

LABOUR MARKETS AND THE TRANSITION IN CENTRAL AND EASTERN EUROPE

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INTRODUCTION

Generating a new flexibility and dynamism in the labour markets of central and eastern Europe will be of fundamental importance in determining the speed and final outcome of the transition from central planning to market-based economies. A sharp rise in unemployment may be inevitable in the short run but could strain the social consensus supporting the transition process. The key role played by the labour market in easing or hampering the process of economic restructuring has been a lesson painfully learned in OECD countries over the last decade and a half. Unemployment in the West was also quite low in the early **1970s** but rose rapidly following each of the two oil price shocks and has remained persistently high in many countries despite a period of sustained economic growth in the **1980s**. From this perspective, it is useful to survey features of labour markets in central and eastern Europe with a view to assessing the principal factors which may hinder the transition and increase the risks of high and persistent unemployment.

In Section I, an overview is given of some of the main features of east European labour markets prior to the current waves of reforms. This section singles out particular areas which will affect the nature and outcome of the transition. An assessment of how some of these features are currently being transformed is made in Section II. The nature of the job losses which have been occurring is discussed as well as the extent to which the private sector has been growing. The rise in unemployment has been the most dramatic indication of the changes now occurring in the East and its composition and likely persistence is the focus of Section III. The rapid deterioration in the labour market will require income support measures but the scale of such programmes will be constrained by the precarious financial situation of governments. Active labour market programmes could reduce the duration of unemployment, avoid the build up of long-term unemployment and help contain the costs of social transfers. The appropriate balance between these two aspects of labour market policy is discussed in the concluding section.

I. LABOUR MARKETS UNDER CENTRAL PLANNING

Some features of labour markets under central planning are quite well known – a large concentration of employment in agriculture and industry, high female participation

rates and a situation of full-employment associated with substantial labour hoarding or disguised unemployment and, consequently, low levels of labour productivity (OECD, 1991a). In this section more emphasis will be placed on less well documented features such as wage differentials and the occupational and educational composition of the labour force. Each of these aspects of the labour market will play a crucial role in determining the speed and outcome of the transition to market-based economies.

A. Over-employment and productivity

Economic growth in centrally planned economies typically came from more extensive use of inputs, including labour, and to a lesser extent from their more intensive use (that is, from increases in productivity). The mobilisation of women in the work force was a key factor behind high participation rates of the population of all ages when compared with OECD countries. Male participation rates, on the other hand, were more in line with OECD rates and exhibited a similar decline over time¹.

In theory, employment was guaranteed for all and, hence, official unemployment was either negligible (in the case of Hungary) or non-existent. However, in practice, many of those in formal employment were idle. Estimates of over-employment or labour hoarding are notoriously difficult to make and vary according to the concept used and the method of estimation. Labour hoarding can be defined as “a situation where an establishment is paying for more worker-hours than is necessary to produce current levels of output” (Pissarides, 1991). Based on this definition, various studies (Gora, 1991; Karpisek, 1991; and Nešporová, 1991) suggest that between 15 and 30 per cent of all working-time was effectively hoarded labour.

The corollary to over-employment was low labour productivity. Again, this is an area plagued with measurement problems, particularly when trying to adjust the relative prices of inputs and outputs for quality differences for the purpose of international comparisons. From a recent study which compares different estimates of per capita GDP (Ray, 1991), it would appear that in the mid-1980s productivity in central and eastern European countries ranged from around just over a third to a half of that in a middle-income OECD country like Austria and was also lower than in a low-income OECD country like Greece. The same study also reports estimates for industry which suggest, that during the 1980s the level of labour productivity for Czechoslovakia and Hungary was around 40 to 60 per cent below the level in Austria. Furthermore, it would appear that there has been a long-term decline in productivity relative to the West.

B. Industry and occupational structure of employment

As a result of lower productivity growth and policies to promote heavy industry, the share of total employment in agriculture and industry remained high in the East whereas it has declined considerably over the last two decades in the West (OECD, 1991a). Therefore, restructuring is likely to involve large job losses in these two sectors as privatisation proceeds and enterprises face greater exposure to international competition. At the same time, expansion in the “under-sized” service sector may be a source of considerable employment opportunities (OECD, 1991b). However, the ease

Table II - Employment in industry by occupation

Percentages

	Bulgaria C'	Czecho- slovakia MC	Hungary MC ¹	Poland C'	Austria LFS ¹	Netherlands LFS ¹	Japan LFS ¹	Western Germany LFS ¹	Sweden C'	United states LFS ¹
	1985	1990	1989	1988	1989	1990	1990	1989	1985	1990
Professional and technical	14.9	21.0	9.5	16.0	7.3	13.8	4.8	10.6	18.7	12.2
Administrative and clerical	2.9		12.0	6.0	16.6	18.9	18.3	19.4	9.9	23.7
Sales and service	2.8		4.8	0.4	3.7	9.9	5.5	6.4	6.0	5.3
Production, transport, etc.	79.3	75.6	73.3	75.3	72.1	55.7	71.3	60.3	59.0	58.4
Other and not defined	0.1	3.4	0.3	2.2	0.2	1.8	0.1	3.3	6.4	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Memorandum items:										
Share of production workers in total employment ²	54.5	50.7	49.6	53.4	38.3	25.7	38.1	34.0	26.7	27.5
Employment shares										
- Agriculture	16.5	10.1	17.0	27.8	7.8	4.6	7.2	3.7	5.0	2.8
- Industry	37.9	36.5	32.5	28.2	28.9	19.7	24.6	33.5	22.7	19.9
- Construction	8.7	9.3	5.2	7.9	8.5	6.5	9.4	6.7	6.0	6.5
- Services	36.9	44.1	45.3	36.0	54.8	69.1	58.7	56.1	66.4	70.7

1. C : Census; MC : Microcensus; LFS : Labour force survey.

2. Excluding agriculture and agricultural occupations.

Sources: ILO Year Book of Labour Statistics, Retrospective Edition on Population Censuses, 1945-89; ILO Year Book of Labour Statistics 1991; FSU, Statistická Rocenka CSFR 1991; and Hungarian Central Statistical Office, Hungarian Statistical Yearbook, 1989-90.

with which this restructuring and reallocation of labour occurs will depend in part upon the occupational structure and qualifications of the labour force.

There is some evidence that the relatively high concentration of employment in industry disguised a large number of workers in service-type jobs (Nešporová, 1992). Enterprises were typically very large (OECD, 1991a) and carried out a number of service-type activities relating to transport and distribution, repairs and maintenance and the provision of food and other services to their workers. Therefore, it is possible that, as restructuring proceeds, not all of the potential job transfers from industry to services will involve a change of occupation. This would imply a somewhat lower cost of adjustment in terms of unemployment duration and retraining than indicated by the overall share of employment in industry. However, when total employment in industry is broken down by occupation, the proportion of production or manual workers is either similar or higher than in OECD countries (Table 1) and so it would not appear to be the case that there are an unusually high number of service workers in industry*. In fact, the share of production workers across all sectors, excluding agriculture, is much higher in the East than in the West. Thus, restructuring may require a substantial amount of retraining because, in many cases, old jobs will have to be exchanged for employment in both different industries and occupations.

C. Educational qualifications

The available data on occupations may not be a very good proxy for labour force skills. Alternatively, information on educational qualifications can be examined, although substantial differences in institutional features of education systems make quantitative international comparisons of educational qualifications hazardous. On this basis, it has been suggested that the work force in most central and eastern European countries is well qualified (see, for example, Bednarzik, 1990) and, given existing levels of earnings, this could favour the inflow of foreign capital and might imply greater adaptability of labour in the face of economic restructuring.

In Table 2, a comparative overview of the structure and level of education is given using a range of indicators. The groupings in Table 2.A on educational attainment are somewhat arbitrary but it would seem fairly clear that the proportion of the labour force in central and eastern Europe with more than just a basic level of education lies around the middle of the range of OECD countries represented in the table. In terms of higher education, workers in the East appear somewhat less qualified than those in many western European countries (with the exception of Austria, Italy and Spain³).

The data on educational attainment in Table 2.A represents the training received by different cohorts of workers in the past. Enrolments rates in Table 2.B provide an indication of the level of education of new or potential entrants to the labour force and are lower both for secondary and higher education than in western Europe, even when comparisons are made with lower-income countries⁴. This may indicate that eastern Europe is falling behind OECD countries in the provision of education.

The possibility of finding a job depends not only upon the level but also the type of education or training being received. As Table 2.C shows, a much higher proportion of secondary students in central and eastern Europe attend vocational schools than in the West, even when compared to countries which have traditionally been oriented to

Table 2. Indicators of educational attainment and type of training

A. Level of education of the labour force												
As a per cent of the total labour force												
	Bulgaria	Czecho- slovakia	Hungary	Poland	Romania	Austria	France	Greece	Ireland	Italy	Netherlands	Spain
	1990	1989	1990	1988	1990	1990	1989	1989	1989	1990	1989	1990
Basic or less	44.6	26.0	38.4	34.2	35.8	28.6	35.3	52.6	26.8	26.6	12.6	48.4
Vocational	15.8	21.0	23.1	29.5	31.4	57.8						
Secondary	30.0	43.8	26.9	27.9	24.0	6.3	46.0	35.3	55.5	66.2	61.3	46.1
Higher	9.6	9.2	11.6	8.4	8.8	7.1	14.6	11.4	17.5	7.2	19.7	5.5
Other¹							4.0	0.7			6.5	
All levels	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

■ In general, includes those people who are currently studying.
Sources: National statistical yearbooks for Czechoslovakia and Poland; data supplied directly by Hungarian Central Statistical Office for Hungary; Raboaca, 1991, for Romania; and ILO data base LABEDUC as reported in Imbert, 1991, for all OECD countries.

B. Enrolment ratios at secondary and higher levels of education ¹												
Percentages												
	Bulgaria	Czechoslovakia	Hungary	Poland	Romania	Austria	France	Greece	Ireland	Italy	Netherlands	Spain
	1989	1989	1989	1989	1989	1989	1989	1987	1988	1989	1988	1987
(Age group)	(14-17)	(14-17)	(14-17)	(15-18)	(14-17)	(10-17)	(11-17)	(12-17)	(12-16)	(11-18)	(12-17)	(11-17)
Secondary	75	87	76	81	88	82	97	97	97	78	103	105
– Net ²	59		73	76			83	85	79		82	
(Age group)	(20-24)	(20-24)	(20-24)	(20-24)	(20-24)	(20-24)	(20-24)	(20-24)	(20-24)	(20-24)	(20-24)	(20-24)
Higher	26	18	15	20	9	30	37	28	26	29	32	32

1. Enrolments as a percentage of the population of the corresponding age group (given in parentheses).
2. Including only students falling within the specified age group.
Source: *UNESCO Statistical Yearbook 1991*.

C. Type of education										
Percentages										
	Bulgaria	Czechoslovakia	Hungary	Poland	Austria	Western Germany	Italy	Netherlands	Sweden	United Kingdom
	1989	1989	1989	1989	1989	1988	1989	1988	1988	1989
Secondary level enrolments										
- Vocational ¹	60.3	53.8	76.1	77.4	28.5	36.3	40.6	44.3	35.6	98
- General	39.7	46.2	23.9	22.6	71.5	63.7	59.4	55.7	64.4	90.2
	1989	1988	1989	1988	1988	1987	1988	1987	1989	1987
Higher level graduates by field of study										
- Engineering, industrial trades and architecture	28.1	38.9	21.7	16.9	12.5	20.9	11.5	16.4	29.5	14.3
- Natural science and mathematics	4.7	2.6	4.2	2.9	8.5	7.1	9.6	4.1	5.5	13.9
- Medicine	7.5	6.6	7.3	15.6	14.3	24.3	25.8	11.7	23.1	16.8
- Education	29.4	17.8	35.3	29.5	14.4	7.1	2.8	14.5	1.4	8.3
- Other	30.3	34.0	31.5	35.1	50.3	40.6	50.3	53.3	25.5	46.8

1. Including teacher training.

Sources: UNESCO, *Statistical Yearbook 1991*, for all countries except Hungary, where data on graduates by field of study has been taken from the Hungarian *Statistical Yearbook 1989-1990*, Hungarian Central Statistical Office.

vocational training such as western Germany and Sweden. The proportion of higher level graduates in the field of engineering also tends to be higher. The examples of Japan, western Germany and Sweden suggest that a strong emphasis on vocational training is not inimical to growth and may, in fact, favour better economic performance. However, the rather narrow base in the training of workers in central and eastern Europe may hinder the restructuring process. Many of their skills may become obsolete and substantial amounts of retraining may be required⁵.

D. Wage relativities

As discussed in the companion article by Flanagan, wages play a crucial role in market economies in achieving an efficient allocation of labour such that productivity is maximised. Wage differentials, within a broader social and institutional context, also play a part in determining skill acquisition. Therefore, it is of some interest to examine the structure of wages in central and eastern Europe.

Inter-industry wage differentials have been analysed in several studies (see, for example, Boeri and Keese, 1992) which suggest that there is a low dispersion of wages (although no lower than in Sweden) and stability over time (with the possible exception of Hungary). However, the fact that manual workers account for a much larger share of employment than in OECD countries may partly account for these low wage differentials. In order to examine this possibility, a comparison is made in Chart 1 of earnings differentials by selected occupations in a range of industries covering both manufacturing and services⁶. For each industry, both a "high paid" job and a "low paid" one have been selected for occupations which are the same (at least in terms of "appellation" if not, in fact, in terms of duties performed) across the countries represented⁷.

As in the West, the variability of wages across "low paid" jobs (Chart 1.6) appears to be lower than for "high paid" jobs (Chart 1.A). Given the greater employment share of production or lower paid workers in central and eastern European countries compared with OECD countries, this may indeed explain a lower dispersion of inter-industry wages. Chart 1.A also shows that the spread of earnings between different "high paying" jobs is somewhat larger for the western countries represented in the chart than for the eastern ones, although Italy does show a much more compressed wage structure than Austria and Germany. Therefore, while workers in low paid jobs may have as little or as much incentive to choose between different industries in the East as in the West, this would not appear to be the case with respect to higher paid workers.

Skill acquisition will be influenced in part by wage differentials between skilled and unskilled jobs. Intra-industry comparisons of earnings in "high paid" jobs relative to "low paid" jobs are shown in Chart 2 and suggest that wage differentials according to skill are quite important in central and eastern European countries⁸. In fact, earnings in "high paid" jobs relative to "low paid" jobs are higher in the East than in the West within the iron and steel industry and also somewhat higher in construction, trade and catering. Again, there is considerable variation in the size of these differentials between the countries of central and eastern Europe represented in this chart and so care must be exercised in extending these results to all of the countries in the region.

As Hungary and Poland could not be included in Charts 1 and 2, information on wage relativities for industry in these countries is presented in Table 3, as well as for

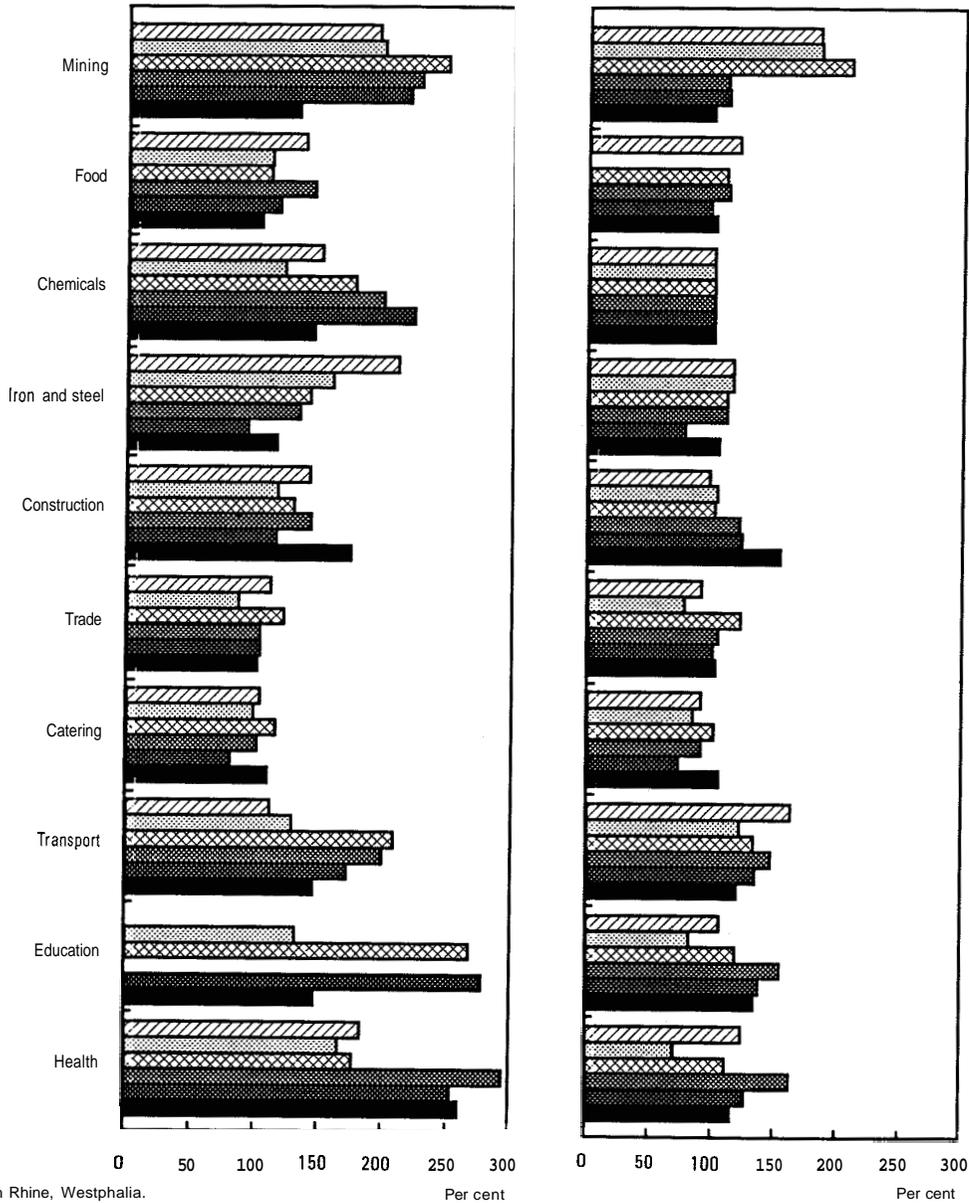
Chart 1. Relative earnings by occupation in selected industries
Earnings of labourers in chemical industry = 100

Bulgaria
 Romania
 Germany (I)

Czechoslovakia
 Austria
 Italy

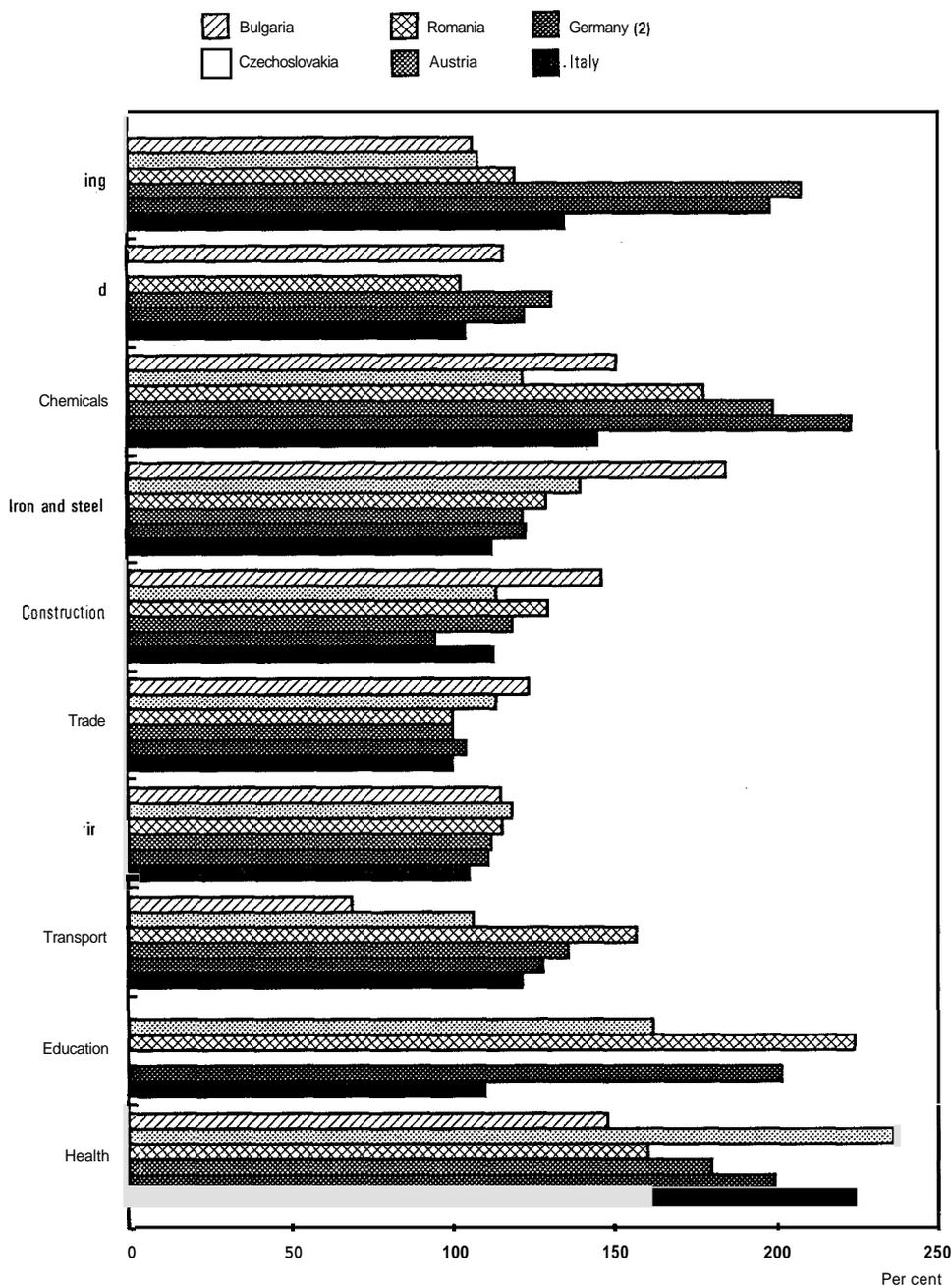
A. High paid jobs

B. Low paid jobs



1. North Rhine, Westphalia. Source: Bulletin of Labour Statistics, October Inquiry Results, 1989 and 1990, ILO, Geneva, 1991

Chart 2. Occupational earnings differentials in selected industries (1)



1. Earnings in high paid jobs relative to low paid jobs.

2. North Rhine, Westphalia.

Source: Bulletin of Labour Statistics, October Inquiry Results, 1989 and 1990, ILO, Geneva, 1991.

Table 3. Measures of wage relativities in industry

A. Coefficient of variation across sectors ¹						
In per cent						
	Czechoslovakia	Hungary	Poland	Belgium	Sweden	United States
	1989	1990	1989	1989	1989	1990
Unweighted	11.1	23.9	16.4	19.0	9.7	24.8
Weighted by employment	10.9	17.2	10.0	14.3	7.3	18.9

B. Wage relativities by occupation and sex ¹								
In per cent								
	Bulgaria	Czechoslovakia	Hungary	Poland	Romania	Belgium ¹	Western Germany	United Kingdom
	1990	1990	1989	1990	1989	1988	1989	1990
Non-manual/manual	107	111	162	119	118	175	147	140
		1988						
Female/male								
- All workers	74	65	64	76				60
- Manualworkers			65			75	69	60

1. For all countries, average monthly earnings except average annual earnings for Western Germany and weekly earnings for full-time employees for the United Kingdom.

2. Estimated from data on hourly wages and average weekly hours of manual workers and average monthly earnings of non-manual workers.

Sources: Bulgaria: *Statistical Handbook* Economics of Bulgaria, Central Statistical Office, 1991 and Beleva et al. 1991. Czechoslovakia: *Statistical Yearbook CSFR* 1990, FSU, 1991 and Kroupová, 1990. Hungary: *Statistical Yearbook 1989-1990*, KSH, 1991. Poland: *Rocznik Statystyczny* 1991, GUS, 1991 and Góra, 1991. Romania: *Anuarul Statistic al României* 1990, CNS, 1991. Belgium: *Statistiques sociales*, No. 1, 1990. Western Germany: *Arbeits- und Sozialstatistik, Hauptergebnisse* 1991, Ministry of Employment and Social Affairs, 1991. United Kingdom: *Employment Gazette*, Department of Employment, November 1991.

Bulgaria, Czechoslovakia and Romania. In Czechoslovakia and Poland, wages show a low dispersion across manufacturing industries compared with Belgium and the United States (Table 3.A) although they are not as tightly compressed as in Sweden. Possibly as the result of a series of wage-setting reforms throughout the **1980s**, the variation of inter-industry wages in Hungary is remarkably high, almost as great as in the United States. The earnings gap between manual and non-manual workers in Hungary is also much larger than in the other countries of central and eastern Europe (Table 3.9). The low differentials for the other countries may appear somewhat surprising given the evidence in Chart 2 of significant differences between high and low paid jobs in industry. However, the classification non-manual workers includes all administrative workers such as clerks and other office workers whose wages are typically quite low. Finally, from the evidence in Table 3.9, it would appear that a higher participation of eastern European women in the labour force has not been associated with more equal earnings between the sexes than in the West.

While Charts 1 and 2 and Table 3 do suggest that wage differentials in central and eastern Europe were not as narrow as is sometimes believed, there are still several important aspects of the structure of wages which have not yet been discussed. For instance, as was the case for employment, it is useful to look at the structure of wages with respect to educational qualifications as well as occupation. For Poland in **1989** average earnings for men with a university education were around 61 per cent higher than for those with only primary school education or less and **21** per cent higher than for those having completed secondary education. As a rough guide, given likely differences in the measurement of earnings and educational qualifications, this compares with earnings premia for Austria of around 74 and 26 per cent, respectively⁹. However, while there appears to be significant wage differentials by sex, occupation and educational qualification, the overall earnings distribution appears to be much more equal in the East than in the West. In Poland, for example, the highest average earnings received by the ninth decile of all full-time employees in **1989** was only **2.4** times higher than that of the first decile whereas in the United Kingdom it was **3.3** times higher in **1990**¹⁰.

II. DEVELOPMENTS SINCE THE BEGINNING OF TRANSITION

The preceding overview of labour markets under central planning should not obscure some major differences between countries. Hungary, in particular, experimented with various reforms throughout the **1980s** and these are reflected in wider wage differentials than in other eastern European countries. Nevertheless, it was only after the events of **1989** and the complete rejection of the former model of central planning that wide-ranging and systemic reforms could be undertaken in central and eastern European countries. In this section, the impact of these reforms on labour markets is discussed. It describes developments over the last two years with respect to labour hoarding, the structure of employment, the dynamics of wages and the emergence of open unemployment.

A. Labour hoarding

It was inevitable that the transition from the domination of central planning to more market-based economies would initially have an adverse impact on output and employment. However, the countries of central and eastern Europe began the process of transition facing an extremely unfavourable economic climate. Trade within the Eastern bloc collapsed and energy prices rose substantially as the former **USSR** moved towards world pricing of its energy exports. In addition, structural reforms were accompanied with rather tight macroeconomic policies. As a result, output in most countries fell considerably in 1990 and 1991 (Table 4) and there are still no clear signs of a recovery in economic activity.

Table 4. Output, employment and productivity developments

Percentage changes

	Whole Economy									
	Output ¹		Employment					Productivity		
	1989	1990	1989	1990	1989	1990	1989	1990	1990	
Bulgaria	-0.3	-11.5	-2.3	-6.3	2.0	-5.5				
Czechoslovakia	1.3	-3.1	0.3	-0.4	1.0	-2.7				
Hungary	0.2	-4.0	-0.9	-2.0	1.1	-2.0				
Poland	-0.2	-13.0	0.6	-3.7	-0.8	-9.7				
Romania	-5.8	-7.3	1.3	1.5	-7.0	-8.7				

	Industry ²														
	output					Employment					Productivity				
	1989	1990	91/Q1	91/Q2	91/Q3	1989	1990	91/Q1	91/Q2	91/Q3	1989	1990	91/Q1	91/Q2	91/Q3
Bulgaria	-1.1	-16.8	-22.0	-37.0	-23.8	-3.4	-7.8	-13.6	-16.7		2.4	-9.7	-9.7	-19.4	
Czechoslovakia	1.1	-3.7	-10.5	-22.5	-30.9	0.2	-2.8	-8.1	-11.2	-20.1	0.9	-0.9	-2.6	-12.7	-13.5
Hungary	-1.0	-9.2	-12.1	-20.8	-27.4	-1.7	-5.5	-10.7	-12.4	-13.8	0.7	-2.9	-1.6	-9.6	-15.8
Poland	-0.5	-24.2	-5.9	-13.2	-16.6	0.0	-5.8	-7.8	-7.1	-6.6	-0.5	-19.5	2.1	-6.5	-10.7
Romania	-2.1	-14.3	-16.1	-17.2	-19.8	2.6	0.8	-7.5	-10.6	-10.6	-4.6	-15.0	-9.3	-7.4	-10.3

1. Output for the whole economy is Net Material Product for Bulgaria, Czechoslovakia and GDR. Productivity for Hungary, Poland and Romania.

2. The quarterly data refer to changes in the year to the quarter and are not directly comparable with the annual data. Source: OECD Economic Outlook No. 50, April 1991, OECD *Short-Term Economic Statistics* Central and Eastern Europe and national statistical yearbooks.

Against this background, employment declined markedly in all countries as soon as industrial subsidies began to be dismantled and short-time working arrangements were replaced with unemployment compensation schemes, which relieved firms from directly providing assistance to redundant workers". While large, job losses have not been as strong as the fall in output (Table 4) and hence labour productivity has also

declined. This is not surprising as productivity tends to behave pro-cyclically also in western countries. However, the fall in productivity was proportionally much larger than typically observed in OECD countries during a recession and points to a low initial response of employment to changes in output.

Table 5 provides some estimates of the short-run and long-run elasticities of employment to output changes in Poland and Hungary – the only two countries for which quarterly series on industrial production and employment were available over a sufficiently long time-span – and in selected OECD countries¹².

Table 5. Estimates of employment responsiveness to changes in output¹

	Short-run		Long-run		Mean lag	
	198085	1986-91	198085	198691	198085	198691
Poland	0.04 (1.4)	0.04 (1.7)	0.17	0.18	3.35	3.55
Hungary	0.02 (0.8)	0.05 (1.9)	0.11	0.26	4.26	4.26
Average	0.03	0.05	0.14	0.22	3.76	3.88
Sweden	0.18 (2.4)	0.27 (4.6)	0.75	1.04	3.17	2.85
Spain	0.32 (2.1)	0.29 (3.4)	0.70	2.07	1.17	6.14
Average	0.25	0.28	0.72	1.55	1.86	4.00

1. The coefficients for industrial production and lagged employment were estimated independently over each period with no constraints on other coefficients of the equation; "t" statistics appear in parentheses. Details on the estimation framework are provided in the text.

Sources: OECD Main Economic Indicators and OECD Short-term Economic Statistics Central and Eastern Europe.

Two points are important. First, there is no evidence that employment in Hungary and Poland has become significantly more responsive to output changes than in the past. While stability tests suggest that there was a switch in the employment-output relationship after 1989 in Poland, a lower rather than a higher degree of responsiveness was indicated¹³. Analogously, there is no evidence of significant changes in adjustment speeds (estimated on the basis of the fraction of long-run adjustment occurring within a quarter). Second, there is a large gap between OECD countries and Hungary and Poland in terms of short-run and long-run employment-output elasticities, and this gap has widened in the course of the 1980s. Whereas in Spain and Sweden a 1 per cent fall in output leads to a decline in employment of about 0.3 per cent within a quarter, the corresponding fall in Hungary and Poland is of the order of only 0.05 per cent.

There are several possible explanations for the persistence of relatively low employment-output elasticities even after the start of the reform process. Some of these have to do with the political economy of the liberalisation process, namely the consensus-seeking patterns followed by governments in a context where employment is still dominated by state sector jobs and the right to a job was previously guaranteed. Other explanations such as the control exerted by workers on the management of firms, labour hoarding in response to uncertain delivery of intermediate inputs¹⁴ and the absence of mechanisms enforcing the exit of firms, refer to the microeconomic legacies of the past system and have been extensively analysed in the literature.

Therefore, it would appear that in the face of considerable uncertainty with respect to future reforms and the transition process, managers have so far confined themselves to reductions in the number of shifts, the introduction of short-time working arrangements and the shutting-down of production lines without implementing large scale layoffs. Evidence on the distribution of job destruction across firms indicates that, rather than many workers being laid off in just a small number of firms, relatively few workers are laid off in many firms. As a result, individual layoffs still tend to predominate over group layoffs in those countries for which data are available¹⁵.

Overall, employment has still to fully adjust to the dramatic falls in output which occurred in 1990 and 1991. This will probably involve some major plant-closures as the phasing out of most residual industrial subsidies, the drying-up of inter-enterprise credit and a greater exposure to international competition will force inefficient units to withdraw from the market. There is indeed evidence that the number of bankruptcies is rapidly increasing¹⁶. Even those firms which survive will be forced to reduce their workforce as keeping a large number of workers in excess of production needs is bound to become unsustainable under tighter budget constraints and greater competition. It follows that a downward trend of employment is likely to continue well after the halt to the current decline in economic activity.

B. Changes in the structure of employment

The sectoral profile of employment losses provides an important indication of the kind of changes which have occurred in the allocation of labour since the start of the transition process. Table 6 shows that the bulk of job losses occurred in agriculture, industry and construction, but that employment also fell quite dramatically in most service activities (most notably in Czechoslovakia and Poland during 1991) despite their initial low share in total employment compared to OECD countries (see Section I). However, insofar as most of the job creation in tertiary activities takes place in the private sector, the poor employment performance of service activities may be partly explained by the limited coverage of the private sector in the official statistics.

While major sectoral shifts towards light industries and service sectors have still to take place, quite dramatic changes have occurred in the distribution of the labour force by ownership of enterprises. The coverage of the private sector in the official statistics is no doubt very incomplete but, nevertheless, it would appear that there has been a substantial rise in private sector employment (bottom panel of Table 6). However, according to the official statistics, the expansion of the private sector in 1990 was not sufficient to fully absorb the decline of employment in the state sector. In Hungary and Poland, for instance, job losses in the state sector were more than one and a half times

	Bulgaria		Czechoslovakia ²		Hungary ³		Poland ⁴		Romania ⁵	
	1990	1991 ⁶	1990	1991/Q1-Q3	1990	1991/Q3	1990	1991/Q3	1990	1991/Q2
Agriculture	-7.5	1.0	-4.3	-15.3	-13.0	-24.7	-2.4	-27.4	5.0	
Industry	-7.3	-16.7	-2.4	-11.3	-1.8	-13.8	-5.8	-6.0	1.6	-10.6
Construction	-9.1	-20.6	8.7	-17.6	-2.2	-29.5	-5.8	5.9	-9.9	
Services	-4.7	-1.7	-1.5	-9.5	-0.8		-2.5	-8.6	2.9	
- Transport and communications	-3.4	-5.7	2.5	-6.1	0.2	-11.3	-6.0	-9.5	1.3	
- Trade, restaurants and hotels	-10.1	2.6	-8.6	-23.5	4.5	-16.9	-4.8	-10.5	2.0	
- Finance, insurance, research and development	-9.0	-14.1	-12.8	-15.8			-2.0	3.7		
- Community, social and personal services	-1.6	0.2	3.1	-2.9	-4.1		0.4	-8.8	4.0	
Total	-6.5	-8.3	-1.2	-11.2	-3.3	-17.7	-3.7	-7.7	1.3	
Public sector per cent change ('000s)	-7.3		-6.3		-7.4		-9.3			
Private sector per cent change ('000s)	2.1		430.8		40.4		9.8			

1. Data for 1990 refer to the average for the year for Bulgaria, Poland and Romania and to the end of the year for Czechoslovakia and Hungary. For 1991 the data is not necessarily comparable, in terms of coverage, with the data for 1990.

2. Includes secondary jobs and excludes women on maternity leave.

3. Employed pensioners and persons on child-care leave are included in the breakdown by industry for 1990 but are excluded from the public/private sector breakdown.

4. Full-time equivalents, excluding women on maternity leave.

5. Employees only.

6. Preliminary estimates.

7. Material sector only.

Sources: All data provided directly by central statistical offices.

as large as recorded job gains in the private sector. Only in Czechoslovakia were enough private sector jobs generated, from a low base of less than 100 thousand employed at the end of 1989, so as to almost fully match job losses in state-owned enterprises and cooperatives. Unfortunately, it is not possible, using the available statistics, to assess the extent to which private sector growth has been associated with the creation of new employment opportunities rather than just with the simple transfer of jobs from the state sector.

The expansion of the private sector can also be gauged using data on new business registrations. In Czechoslovakia the number of registered "private entrepreneurs" rose from about 85 thousand at the end of 1989 to over one million by September 1991. However, only a small minority were effectively working as private entrepreneurs on a full-time basis¹⁷. A significant proportion of all licences granted concerned

initiatives in light industry, construction and services. Similarly, in Hungary the number of registered self-employed reached 700 thousand at the end of 1990 from less than half-a-million in December 1989 and they were mainly engaged in small-scale, non-agricultural activities. Finally, in Poland the number of registered private establishments has risen by over 500 thousand from the end of 1989 to September 1991 and employment in these establishments has risen by around 1 million to reach 2½ million persons.

There have also been significant changes in the distribution of employment by enterprise size. As mentioned in Section I, employment was heavily concentrated in very large enterprises and, although the share in total employment of small and medium sized firms had been increasing prior to 1989, the initial phase of the transition has been characterised by an acceleration of this process. There is evidence that the bulk of job losses have been in large firms and establishments, whereas small units have displayed a remarkable dynamism. The case of Hungary is particularly striking: at the end of 1990 the employment share of industrial enterprises with less than one hundred employees (19.9 per cent) was more than four times as large as in 1989 (4.5 per cent)¹⁸. This does not necessarily mean that small firms have been a strong source of new job creation. For instance, many small activities have originated from the decentralisation of large companies, especially in those countries where incentives for the creation of small business have been put into place¹⁹ and others are the result of the legal registration of activities that were previously part of the so-called “parallel” or unofficial economy.

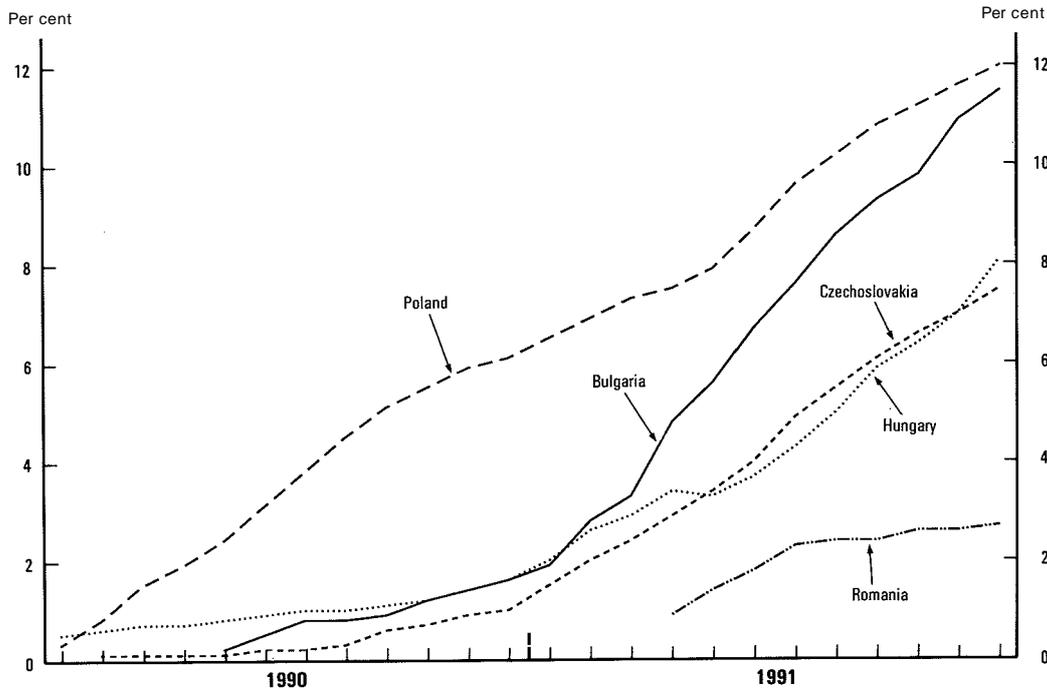
Overall, while there appears to have been considerable changes in the distribution of workers across firms of different size and ownership structure, there are as yet no signs of an expansion of light industry and the services sector.

C. The emergence of open unemployment

Large scale unemployment has made its appearance in all countries of central and eastern Europe. This represents a sharp break with the full employment conditions artificially maintained under the previous regime. The rise in unemployment rates was particularly rapid in Poland during 1990 and in Bulgaria during 1991 (Chart 3). All countries, with the exception of Romania – where however short-time working-time arrangements have been quite extensively used and official data may grossly understate the actual rise in unemployment – are rapidly approaching two-digits unemployment rates and by the end of 1991 there were almost 4 million registered unemployed in the whole of central and eastern Europe.

The available statistics on unemployment refer to registration data and, hence, are likely to be affected by different eligibility criteria as well as by the scope and efficiency of the network of labour offices²⁰. Some inferences can, nevertheless, be made on the direction of their likely bias. In Poland, for instance, the number of registered unemployed exceeded recorded monthly job losses by an average factor of 1.2 in 1990, reflecting, *inferred alia*, sizeable registrations of school leavers and other new entrants in the labour force. However, with the tightening of eligibility criteria, the share of school leavers in total unemployment has strongly decreased and growth in unemployment has since matched more closely the decline in employment. Quite opposite is the case of Hungary where relatively low rates of unemployment were recorded in 1990 despite sharp falls in employment. This may reflect some initial reluctance to register as

Chart 3. Registered unemployed
As a per cent of the labour force

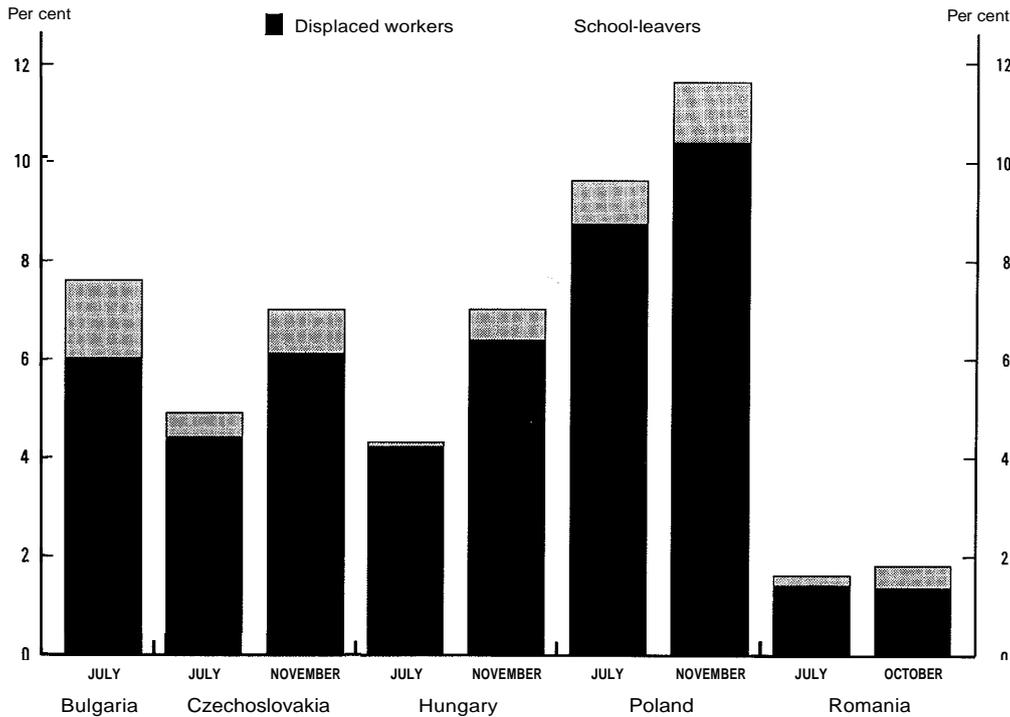


Sources : Unemployed data provided by national statistical offices. Rates are estimates based on annual employment series.

unemployed on the part of displaced workers as well as stricter eligibility conditions for benefits. However, since the start of 1991 there has been an acceleration in unemployment rates in Bulgaria, Czechoslovakia and Hungary.

In all countries, job losses have been the primary factor driving unemployment and displaced workers represent the vast majority of the unemployed (Chart 4). In some countries, such as Hungary, the proportion of school leavers is extremely small which can be explained by the fact that prior to February 1991 they were automatically disqualified from receiving unemployment benefits.

Chart 4. Displaced workers and the growth of unemployment in 1991
As a per cent of the labour force



Sources: Unemployed data provided by national statistical offices. Rates are estimated as for Chart 3

III. TENDENCIES FOR THE FUTURE

A sudden rise in unemployment was to be expected in central and eastern Europe, given the misallocation of labour inherited from the previous system, the large amount of labour hoarded by firms and the likely occurrence of large scale capital scrapping. However, employment has still to fully respond to the sharp falls in output and the process of privatisation remains largely uncompleted. Therefore, further large employment losses are likely to occur. Yet, high unemployment would not be too alarming if it were not to persist and turnover of the pool of unemployed was high. The question is whether high levels of unemployment will become a persistent feature of labour markets in central and eastern Europe.

Persistence will be influenced by a number of inter-related factors such as: *i*) the intrinsic characteristics of the existing stock of unemployed; *ii*) the way in which wages adjust to the rise in unemployment; and *iii*) the pace at which labour moves from declining to expanding industries and occupations. In this section, the risks of substantial long-term unemployment are assessed based on a review of the available evidence concerning these factors.

A. The nature and duration of unemployment

If outflows from the unemployment pool decline, an increase in the length of spells of joblessness may prevent the overall unemployment rate from declining even if inflows are also decreasing. Moreover, long-term unemployment is a self-sustaining phenomenon: there is evidence from OECD countries of positive forms of duration dependence in the transitions from unemployment to employment (Layard and Nickell, 1987).

Unfortunately, only limited information is available on the distribution of unemployment by duration²¹. In Hungary in October 1991 about 37 per cent of the registered unemployed in receipt of benefits had experienced unemployment spells longer than six months, an increase from about 26 per cent in the first quarter of 1991. Similarly, in Czechoslovakia, the share of unemployed with spells longer than 6 months has increased from 12.2 per cent in the first quarter to almost 30 per cent in the last quarter of 1991. This incidence of long-term unemployed is already approaching or exceeding that of some OECD countries, in spite of the very short history of registered unemployment in central and eastern Europe²².

Further insights into the likely persistence of unemployment in central and eastern Europe can be obtained by looking at the characteristics of those who register at labour offices. A striking fact, shown in Table 7, is that in all countries, except Hungary, women account for the majority of the unemployed. This may reflect the different composition by gender of those industries which have been hit hardest by the recession and the beginnings of economic restructuring, as well as the occupational structure of job losses. There is some evidence that in industry it is administrative jobs, filled mainly by women, which have been reduced first rather than male-dominated posts on production lines²³. Furthermore, the particularly high participation rates of women, the possibility of receiving unemployment compensation and the income opportunities offered by the parallel economy may have induced women to leave full-time posts in the state industry. The participation rate of women in the labour force fell in all countries during 1990²⁴. However, limited information available on voluntary quits in the state sector seems to point to their decline since the start of reforms (Gora, 1991). In many western European countries women also face a higher likelihood than men of becoming long-term unemployed (OECD, 1991a) and so special programmes targeted at women's employment may need to be developed if the same phenomenon is not to be reproduced in eastern Europe.

Other characteristics of the unemployed in central and eastern Europe may also be conducive to long-term unemployment. Table 7 shows that, while most of the unemployed are of the prime working age²⁵, unemployment rates tend to be higher for youth. Experience in some OECD countries, particularly in southern Europe, suggests that high youth unemployment rates are associated with a greater vulnerability of youth

Table 7. Characteristics of the unemployed

November 1991

A. Shares in total unemployment									
In per cent									
Sex		Age ¹			Education				
Females	Males	Young	Prime	Older	Primary	Vocational	Secondary	Higher	
Bulgaria	54.6	45.4	49.0	- 51.0 -		34.2	21.5	33.1	11.2
Czechoslovakia	56.8	43.2	33.9	59.8	6.2	18.0	41.7	31.9	8.4
Hungary ²	42.1	57.9	29.6	67.7	2.7	45.6	31.4	19.5	3.5
Poland	52.8	47.2	36.3	53.6	10.1	29.7	37.0	30.3	3.0
Romania ³	55.2	44.8	n.a.	n.a.	n.a.	- 73.6 -		19.8	6.6
B. Unemployment rates									
Sex		Age ¹			Education				
Females	Males	Young	Prime	Older	Primary	Vocational	Secondary	Higher	
Bulgaria	11.8	10.0	19.0	- 7.8 -		7.4	12.4	10.3	10.8
Czechoslovakia	8.4	5.8	n.a.	n.a.	n.a.	0.5	2.2	0.7	1.0
Hungary ²	5.6	7.1	10.9	5.5	3.8	7.5	8.5	4.7	2.0
Poland	12.8	10.6	26.4	10.7	3.7	9.8	13.3	11.7	4.2
Romania ³	2.2	1.5	n.a.	n.a.	n.a.	- 2.4 -		0.9	0.8

to relatively long spells of unemployment²⁶. Most unemployed also appear to have received only primary education or vocational training in skills which may be no longer be in demand. This is an additional factor that may reduce the possibility of rapidly reabsorbing unemployment if, as in OECD countries, lower levels of education tend to be associated with a higher incidence of unemployment (OECD, 1989).

Skilled workers make up the majority of registered unemployed in all countries for which data on skill levels are available. This does not mean that skilled workers face a higher risk of unemployment, but reflects the skill structure of the labour force. In Hungary, for instance, the unemployment rate for unskilled workers was in November 1991 almost four times as large as the one for skilled workers. Experience from OECD countries suggest that unskilled workers may find it more difficult to find employment once unemployed than skilled workers. However, this very much depends on the type of skills of those who become unemployed and on the opportunities offered for retraining. Especially in a context of rapid economic restructuring, skills developed in the course of previous work experience are likely to become obsolete and there are worrying signs that the traditional system of enterprise-based training in central and eastern Europe is collapsing (Boeri and Sziracki, 1992).

quently, the number of vacancies in relation to the labour force was very high and so a correspondingly high degree of "job-hopping" may not be that surprising. While rigidities in wage differentials between enterprises may not have provided any incentive for mobility, workers may have sought to improve their working conditions through frequent changes of workplace. Unfortunately, it is not possible using the available data to disaggregate total separations into changes in occupation and changes of industry which would allow for a better understanding of the potential for labour to be rapidly redeployed in response to restructuring.

For many unemployed, finding a new job will involve not only the learning of new skills, but also a change in residence. Most of the unemployed are indeed concentrated in some regions or towns – for example, the highly industrialised areas of Katowice and Lodz in Poland, the depressed north-western regions of Hungary, the south-east of Czechoslovakia, etc. – and unemployment rates are in some districts up to 5 times larger than the national average. The spread of unemployment rates across regions has also been increasing, largely because of the strong geographical concentration of industries that are beginning to experience large job losses as restructuring proceeds (for example, coal mines and iron and steel industries in Katowice, textiles in Lodz, etc.).

Therefore, an important factor in limiting the severity of unemployment will be the speed at which labour can move from regions with declining and stagnating industries to those areas with expanding industries or, at least, facing a less severe contraction in employment. Strict rent controls in the past have led to a shortage of housing in some central and eastern European countries and this will have an adverse impact on the labour mobility across different regions. Of course, factors such as family and social ties will also limit labour mobility, but speeding up the liberalisation of the housing market and facilitating geographical mobility will be important factors in reducing the impact of regional mismatch on the rise and persistence of unemployment.

C. Wage developments

Recent developments of real wages and inter-industry wage differentials provide information on the role that market signals are playing in the adjustment of labour markets. The reabsorption of displaced workers in the course of the restructuring process is likely to involve declining real wages in a context where productivity is falling. Moreover, a widening of inter-industry wage differentials may be required to foster the mobility of workers from declining to expanding industries, especially when this involves shifts between regions and/or occupations.

The rise in unemployment following large falls in output and the hike in price inflation as a result of the scrapping of most price subsidies has been associated with a substantial fall in real wages in central and eastern Europe (Table 9). Country differences in the pattern and magnitude of these declines in real wages partly reflect differences in the timing of reforms to end price subsidies and the introduction of macroeconomic stabilisation programmes. Real wages continued to rise in Bulgaria and Romania during 1990 but they fell substantially in Poland with more moderate falls being reported for Czechoslovakia and Hungary. The dramatic fall in real wages in Bulgaria in 1991 has been associated with one of the fastest rises in unemployment among the central and eastern European countries (see Chart 3). In Hungary, lower

inflation and a less rapid increase in unemployment (at least during the first half of 1991) have been associated with a smaller decline in real wages. A substantial fall in inflation resulted in real wages recovering somewhat in Poland during 1991 but they remained well below their level of 1989.

Table 9. Nominal wages, price inflation and real wages

Percentage changes over the year

	1989	1990	1991/Q1-Q3	1991/Q3
Bulgaria				
Nominal wages	8.8	31.5	135.0	181.2
Consumer prices	5.6	23.8		393.5
Real wages	3.0	6.2		-43.0
Czechoslovakia				
Nominal wages	2.3	3.1	12.7	16.2
Consumer prices	1.4	10.0	60.8	56.3
Real wages	0.9	-5.1	-29.9	-25.1
Hungary				
Nominal wages	17.0	26.2	29.4	24.1
Consumer prices	17.0	28.9	35.5	35.5
Real wages	0.0	-2.1	-4.5	-8.4
Poland				
Nominal wages	291.8	398.0	90.5	67.3
Consumer prices	251.1	585.8	73.6	67.7
Real wages	11.6	-27.4	9.7	-0.2
Romania				
Nominal wages	4.0	10.5	102.1	162.5
Consumer prices	0.7	4.2		252.6
Real wages	3.3	6.0		-19.9

Sources: *Nominal average monthly wages and consumer price indices* from: *Bulgaria: Short-term Economic Statistics Central and Eastern Europe, OECD. Czechoslovakia: Quarterly Statistical Bulletin of the Czech and Slovak Federal Republic, FSU. Hungary: Statisztikai Havi Közlemények, KSH. Poland: Statistical Bulletin, GUS. Romania: Breviarul Statistic al României 1991 and Buletin Statistic de Informare Publică, CNS.*

As Flanagan points out (see his article in this issue of *Economic Studies*), the process of restructuring and transition will also require flexibility in relative wages and not just adjustment in the overall level of wages if the appropriate signals are to be given for the efficient allocation of labour across sectors and jobs. Initially, this may imply a large increases in wage differentials and an increase in earnings inequality. In 1991 the dispersion of average earnings across different industries continued to increase in Hungary and, in a reversal of past trends, also increased in Czechoslovakia and Poland²⁸. On a more disaggregated basis, wage differentials across manufacturing industries also appear to have increased in Poland as well as in Hungary where, as was noted above, the dispersion of wages was already quite high²⁸.

IV. THE SCOPE FOR LABOUR MARKET POLICIES: SOME FINAL REMARKS

The purpose of this paper was to assess recent labour market developments in central and eastern Europe against the background of the legacies of the previous system. Needless to say, a complete picture of the adjustment process cannot be drawn given the short time which has elapsed since the start of wide-ranging, market-oriented reforms and the limitations of the statistical systems in these countries. However, based on the preceding analysis, some views on the implications for the design of labour market policies during the transition can be put forward.

Labour markets developed very differently under central planning than in the West. Employment remained concentrated in agriculture and industry, where labour hoarding was endemic, and manual workers accounted for a much larger share of total employment than in the West. While the level of education in central and eastern Europe appears to be quite high, it is based much more narrowly than in OECD countries on vocational training in trades which may no longer be in demand. Moreover, there are indications that enrolments in secondary and university education have declined relative to OECD countries. Finally, it would appear that wage relativities under central planning were not as compressed as might be thought *a priori* although the dispersion of wages within the overall earnings distribution was quite narrow.

Against this background, the current wave of reforms has led to important changes in the allocation of labour, notably from the public to the private sector and from larger to smaller enterprises. However, labour hoarding remains a dominant feature of these countries and major changes in the allocation of labour across industries and regions have yet to occur. As economic restructuring proceeds, there will be costly moves across regions and substantial employment losses inducing a further rise in unemployment. The growth of unemployment might also be fed by a lengthening of the average spell of unemployment as there are high risks of an increase in the incidence of long-term unemployment. Finally, in a context of declining labour productivity, real wages may continue to fall.

It follows that no impending reductions of labour market related hardship should be expected. Rather, increasing hardship may be a source of social unrest and political pressures that could eventually weaken the determination of governments to consistently pursue reforms, as revealed by the experience of those countries which embarked first upon the process of transition. In this context reducing the social costs associated with labour market adjustment without hampering the objectives and scope of structural reforms is bound to become a crucial issue in all countries of central and eastern Europe. In terms of labour market policies, this means, above all, ensuring that the costs of unemployment are shared across the whole of society and that an appropriate balance is found between income assistance and "active" measures to prevent the development of long-term unemployment.

Unemployment insurance schemes have now been introduced in all countries, largely based on schemes operating in OECD countries. But with the rapid rise in unemployment and in the light of budgetary constraints, they have already been revised in a number of countries such as Poland and Czechoslovakia towards tightening eligibility for benefits and reducing their duration. Further tightening in terms of work

experience requirements may be required but, insofar as large inflows of displaced workers continue to swell the ranks of the unemployed, it is unlikely that this will be sufficient to contain rapidly rising outlays for unemployment benefits. Neither improvements in the administration of unemployment benefits nor tighter controls to discourage abuse can lead in the short-term to significant expenditure savings for unemployment benefits.

Needless to say, achieving substantial reductions in expenditure on unemployment compensation will ultimately require a reduction in the number of unemployment benefit claimants. Based on the experience of OECD countries, active labour market policies have been introduced in most central and eastern European countries to promote the reintegration of the unemployed into work and to stimulate job creation. In particular, combinations of training schemes for the unemployed, public work programmes, subsidised employment plans and job creation projects have been introduced. Yet, it is fair to say that such measures have often proved not to be extremely effective. Moreover, expenditure on active labour market policies may be squeezed as unemployment compensation absorbs a growing share of the labour market policy budget. This means that more cost-effective ways should be found to promote the re-integration of the unemployed into work and these measures should be targeted at those groups who face the highest risk of long-term unemployment.

Our analysis of the characteristics of unemployment in central and eastern Europe suggests that appropriate strategies to prevent the spread of long-term unemployment should focus on retraining of displaced workers. Women appear to be in a particularly unfavourable situation and there may be some scope to promote the development of more flexible working-time arrangements, such as part-time employment, which would encourage their reinsertion into employment. As the number of plant closures will increase and these will be concentrated in specific regions, it will also be necessary to tackle the problem of job losses at the source through the integration of employment policies with regional development programmes. The creation of a well functioning market for housing will also be important for facilitating inter-regional labour mobility. Finally, restructuring is likely to lead to major and not fully foreseeable changes in skill requirements and a complete overhaul of the system of vocational training may be necessary in order to reduce current rigidities to changes in curricula and a tendency to over-specialisation.

Overall, the main challenge facing labour market policies in central and eastern Europe should be to ensure that existing policies are actually and effectively implemented rather than to develop new policy instruments. Within less than two years an entirely new legislative framework has been put into place that has taken decades to develop in OECD countries. It is in giving technical assistance to implement and further refine this framework that OECD countries may have a role to play.

NOTES

1. Declining participation rates for men in central and eastern Europe may be due, in part, to an increase in ill-health. Unlike in the West, male life expectancies have either fallen or risen only marginally since **1970** in the East (see Table A I in OECD, **1991a**, and, for a more detailed analysis of these trends, Rowland, **1991**, and Meslé, **1991**).
2. International comparisons by occupation are fraught with definitional and methodological problems and so country differences in Table 1 should be interpreted with caution.
3. Country differences in the educational composition of the work force may partly reflect differences of classification. For Austria, for example, the category "vocational" in Table 2.A includes a significant proportion of the work force who have, in fact, received vocational training at the level of "higher" education.
4. Comparisons of enrolment ratios can also be made by looking at enrolments at all levels of education by single years of age and, for those central and eastern European countries for which this data is available, the comparison with OECD countries is even more unfavourable than shown in Table 2.B.
5. A survey of Hungarian firms in **1991**, including some firms in the private sector and joint-ventures, revealed that many managers considered that the general education level of skilled and unskilled manual workers was very low and, hence, they were in general dissatisfied with the quality of their work forces (Török, **1991**).
6. International comparisons of wages by occupation need to be made with extreme caution as both the measure of earnings and the classification of occupation can vary widely across countries. In addition, a number of adjustments have been made to the source data in Charts 1 and 2 in order to ensure that the data for all occupations refer to monthly earnings.
7. The occupations are as follows (the "high paid" job is cited first followed by the "low paid" job): for mining, coalmining engineer and underground helper/loader; for food, butcher and packer; for chemicals, chemical engineer and labourer; for iron and steel, blast furnaceman and labourer; for construction, building electrician and labourer; for trade, stockrecords clerk and salesperson; for catering, cook and waiter; for transport, road transport services supervisor and bus driver; for education, third level teacher and kindergarten teacher; and for health, general physician and auxiliary nurse.
8. Non-wage payments such as benefits in kind and other social benefits account for a substantial component of total employee compensation and it is possible that taking these into account would reduce the observed wage differentials between "low paid" and "high paid" jobs.
9. For Poland, data on earnings by educational level come from GUS (**1990**), for Austria, Osterreichischer Arbeiterkammertag (**1991**).
10. For data on the distribution of earnings, see GUS (**1990**) for Poland and the U.K. Department of Employment (**1991**) for the United Kingdom.
11. The official statistics may not adequately cover the private sector (and a sizeable parallel economy), and so the fall in employment may be somewhat overstated. On the other hand, taking into account the number of hours worked, the decline in labour volume has been even larger in most countries than indicated by the fall in the number of employed persons. For example, in Romania the total number of hours worked in industry fell by more than **13** per cent in **1990** despite an increase of most **1** per cent in the number of workers.

12. The estimated equation is:

$$\log(E_t) = a + b * \log(E_{t-1}) + c * \log(Y_t) - d * t + u_t$$

where E and Y denote, respectively, industrial employment and output, t is time (i.e. trends in productivity), and u is an error term. In this specification of the employment-output relationship, the short-run elasticity of employment to output changes is given by c whereas the long-run elasticity is given by (c/(1-b)) and the mean lag by (b/(1-b)). These coefficients were estimated using the standard method of ordinary least squares (OLS) which tends to produce biased estimates of the coefficient for lagged employment, b, especially in long samples and in the presence of a time trend. In order to minimise this bias, the equation was estimated over two sub-periods.

13. A Chow test was carried out for the two sub-periods **1986-88** and **1989-91** giving, for Poland, a value of **3.59** (significant at the 5 per cent level of confidence – critical level **3.06**) and a value of only **0.81** for Hungary.
14. Rotemberg and Summers (**1990**) show that labour productivity is more pro-cyclical in those industries and countries where labour hoarding – proxied by data on yearly separations rates – is larger.
15. The fact that relatively few workers have been dismissed via group layoffs can also be explained by the presence in some countries, for example Poland, of regulations that compel firms to give advance notice of planned layoffs and to provide rather generous severance payments in this case.
16. In the first five months of **1991** in Hungary **86** state enterprises went bankrupt compared to **99** for the whole of **1990**. Moreover, several cooperatives, limited liability companies and small private firms are under the process of liquidation at the Budapest Metropolitan Court.
17. It should also be stressed that registrations of private entrepreneurs – based on Law **105** of **1990** – do not take into account possible failures, hence they cannot be used to make inferences about the growth of self-employment in the private sector.
18. In Czechoslovakia the employment share of small units was still very low at the end of **1990** (0.5 per cent), but the number of private enterprises with less than **100** employees over the total number of private units had jumped from **2.7** to **23.5** per cent through the year to the end of **1990**, reflecting, *inferred*, a strong rise of self-employment.
19. For instance, the explosion in the number of small firms registered in Hungary might be **partly** explained by the fact that small units, unlike large firms, are not subject to tax-based income policies. A recent analysis of the Hungarian Central Statistical Office (quoted in Lado *et al.*, **1991**) seems to indicate that the breaking up of large enterprises has been an important factor in the rapid increase of the population of small business activities.
20. In the case of Hungary, the actual number of job seekers (110 thousand) according to the January **1990** population census was five times larger than the number of registered unemployed (**24** thousand) although the pilot labour force survey in the second quarter of **1991** gave an estimate of unemployment based on ILO definitions which was of the same magnitude as the number of registered unemployed for the corresponding period.
21. Data on unemployment duration for Hungary and Czechoslovakia was kindly supplied to the authors by the national statistical authorities.
22. For example, in **1990**, the number of unemployed for **6** months or more accounted for about **25** per cent of the registered unemployed in Austria, and **49** per cent in the United Kingdom.
23. There is also some anecdotal evidence pointing to forms of discrimination against employing women, particularly as one way of avoiding extra labour costs such as maternity leave allowances. This issue is discussed in more detail in Hubner, Maier and Rudolph (**1991**).
24. In Bulgaria the share of employed women in the total population of working-age women fell from **93** to **90** per cent in **1990**, in Czechoslovakia from **82** to **78** per cent and in Hungary from **79** to **76** per cent.
25. With the partial exception of Bulgaria where, however, the lowest age group in Table 7 is below 30, rather than **25**, as in the other countries.
26. However, this is not the case of countries of central and northern Europe, where the presence of relatively large numbers of young unemployed is associated more with the age profile of inflows into unemployment than with a greater difficulty of young people in finding employment once unemployed (Marchand, **1987**).

27. For both the first nine months of **1990** and **1991**, the coefficient of variation (weighted by employment shares) of average monthly wages was calculated across **29** industries in Czechoslovakia, **18** in Hungary (covering only the "material sphere") and **16** in Poland.
28. For both October **1990** and **1991**, the coefficient of variation (weighted by employment shares) in average monthly wages was calculated across **23** manufacturing industries (excluding petroleum processing) in Hungary and **18** in Poland.

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