(in billions of Czech Krouna) at constant 1984-prices)			(percentage change)		(percentage points)	
Initial Estimate (Statistical yearbook, October 1993)							
Private consumption	192.7	214.1		11.1		2.2	
Public consumption	94.0	72.5		-22.9		-2.2	
Fixed investment	112.6	116.9		3.8		0.4	
Stock-building	16.6	-8.0				-2.5	
Foreign balance	16.2	6.0				-1.0	
GDP	432.1	401.5		-7.1		-3.1	
First Revision (December 1993 ¹)							
Private consumption	192.7	211.5		9.8		1.9	
Public consumption	94.0	90.5		-3.7		-0.4	
Fixed capital formation	112.6	116.9		3.8		0.4	
Stock-building	16.6	-27.0				-4.4	
Foreign balance	16.2	9.6				-0.7	
Exports of goods and services	233.7	253.2					
Imports of goods and services	217.5	243.6					
GDP	432.1	401.5		-7.1		-3.1	
Second Revision (April 1994 ²)							
Private consumption	191.8	209.3	212.5	9.1	1.5	4.0	0.8
Public consumption	94.0	89.6	90.6	-4.7	1.1	-1.0	0.2
Fixed capital formation	112.6	119.7	110.2	6.3	-7.9	1.6	-2.4
Stock-building	2.9	-24.3	-24.4			-6.3	0.0
Foreign balance	30.8	9.3	13.4			-5.0	1.0
Exports of goods and services	241.8	243.9	269.8	0.9	10.6	0.5	6.4
Imports of goods and services	211.0	234.6	256.4	11.2	9.3	5.5	5.4
GDP	432.1	403.6	402.3	-6.6	-0.3	-6.6	-0.3

¹ Source: Central Statistical Office in the Czech Republic: "Odhad tvorby a uziti hrubeho domaciho produktu 3. ctvrtleti 1993", December 1993.

² Source: Tables faxed from the Central Statistical Office to EBRD with the title "Hruba donaci produkt Ceske Republiky".

Table 11.16 Revised "Initial" set of National Accounts for Hungary ¹

	1990	1991	1992	1993
			<i>Preliminary</i>	<i>Preliminary</i>
	<i>(at fixed 1991-prices in billions of forint)</i>			
Column difference	102.4	39.6	-10.4	158.7
Output and imports	3,651.9	3,278.5	3,162.5	3,264.6
Domestically generated value added	2,662.9	2,376.5	2,299.0	2,281.8
Imports of goods and non-factor services	989.0	902.0	863.5	982.8
Expenditure	3,549.6	3,238.9	3,172.9	3,105.9
Private consumption	1,700.6	1,605.4	1,570.7	1,588.0
Public consumption	297.3	289.3	286.0	293.2
Fixed investment	565.9	509.3	476.0	482.0
Stock-building	0.0	0.0	0.0	0.0
Exports of goods and non-factor services	985.7	834.9	840.2	742.7

¹ EBRD estimates. The underlying methodology is described in the text under the sub-heading "An empirical experiment".

Table 11.17 Assumed error margins in Revised Initial National Accounts for Hungary

(within which the "true" value of the item is assumed to lie with 95% probability)

*(generally in per cent of the initial estimate;
for stock-building in per cent of the initial GDP-estimate)*

Output and imports

Domestically generated value added	3.0
Imports of goods and non-factor services	3.0

Expenditure

Private consumption	6.0
Public consumption	1.0
Fixed investment	6.0
Stock-building	2.0
Exports of goods and non-factor services	3.0

Table 11.18 Assumed error variances in Revised Initial National Accounts for Hungary (estimated as one-quarter of the squared value of the absolute error margin ¹)

	1990	1991	1992	1993
Output and imports				
Domestically generated value added	1,595.5	1,238.3	1,129.4	1,084.2
Imports of goods and non-factor services	220.1	183.1	167.8	217.3
Expenditure				
Private consumption	2,602.9	2,319.6	2,220.4	2,269.6
Public consumption	2.2	2.1	2.0	2.1
Fixed investment	288.2	233.4	203.9	209.1
Stock-building	709.1	550.4	501.9	481.8
Exports of goods and non-factor services	218.6	156.8	158.8	124.1

¹ Based on the assumption that the error margin is normally distributed. Note that only the relative size of the error variances (as opposed to the absolute value of the variances) influence how large a part of the data adjustment will be borne by any particular item.

Table 11.19 Revised National Accounts for Hungary ¹

	1990	1991	1992	1993 <i>Preliminary</i>
<i>(at fixed 1991-prices in billions of forint)</i>				
Output and imports	3,619.0	3,266.5	3,165.6	3,217.6
Domestically generated value added	2,633.9	2,366.0	2,301.7	2,242.6
Imports of goods and non-factor services	985.0	900.5	863.9	974.9
Expenditure	3,619.0	3,266.5	3,165.6	3,217.6
Private consumption	1,747.9	1,625.0	1,565.6	1,670.1
Public consumption	297.4	289.3	286.0	293.3
Fixed investment	571.1	511.3	475.5	489.6
Stock-building	12.9	4.7	-1.2	17.4
Exports of goods and non-factor services	989.7	836.2	839.8	747.2
<i>(in per cent)</i>				
Revised estimate of GDP growth		-10.2	-2.7	-2.6
Original estimate of GDP growth		-11.9	-4.5	-2.0

¹ EBRD estimates. The underlying methodology is described in the text under the sub-heading "An empirical experiment".

estimates of GDP. The recorded increase in average industrial wages per employee in 1993 was about 26 per cent. Meanwhile producer prices rose 11 per cent, the official estimate of industrial output expanded by 4 per cent, and the recorded number of hours worked in industry fell 9 per cent in 1993. While this would indicate that unit labour costs and output prices rose at approximately the same rate, the implied increase in the productivity of industry – 14 per cent in one year – defies belief. It would appear likely that industrial employment fell less sharply than recorded while production grew more moderately than the official 4 per cent.

Czech Republic

Statisticians in the Czech Republic have also found it difficult to reconcile indicators of output and expenditure. Trade with the Slovak Republic, following the break-up of the CSFR, has been particularly difficult to monitor. Initially the clearing account used to settle trade with the Slovak Republic indicated a sharp drop in trade turnover. This was difficult to reconcile with the output-based estimates of GDP which pointed to a very minor drop in real value added. However, the gap between estimated output on the one side and domestic expenditure and the foreign balance on the other was largely closed by the recognition that substantial amounts of exports to the Slovak Republic had been financed through a drawdown by Slovak importers of deposits in Czech banks.

Nevertheless, the underestimate of Czech stock-building, as a result of the inclusion in this of write-offs of stocks of goods produced in previous years, is likely to have been a very substantial source of underestimation of both output

and expenditure. As long as these write-offs are growing faster than GDP, their erroneous treatment will lead to an under-recording of GDP-growth. The magnitude of the problem is indicated by the stock-building series for 1991–1993 (Table 11.15). According to the official national accounts published in December 1993, the ratio between stock-building and GDP amounted to 3.8 per cent in 1991, -6.7 per cent in 1992, and -11.2 per cent in the 12 months ending in September 1993. Revised accounts published in April 1994 produced dramatically different estimates for stock-building (third part of Table 11.15), in which nevertheless the changes from year to year remain remarkable: from +6.7 per cent of GDP for 1991 to -0.7 per cent for 1992 and -6.3 per cent for 1993. Suppose the write-offs of stocks produced in previous years cease in 1995. This would be likely to move stock-building back into the positive realm and take recorded GDP-growth to about +5 per cent, even in the absence of any underlying growth in the Czech economy.

Expenditure data should not be ignored

It may be particularly difficult in eastern Europe to monitor investment in the many new companies and to keep track of the shift in retail trade towards new informal outlets. Many western European statistical agencies also find demand more difficult to estimate than supply. However, even if demand data are less reliable than estimates of supply, this is not an argument for ignoring them, only for reflecting their weaker reliability in the weighting of data during the computation of a compromise GDP estimate. The section below illustrates the procedure that might be used to arrive at such a compromise estimate.¹⁴

¹⁴ A supporting point made by Janos Arvai in his comments on a draft of this article is that although estimates of gross output may be more reliable than estimates of demand components, it is less obvious that the same can be said for estimates of value added. The latter are subject to much greater uncertainty than production estimates as they represent the difference between measured output and sometimes rough estimates of intermediate input usage.

An empirical experiment

To illustrate the sensitivity of GDP-estimates to the choice of balancing principles, we shall attempt in this section to adjust Hungary's official national accounts in accordance with the principles that were first advocated by Champernowne, Meade and Stone (see the reference to their 1942 paper at the end of this chapter). The numerical experiment is based on very simple assumptions and should be viewed only as an illustrative exercise.

Starting from the official presentation in Table 11.14 of the national accounts at a high level of aggregation, the first step is to replace the official estimates for stock-building in different years by zeroes and to raise the estimates of value added to reflect the findings in the study by Arvay and Vertes (pointing to the need to increase estimated production to account more fully for growth in new small-scale enterprises). The result of this is shown in Table 11.16. For the purpose of the balancing process, we assume that this step eliminates any bias there might have been in the initial estimates.

We are now left with a gap between the estimates for output and expenditure. Following the recommendation of Champernowne, Meade and Stone, we set as the objective for the balancing exercise to remove the gap in accordance with the generalised least squares principles. For this purpose we proceed to attach 95 per cent confidence intervals to individual items (see Table 11.7). The corresponding "error variances" are shown in Table 11.18. It should be noted here that we have determined these error variances on very weak evidence. We have done this purely for illustrative purposes. Clearly the Hungarian statisticians are better placed to assess the error variances.

Under the assumption that all errors are uncorrelated, we now proceed to apply the generalised least squares formulas to arrive at a balanced set of accounts. In the simple one-column case presented here, the balanced estimates may be derived by simple distribution of the aggregate discrepancy on initial cell-estimates in proportion to their share of the sum of the error variances.¹⁵ The result is shown in Table 11.19. The last two lines in the table indicate (very tentatively) that real GDP growth may have been overestimated in 1993 and underestimated in previous years.

Concluding remarks

Data on consumption and investment are often forgotten in the discussion of production developments in eastern Europe. A possible argument against the use of expenditure-based GDP-estimates for eastern Europe is that they might be tainted by a large negative bias due to excessive reliance on information from state-owned institutions which represent an ever smaller share of the east European economies. However, the ideal response to this for national accounts statisticians is to assess the size of the bias and make the appropriate correction, even if this involves "tampering with data based on subjective judgements" – the national accounts statisticians are better placed to make these corrections than the users of the accounts.

Expenditure data should be actively used in the computation process which leads to establishment of official GDP estimates. This might, as illustrated in the example above, influence estimates of GDP-growth, possibly by as much as improvements in the coverage of new economic entities.

The only acceptable argument against taking account of expenditure data is that the latter may be so unreliable that they carry no information value at all. If indeed this argument can be substantiated, then responsible governments should give budgetary priority to improvements in the quality of demand data. This is not only because good demand data introduce a useful check on the supply series which governments use as a key indicator of policy-success, but also because it is crucial to know whether supply growth is matched on the demand side by increases in consumption or by rising investment.

¹⁵ This is a simple variant of the balancing algorithm presented in Bartholdy (1991).

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