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**Research Report**

## Employment Developments in Central and Eastern Europe

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Forschungsberichte

# wiiw Research Reports | 332

*Michael Landesmann and Hermine Vidovic*

## **Employment Developments in Central and Eastern Europe: Trends and Explanations**

November 2006

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The present paper is a revised version of a study prepared for the International Labour Organization (ILO).

*Michael Landesmann and  
Hermine Vidovic*

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Developments in Central  
and Eastern Europe:  
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## **Executive summary**

*The present study examines the evolution of employment and labour market trends in the new EU member states (NMS), the accession countries (ACs) and the countries of Southeastern Europe (SEE) over the past decade and a half. It focuses on selected labour market indicators and compares them with developments in the EU-15. The main findings of this study are presented by country groups:*

### *(1) The new EU member states and the two accession countries Bulgaria and Romania*

*Job creation in the NMS and the ACs remains low despite high economic growth in most countries. Hence, the employment elasticity of output growth is rather low, but varying by country. In accordance with huge job losses, growing unemployment and/or exiting from the labour market altogether, in most countries employment and activity rates declined significantly over the transition period up to the early 2000s and started to increase moderately thereafter.*

*In general, the transition period was characterized by a de-industrialization and de-agrarianization process, while the services sector – market services in particular – became the main employer. Some countries, however, emerged as industrial locations, with manufacturing employment resuming growth recently. The extent of this recovery differed from country to country; for instance, in the case of Slovakia and probably also in the Czech Republic, these developments have obviously been a consequence of the strong FDI inflows of the past years. Overall, new job creation in services and manufacturing has compensated for job destruction in other activities at least in some of the NMS in the past few years.*

*The tertiary sector is dominated by low-skill activities while most high-skill activities such as business services are underdeveloped. The latter show, however, the most dynamic growth in both relative and absolute terms and will become the major source of future employment. There is also scope for new job creation in community services, particularly in health and social services, though this may be limited by budgetary constraints.*

*Non-standard forms of employment such as part-time and temporary employment are still underdeveloped in the NMS and ACs. This reflects the still low developmental level of the tertiary sector, where part-time employment in the EU-15 is most common.*

*In most countries the growth of unemployment has come to a halt but structural features have remained unchanged or even deteriorated. Long-term unemployment has become a serious problem in all NMS and the ACs. It has reached much higher levels than in the old*



*EU and continues to rise in the majority of countries. Youth unemployment is particularly high in the Slovak Republic and in Poland.*

*The analysis of labour market developments with respect to different skill types shows that the NMS have a supply structure which differs from that of the EU-15: in the NMS there is a significantly smaller representation of people with low educational attainment levels and also a lower representation of people with the highest educational attainment levels.*

*In spite of the low representation of people with the lowest educational levels in the labour forces of the NMS, the employment and unemployment rates put them in a much worse relative labour market position as compared to their position in the EU-15 labour markets (a gap of 20% to 30% in employment rates and of about 10% in unemployment rates). On the other hand, the employment rates of the medium- and highly educated are not very different between the NMS and the EU-15.*

*An additional analysis was undertaken to match the investigation of patterns of structural change with one of the labour market positions of the different skill groups. It shows that the poor labour market performance of the low-skilled can be closely linked to the processes of de-agrarianization and de-industrialization and the relatively low absorption capacity of market services concerning the low-skilled (as compared to the EU-15). In the NMS, market services have so far provided few job opportunities for the low-skilled, while they do so for the medium- and, even more so, for the highly skilled.*

*At the high-skilled end, an interesting phenomenon is that there are clear signs that there is an even tighter situation in this segment of the labour market in the NMS than in the EU-15, with high and rising employment and very low unemployment rates even in periods of very poor overall labour market performance (such as in Poland in the early 2000s).*

## *(2) Southeast European countries*

*The labour markets in Southeast Europe (SEE) differ substantially from those in the NMS due to the delayed start of the transition, large informal sector activities, traditionally high labour migration (including brain drain) and the already high level of unemployment at the outset of transition.*

*Employment rates are generally on the decline except in Croatia and low compared to European standards, ranging between 28% in Kosovo and 54% in Croatia. Female employment rates have traditionally been much lower than in the NMS, resembling the pattern of the southern EU countries. In terms of activity rates the gaps are less pronounced.*

*The employment structure shows a picture diverging from that in the NMS and the EU-15, with a continued emphasis on agricultural employment, absorbing workers laid off in other sectors or providing subsistence activity due to the low job creation in the formal sector. A common feature of all countries in the region is the sharp contraction of industrial employment, reflecting the slow recovery of industry after the strong contraction in the 1990s. The services sector is underdeveloped as compared with the NMS and the EU-15. But, taking into account the large informal sector that concentrates traditionally on services sector activities (together with agriculture and construction), the information obtained from official figures seems to underestimate the actual size of that sector.*

*Similar as in the southern EU member states, self-employment accounts for a noticeable share in total employment in SEE, reflecting the still high share of self-employment in agriculture and probably also in trade.*

*Unemployment in SEE started from a much higher level than in the NMS and is now ranging between 21% in Serbia and 39% in Kosovo – Croatia being the only exception, with comparatively low and declining unemployment, at about 13%. The problem of long-term unemployment is even more severe in SEE than in the other transition countries and the proportion of those who are affected is by far higher.*

**Keywords:** labour market, Central, East and Southeast Europe

**JEL classification:** E24, J20, J21, J24, J40, J64



## **Employment developments in Central and Eastern Europe: trends and explanations**

### **Introduction**

Since the early 1990s a growing literature has dealt with the labour markets in the transition countries in general and individual countries in particular. In the early years of transition virtually all experts expected a fall in employment coupled with rising open unemployment as a consequence of shedding redundant labour in unproductive firms. While one group of analysts (Sachs and Lipton, 1990; Sachs, 1992) believed in a rapid recovery once market forces were in place, others (Kornai, 1989; Laski, 1990; Brada and King, 1992) argued that a recovery would be possible only after the build-up of the institutional framework of market economies. In a third strand of thought, Aghion and Blanchard (1993) and Boeri (2000) saw a role for governments in the downsizing of state enterprises by influencing the speed of transition through the allocation of subsidies and unemployment benefits.

The sharp decline of employment rates and consequently the drop in activity rates and rising unemployment across countries was broadly discussed in Boeri, Burda and Köllö (1998). The authors found that Hungary was hit hardest by the decline in employment rates between 1989 and 1996 (around 23 percentage points), whereas it fell by a comparatively low 5.6% in Romania. Employment and activity rates dropped drastically for women, the young and the elderly (Bruno, 2006). In general, the gender gaps in activity rates in the then candidate countries were less pronounced than in the EU-15 in the late 1990s and are still lower in most cases nowadays (Mickiewicz and Bell, 2000; Employment in Europe, 2004, 2005). Overall, the 1990s were characterized by strong outflows from the labour market: people either used early retirement schemes, disability pensions or other open-ended income support subsidies. Youth unemployment reached high levels, the duration of unemployment increased considerably and the number of discouraged workers was rising (Aghion, Blanchard and Carlin, 1997). Already in 1992 Boeri and Keese, in their assessment of the transition countries' labour markets, discussed the danger of long-term unemployment and emphasized the regional dimension of unemployment. After some years of transition, the low turnover of the unemployment pool and signs that unemployment would be persistent rather than transient became obvious; furthermore, evidence regarding the heterogeneity of country experiences accumulated (Boeri, 1994; Blanchard, Commander and Coricelli, 1994).

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\* The authors are grateful to Sebastian Leitner (wiiw) for research assistance and statistical support.

Structural change has always been a core part of the economic analysis of transition, emphasizing a dramatic change in the composition of both GDP and employment (EBRD, 1997, 1999, 2000; Jackman and Pauna, 1997). Given the legacy of the communist past, employment had to shift from large-scale (state-owned) enterprises to medium- and smaller-sized (private) firms, and from the agricultural and industrial sectors to the services sectors (Landesmann, 2000; Landesmann et al., 2004).

The skill content of labour and its impact on employment performance has been another aspect of employment analyses in Central and Eastern Europe. Boeri and Keese (1992) had argued that restructuring was likely to lead to major and not fully foreseeable changes in skill requirements and that this might necessitate significant adjustments in the system of vocational training, aimed at making curricula more flexible and at countering the trend towards overspecialization. According to Landesmann and Stehrer (2002) there were strong negative employment developments in the lowest skill categories over the transition period while there were positive labour market pressures for the higher skill groupings. This was the result of an upgrading of industrial structures and accompanying changing skill requirements. Commander and Köllö (2004) confirm these findings by showing that transition has had a strong bias towards unskilled labour which has lost employment disproportionately. Job creation in new firms tends to be biased against low educational attainment levels and skills.

At the end of the 1990s and the beginning of the 2000s the emphasis in the analysis of the then candidate countries shifted from problems associated with transition towards problems associated with the accession process to the European Union (Belke and Hebler, 2002; European Commission, 2000). However, most of these studies concentrated on the labour market impact on the incumbent EU member countries as a consequence of the expected labour migration rather than on the labour markets of the new EU member states.

In all Central and East European (CEE) transition countries, unemployment insurance schemes were introduced at the beginning of the 1990s, based on schemes operating in the OECD (Boeri and Keese, 1992). Faced with growing budgetary burdens, the governments very soon reduced the levels of protection in unemployment; already in 1992-93 the eligibility criteria to qualify for unemployment benefits were tightened in all CEE countries. Unemployment recipients were among others required to have a minimum period of previous employment and (except in Albania) the level of unemployment benefits was based on fixed replacement rates of previous wages (Scarpetta and Reuterswald, 1994; Ham, Svejnar and Terrell, 1998; Svejnar, 2002). Most funds in the early period of transition were allocated to income support and early retirement schemes (Nesporova, 1999). A broad overview of the individual countries' unemployment benefit systems in the 1990s is provided by Vodopivec, Wörgötter and Raju (2003), Nesporova (1999) and UNECE (2003). Parallel to passive labour market policy measures (primarily

unemployment benefits) the transition countries have introduced active labour market policies starting from the early phase of transition; however, spending is still rather low compared to the EU-15. Notable results of active labour market policy measures were obtained, e.g., for the Czech Republic in the 1990s and most recently in Bulgaria (Nesporova and Kyloh, 1994 and Beleva, 2004).

Over the past decade(s), labour market rigidities have been considered an important source of unemployment in Europe, particularly when compared with the US. Measuring flexibility or rigidity of labour markets in the western countries has been subject to numerous studies particularly in the 1990s, such as Lazear (1990), Nickell (1997), Blanchard and Wolfers (1999) and the OECD in its *Job Study* (1994) and its *Employment Outlook* (1999). In the pre-accession period, also labour legislation became an important research issue in the then candidate countries. Following the OECD methodology, Riboud et al. (2002) examined the role of labour market institutions – job security provisions, support programmes for the unemployed and other related policies – in a group of EU accession countries (the Czech Republic, Estonia, Hungary, Poland, the Slovak Republic and Slovenia) in the 1990s and compared the results with those obtained for the OECD including the then EU countries. As far as flexibility is concerned, the Central and East European countries ranged somewhere in the middle of the scale measured by the employment protection legislation index (EPL)<sup>1</sup>. In a further step the analyses examined the impact of these institutions on the labour market performance during the 1990s. In general, it was found that the transition countries had introduced similar institutions (with similar rigidities) as the old EU, with some differences across countries. It was concluded that the impact on unemployment was uncertain, but that institutions may have an impact on the composition of the labour force and of employment. Similar results were obtained from a study by Cazes and Nesporova (2003), stating that ‘no statistical impact of EPL was found on the various unemployment rates of transition countries’ but that EPL seemed to significantly influence labour supply. However, the results obtained for the latter display different outcomes for western OECD countries and transition countries: while in western countries stricter employment protection legislation tends to have a negative effect on employment and activity rates, in transition countries quite the opposite was found, i.e. restrictive legislation leads to higher levels of employment and labour market participation in the formal sector of the economy. This could be due to a stronger incentive to find or retain a job in the formal sector when job security is higher in that sector. Svejnar (2002) stressed that labour market flexibility, while being an issue, is not a major factor in comparison to varying degrees of imperfections and regulations in other areas such as in housing, transportation, corporate governance and capital markets. As for Southeast Europe, Micevska (2004) described the EPL as relatively flexible in terms of regular employment, but as relatively strict in terms of temporary employment. Preliminary results

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<sup>1</sup> The employment protection legislation index is constructed as a weighted average of twenty-two different indicators describing various aspects both of permanent and temporary employment, as well as collective dismissals.

suggested that the latter was associated with higher unemployment for women and youth and lower employment and activity rates for these groups.

In response to the specific situation in the Western Balkans, some of the successor states of the SFR Yugoslavia introduced employment protection measures during the 1990s (Arandarenko, 2004). In the wake of the regional conflicts, Serbia introduced a legislation – in force for most of the 1990s – that banned the firing of employees during the sanctions of the UN. Both entities of Bosnia and Herzegovina (the Federation of Bosnia and Herzegovina – FBiH, and Republika Srpska – RS) employed waiting lists (for paid leave) instead of firing until 2000. In Croatia, Bosnia and Herzegovina, Serbia and Kosovo privileges and/or special programmes were introduced for war veterans.

The structure of the present report is as follows: We separate the discussion of labour market developments between the group of new EU member states (NMS) together with the accession countries (Bulgaria and Romania) in Part I from that of the analysis of developments in Southeast Europe (SEE) in Part II. This separation is partly due to the data situation, which is much more favourable for the country group treated in Part I than in Part II (e.g., the availability of a full set of Labour Force Surveys), but also to the very distinct features that separate the two groups, such as, in SEE, the much delayed transition, the emergence of a vastly more important informal sector, the more severe issue of outward migration and, linked to this, the impact of large transfers from citizens abroad. In turn, the analysis of labour market developments in Part I countries includes issues that could not be fully covered in Part II, such as detailed sectoral developments, demand and supplies of skills, etc.

## **Part I: New EU member states (NMS)**

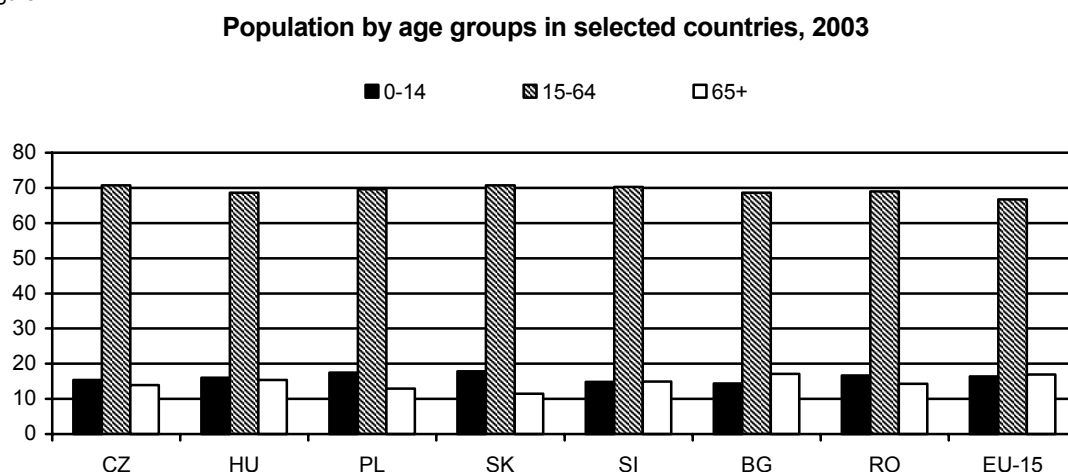
### **I.1 Demographic trends**

The population has been on a steady decrease in the NMS over the past decade and fell by almost 3% in the period between 1990 and 2005, mostly due to declines in the accession countries Bulgaria and Romania. At a county level, only the Slovak Republic reported slight growth, while the population remained almost stagnant in Poland and Slovenia. In all other countries the number of inhabitants declined, mostly so in Bulgaria and Romania. Between 1989 and 1996 more than half a million people left Bulgaria; up to 1993 this was mainly due to the emigration of Muslims to Turkey. Later on, the poor economic situation caused well-educated (young) people to emigrate either to the USA and Canada or to Western Europe. In Bulgaria these developments have resulted in a considerable depopulation of some areas of the country, mainly the underdeveloped, border and mountain regions (ETF, 2000). The steady population decline in Romania from 1991 onwards was caused both by the negative natural increase and net outward-

migration. Similar to Bulgaria, a remarkable number of young, educated people have been leaving the country year by year. As in most countries in SEE, the brain drain has been severe in Bulgaria and Romania.

The working-age population (15-64 years) has been increasing in the Czech Republic and Poland since the beginning of the 1990s, in the Slovak Republic since 1995 and in Slovenia since 2000. In Hungary the working-age population has more or less stagnated, while in Bulgaria it fell over the whole period and in Romania it has declined somewhat in the past few years. As in most western countries, the population is ageing in the NMS: the share of people older than 65 is generally on the rise. Population ageing is most advanced in Bulgaria, followed by Hungary, Slovenia and Romania (Figure 1.1). The share of young people up to the age of 14 years has been falling – the highest proportions of this age group are found in Poland and in the Slovak Republic (close to 18% in each case), the lowest in Bulgaria (14%).

Figure 1.1



Source: Eurostat; Statistical Office of Croatia.

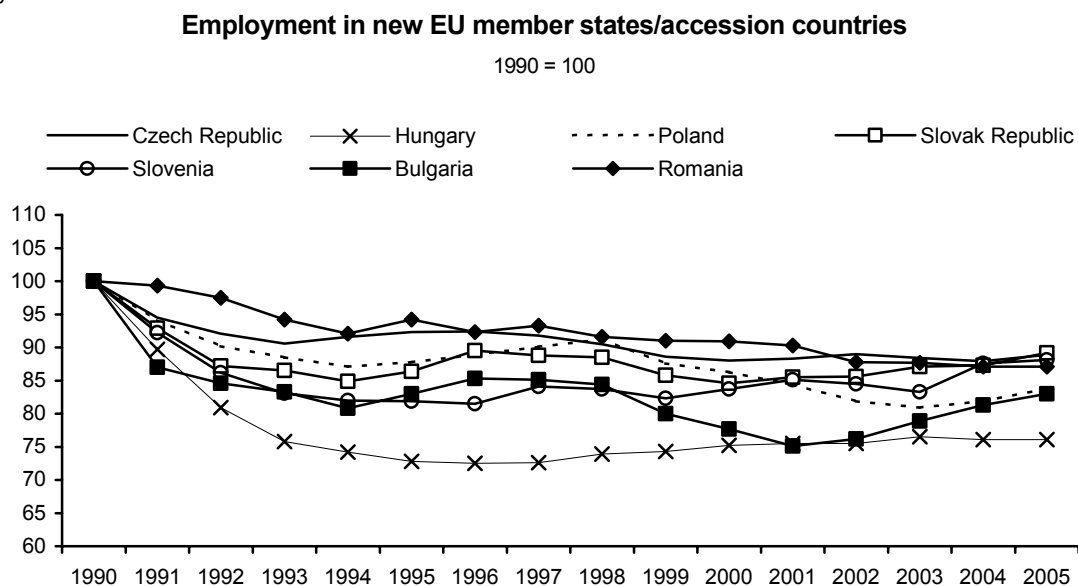
## 1.2 Output and employment

The dramatic fall of GDP at the outset of transition was accompanied by strong employment declines. Bulgaria and Hungary were affected most, while job losses were less intense in the Czech Republic and Romania (Figure 1.2). The economic expansion starting in most countries in 1993/94 resulted in only slight or temporary employment increases that could not be sustained. Hungary, which suffered the strongest employment decline in the initial stage of the transition, was the only country to report steady job increases from 1997 to 2003; thereafter, however, employment virtually stagnated. Poland was successful in creating new jobs in the mid-1990s, but suffered painful employment cuts of about one million persons between 1999 and 2002, mainly as a consequence of the changing



macroeconomic environment (see Podkaminer, 2006). Employment growth in Poland returned only after the resumption of GDP growth from 2003 onwards.

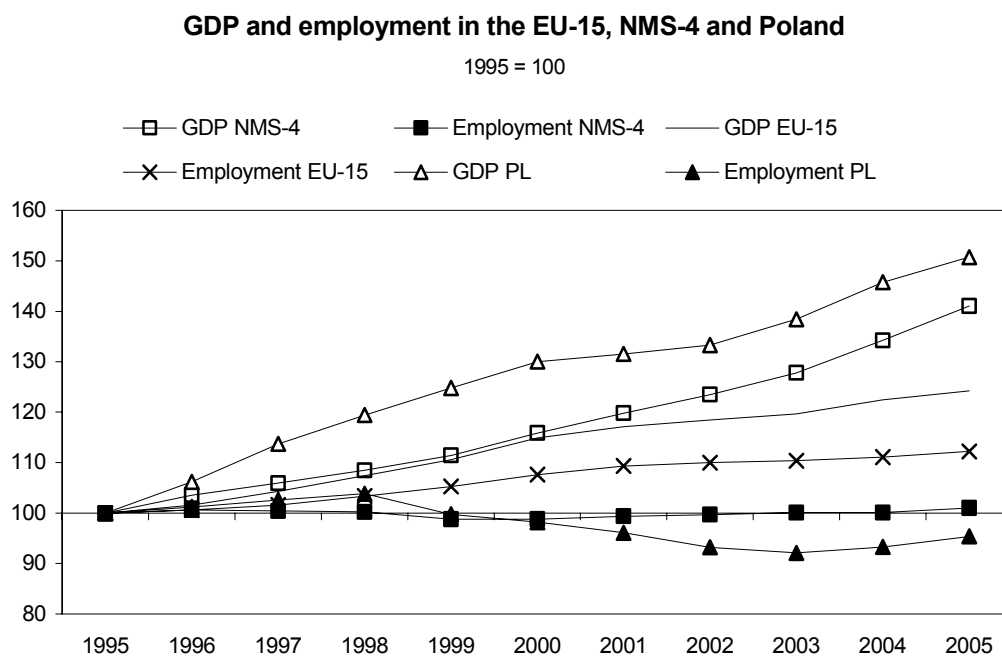
Figure 1.2



Source: wiiw Database incorporating national statistics.

Figure 1.3a shows the widening of the gap between GDP and employment in Poland and in the NMS-4 (as compared to developments in the EU-15), implying a rather low

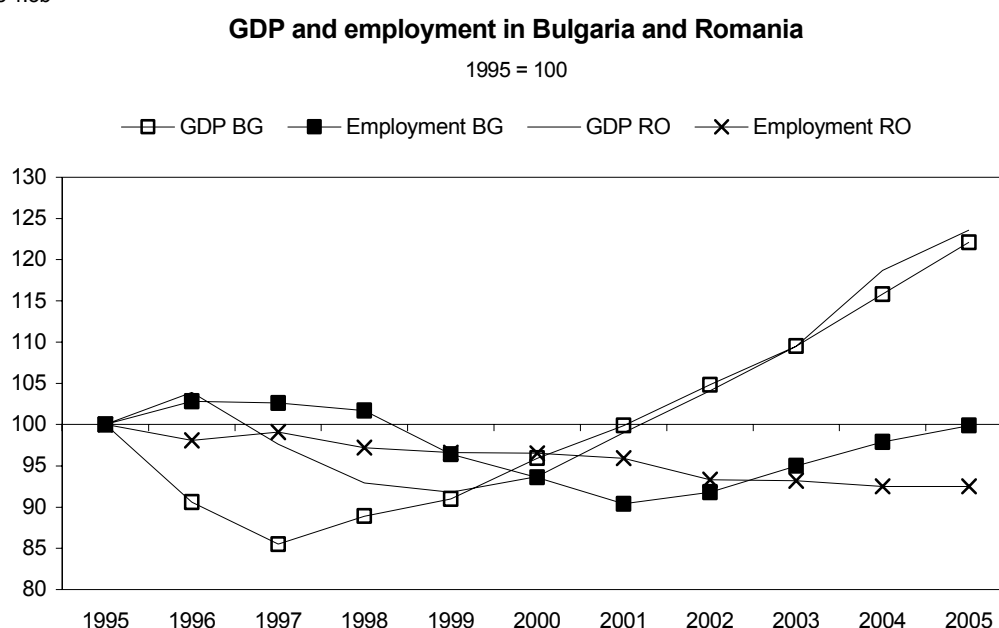
Figure 1.3a



Source: wiiw Database incorporating national statistics.

employment elasticity of output growth. The reason for this is the implied catching-up process in aggregate productivity levels in the NMS. We shall refer to some additional sectoral aspects of this catching-up process below. Hence, even periods of sustained output growth go along with rather stationary employment growth. Figure 1.3b for Bulgaria and Romania shows rather similar developments over the past six to seven years, although the relative success story of a combination of high growth with successful active labour market policy is clearly visible for Bulgaria, while the earlier period shows features of delayed transition phenomena with employment hoarding (particularly in agriculture; see later on) going along with strong declines in output levels.

Figure 1.3b



Source: wiiw Database incorporating national statistics.

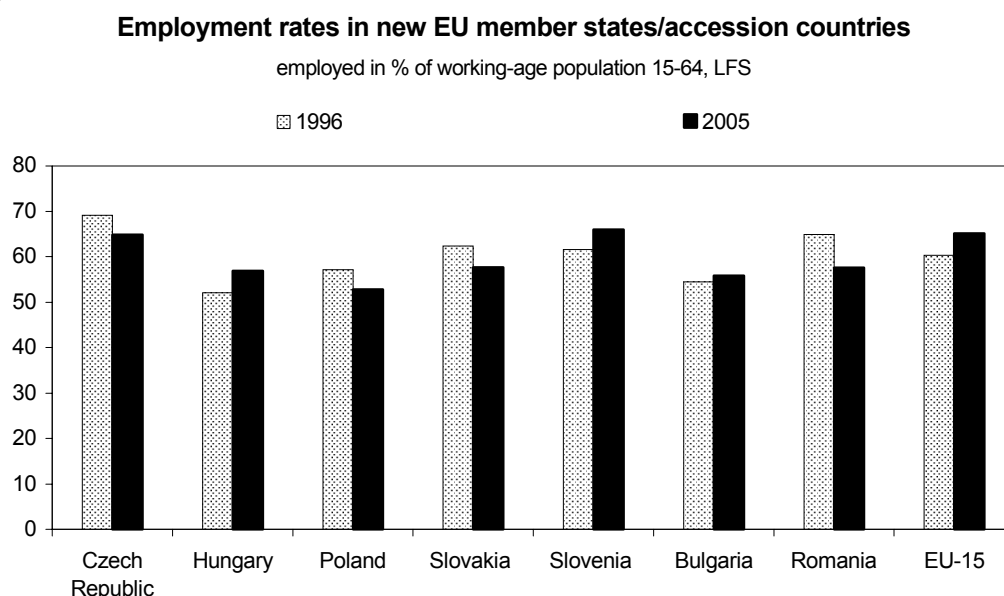
### 1.3 Employment rates

The huge job losses in the NMS and in Bulgaria, particularly at the beginning of the 1990s, were accompanied by sharp declines in employment rates.<sup>2</sup> These developments differed quite significantly from the situation in the EU-15, where employment rates started to rise continuously from the mid-1990s. Following the slight recovery of employment in some countries in the early 2000s, employment rates began to rise from 2003 onwards in the region as a whole, but developed differently by individual countries. In Poland and in Bulgaria employment rates have recovered in the past two and the past four years

<sup>2</sup> According to Burda, Boeri and Köllö (1998), in the period between 1989 and 1996 the steepest falls of employment rates was reported for Hungary (-22.9%) and Bulgaria (-22.2%), followed by Poland (-13.1%) and the Slovak Republic (-11.6%). By contrast, employment rates in the Czech Republic and in Romania dropped by only 9.6% and 5.6%. These figures are based on registration data and are not comparable with LFS data obtained from the mid -90s.

respectively, but in most other countries they have remained stagnant. Slovenia's rate, fluctuating since the mid-1990s, was the highest among the NMS and exceeded even the EU-15 average in 2005. Slovenia as well as Hungary exhibited higher employment rates in 2005 than in 1996. Hungary, however, started from very low levels after drastic cuts in the early 1990s (see Figure 1.4). Aside from the fact that in the EU-15 the Lisbon process (towards the target of a 70% overall employment rate in 2010) has been slowing down, it seems quite obvious that the recent enlargement – given the weak job creation in the NMS – will further contribute to the EU missing the intermediate employment rate target of 67% in 2005 as set by the Stockholm European Council (European Commission, 2004).

Figure 1.4



*Note:* Poland, Romania 1996: data refer to 1997.

*Source:* wiw Database incorporating national statistics.

Notable differences between the NMS and the EU-15 exist also with regard to the employment rates for men and women and for different age groups. Starting from levels that were much higher than the EU-15 average, female employment rates have remained above the average only in Slovenia, but fell below that mark everywhere else. Among the NMS, therefore, female employment rates in 2005 ranged from 61% in Slovenia to 47% in Poland. The Lisbon target for female employment is set at 60% in 2010 and the intermediate target rate at 57% in 2005, which seems to be feasible for Slovenia.<sup>3</sup> Employment rates of women were higher in 2005 than in 1996 in Hungary, Slovenia and Bulgaria. The most pronounced decline was observed in Poland, followed by the Czech Republic and Slovakia.

<sup>3</sup> Similar to Slovenia, female employment rates in the Baltic states are already higher than the intermediate target and are continuing to increase. It is also likely that the Czech Republic will reach the target by 2010.

In contrast to female employment rates, male employment rates in the NMS had been well below the EU-15 average in the mid-1990s in all countries except the Czech Republic. With the exception of Hungary, Slovenia and Bulgaria, employment rates of men were lower in 2005 than in 1996. The most pronounced declines over this period were observed in the Czech Republic and in Slovakia, and probably also in Romania<sup>4</sup>, where rates were down by 6 percentage points in each case.

#### **I.4 Non-standard employment**

In contrast to the EU-15, where non-standard forms of employment (part-time, temporary work, self-employment) have increasingly been used since the beginning of the 1990s, they are not very common in the NMS, where full-time employment is a legacy of the communist past. Only Poland and the successor states of the SFR Yugoslavia had a tradition of self-employment in the agricultural sector, which was based on small private family farming (Nesporova, 1999). During transition, however, along with the newly emerging and developing private sector, enterprises started to adopt new forms of employment and working time arrangements in the NMS in order to adjust to the new exposure to competition (Vaughan-Whitehead, 2005).

The most frequently used form of non-standard employment in the NMS is self-employment, with the highest incidence found in Romania and Poland (47% and 29% respectively) in 2004 versus the lowest in the Slovak Republic (12%) – to be compared to the EU-15 average of 15%. In the NMS self-employment is very much concentrated on farming, wholesale and retail trade and construction, while in the EU-15 it is mainly associated with agriculture. Over the past decade and a half self-employment has been on the rise in most NMS but Poland, affecting both sexes equally. The surge in self-employment may be explained, on the one hand, by the lack of other employment opportunities; on the other hand, sometimes employers are also forcing workers into self-employment in order to lower hiring and firing costs (World Bank, 2005). The Slovak Republic, exhibiting the lowest share of self-employment in the region, in 2004 launched a programme to support this form of employment, providing starting capital for unemployed to set up an own business.

Part-time workers, representing about 22% of total employment in the EU-15, accounted for only 8% in the NMS in 2005, ranging from 2.1% in Bulgaria to 11% in Poland. The relatively large share of part-time employment in Poland is mainly attributable to the large agricultural sector and the comparatively large numbers working less than 30 hours a week in the sector. Part-time work in the NMS is mainly used to employ retired and disabled people as well as young labour market entrants and tends to be involuntary. By contrast, in

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<sup>4</sup> LFS results for Romania lack comparability with previous years due to methodological changes.

the EU-15, where part-time employment is also an important mode of female employment, the decision to work part-time is a voluntary one (Buddelmeyer et al., 2004). Similar to the NMS, there are also large differences among the EU-15 countries: here the share of part-time employment ranges from 5% in Greece to nearly 46% in the Netherlands – depending on the regulatory and institutional framework in the respective countries.

Over the recent years the share of part-time work has increased in Slovenia and Slovakia (in the latter from a very low level); it has remained much the same in the Czech Republic, Hungary and Poland, whereas it fell slightly in Bulgaria and Romania. As in the EU-15, part-time working in the NMS is mainly a female phenomenon, but the difference between the proportions of men and women working part-time is considerably smaller. In 2005, the relative number of men in employment working part-time differed only slightly between the two groups of countries, but the share of women, ranging from 14% in Poland to 2.5% in Bulgaria, was well below the EU-15 average (36.5%). In contrast to the EU-15, where it has risen continuously in the past couple of years the share of part time employment of men fell slightly or remained unchanged in the NMS. Part time employment of women rose in Poland, Slovenia and somewhat in the Slovak Republic, remained constant in the Czech Republic and Bulgaria, and fell in Romania, Bulgaria and Hungary.

As in the case of part-time work, temporary contracts do not play an important role in most of the NMS, while fixed-term work has been increasingly used in the EU-15. There are two exceptions: Poland and Slovenia, where temporary employment has been rising steadily over the recent years. In Poland, labour legislation provides a strong incentive for employers to make use of such flexible forms of employment, and about 26% of employees have temporary contracts (partly involuntarily); in Slovenia this share is 17%.

## **1.5 Unemployment**

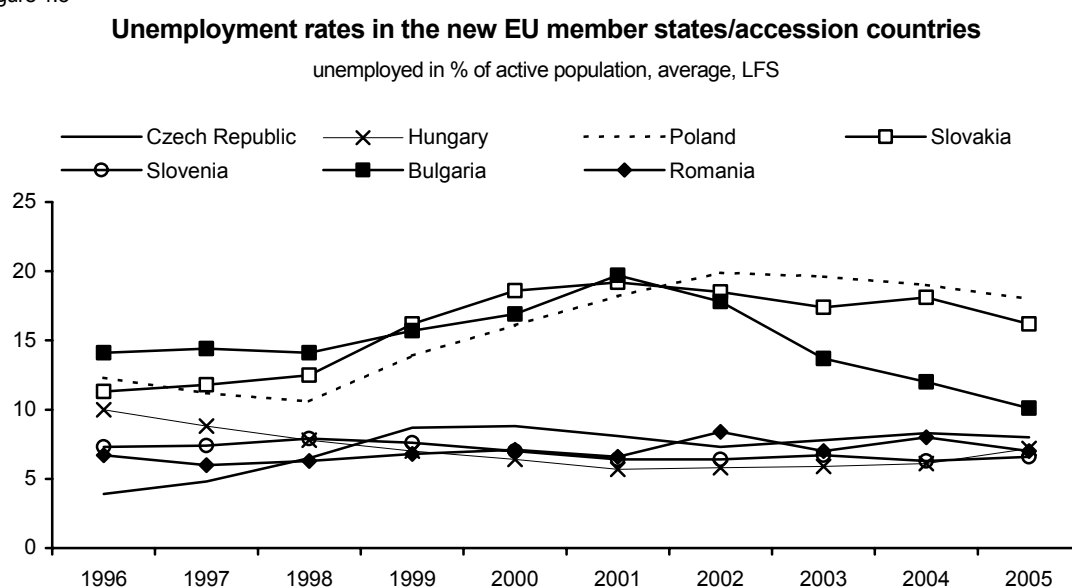
The dramatic job losses that occurred during the transition process either gave rise to a decline in activity (and employment) rates, as people were quitting the labour market, or resulted in increasing unemployment. Expectations that the labour market situation would improve quickly once GDP began to grow again did not materialize. Instead, unemployment remained stubbornly high or even increased further. However, from 2002/03 the strong economic performance helped to improve the situation on the labour market, particularly in the Slovak Republic, Bulgaria and Poland (Figure 1.5). A reduction of unemployment was also observed in the Czech Republic and Romania in 2005, while unemployment started to grow again in Hungary from 2002 onwards. Hungary had experienced the lowest unemployment rates in the region for a number of years, which had been however a consequence of growing inactivity within the stagnating non-employed population and definitely not a result of growing demand for labour (Fazekas, 2005). In 2005 unemployment rates in the NMS were on average 1.7 times higher than those in the

EU-15, but the incidence of unemployment varied from country to country. The NMS can be divided into two groups in this respect: In the first group, consisting of Hungary, Slovenia, Romania and the Czech Republic, the unemployment rate (6.6-8%) is well below or similar to the EU-15 average; in the second group, comprising Poland and Slovakia, the rate (16-18%) is well above the EU average. Bulgaria, with falling unemployment, is in between the other two.

The main reasons for the high unemployment in Poland and Slovakia include, apart from low GDP growth in Poland for some years, restructuring and demographic factors (large numbers of young people entering the labour market). In Slovakia the very high unemployment among the Roma population also contributes to the high overall rate.<sup>5</sup>

Unemployment has been higher for men than for women in all countries but Bulgaria and Romania. The gender gap is in most countries less pronounced than in the EU-15, exceptions being the Czech Republic and Poland. The principal reason why in the Czech Republic female unemployment has been persistently higher than that of men is the low probability of (married) women to leave unemployment for jobs (Terrell and Stefanova Lauerova, 2004).

Figure 1.5



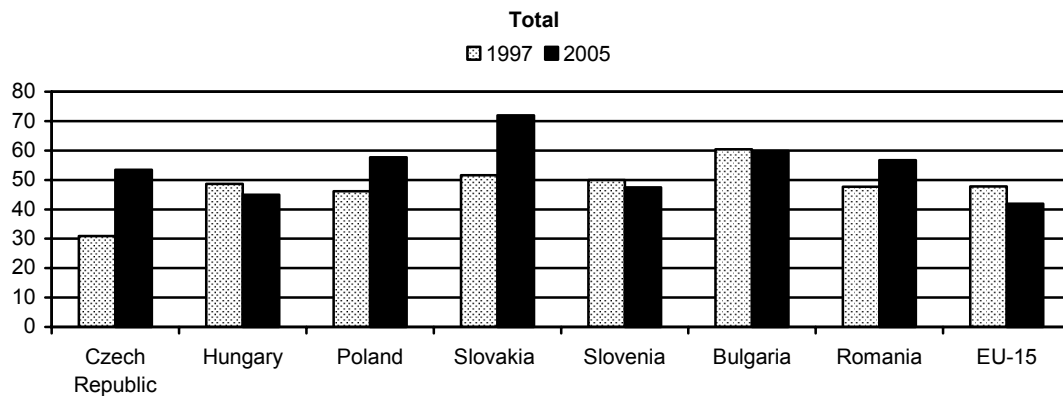
Source: wiiw Database incorporating national statistics.

<sup>5</sup> In 1999, Roma accounted for about one quarter of total registered unemployment in Slovakia. In the eastern parts of the country with a traditionally large Roma population, the share was even much larger. Most of the unemployed Roma have been out of work for more than a year (World Bank, 2002).

Figure 1.6

### Long-term unemployment in the new EU member states/accession countries

unemployed – 12 months and more, in % of total unemployed, LFS



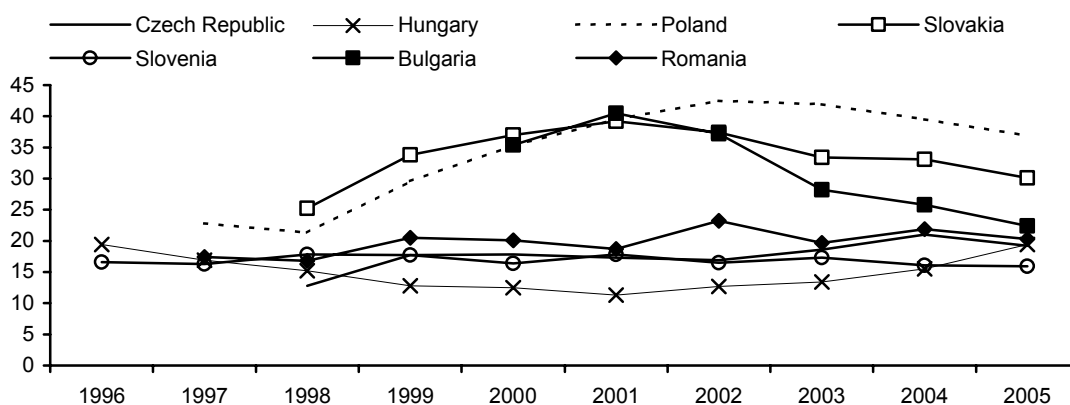
Source: Eurostat.

As can be seen from Figure 1.6, long-term unemployment has become a serious problem in all NMS. It has reached much higher levels than in the EU-15 and continues to rise in most countries, of which most severely in the Slovak Republic. In 2005 the share ranged from 72% in Slovakia to 45% in Hungary, as compared to the EU-15 average of 42%. This suggests a stagnant pool of unemployment.

Figure 1.7

### Youth unemployment rates in the new EU member states/accession countries

15-24 years, in %, LFS



Source: wiiw Database incorporating national statistics.

Youth unemployment in the NMS is about twice as high as both the overall national average rate of the respective countries and the EU-15 average (16.7% in 2005). It ranges from 16% in Slovenia to as much as 37% in Poland (Figure 1.7). Countries such as Bulgaria, Slovakia and Poland were experiencing the highest incidence of youth

unemployment up to 2001/02 but have shown a noticeable reduction thereafter. By contrast, Hungary, which was less affected by the problem of youth unemployment in the past, reports a steady increase; a rise is also recorded in the remaining countries.

## **I.6 Sectoral developments between 1996 and 2004**

Sectoral employment developments in the transition countries are strongly affected by the legacy of sectoral structures inherited from the Communist period (with its heavy emphasis on industry and relative neglect of service activities) combined with a path of convergence in output structures and catching-up in productivity levels, both of which lead to a convergence of employment structures with the more advanced EU economies. Hence, between 1996 and 2004, job creation in the NMS was mainly concentrated in the tertiary sector, whereas employment in agriculture (excepting Slovenia and Bulgaria) and in industry (excepting Slovakia) was falling (Table 1). However, convergence processes do not fully explain the picture: for example, some of the NMS have carved out a niche for themselves as being preferred locations for industrial production and hence the employment shares in industry remain at a relatively high level. We shall return to the stylized picture of sectoral employment adjustment guided by output, productivity and specialization developments below.

After an earlier dramatic drop, there are also signs of some recovery in industrial employment in the period 2000-04, particularly in the Slovak Republic, Slovenia, Bulgaria and Romania. In most countries the rise in industrial employment was caused by a strong upswing in construction, while in the Slovak Republic, Bulgaria and Romania there has also been some increase in manufacturing employment in the past two to three years. Large inflows of FDI into manufacturing may well have played an important role in creating new jobs. In three countries (Hungary, Slovakia and Slovenia), job creation both in services and manufacturing offset job destruction in other sectors in the period 2000-04, while in other countries the creation of new jobs was not sufficient to compensate for continuing job losses in agriculture and industry. Poland is a special case with additionally significant employment losses in construction and most service sector activities.

Overall, the NMS still had a relatively large share of employment in industry in 2004, particularly the Czech and Slovak Republics (39% in each case) and Slovenia (36%), while the share of employment in agriculture was large in Romania (32%), Bulgaria (25%) and in Poland (around 18%; see Table 2). Romania's agricultural employment in particular can be considered as underemployment in small, subsistence family farms (European Commission, 2005b).



Table 1

**Employment by activities in the new EU member states/candidate countries, 1996-2004, cumulative change in %**

		LFS data									
NACE label		CZ	HU	SK	SI	NMS-4 <sup>1)</sup>	PL	BG <sup>2)</sup>	RO	BG, RO <sup>2)</sup>	EU-15 <sup>3)</sup>
A-Q	Employment, total	-5.3	8.2	-2.4	7.4	0.3	-7.8	-1.8	-16.3	-12.9	10.1
A-B	Agriculture, forestry, fishing	-33.8	-32.2	-44.5	3.4	-31.9	-25.0	0.4	-30.2	-25.3	-16.2
C-F	Industry total	-10.7	7.6	-3.8	-7.3	-4.2	-16.1	-18.6	-17.2	-17.5	-0.2
C-E	Industry	-11.8	-0.1	-7.1	-10.5	-7.6	-16.5	-18.7	-20.1	-19.8	-4.3
F	Construction	-6.8	41.8	8.2	14.9	8.9	-14.4	-18.1	1.8	-3.4	11.3
G-O	Services	2.3	14.3	5.5	19.8	8.1	6.0	9.6	2.0	4.3	16.7
G-K	Market services	0.7	18.5	13.1	17.3	9.7	12.2	19.0	2.3	7.4	18.2
G	Wholesale, retail trade, repair motor vehicles	-1.4	12.1	15.1	11.7	6.6	5.4	33.9	13.3	19.1	7.7
H	Hotels and restaurants	12.3	30.4	34.7	7.4	21.3	16.8	33.0	-0.2	11.1	22.9
I	Transport, storage, telecommunications	-6.2	-7.8	-16.5	15.7	-7.4	-6.5	-15.5	-21.2	-19.5	13.1
J	Financial intermediation	-1.0	-3.8	51.2	0.0	5.0	-5.2	-15.7	-0.5	-5.5	1.8
K	Real estate, renting & business activities	9.9	112.6	36.0	55.6	43.6	93.9	61.2	29.7	41.2	49.4
L-O	Community services	4.6	9.5	-2.2	23.4	6.1	-1.1	-2.4	1.8	0.5	14.9
L	Public admin., defence, compuls. soc. security	3.8	13.4	-3.6	37.8	7.4	15.9	64.2	3.9	11.4	4.1
M	Education	-10.5	4.2	-9.2	20.9	-2.8	9.5	-23.0	-4.6	-11.5	16.7
N	Health and social work	18.5	19.4	7.9	13.6	16.3	-19.4	-18.2	1.3	-5.4	22.4
O	Other community, social & personal services	11.0	0.3	-7.2	22.6	4.2	-10.7	29.4	9.5	15.9	15.0

Notes: 1) NMS-4: Czech Republic, Hungary, Slovak Republic, Slovenia. - 2) BG: registration data. - 3) Second quarter.

Source: Eurostat; wiiw Database incorporating national statistics.

Table 2

**Employment by activities in the new EU member states/candidate countries, structure 2004**

in %, LFS

NACE label		CZ	HU	SK	SI	NMS-4 <sup>1)</sup>	PL	BG <sup>2)</sup>	RO	BG, RO <sup>2)</sup>	EU-15 <sup>3)</sup>
A-Q	Employment, total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
A-B	Agriculture, forestry, fishing	4.3	5.3	5.1	9.8	5.2	18.0	24.9	31.6	29.9	3.8
C-F	Industry total	39.2	32.8	39.0	36.4	36.8	28.8	27.0	31.2	30.1	27.0
C-E	Industry	29.9	24.9	29.5	30.6	28.3	23.1	22.8	26.0	25.1	19.1
F	Construction	9.3	7.9	9.5	5.7	8.6	5.7	4.2	5.2	5.0	7.9
G-O	Services	56.5	61.9	55.8	52.9	57.9	53.2	48.1	37.2	40.0	67.6
G-K	Market services	32.8	34.4	30.0	30.5	32.7	30.0	29.3	20.3	22.7	38.1
G	Wholesale, retail trade, repair motor vehicles	13.4	14.0	12.0	12.2	13.2	14.5	13.3	10.3	11.1	14.7
H	Hotels and restaurants	3.7	3.8	3.9	3.9	3.8	1.7	3.2	1.6	2.0	4.3
I	Transport, storage, telecommunications	7.7	7.6	6.5	6.3	7.3	6.0	6.6	5.0	5.4	6.1
J	Financial intermediation	2.0	2.1	2.1	2.2	2.1	2.0	1.1	0.9	1.0	3.2
K	Real estate, renting & business activities	6.0	7.0	5.5	5.9	6.2	5.8	5.1	2.5	3.2	9.8
L-O	Community services	23.7	27.5	25.7	22.4	25.2	23.2	18.8	16.8	17.3	29.5
L	Public admin., defence, compuls. soc. security	6.9	7.7	7.0	6.0	7.1	6.3	3.7	5.9	5.3	7.3
M	Education	5.9	8.5	7.4	7.1	7.2	7.7	6.1	4.4	4.8	7.1
N	Health and social work	6.9	6.9	7.1	5.3	6.8	6.0	4.7	3.9	4.2	10.3
O	Other community, social & personal services	3.9	4.4	3.9	4.0	4.1	3.2	4.2	2.6	3.0	4.7

Notes: 1) NMS-4: Czech Republic, Hungary, Slovak Republic, Slovenia. - 2) BG: registration data. - 3) Second quarter.

Source: Eurostat; wiw Database incorporating national statistics.

In services, employment gains were primarily due to job creation in the market sector in all countries. Employment expanded in distribution throughout the whole region bar Poland, where employment fell steadily from the late 1990s. There were strong increases in tourism (hotels and restaurants), the only exception being again Poland, and in real estate and business activities, displaying the highest growth rates in the whole region. Only Slovenia recorded new job creation in transport and communications, while job losses in this sector were most pronounced in Slovakia, Romania and Bulgaria. Though market service activities are still concentrated in low-skill activities, such as distribution, tourism and transport, employment gains – apart from in distribution – have mainly occurred in the high-skill activities, in particular business services, where the gap in employment vis-à-vis the EU-15 average is still very wide. Overall, job creation in high-skill services was larger (in absolute numbers) than in the low-skill sectors.<sup>6</sup>

Almost all countries reported an increase in community service employment over the period 1996-2004, the exceptions being the Slovak Republic, Poland and Bulgaria. Developments within and across countries and individual sub-sectors varied considerably. The decline in the Slovak Republic and Bulgaria was mainly caused by the reduction of jobs in education, health and social work in Bulgaria and public administration in the Slovak Republic. Apart from Bulgaria, Poland experienced most job losses in health and social services. In half the countries, the Czech Republic, Slovakia, Bulgaria and Romania, employment fell in education; employment in other community and personal services declined in the Slovak Republic and in Poland.

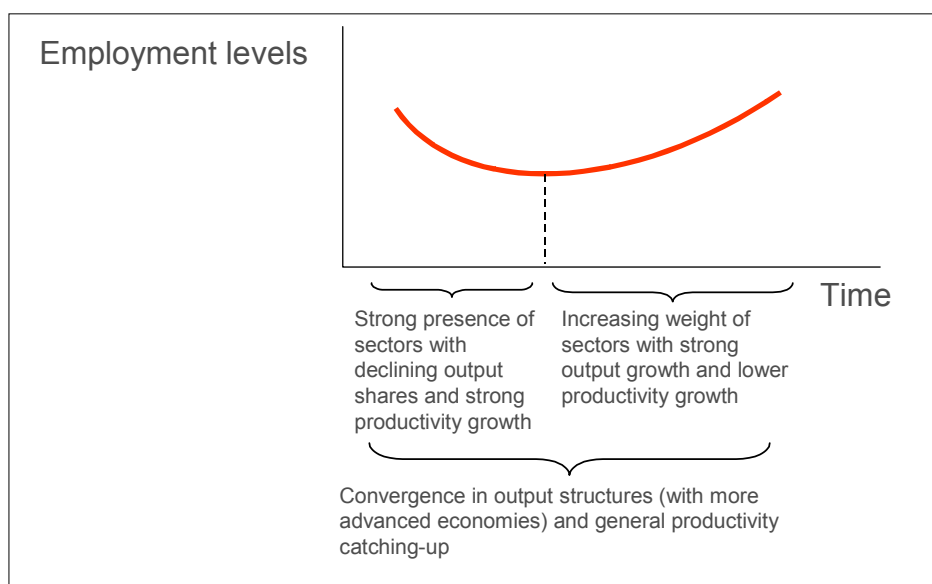
Despite an impressive adjustment process in the past decade and a half, employment structures in the NMS and particularly in Romania still differ from those in the EU-15. The gaps however vary from country to country. Services sector employment is highest in Hungary, at over 60%, and broadly similar to that of certain old EU member states, whereas it is still very low in Romania, where all services sector segments account for much lower employment shares compared to the EU (European Commission, 2005a). It is interesting to note that Slovenia, the most developed new member state in terms of GDP, exhibits the lowest proportion of services sector employment within the NMS-4 group; the only similarities are observed in tourism and transport. Compared to the EU-15, the biggest gap occurs in health and social work, where Slovenia employs only half of the EU-15 average.

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<sup>6</sup> Low-skill service sectors comprise (NACE rev. 1): Wholesale and retail trade (G), Hotels and restaurants (H) and transport, storage and communications (I), while high-skill service sectors comprise financial intermediation (J) and real estate, renting and business activities (K).

Figure 1.8

### Stylized U-shaped pattern of employment growth in NMS



The above discussion has shown that there are significant structural transformations still on the way in the NMS; Figure 1.8 presents in a stylized way the impact of these structural adjustments on the development of the aggregate employment levels (for details see also Landesmann and Stehrer, 2005). We speak here of an expected 'U-shaped' pattern of aggregate employment developments, where the initial downward sloping phase is characterized by a contraction of sectors which have initially a strong weight in the transition economies' sectoral structures (industry and agriculture). It so happens that the initial productivity levels are also particularly low in these sectors (in agriculture this is true for some of the transition economies such as Poland and Romania where farm sizes are rather small, but not for others such as the Czech Republic) and hence, as productivity catching-up proceeds, there is a large scope to reduce manning levels. The sectors which are 'under-represented' compared to developed market economies – particularly market services – have still a smaller weight and though they generate new jobs, this does not compensate for the employment losses in the contracting sectors. Over time, however, the weight of these sectors increases and that of the contracting sectors falls; furthermore, the employment elasticities are higher in the services sectors and this leads to a recovery of aggregate employment levels. There are many additional features which accompany these processes, such as skill- and age-group mismatches, temporary labour hoarding phenomena especially in agriculture, positioning in the international division of labour etc., but the actual developments and the positioning of different economies along the U-shaped pattern – which is dependent upon the initial starting points of sectoral composition and initial productivity levels as well as the progress in relation to output

convergence and sectoral productivity catching-up – seems to support this stylized picture of what underlies aggregate employment developments.

## **1.7 Demand and supply of skills in the transition**

In the following we examine the developments on the supply and the demand side regarding the skill structure of the labour force of the new EU members and the accession countries (Romania and Bulgaria). We also set these developments in relation to those in the EU-15 economies and in the group of Southern cohesion countries (Greece, Portugal, Spain, to be referred to as the EU-S). As we shall see, there are significant differences with respect to both supply- and demand-side features between the NMS and the EU-15 which reflect different inherited and evolving structures of education and different stages in structural adjustment processes of transition and catching-up economies relative to mature market economies.

The first set of Figures (1.9-1.11) refers to the structure of the working-age population as well as to employment and unemployment rates by educational qualification levels<sup>7</sup> and contains the comparison with the EU-15 and the EU-S mentioned above. The following are the main interesting features emerging from this comparison:

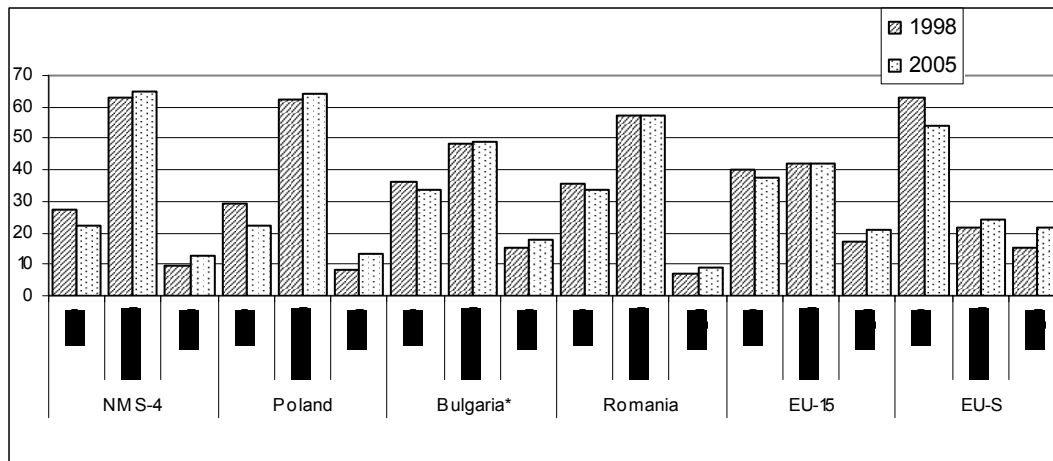
- As regards the educational qualification of the available labour force, the NMS have significantly lower shares of 'low-educated' (people with less than completed secondary degree attainment levels) in their working-age population than either the EU-15 or the EU-S. Less than 30% of the working-age population belongs to this group in the NMS as compared to just below 40% in the EU-15 and above 50% in the EU-S in the year 2005. In Romania and Bulgaria this share is above 30%, i.e. still less than in the EU-15. Over the period 1998 to 2005, the share of low-educated has been falling in all the economies.
- On the other hand, the shares of the 'highly educated' (persons with completed tertiary educational attainment level) are also lower in the NMS and the ACs than either in the EU-15 or the EU-S, by about 8-10 percentage points. Hence, compared to the EU-15 economies, the NMS have a very strong representation of the 'medium-educated' skill group (i.e. the group with some completed secondary educational attainment level)

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<sup>7</sup> The analysis here is based on data from the LFS, which enable us to break down population, labour force and employment by educational attainment level (defined in terms of ISCED 97) and employment by occupational (ISCO-88) category as well as by (NACE rev. 2) sector of activity. Educational attainment is divided into 'low' – those with lower secondary education or below (ISCED 0-2), 'medium' – those who have completed upper secondary education or training (ISCED 3 or 4) and 'high' – those who have completed tertiary education (ISCED 5 or 6). The division into only three groups is determined by the available data. In particular for the 'medium' category, a more detailed classification between those with vocational qualifications and those with more general educational qualifications would have been more informative, but the data for a number of countries are not sufficiently consistent over time to facilitate such a split to be made.

Figure 1.9

### Educational structure of working-age population, 15-64, 1998, 2005



\*) Bulgaria: 2000, 2005.

Figure 1.10

### Employment rates, 15-64, 1998, 2005

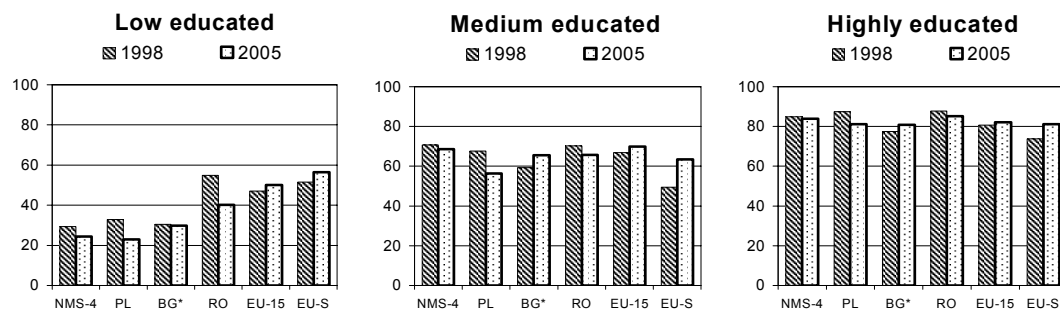
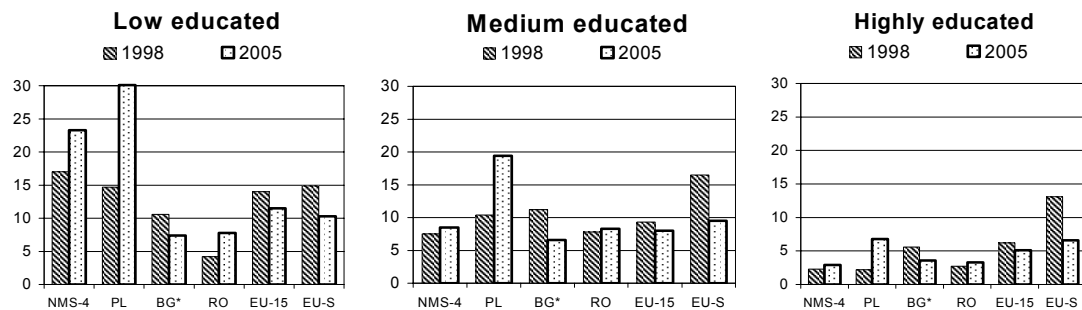


Figure 1.11

### Unemployment rates, 15-64, 1998, 2005



\*) Bulgaria: 2000, 2005.

in which we find over 60% of the working-age population, as against just above 40% in the EU-15 and only above 20% in the EU-S. The share of this grouping is still increasing in the NMS, while it is declining in the EU-15.

- If we look at employment rates (i.e. the percentage share of people employed in the respective educational working-age group), we find that there are very similar employment rates in the NMS and the EU-15 and EU-S as regards employment rates for the highly educated (above 80% are employed in that group of educational attainment) and amongst the medium-educated (slightly above 60%; Poland shows a somewhat lower employment rate). The big difference is with respect to the low-educated, which show extremely low employment rates in the NMS and Bulgaria (just over 20%) as against employment rates in the EU-15 of over 50%.
- The highly unfavourable labour market position of the low-educated in the NMS is also borne out by the very high unemployment rates (over 20% in the NMS-4 and 30% in Poland) while the unemployment rates in the EU-15 and the EU-S are half that level (just above 10%). Interesting are the relatively low unemployment rates (by LFS definition) for that group in Bulgaria and Romania in spite of rather low employment rates of that group; this indicates a high proportion of inactive persons or people working informally (without declaring this in LFS inquiries). For the other two groups, the medium- and highly educated, the unemployment rates are rather low for the NMS-4 as well as Bulgaria and Romania as compared to the EU-15, indicating a rather tight labour market for this group of the labour force, while the unemployment rates for the medium-educated are at a similar level (although rising) to that in the EU-15. In Poland, the unemployment rate is much higher for this group as well (about 20%) compared to the EU-15 (about 8%).<sup>8</sup>
- Hence the overall picture emerging from this analysis is that in the NMS problems in the labour market are quite strongly focused on the group of low-educated – although the usual hierarchy in labour market outcomes in employment and unemployment rates across the three educational groupings applies to all countries; however, it is more pronounced for the NMS.

In order to further understand the labour market positions of the different educational groups, we look at the distributions of the labour force across sectors and see in which sectors employment contractions and employment expansions took place and for which skill groups. Hence from a structural change point of view the employment development for each skill group can be traced back to the relative expansions and contractions of total employment by sector and the changing mix of skill groups employed in the sectors.

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<sup>8</sup> See the discussion below regarding the differences in the sectoral distribution of this group of the labour force between the NMS-4 and Poland.

Appendix Figures A1a-c show the relative allocation of the different educational groups across industrial sectors (see Appendix C for a definition of the industrial breakdown used). We discuss this sectoral breakdown of employment for each skill group in turn and focus on the differences between the country groups:

- As regards the low-educated, we can see important differences between the country groups: in the NMS-4 the largest share by far of this skill group (over 40%) is employed in the industrial sector (sector 2), while in Poland the highest share – just under 50% – is employed in agriculture. In the EU-15 and the EU-S, on the other hand, rather similar shares (above 30% each) are employed in industry and in market services and, in the latter, mostly in the lower-skill segment of the market services sector (3b) which includes wholesale and retail trade, hotels and restaurants, transport services and postal and telecommunications services. Furthermore, over the period 1998-2005, the share in industry is falling and in market services rising. By contrast, the low-educated are still seriously underrepresented in the NMS in the market services sectors (which account for just above 20% of the low-educated in the NMS-4 and just above 10% in Poland). Moreover, while in the EU-15 and the EU-S a larger share (between 30% and 40%) of the low-educated is employed in market services as compared to the non-market services sector, in the NMS the shares in both these sectors are much lower and rather similar. Hence, the labour-intensive market services sector (3b) plays much less of a role in the NMS economies to provide job opportunities for the low-educated.
- Regarding the medium-educated we can again discern a difference between the NMS and the EU-15 and EU-S: in the NMS the largest share of medium-educated (about 40%) is employed in industry, with market services coming second (just over 30% and rising), while in the EU-15 and EU-S the largest share is employed in market services (over 40%), with only between 20% and 30% being employed in industry. Hence what happens with industry is very important for this skill group in the NMS and less important in the EU-15.
- The allocation of the highly educated across sectors is rather similar between the country groups: the largest share (between 40% and 50%) is employed in non-market services, with market services following (just over 30%), and here we find the higher share in the more skill-intensive financial and business services sectors (3a).

If we wish to summarize the impact of sectoral changes upon employment opportunities for the three skill groups, we would expect that any negative shock on agriculture would affect the low-educated particularly in Poland, while in the NMS-4 a higher share of these are employed in industry. Similarly, a negative shock in industry (e.g. of labour productivity growth outstripping output growth) would have a significant effect on overall employment levels of the medium-educated especially in the NMS, as this sector still accounts for the largest share of employment of this skill group (which – as mentioned above – is no longer



the case for the EU-15 and the EU-S). Finally, the employment prospects of the highly educated are mostly affected by developments in the services sectors (non-market and market).

We now move to give a full picture of which sectors account for which portions of employment contractions and expansions of the different skill groups: In Appendix Figures A2a-d we show in the first column the overall percentage point expansion or decline and in the remaining columns we find a decomposition of this percentage change by sector; Figure A2a presents the picture for total employment and the subsequent Figures A2b-d for the different skill groups. The following are the most important features emerging from these Figures:

- As regards total employment growth/contraction over the period 1998-2005, we find that the NMS experienced a process of employment losses in agriculture and in industry (we can use the notions of 'de-agrarianization' and 'de-industrialization' to describe these processes) and while employment growth in the services sectors ('tertiarization') was sufficient in the NMS-4 to yield overall positive employment growth, in Poland this was not the case. As regards industrial employment in the NMS-4, there were employment losses only in the low-skill industries (2c) while the medium- and higher-skilled experienced modest positive employment growth (similar to EU-S).
- Moving on to the employment developments of the low-educated, we can see from Figure A2b that, over the 1998-2005 period, there were massive job losses in the NMS: in the NMS-4 this is mostly accounted for by job losses in industry followed by agriculture, while the opposite was the case for Poland where we have seen that agriculture accounts for a much larger share of employment of this skill group. In the EU-15 we see, over this period, a small rise of employment in this skill group which occurs in spite of falls of employment in industry and in agriculture; but this fall is more than compensated by rising employment levels in market and non-market services. In the EU-S there was even an increase of industrial employment for this skill group over this period.
- For the medium-educated we observe a picture (Figure A2c) in the NMS-4 which is rather similar to the one we have just described with regard to the low-educated in the EU-15: there is both a decline in employment of this educational group in agriculture and in industry (mostly in the former), but this decline is more than compensated by the opening of new job opportunities in the services sector (there particularly in market services, but also in health services). In Poland, on the other hand, we observe negative employment growth in all these sectors over this period and a massive shake-out from industry while agriculture performs the well-known 'sponge' function in periods of deteriorating labour market situations in transition economies. Both in the EU-15 and the EU-S, the employment developments in the services sectors have become more

decisive for the overall employment prospects of this skill group than either agriculture or industry.

- The positive employment developments for the highly educated in all country groups emerges clearly in Figure A2d; cumulative employment growth between 27 and 62 percentage points took place in the different country groups over the period 1998-2005. Particularly remarkable is the high growth of employment of this educational group in Poland (over 50 percentage points) while the other two groups experienced sharp drops in overall employment. In all country groups the growth of demand is concentrated in non-market and market services, and in the latter particularly in the higher-skill financial and business services activities.

## **Part II: Southeast European countries**

### **Introduction**

In contrast to the NMS, the economies in Southeast Europe (SEE) have been facing complex and interrelated political and economic problems. The dissolution of the SFR Yugoslavia combined with market losses, war in Bosnia and Herzegovina and in Croatia, sanctions imposed on Yugoslavia, finally culminating in the Kosovo conflict, and ethnic tensions in Macedonia were the main causes for the political and economic instability of the whole region. Albania had its own crisis in 1996-97 when a number of pyramid schemes collapsed and the country fell into chaos and anarchy. Taking into account these factors, output recovery has been much slower in SEE than in the Central European countries. Measured in purchasing power standards, Croatia is by far the best performer in the region, with its GDP at about 49% of the EU-25 average in 2005 (which is higher than in Latvia), whereas the other countries range between 27% (Serbia) and 21% (Albania). Only Croatia and Albania exceeded their pre-transitional output level in 2005. Both, Serbia and Montenegro, the worst affected, reached only about half of their 1990 level – the cumulative output decline there was one of the largest among all the Central and East European countries.<sup>9</sup>

In the whole region, except Macedonia, economic growth resumed after the end of the Kosovo war in 1999, but there has been no essential improvement on the labour markets of these countries over the past several years. Only Croatia reported some new job creation coupled with a steady decline of its unemployment rate from 2002, while the other countries may expect further employment cuts since speeding up reforms will lead to productivity growth rather than to job increases (Gligorov, 2006).

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<sup>9</sup> By contrast, Poland had surpassed its pre-transition level by 68% and Slovenia by 42% in 2005.

Large informal sector activities are another important feature of the SEE economies. Though estimates on the size of this sector are very sensitive to the method used, all studies (e.g., Schneider and Enste, 2003; Christie and Holzner, 2003) indicate a considerably larger share of the unofficial economy in SEE than in the new EU member states. The proportion of population active in the informal sector in the region is given at 30–40%. Jobs are often of poor quality, temporary, seasonal or occasional – low paid with limited health and social safety provisions.

There are often severe data limitations in SEE and the outcome is controversial in some cases depending on the data source used.

## **II.1 Demographic trends**

Population data for the region, particularly for the successor states of the former Yugoslavia, have to be taken with caution due to the war and the following waves of refugees and migration, the latter having a long lasting tradition in the region. Between 1991 and 2001/02 the population fell in Croatia and to a lesser extent in Serbia. Though no recent census data exist for Bosnia and Herzegovina, available information from international institutions suggests – after a strong population decline during the war period – a steady rise from 1995 onwards. Slight rises in population were registered in Montenegro and Macedonia. Even Albania, reporting one of the highest birth rates in Europe, recorded a decline in population between 1991 and 2001, which is mainly due to significant outward migration. An estimated 600 to 800 thousand Albanians are living abroad, mainly in Greece and Italy, with growing numbers in other European countries and the US. At the same time the rural population fell by 15 percentage points as a consequence of the ongoing internal and external migration.<sup>10</sup> Serbia, on the other hand, has faced a strong decline of birth rates over the past decade, which was partly offset by large inflows of refugees from Croatia and Bosnia and Herzegovina and of displaced persons from Kosovo.<sup>11</sup>

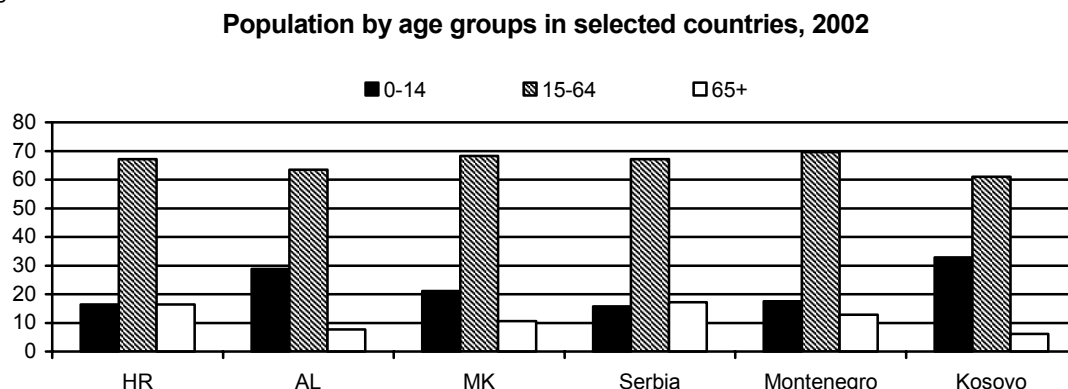
In Serbia, Croatia and Macedonia the share of the working-age population (15–64 years) accounts for slightly more than two thirds of the population; the proportion of people older than 65 is lowest in Albania, Kosovo and Macedonia, while the other countries of the region face an ageing population (Figure 2.1). Consequently the proportion of the pre-productive age group is highest in Kosovo (33%), Albania and Macedonia (around 26%) and lowest in Serbia. Detailed data for Bosnia and Herzegovina are not available.

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<sup>10</sup> Before 1990 all persons of working age living in rural areas in Albania were members of agricultural cooperatives and obliged to fulfil a maximum number of working days. Consequently the movement from rural to urban areas was centrally regulated and almost impossible (INSTAT, 2005).

<sup>11</sup> According to UNHCR figures, in February 2004 about 276 thousand refugees and about 277 thousand displaced persons lived in Serbia (ETF, 2005).

Figure 2.1



Source: Statistical Office of the respective country.

Data on the development of the working-age population over time are patchy and subject to numerous methodological changes. Taking into consideration these limitations, the working-age population grew steadily in Macedonia, shrank very likely both in Serbia and Montenegro and remained stagnant elsewhere for the past two to three years.

Since the beginning of the 1960s, when large-scale labour migration of mostly unskilled workers had started from the SEE towards Western Europe, the educational composition of migrants has changed, particularly over the past two decades. There was a significant increase of highly skilled migrants either to other parts of Europe or to the US, Australia and Canada. The brain drain problem has become a common feature of all SEE countries, though information on the magnitude and the impact of the migration of highly skilled on the economies of the respective home countries is very poor. Albania, featuring one of the highest emigration rates in the world, suffered from the loss of about 40% of its university professors and researchers leaving the country over the period 1990-1999. At the beginning of the millennium still about one third of the country's intelligentsia was seeking work outside the country (Tomiuc, 2001). A strong outflow of qualified labour was reported also for Serbia and Montenegro; it is estimated that (from Yugoslavia alone) out of the 400 thousand people having emigrated over the past decade about 10% were highly educated (Horvat, 2004). Estimates for Macedonia put the number of young, educated and highly skilled persons who have left the country in that period at 12-15 thousand; additionally a large number of young Macedonians plan or wish to leave the country after finishing university. Feedback effects of highly skilled labour emigration, such as remittances, technology transfer, investment and trade, are still very weak in Macedonia, because of the longer-term or permanent character of migration (Janeska, 2003).

Irrespective of the latter findings, remittances by SEE migrants from abroad have represented an important source of foreign exchange earnings for the economies of the respective countries. In general remittances have increased over time and vary from country to country. Between 1993 and 2003, Serbia and Montenegro was the biggest

recipient of remittances in SEE, comprising more than one third of the total registered in the region (Jovicic and Dragutinovic Mitrovic, 2005).

## **II.2 Employment**

In the period 1990-2005, about 1.4 million jobs were lost in the SEE countries and a big share of employed (particularly women) exited from the labour market, with a huge number employed in the informal sector of the economy.

In Croatia and Albania the dramatic fall of the GDP at the beginning of transition was accompanied by strong employment declines, with the bulk of job losses occurring in the early phase of the transition. In the subsequent years of output recovery – starting from 1993/94 – job destruction remained the dominant feature. Employment in Albania and Croatia was falling from the late 1980s until the end of the 1990s (Figure 2.2). Based on data provided by the Croatian Pension Insurance Institute (CPPI) the number of employed declined by about one quarter between 1991 and 2000 and started to rise afterwards.<sup>12</sup> A similar drop is reported for Albania: Following the mass privatization of state-owned enterprises, employment in Albania fell up until 2001 and remained almost stagnant thereafter. Public sector employment was reduced dramatically, thus many workers had to look for a job in the private or informal sectors, or abroad, or they exited entirely from the labour market (Muco, Sanfey et al., 2004). In Macedonia the initial decline was less severe than in the other two countries, but the situation worsened continuously over time.

Employment in Bosnia and Herzegovina, measured by the number of employees (employment excluding self-employed) started to grow from 2003 onwards, mainly due to new job creation in the construction and services sectors, of which particularly in the trade and business services segments. Job losses on the other hand were mainly concentrated in manufacturing, in public administration and defence (EPPU, 2006).<sup>13</sup>

In Serbia, where jobs were protected in the time of the UN sanction during the 1990s, the bulk of employment cuts is still ahead taking into account the late start of the transition.<sup>14</sup>

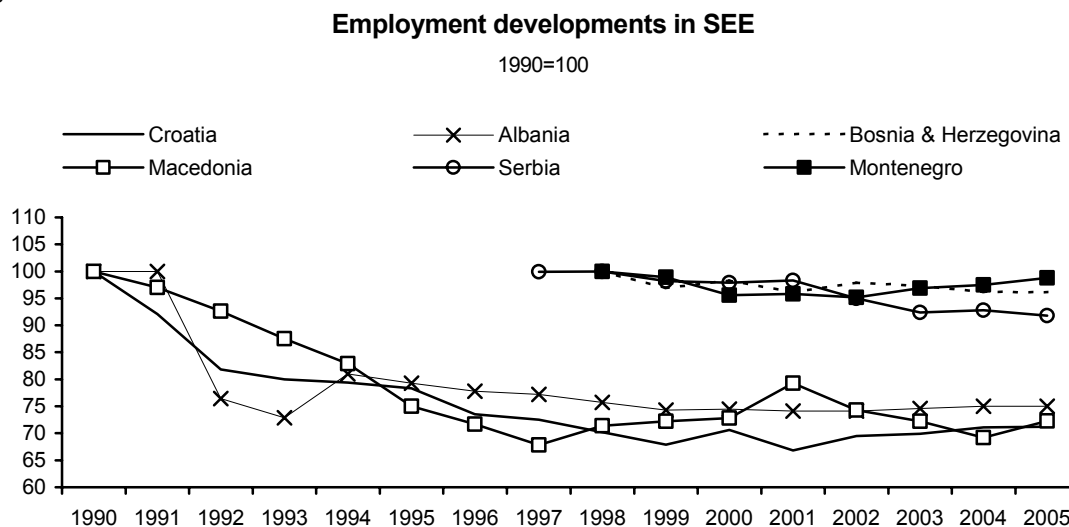
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<sup>12</sup> Depending on the respective data source, the number of actual employed in Croatia in the first half of 2005 varies between 1.43 million (registration data), 1.57 million (LFS) and 1.47 million (CPPI). The wide gap between LFS and registration data can be explained by the fact that registration data cover the private sector insufficiently and take into account only those with formal labour contracts. Informal sector employment may play an additional role.

<sup>13</sup> Because of the lack of formal sector jobs, many people in Serbia have developed lifestyles and/or survival strategies characterized by a multiple employment status, and readily switch between employment and unemployment and between formal and informal activities as opportunities become available (ETF, 2005, p. 4).

<sup>14</sup> At the time of the UN sanctions against the FR Yugoslavia, layoffs were prohibited and paid leave very common. Disguised unemployment has been growing steadily during the past decade and has been estimated at some 30-40% of the employed (Arandarenko, 2000).

Figure 2.2



Note: In Bosnia and Herzegovina, Montenegro and Serbia the base year is 1998.

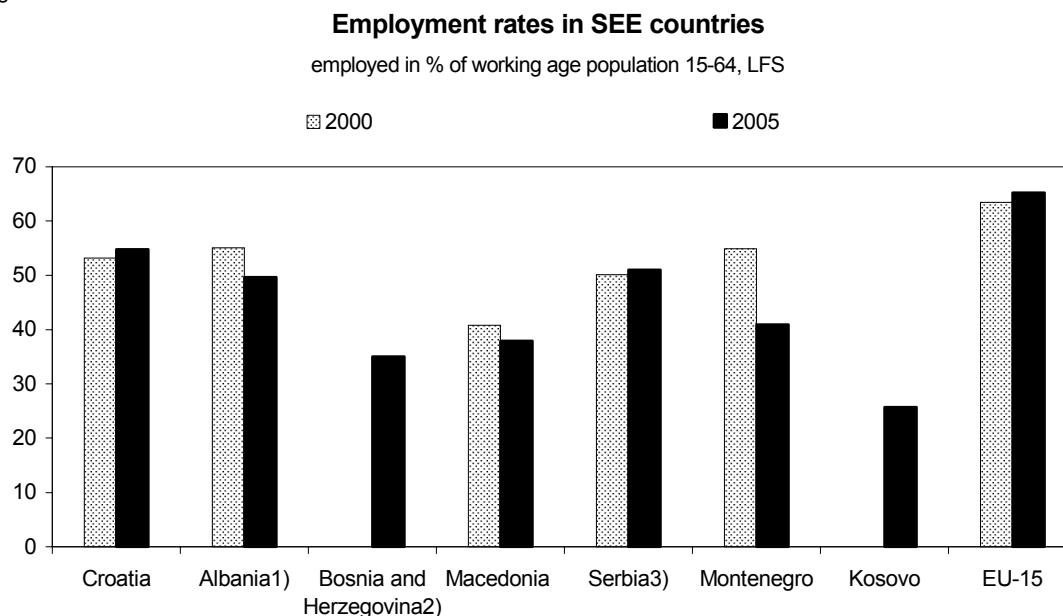
Source: wiw incorporating national statistics.

### II.3 Employment and activity rates

Declining labour demand is reflected in the steady drop of activity and employment rates in all countries of the region with the only exception of Croatia, where some recovery started from 2002 onwards. In Macedonia the activity rate has remained nearly unchanged since the mid-1990s, while the employment rate reported a steady decline up to 2004 and increased slightly in 2005. Serbia reports the highest activity rate in the region, exceeding that of Croatia (or those of Hungary and Poland if compared to the new member states), which is mainly because of the relatively high level of informal sector activities (Arandarenko and Paunovic, 2005). In general employment rates are very low compared to European standards and range from 28% in Kosovo to 54% in Croatia (Figure 2.3).

Both male and female employment rates are lower (female much lower) than in the NMS and in the EU-15. Croatia exhibits the highest female employment rate in the region, but would still range at the lower end of the scale if compared to the EU countries. Kosovo is an extreme case in that respect, with a value of only 10%. Croatia is the only country in the region where employment rates were higher in 2004 than in 2000, with both sexes benefiting from this development. Declines were somewhat more severe for women than for men in Montenegro and Albania, while men were hit harder than women in Macedonia. Despite widening somewhat, the gender gap remained below the EU-25 average (15 percentage points) in Croatia and was similar in Macedonia. In Albania and Montenegro it was still below the average of the southern EU countries (25 percentage points) and in Kosovo it was the highest.

Figure 2.3



Notes: 1) Registration data; working-age population: male = 15-59, female = 15-54. - 2) Data refer to 2006. - 3) 1999-2003: working-age population: male = 15-59, female = 15-54. From 2004, ILO-Definition.

Source: Eurostat; wiiw Database incorporating national statistics.

## II.4 Employment patterns

Due to slow restructuring, changes in the composition of employment were less dramatic in the SEE countries than observed in most new EU member states over the transition period. Coupled with a strong decline in industrial employment and a modest rise of services sector jobs, the proportion of agricultural employment even increased temporarily in most countries of the region and remained at high levels. Agriculture has absorbed laid-off workers from other sectors or has provided subsistence activity at times when the number of jobs in the formal sector was limited (World Bank, 2003). This differs significantly from developments in the NMS and the two accession countries, where almost everywhere (except Poland and Romania) a rapid de-agrarianization process has been under way.

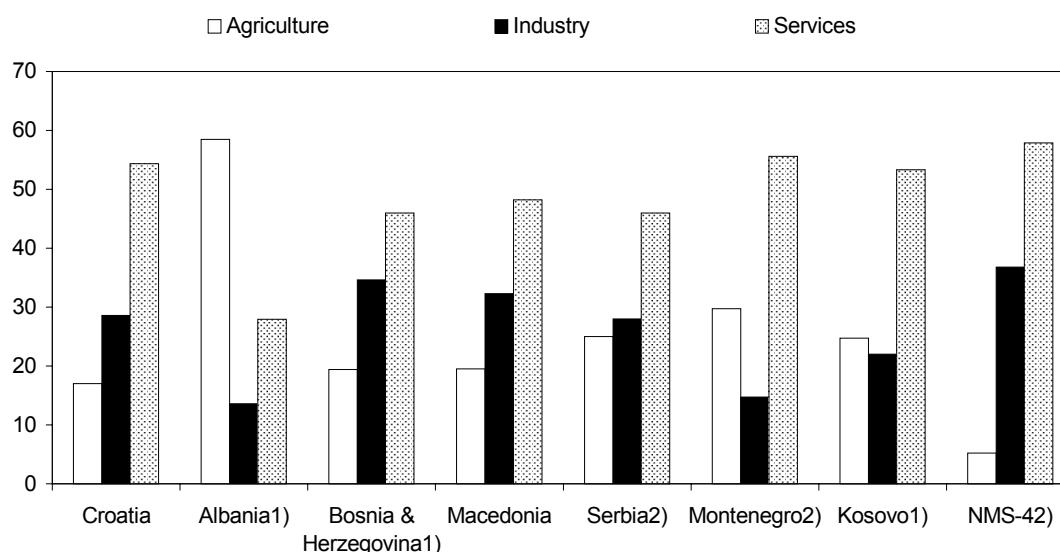
In Albania, where the agricultural sector accounted for more than 70% of total employment in the 1990s, the share fell to about 58% (or 51% according to the Living Standard Measurement Survey, LSMS) at the beginning of the new millennium (Figure 2.4). Agriculture still accounts for about 30% of total employment in Montenegro, for one quarter in Serbia, and slightly less than 20% in Macedonia. Also in Croatia, the most developed country in the region, agriculture is still an important employer accounting for about 17% of total employment in 2005.<sup>15</sup>

<sup>15</sup> Similar as in Slovenia, registration data reveal a much lower proportion (6%) of those employed in agriculture than obtained from the LFS (17%).

Figure 2.4

### Employment structure by main sectors in Southeast European countries, 2005

in % of total employment



Notes: 1) 2004. – 2) 2003.

Source: Statistical Office of the respective country.

A common feature of all SEE countries is the sharp contraction of industrial employment, reflecting the slow recovery of industry.<sup>16</sup> In general, SEE countries display a smaller proportion of employment in industry than the NMS, accounting for less than 30% of total employment.<sup>17</sup> Only in Macedonia and in Bosnia and Herzegovina does industrial employment exceed that mark; the latter includes a substantial share of construction workers. In Albania and Montenegro, industry accounts for only 14% of total employment.

The services sector is underdeveloped by European standards but also in comparison to the new EU member states. It seems, however, to be underestimated due to the large informal sector that is found almost everywhere in the region and concentrates traditionally on services sector activities (together with construction and agriculture). Apart from the extreme value for Albania, where the services sector absorbs only about 28% of total employment, that sector is most developed in Croatia, Montenegro and Kosovo, accounting for more than half of total employed.<sup>18</sup> Compared to other countries of the region, there had been a dynamic development in the Croatian services sector (especially in tourism, but also in transport) already in the 1970s and 1980s. The high number of services sector jobs in Kosovo is very likely the consequence of the strong presence of international organizations,

<sup>16</sup> In 2005 Albania reached 45% of its 1990 industrial output level, Macedonia 45% and Serbia still below 50%. Croatia (the best performer in the region, but at the lower end compared with most NMS) reached 80%.

<sup>17</sup> In the Czech Republic, industry and construction account for close to 38% of total employment.

<sup>18</sup> Services sector employment accounts for about 62% in Hungary (the most 'advanced' country in that respect).



in Montenegro of tourism and public sector jobs. Services sector employment differs substantially across countries and sectors. Overall, in the formal sector of the economy we observe an upward trend of services sector jobs in (i) wholesale and retail trade in all countries; (ii) other business services and real estate, including e.g. legal services, accounting and engineering, in all countries (though not reported separately in Serbia and Montenegro); and (iii) public administration and defence in all countries except Bosnia and Herzegovina and Croatia. By contrast, employment fell in (i) transport and communications, (ii) health and social work, and (iii) education. Developments in the other segments of the services sector were rather diverse.

## **II.5 Non-standard employment**

Information on non-standard employment in SEE is very scarce and available only for three countries: Croatia, Macedonia and Kosovo. As regards part-time work, Croatia shows a constant share of about 8% and resembles the pattern of the new member states both for males and females, which is only about half the share of the EU-15. In Macedonia part-time work has been on the decrease from 2003 and made up only 5% in 2005, while temporary contracts increased steadily from 1996 onwards and accounted for some 18% in 2003 (ETF, 2005a). Both part-time and temporary work in Macedonia is frequently used to employ young labour market entrants and retired people and is less common in the prime age group. By contrast, part-time work in Kosovo comprises close to one third of total employed, with the proportions similar for men and women. Temporary contracts show a rising trend in Croatia, where about 75% of new contracts concluded after the adoption of the new Labour Code in 2004 were of a temporary nature (Crnkovic-Pozajic, 2005). Data for Kosovo put the share of temporary employment contracts even at over 60% in 2004. In Montenegro part-time and temporary work are almost absent (European Commission, 2005).

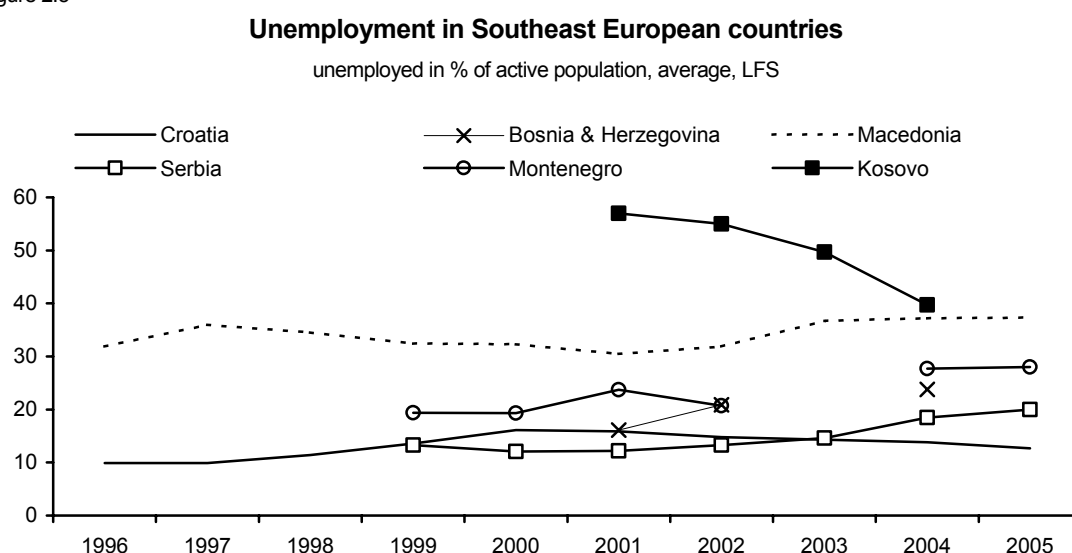
Self-employment, a common phenomenon in most of the successor states of the SFR Yugoslavia already in the past, has been increasing steadily and ranges between 16% of total employment in Macedonia and 26% in Kosovo.

## **II.6 Unemployment**

Following the partially sharp contraction of employment, the number of jobless and accordingly the unemployment rate grew strongly in all SEE countries. Both in Serbia and Montenegro large-scale lay-offs and consequently the rise of unemployment started only after the implementation of economic reforms at the beginning of the new millennium. Apart from the extremes of Kosovo and Macedonia, where the LFS unemployment rate stands at 39% and 37% respectively, the incidence of unemployment is highest in Montenegro (28%),

followed by Bosnia and Herzegovina and by Serbia (Figure 2.5).<sup>19</sup> In Croatia unemployment has improved steadily from 2001 onwards; and stood at 12.7% in 2005, but is still high compared to most of the EU countries. Unemployment measured by registration is almost everywhere much higher than figures obtained from the LFS. The widest gaps occurred in Bosnia and Herzegovina and probably also in Macedonia where registered unemployment is by more than 20 percentage points higher than the LFS rate. In Croatia the difference has constantly been about 5 percentage points over the past three years. These discrepancies may be explained by the fact that a large number of registered unemployed is de facto self-employed in agriculture or works in the informal economy. Many of them are often not actively seeking a job but they do register because of health insurance (Macedonia, Serbia) or in order to get access to some other social benefits (such as in Bosnia and Herzegovina and in Croatia). In Albania registered unemployment fell from about 23% in 2003 to some 14% in 2005, but it was not accompanied by new job creation.

Figure 2.5

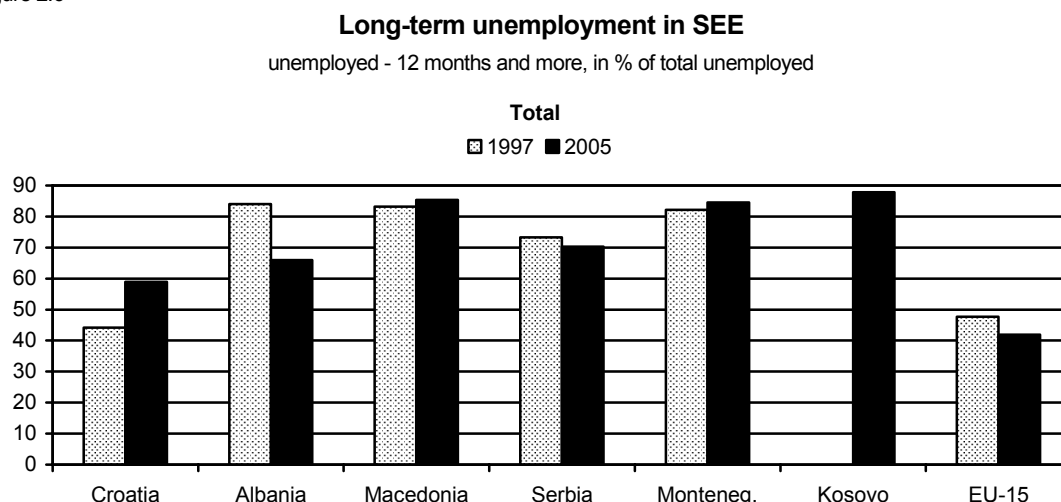


Source: wiw incorporating national statistics.

Although there are substantial inter-country differences, several common features of unemployment can be identified in most SEE: (i) long-term unemployment is extremely high; (ii) youth unemployment has been increasing rapidly; (iii) in most countries the lowest skill and educational groups are over-proportionately affected; (iv) unemployment levels among ethnic minorities and other socially disadvantaged groups are many times higher than the average rate; finally, (v) due to the large informal sector the boundaries between employment and unemployment are becoming blurred.

<sup>19</sup> All of these countries had entered the transition period already with a considerable level of unemployment in 1990: Kosovo: 40.8%, Macedonia: 23%, Montenegro: 22.9%, Bosnia and Herzegovina: 21.2% and Serbia (including Voivodina): 16.7%.

Figure 2.6



*Note:* Croatia: up to 2001 unemployed 13 months and more according to national LFS. From 2002 Eurostat.

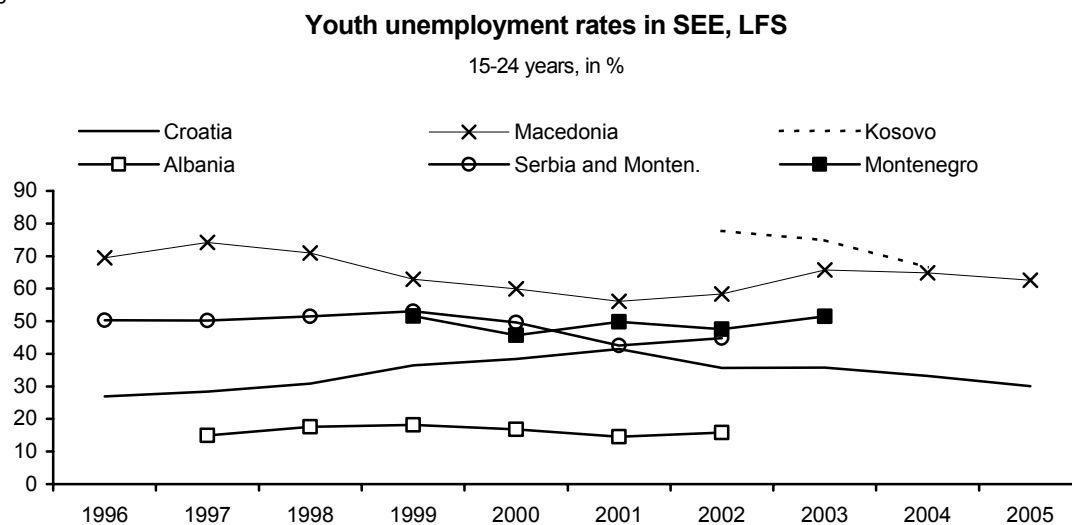
*Source:* wiw incorporating national LFS.

High and persistent long-term unemployment has become a salient feature of the labour markets of the region; those affected are running the risk of a degradation of skills and finally exiting from the labour market. The problem of long-term unemployment is much more severe in SEE than in the other transition countries and the proportion of those affected is by far higher. The most outstanding values are reported for Albania (nearly 93%), Kosovo (88%) and Macedonia and Montenegro (85% each), while the share is 'lowest' in Croatia with still almost 60% long-term unemployed (Figure 2.6). The high incidence of long-term unemployment in Kosovo has been a consequence of at least three factors: first, at the beginning of the 1990s there was a mass dismissal of workers who either moved to the emerging private sector, exited entirely from the labour market (mostly women) or became unemployed. Second, most of the young people entering the labour force during the past decade could not find work due to low job creation (Riinvest, 2003) and finally, Kosovo was already seriously affected by unemployment as a part of the former Yugoslavia. Serbian data indicate a share of 70%, but it can be assumed that this figure does not reveal the actual situation in the country, due to the large flows between the informal sector, employment and unemployment (ETF, 2005b). In general, a large proportion of people being long-term unemployed in the region is working in households or in the informal sector. Long-term unemployment is high among laid-off workers and young first-time job seekers; in addition vulnerable groups such as refugees, displaced persons and war veterans are heavily affected.

Unemployment hits disproportionately young people. In most countries of the region the unemployment rate among people younger than 25 years is twice, in Serbia three times as high as the total unemployment rate. The high rates of 67% and 63% in Kosovo and Macedonia indicate a quite critical situation of young people on the respective labour

markets (Figure 2.7). Young people lack professional experience, their options are either to emigrate or enter the informal economy (poor working terms).

Figure 2.7



Note: Albania registration data.

Source: wiiv incorporating national statistics, UNECE.

## Conclusions

### *New EU member states and the two accession countries Bulgaria and Romania*

- Job creation in the new EU member states (NMS) and the accession countries (ACs) remains low despite high economic growth in most countries. The widening gap between GDP and employment growth vis-à-vis the developments in the old EU implies remarkable productivity gains, which have reduced the demand for labour in the new member states. Hence, the employment elasticity of output growth is rather low, but varying by country.
- In accordance with huge job losses, growing unemployment and/or exiting from the labour market altogether, in most countries employment and activity rates declined significantly over the transition period up to the early 2000s and started to increase moderately thereafter. The recovery notwithstanding, employment and activity rates remained below the EU-15 average in all countries excepting the Czech Republic and Slovenia.
- In general, the transition period was characterized by a de-industrialization and de-agrarianization process, while the services sector – market services in particular – became the main employer. Exceptions are Poland and the two accession countries, where agriculture still plays an important role, resembling the employment pattern of the southern EU member states rather than that of the NMS.

- Some countries, however, emerged as industrial locations, with manufacturing employment resuming growth recently. The extent of this recovery differed from country to country; for instance, in the case of Slovakia and probably also in the Czech Republic these developments have obviously been a consequence of the strong FDI inflows of the past years. Overall, new job creation in services and manufacturing has compensated for job destruction in other activities at least in some of the NMS in the past few years.
- The tertiary sector is dominated by low-skill activities such as distribution, transport and tourism, while most high-skill activities such as business and financial services are underdeveloped. The latter show, however, the most dynamic growth in both relative and absolute terms and will become the major source of future employment, while jobs in traditional segments are likely to stagnate or decline further in most countries. There is also scope for new job creation in community services, particularly in health and social services, though this may be limited by budgetary constraints.
- Non-standard forms of employment are still underdeveloped in the NMS and ACs. Only Poland and to some extent Slovenia report a noticeable share of self-employment (due to small private family farming) and a growing portion of temporary employment, while part-time employment is almost negligible. Stimulating the creation of part-time jobs would be conducive to increasing employment, particularly of women. Raising this type of jobs will, however, depend on the further development of the tertiary sector, where part-time employment is most common.
- In most countries the growth of unemployment has come to a halt but structural features have remained unchanged or even deteriorated. Long-term unemployment has become a serious problem in all NMS and the ACs. It has reached much higher levels than in the old EU and continues rising in the majority of countries. Despite improvements in the past couple of years, youth unemployment is particularly high in the Slovak Republic and in Poland.
- The analysis of labour market developments with respect to different skill types (measured by educational attainment levels) shows that the NMS have a supply structure which differs from that of the EU-15: in the NMS there is a significantly smaller representation of people with low educational attainment levels (below secondary schooling) and also a lower representation of people with the highest educational attainment levels (completed tertiary degrees).
- In spite of the low representation of people with the lowest educational levels (the 'low-skilled') in the labour forces of the NMS, the employment and unemployment rates put them in a much worse relative labour market position as compared to their position in the EU-15 labour markets (a gap of 20% to 30% in employment rates and of about 10% in unemployment rates). On the other hand, the employment rates of the medium-

and highly educated (those with secondary degrees and beyond) are not very different between the NMS and the EU-15.

- An additional analysis was undertaken to match the investigation of patterns of structural change with one of the labour market positions of the different skill groups. It shows that the poor labour market performance of the low-skilled can be closely linked to the processes of de-agrarianization and de-industrialization and the relatively low absorption capacity of market services concerning the low-skilled (as compared to the EU-15). In the NMS, market services have so far provided few job opportunities for the low-skilled (while they do so for the medium- and, even more so, for the highly skilled).
- At the high-skilled end, an interesting phenomenon is that there are clear signs that, in the NMS, there is an even tighter situation in this segment of the labour market than in the EU-15, with high and rising employment and very low unemployment rates even in periods of very poor overall labour market performance (such as in Poland in the early 2000s).

#### *Southeast European countries*

- The labour markets in Southeast Europe (SEE) differ substantially from those in the NMS due to the delayed start of the transition, large informal sector activities, traditional labour migration (including brain drain) and the already high level of unemployment at the outset of transition, particularly in the successor states of the former SFR Yugoslavia.
- Employment rates are generally on the decline except in Croatia and low compared to European standards, ranging between 28% in Kosovo and 54% in Croatia. Female employment rates have traditionally been much lower than in the NMS, resembling the pattern of the southern EU countries. In terms of activity rates the gaps are less pronounced.
- The employment structure shows a picture diverging from that in the NMS and the EU-15, with a strong emphasis on agricultural employment still, absorbing workers laid off in other sectors or serving as subsistence activity due to the low job creation in the formal sector. A common feature of all countries in the region is the sharp contraction of industrial employment, reflecting the slow recovery of industry.
- The services sector is underdeveloped as compared with the NMS and the EU-15. But, taking into account the large informal sector that concentrates traditionally on services sector activities (together with agriculture and construction), the information obtained from official figures seems to underestimate the actual size of that sector.
- Similar as in the southern EU member states, self-employment accounts for a noticeable share in total employment in SEE, reflecting the still high share of self-employment in agriculture and probably also in trade.

- Unemployment in SEE started from a much higher level than in the NMS and is now ranging between 21% in Serbia and 39% in Kosovo – Croatia being the only exception, with comparatively low and declining unemployment, at about 13%. The problem of long-term unemployment is even more severe in SEE than in the other transition countries and the proportion of those who are affected is by far higher.

## Data description

### *New EU member states and the two accession countries Bulgaria and Romania*

Labour Force Survey (LFS) data – annual averages if available. For structural data on educational levels and the first years in which LFS had been carried out, only data for the 2<sup>nd</sup> quarter of the respective years are available. Data on registered employment and unemployment are used to describe labour market developments at the beginning of the 1990s. The data sources used are: wiiw Database, Eurostat-LFS (micro-data) and adjusted time series.

### *Croatia*

Information on the Croatian labour market is based on Labour Force Survey data and data obtained from registration. The LFS was carried out for the first time in November 1996 as an annual survey. It was conducted in the same manner in June 1997. From 1998, the LFS was carried out continuously, i.e., every month a part of the total sampled households was interviewed. Data are processed and published for each half-year period. In the period 1996 to 1999, parts of the Croatian territory with ongoing war operations were not included in the sample (sample frame based on the 1991 census). The database of the Croatian Electrical Utility, containing data on Croatian households on the whole Croatian territory, was used as a sample frame for 2000 and 2001. Starting from the first half of 2002, the new sample frame is based on the census 2001 data.

### *Albania*

Data on unemployed persons and those who receive unemployment benefits are collected by the Ministry of Labour and Social Affairs, based on information from the regional labour offices. An unemployed person has to fulfil the following criteria: he/she is (1) without work, (2) seeking work and (3) currently available for work.

Employment: Data on employment in the non-agricultural private sector are based on information provided by the Ministry of Labour and Social Affairs and on other sources of information such as the Business Register (using data from the General Tax Authority), on results from the Annual Structural Survey of economic enterprises and on data from the Social Insurance Institute. Data on employment in the state sector are collected through the National Statistical Programme implemented by the Institute of Statistics (INSTAT). Data on employment in the private agricultural sector until 2001 are based on the results of the Population and Housing Census from April 2001. From 2002 onwards, information is based on results of the Living Standard Measurement Survey, 2002 and 2003.



### *Bosnia and Herzegovina*

The two entities of Bosnia and Herzegovina (the Federation of Bosnia and Herzegovina – FBiH and Republika Srpska – RS) provide data on employment (employees excluding self-employed) at different points in time, thus the level of employment in BiH can only be monitored twice a year, in March and September. While the Statistical Institute of FBiH provides monthly employment data, the Statistical Bureau of Brčko presents these data on a quarterly basis and the Statistics Institute of RS provides data on the number of employed only twice a year in March and September. Unemployment figures are obtained from the Employment Offices of the respective entities, with some methodological changes undertaken in the RS starting from November 2005. At the end of 2005 the Statistical Authorities of BiH initiated the preparatory stage of the BiH Labour Force Survey (LFS), which should be in full compliance with the ILO/EU standards. (Information on BiH is based on: Economic Policy Research Unit (2006), *Bosnia and Herzegovina Economic Trends. Annual Report 2005*, pp. 15 and 17).

### *Macedonia*

Information on the Macedonian labour market is based on registration and Labour Force Survey data. The LFS was carried out as an annual survey from 1996 to 2003. Since 2004 the LFS is conducted as a continuous survey throughout the year with quarterly and annual processing of data. The survey is based on a sample base of 10,000 households on the whole territory of the country, which is 1.8% of the total number of households.

### *Serbia*

Labour market data on Serbia are based on the LFS, which has been carried out annually since October 1995. However, earlier LFS did not follow the standard ILO or Eurostat methodology, and only the LFS 2004 was fully harmonized with the latest international standards and requirements. The sample base is the 2002 census, whereas the sample base for the previous LFS was the 1991 census. The number of households included has been raised from 3900 to 6700 on the territory of central Serbia and Vojvodina.

### *Montenegro*

Labour market data on Montenegro are based on the LFS, which has been conducted annually (in October) since 1995. While earlier LFS did not follow the standard ILO or Eurostat methodology, the LFS 2004 was fully harmonized with the latest international standards and requirements. The sample base is the 2003 census, whereas the sample base for the previous LFS was the 1991 census. Furthermore, the sample size was increased from 500 to 900 households. Thus, due to the differences in methodology and sampling the 2004 results are not comparable with previous ones.

## *Kosovo*

In Kosovo the LFS was introduced in 2001, based in many respects on the Living Standard Measurement Survey (LSMS) which was conducted by the World Bank. At the same time recommendations of the ILO and Eurostat were taken into account. The survey is carried out annually in autumn of each year. Apart from a few changes, the LFS of 2002 and 2003 were similar to the first one conducted in 2001. The LFS for 2004 is based on a complete revision of the survey questionnaire, thus the results are not comparable with earlier years. (For further explanations see Statistical Office of Kosovo – SOK (2006), *Labour Market Statistics 2005* [Series 5: Social Statistics].)

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## **Appendix A**

Additional Figures

Figure A1a

Structure of low-educated employed by sector, 15-64, 1998, 2005

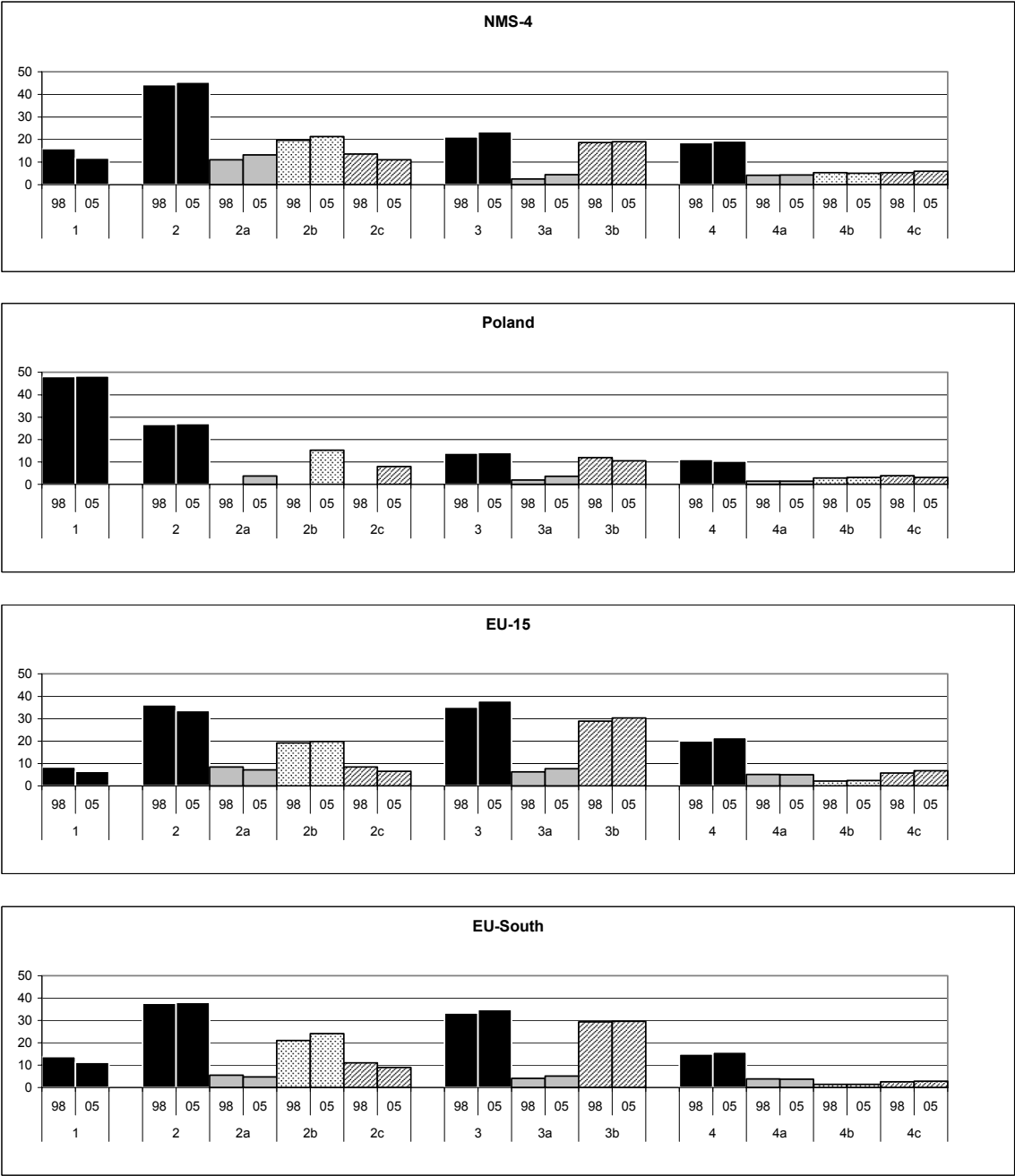


Figure A1b

**Structure of medium-educated employed by sector, 15-64, 1998, 2005**

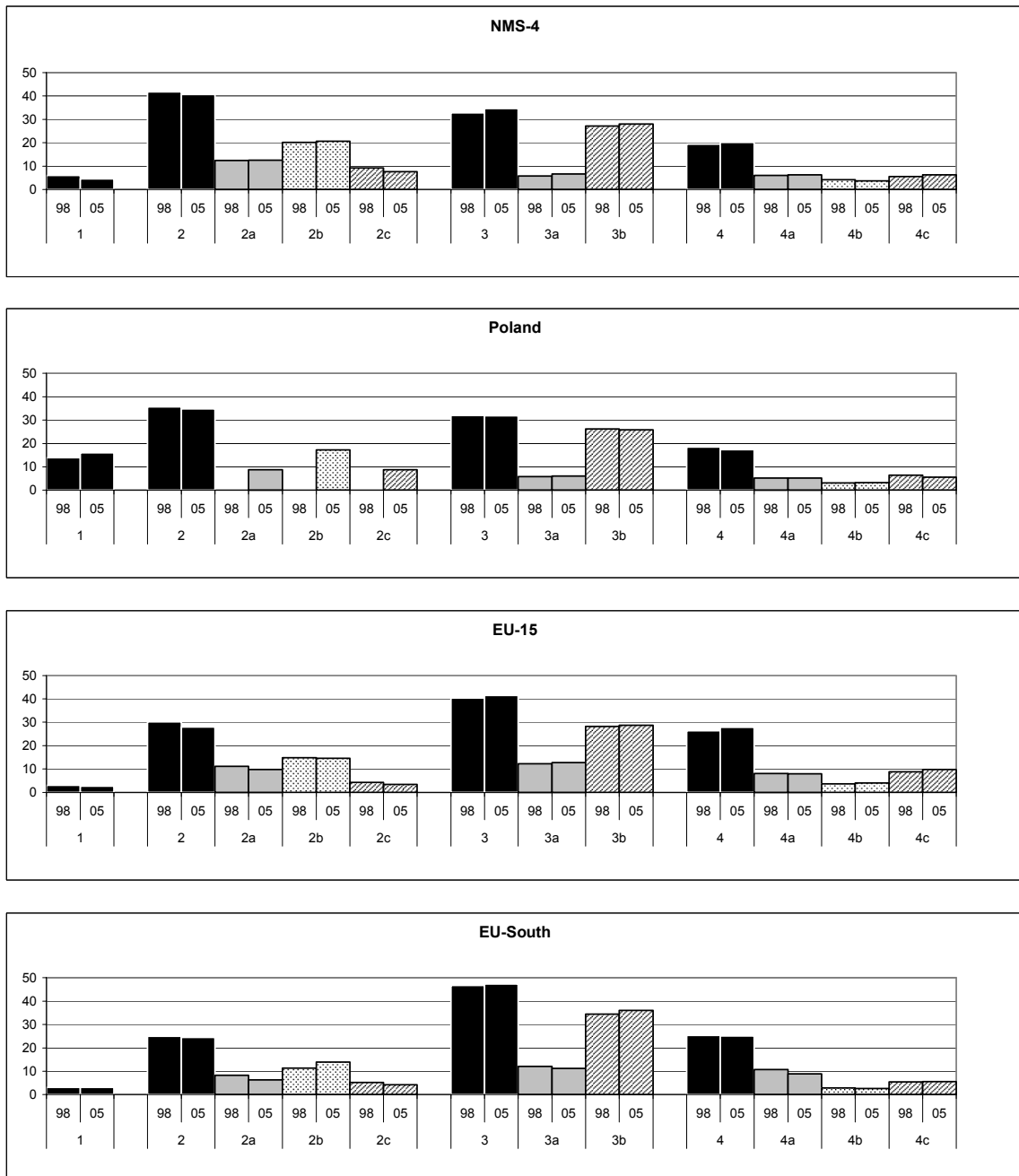




Figure A1c

### Structure of highly educated employed by sector, 15-64, 1998-2005

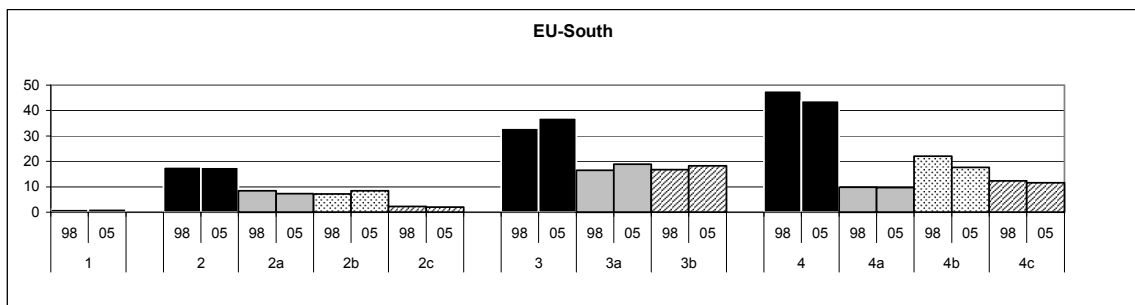
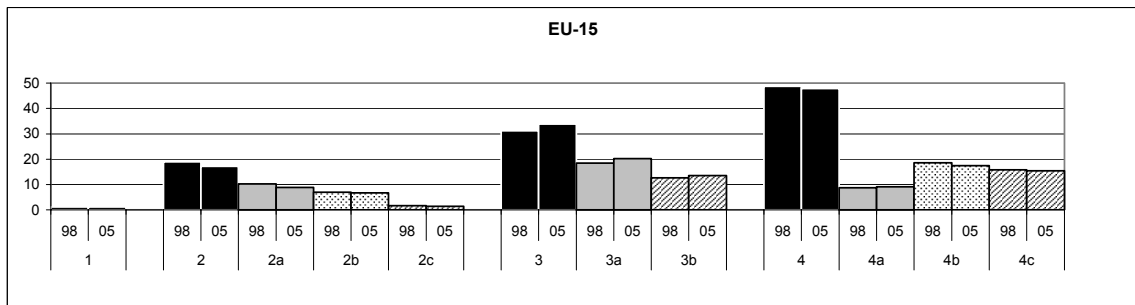
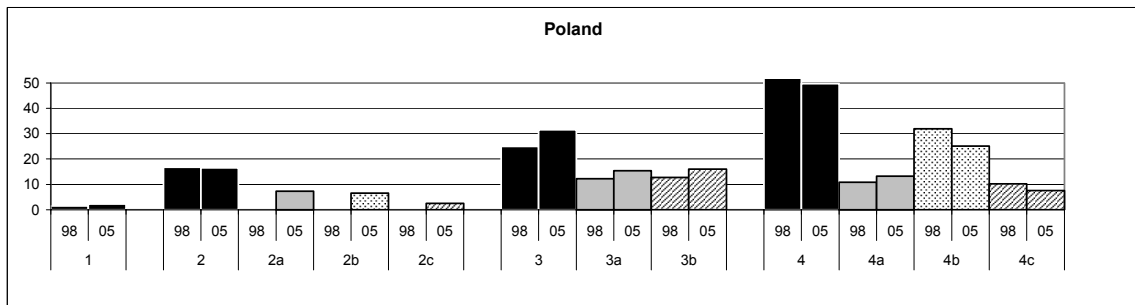
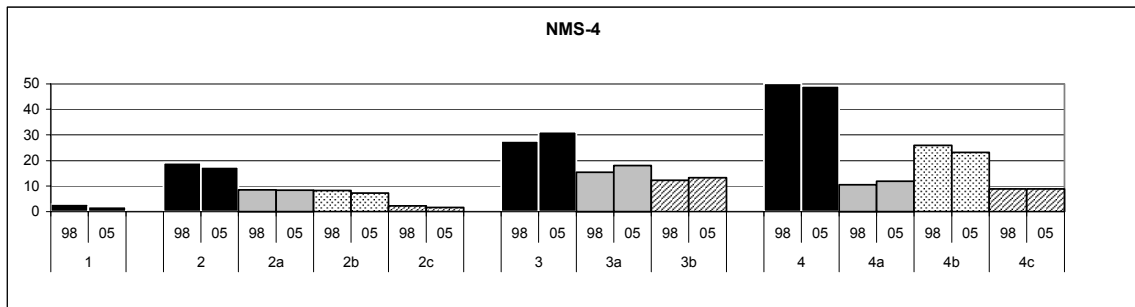


Figure A2a

Source of employment growth/decline by sector, 15-64, 1998-2005

Total employment

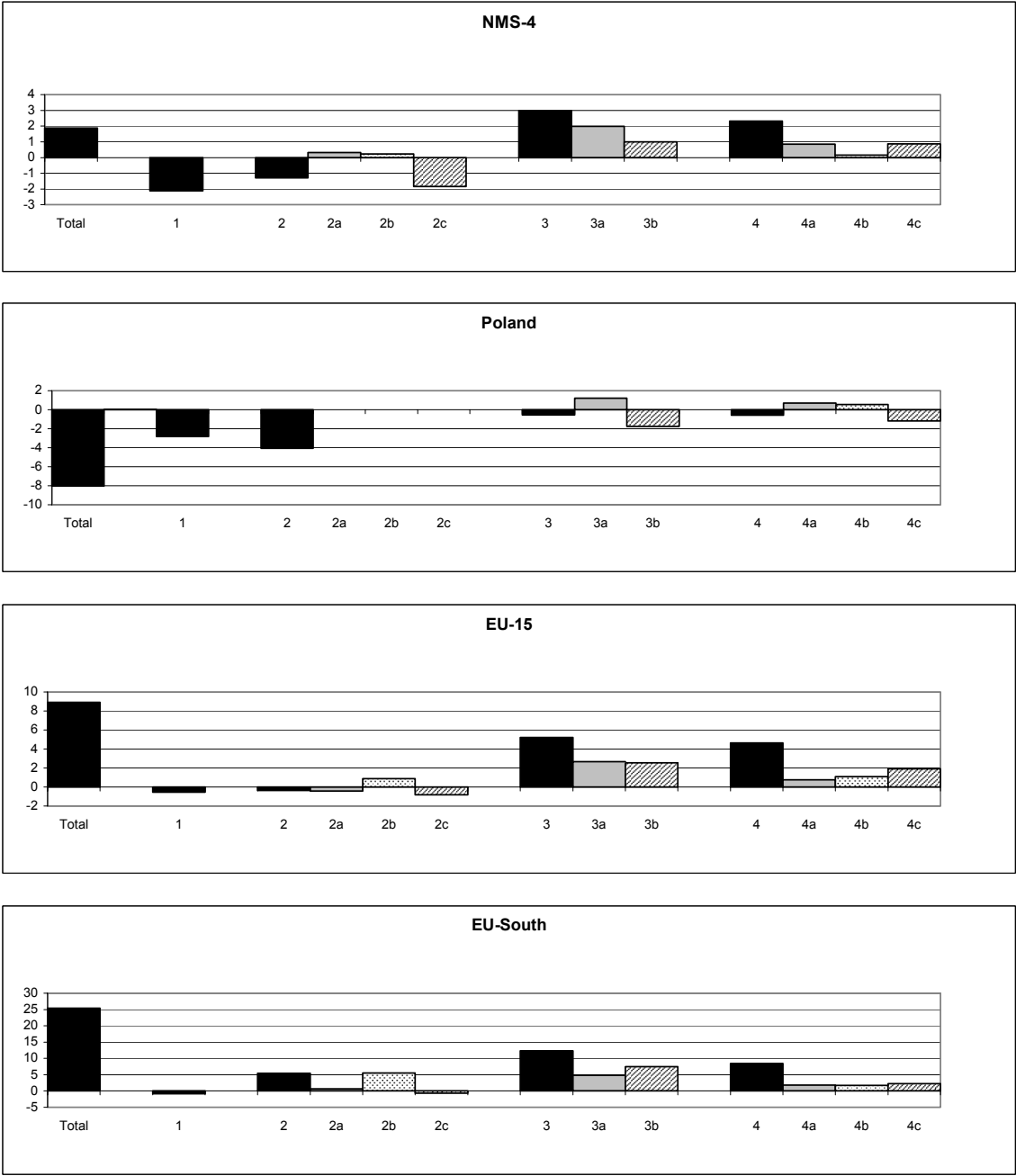


Figure A2b

Source of employment growth/decline by sector, 15-64, 1998-2005  
Low-educated

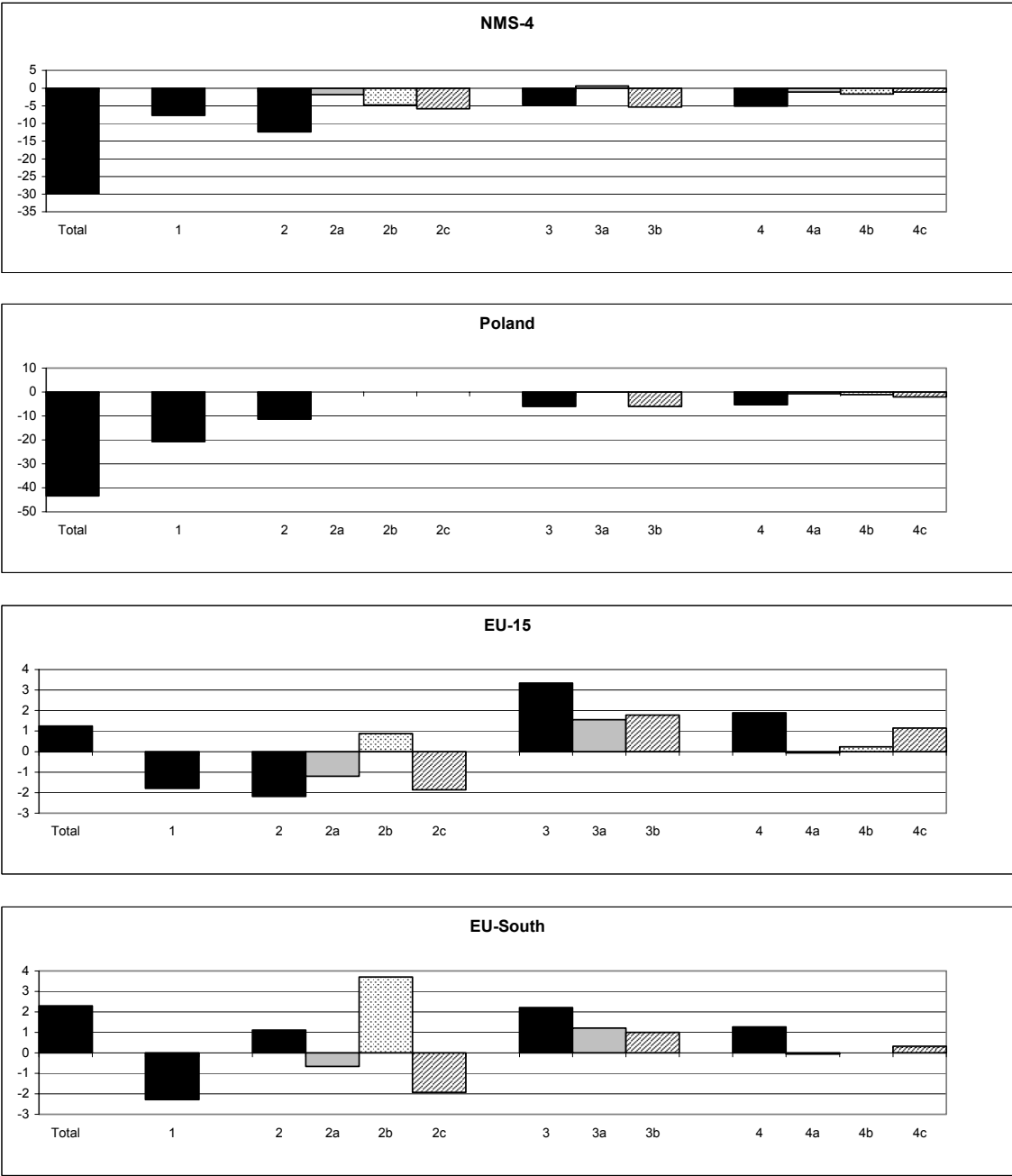


Figure A2c

Source of employment growth/decline by sector, 15-64, 1998-2005  
Medium-educated

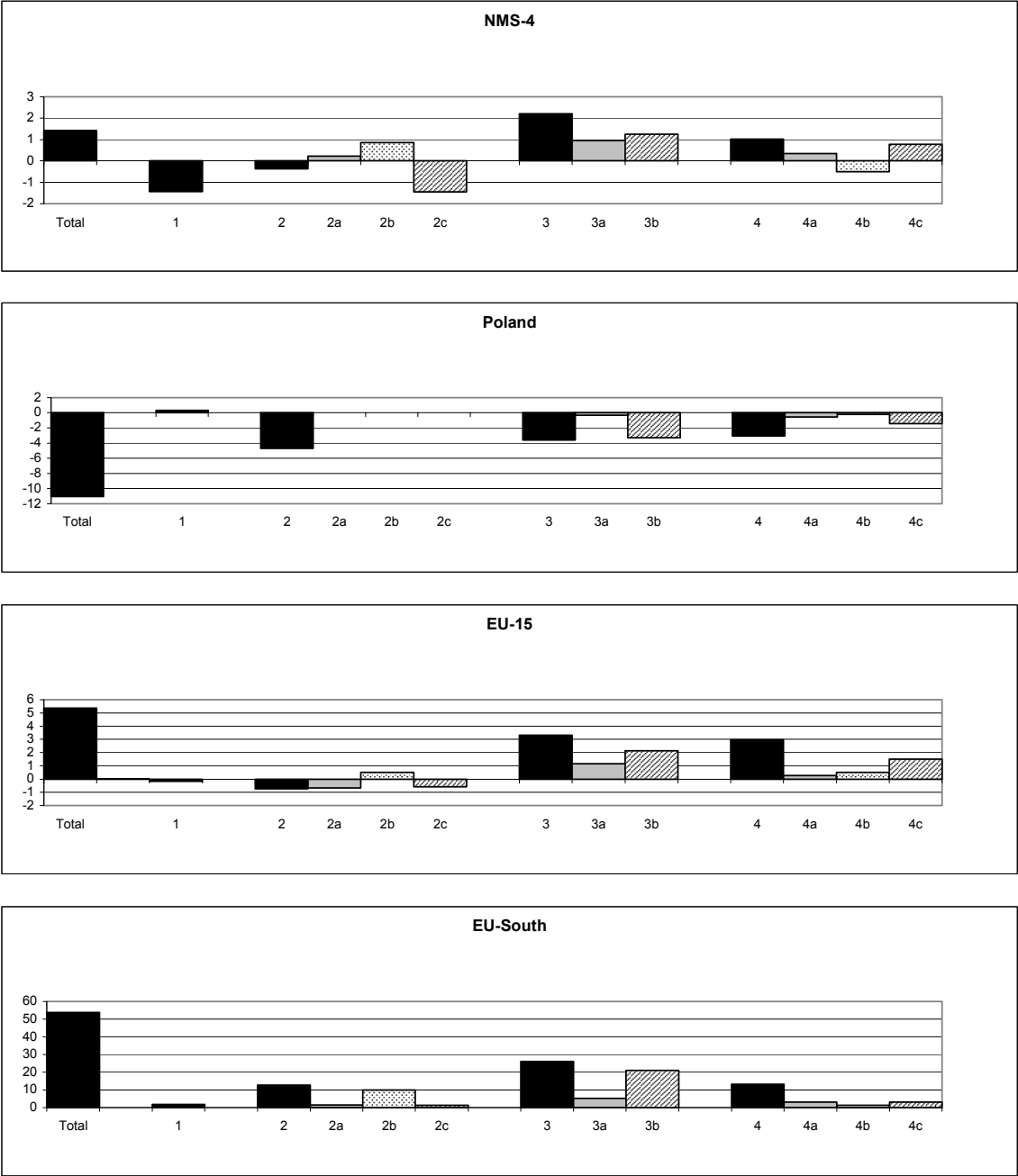
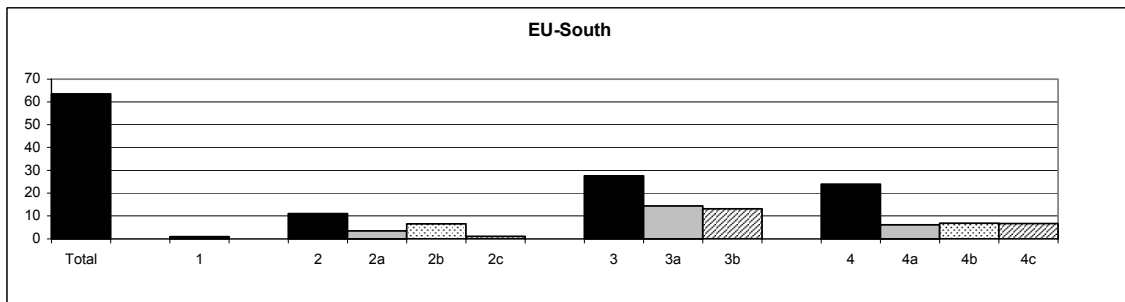
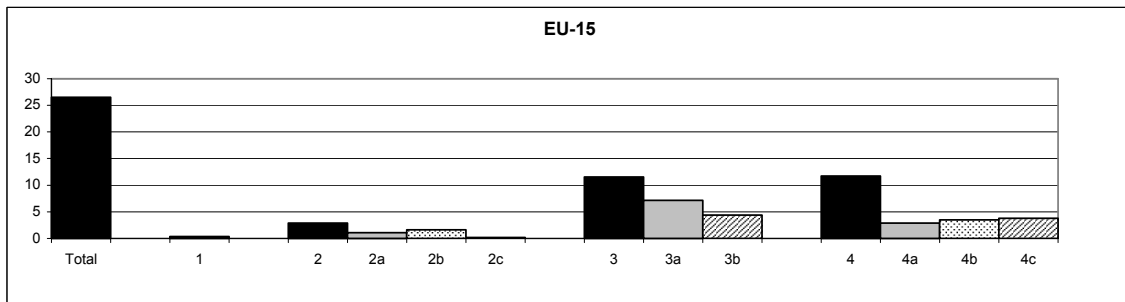
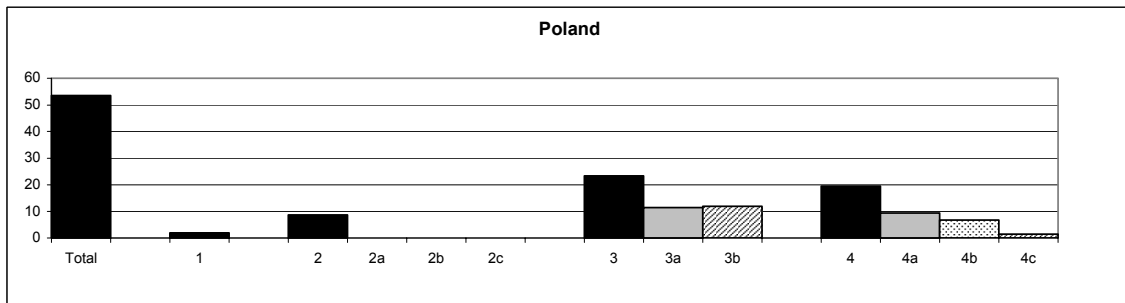
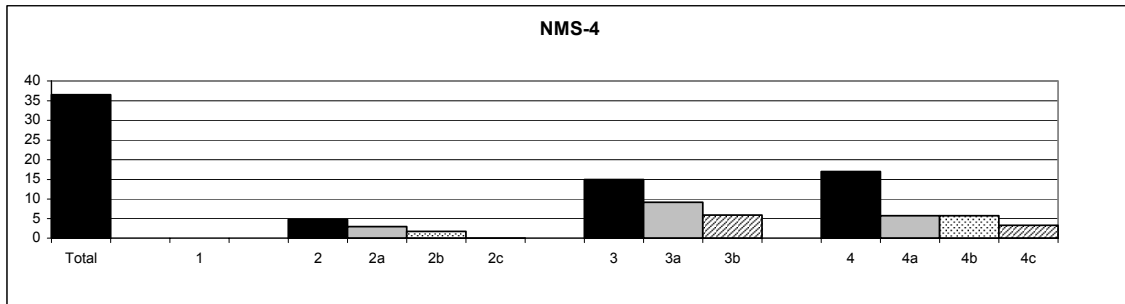


Figure A2d

**Source of employment growth/decline by sector, 15-64, 1998-2005**  
**Highly educated**



## **Appendix B**

### Additional Tables

Table B1

**Average total employment in the new EU member states/candidates/potential candidates, 1000 persons**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005 <sup>14)</sup>
Czech Republic <sup>1)</sup>	5351.2	5058.6	4927.1	4848.3	4926.8	4962.6	4972.0	4936.5	4865.7	4764.1	4731.6	4750.2	4764.9	4733.2	4706.6	4760.0
Hungary <sup>2)</sup>	5052.3	4534.1	4025.7	3770.3	3692.5	3622.8	3605.1	3610.3	3674.7	3809.3	3856.2	3868.3	3870.6	3921.9	3900.4	3901.5
Poland <sup>3)</sup>	16280.0	15326.4	14676.6	14894.0	14658.0	14791.0	14969.0	15177.0	15354.0	14757.0	14526.0	14207.0	13782.0	13616.8	13794.8	14115.8
Slovak Republic <sup>4)</sup>	2481.3	2305.1	2163.1	2146.2	2107.1	2146.8	2224.9	2205.9	2198.6	2132.1	2101.7	2123.7	2127.0	2164.6	2170.4	2216.2
Slovenia <sup>5)</sup>	909.7	839.0	784.1	755.9	746.2	745.2	878.0	906.0	901.0	886.0	901.0	916.0	910.0	897.0	943.0	949.0
Bulgaria <sup>6)</sup>	4096.8	3564.0	3273.7	3221.8	2905.4	2984.2	3066.4	3060.3	3034.8	2875.3	2794.7	2698.8	2739.6	2834.8	2922.5	2981.9
Romania <sup>7)</sup>	10892.6	10812.7	10621.9	10260.0	10036.5	11152.3	10935.5	11050.0	10844.9	10775.6	10763.8	10696.9	9234.3	9222.5	9157.6	9160.0
Croatia <sup>8)</sup>	1567.6	1444.0	1283.0	1446.6	1437.1	1417.4	1329.5	1310.9	1544.0	1492.0	1553.0	1469.0	1528.0	1536.5	1562.5	1573.0
Albania <sup>9)</sup>	1434.0	1434.0	1095.0	1045.9	1161.5	1137.8	1115.8	1107.7	1085.1	1065.1	1068.2	920.6	920.1	926.2	931.0	931.0
Bosnia & Herzegovina <sup>10)</sup>	.	.	.	.	.	.	.	.	651.3	630.9	640.6	625.6	637.7	634.0	626.4	626.0
Macedonia <sup>11)</sup>	522.5	507.1	483.6	457.2	433.1	391.9	374.5	354.3	539.8	545.2	549.8	599.3	561.3	545.1	523.0	545.3
Serbia <sup>12)</sup>	.	.	.	.	.	.	.	2189.0	2192.0	2152.9	3093.7	3105.6	3000.2	2918.6	2930.8	2900.0
Montenegro <sup>13)</sup>	.	.	.	.	.	.	.	.	147.2	145.6	140.8	141.1	140.1	142.7	143.5	145.5

Notes: 1) 1990-1993: registered employment; from 1994 according to LFS; from 2002 according to 2001 population census. - 2) 1990-1991: registered employment; from 1992 according to LFS; from 1999 according to 2001 population census. - 3) 1990-1992: registered employment; from 1993 according to LFS; from 2003 according to 2002 population census. - 4) 1990-1994: registered employment; from 1995 according to LFS. - 5) 1990-1995: registered employment; from 1996 according to LFS. - 6) 1990-1993: registered employment; from 1994 according to LFS. - 7) 1990-1995: registered employment; from 1996 according to LFS; from 2002 according to EU LFS methodology. - 8) 1990-1997: registered employment; from 1993 including individual farmers and employees in enterprises with less than 10 employees; from 1998 according to LFS. - 9) registered employment; end of period; from 2001 according to 2001 population census. - 10) registered employees only; end of period. - 11) 1990-1997: registered employment; from 1998 according to LFS. - 12) 1997-1999: registered employment excluding individual farmers; average of period; from 2000 according to LFS. - 13) registered employment excluding individual farmers; average of period. - 14) preliminary and wiw estimate.

Source: Eurostat; wiw Database incorporating national statistics.

Table B2

**Average total employment in the new EU member states/candidates/potential candidates, 1990 = 100**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	100.0	94.5	92.1	90.6	91.6	92.3	92.4	91.8	90.5	88.6	88.0	88.3	89.0	88.4	87.9	88.9
Hungary	100.0	89.7	80.9	75.8	74.2	72.8	72.5	72.6	73.9	74.3	75.2	75.5	75.5	76.5	76.1	76.1
Poland	100.0	94.1	90.2	88.5	87.1	87.8	88.9	90.1	91.2	87.6	86.3	84.4	81.9	80.9	81.9	83.8
Slovak Republic	100.0	92.9	87.2	86.5	84.9	86.4	89.5	88.8	88.5	85.8	84.6	85.5	85.6	87.1	87.3	89.2
Slovenia	100.0	92.2	86.2	83.1	82.0	81.9	81.5	84.1	83.7	82.3	83.7	85.1	84.5	83.3	87.6	88.1
Bulgaria	100.0	87.0	84.6	83.3	80.8	83.0	85.3	85.1	84.4	80.0	77.7	75.1	76.2	78.9	81.3	83.0
Romania	100.0	99.3	97.5	94.2	92.1	94.2	92.3	93.3	91.6	91.0	90.9	90.3	87.8	87.7	87.1	87.1
Croatia	100.0	92.1	81.8	80.0	79.4	78.3	73.5	72.5	70.2	67.9	70.6	66.8	69.5	69.9	71.1	71.2
Albania	100.0	100.0	76.4	72.9	81.0	79.3	77.8	77.2	75.7	74.3	74.5	74.1	74.1	74.6	75.0	75.0
Bosnia & Herzegovina									100.0	96.9	98.3	96.1	97.9	97.3	96.2	96.1
Macedonia	100.0	97.0	92.6	87.5	82.9	75.0	71.7	67.8	71.4	72.2	72.8	79.3	74.3	72.2	69.2	72.3
Serbia								99.9	100.0	98.2	97.9	98.3	95.0	92.4	92.8	91.8
Montenegro									100.0	98.9	95.6	95.8	95.2	96.9	97.5	98.8

Source: Eurostat; wiiw Database incorporating national statistics.



Table B3

**Working-age population in the new EU member states/candidates/potential candidates, 15-64, 1000 persons<sup>1)</sup>**

annual averages

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic <sup>2)</sup>	6802.2	6809.1	6860.8	6914.5	6962.1	6999.1	7024.0	7047.1	7070.3	7089.2	7116.1	7121.2	7148.9	7182.2	7230.6	7269.7
Hungary <sup>3)</sup>	6760.9	6807.1	6841.5	6838.9	6826.7	6835.6	6834.6	6833	6801	6783.2	6764.4	6851.3	6849.4	6835.8	6826.3	6814.6
Poland <sup>4)</sup>	24836.3	24941.5	25084.3	25010.7	24919.6	25221.1	25429.9	25005.3	25246.8	25460.6	25739.3	25985.5	26159.4	26030.5	26142.1	26210.8
Slovak Republic <sup>5)</sup>	4102.1	3810.7	3575.9	3548.1	3483.4	3523.2	3556.2	3588.3	3619.1	3657	3692.7	3722.7	3728.2	3733.2	3791.5	3824.1
Slovenia <sup>6)</sup>	1375.9	1382.3	1381.5	1381.7	1386.3	1387.7	1391.4	1387.4	1385.2	1383.8	1396.5	1399.2	1401.4	1404.9	1405.3	1402.3
Bulgaria <sup>7)</sup>	5673.9	5644.0	5587.6	5594.4	5571.6	5585.4	5577.8	5548.6	5553.4	5514.1	5491.2	5375.3	5356.6	5308.1	5305.5	5282.8
Romania <sup>8)</sup>	15152.2	15198.7	14893.0	14986.7	15053.2	15109.2	15171.8	15157.6	15190.1	15188.5	15230.8	15276.5	15326.7	14933	14963.8	15021.2
Croatia <sup>9)</sup>	.	.	.	.	.	.	2485.4	2663.4	2664.4	2675.3	2905.1	2734.5	2772.8	2777.8	2750.6	2756.5
Albania <sup>10)</sup>	.	.	.	.	1786.0	1820.0	1850.0	1861.0	1888.0	1911.0	1939.0	1773.0	1767.0	1826.0	1850.0	1877.0.
Macedonia <sup>11)</sup>	.	.	.	.	1271.4	1286.2	1299.6	1312.8	1325.2	1337.0	1346.9	1369.3	1359.2	1388.7	1404.6	1416.7
Serbia <sup>12)</sup>	.	.	.	.	.	.	.	.	.	.	4715.6	4706.4	4647.9	4545.3	5105.8	5048.0.
Montenegro <sup>12)</sup>	.	.	.	.	.	.	.	.	.	404.5	405.2	437.4	427.3	415.5	.	431.1

Notes: 1) Working-age population based on Eurostat, LFS-adjusted series; annual average; methodological breaks are eliminated in time series. - 2) 1990-1992: calculated with population statistics; 1993-1997: calculated with national LFS figures. - 3) 1990-1991: calculated with population statistics; 1992-1995: calculated with national LFS figures. - 4) 1990-1991: calculated with population statistics; 1992-1996: calculated with national LFS figures. - 5) 1990-1993: calculated with population statistics; 1994-1997: calculated with national LFS figures. - 6) 1990-1995: calculated with population statistics. - 7) 1990-1992: calculated with population statistics; 1993-1999: calculated with national LFS figures. - 8) 1990-1995: calculated with population statistics; 1996: calculated with national LFS figures. - 9) 1996-2001: calculated with national LFS figures; 1996-1999: LFS sample excludes Eastern Slavonia and Krajina. - 10) population statistics; end of year. - 11) 1994-1998: calculated with population statistics; 1999-2005: calculated with national LFS figures. - 12) Up to 2003 national LFS, ILO-Definition, thereafter.

Source: Eurostat; wiiw Database incorporating national statistics.

Table B4

**Working-age population, 15-64, 1990 = 100**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	100.0	100.1	100.9	101.7	102.4	102.9	103.3	103.6	103.9	104.2	104.6	104.7	105.1	105.6	106.3	106.9
Hungary	100.0	100.7	101.2	101.2	101.0	101.1	101.1	101.1	100.6	100.3	100.1	101.3	101.3	101.1	101.0	100.8
Poland	100.0	100.4	101.0	100.7	100.3	101.5	102.4	100.7	101.7	102.5	103.6	104.6	105.3	104.8	105.3	105.5
Slovak Republic	100.0	92.9	87.2	86.5	84.9	85.9	86.7	87.5	88.2	89.1	90.0	90.8	90.9	91.0	92.4	93.2
Slovenia	100.0	100.5	100.4	100.4	100.8	100.9	101.1	100.8	100.7	100.6	101.5	101.7	101.9	102.1	102.1	101.9
Bulgaria	100.0	99.5	98.5	98.6	98.2	98.4	98.3	97.8	97.9	97.2	96.8	94.7	94.4	93.6	93.5	93.1
Romania	100.0	100.3	98.3	98.9	99.3	99.7	100.1	100.0	100.3	100.2	100.5	100.8	101.2	98.6	98.8	99.1

Source: Eurostat; wiiw Database incorporating national statistics.

Table B5

**Activity rates in the new EU member states/candidates/potential candidates**

labour force in % of working-age population 15-64, LFS

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	69.9	69.9	72.0	72.0	71.3	70.8	70.6	70.2	70.0	70.4
Hungary	57.9	57.6	58.7	59.8	60.1	59.6	59.7	60.6	60.5	61.3
Poland	66.3	65.9	65.7	65.9	65.8	65.5	64.6	63.9	64.0	64.4
Slovakia	69.5	69.3	69.3	69.5	69.9	70.4	69.9	70.0	69.7	68.9
Slovenia	66.2	67.3	68.2	67.3	67.5	68.1	67.8	67.1	69.8	70.7
Bulgaria	63.5	63.8	63.1	61.4	60.7	62.5	61.9	60.9	61.8	62.1
Romania	70.1	69.9	68.9	68.4	68.4	67.3	63.4	62.2	63.0	62.3
Croatia	.	.	.	.	62.2	61.6	62.9	62.4	63.5	63.2
Albania <sup>2)</sup>	68.9	69.9	69.9	68.3	66.2	62.1	61.8	59.6	58.8	57.8
Bosnia & Herzegovina	.	.	.	.	.	52.8	57.4	.	59.6	.
Macedonia	.	.	.	59.7	59.7	61.8	59.8	61.3	58.8	60.7
Serbia	.	.	.	.	.	.	.	.	66.4	65.2
Montenegro	.	.	.	66.4	68.4	61.7	64.4	64.7	60.1	58.9
Kosovo	.	.	.	.	.	.	52.8	50.3	45.9	48.7
NMS-10	.	66.5	66.5	66.6	66.5	66.3	65.7	65.5	65.5	65.8
EU-15	67.7	67.9	68.3	68.9	69.2	69.2	69.7	70.1	70.6	71.0
EU-25	.	67.7	68.0	68.5	68.7	68.7	69.0	69.3	69.7	70.2

Notes: 1) Activity rates based on Eurostat, LFS-adjusted series and national LFS statistics; annual average. -

2) Registration data; working-age population: male = 15-59, female = 15-54.

Source: Eurostat; wiiw Database incorporating national statistics.

Table B6

**Activity rates in the new EU member states/candidates/potential candidates, by gender<sup>1)</sup>**

labour force in % of working-age population 15-64, LFS

<b>Male</b>										
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	.	.	80.0	79.9	79.1	78.6	78.6	78.0	77.9	78.4
Hungary	66.6	66.2	66.6	67.6	67.9	67.2	67.1	67.6	67.2	67.9
Poland	.	73.3	72.8	72.5	71.7	71.5	70.6	70.0	70.1	70.8
Slovakia	.	.	77.2	76.9	76.8	77.4	76.7	76.7	76.5	76.5
Slovenia	71.1	71.9	72.6	71.8	71.9	72.8	72.5	72.0	74.5	75.1
Bulgaria	.	.	.	.	66.2	67.0	66.4	65.4	66.4	67.0
Romania	.	76.6	75.7	75.2	75.0	73.6	70.4	69.3	70.0	69.4
Croatia	.	.	.	.	68.9	68.9	69.2	69.2	70.0	69.6
Albania <sup>2)</sup>	82.1	85.6	85	82.7	77.7	74.4	74	70.5	69.9	67.3
Macedonia	.	.	.	72.8	71.7	72.2	71.7	72.7	70.5	71.9
Serbia	.	.	.	.	.	.	.	.	75.1	74.3
Montenegro <sup>3)</sup>	.	.	.	65.0	67.6	68.0	69.9	69.6	69.0	64.8
Kosovo	.	.	.	.	.	.	71.9	71.7	67.8	68.3
NMS-10	.	74.2	73.9	73.6	73.0	72.7	72.2	71.9	72	72.4
EU-15	67.7	67.9	68.3	68.9	69.2	69.2	69.7	70.1	70.6	71.0
EU-25	.	67.7	68.0	68.5	68.7	68.7	69.0	69.3	69.7	70.2
<b>Female</b>										
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	.	.	64.0	64.1	63.6	63.2	62.7	62.5	62.2	62.4
Hungary	49.7	49.3	51.2	52.3	52.7	52.4	52.7	53.9	54.0	55.1
Poland	.	58.8	58.8	59.4	59.9	59.7	58.7	58.0	57.9	58.1
Slovakia	.	.	61.7	62.3	63.2	63.7	63.2	63.5	63.0	61.5
Slovenia	61.4	62.7	63.6	62.6	62.9	63.2	63.0	62.1	65.0	66.1
Bulgaria	.	.	.	.	55.6	58.1	57.5	56.5	57.2	57.3
Romania	.	63.5	62.3	61.8	61.9	61.1	56.6	55.3	56.2	55.3
Croatia	.	.	.	.	55.5	54.7	56.3	55.7	57.1	56.8
Albania <sup>2)</sup>	55.5	54.3	54.8	53.9	54.6	49.3	49.1	46.7	47.2	46.8
Macedonia	.	.	.	46.5	47.7	51.2	47.6	49.9	46.7	49.1
Serbia	.	.	.	.	.	.	.	.	57.9	56.2
Montenegro <sup>3)</sup>	.	.	.	52.2	53	46.8	48.4	48.7	51.4	53.1
Kosovo	.	.	.	.	.	.	34.5	29.5	25.2	29.7
NMS-10	.	59.1	59.4	59.9	60.2	60	59.4	59.3	59.2	59.4
EU-15	57.4	57.9	58.6	59.5	60.0	60.2	61.0	61.6	62.5	63.2
EU-25	.	58.1	58.7	59.5	60.0	60.2	60.7	61.2	62.0	62.5

Notes: 1) Activity rates based on Eurostat, LFS-adjusted series and national LFS statistics; annual average. -

2) Registration data; working-age population: male = 15-59, female = 15-54. - 3) Working-age population 15+.

Source: Eurostat; wiiw Database incorporating national statistics.

Table B7

**Activity rates in the new EU member states/candidates/potential candidates**

employed and unemployed in % of population 15+, LFS

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	.	61.4	61.6	61.5	61.2	61.1	61.0	61.0	60.4	60.0	59.8	59.4	59.2	59.4
Hungary <sup>1)</sup>	58.3	55.7	53.7	52.0	51.6	51.0	51.6	52.6	53.0	52.8	52.9	53.8	53.8	54.5
Poland	61.8	60.9	60.2	58.8	58.2	57.7	57.3	56.7	56.6	56.3	55.4	54.7	54.7	54.9
Slovakia	.	.	59.9	59.8	60.1	59.8	59.8	60.0	60.2	60.8	60.2	60.4	60.2	59.4
Slovenia	.	57.8	57.6	58.8	57.6	59.5	59.4	57.9	58.0	58.2	57.5	56.5	59.0	59.3
Bulgaria	.	55.4	52.9	51.8	51.7	51.8	51.0	49.5	48.8	49.6	49.4	49.2	49.7	49.7
Romania	.	.	.	.	64.8	64.8	63.6	63.4	63.2	62.2	56.0	54.8	54.8	54.0
Croatia	.	.	.	.	56.2	54.7	53.1	51.8	50.7	49.7	50.9	50.2	50.5	49.6
Albania <sup>2)</sup>					68.9	69.9	69.9	68.3	66.2	62.1	61.8	59.6	58.8	57.8
Macedonia	.	.	.	.	54.9	53.7	54.8	53.1	52.9	55.5	52.6	54.5	52.2	54.1
Serbia	.	.	.	.	.	.	.	57.4	57.0	57.3	56.1	55.7	55.5	53.5
Montenegro	.	.	.	.	.	.	.	58.5	60.4	57.1	59.1	58.9	51.7	49.9

Notes: 1) Population aged 15-74. - 2) 1996-1999: population aged 14-74; 2000-2004: population aged 15-74.

Source: Eurostat; wiiw Database incorporating national statistics.

Table B8

**Employment rates in the new EU member states/candidates/potential candidates<sup>1)</sup>**

employed in % of working-age population 15-64, LFS

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	.	68.8	69.0	69.2	69.1	68.5	67.3	65.6	65.0	65.0	65.4	64.7	64.2	64.8
Hungary	57.8	54.4	53.5	52.5	52.1	52.4	52.4	55.6	56.3	56.2	56.2	57.0	56.8	56.9
Poland	58.7	57.6	57.1	57.0	57.2	58.9	59.0	57.6	55.0	53.4	51.5	51.2	51.7	52.8
Slovakia	.	.	60.3	60.7	62.3	61.3	60.6	58.1	56.8	56.8	56.8	57.7	57.0	57.7
Slovenia	.	.	.	62.0	61.6	62.6	62.9	62.2	62.8	63.8	63.4	62.6	65.3	66.0
Bulgaria	.	52.7	51.6	52.9	54.5	54.6	54.2	51.7	50.4	49.7	50.6	52.5	54.2	55.8
Romania	.	.	.	.	64.9	65.4	64.2	63.2	63.0	62.4	57.6	57.6	57.7	57.6
Croatia	.	.	.	.	61.6	59.5	58.1	55.4	53.2	51.6	53.4	53.4	54.7	54.8
Albania <sup>2)</sup>	.	.	.	.	60.3	59.5	57.5	55.7	55.1	51.9	52.1	50.7	50.3	49.7
Bosnia & Herzegovina	.	.	.	.	.	.	.	.	.	44.3	45.4	.	45.4	.
Macedonia	.	.	.	.	41.7	38.7	40.3	40.8	40.8	42.6	40.4	38.5	36.8	37.9
Serbia <sup>3)</sup>	.	.	.	.	.	.	.	49.8	50.1	50.3	48.6	47.6	53.4	51.0
Montenegro <sup>4)</sup>	.	.	.	.	.	.	.	53.2	54.9	48.6	50.9	49.8	43.4	40.9
Kosovo	.	.	.	.	.	.	.	.	.	.	23.8	25.3	25.4	25.7
NMS-10	.	.	.	.	.	60.2	60	59	57.4	56.6	55.8	55.9	56.0	56.9
EU-15	61.2	60.1	59.8	60.1	60.3	60.7	61.4	62.5	63.4	64.0	64.2	64.3	64.7	65.1
EU-25	.	.	.	.	.	60.6	61.2	61.9	62.4	62.8	62.8	62.9	63.3	63.8

Notes: 1) Employment rates based on Eurostat, LFS-adjusted series and national LFS statistics; annual average. - 2) Registration data; working-age population: male = 15-59, female = 15-54. - 3) 1999-2003: working-age population: male = 15-59, female = 15-54, thereafter ILO-Definition. - 4) Up to 2003 national LFS. From 2004 ILO-Definition.

Source: Eurostat; wiw Database incorporating national statistics.

Table B9

**Employment rates in the new EU member states/candidates/potential candidates, by gender<sup>1)</sup>**

employed in % of working-age population 15-64, LFS

<b>Male</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Czech Republic	78.1	77.4	76.0	74.0	73.2	73.2	73.9	73.1	72.3	73.3
Hungary	59.5	59.7	60.5	62.4	63.1	62.9	62.9	63.5	63.1	63.1
Poland	65.2	66.8	66.5	64.2	61.2	59.2	56.9	56.5	57.2	58.9
Slovakia	69.2	67.7	67.8	64.3	62.2	62.0	62.4	63.3	63.2	64.6
Slovenia	66.0	67.0	67.2	66.5	67.2	68.6	68.2	67.4	70.0	70.4
Bulgaria	57.7	58.0	57.5	55.1	54.7	52.7	53.7	56.0	57.9	60.0
Romania	72.6	71.9	70.4	69.0	68.6	67.8	63.6	63.8	63.4	63.7
Croatia	.	.	.	.	58.8	58.9	59.7	59.9	61.3	61.2
Albania <sup>2)</sup>	72.6	73.7	71.5	69.1	66.0	63.8	63.9	61.4	61.2	60.0
Macedonia	52.7	49.8	50.7	50.2	50.4	50.6	48.6	45.6	44.4	45.4
Montenegro <sup>3)</sup>	.	.	.	55.1	56.6	54.7	56.5	54.6	52.3	46.2
Kosovo	.	.	.	.	.	.	39.4	42.8	42.8	41.3
NMS-10	.	67.8	67.3	65.6	63.7	62.6	61.8	61.7	62.0	63.3
EU-15	70.4	70.6	71.2	72.1	72.8	73.1	72.8	72.7	72.7	72.9
EU-25	.	70.2	70.6	71.0	71.2	71.3	71.0	70.8	70.9	71.3
<b>Female</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Czech Republic	60.6	59.9	58.7	57.4	56.9	56.9	57.0	56.3	56.0	56.3
Hungary	45.2	45.4	47.2	49.0	49.7	49.8	49.8	50.9	50.7	51.0
Poland	51.8	51.3	51.7	51.2	48.9	47.7	46.2	46.0	46.2	46.8
Slovakia	54.6	54.0	53.5	52.1	51.5	51.8	51.4	52.2	50.9	50.9
Slovenia	57.1	58.0	58.6	57.7	58.4	58.8	58.6	57.6	60.5	61.3
Bulgaria	50.4	50.3	49.9	47.5	46.3	46.8	47.5	49.0	50.6	51.7
Romania	58.4	59.1	58.2	57.5	57.5	57.1	51.8	51.5	52.1	51.5
Croatia	.	.	.	.	45.6	44.6	46.7	46.6	47.9	48.6
Albania <sup>2)</sup>	47.9	45.3	43.4	42.3	44.1	39.4	39.7	38.3	39.0	38.8
Macedonia	30.7	27.9	29.8	31.2	31.3	34.5	32.0	31.3	28.9	30.1
Montenegro <sup>3)</sup>	.	.	.	39.5	40.8	35.8	37.3	36.8	34.2	35.6
Kosovo	.	.	.	.	.	.	8.8	8.3	9.0	10.5
NMS-10	.	52.8	52.9	52.5	51.3	50.7	50.0	50.2	50.2	50.7
EU-15	50.2	50.8	51.6	53.0	54.1	55.0	55.6	56.0	56.8	57.4
EU-25	.	51.1	51.8	52.9	53.6	54.3	54.7	55.0	55.7	56.3

Notes: 1) Employment rates based on Eurostat, LFS-adjusted series and national LFS statistics; annual average. -

2) Registration data; working-age population: male = 15-59, female = 15-54. - 3) 1999-2003: working-age population 15+.

Source: Eurostat; wiw Database incorporating national statistics.

Table B10

**Unemployment rates in selected new EU member states/candidates/potential candidates**

based on registration data, in %, end of period

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	0.7	4.1	2.6	3.5	3.2	2.9	3.5	5.2	7.5	9.4	8.8	8.9	9.8	10.3	9.5	8.9
Hungary	2.0	8.3	13.9	13.9	12.0	11.6	11.2	10.9	9.5	9.3	8.6	8.0	8.0	8.3	9.1	9.4
Poland	6.3	11.8	13.6	16.4	16.0	14.9	13.2	10.3	10.4	13.1	15.1	17.5	18.0	20.0	19.1	17.6
Slovakia	1.6	11.8	10.4	14.4	14.6	13.1	12.8	12.5	15.6	19.2	17.9	18.6	17.5	15.6	13.1	11.4
Slovenia	5.8	10.1	13.4	15.4	14.2	14.5	14.4	14.8	14.6	13.0	12.0	11.8	11.3	11.0	10.4	10.2
Bulgaria	1.7	11.1	15.2	16.4	12.8	11.1	12.5	13.7	12.2	16.0	17.9	17.3	16.3	13.5	12.2	10.7
Romania	.	3.0	8.2	10.4	10.9	9.5	6.6	8.9	10.4	11.8	10.5	8.8	8.4	7.4	6.3	5.9
Croatia	.	.	15.5	14.6	14.8	15.1	15.9	17.6	18.1	20.4	22.3	23.1	21.3	19.1	18.7	18.0
Albania	9.5	8.9	26.5	22.3	18.4	13.1	12.4	14.9	17.8	18.2	16.8	16.4	15.8	15.0	14.4	14.3
Bosnia & Herzegovina	.	.	.	.	.	.	.	.	38.0	39.3	39.7	40.3	40.9	42.0	43.9	46.0
Macedonia	23.4	24.8	26.4	27.9	31.2	36.9	39.6	42.1	.	.	.	.	.	.	.	.
Serbia <sup>1)</sup>	.	.	.	.	.	.	.	22.5	26.0	25.5	25.6	26.8	30.5	31.9	26.4	26.9
Montenegro	.	.	.	.	.	.	.	.	.	.	.	.	.	32.9	29.3	25.2

*Note:* 1) 1997-2001: annual average.*Source:* wiiw Database incorporating national statistics.



Table B11

**Unemployment rates in selected new EU member states/candidates/potential candidates**

unemployed in % of labour force 15+, LFS

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	.	.	.	4.3	4.3	4.0	3.9	4.8	6.5	8.7	8.8	8.1	7.3	7.8	8.3	8.0
Hungary	.	.	9.9	12.1	10.9	10.3	10.0	8.8	7.8	7.0	6.4	5.7	5.8	5.9	6.1	7.2
Poland	.	.	13.5	14.0	14.4	13.3	12.3	11.2	10.6	13.9	16.1	18.2	19.9	19.6	19.0	17.8
Slovakia	.	.	.	.	13.6	13.1	11.3	11.8	12.5	16.2	18.6	19.2	18.5	17.4	18.1	16.2
Slovenia	.	.	.	9.1	9.1	7.4	7.3	7.4	7.9	7.6	7.0	6.4	6.4	6.7	6.3	6.6
Bulgaria	.	.	.	21.4	20.2	16.5	14.1	14.4	14.1	15.7	16.9	19.7	17.8	13.7	12.0	10.1
Romania	.	.	.	.	8.2	8.0	6.7	6.0	6.3	6.8	7.1	6.6	8.4	7.0	8.0	7.0
Croatia	.	.	.	.	.	.	9.9	9.9	11.4	13.6	16.1	15.9	14.8	14.3	13.8	12.7
Bosnia & Herzegovina	.	.	.	.	.	.	.	.	.	.	.	16.1	20.9	.	23.8	.
Macedonia	.	.	.	.	.	.	31.9	36.0	34.5	32.4	32.3	30.5	31.9	36.7	37.2	37.3
Serbia	.	.	.	.	.	.	.	.	.	13.3	12.1	12.2	13.3	14.6	18.5	20.8
Montenegro	.	.	.	.	.	.	.	.	.	19.4	19.3	23.7	20.7	.	27.7	30.3
Kosovo	.	.	.	.	.	.	.	.	.	.	.	57.0	55.0	49.7	39.7	41.4
NMS-10	.	.	.	.	.	.	.	.	9.8	12.0	13.6	14.5	14.8	14.3	14.2	13.4
EU-15	.	.	.	.	.	.	10.1	9.8	9.3	8.6	7.7	7.3	7.6	8.0	8.1	7.9
EU-25	.	.	.	.	.	.	.	.	9.5	9.1	8.6	8.4	8.8	9.0	9.1	8.7

Source: wiiw Database incorporating national statistics.

Table B12

**Unemployment rates in selected new EU member states/candidates/potential candidates, by gender<sup>1)</sup>**

unemployed in % of labour force, LFS

**Male**

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	.	3.4	3.6	3.4	3.3	3.9	5.0	7.3	7.3	6.8	5.9	6.2	7.1	6.6
Hungary	10.7	13.2	11.8	11.3	10.7	9.5	8.5	7.5	7.0	6.3	6.1	6.1	6.1	7.0
Poland	.	12.7	13.1	12.1	11.0	9.3	9.1	12.4	14.4	16.9	19.1	19.0	18.2	16.4
Slovakia	.	.	13.3	12.6	10.2	11.0	11.9	16.1	18.7	19.5	18.4	17.2	17.3	15.4
Slovenia	.	9.8	9.6	7.6	7.5	7.1	7.7	7.3	6.8	5.9	5.9	6.3	5.8	6.2
Bulgaria	.	20.8	20.2	16.2	14.2	14.3	14.3	15.8	17.1	20.4	18.6	14.1	12.5	10.3
Romania	.	.	.	.	6.3	5.7	6.5	7.4	7.7	7.1	8.9	7.5	9.0	7.7
Croatia	.	.	.	.	9.5	9.5	11.9	12.8	15.0	14.2	13.4	13.1	12.2	11.7
Albania <sup>1)</sup>	.	.	.	.	11.5	13.9	15.8	16.4	15.0	14.2	13.6	12.9	12.4	12.1
Macedonia	.	.	.	.	.	.	.	31.9	30.5	29.5	31.7	37.0	36.7	36.5
Serbia	.	.	.	.	.	.	.	.	.	.	.	.	15.1	16.8
Montenegro	.	.	.	.	.	.	.	15.2	16.3	19.5	19.2	21.5	23.6	26.2
Kosovo	.	.	.	.	.	.	.	.	.	52.0	45.2	40.3	31.5	32.9
NMS-10	.	.	.	.	.	.	8.8	11.1	12.6	13.7	14.2	13.7	13.5	12.6
EU-15	.	.	.	.	8.7	8.4	7.8	7.1	6.4	6.1	6.6	7.0	7.2	7.0
EU-25	.	.	.	.	.	.	8.0	7.7	7.4	7.3	7.8	8.1	8.1	7.9

(Table B12 continued)

Table B12 (continued)

**Female**

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	.	5.4	5.2	4.8	4.7	5.9	8.2	10.5	10.6	9.9	9.0	9.9	9.9	9.9
Hungary	8.7	10.4	9.4	8.7	8.8	7.8	7.0	6.3	5.6	5.0	5.4	5.6	6.1	7.4
Poland	.	15.6	16.0	14.7	13.9	13.2	12.3	15.8	18.1	19.8	20.9	20.4	19.9	19.3
Slovakia	.	.	14.1	13.8	12.7	12.9	13.2	16.4	18.5	18.8	18.7	17.5	19.1	17.1
Slovenia	.	8.4	8.5	7.0	7.0	7.6	8.0	7.9	7.3	7.0	6.8	7.1	6.8	7.2
Bulgaria		22.0	20.3	16.8	14.1	14.4	13.8	15.5	16.6	18.5	16.9	13.2	11.5	9.9
Romania	.	.	.	.	7.4	6.4	6.1	6.2	6.4	5.9	7.7	6.4	6.9	6.3
Croatia	.	.	.	.	10.5	10.4	12.1	14.5	17.3	17.9	16.6	15.7	15.7	14.0
Albania <sup>2)</sup>	.	.	.	.	13.7	16.6	20.9	21.4	19.3	19.9	19.1	18.2	17.5	17.2
Macedonia					.	.	.	33.3	34.9	32.0	32.3	36.3	37.8	38.4
Serbia	.	.	.	.	.	.	.	.	.	.	.	.	22.9	26.2
Montenegro	.	.	.	.	.	.	.	24.4	23.1	23.5	23.0	24.3	33.1	35.5
Kosovo	.	.	.	.	.	.	.	.	.	70.0	74.5	71.9	60.7	60.5
NMS-10	.	.	.	.	.	.	11.0	13.1	14.8	15.5	15.5	15.1	15.0	14.4
EU-15	.	.	.	.	11.9	11.8	11.2	10.3	9.3	8.7	9.0	9.3	9.3	8.9
EU-25	.	.	.	.	.	.	11.3	10.8	10.2	9.8	10.0	10.2	10.3	9.8

Notes: 1) Employment rates based on Eurostat, LFS-adjusted series and national LFS statistics; annual average. - 2) Registration data.

Source: Eurostat; wiiw Database incorporating national statistics.

Table B13

**Part-time workers in selected new EU member states/candidates/potential candidates**

in % of total employment, LFS

	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Total</b>									
Czech Republic	.	5.7	5.6	5.3	4.9	4.9	5.0	4.9	4.9
Hungary	3.7	3.8	3.8	3.5	3.6	3.6	4.4	4.7	4.1
Poland	10.6	10.4	10.5	10.5	10.3	10.8	10.5	10.8	10.8
Slovak Republic	.	2.3	2.1	2.1	2.3	1.9	2.4	2.7	2.5
Slovenia	.	.	6.1	6.5	6.1	6.1	6.2	9.3	9.0
Bulgaria	.	.	.	.	3.2	2.5	2.3	2.4	2.1
Romania	14.9	15.8	15.9	16.5	16.6	11.8	11.5	10.6	10.2
Croatia	.	.	.	.	.	8.3	8.5	8.5	10.1
Macedonia	.	7.5	4.4	7.2	7.0	8.5	6.2	5.3	5.0
Kosovo	.	.	.	.	.	24.8	30.1	30.1	22.0
NMS-10	9.6	8.2	8.1	8.1	7.8	7.9	8.0	8.2	7.9
EU-15	16.7	17.3	17.6	17.7	17.9	18.1	18.5	19.4	21.7
EU-25	16.0	15.9	16.1	16.2	16.3	16.6	17.0	17.7	20.4
<b>Male</b>									
Czech Republic	.	2.6	2.4	2.2	2.2	2.2	2.3	2.3	2.1
Hungary	2.0	2.3	2.4	2.0	2.2	2.3	2.8	3.2	2.7
Poland	8.3	8.1	8.0	8.2	8.3	8.5	8.2	8.2	8.0
Slovak Republic	.	1.1	1.2	1.1	1.2	1.1	1.3	1.4	1.3
Slovenia	.	7.8	5.2	5.3	5.0	4.9	5.2	7.9	7.2
Bulgaria	.	.	.	.	2.9	2.1	1.9	2.1	1.7
Romania	12.6	13.5	13.8	14.6	14.9	10.9	10.9	10.2	10.0
Croatia	.	.	.	.	.	6.6	6.3	6.3	7.3
Macedonia	.	.	3.6	6.5	6.4	7.2	5.6	4.6	4.3
Kosovo	.	.	.	.	.	23.5	29.9	30.1	21.0
NMS-10	7.5	6.1	5.9	5.9	5.8	5.9	5.7	5.8	5.5
EU-15	5.7	6.0	6.1	6.1	6.2	6.6	6.7	7.2	7.7
EU-25	5.9	6.0	6.1	6.1	6.2	6.5	6.6	7.0	7.5
<b>Female</b>									
Czech Republic	.	9.9	9.9	9.3	8.5	8.3	8.5	8.3	8.6
Hungary	5.6	5.5	5.5	5.2	5.2	5.1	6.2	6.3	5.8
Poland	13.6	13.2	13.6	13.4	12.7	13.4	13.2	14.0	14.3
Slovak Republic	.	3.8	3.2	3.1	3.5	2.7	3.8	4.2	4.1
Slovenia	.	.	7.2	7.8	7.4	7.5	7.5	11.0	11.1
Bulgaria	.	.	.	.	3.6	3.0	2.6	2.7	2.5
Romania	17.5	18.3	18.2	18.6	18.4	13.0	12.2	11.2	10.5
Croatia	.	.	.	.	.	10.5	11.2	11.2	13.4
Macedonia	.	7.0	5.7	8.3	8.0	10.4	7.1	6.4	6.1
Kosovo	.	.	.	.	.	30.7	31.3	30.5	25.8
NMS-10	12.2	10.8	10.8	10.7	10.2	10.4	10.6	11.0	10.9
EU-15	32.2	33.0	33.2	33.2	33.3	33.3	33.9	35.1	39.2
EU-25	29.8	29.3	29.6	29.5	29.6	29.7	30.3	31.4	36.5

Source: Eurostat, LFS-adjusted series; wiiw Database incorporating national statistics.

Table B14

**Employees with temporary contracts**  
**in selected new EU member states/candidates/potential candidates**  
in % of total employees, LFS

	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Total</b>									
Czech Republic	.	6.7	7.6	8.1	8.0	8.1	9.2	9.1	8.6
Hungary	6.6	6.5	6.2	7.1	7.5	7.3	7.5	6.8	7.0
Poland	4.8	4.7	4.6	5.8	11.7	15.4	19.4	22.7	25.7
Slovak Republic	.	4.2	3.9	4.8	4.9	4.9	4.9	5.5	5.0
Slovenia	.	.	10.5	13.7	13.0	14.3	13.7	17.8	17.4
Bulgaria	.	.	.	.	6.3	5.3	6.5	7.4	6.4
Romania	3.0	3.0	3.0	2.8	3.0	1.0	2.0	2.5	2.4
Croatia	.	.	.	.	.	10.9	11.3	12.2	12.4
Kosovo	.	.	.	.	.	.	.	65.1	46.7
NMS-10	5.4	5.5	5.6	6.5	9.2	11.1	13.0	14.5	15.7
EU-15	12.4	13.0	13.4	13.7	13.5	13.1	13.1	13.6	14.2
EU-25	11.7	11.8	12.2	12.6	12.9	12.9	13.0	13.7	14.4
<b>Male</b>									
Czech Republic	.	5.7	6.2	7.1	7.2	7.0	7.9	7.8	7.6
Hungary	7.0	7.1	6.5	7.7	8.1	7.9	8.3	7.5	7.6
Poland	5.6	5.3	5.2	6.5	12.4	16.4	20.8	23.7	26.5
Slovak Republic	.	4.0	4.1	5.1	5.1	5.2	5.3	6.0	5.1
Slovenia	.	.	9.9	12.7	12.1	12.6	12.6	16.7	15.7
Bulgaria	.	.	.	.	6.6	5.9	7.0	7.7	6.7
Romania	3.0	3.0	3.0	2.8	3.2	1.1	2.2	2.9	2.8
Croatia	.	.	.	.	.	11.3	11.8	12.1	12.4
Kosovo	.	.	.	.	.	.	.	64.4	44.6
NMS-10	6.1	5.8	5.9	6.9	9.6	11.6	13.6	15.0	16.2
EU-15	11.7	12.3	12.6	12.8	12.5	12.2	12.2	12.9	14.0
EU-25	11.1	11.3	11.6	12.0	12.1	12.1	12.4	13.2	14.2
<b>Female</b>									
Czech Republic	.	7.7	9.1	9.4	8.9	9.3	10.7	10.7	9.8
Hungary	6.1	5.8	5.8	6.5	6.8	6.6	6.7	6.1	6.4
Poland	4.0	4.0	3.9	4.9	10.9	14.4	17.8	21.5	24.7
Slovak Republic	.	4.4	3.6	4.5	4.7	4.5	4.6	5.1	4.9
Slovenia	.	.	11.2	14.8	14.0	16.1	14.9	19.1	19.3
Bulgaria	.	.	.	.	5.9	4.7	6.0	7.0	6.2
Romania	3.0	3.0	3.1	2.8	2.8	0.8	1.7	2.0	1.9
Croatia	.	.	.	.	.	10.4	10.7	12.4	12.3
Kosovo	.	.	.	.	.	.	.	67.4	53.4
NMS-10	4.6	5.2	5.4	6.2	8.9	10.6	12.3	13.9	15.1
EU-15	13.4	13.8	14.3	14.7	14.6	14.3	14.1	14.4	14.6
EU-25	12.4	12.5	12.9	13.4	13.7	13.8	13.8	14.3	14.6

Source: Eurostat, LFS-adjusted series; wiiw Database incorporating national statistics.

Table B15

**Self-employed in selected new EU member states/candidates/potential candidates**

in % of total employed, LFS

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Total</b>												
Czech Republic	.	10.5	11.9	12.1	12.3	13.6	14.4	15.0	15.1	16.0	19.1	18.8
Hungary	.	.	17.8	17.9	17.2	16.0	15.6	15.1	14.4	13.8	13.4	14.2
Poland	.	.	.	36.9	36.8	37.6	37.3	37.7	36.6	37.0	29.0	29.0
Slovak Republic	.	6.3	6.6	6.5	6.5	7.1	8.0	8.3	8.8	9.1	10.1	12.3
Slovenia	.	.	18.9	18.3	18.7	18.6	18.5	18.0	17.6	17.3	16.9	16.7
Bulgaria	.	.	.	.	.	.	.	.	.	.	.	.
Romania	36.5	38.1	36.3	37.2	40.2	41.2	44.7	46.2	46.1	44.6	46.8	46.8
Croatia	.	.	.	.	.	.	.	18.9	19.5	19.0	20.4	20.8
Macedonia	.	.	.	14.1	.	14.2	15.3	14.8	15.6	17.1	15.8	16.1
Serbia	.	.	.	.	.	.	.	.	.	.	.	22.5
Montenegro	.	.	.	.	.	.	.	.	.	.	.	16.7
Kosovo	.	.	.	.	.	.	.	.	.	27.2	23.8	25.6
<b>NMS-10</b>												
EU-15	16.2	16.2	16.1	15.9	15.7	15.5	15.1	14.9	14.7	14.6	14.8	14.9
EU-25			16.9	16.9	16.8	16.6	16.3	16.0	15.6	15.6	15.7	15.9
<b>Male</b>												
Czech Republic	.	.	.	.	.	17.2	18.2	18.8	19.0	20.2	24.0	24.0
Hungary	.	.	.	.	.	19.5	19.3	18.8	17.8	17.0	16.9	17.6
Poland	.	.	.	.	.	40.1	40.1	40.6	39.1	39.9	31.6	31.4
Slovak Republic	.	.	.	.	.	4.1	4.6	4.8	5.1	5.0	6.1	7.2
Slovenia	.	.	.	.	.	.	.	.	20.3	20.1	20.0	19.0
Bulgaria	.	.	.	.	.	.	.	.	.	.	.	.
Romania	.	.	.	.	36.3	38.1	42.1	44.4	44.5	43.3	46.2	47.3
Croatia	.	.	.	.	.	.	.	23.2	24.5	23.3	23.5	23.0
Serbia	.	.	.	.	.	.	.	.	.	.	.	29.0
Macedonia	.	.	.	18.0	.	17.9	20.9	19.1	20.4	22.1	21.2	21.4
Montenegro	.	.	.	.	.	.	.	.	.	.	.	20.0
Kosovo	.	.	.	.	.	.	.	.	.	31.0	27.5	28.7
<b>NMS-10</b>												
EU-15	18.6	18.7	18.7	18.7	18.5	18.3	18.0	17.8	17.6	17.7	17.9	18.1
EU-25			19.6	19.5	19.4	19.3	19.1	18.9	18.5	18.6	18.9	19.1
<b>Female</b>												
Czech Republic	.	.	.	.	.	9.1	9.5	10.1	10.1	10.6	12.7	12.2
Hungary	.	.	.	.	.	11.6	11.2	10.5	10.2	10.0	9.2	10.1
Poland	.	.	.	.	.	34.4	33.9	34.1	33.6	33.4	25.8	26.1
Slovak Republic	.	.	.	.	.	9.5	10.8	11.3	11.9	12.6	13.5	16.5
Slovenia	.	.	.	.	.	.	.	.	14.4	13.8	13.3	14.0
Bulgaria	.	.	.	.	.	.	.	.	.	.	.	.
Romania	.	.	.	.	44.6	44.8	47.6	48.2	47.9	46.2	47.7	46.3
Croatia	.	.	.	.	.	.	.	13.8	13.1	13.6	16.6	18.2
Macedonia	.	.	.	7.6	.	7.9	6.1	7.7	8.5	9.3	7.8	7.5
Serbia	.	.	.	.	.	.	.	.	.	.	.	13.3
Montenegro	.	.	.	.	.	.	.	.	.	.	.	11.8
Kosovo	.	.	.	.	.	.	.	.	.	10.8	5.8	11.9
<b>NMS-10</b>												
EU-15	12.7	12.6	12.4	12.1	11.9	11.7	11.3	11.0	10.8	10.6	10.7	10.8
EU-25			13.0	13.3	13.1	13.0	12.5	12.2	11.9	11.7	11.7	11.8

Source: Eurostat, LFS-adjusted series; wiiw Database incorporating national statistics.

Table B16

**Activity rates in selected new EU member states/candidates, by educational attainment<sup>1)</sup>**

labour force in % of working-age population 15-64, LFS, 2nd quarter

		1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	Highly educated	89.9	89.3	87.7	89.0	87.9	87.5	87.3	86.8
	Medium-educated	79.2	79.0	78.9	78.4	78.0	77.8	77.1	77.4
	Low-educated	37.1	37.2	36.6	35.5	32.6	31.1	31.0	29.3
Hungary	Highly educated	82.2	82.6	83.2	83.4	83.3	83.6	84.1	84.8
	Medium-educated	70.4	69.2	71.4	70.5	70.2	70.5	69.5	69.7
	Low-educated	33.0	32.0	32.9	32.6	32.3	32.5	31.6	32.8
Poland	Highly educated	89.5	89.3	88.6	87.9	88.2	87.7	87.0	87.0
	Medium-educated	75.4	75.6	75.1	74.6	73.4	71.7	70.6	69.9
	Low-educated	38.5	37.2	36.8	36.9	34.9	33.1	32.8	32.7
Slovak Republic	Highly educated	92.5	91.1	89.5	90.5	89.4	90.5	87.3	88.0
	Medium-educated	79.8	79.4	79.9	80.2	79.1	79.2	78.5	77.8
	Low-educated	32.6	30.9	29.4	29.9	28.8	28.5	51.8	27.9
Slovenia	Highly educated	85.9	87.5	87.7	87.9	88.7	88.5	89.1	89.2
	Medium-educated	76.8	76.1	74.6	73.6	74.3	72.0	74.2	75.2
	Low-educated	48.1	43.9	44.4	46.8	46.6	43.0	46.6	44.7
Bulgaria	Highly educated	.	.	83.0	82.5	82.5	82.9	83.5	84.4
	Medium-educated	.	.	70.4	71.8	71.1	71.6	71.3	72.0
	Low-educated	.	.	41.0	40.8	39.6	36.9	37.0	37.1
Romania	Highly educated	90.1	89.0	87.5	86.3	85.5	84.4	87.5	88.1
	Medium-educated	76.1	75.9	75.4	74.3	71.4	70.9	70.9	71.6
	Low-educated	57.2	56.6	56.6	54.4	47.4	47.1	43.9	43.6

Notes: 1) Highly educated: persons having completed tertiary education (ISCED 5-6); medium-educated: persons having completed upper secondary education or training (ISCED 3-4); low-educated: persons with lower secondary education or below (ISCED 0-2).

Source: Eurostat.

Table B17

**Employment rates in selected new EU member states/candidates,  
by educational attainment<sup>1)</sup>**

employed in % of working-age population 15-64, LFS, 2nd quarter

		1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	Highly educated	88.0	86.5	85.1	86.7	86.3	85.7	85.3	85.0
	Medium-educated	75.1	72.9	72.7	72.8	73.1	72.4	71.2	72.0
	Low-educated	31.4	29.3	28.3	27.8	26.0	24.3	22.8	21.3
Hungary	Highly educated	80.5	81.6	82.0	82.4	81.8	82.4	82.2	82.6
	Medium-educated	64.4	64.5	66.7	66.9	66.7	66.6	65.5	64.9
	Low-educated	27.9	27.5	29.1	29.0	28.6	28.4	27.7	28.1
Poland	Highly educated	87.5	86.3	83.8	83.0	82.3	81.4	80.7	81.1
	Medium-educated	67.6	65.9	62.2	60.1	57.7	56.7	56.1	56.4
	Low-educated	32.8	30.3	28.2	27.4	25.0	23.9	23.2	22.9
Slovak Republic	Highly educated	89.7	87.4	84.9	85.8	85.8	86.6	82.2	83.4
	Medium-educated	71.1	67.4	65.2	65.1	65.0	66.7	66.1	66.6
	Low-educated	23.2	20.4	17.5	17.2	15.5	15.1	14.0	13.1
Slovenia	Highly educated	83.4	84.8	85.8	85.9	86.5	85.2	86.4	86.5
	Medium-educated	70.8	70.3	69.5	69.6	69.8	67.5	69.3	70.7
	Low-educated	43.1	39.1	39.4	42.3	42.2	38.2	42.0	40.7
Bulgaria	Highly educated	.	.	77.4	75.2	75.7	77.3	78.7	80.9
	Medium-educated	.	.	59.3	57.9	58.5	62.6	63.2	65.5
	Low-educated	.	.	30.4	27.0	27.5	27.4	28.5	29.8
Romania	Highly educated	87.7	86.6	84.4	83.1	82.0	81.5	84.2	85.2
	Medium-educated	70.2	69.5	68.2	67.8	64.3	65.1	64.6	65.7
	Low-educated	54.9	53.8	53.6	51.4	43.8	43.8	39.7	40.2

*Notes:* 1) Highly educated: persons having completed tertiary education (ISCED 5-6); medium-educated: persons having completed upper secondary education or training (ISCED 3-4); low-educated: persons with lower secondary education or below (ISCED 0-2).

*Source:* Eurostat.



Table B18

**Unemployment rates in selected new EU member states/candidates,  
by educational attainment<sup>1)</sup>**

unemployed in % of labour force 15-64, LFS, 2nd quarter

		1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	Highly educated	2.1	3.1	3.0	2.5	1.8	2.1	2.3	2.1
	Medium-educated	5.1	7.8	7.9	7.1	6.3	6.9	7.6	7.1
	Low-educated	15.2	21.2	22.8	21.8	20.3	22.1	26.4	27.2
Hungary	Highly educated	2.1	1.3	1.5	1.2	1.7	1.4	2.3	2.5
	Medium-educated	8.4	6.8	6.5	5.1	5.0	5.5	5.8	6.9
	Low-educated	15.5	14.0	11.7	11.0	11.3	12.6	12.5	14.3
Poland	Highly educated	2.2	3.3	5.5	5.6	6.6	7.1	7.3	6.8
	Medium-educated	10.4	12.9	17.1	19.5	21.3	20.9	20.5	19.4
	Low-educated	14.7	18.5	23.4	25.8	28.3	28.0	29.4	30.1
Slovak Republic	Highly educated	3.0	4.1	5.1	5.2	3.9	4.4	5.9	5.2
	Medium-educated	10.9	15.1	18.3	18.8	17.8	15.8	16.7	14.4
	Low-educated	28.7	34.1	40.4	42.5	46.1	47.0	51.3	53.1
Slovenia	Highly educated	2.9	3.1	2.2	2.2	2.5	3.8	3.0	3.0
	Medium-educated	7.9	7.6	6.9	5.4	6.1	6.2	6.6	6.0
	Low-educated	10.3	11.0	11.3	9.6	9.4	11.1	9.9	9.0
Bulgaria	Highly educated	.	.	6.7	8.8	8.2	6.8	5.7	4.2
	Medium-educated	.	.	15.9	19.3	17.7	12.6	11.2	9.1
	Low-educated	.	.	25.8	33.9	30.6	25.8	22.8	19.8
Romania	Highly educated	2.7	2.7	3.5	3.8	4.0	3.4	3.8	3.3
	Medium-educated	7.8	8.4	9.5	8.7	10.0	8.2	8.9	8.3
	Low-educated	4.2	4.9	5.4	5.6	7.6	7.1	9.7	7.8

*Notes:* 1) Highly educated: persons having completed tertiary education (ISCED 5-6); medium-educated: persons having completed upper secondary education or training (ISCED 3-4); low-educated: persons with lower secondary education or below (ISCED 0-2).

*Source:* Eurostat.

Table B19

**Employment in selected new EU member states/candidates,  
by educational attainment, 1998 = 100<sup>1)</sup>**

Employed 15-64, LFS, 2nd quarter

		1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	Highly educated	100.0	104.3	108.3	112.7	115.0	115.3	121.7	129.4
	Medium-educated	100.0	97.4	95.9	95.6	98.0	98.0	97.6	98.8
	Low-educated	100.0	90.3	90.4	90.3	78.5	71.7	65.1	59.7
Hungary	Highly educated	100.0	112.9	110.0	112.4	114.2	124.8	137.5	140.3
	Medium-educated	100.0	107.4	104.9	106.6	107.6	109.1	106.4	105.4
	Low-educated	100.0	83.6	97.5	98.5	94.4	87.6	82.5	82.7
Poland	Highly educated	100.0	104.9	105.4	109.4	114.2	129.0	145.5	155.1
	Medium-educated	100.0	97.7	96.7	94.2	91.4	88.9	88.6	89.1
	Low-educated	100.0	91.5	80.0	77.7	70.1	64.0	57.9	55.8
Slovak Republic	Highly educated	100.0	94.0	97.5	102.6	104.8	115.2	123.6	136.0
	Medium-educated	100.0	98.9	97.6	99.1	99.4	101.1	100.3	100.5
	Low-educated	100.0	82.0	67.8	63.9	57.3	55.5	51.9	48.9
Slovenia	Highly educated	100.0	108.2	113.2	102.0	107.4	127.8	141.3	148.9
	Medium-educated	100.0	99.2	100.5	104.7	107.1	102.0	105.0	105.3
	Low-educated	100.0	88.1	86.5	91.3	85.4	73.6	76.7	73.5
Bulgaria	Highly educated	.	.	100.0	111.3	110.1	111.0	115.8	116.2
	Medium-educated	.	.	100.0	96.4	98.2	101.3	102.2	107.3
	Low-educated	.	.	100.0	79.0	81.8	82.3	84.5	86.5
Romania	Highly educated	100.0	99.9	102.4	109.6	108.8	104.2	118.2	122.5
	Medium-educated	100.0	98.0	96.7	97.2	92.3	89.3	90.1	92.4
	Low-educated	100.0	99.4	97.6	91.4	78.1	78.8	68.3	68.5

*Notes:* 1) Highly educated: persons having completed tertiary education (ISCED 5-6); medium-educated: persons having completed upper secondary education or training (ISCED 3-4); low-educated: persons with lower secondary education or below (ISCED 0-2).

*Source:* Eurostat.

Table B20

**Working-age population in selected new EU member states/candidates  
by educational attainment, 1998 = 100 <sup>1)</sup>**

Population 15-64, LFS, 2nd quarter

		1998	1999	2000	2001	2002	2003	2004	2005
Czech Republic	Highly educated	100.0	106.1	112.1	114.4	117.3	118.5	125.6	134.0
	Medium-educated	100.0	100.5	99.2	98.6	100.8	101.7	103.0	103.2
	Low-educated	100.0	96.7	100.5	102.1	95.0	92.8	89.7	88.1
Hungary	Highly educated	100.0	111.4	108.0	109.8	112.3	121.8	134.6	136.7
	Medium-educated	100.0	107.2	101.3	102.7	103.9	105.6	104.7	104.6
	Low-educated	100.0	84.8	93.6	94.8	92.1	86.1	83.2	82.1
Poland	Highly educated	100.0	106.3	110.1	115.4	121.4	138.7	157.9	167.5
	Medium-educated	100.0	100.2	105.0	106.0	107.0	106.0	106.8	106.8
	Low-educated	100.0	99.1	93.3	93.3	92.0	88.1	82.1	80.1
Slovak Republic	Highly educated	100.0	96.5	102.9	107.3	109.5	119.3	134.9	146.2
	Medium-educated	100.0	104.3	106.4	108.3	108.6	107.9	107.9	107.3
	Low-educated	100.0	93.6	89.9	86.5	85.8	85.2	86.4	86.7
Slovenia	Highly educated	100.0	106.4	110.1	99.1	103.6	125.2	136.5	143.6
	Medium-educated	100.0	99.9	102.3	106.3	108.6	107.0	107.2	105.5
	Low-educated	100.0	97.2	94.7	93.1	87.3	83.1	78.9	78.0
Bulgaria	Highly educated	.	.	100.0	114.6	112.5	111.1	113.8	111.1
	Medium-educated	.	.	100.0	98.7	99.4	95.9	95.8	97.1
	Low-educated	.	.	100.0	89.0	90.5	91.3	90.0	88.4
Romania	Highly educated	100.0	101.1	106.3	115.7	116.3	112.1	123.1	126.0
	Medium-educated	100.0	98.9	99.5	100.6	100.8	96.2	97.9	98.7
	Low-educated	100.0	101.4	99.9	97.5	97.8	98.7	94.5	93.5

*Notes:* 1) Highly educated: persons having completed tertiary education (ISCED 5-6); medium-educated: persons having completed upper secondary education or training (ISCED 3-4); low-educated: persons with lower secondary education or below (ISCED 0-2).

*Source:* Eurostat.

## **Appendix C**

Classification of NACE groups

Table C1

### Classification of NACE groups – description – 2-digit level

NACE-group	NACE 1-digit	NACE 2-digit	Description
<b>1 Primary sector</b>	<b>A-B</b>		
	A		Agriculture, hunting and forestry
	A	01	Agriculture, hunting and related service activities
	A	02	Forestry, logging and related service activities
	B	05	Fishing
<b>2 Secondary sector</b>	<b>C-F</b>		
	C	10-14	Mining and quarrying
	D	15-37	Manufacturing
	E	40-41	Electricity, gas and water supply
	F	45	Construction
2a Secondary high-skill sectors			
	C	11	Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying
	D	30	Manufacture of office machinery and computers
	D	23	Manufacture of coke, refined petroleum products and nuclear fuel
	D	32	Manufacture of radio, television and communication equipment and apparatus
	D	24	Manufacture of chemicals and chemical products
	C	13	Mining of metal ores
	E	40	Electricity, gas, steam and hot water supply
	D	33	Manufacture of medical, precision and optical instruments, watches and clocks
	E	41	Collection, purification and distribution of water
	D	35	Manufacture of other transport equipment
	D	22	Publishing, printing and reproduction of recorded media
	D	31	Manufacture of electrical machinery and apparatus n.e.c.
	D	29	Manufacture of machinery and equipment n.e.c.
	D	16	Manufacture of tobacco products
	D	34	Manufacture of motor vehicles, trailers and semi-trailers
2b Secondary medium-skill sectors			
	C	10	Mining of coal and lignite; extraction of peat
	D	27	Manufacture of basic metals
	D	21	Manufacture of pulp, paper and paper products
	D	25	Manufacture of rubber and plastic products
	D	15	Manufacture of food products and beverages
	F	45	Construction
	D	28	Manufacture of fabricated metal products, except machinery and equipment
2c Secondary low-skill sectors			
	C	14	Other mining and quarrying
	D	26	Manufacture of other non-metallic mineral products
	D	36	Manufacture of furniture; manufacturing n.e.c.
	D	37	Recycling
	D	20	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
	D	17	Manufacture of textiles
	D	18	Manufacture of wearing apparel; dressing and dyeing of fur
	D	19	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
	C	12	Mining of uranium and thorium ores

(Table C1 contd.)

Table C1 (contd.)

NACE-group	NACE 1-digit	NACE 2-digit	Description
<b>3 Market services</b>	<b>G-K</b>		
3b Low-skill sectors in market services	G-I		
	G		Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods
	G	50	Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
	G	51	Wholesale trade and commission trade, except of motor vehicles and motorcycles
	G	52	Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
	H		Hotels and restaurants
	H	55	Hotels and restaurants
	I		Transport, storage and communication
	I	60	Land transport; transport via pipelines
	I	61	Water transport
	I	62	Air transport
	I	63	Supporting and auxiliary transport activities; activities of travel agencies
	I	64	Post and telecommunications
3a High-skill sectors in market services	J-K		
	J		Financial intermediation
	J	65	Financial intermediation, except insurance and pension funding
	J	66	Insurance and pension funding, except compulsory social security
	J	67	Activities auxiliary to financial intermediation
	K		Real estate, renting and business activities
	K	70	Real estate activities
	K	71	Renting of machinery and equipment without operator and of personal and household goods
	K	72	Computer and related activities
	K	73	Research and development
	K	74	Other business activities
<b>4 Communal services</b>	<b>L-Q</b>		
4a Public administration	L	75	Public administration and defence; compulsory social security
4b Education	M	80	Education
4c Health	N	85	Health and social work
	O		Other community, social and personal service activities
	O	90	Sewage and refuse disposal, sanitation and similar activities
	O	91	Activities of membership organizations n.e.c.
	O	92	Recreational, cultural and sporting activities
	O	93	Other service activities
	P		Activities of households
	P	95	Activities of households as employers of domestic staff
	P	96	Undifferentiated goods producing activities of private households for own use
	P	97	Undifferentiated services producing activities of private households for own use
	Q		Extra-territorial organizations and bodies
	Q	99	Extra-territorial organizations and bodies



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