

## **Macroeconomic Policy, Output, and Employment: Is There Evidence of Jobless Growth?**

This chapter looks at the links between economic growth and employment trends in the countries of the Region during the transition to a market economy and assesses the possible roles of macroeconomic policies in shaping these links. Output and employment fell significantly in the early phases of the transition in all countries of the Region. In the subsequent phases of output recovery, employment has been somewhat slow to grow, giving rise to the concern that the transition countries were developing symptoms of a jobless growth, or at least of low-employment-content growth.

The macroeconomic performance of transition economies is marked by two major episodes of output loss, which have also affected the links between subsequent output and employment. The first was the widely documented transitional recession; the second was the recession following the 1998 Russian financial crisis. During the first episode, the output loss brought a decrease in employment and an increase in unemployment. Yet, such labor market adjustment was smaller in the CIS countries than in CEE countries, partly because the former group of countries experienced large wage flexibility.

This chapter argues that the labor market response to the second episode was different in CEE countries that had progressed the most in the transition. In those countries, the output recovery was not associated with job creation. This chapter assesses whether jobless

growth in those CEE countries can be accounted for by a particular set of macroeconomic conditions. It suggests that the positive link between employment and output growth was potentially still present, but it was counterbalanced by a combination of high real interest rates and a loose underlying fiscal policy. In the years to come, low real interest rates, possibly linked to euro adoption, and strong emphasis on fiscal discipline may prove beneficial for the job-creation potential of CEE countries.

This chapter is organized as follows: Section 1 analyzes the relationship between output and labor market variables during the different transition periods. Section 2 discusses the possible channels through which macroeconomic policies might have lessened the responsiveness of employment to economic growth. Section 3 presents the employment outlook in CEE, in view of EU accession, and in the CIS, given the delayed restructuring.

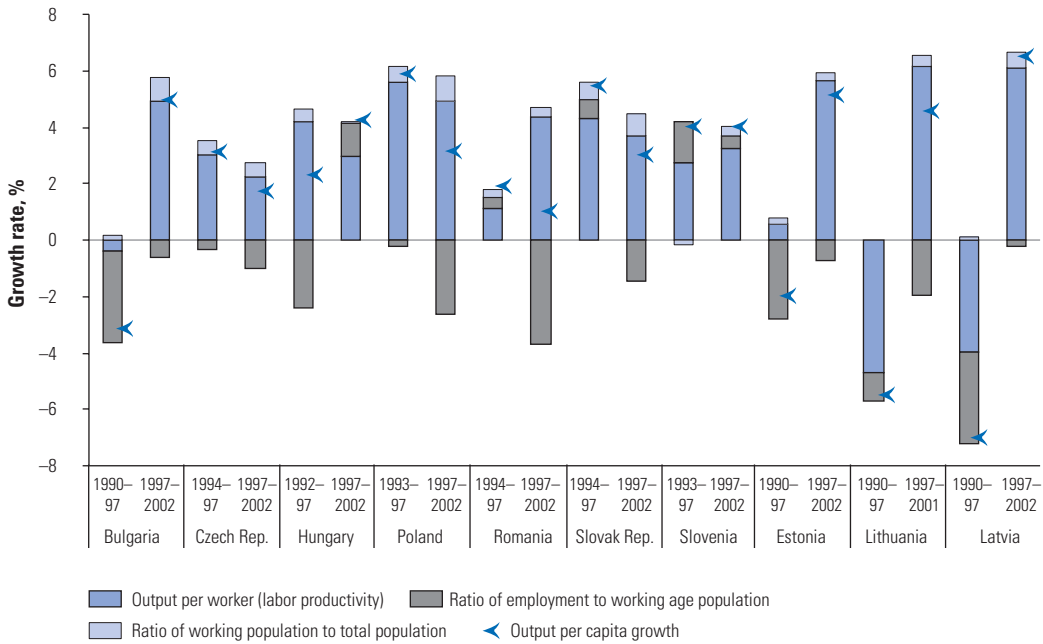
### **The Employment-Output Link during the Different Phases of the Transition**

The pace and depth of restructuring and the macro- and micropolicy stances largely influence labor market developments in transition economies. The noticeable feature of the transition in most of the countries of the Region is that output recoveries have not been associated with major rebounds in employment growth. A good starting point is to describe the various contributions of the labor market to per capita growth. To this end, figure 3.1 presents output per capita growth decomposed into labor-productivity growth, changes in the employment rate (employment divided by the working-age population), and changes in demography (working-age population divided by total population).

#### **The Response of Employment to Output Has Changed.**

Two main phases can be identified, each characterized by a different response of the labor market to output performance. The first phase refers to the transitional recession, while the second phase starts with the 1998–99 financial crisis in Russia and extends to the most recent years.<sup>1</sup> Not surprisingly, when output declined in the first phase, employment fell and was only partially compensated by increases in productivity. But even when output growth resumed in the second phase, it was largely driven by productivity growth, with further declines in employment in most countries.

**FIGURE 3.1**  
**Output per Capita Growth Is Largely Driven by Productivity Growth**



Source: Bank staff calculations.

The (quantity-based) labor market response to output losses in the first phase was larger in CEE than in the low income CIS countries, Russia, and Ukraine. This resulted from the more intense process of economic restructuring in the former countries, which inevitably involved quantity adjustments. But it also resulted from the greater downward rigidity in real wages in CEE countries, compared with that in Russia, Ukraine, and other CIS countries.

The labor market response to the second episode was different in the CEE countries. Although the output decline associated with the 1998–99 Russian financial crisis again led to job losses, the subsequent recovery did not generate marked net job creation in CEE countries. What has been the relative importance of macroshocks in shaping key labor market outcomes? How pervasive are jobless growth and high structural unemployment? And what is the relationship between the labor market outcomes and the macroeconomic policy stance?

**Until 1997, Output and Employment Moved in Tandem in CEE Countries**

Table 3.1 presents correlations between the key macroeconomic variables (GDP growth and inflation) and labor market outcomes

(changes in unemployment, employment, and real-wage growth). In the transitional recession period, GDP and employment changes were strongly and positively correlated in CEE, suggesting that there were employment losses during the early recession while employment started to improve as growth gained momentum. A similar picture emerges when one looks at the correlation between changes in output and unemployment. In other words, during the initial phase of the transition, employment was responsive to changes in output.

In the CIS countries, the elasticity of employment in relation to output was insignificant in the first stage of the transition, while the wage output correlation was strong. This suggests that in the initial period of the transition, price (real-wage) adjustments were more important than quantity (employment) adjustments in the CIS.

### **In Recent Years, Employment Seems to Be Less Responsive to Output**

The labor market response during the second phase of the transition was different. This phase began with a balance-of-payments crisis in the Czech Republic and the Russian financial crisis and covered the 1998 recession, with the subsequent strong output recovery in CEE and in Russia, Ukraine, and the low income CIS countries. However, consistent with a weaker employment output correlation (table 3.1) compared with the first stage of the transition, the subsequent output recovery was not associated with job creation in a subset of CEE countries.

Jobless growth was not uniform across CEE countries. There were some obvious exceptions, such as Hungary (which experienced only one year of jobless growth), the Czech Republic (which experienced two episodes of more than 3 percent growth with modest job destruction), and the Slovak Republic. Conversely, countries such as Bulgaria, Lithuania, Poland, and Romania had several years of jobless growth.

At the same time in the CIS group, the employment output correlation has become stronger in the more recent period, while the wage output correlation has weakened.

It is also noticeable that inflation and changes in unemployment were positively correlated during the first phase of the transition. This suggests that inflation was associated with the start of economic restructuring, the absorption of monetary overhang, and an overall collapse of the centrally planned economy inherited from the previous system and that such inflation was close to the hyperinflation limit. By the mid-1990s, inflation had declined everywhere below the 20 percent threshold (figure 3.2). Noticeably, the reduction in inflation was accompanied

TABLE 3.1

**Significant Changes in the Correlation between Macroeconomic Variables and Labor Market Indicators**

(Contemporaneous Correlations between GDP Growth and a Set of Macro Variables)

<b>First Episode: 1990–97</b>	Real GDP growth	Inflation	Real-wage growth	Employment growth
<b>CEE countries</b>				
Real GDP growth	1.00 —			
Inflation	−0.59 <i>0.00</i>	1.00 —		
Real-wage growth	0.60 <i>0.00</i>	−0.37 <i>0.01</i>	1.00 —	
Employment growth	0.46 <i>0.00</i>	−0.20 <i>0.16</i>	0.19 <i>0.25</i>	1.00 —
Change in unemployment	−0.55 <i>0.00</i>	0.10 <i>0.43</i>	−0.29 <i>0.03</i>	−0.60 <i>0.00</i>
<b>CIS countries</b>				
Real GDP growth	1.00 —			
Inflation	−0.28 <i>0.01</i>	1.00 —		
Real-wage growth	0.44 <i>0.00</i>	−0.37 <i>0.02</i>	1.00 —	
Employment growth	−0.01 <i>0.94</i>	−0.12 <i>0.41</i>	0.19 <i>0.32</i>	1.00 —
Change in unemployment	0.05 <i>0.75</i>	0.13 <i>0.43</i>	−0.01 <i>0.95</i>	−0.02 <i>0.90</i>
<b>Second Episode: 1998–2003</b>	Real GDP growth	Inflation	Real-wage growth	Employment growth
<b>CEE countries</b>				
Real GDP growth	1.00 —			
Inflation	−0.36 <i>0.00</i>	1.00 —		
Real-wage growth	0.30 <i>0.02</i>	−0.18 <i>0.17</i>	1.00 —	
Employment growth	0.29 <i>0.03</i>	0.03 <i>0.80</i>	−0.01 <i>0.96</i>	1.00 —
Change in unemployment	−0.40 <i>0.00</i>	−0.11 <i>0.38</i>	−0.11 <i>0.42</i>	−0.39 <i>0.01</i>
<b>CIS countries</b>				
Real GDP growth	1.00 —			
Inflation	−0.15 <i>0.19</i>	1.00 —		
Real-wage growth	0.30 <i>0.06</i>	−0.56 <i>0.00</i>	1.00 —	
Employment growth	0.17 <i>0.22</i>	0.08 <i>0.56</i>	0.22 <i>0.21</i>	1.00 —
Change in unemployment	−0.19 <i>0.21</i>	0.01 <i>0.98</i>	0.09 <i>0.64</i>	−0.32 <i>0.04</i>

Sources: Bank staff calculations; Boeri and Garibaldi 2004.

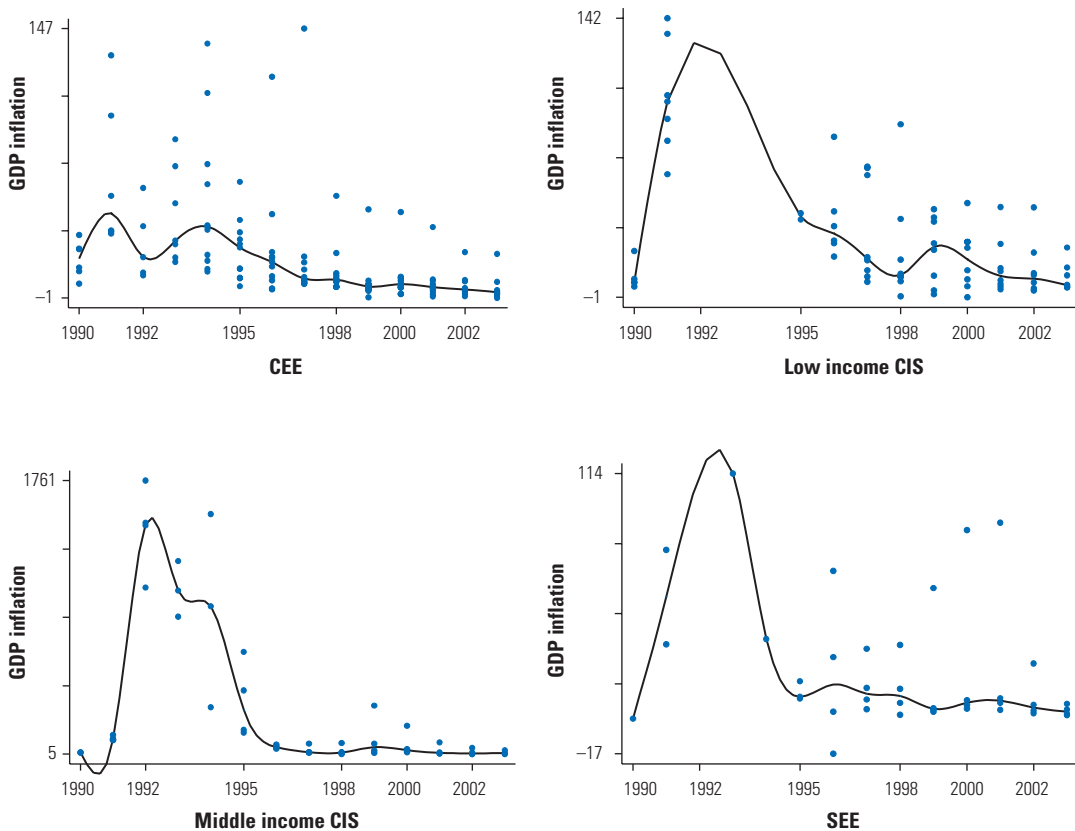
Note: p-value in italics; — = not available.

by a convergence in macroeconomic developments within each group of countries. Differences across groups were still large by the mid-1990s and reflected differences in the initial trajectories: early inflation was much more moderate in CEE than in the CIS countries.

### Real Wages and the Pace of Restructuring Affected the Output-Job Links

Why was the quantity adjustment larger in CEE countries than in the other transition economies? There are different but interrelated explanations for this. When CEE countries started the transition, they had in place effective safety nets, notably relatively generous unemployment benefit systems and social assistance of the last resort schemes, which constrained wage adjustment from below.<sup>2</sup> This

**FIGURE 3.2**  
**Inflationary Pressures Have Declined over Time in Most Countries**



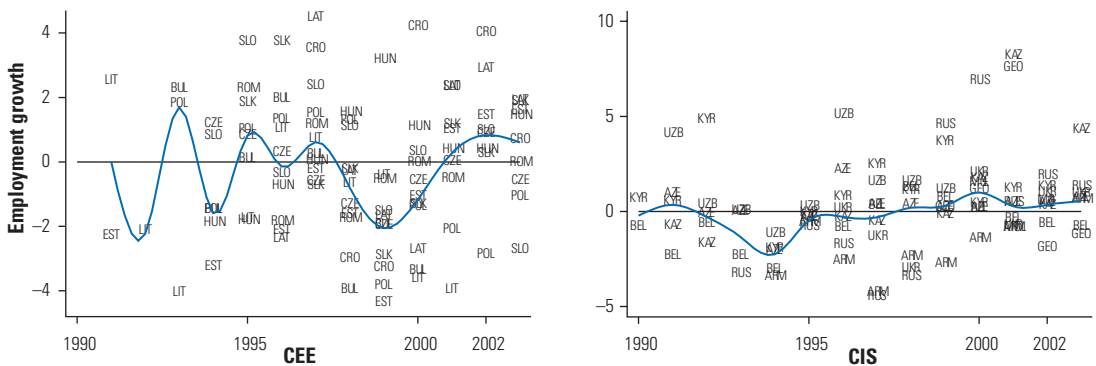
Sources: World Development Indicators; Boeri and Garibaldi 2004.

Note: Inflation (GDP deflator) 1990–2003.

induced more job destruction than in the CIS, where wages ended up bearing most of the costs of adjustment (figure 3.3). Within-group variation in the levels of unemployment in CEE can also be explained in institutions moving the labor force participation margins (see chapter 6). In some countries, the decline in employment rates was mainly accompanied by the growth of unemployment; in other countries, it was the rise of inactivity that mainly absorbed employment declines (see chapter 2). Finally, the pace of sectoral reallocation largely affected (and was influenced by) the possibility of using wage adjustments instead of labor mobility to accommodate the transition shocks. In countries (mainly CEE—see chapter 4) where sectoral transformation proceeded speedily, labor had to be relocated across firms, industries, and locations, and the price adjustment could not substitute for that. At the same time, the greater willingness of workers to move because of the presence of safety nets probably contributed to speeding up the sectoral transformation.

The behavior of real wages is also consistent with this interpretation. Indeed, as suggested by figure 3.4, real-wage adjustments in CEE countries were much less marked than in the CIS.<sup>3</sup> In the latter group of countries, the cumulative decline in real wages during the transitional recession was on the order of 60–70 percent, compared with 20–25 percent in CEE. Later on, the CIS also experienced a rapid recovery, interrupted only in 1999, while real-wage evolutions in CEE flattened out at one-digit rates.

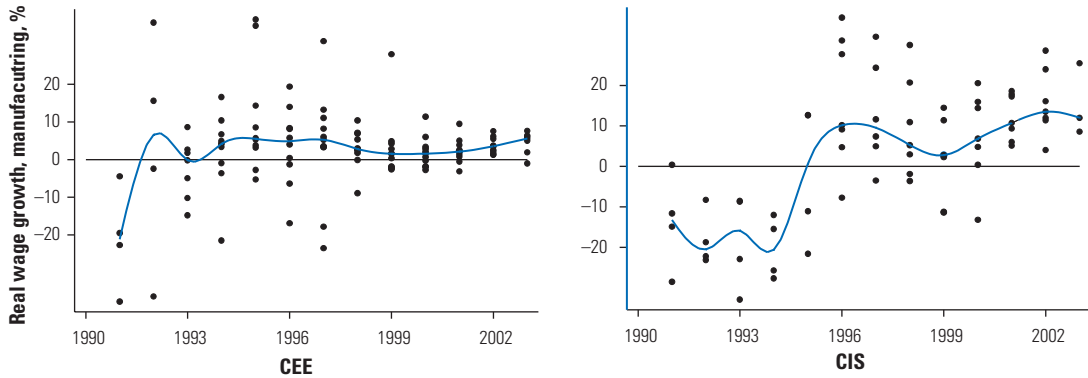
**FIGURE 3.3**  
**Employment Adjustment Has Been More Marked in CEE than in CIS Countries**



Sources: ILO (LABORSTA database); Boeri and Garibaldi 2004.

Note: Employment growth in CEE and low and middle income CIS countries, 1990–2003.

FIGURE 3.4

**Real-Wage Adjustments Have Been More Marked in CIS than in CEE Countries**

Sources: ILO (LABORSTA database); World Development Indicators; Boeri and Garibaldi 2004.

Note: Growth in real manufacturing wage 1990–2003 for CEE and low and middle income CIS countries.

### Any Role for Macropolicy to Influence the Employment-Output Link?

The uncertainties associated with the transition, the major reforms it implied, and the associated economic volatility affected firms' ability to do business (see chapter 5). Such a climate was probably not conducive to carrying out further investment or employment creation. In recent years, such policy uncertainties have faded, and although further reforms are needed, employers are likely to face less economic and policy uncertainty in the coming years, especially in countries that have joined the European Union.

The significant weakening of the employment-output link in CEE countries in the second phase of the transition was primarily the result of the large overstaffing that existed in most firms in the central-planning period. This overstaffing largely enabled firms to promote growth without hiring many more workers. (This explanation is developed in more detail in chapter 4.) Changes in monetary and fiscal policy may also have contributed to the observed jobless growth. In particular, this section argues that higher real interest rates and changes in the fiscal stance are possible factors that contributed to jobless growth.

### Real Interest Rates Have Increased in Recent Years

Real interest rates have been positive and sizable since 1995, mainly as a reflection of the tightening in monetary policy necessary to reduce inflationary pressures. Figure 3.5 also highlights a remarkable increase in real interest rates following the 1998–99 recession. Such

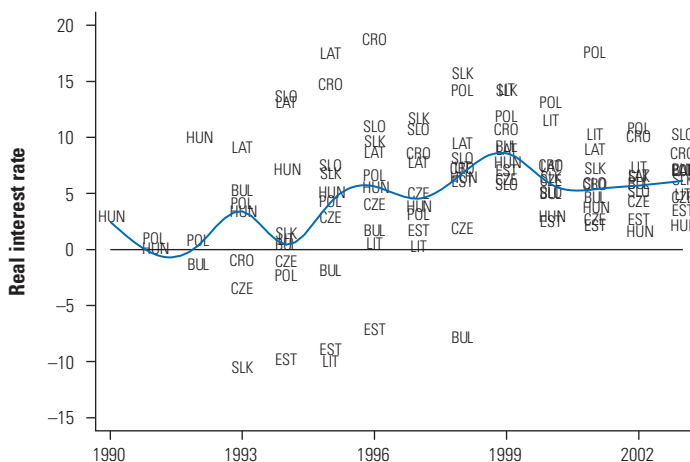
behavior is linked to the financial turmoil that hit the Region in the aftermath of the 1998 Russian crisis.

There are various channels through which an increase in real interest rates could contribute to jobless growth.<sup>4</sup> One important channel is the complementarity between new capital investment and job creation. High real interest rates tend to reduce capital investment, and transition economies certainly need large quantities of capital for completing the restructuring process.<sup>5</sup> In particular, the adoption of new technologies and production processes, as well as the development of new activities in the service sectors, requires the hiring of workers. If real interest rates are high, this process of developing new activities can be slowed. Instead, firms are pushed toward defensive restructuring and tend to increase output through more-productive use of existing capital and labor. Especially in transition economies, output and productivity growth could also be achieved by further rationalizing current production techniques and eliminating the still large labor hoarding.

As an illustration, figures 3.6 and 3.7, respectively, show gross fixed capital formation for countries of the Region and of East Asia and a decomposition of gross fixed capital formation for the Czech Republic, Korea, Poland, and the Slovak Republic. Consistent with the idea developed above, figure 3.6 shows that investment has been (on average) lower in the transition countries than in East Asian countries over the 1990s. More important, some evidence exists that productive investment (measured as GFCF minus investment in housing) has been consistently lower in transition countries (figure 3.7).

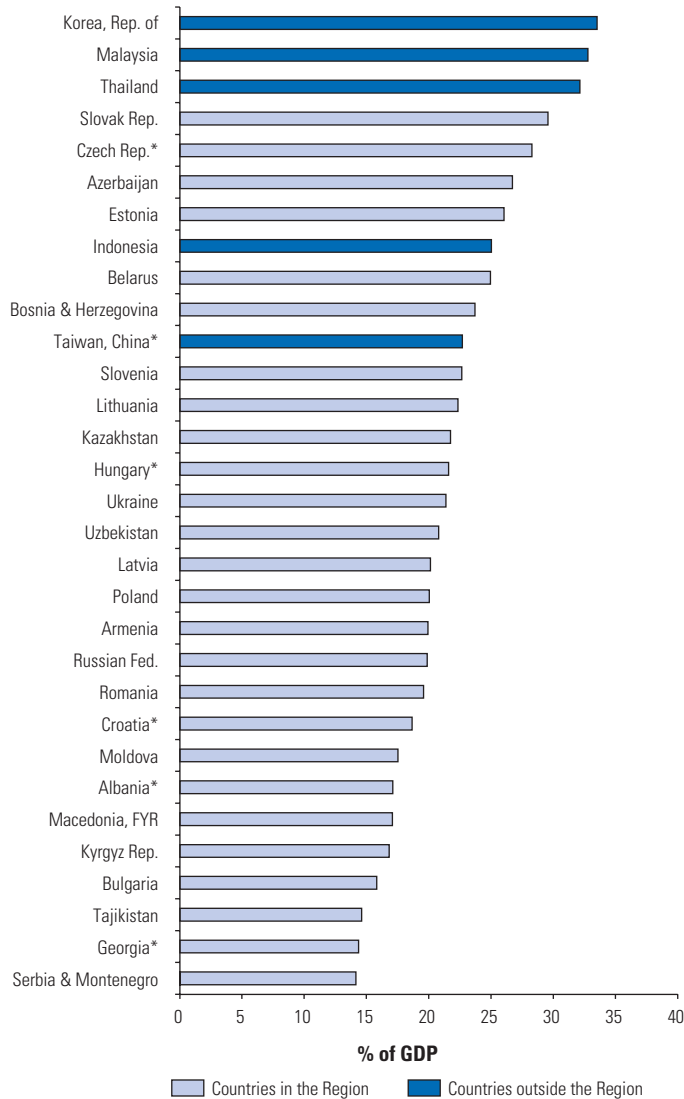
FIGURE 3.5

**Real Interest Rates Have Increased in Recent Years in CEE Countries**



Sources: World Development Indicators; Boeri and Garibaldi 2004.

**FIGURE 3.6**  
**Share of Gross Fixed Capital Formation as a Percentage of GDP**  
**(1990–2003 Average)**



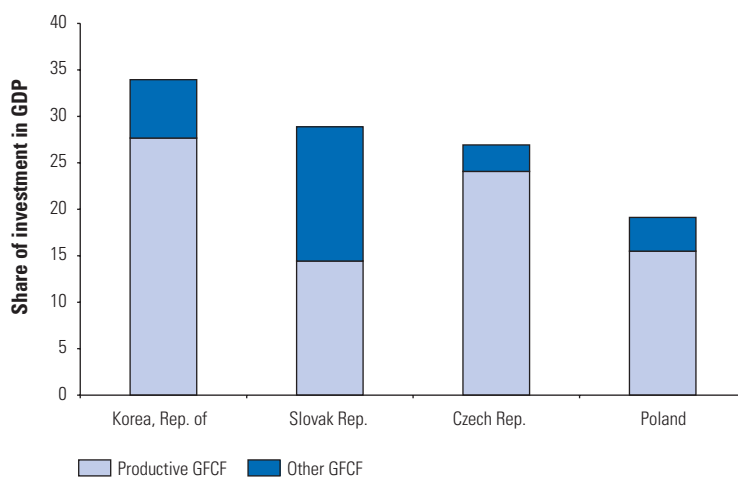
Source: World Development Indicators 2004.

\* 1990–2002

### Fiscal Policy Has Been Loosened

Expansionary fiscal policy is a usual response in times of economic downturns; fiscal expansion is expected to counteract the associated decrease in employment. The fiscal loosening that followed the 1998 recession can be interpreted as such a policy response (figure 3.8). However, in CEE countries, there could have been a connection between such fiscal loosening and jobless growth.

**FIGURE 3.7**  
**Share of GFCF and Productive GFCF as a Percentage of GDP (1990–2003 Average)**



Source: National accounts of OECD countries (OECD 2003).

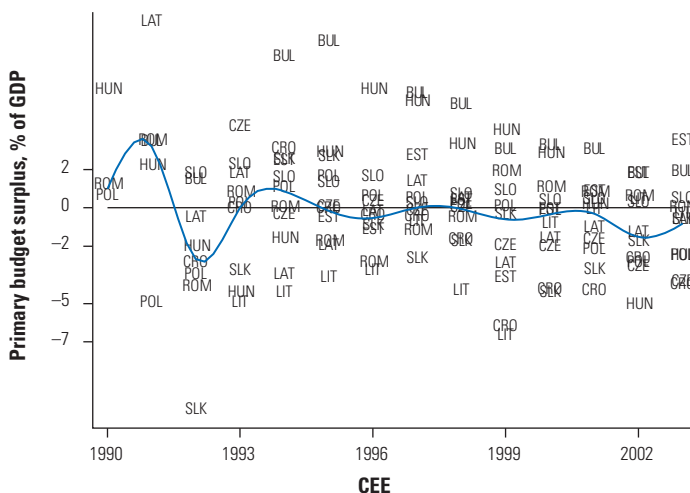
Note: GFCF = gross fixed capital formation.

Changes in the fiscal stance can affect employment if they alter the credibility and expectations of private employers about future changes. Fiscal loosening in CEE countries implies a likely future increase in interest rates and possibly in the tax burden. The anticipation of these adverse effects is akin to a negative capitalization effect in the private sector. In other words, forward-looking entrepreneurs identify fiscal loosening as presaging a future increase in interest rates (and possibly in taxes) and so reduce their hiring upfront. This is particularly likely in CEE countries, which, as mentioned above, have known many years of policy uncertainty, significantly affecting the way enterprises do business, and which have already seen real interest rates increase from those of the mid-1990s.

A second channel that links fiscal loosening to jobless growth is a crowding-out effect induced by an increase in labor costs. As shown in figure 3.9, real wages in the public sector increased in the past five years at a higher pace than those in the private sector in several CEE countries. In addition to worsening the fiscal balance, high wage growth in the public sector may have negative effects on private sector job creation, crowding out private sector employers from hiring skilled workers and possibly creating a wage-drift effect from the public to the private sector.

How important have these changes in macroeconomic policy settings been in driving the jobless growth observed in some CEE countries? To shed light on this question, a simple econometric analysis is

**FIGURE 3.8**  
**Loosening of the Fiscal Stance in CEE Countries in Recent Years**



Sources: World Economic Outlook Database; Boeri and Garibaldi 2004.

performed.<sup>6</sup> Its results suggest that GDP growth had a strong effect on employment and unemployment in the second phase of transition. However, during the second phase, the impact of growth on the labor market was mediated by adverse macroeconomic policy changes. The rise in real interest rates and the loosening of the fiscal stance contributed to weakening the potential effect of GDP growth on employment and unemployment. In other words, employment and unemployment would have been more responsive to changes in GDP growth had the macroeconomic environment not changed at the same time (see box 3.1).

**Summing Up: Employment Prospects in CEE and CIS Countries**

**The Employment Prospect Is Likely to Improve in EU Transition Countries and Accession Countries**

For the CEE countries that have joined the EU, macroeconomic policy is likely to evolve in the years to come in a favorable way for the labor market. It is likely that interest rate premiums will decline following EU accession, reflecting a lower investment risk. Therefore, lower interest rates in the new EU transition economies may promote investment in new technologies and production processes and in job

## BOX 3.1

**An Empirical Investigation of the Possible Links between Employment, Output, and Macroeconomic Policy**

This box provides an attempt to link employment growth to economic growth and a set of policy variables. It is illustrative of the possible linkages between these factors (see Boeri and Garibaldi [2004] for details). The analysis focuses on CEE economies, where there is clearer evidence of jobless growth.

If  $\Delta \ln e_{it}$  is employment growth in country  $i$  between time  $t-1$  and time  $t$  and  $\Delta \ln y_{it}$  is GDP growth during the same period, the basic regression is as follows:

$$\Delta \ln e_{it} = \alpha_i + \beta \Delta \ln y_{it} + \delta \text{post97}_t + \beta_1 \text{post97}_t \Delta \ln y_{it} + \gamma_1 r_{it} + \gamma_2 ps_{it} + \varepsilon_{it} \quad (3.1)$$

where  $r_{it}$  is the real interest rate and  $ps_{it}$  is the primary surplus. The employment equation 3.1 also features country-fixed effects ( $\alpha_i$  where the indicator “ $i$ ” denotes different countries) and a  $\text{post97}_t$  dummy aimed at capturing the effects of employment growth of the second episode. Notice further that the regression includes an interaction term between GDP growth and the post-1997 dummy. That term should capture any change in the employment-output relationship that occurred during the same episode. Finally,  $\varepsilon_{it}$  is a white noise error term. The time period used was 1992–2002 for nine countries. Because of missing observations in some countries and time periods, the total number of observations is 75.

The results of the econometric exercise are reported in the table below. The poor employment performance since the 1998 recession seems also associated to the worsening of the fiscal stance, as indicated by the significant effect of the primary budget variable. An important result also concerns the size and statistical significance of the interaction term between GDP growth and the post-1997 dummy. The coefficient  $\beta_1$  clearly indicates that in the employment growth regression, the employment-to-output elasticity did *not* change significantly over time, but the partial effect of output on employment was undone by the worsening of the fiscal stance.

The second column reports the results of the unemployment regression. The results suggest that high real interest rates had adverse effects on the increase in unemployment. Remarkably, the second column of the table suggests that unemployment became more sensitive to GDP growth in the aftermath of 1998, although the coefficient is estimated with a large standard error. According to those estimates, the pickup in growth since the year 2000 should have induced CEE countries to experience a sizable reduction in the unemployment rate. The fact that this reduction in unemployment did not take place is largely attributed to adverse effects of the interest rate hike.

(continues on the following page)

## BOX 3.1 (continued)

## Panel Regressions on Employment Growth and Change in Unemployment

	CEE		
	employment growth	change unemployment	
gdp growth	<b>0.19</b> <i>0.03</i>	<b>-0.13</b> <i>0.01</i>	
post97	0.03 <i>0.97</i>	<b>0.93</b> <i>0.087</i>	
gdp growth*post 97	0.04 <i>0.78</i>	-0.17 <i>0.11</i>	
primary surplus	<b>0.22</b> <i>0.07</i>	-0.77 <i>0.31</i>	
real interest	-0.03 <i>0.22</i>	<b>0.03</b> <i>0.05</i>	
Observations	79	89	
R <sup>2</sup>	0.19	0.22	
FIXED Effect			
Years	92-02	92-02	

Source: Boeri and Garibaldi 2004.

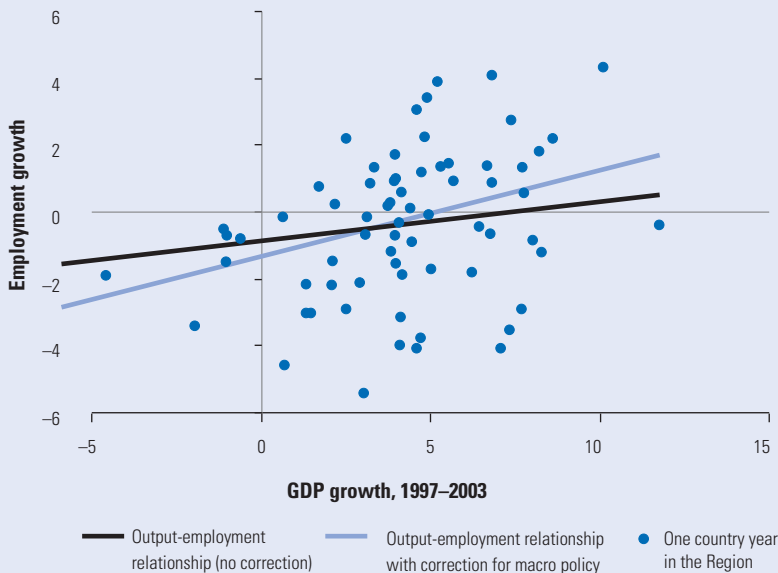
Note: P-values are in italics.

Various robustness tests (not reported) suggest that other macrovariables, notably the current account deficit, the investment-to-GDP ratio, and the amount of foreign direct investment in dollars, do not appear to be significant in this multivariate analysis.

creation, finally pushing firms beyond the defensive restructuring strategy (see chapter 4). An early adoption of the euro may reinforce this effect. Indeed, real interest rates in the Euro Area are much lower than those experienced by most CEE economies, and adopting a common currency will provide a low interest rate environment.<sup>7</sup>

There could also be an additional beneficial effect on the labor market stemming from a change in the fiscal stance. For CEE countries that are now members of the EU, there is an obligation to avoid deficits in excess of 3 percent of GDP, whether or not they take part in the Economic and Monetary Union (EMU).<sup>8</sup> Although tightening fiscal policy may reduce resources for needed infrastructure development, it may also improve expectations of private firms about the ability to contain interest rates, thereby promoting investment and job creation. Similarly, if fiscal prudence leads to wage moderation in

As an illustration, the figure below shows the expected relationship between output growth and employment growth in CEE countries over the 1998–2002 period *had macropolicies remained unchanged* (see the corrected correlation line). The figure suggests that employment would have increased more had the macropolicy setting not changed.



Source: Bank staff calculations, using ILO (LABORSTA database) and World Development Indicators.

The corrected output-employment relationship is obtained by assuming no change in macro-economic policies over the observed period.

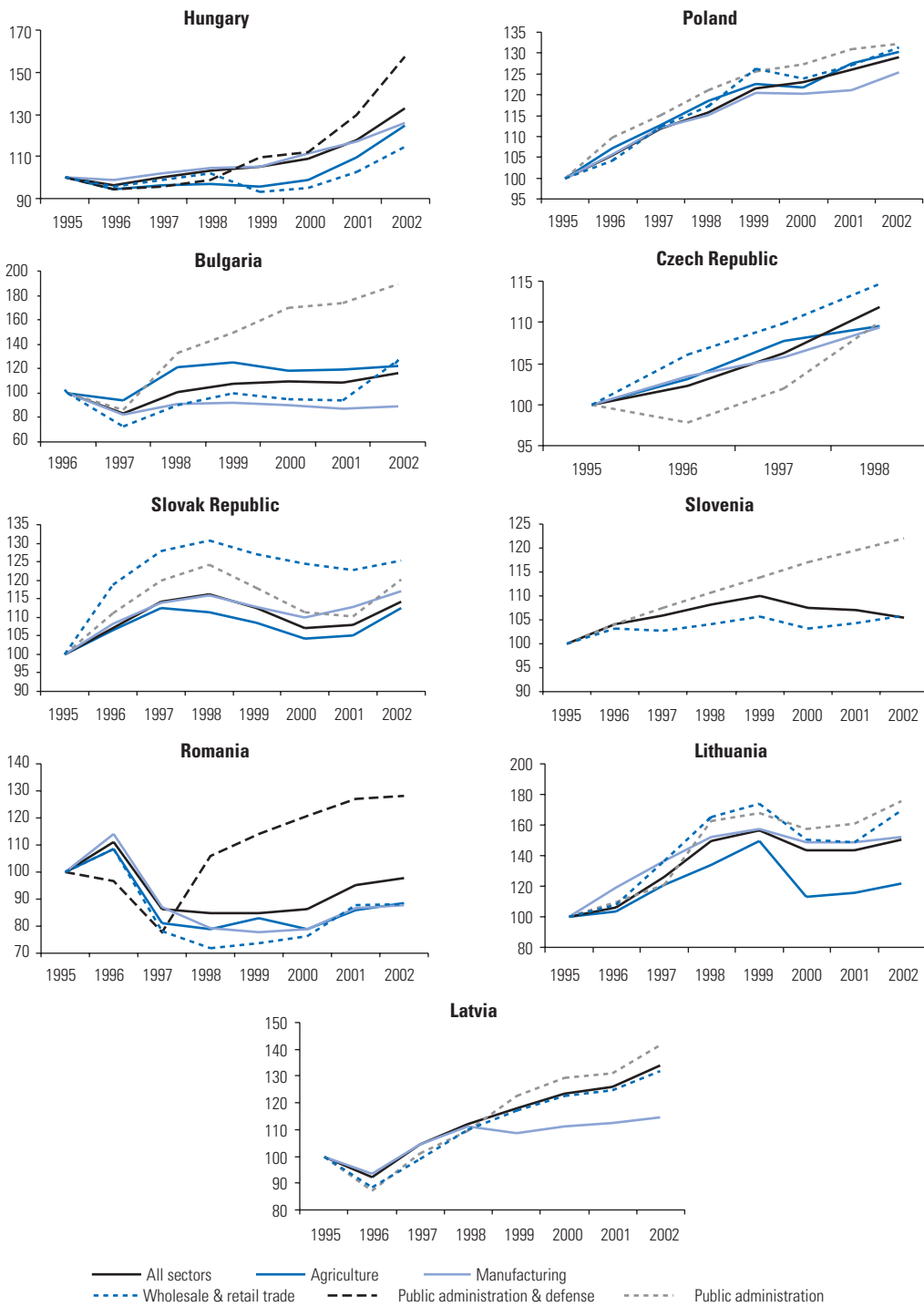
the public sector, then this may also have positive spillover effects on wage dynamics in the private sector, stimulating employment.

### **CIS Countries Are Still Lagging Behind in Restructuring, and More Employment Adjustment Is to Be Expected**

The job prospects in CIS countries largely depend on their progress in structural reforms. Evidence suggests that there is a strong link between output and growth, but the latter has been modest for most of the transition period. Moreover, as discussed below, structural changes, including the reallocation of resources to more-productive activities, have been relatively lacking to date. And even if this modest progress has not resulted in very high levels of unemployment or low participation, it has negatively affected growth and the living

**FIGURE 3.9**

**Real Wages in the Public Sector Have Increased More Rapidly than in the Private Sector in CEE Countries**



Source: LABORSTA database.

standards of the population. These issues will be addressed in the next chapter of this study.

## Notes

1. The cutoff point between the first and second transition phases is somewhat arbitrary. In the aftermath of the Russian financial crisis, most of the transition countries experienced a significant slowdown in economic activities; but the size of the slowdown differed significantly, being stronger in the CIS countries than in most CEE countries.
2. This hypothesis is proposed by Boeri and Terrell (2002) and Garibaldi and Brixiova (1998).
3. The data refer to manufacturing because of measurement problems in other sectors.
4. Several theoretical and applied papers have also suggested a possible role for real interest rates in influencing unemployment. In particular, Phelps (1992 and 1994), in the “customer market” model of pricing, suggests that an increase in real interest rates lowers incentives to invest in expanding market shares. Thus, the increase in marginal production costs resulting from a rise in interest rates is likely to be followed by a rise in price markups that, in turn, should have negative effects on employment. Moreover, in an intertemporal model, if workers have nonwage income, an increase in the rates of interest may reduce the expected utility of being employed.
5. Microdata on labor demand of firms in transitional economies confirm a strong complementarity between capital and labor (Svejnar 1999; Boeri and others 1997).
6. The econometric analysis includes regressions of both employment growth and changes in unemployment rates against a set of variables: GDP growth, the primary surplus, the real interest rate, a post-1997 dummy, and a variable capturing the change in coefficient in the GDP growth variable post-1997.
7. Yet, real interest rates are not under full control of the monetary authority, and the real interest rate is partly a market-determined variable. Indeed, some increase in the real interest rate in the aftermath of the Russian financial crisis was probably inevitable, and such country risks would not be fully eliminated by early euro adoption.
8. This obligation is not obviated by the fact that members states not participating in EMU are not subject to the financial penalties for noncompliance.

