

Quality and flexibility of human resources in the Czech regions

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Abstract:

The study consists of three parts. The first part deals with educational characteristics of human resources in regions of the Czech Republic, particularly their educational structure, educational mobility, the number of students in tertiary education and the rate of participation of adults in non-formal continuing education. The second part examines employment in technology-intensive manufacturing industries, in knowledge-intensive services and in the ICT sector. It focuses on the proportion of skills-intensive professions in total employment in regions. The final part concerns the differences in the level of entrepreneurship in various regions. Indicators as assessed that characterise the proportion of entrepreneurs in total employment, their proportion in the employment in selected sectors of the regional economy, and their educational structure. The flexibility of employment is analysed based on indicators of part-time work. The dependence between the rate of unemployment in the given region and the proportion of part-time work is also examined in this context. Moreover, indicators are used that illustrate the proportion of people in selected industries and professional categories who perform a second job.

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1. INTRODUCTION

The quality of human resources is an important factor in the potential development and competitiveness of the individual Czech regions. Decisive factors which influence the quality of human resources include above all educational and job opportunities in the given region. An equally important role is played by regional policies in the public sector, in particular education and support of entrepreneurship. Another factor influencing the quality and flexibility of human resources, in particular in the area of employment, is the influence of government, specifically the activities of regional government offices. This section will thus look at regional differences in education and employment. The regions studied are the administrative regions of the Czech Republic.

2. EDUCATIONAL CHARACTERISTICS OF HUMAN RESOURCES IN THE REGIONS

This section focuses on the basic characteristics of the level of education of human resources in the regions, such as educational structure and educational mobility. Special attention has been paid to individuals in tertiary-level education, who represent the future potential of the workforce, as well as participation in continuing education, which indicates the extent to which adults are supplementing and innovating their qualifications.

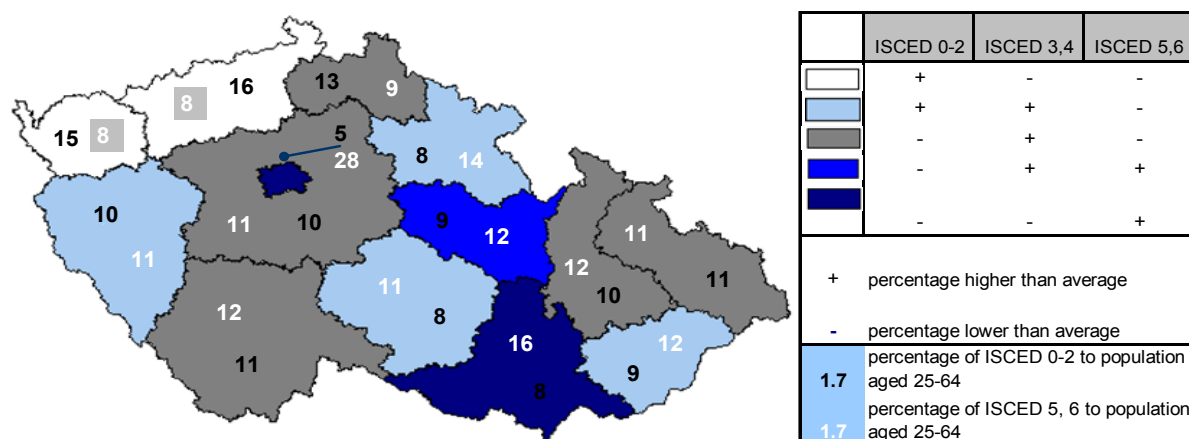
2.1 Educational structure

One of the fundamental indicators of the quality of human resources is the educational structure of the population, expressed by the number of people aged 25-64 who have achieved the various levels of education, as a share of the total number of people in this age group. The educational structure of economically active inhabitants in the individual regions testifies to the quality of human resources which each region has at its disposal. Since the proportion of unqualified activities continues to decrease, secondary school education and professional qualifications are becoming a minimum requirement for active participation in the employment market. Particularly important for the economic development of a region is the number of inhabitants with higher levels of education who are able to create and apply new knowledge and can participate in the development of knowledge-based economic sectors.

As can be seen in figure 1 and in more detail in table 1A in Annex, educational structure across the regions is relatively equal for people with secondary school education (ISCED 3), but regional differences are apparent in the share of people with primary or no education (ISCED 0-2) and those with tertiary education (ISCED 5,6).

As the country's university centre with a high concentration of national government offices and knowledge-intensive industry and services, Prague has a fundamentally different educational structure than the rest of the Czech Republic. In 2006 the proportion of the city's population which had only primary education or no education was less than 5%, while more than one fourth of people had tertiary education. Prague's educational structure is significantly tilted towards higher education, a trend influenced among other things by the large proportion of secondary school graduates with a "maturita" degree as compared to other regions. As a result, nearly three fourths of the overall population has a "maturita" and tertiary education.

Figure 1: Comparison of educational structure of regions (2006)



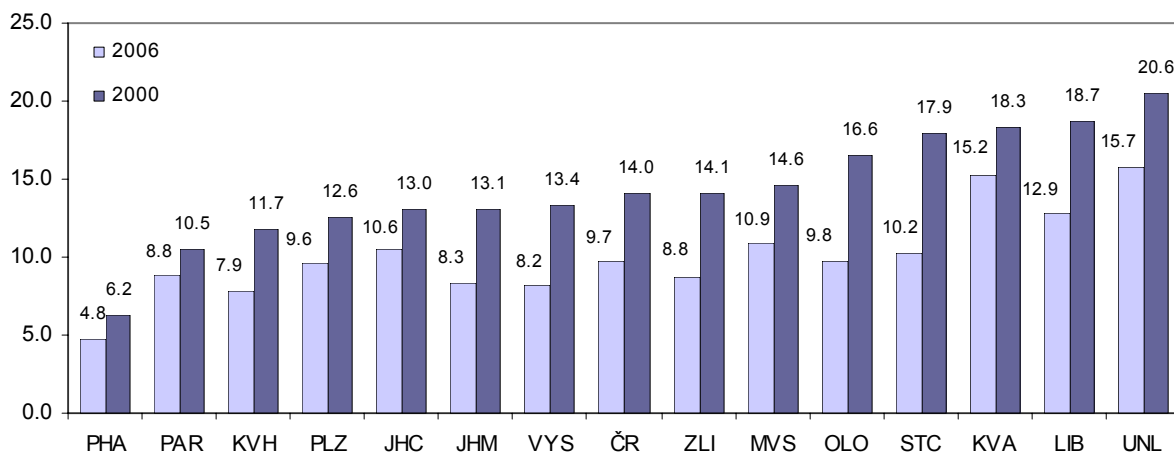
Source: ČSÚ (2006f), own calculations.

In second place in terms of people with tertiary education (16%) is South Moravia with the important university centre of Brno. Nevertheless people with “maturita” and tertiary education form only one half of the population. We should bear in mind, however, that Prague is a region unto its own; if we were to assess Prague together with the surrounding Central Bohemia, the picture would quite different.

On the other end of the spectrum, the regions with the least favourable educational structure are those in north-eastern Bohemia – the Ústí nad Labem, Karlovy Vary and Liberec regions. The Ústí nad Labem region has the country’s worst educational structure – it has the largest share of people with primary or no education (15.5%) and the smallest share of people with tertiary education (8.2%). Even this region, however, has exceeded the objective set for it by the EU as part of the Lisbon Strategy – at least 80% of the population aged 25-64 should attained at least upper secondary education. Although this part of the country (the Ústí and Liberec regions) has long been home to public institutions of higher education, these have so far not had a significant influence on increasing the number of people with tertiary education. The Karlovy Vary region offers a different story; here, only private higher education institution is only being gradually established, primarily offering bachelor-level education.

If we follow the development since 2000 (see figure 2), we see above all a decrease in the percentage of people with primary or no education. This trend is found both in regions with a small share of such people (Prague) as well as in regions of higher share of such people (e.g. Ústí nad Labem region) – in the latter, this trend is more dynamic. In several other regions, the period from 2000 to 2006 saw a truly dynamic decrease in the percentage of people with primary or no education; for instance by 7.7 percentage points in Central Bohemia and by 6.1 percentage points in the Olomouc region.

Figure 2: Population aged 25-64 with primary and no education (%)



Source: ČSÚ (2000, 2006f), own calculations.

The proportion of the population with upper secondary education remained relative stable in all regions, although there was a slight shift inside in this group in favour of education with a “maturita” degree (ISCED 3A).

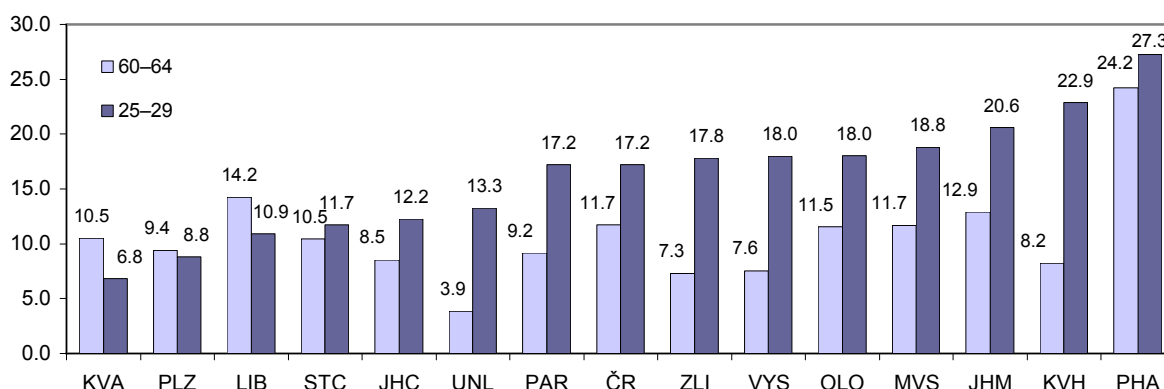
The greatest increase in the proportion of people with tertiary education was in the Hradec Králové region (4.2 percentage points) (see figure 3). In Central Bohemia (3.9 percentage points). In Central Bohemia, this is most likely the result of Prague’s expansion as a metropolitan agglomeration, but in the Hradec Králové region we can seriously consider the influence of local institutions of higher education, whose graduates can find employment in the region.

2.2 Educational mobility

The increase in the population's level of education is predetermined by rising educational mobility, as expressed by the fact that children achieve a higher level of education than their parents, or that younger age groups have a higher level of education than older age groups. The dynamics of inter-generation mobility are significantly influenced by the initial level of education, i.e. the share of people with tertiary education in the age groups which form the basis for comparison. It is important for the economy's competitiveness that age groups entering the labour market have a higher level of education than those leaving the labour market. For this reason, we have based the analysis of educational mobility on a comparison of the educational level of the population aged 25-29 and that aged 60-64. Educational level is expressed by the percentage of people with tertiary education in the relevant age group.

As can be seen in figure 3, according to the data from 2006 most Czech regions are witnessing positive educational mobility (for more detail, see table 2A in Annex). Exceptions to this trend are the Karlovy Vary, Liberec and Plzeň regions, which also have the country's lowest percentage of their population aged 25-29 with tertiary education. By far the worst situation is in the Karlovy Vary region, where less than 7% of the population in this age group has tertiary education; in fact, the number of people aged 25-29 with tertiary education is 3.7 percentage points lower than those aged 60-64. The declining percentage of qualified workers in these regions lowers their ability to absorb investments into knowledge-intensive sectors. This has a negative impact on their competitiveness within the Czech Republic and of course with cross-border cooperation as well – two of these regions border Germany.

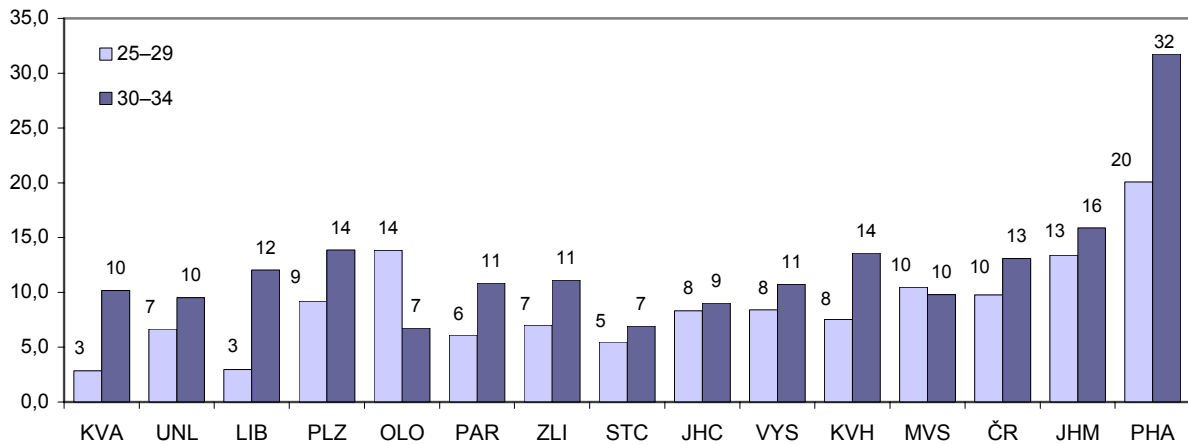
Figure 3: Population aged 25-29 and 60-64 with tertiary education (2006, %)



Source: ČSÚ (2006f), own calculations.

We find a different situation in the Ústí nad Labem region. Although it does have a below-average proportion of individuals aged 25-29 with tertiary education (13.3%), it can boast a high change in the share of people with tertiary education – 9.4 percentage points as compared to the 60-64 age group. This positive dynamic educational mobility is not the highest in the Czech Republic, however. This is found in the Hradec Králové region (14.7 percentage points), which of course has (after Prague) a high percentage of people aged 25-29 with tertiary education (22.9%). A similar educational mobility can be found in the Zlín region (10.5 percentage points) and in Vysočina region (10.4 percentage points), both of which have an above-average (compared to the rest of the country) share of people aged 25-29 with tertiary education. These regions thus have a strong potential of qualified people, which forms a prerequisite for future economic development. This is very significant for the Ústí region, which is quickly making up for past handicaps in its population's educational structure.

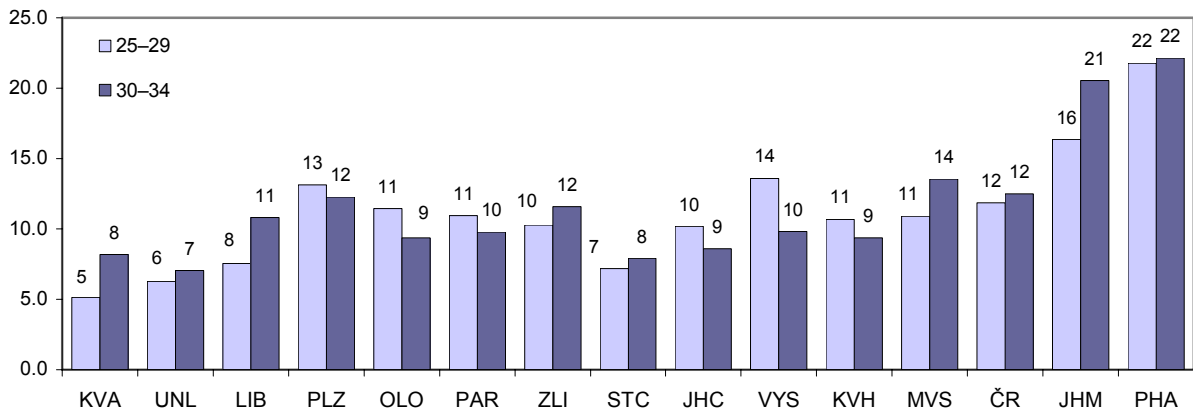
Figure 4: Population aged 25-29 and 30-34 with tertiary education (2000, %)



Source: ČSÚ (2000), own calculations.

Prague is again a unique case; in addition to an overall high level of education in all age groups, it also has the country's largest share of population aged 60-64 with tertiary education (24.2%). Although this positive initial situation does not allow for a very dynamic educational mobility, the number of young people with tertiary education is 3 percentage points higher than the 60-64 age group.

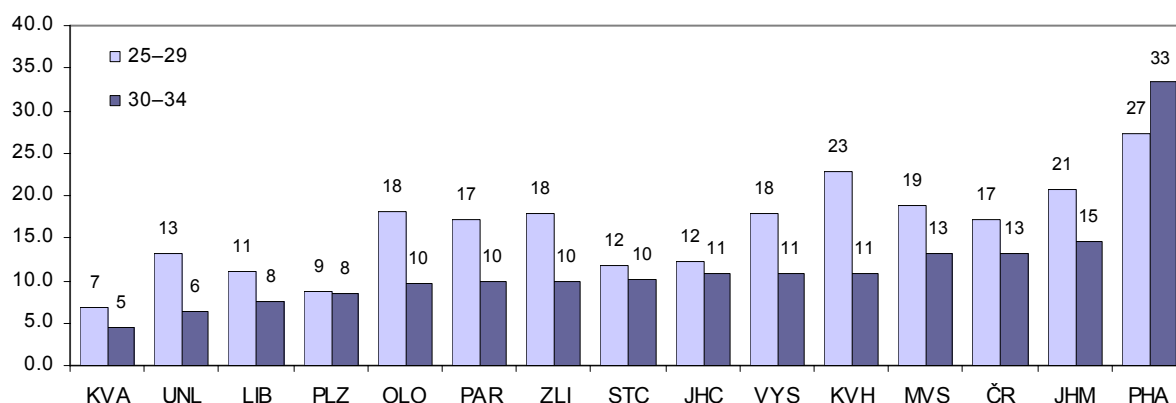
Figure 5: Population aged 25-29 and 30-34 with tertiary education (2003, %)



Source: ČSÚ (2003b), own calculations.

If we look at the development since 2000 (see figures 4, 5, 6), one factor that should be pointed out is that in the year 2000 in almost all regions the percentage of people aged 30-34 with tertiary education is higher than for the younger 25-29 age group which is the traditional age for completing tertiary education. This situation is most striking in Prague, where the change in the number of people with tertiary education in the 25-29 and 30-34 age groups was 11.7 percentage points. In 2003 this trend was reversed and in 2006 there were more people with tertiary education in the 25-29 age group than the 30-34 group in all regions except Prague. This may result from the fact that in the past students tended to finish tertiary education later because, as a result of limited capacity in the university system, they began their studies later or they were more likely to interrupt their studies to find work, to change their field of study etc. This situation is now normalising, in part because of the introduction of fees for studying beyond the standard period and the boom in shorter bachelor programmes, which young people finish at a younger age.

Figure 6: Population aged 25-29 and 30-34 with tertiary education (2006, %)



Source: ČSÚ (2006f), own calculations.

If we look at the development in the individual regions since 2000, we can identify one group of regions – Karlovy Vary, Liberec, Ústí nad Labem – where from 2000 to 2006 the percentage of people with tertiary education increases in the 25-29 group but decreases in the 30-34 group. In the Plzeň region from 2003 to 2006 we even see a decrease in the share of people with tertiary education in both age categories. This indicates that people with tertiary education are leaving these regions after finishing their studies and are apparently finding employment in the other regions. The same trend exists in the Ústí region, which otherwise shows very dynamic growth in the number of people aged 24-29 with tertiary education.

In contrast, we can identify another group of regions which in the year 2000 had a below-average percentage of people aged 25-29 with tertiary education, but which have shown dynamic growth since then. These are the Hradec Králové (15.3 percentage points), Pardubice (11 percentage points), Vysočina (9.5 percentage points) and Zlín regions (10.8 percentage points).

2.3 Students in tertiary education in the regions

In view of the fact that the further development of the regions will require high quality and widely accessible tertiary education, we will now analyse the data on students attending this level of education. The scope of these young professionals' preparation for qualified professional employment was analysed on the basis of the number of students at public higher education institutions¹ as compared to the age group in which students generally complete this education (20-29 years)². While the preceding text analysed data on the tertiary educated population, the data on students at public institutions of higher education institutions should help to shed a light on the regions' situation in the near future, i.e. the extent to which current students will influence the regions' future qualification structure and thus their economic development. For this reason, we have analysed not only data on the proportion of all students who are studying in the region without regard to their place of

¹ In 2005, the number of students at private institutions of higher education and at higher professional schools was a mere 16.4% of the total number of students in the tertiary sector. (Source: UIV, Statistical Yearbook of Education 2005/6 - Performance indicators, own calculations) In view of this fact, we ignored students at these schools because of the large number of schools and difficulty in identifying their location.

² The 20-29 age group, to which the number of students is compared, was chosen according to the usual age of graduation from higher education institutions. In the year 2005, 84% of all graduates from public institutions of higher education fell into the 20-29 age group. (Source: UIV, Statistical Yearbook of Education 2005/6 - Performance indicators, own calculations)

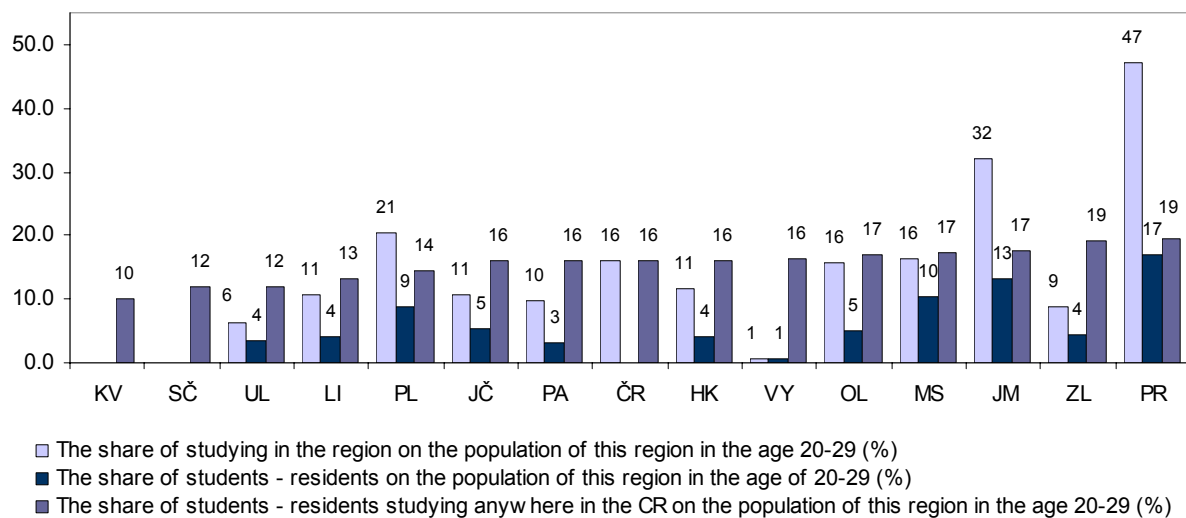
residency, but also data on the proportion of students who study in a region of their residency and students who study outside the region of their residency. (see figure 7 and table 3A in Annex).

The percentage of students in a given region clearly shows that two regions in the Czech Republic have no public higher education institutions. While Central Bohemia forms a kind of catchment area for Prague, in the Karlovy Vary region, this situation is a serious problem, since potential students must leave for other regions – which is more costly for them and they may not return back after completion of their studies. The situation in Vysočina region is not much better; because of the local university's limited capacity, the region has a small number of students. Other regions have a high proportion of students, i.e. students from other regions come to study here. This applies in particular to Prague, home to the country's largest university (Charles University) and South Moravia with the country's second largest university (Masaryk University), but also for the Plzeň region.

The regions also significantly differ in the share of students who study in their home region. The largest proportion of such students is again found in the regions with the largest universities (Prague and South Moravia), as well as in Moravia-Silesia.

Another picture is offered by **the share of young population studying anywhere**. Here, the individual regions do not differ as visibly, although again the largest proportion of students is in Prague and South Moravia, i.e. the country's university centres, and the lowest figures are for the Karlovy Vary region and Central Bohemia, which have no public higher education institutions.

Figure 7: Share of students in population aged 25-29 in the regions (2005)



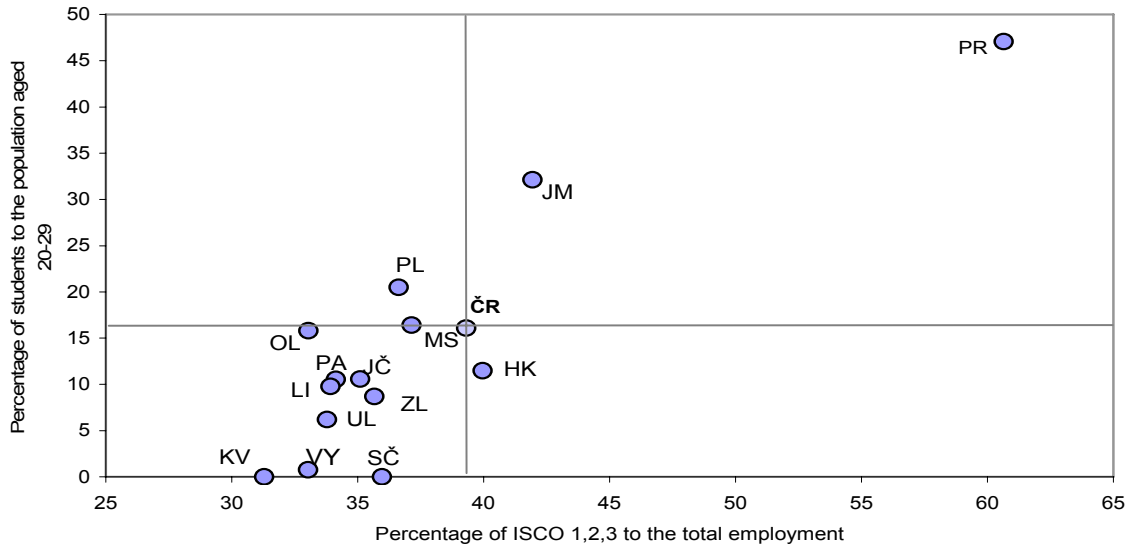
Note: Data counted for Czech citizens (Charles University and University of Economics – data by faculties)
Source: UIV (2006a); ČSÚ (2006a), own calculations.

The Zlín region is a region with the highest difference between the share of students – resident and the share of them studying in their residency region. It means that students from the Zlín region are the most likely to study in other regions.

One of the decisive factors for potential students is the availability of tertiary education in their city or region of residency, however more decisive, of course, is the interest to study. What is important is not only a school's accessibility but also the quality of studies. Regional higher education institutions, in particular those founded in the 1990s, frequently struggle

with a lack of highly qualified teachers. The educational quality of regional higher education institutions is only now beginning to gradually increase.

Figure 8: Number of students* (2005) and employment in highly qualified professions (2006)



Note: Correlation coefficient 0.870. * Percentage of students studying in the given region to the population aged 20-29 in the region. Source: UIV (2006a); ČSÚ (2006a); ČSÚ (2006f), own calculations.

The different share of students in the individual region indicates the regions do not have equal inner sources for the inflow of young professionals into qualified professions. Further analysis thus looked at the expected benefits of the future tertiary-educated labour force for the educational, professional and sector structure of employment in the individual regions.

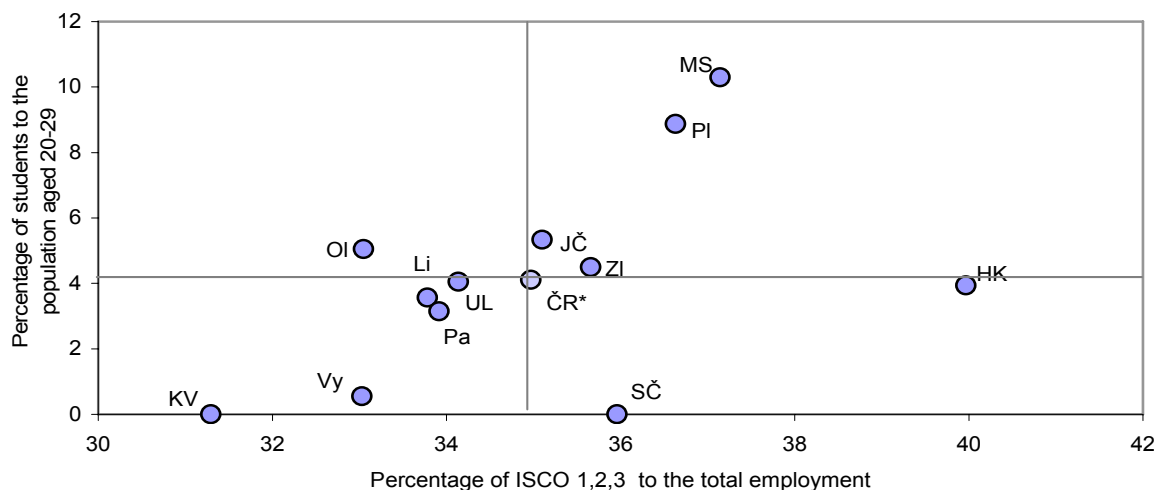
Differences in expected benefits among the individual regions can be derived from the relation between the number of students at public higher education institution in the regions and employment levels in highly qualified professions, as indicated in figures 8 and 9.

The closest correlation measured by the level of the correlation coefficient between the share of students and employment in highly qualified professions (ISCO 1,2,3) is found if we look at the share of students studying in a given region without regard to their place of residency (see figure 8), i.e., the higher share of students studying in a region, the higher share of highly qualified professions on the overall employment. A somewhat smaller correlation is found if we look at the share of students studying in their home region. The smallest, but still significant, correlation is found if we look at the share of students with residency in the region, but who are studying at various higher education institutions in the Czech Republic.

We can conclude from the above data that on average a region's qualification potential is most influenced by students studying in the region, without regard to their place of residency, since they seek employment in highly qualified professions mostly in the region in which they studied. This relates especially to the university centres of Prague and South Moravia (i.e., Brno), although the large percentage of highly qualified professions in these places is surely the result of other economic reasons as well.

Figure 8 illustrates the unequal distribution of regions in the individual quadrants. The upper left quadrant contains regions with a higher percentage of tertiary-level students than the Czech average but with a lower level of employment in highly qualified professions than the Czech average. In these regions – Plzeň, Moravia-Silesia and Olomouc – graduates are apparently leaving for other parts and are not contributing to the region’s qualification potential enhancing as much as they could. Most regions are located in the lower left quadrant; these have a below-average share of tertiary students and below-average employment in highly qualified professions. The Hradec Králové region is located in the lower right quadrant, with a below-average share of students but slightly above-average share of employees in highly qualified professions, i.e. with inflow of highly qualified people from other regions. The upper right quadrant includes South Moravia and Prague, which have both a high share of students as well as a high share of employment in highly qualified professions, i.e., the locally educated workforce offers the greatest contribution to economic development.

Figure 9: Number of students (2005) and employment in highly qualified professions (2006) in the Czech regions, excluding Prague and South Moravia**



Note: Correlation coefficient 0.483, * unweighted arithmetic mean, ** Percentage of students – residents in the given to the population of the region aged 20-29.
Sources: UIV (2006a); ČSÚ (2006a); ČSÚ (2006f), own calculations.

Prague as a capital of the Czech Republic has an specific position that strongly influenced the entire average. It is the reason, why in figure 9 the CR average do not includes Prague data. The figure illustrates the **share of students studying in the region of their residency** and the share of employment in highly qualified professions. The Olomouc and Ústí nad Labem regions are located in the upper left quadrant, i.e., the relatively high number of students does not cover qualified employment as much as it could. The lower left quadrant contains the Karlovy Vary and Vysočina regions, with no or a minimum share of students in the region, i.e., in these regions there is insufficient potential for the development of employment in qualified professions. Then there are the Pardubice and Liberec regions, which have a high number of students but not high enough to sufficiently cover qualified employment, which thus remains below average.

The lower right quadrant includes Central Bohemia, which has no students but has a higher share of qualified employees, which clearly is covered by students from Prague. Also in this quadrant is the Hradec Králové region, with an average share of students and high employment in highly qualified professions; the local students contribute highly to

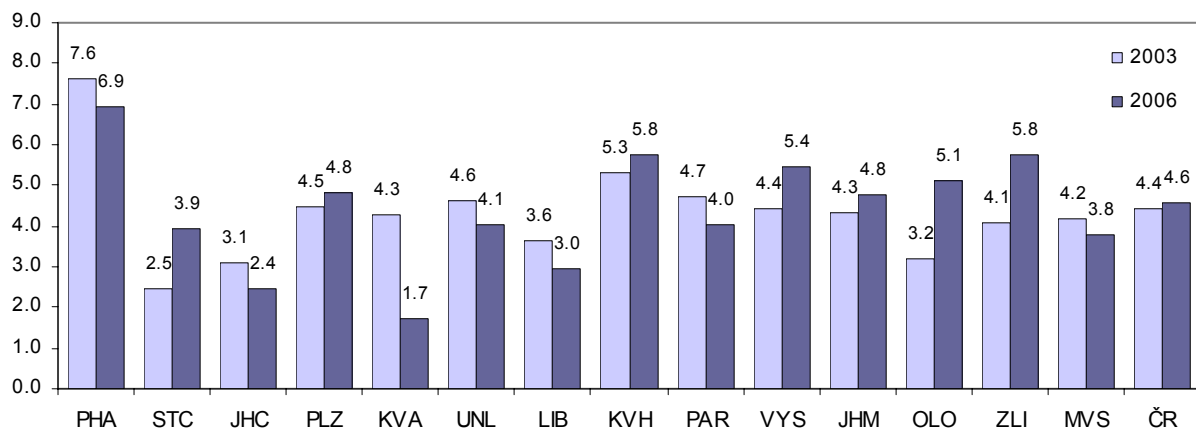
development. The upper right quadrant includes South Bohemia and the Zlín region, where students' potential can be called adequate for the level of qualified employment. Moravia-Silesia and the Plzeň region are making significant use of their students' potential for the development of qualified employment, although in view of their large share their contribution could be higher.

2.4 Participation in non-formal continuing education

Continuing education is education performed as an adult after having completed one's initial - formal education. The importance of continuing education increases with the increasing flow of innovations and technological changes and their use in all areas of working life. New job opportunities and new requirements for existing professions often call for changes in one's professional career and retraining. In order to retain one's employability, it is important to constantly learn even as an adult. In view of this fact, participation in continuing education offers an important insight into the competitiveness of human resources.

We will analyse adults' participation in non-formal education, i.e., in training courses which do not lead towards an official certificate or towards attaining a certain level of education but which are usually intended for improving one's chances on the labour market and which are led by an instructor from the field. Participation in non-formal education is expressed as the number of persons aged 25-64 participating in such courses in the past 4 weeks given as the percentage of all people in the given age group.

Figure 10: Participation of population aged 25-64 in non-formal education in the past 4 weeks (%)



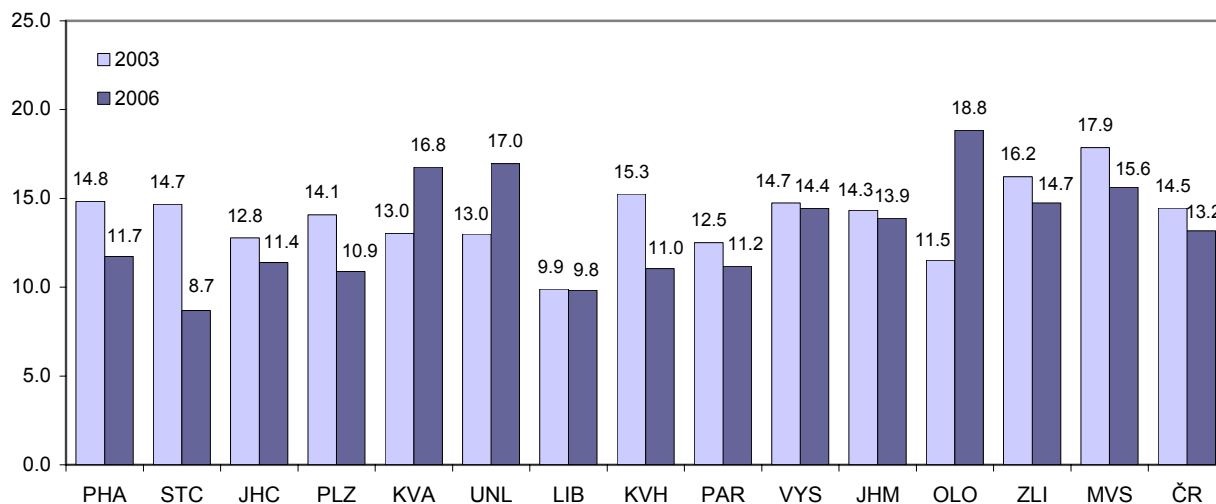
Source: ČSÚ (2003b, 2006f), own calculations.

As shown by figure 10, the rate of participation in continuing education differs from region to region. In 2006, the difference between the region with the highest rate of participation – Prague – and the region with the lowest participation – Karlovy Vary – was 5.2 percentage points. Regional differences result primarily from the structure of their economy, because participation in continuing education differs significantly by sector.

Prague shows the highest participation in 2006, among other reasons because there is located a large number of non-formal education courses. Prague was followed by the Hradec Králové and Zlín regions (5.8%). The Zlín and Olomouc regions in Moravia have experienced the greatest increase in participation in continuing education since 2003. Many other regions on the other hand, including Prague, have recorded a decline in participation, which is not a good sign. This is certainly influenced by the differences in regional supply of training courses, the

different approach of the most important regional employers, including foreign investors an additional role is played by regional government policy.

Figure 11: Average number of hours of non-formal education over the past 4 weeks (among persons who were studying)



Source: ČSÚ (2003b, 2006f), own calculations.

Regional differences in the average length of education are relatively large, around 10 hours. As shown by figure 11, another negative sign is the decrease since 2003 in the average number of hours spent on continuing education. This trend was recorded in most regions, with the greatest decrease – 6 hours – in Central Bohemia. One exception is the Olomouc region, which has experienced a marked increase not only in participation but also in average length – by 7.3 hours.

3. REGIONAL EMPLOYMENT IN KNOWLEDGE-INTENSIVE SECTORS

This chapter is focused on regional differences in employment in knowledge-intensive sectors of the economy, including ICT. It also looks at the proportion of highly qualified professions, i.e., managers, professionals and technicians, in the individual regions. The regions differ in the character and structure of their main business sectors and thus have different employment structures. Prague is again a specific case, with the tertiary sectors dominating; in all other regions, industry leads in the share of employment.

A region's potential for economic development is represented primarily by qualification-intensive and technology-intensive sectors, i.e., technology-intensive manufacturing industry and knowledge-intensive services. Employment in these sectors gives a basic idea of a region's economic development and, when viewed over time, can offer a picture of the region's movement towards a knowledge-based economy. To allow for more precise conclusions, this view is supplemented by an indicator of employment structure according to highly qualified professions. A higher number of such employees also reflects a more technology- and knowledge-intensive regional economy.

3.1 Employment in technology-intensive manufacturing industries

This sector includes moderately to highly technology-intensive industries (see box 1)

Box 1: High-tech manufacturing industry

OECD classifications divide the high-tech manufacturing industry at the level of the double-digit NACE³ into two main groups:

High-tech sectors of the manufacturing industry:

Manufacture of office machinery and computers (NACE 30)

Manufacture of radio, television and communication equipment and apparatus (NACE 32)

Manufacture of medical, precision and optical instruments, watches and clocks (NACE 33)

Medium high-tech sectors of the manufacturing industry:

Manufacture of chemicals and chemical products (NACE 24)

Manufacture of machinery and equipment not elsewhere classified (NACE 29)

Manufacture of electrical machinery and apparatus not elsewhere classified (NACE 31)

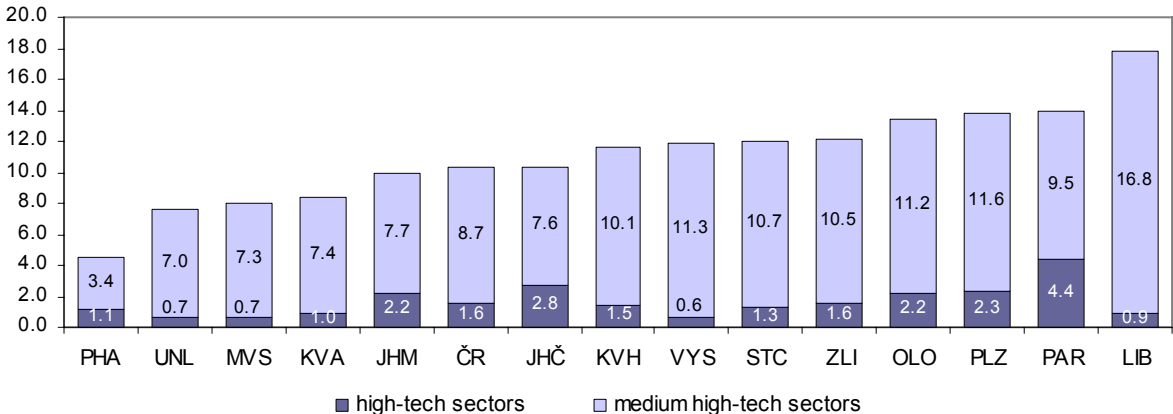
Manufacture of motor vehicles, trailers and semi-trailers (NACE 34)

Manufacture of other transport equipment (NACE 35)

A comparison of the values for the individual regions in figure 12 (see table 6A in Annex) indicates that in 2006 the highest level of employment in high-tech sectors of the manufacturing industry was in the Pardubice region (4.4%), primarily in the production of television sets, followed by South Bohemia (2.8%). While in these regions employment in these sectors increased since 2000, the Zlín region, which had the highest share of such jobs in 2000 (2.6%), experienced a decline. This development is influenced in particular by the inflow of foreign direct investments.

³ According to the OECD definition, a full listing of these sectors also includes NACE 24.4 – Manufacture of pharmaceuticals, medicinal chemicals and botanical products (pharmaceutical industry) and NACE 35.3 – Manufacture of aircraft and spacecraft. The methodology used for statistical analysis, however, allows us to gain comparable data for all EU member states only for double-digit NACE classes. For this reason, these two fields are not included in the analysis of high-tech sectors.

Figure 12: Employment in technology-intensive sectors of the manufacturing industry as percentage of overall employment (2006, in %)



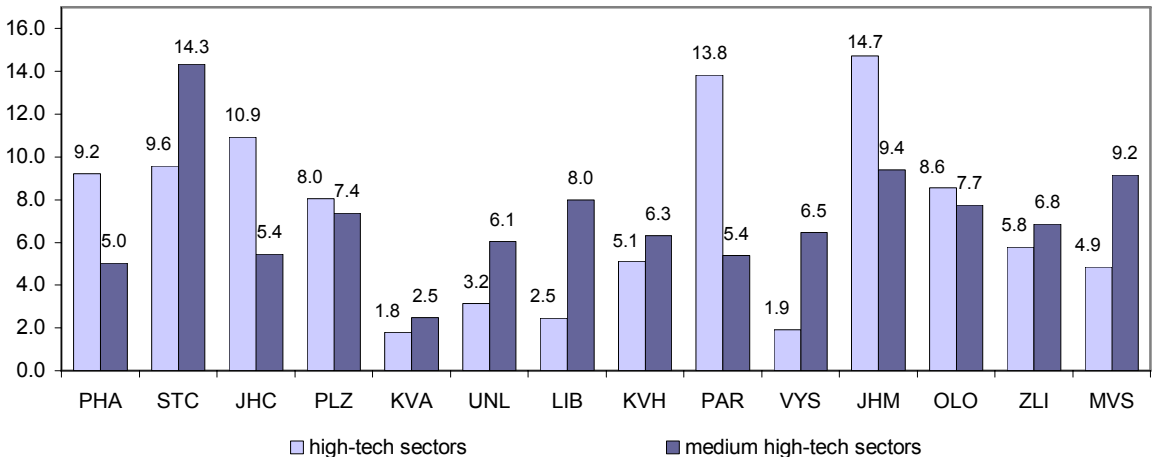
Source: ČSÚ (2006f), own calculations.

More common in the Czech Republic is employment in medium high-tech sectors of manufacturing industry; in 2006, the highest figures were for the Liberec region (16.8%) – an increase of more than 6 percentage points since 2000. The main production is of automobiles. Half of all Czech regions have more than 10% employment in the medium high-tech sectors of manufacturing industries; after the Liberec region, the greatest growth since 2000 was in the Plzeň and Zlín regions, which are oriented primarily on the automotive industry.

In all regions, employment in high-tech sectors is thus significantly lower than employment in medium high-tech sectors – five times lower on average across the country, with significant regional differences. While in the industrial Liberec region, the difference is more than sixteen-fold, the Pardubice region and less industrial South Bohemia are more balanced, with the difference less than three-fold.

Another view of employment in technology-intensive industry is offered by figure 13, which shows the degree to which employment in these sectors is concentrated in a region, regardless of its share of regional employment.

Figure 13: The share of individual regions in the employment in technology-intensive manufacturing industry in the Czech Republic (2006, in %)



Note: 100% = total employment in technology-intensive manufacturing industry in the Czech Republic.
Source: ČSÚ (2006f), own calculations.

Medium high-tech sectors of the manufacturing industry are concentrated primarily in Central Bohemia, South Moravia and Moravia-Silesia. High-tech sectors of the manufacturing industry employ the most people in South Moravia, South Bohemia and the Pardubice region. We can thus state that South Moravia has the country's greatest concentration of employment in these intensive sectors.

3.2 Employment in knowledge-intensive services

This sector includes technology-intensive services and knowledge-intensive services (market, financial and other knowledge-intensive services (see box 2)

Box 2: Knowledge-intensive service sectors

OECD classifications divide knowledge-intensive service sectors into four main parts:

High-tech services⁴:

Post and telecommunications – NACE 64,
Computer and related activities – NACE 72
Research and development - NACE 73

Market services:

Water transport - NACE 61,
Air transport – NACE 62,
Real estate activities – NACE 70,
Renting of machinery and equipment without operator and of personal and household goods – NACE 71
Other business activities – NACE 74

Financial services:

Financial intermediation, except insurance and pension funding – NACE 65,
Insurance and pension funding, except compulsory social security – NACE 66
Activities auxiliary to financial intermediation – NACE 67

Other knowledge-intensive services:

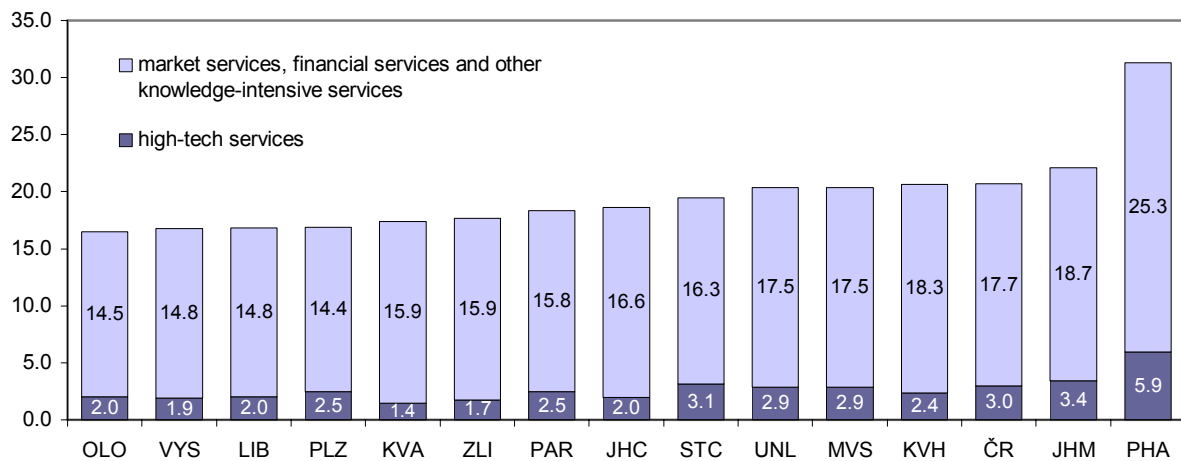
Education – NACE 80,
Health and social work – NACE 85
Recreational, cultural and sporting activities – NACE 92

As can be seen in figure 14 (for more detail, see table 6A in Annex), employment in knowledge-intensive services as a share of overall employment was greatest in Prague (more than 30%), where these services are naturally concentrated, followed by South Moravia with the centre of Brno (22%). Besides the two centres, employment in technology-intensive services, which is an important characteristic of a region's economic maturity, is also more significant in Central Bohemia, Moravia-Silesia and the Ústí nad Labem region.

While Central Bohemia represents an extension of the Prague agglomeration, the data from the other two regions, and in particular their development since 2000, shows that these previously problematic regions are moving towards a knowledge-based economy. Outside of Prague and South Moravia, other knowledge-intensive services, including market and financial services, are an important sector in the Hradec Králové region. Above-average employment in other knowledge-intensive services (education, healthcare and recreational and cultural activities) is found in South Bohemia as well.

⁴ High-tech services are marked by a high percentage of ICT professions, in particular NACE 64 and 72. Besides high-tech services, other important "ICT professions" include financial services, where the share of ICT specialists is three times higher than the economy's average.

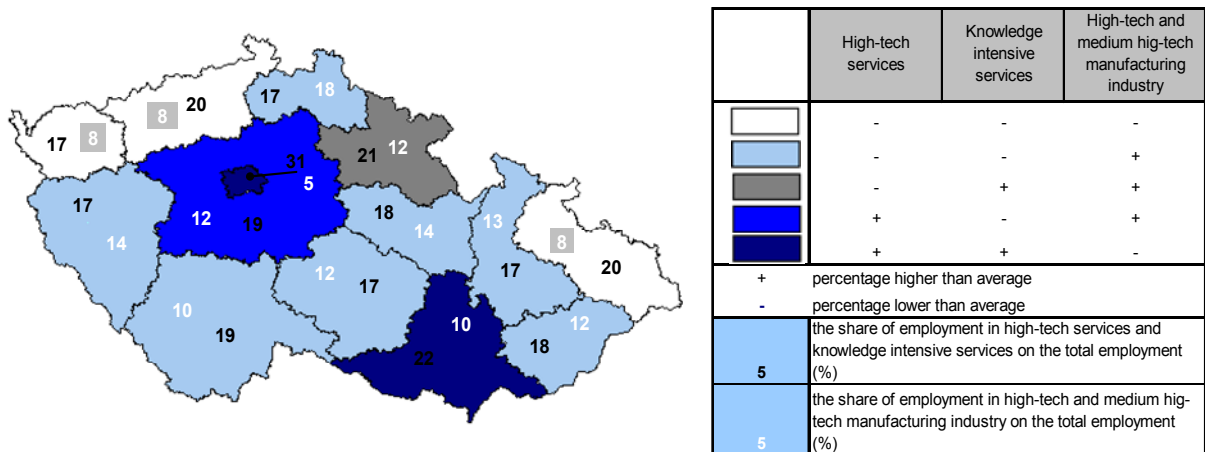
Figure 14: Employment in knowledge-intensive services (2006, in %)



Source: ČSÚ (2006f), own calculations

Figure 15 shows employment in technology- and knowledge-intensive sectors. The greatest level of employment was in Prague and the Liberec region. While Prague and South Moravia showed a high share of employment in technology- and knowledge-intensive services, in the Liberec region it is especially in industry. Other regions which are above the Czech average are Central Bohemia and the Hradec Králové and Pardubice regions. While in the Pardubice region it is also industry, the other two regions show above-average employment in knowledge-intensive industry and services. They can thus be described as the most developed Czech regions in terms of a knowledge-based economy. Since 2000, employment in these sectors has been rising in most regions, with a marked decline only in the Karlovy Vary region (from 30% to 26%).

Figure 15: Employment in technology and knowledge-intensive sectors as percentage of overall employment (2006, in %)



Source: ČSÚ (2006f), own calculations.

3.3 Employment in ICT sectors

Information and communication technologies (ICT) are recognised as one of the main sources of economic and social changes. The electronic collection, storage, transfer and display of data and information increases the pace of economic and social development. Taking advantage of the potential offered by ICT requires not only a sufficient number of

professionals working directly in this field, but also workers capable of working with this technology and using it in work and daily life.

In view of this fact, we have specifically analysed employment in ICT sectors which are primarily part of the technology-intensive manufacturing industry but also include other services (see box 3).

Box 3 – Division of the ICT sector according to ISIC Rev.3 (International Standard Industrial Classification)

The ICT sector includes a total of 11 subdivisions; all except one are defined on the basis of the four-digit NACE classification system:

Manufacturing industry:

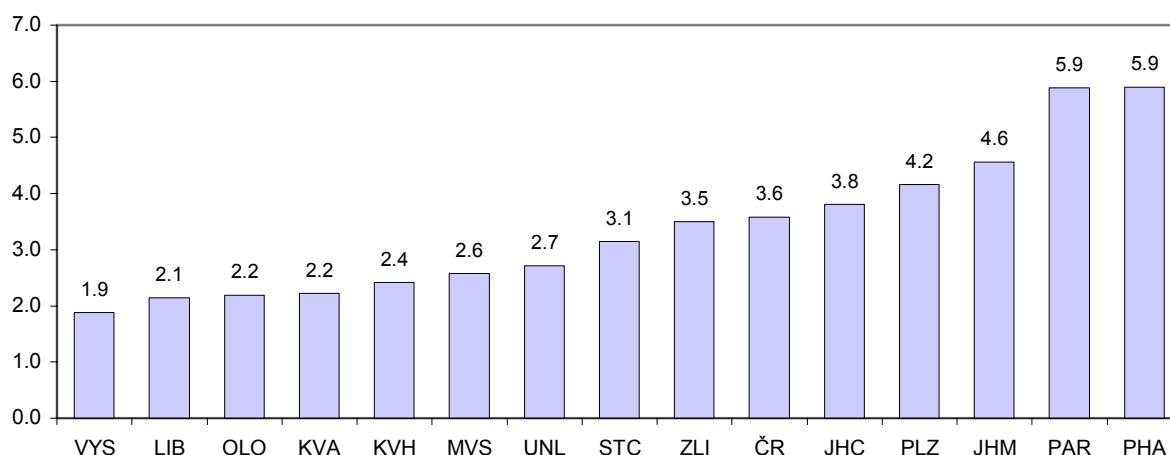
- 3000 – Manufacture of office machinery and computers
- 3130 – Manufacture of insulated wire and cable
- 3210 – Manufacture of electronic valves and tubes and other electronic components
- 3220 – Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy
- 3230 – Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods
- 3312 – Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment
- 3313 – Manufacture of industrial process control equipment

Services:

- 5150 – Wholesale of machinery, equipment and supplies
- 6420 – Telecommunications
- 7123 – Renting of office machinery and equipment (including computers)
- 72 – Computer and related activities

As shown by figure 16 (for more detail, see table 4A in Annex), ICT sectors in the Czech Republic are concentrated in Prague and the Pardubice region, where their share of employment is almost 6%. These sectors' share in employment is on the rise overall from 2.8% in 2000 to 3.6% in 2006, although development in the individual regions has not been stable. In fact, three regions have seen a decline since 2000, most notably from 4% to 3.5% in the Zlín region.

Figure 16: Share of ICT sectors in overall employment (2006, in %)



Source: ČSÚ (2006f), own calculations.

3.4 Highly qualified professions in the regional economy

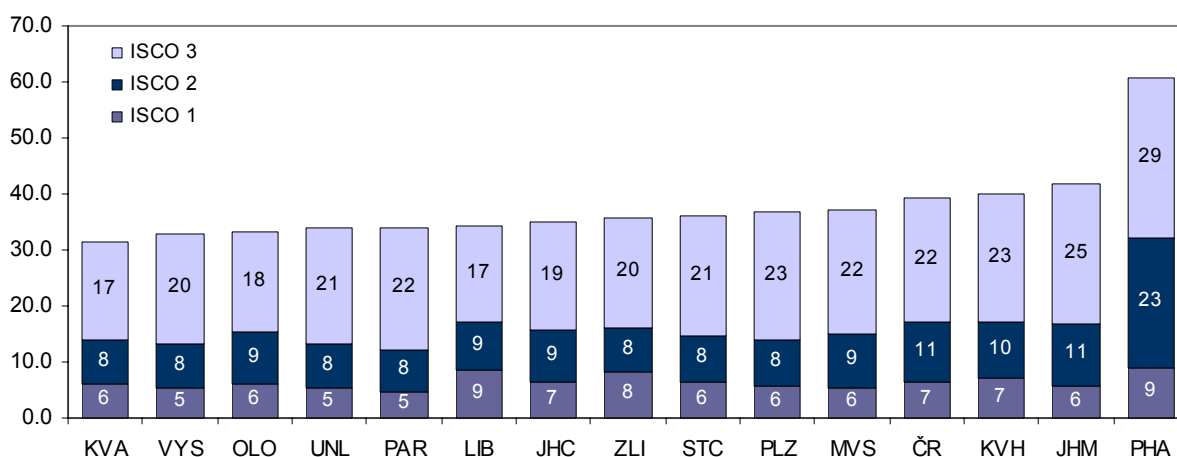
The picture of the regions' economic maturity is complemented by a comparison of the number of highly qualified professions in each region, i.e. managers (ISCO 1) and in particular scientific and professional employees (ISCO 2) and technicians (ISCO 3), whose work is focused on the development, application and use of modern technologies.

Box 2 - Employment classification ISCO 1,2,3

- 1 – Legislators, senior officials and managers
- 2 – Professionals
- 3 – Technicians and associate professionals

As shown by figure 17 (for more detail, see table 5A in Annex), these professions are found most commonly in Prague, where they form more than 60% of total employment. Prague differs most from the other regions in the category of professionals, who form almost one fourth of Prague employees, i.e., twice that found in other regions. The differences are not as great for legislators, senior officials and managers and technicians.

Figure 17: Share of employees in highly qualified professions (ISCO 1,2,3) in total employment (2006, %)



Source: ČSÚ (2006f), own calculations.

The second greatest share of highly qualified professions – both overall (ISCO 1,2,3) and in the categories of professionals and technicians – is in South Moravia. The Hradec Králové and Moravia-Silesia regions are around the Czech average. While the share of highly qualified professions has been on the increase in most regions since 2000, the opposite trend could be observed from 2003 to 2006 in the Karlovy Vary region, and the share of professionals has been declining since 2000 in South Moravia and Moravia-Silesia as well. This trend reflects a certain outflow of qualified employees from these regions, although it may be merely only an annual fluctuation.

4. ENTREPRENEURSHIP AND SOME ASPECTS OF EMPLOYMENT FLEXIBILITY IN THE REGIONS

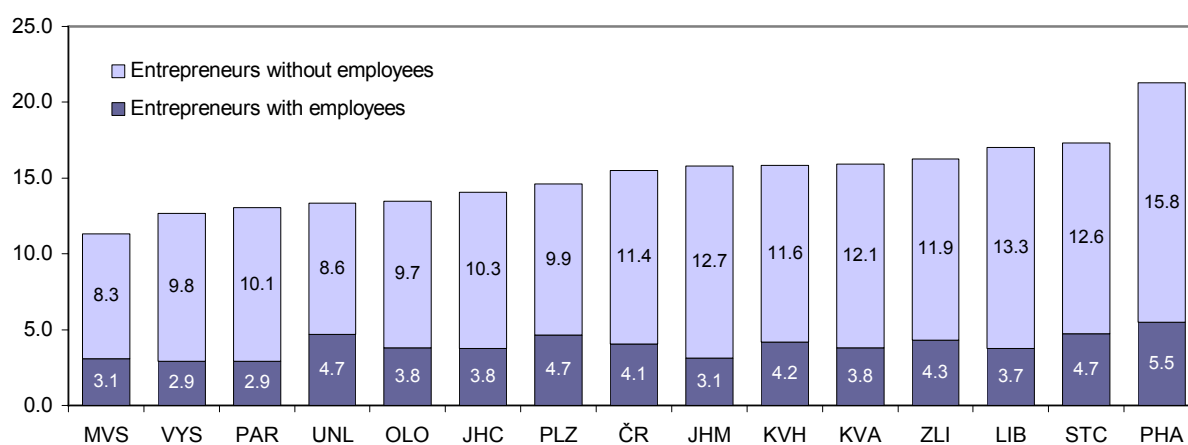
This section focuses on regional differences in entrepreneurship and employment flexibility. Entrepreneurship is crucially important for the development of regional economies and is an important source of increased job opportunities, increased quality of employment and innovations. Employment flexibility helps the regions adapt quicker to changing requirements on the labour market and allows for a quicker change in employment into expanding sectors.

4.1 Entrepreneurship in the regions

The development of entrepreneurship in the individual regions is influenced by a series of factors, including in particular the region's overall economic situation, the amount and quality of job opportunities, and demand for services on the part of local companies and the local population. Equally important, however, are people's qualifications and professional preparation for entrepreneurship, their willingness to take risks in business and their ability to recognise business opportunities in the various markets. The legal business environment is the same countrywide, but regional governmental bodies nevertheless can significantly influence the local business environment through additional support or measures. Regional differences are thus influenced more by the individual character of the entrepreneurs themselves, their creativity, motivation and level of education.

The development of entrepreneurship in the individual Czech regions can be seen in figure 18 (for more detail, see table 7A in Annex), which offers a comparison of the share of entrepreneurs in the total regional employment, i.e. the total number of working people in the region. The share of entrepreneurs in the Czech regions ranges somewhere from 11.3% in Moravia-Silesia to almost twice that much (21.3%) in Prague. An above-average number of entrepreneurs is found in regions with a higher GDP (Prague, Central Bohemia, Hradec Králové, South Moravia) as well as in some with a lower GDP (Karlovy Vary, Liberec, Zlín). The higher share of entrepreneurs in the economically more developed regions may be influenced by the higher demand for private services, while in economically less developed regions, entrepreneurship may be a reaction to the lack of other job opportunities.

Figure 18: Share of entrepreneurs in the total employment in the region (2006, in %)

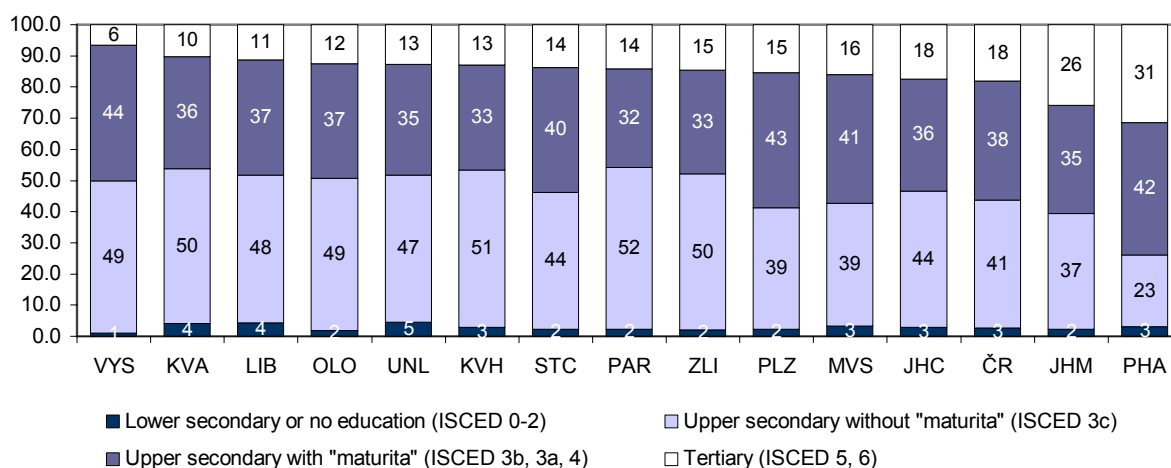


Source: ČSÚ (2006f), own calculations.

The data on the development of the share of entrepreneurs since 2000 do not show any significant regional differences, although we do see various regional and annual fluctuations.

From 2000 to 2003, most regions witnessed an increase in the share of entrepreneurs, only to see a renewed decline in 2006, though not (except for two regions) below 2000 levels. There are various reasons for changes in the number of entrepreneurs. Especially important to consider are financial and/or tax reasons, which may lead to a decrease in the number of entrepreneurs with employees and an increase in the number of entrepreneurs without employees. High labour costs including insurance, to a certain degree leads employers to prefer taking on workers on a freelance basis. Financial factors also influence the self-employed, since they have better control over how much they pay in taxes.

Figure 19: Educational structure of entrepreneurs (2006, in %)



Source: ČSÚ (2006f), own calculations.

A closer examination of entrepreneurs looked at their educational structure in the individual regions. We may assume that the higher the level of education, the better the chances for success. This is not absolutely true for all entrepreneurs, of course, in particular for those without employees who are working as craftsmen or in private services. As shown by figure 19, in most regions in 2006 the greatest number of entrepreneurs (40-50%) had secondary education without “maturita”, i.e., they had apprenticeship training. Two exceptions are Moravia-Silesia and the Plzeň region, which have a slightly higher percentage of entrepreneurs with a “maturita” degree. Prague is markedly different, with a noticeable predominance of entrepreneurs with “maturita” and a large number of entrepreneurs with tertiary education (more than 30%). This of course reflects the educational structure of the local population; similar findings were made in South Moravia with the university centre of Brno, which is also home to a large number of tertiary-educated entrepreneurs (25%). Entrepreneurs with higher education were found least in Vysočina (less than 7%).

The educational structure of entrepreneurs differs, however, between those with and those without employees. Most entrepreneurs without employees have secondary school with apprenticeship education, except for Moravia-Silesia, where those with “maturita” slightly predominate, and of course Prague, where those with secondary and tertiary education predominate.

In all regions except Karlovy Vary, entrepreneurs with employees are more likely to have a “maturita” degree. Those with tertiary education represent more than 30% of entrepreneurs with employees in Prague, South Moravia and Moravia-Silesia.

Except for the Ústí nad Labem region, people with tertiary education are significantly more likely to be entrepreneurs with employees than without. In Prague, of course, the number of tertiary-educated entrepreneurs with employees is practically the same as those without

(31.5%). Also in Prague, people with a “maturita” degree are forming more than half of entrepreneurs with employees.

A comparison of the educational structure of entrepreneurs and employees (see table 8A in Annex) shows that in the overwhelming number of regions (except for Olomouc, Vysočina and Hradec Králové), there is a higher proportion of entrepreneurs with tertiary education than there is of employees with such level of education. This confirms the assumption that people with higher education are better prepared for entrepreneurship. Among employees there is a higher share of people with lower secondary education than among entrepreneurs. Secondary school graduates are found just as frequently among entrepreneurs as among employees.

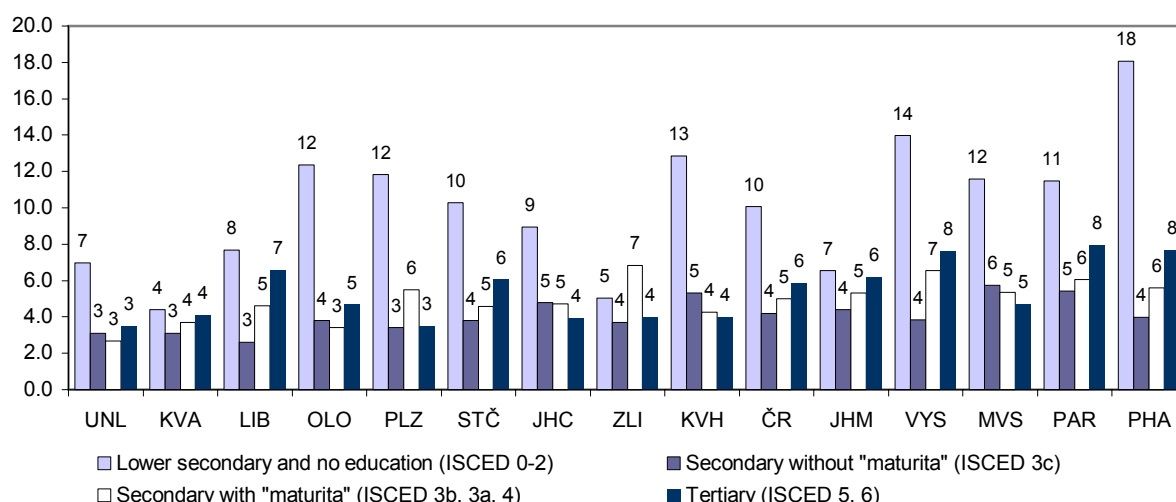
4.2 Employment flexibility in the regions

Flexibility can be generally defined as an individual’s ability to adapt to changing requirements and conditions in various areas of life. From an economic point of view, it is important to be able to adapt to changing requirements in the labour market. Flexibility is influenced both by the individual attitude and education, as well as by the legal environment which regulates employment relations. For assessment of flexibility in the regions, two indicators were selected: the share of part-time workers and the share of persons with two jobs. These types of employment relations represent an important form of employment particularly in sectors which must react quickly to changes in demand (in particular services). While in some service sectors or among high-risk groups (e.g. young people without experience or women with children), part-time work is often unwilling, for certain activities (e.g. crisis management, accounting services etc.) part-time work and second job are often a way of taking advantage of the temporary services of highly qualified professionals.

4.3 Part-time work

As shown by figure 20 (for more detail, see table 9A in Annex), in 2006 the highest percentage of part-time work was in Prague and the Pardubice region (6.3%). Most likely to be employed in this manner are people with lower secondary education.

Figure 20: Share of people with part time job in total employment by education (2006, in %)

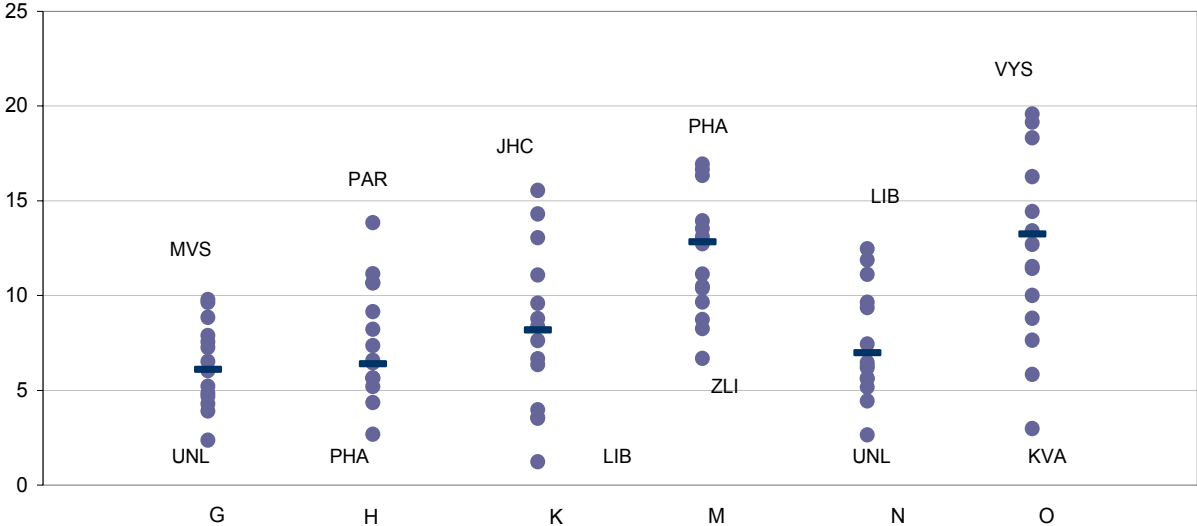


Note: Regions are ordered according to the total number of part-time employees as a proportion of all employees.
Source: ČSÚ (2006f), own calculations.

In Prague, almost one-fifth of employees with lower secondary education were working part time; in the Pardubice region, this figure was 11.5%. The percentage of people with secondary or tertiary education working part time was not too different, although in most regions the share of tertiary educated is higher – in the Pardubice region, for instance, 5.4% of apprentices, 6% of those with “maturita” and 8% of tertiary educated work part time. This shows that part-time work is the realm of unqualified labour primarily in the economically more developed regions. The lowest share of part-time workers is found in the Ústí nad Labem and Karlovy Vary regions (a little more than 3%), with employees with lower secondary education not dominating in particular. If we look at the development since 2000, the total share of part-time workers has not changed much in the regions, although there is a fluctuation in the share of people with lower secondary education working part time. This is apparently related to the changing availability of unqualified work and seasonal fluctuations in such work.

The share of part-time workers in the individual sectors differs significantly from region to region. Regional variability is shown in figure 21, which indicates the regions with the highest and the lowest share of part-time workers in each sector.

Figure 21: Share of part-time workers – regional variability by sector (2006, in %)

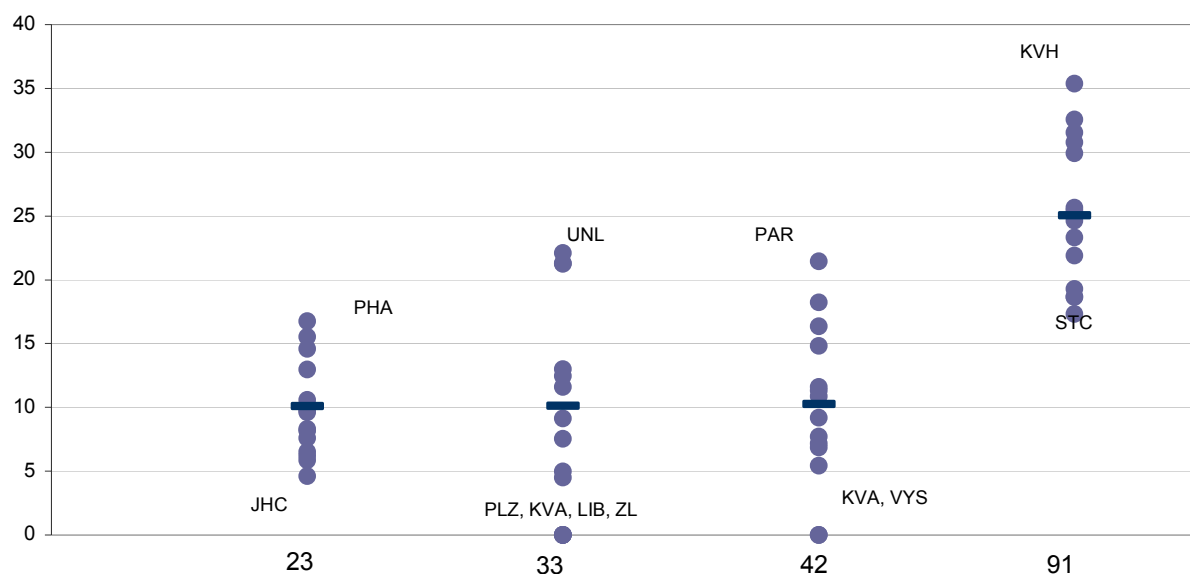


Note: The graph primarily shows variability among regions, not the values for the individual regions. The horizontal line indicates data for the entire country; regions with extreme values are labelled.
 Source: ČSÚ (2006f), own calculations.

The share of part-time workers differs significantly by business sector. The highest share is found in the sector of other public, social and personal services (O), followed by education (M), and real estate, leasing and entrepreneurial activities (K). The proportion of part-time workers is also above the average in healthcare, social services and veterinary activities (N), in sales (G) and in accommodation and food services (H).

The frequency of part-time jobs also differs by category of occupations. Figure 22 shows the regional variability in the share of part-time jobs, including the regions with the highest and lowest share of part-time jobs in each category of occupations.

Figure 22: Share of part-time workers – regional variability by profession (2006, %)



Note: The graph primarily shows variability among regions, not the values for the individual regions. The horizontal line indicates data for the entire country; regions with extreme values are labelled.
Source: ČSÚ (2006f), own calculations.

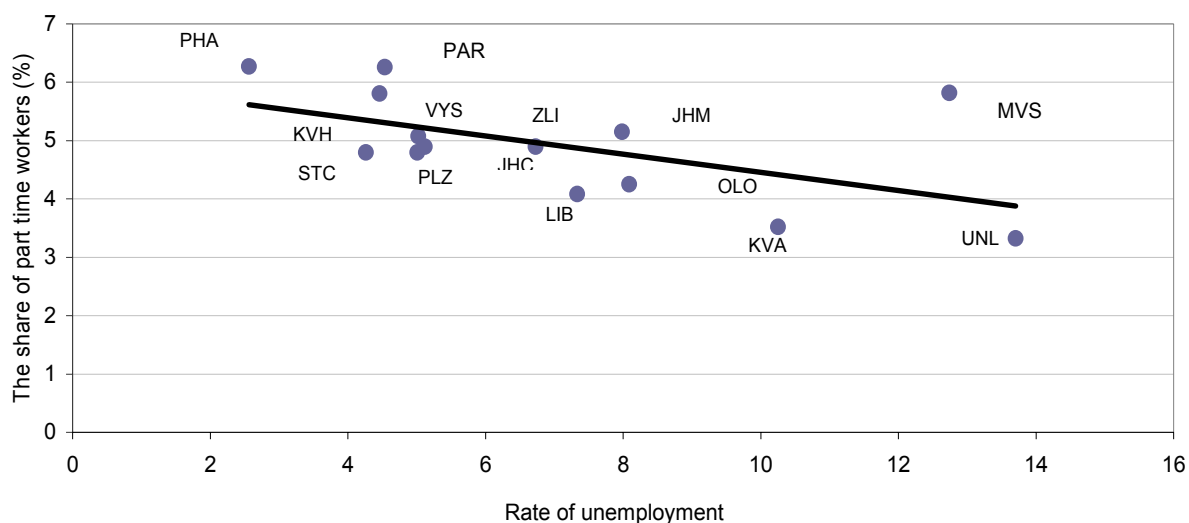
Most frequently working part time – in a full one fourth of cases – are people in the category of elementary occupation in sales and services (ISCO 91). More than 10% of part-time work in the entire Czech Republic is in lower administrative positions – customer services clerks (ISCO 42) and teaching associate professionals (ISCO 33) – and teaching professionals (ISCO 23), i.e. employees with secondary and tertiary education.

While for unqualified employees the situation is almost even in the individual regions, there is great regional variation among the other mentioned professions. The situation for educational employees is apparently influenced by regional governmental policies in employing teaching professionals and teaching associate professionals. The recent decline in the number of children has been accompanied by a decreased need for teachers, who are forced to leave education altogether or to work part time.

A further analysis of the number of part-time workers also showed a significant relation between such work and unemployment levels in the individual regions (see figure 23). The negative correlation coefficient (-0.56) indicates that the higher regional unemployment, the lower the number of part-time jobs.

We may thus conclude that part-time jobs may to a certain extent help address unemployment, particularly that of unqualified people. If there is a higher availability of unqualified work, a large number of people whose main employment is part-time can share it. Among teaching professionals and teaching associate professionals, a large share of whom they work part time as well, part-time work may be involuntary as a result of the decreased demand for teachers, but may also represent a specific manner of taking advantage of one's qualifications by combining part-time work at several employers.

Figure 23: Relationship between rate of unemployment and the share of part-time workers in the Czech regions (2006)

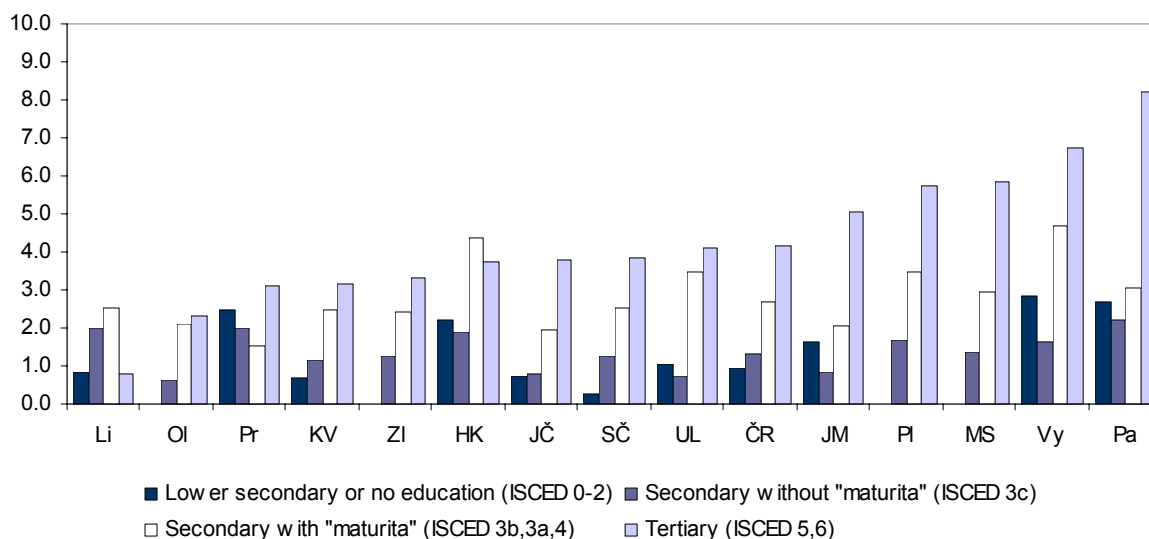


Source: ČSÚ (2006f), own calculations.

4.4 Second job

The level of employee flexibility is also reflected by the share of persons performing other job in addition to their main employment. The new labour code from 2004 placed second job (previously called supplementary employment relation) on an equal legal footing as one's main employment, with the same rights and obligations, for instance in relation to entering into or ending an employment relation. Nevertheless, the share of people in the Czech Republic performing two jobs is very small – about 2.2% of all employees. The greatest share of persons with second job is in the Vysočina (3.3%), Pardubice (3.3%) and Hradec Králové (3.1%) regions.

Figure 24: Share of persons with second job in all employed by educational attainment (2006, in %)



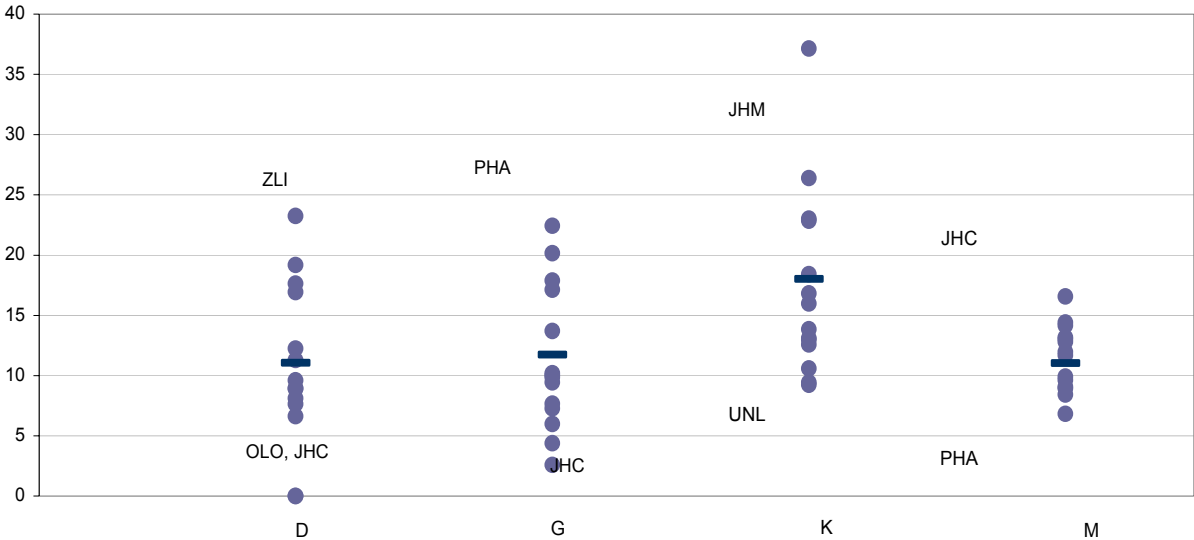
Source: ČSÚ (2006f), own calculations.

As shown by figure 24 (for more detail, see table 10A in Annex), second job is primarily the realm of highly qualified tertiary-educated people. The share of people with second job drops along with level of education, although the situation is not the same in all regions.

The greatest share of tertiary educated people with a second job is in the Pardubice and Vysočina region, followed by Moravia-Silesia and Plzeň regions. The Hradec Králové region, which has one of the greatest overall percentages of employees with second job, has a greater share of secondary school graduates than tertiary graduates in second job. An entirely unique example is the Liberec region, where tertiary educated people have the lowest share of second job.

The share of people with second job also differs significantly by business sector. For a more complete picture, we have chosen various points of view – we tracked the sectors with the greatest percentage of second job as well as sectors with the greatest share of persons with second job. We also tracked the level to which main and second job is in the same sector.

Figure 25: Second jobs by sector 2006 – regional variability (2006, in %)



Note: The graph primarily shows variability among regions, not the values for the individual regions. The horizontal line indicates data for the entire country; regions with extreme values are labelled.
Source: ČSÚ (2006f), own calculations.

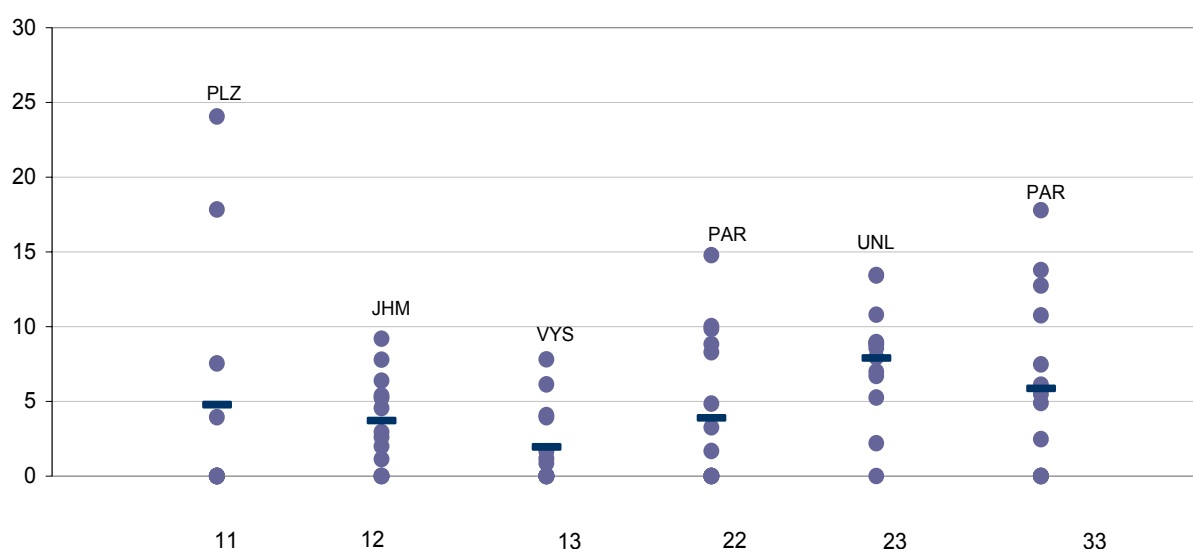
Figure 25 shows the regional variability of second job, with an indication of the regions with the highest and the lowest share of second job by sector. Countrywide, people’s second job is most frequently in real estate, leasing and other entrepreneurial activities (K) 18.1%, in the manufacturing industry (D) 11.7%, in sales and repair (G) 11.72%, and in education (M) 11.3%. Regional differences are quite apparent as shown by the table of variability.

In manufacturing, the greatest share of second jobs was in the Zlín region; in sales, Prague was the leader. It is thus clear that second job is related primarily to an increased demand for workers – or shortage thereof – in a specific sector and region. Regional differences in education are difficult to explain and are more or less related to regional educational policy and specific aspects of work in education sector. The large share of part-time jobs and second jobs in this sector reflects the sector’s specific characteristics, where one person often works several part-time jobs – for instance, at different schools or educational facilities – according to his area of specialisation.

A different point of view is offered by looking at sectors in which people with main job most frequently seek second job. If we ignore the very specific sector of fishing, this phenomenon is found most frequently in education (M) 6.2%, healthcare and social services (N) 3.4%, other public, social and personal services (O) 4.6% and real estate (K) 2.9%. The character of employment activities in these sectors enables employees to work for several employers at once, as reflected by the fact that all these sectors also have a relatively high share of part-time jobs and the largest number of people with a second job in the same sector. The sector with the greatest share (more than one third) of people working two jobs in the same sector is education (M).

The share of people with second job also differs by category of occupations. Figure 26 shows the regional variability in the share of second job, as well as the regions with the highest and lowest share of second jobs by category of occupations.

Figure 26: Second job by profession – regional variability (2006, in %)



Note: The graph primarily shows variability among regions, not the values for the individual regions. The horizontal line indicates data for the entire country; regions with maximum values are labelled.
Source: ČSÚ (2006f), own calculations.

As already shown by the analysis of sectors, second job is most common among teaching professionals (ISCO 23) 7.9% and teaching associate professionals (ISCO 33) 5.9%, i.e., employees in the field of education with secondary or tertiary education. This is followed by legislator and senior officials (ISCO 11) 4.8% as well as corporate managers (ISCO 12) 3.7% and general managers (ISCO 13) 4%. A large proportion of people with second jobs was also found among life science and health professionals (ISCO 22) 3.9%.

Second job is thus found primarily among highly qualified individuals whose know-how is more widely applicable. In the case of teaching professionals and health professionals, another role is played by their specific employment activities, with employees sometimes working two or more jobs because of, among other reasons, low pay in comparison to highly qualified professionals in other fields.

5. CHALLENGES

The quality of human resources is an important factor in the possibilities for the development and competitiveness of the individual Czech regions. In the overall assessment of the educational and employment characteristics of human resources, **uneven regional development** poses a great challenge for the Czech Republic. On the one hand, there are regions with a high concentration of educated people working in highly qualified professions who are more likely to continue to learn than people elsewhere. These regions are also home to important universities and students at these higher education institutions represent potential future qualified professionals for the region's economic development. In addition to Prague, these regions are South Moravia and the Hradec Králové region. On the other end of the spectrum are regions which, from the point of view of competitiveness in human resources, can be labelled "at risk". They have few educated people, who tend to leave these regions; in addition, less qualified people tend to participate less frequently in continuing education. There is lack of sufficient future potential in the form of students at higher education institution. These regions include the Karlovy Vary and Ústí nad Labem regions, and in some respects the Liberec region as well. The remaining regions are more or less adequately taking advantage of the potential of qualified people.

One thing in particular which can help to balance out this unequal development in the quality of human resources is **quality and widely accessible tertiary education in the individual regions**. A region's qualification potential is furthermore influenced by students studying in the region, regardless of their place of permanent residency, since most of them will look for employment in highly qualified professions in the region in which they studied. This is particularly true for the university centres of Prague and South Moravia (Brno). For the other reasons, as a rule students who study in their home region also remain there, thus having a significant impact on the future potential of human resources to perform highly qualified work in the region. A decisive factor for potential students is thus the availability of tertiary education in region of their residency. In addition to a school's accessibility, a significant role is played by the quality of education. Regional higher education institutions, in particular those newly founded, often struggle with a shortage of highly qualified teachers and thus the quality of education is only gradually increasing.

The quality of human resources can also be significantly influenced by the **availability of job opportunities for highly qualified professions in the region**. One great challenge for the Czech Republic is the fact that, in all regions, employment in high-tech sectors of the manufacturing industry is significantly lower than employment in medium high-tech sectors – five times lower on average across the country, with significant regional differences. While in the industrial Liberec region, the difference is more than sixteen-fold, the Pardubice region and less industrial South Bohemia are more balanced, with the difference less than three-fold. Support for the development of high-tech sectors and their more equal dispersion across the regions would improve the availability of job opportunities and allow more people to find work in highly qualified professions.

6. CONCLUSION

Quality of human resources is an important factor in the possibilities for the development and competitiveness of the individual Czech regions. Regional differences in education and employment can point out several aspects of the uneven development of the Czech regions and thus help to identify possible pluses or minuses of their level of competitiveness.

6.1 Educational characteristics of human resources in the regions

The increase in the population's level of education is predetermined by rising **educational mobility**, as expressed by the fact that children achieve a higher level of education than their parents or the younger age groups have a higher level of education than older age groups. It is important for the economy's competitiveness that age groups entering the labour market have a higher level of education than those leaving the labour market. For this reason, we have based the analysis of educational mobility on a comparison of the educational level of the population aged 25-29 and aged 60-64. Educational level is expressed by the percentage of people with tertiary education in the relevant age group.

Most of the Czech regions exhibit positive educational mobility. Exceptions are the *Karlovy Vary*, *Liberec* and *Plzeň* regions, which also have the lowest percentage of their population aged 25-29 with tertiary education. By far the worst situation is in the *Karlovy Vary* region, where a mere 7% of this age group has tertiary education. The greatest educational mobility was found in the *Hradec Králové region* (14.7 percentage points), which has the second-greatest share (after Prague) of persons aged 25-29 with tertiary education – 22.9%.

The further development of the regions will require quality and widely accessible tertiary education. The scope of these young professionals' preparation for highly demanding jobs was analysed on the basis of the **percentage of students at public higher education institutions** to the population at the typical age of this type of education (20-29 years). This indicator should help to shed a light on the regions' situation in the near future, i.e. the extent to which today's students will influence a region's future qualification structure and thus its economic development.

If we look at the percentage of students who study **in each region**, we learn that two regions in the Czech Republic have no public higher education institution. While *Central Bohemia* forms a kind of catchment area for Prague, in the *Karlovy Vary* region, potential students must leave for other regions – which is more costly for them and they may not return. The situation in Vysočina is not much better; because of the local university's limited capacity, the region has a small number of students. Other regions have a high percentage of students, i.e. students from other regions come to study here. This applies in particular to *Prague*, home to the country's largest university (Charles University) and *South Moravia* with the country's second largest university (Masaryk University in Brno).

A region's qualification potential is most influenced by students studying in the region, because after completing their studies many of them do not return to their place of permanent residency but seek employment in highly qualified professions in the region in which they studied. This relates especially to the university centres of Prague and South Moravia (i.e., Brno). Students who study in their home region generally remain there and thus fundamentally influence the future potential of human resources for highly qualified professions in the region.

Continuing education is defined as education performed as an adult after having completed one's initial education. In order to retain one's employability, it is important to constantly

learn even as an adult. Participation in continuing education offers an important insight into the competitiveness of human resources.

The participation rate in continuing education varies from region to region. In 2006, the difference between the region with the highest participation rate – Prague – and the region with the lowest one – Karlovy Vary – was 5.2 percentage points. Prague shows the highest participation in 2006, among other reasons because it is home to a large number of non-formal education courses.

6.2 Characteristics of employment in the regions

A region's potential for economic development is represented primarily by sectors with a high intensity of research and development, i.e., **technology-intensive manufacturing industry and knowledge-based services**. Employment in these sectors gives a basic idea of a region's economic development and, when viewed over time, can offer a picture of the region's movement towards a knowledge-based economy.

Total employment in technology-intensive manufacturing industries and knowledge-intensive services is highest in *Prague and the Liberec region*, with *Central Bohemia and the Hradec Králové and Pardubice regions* above the Czech average. They can thus be described as the most developed Czech regions in terms of a knowledge-based economy. Since 2000, employment in these sectors has been rising in most regions, with a marked decline only in the *Karlovy Vary* region (from 30% to 26%).

Entrepreneurship is crucially important for the development of the regional economies and is an important source of increased jobs, increased quality of employment and innovations. The development of entrepreneurship in the individual Czech regions can be seen from a comparison of the percentage of entrepreneurs to overall employed, i.e. the total number of working people in the region.

The percentage of entrepreneurs in the Czech regions ranges from 11.3% in *Moravia-Silesia* to almost twice that much (21.3%) in *Prague*. The legal business environment is the same countrywide; the higher number of entrepreneurs in the economically more developed regions may be influenced by the higher demand for private services, while in economically less developed regions entrepreneurship may be a reaction to the lack of other job opportunities.

Employment flexibility can be generally defined as an individual's ability to adapt to changing requirements and conditions on the labour market. Flexibility is influenced both by the individual and his attitude and education, as well as by the legal environment which regulates employment relations. For our assessment of flexibility in the regions, we selected two indicators. The first is the **percentage of part-time workers**.

The highest percentage of part-time workers was in Prague and the Pardubice region (6.3%). Most likely to be employed in this manner are people with lower secondary education. The number of part-time workers differs significantly by business sector and occupation. Most frequently working part time – in a full one fourth of cases – are people in the category of sales and services elementary occupation (ISCO 91). This shows that part-time work is the realm of unqualified labour primarily in the economically more developed regions. The lowest number of part-time workers is found in the Ústí nad Labem and Karlovy Vary regions (a little more than 3%), with employees with primary education not dominating in particular. The higher unemployment in the region, the lower the number of part-time jobs.

A second indicator for assessing employment flexibility is the **percentage of people with second job**.

The percentage of people in the Czech Republic performing two jobs is very small – about 2.2% of all employees. The greatest percentage of persons with second job is in the Vysočina (3.3%), Pardubice (3.3%) and Hradec Králové (3.1%) regions. Second job is primarily the realm of highly qualified people. The percentage of people with second job drops along with level of education and also differs significantly by sector and profession. This phenomenon is found most frequently in education (NACE M) 6.2%, healthcare and social services (NACE N) 3.4%, other public, social and personal services (NACE O) 4.6% and real estate (NACE K) 2.9%. The character of jobs in these sectors enables employees to work for several employers at once, as reflected by the fact that all these sectors also have a high percentage of part-time jobs as well as the largest percentage of people with second job in the same sector. The sector with the greatest percentage (more than one third) of people performing two jobs in the same sector is education (NACE M).

From the point of view of the education and employment of human resources, the development is clearly uneven across the different regions. On the one hand, there are regions with a high concentration of educated people working in highly qualified professions who are more likely to participate in continuing education than people elsewhere. These regions are also home to important university centres and tertiary students represent potential for future qualified professionals for these regions. In addition to Prague, these regions are South Moravia and the Hradec Králové region. On the other end of the spectrum are regions which, from the point of view of competitiveness in human resources, can be labelled “at risk”. They have few educated people, who tend to leave these regions; in addition, less qualified people tend to participate less frequently in continuing education. There is lack of sufficient future potential in the form of students at higher education institutions. These regions include the Karlovy Vary and Ústí nad Labem regions, and in some respects the Liberec region as well. The remaining regions are more or less adequately taking advantage of the potential of qualified people. It has also been shown that certain factors of employment, such as entrepreneurship and flexibility of the local population, differ more by sector and profession than by region.

7. ANNEX

Table 1A: Educational attainment of the 25-64 year old population (2000, 2003, 2006, in %)

	2000					2003					2006				
	Educational attainment					Educational attainment					Educational attainment				
	No education (ISCED 0)	Primary and lower secondary education (ISCED 1,2)	Upper secondary education without "maturita" (ISCED 3c)	Upper secondary education with "maturita" (ISCED 3b,3a,4)	Tertiary education (ISCED 5,6)	No education (ISCED 0)	Primary and lower secondary education (ISCED 1,2)	Upper secondary education without "maturita" (ISCED 3c)	Upper secondary education with "maturita" (ISCED 3b,3a,4)	Tertiary education (ISCED 5,6)	No education (ISCED 0)	Primary and lower secondary education (ISCED 1,2)	Upper secondary education without "maturita" (ISCED 3c)	Upper secondary education with "maturita" (ISCED 3b,3a,4)	Tertiary education (ISCED 5,6)
Prague	0.1	6.1	27.5	42.1	24.1	0.1	5.5	27.5	41.3	25.5	0.0	4.7	23.4	44.3	27.5
Central Bohemia	0.4	17.5	43.8	31.5	6.8	0.2	13.4	44.6	32.3	9.5	0.1	10.1	42.7	36.4	10.7
South Bohemia	0.0	13.0	45.2	32.4	9.3	0.1	11.7	42.2	35.6	10.4	0.1	10.4	42.9	34.7	11.9
Plzeň Region	0.1	12.5	45.5	33.0	8.9	0.1	10.0	45.3	34.4	10.2	0.2	9.4	41.9	37.7	10.7
Karlovy Vary Reg. Ústí nad Labem Region	0.4	17.9	42.7	31.4	7.6	0.1	16.8	42.2	32.7	8.1	0.2	15.0	45.5	30.8	8.4
Liberec Region	1.3	19.3	45.8	26.6	7.1	0.4	18.4	47.2	27.9	6.0	0.3	15.5	42.9	33.2	8.2
Hradec Králové Region	0.4	18.3	44.8	28.5	7.9	0.1	11.4	46.3	32.1	9.9	0.0	12.9	47.4	30.6	9.1
Pardubice Region	0.1	11.6	46.8	32.0	9.4	0.2	9.4	45.3	34.8	10.2	0.1	7.7	43.7	34.8	13.6
Vysočina Region	0.2	10.3	48.8	31.4	9.3	0.4	10.2	47.2	32.0	10.2	0.1	8.7	47.6	31.9	11.7
South Moravia	1.7	11.6	45.1	33.4	8.1	0.2	8.9	52.2	29.8	8.9	0.2	8.0	47.0	34.0	10.7
Olomouc Region	0.4	12.6	41.8	31.1	14.0	0.2	11.3	41.8	31.6	15.0	0.0	8.2	41.5	34.2	16.0
Zlín Region	0.3	16.3	44.6	28.8	10.0	0.2	11.3	47.1	32.3	9.0	0.2	9.6	48.8	29.3	12.1
Moravia-Silesia	0.5	13.6	46.2	30.5	9.1	0.1	11.1	44.6	32.9	11.2	0.0	8.8	46.8	32.9	11.5
Czech Republic	0.5	14.0	45.8	30.5	9.1	0.1	12.4	47.5	30.0	10.1	0.2	10.7	45.0	32.7	11.5

Source: ČSÚ (2000, 2003b, 2006f), own calculations.

Table 2A: Educational mobility, tertiary educated population entering the labour market (aged 25-29) and leaving the labour market (aged 60-64)

	2000			2003			2006		
	Higher education (% 25-29)	Higher education (% 60-64)	Educ. mob.(p.p.)	Higher education (% 25-29)	Higher education (% 60-64)	Educ. mob.(p.p.)	Higher education (% 25-29)	Higher education (% 60-64)	Educ. mob.(p.p.)
Prague	20.1	18.7	1.3	21.8	25.3	-3.5	27.3	24.2	3.1
Central Bohemia	5.5	3.8	1.7	7.2	6.5	0.6	11.7	10.5	1.3
South Bohemia	8.3	9.7	-1.3	10.2	8.1	2.1	12.2	8.5	3.7
Plzeň Region	9.2	6	3.2	13.1	12.6	0.6	8.8	9.4	-0.6
Karlovy Vary Reg. Ústí nad Labem Region	2.8	10.4	-7.5	5.1	4.8	0.3	6.8	10.5	-3.7
Liberec Region	6.7	2.5	4.2	6.3	4.8	1.4	13.3	3.9	9.4
Hradec Králové Region	3	7.4	-4.4	7.6	9.6	-2.1	10.9	14.2	-3.3
Pardubice Region	7.5	5.9	1.7	10.7	8.4	2.3	22.9	8.2	14.7
Vysočina Region	6.1	5.3	0.8	10.9	7.1	3.8	17.2	9.2	8
South Moravia	8.4	1.9	6.5	13.6	6	7.5	18	7.6	10.4
Olomouc Region	13.4	12.9	0.5	16.4	12.2	4.2	20.6	12.9	7.7
Zlín Region	13.8	5.8	8	11.4	5.2	6.3	18	11.5	6.5
Moravia-Silesia	7	3.6	3.5	10.3	10	0.3	17.8	7.3	10.5
Czech Republic	10.5	5.6	4.9	10.9	6.5	4.5	18.8	11.7	7.1

Note: p.p. – percentage points. Source: ČSÚ (2000, 2003b, 2006f), own calculations.

Table 3A: Students in public higher education institutions in the regions

Region of higher education institution	Czech Republic	Residency in the region of higher education institution	Other residency	Students with residency in the given region, who are studying at various higher education institutions in the CR	Percentage of students in the given region to all students in the CR(%)	Population aged 25-29 in the given region (2005)	Percentage of students in the given region to the population in the region aged 20-29 (%)	Percentage of students who are studying in the home region to the population in the given region aged 20-29 (%)	Percentage of all students with residency in the given region who are studying in the CR to the population in the region aged 20-29 (%)
Czech Republic	258,915					1,580	16.38		
Prague	87,168	31,476	55,692	36 128	33.7	185,237	47.06	16.99	19.50
Central Bohemia	0	0	0	20 875	0.0	174,719	0.00	0.00	11.95
South Bohemia	10,222	5,150	5,072	15 338	3.9	96,629	10.58	5.33	15.87
Plzeň Region	17,053	7,378	9,675	12 056	6.6	83,160	20.51	8.87	14.50
Karlovy Vary Region	0	0	0	4 753	0.0	46,815	0.00	0.00	10.15
Ústí nad Labem Region	7,912	4,563	3,349	15 339	3.1	127,916	6.19	3.57	1199
Liberec Region	6,981	2,679	4,302	8 653	2.7	66,174	10.55	4.05	13.08
Hradec Králové Region	9,496	3,259	6,237	13 317	3.7	82,712	11.48	3.94	16.10
Pardubice Region	7,623	2,450	5,173	12 497	2.9	77,912	9.78	3.14	16.04
Vysočina Region	615	437	178	13 132	0.2	79,665	0.77	0.55	16.48
South Moravia	56,646	23,350	33,296	31 275	21.9	176,385	32.11	13.24	17.73
Olomouc Region	15,899	5,081	10,818	16 968	6.1	100,651	15.80	5.05	16.86
Zlín Region	7,981	4,138	3,843	17 538	3.1	91,984	8.68	4.50	19.07
Moravia- Silesia	31,319	19,655	11,664	33,253	12.1	190,799	16.41	10.30	17.43

Source: UIV (2006a); ČSÚ (2006a); ČSÚ (2006f); own calculations.

Table 4A: Share of ICT sectors in total employment (in %)

	2000	2003	2006
Prague	4.8	4.8	5.9
Central Bohemia	2.2	2.8	3.1
South Bohemia	2.9	2.4	3.8
Plzeň Region	2.6	3.8	4.2
Karlovy Vary Region	2.3	3.1	2.2
Ústí nad Labem Region	2.2	2.2	2.7
Liberec Region	2.5	2.8	2.2
Hradec Králové Region	2.5	2.5	2.4
Pardubice Region	3.8	5.9	5.9
Vysočina Region	2.2	1.0	1.9
South Moravia	3.1	2.8	4.6
Olomouc Region	1.8	1.5	2.2
Zlín Region	4.0	3.3	3.5
Moravia- Silesia	1.8	2.1	2.6
Czech Republic	2.8	3.0	3.6

Source: ČSÚ (2000, 2003b, 2006f), own calculations.

Table 5A: Share of employees in highly qualified professions (ISCO 1, 2, 3) in total employment (%)

	2000				2003				2006			
	ISCO 1	ISCO 2	ISCO 3	ISCO 1-3	ISCO 1	ISCO 2	ISCO 3	ISCO 1-3	ISCO 1	ISCO 2	ISCO 3	ISCO 1-3
Prague	8.6	22.6	23.1	54.3	8.5	22.0	25.8	56.2	8.9	23.1	28.6	60.7
Central Bohemia	7.1	7.6	15.5	30.1	7.0	7.6	16.9	31.5	6.4	8.3	21.3	36.0
South Bohemia	8.4	6.4	17.7	32.5	6.5	7.5	19.6	33.5	6.6	9.1	19.5	35.1
Plzeň Region	5.3	6.7	21.4	33.4	4.6	7.5	23.8	35.9	5.9	8.1	22.7	36.6
Karlovy Vary Region	5.9	10.9	13.7	30.5	6.8	8.8	16.8	32.4	6.2	7.7	17.4	31.3
Ústí nad Labem Region	5.9	7.5	17.9	31.3	4.0	6.2	15.9	26.0	5.4	7.7	20.7	33.8
Liberec Region	5.0	8.6	13.3	27.0	9.1	7.7	16.1	32.9	8.6	8.5	17.0	34.1
Hradec Králové Region	5.6	8.6	19.0	33.2	5.5	9.2	20.4	35.2	7.0	10.0	23.0	40.0
Pardubice Reg.	6.0	9.3	18.6	33.9	5.2	7.6	19.3	32.1	4.5	7.7	21.7	33.9
Vysočina Reg.	4.8	8.2	17.1	30.1	5.2	6.5	15.8	27.6	5.3	8.1	19.6	33.0
South Moravia	4.7	7.6	18.8	31.0	7.3	9.0	19.2	35.5	8.4	7.6	19.7	35.7
Olomouc Reg.	6.0	12.1	17.5	35.5	5.2	10.0	20.8	36.0	5.5	9.4	22.2	37.1
Zlín Region	6.1	10.8	18.4	35.3	6.1	10.2	20.0	36.4	6.5	10.7	22.1	39.3
Moravia- Silesia	8.6	22.6	23.1	54.3	8.5	22.0	25.8	56.2	8.9	23.1	28.6	60.7
Czech Republic	7.1	7.6	15.5	30.1	7.0	7.6	16.9	31.5	6.4	8.3	21.3	36.0

Source: ČSÚ (2000, 2003b, 2006f), own calculations.

Table 6A: Employment in technology- and knowledge-intensive sectors as a share in total employment (%)

	2000							2003							2006						
	Technology-intensive services	Market services	Financial services	Other knowledge-intensive services	High-tech sectors of manufacturing industry	Medium high-tech sectors of manufacturing industry	Technology-and knowledge-intensive sectors total	Technology-intensive services	Market services	Financial services	Other knowledge-intensive services	High-tech sectors of manufacturing industry	Medium high-tech sectors of manufacturing industry	Technology-and knowledge-intensive sectors total	Technology-intensive services	Market services	Financial services	Other knowledge-intensive services	High-tech sectors of manufacturing industry	Medium high-tech sectors of manufacturing industry	Technology-and knowledge-intensive sectors total
Prague	6.7	2.3	3.6	17.4	1.1	3.5	34.4	7.1	1.7	5.2	19.0	0.7	3.3	37.0	5.9	2.5	4.3	18.5	1.1	3.4	35.8
Central Bohemia	2.4	1.2	1.7	13.4	0.8	10.4	30.0	2.9	1.5	2.1	12.7	1.4	9.1	29.6	3.1	1.5	2.3	12.6	1.3	10.7	31.5
South Bohemia	2.4	0.5	1.9	11.3	1.6	7.9	25.7	2.4	0.3	1.7	13.7	1.4	6.9	26.6	2.0	0.2	1.2	15.2	2.8	7.6	29.0
Plzeň Region	2.7	0.6	2.0	11.4	1.6	8.8	27.1	2.4	0.8	1.7	14.5	1.8	10.7	31.8	2.5	1.1	1.5	11.9	2.3	11.6	30.8
Karlovy Vary Region	1.8	1.0	1.9	17.7	0.9	6.5	29.8	1.7	1.0	1.6	14.6	1.1	5.7	25.6	1.4	0.7	1.1	14.2	1.0	7.4	25.7
Ústí nad Labem Region	1.9	1.6	1.7	13.0	0.6	5.9	24.7	2.5	1.6	1.5	11.8	0.4	5.5	23.4	2.9	2.4	1.3	13.8	0.7	7.0	28.0
Liberec Region	2.3	0.4	1.4	12.9	1.0	10.2	28.2	2.6	0.5	1.6	12.8	1.3	9.9	28.7	2.0	0.6	2.0	12.2	0.9	16.8	34.6
Hradec Králové Region	1.9	0.4	1.7	15.1	1.4	9.8	30.1	2.6	0.5	1.7	14.2	0.9	8.3	28.1	2.4	0.3	2.1	15.9	1.5	10.1	32.2
Pardubice Region	3.4	0.6	2.5	13.5	2.3	10.2	32.5	3.1	0.4	2.1	12.2	3.6	9.5	30.9	2.5	0.5	1.6	13.8	4.4	9.5	32.2
Vysočina Region	2.3	0.4	1.3	12.5	0.9	9.0	26.3	1.3	0.4	1.4	12.2	0.6	9.0	24.9	1.9	0.3	1.4	13.1	0.6	11.3	28.7
South Moravia	3.7	0.6	1.9	16.1	1.4	7.0	30.7	3.8	1.0	1.7	15.7	0.8	7.3	30.3	3.4	1.0	1.8	15.9	2.2	7.7	32.0
Olomouc Region	1.5	0.9	1.6	14.6	1.8	9.3	29.6	2.0	0.7	1.1	15.2	1.9	9.0	29.9	2.0	0.4	1.1	13.0	2.2	11.2	30.0
Zlín Region	2.4	0.5	1.9	13.5	2.6	8.0	28.8	1.8	0.5	1.7	12.2	2.3	8.0	26.6	1.8	0.6	1.2	14.2	1.6	10.5	29.8
Moravia-Silesia	2.4	1.0	1.8	14.3	0.5	6.4	26.2	2.7	0.5	1.0	14.8	0.6	6.9	26.5	2.9	0.8	1.3	15.4	0.7	7.3	28.4
Czech Republic	3.0	1.0	2.0	14.3	1.2	7.7	29.2	3.2	0.9	2.1	14.4	1.2	7.4	29.2	3.0	1.1	1.9	14.6	1.6	8.8	31.0

Source: ČSÚ (2000, 2003b, 2006f), own calculations.

Table 7A: Share of entrepreneurs in total employment (in %)

	2000			2003			2006		
	Entrepreneurs with employees	Entrepreneurs without employees	Entrepreneurs total	Entrepreneurs with employees	Entrepreneurs without employees	Entrepreneurs total	Entrepreneurs with employees	Entrepreneurs without employees	Entrepreneurs total
Prague	5.7	14.2	19.9	5.8	15.9	21.7	5.5	15.8	21.3
Central Bohemia	4.8	10.5	15.3	4.6	13.9	18.6	4.7	12.6	17.3
South Bohemia	3.7	10.7	14.4	3.7	11.8	15.5	3.8	10.3	14.1
Plzeň Region	3.6	10.3	13.9	2.6	11.5	14.1	4.7	9.9	14.6
Karlovy Vary Region	4.7	8.6	13.3	4.3	12.6	16.9	3.8	12.1	15.9
Ústí nad Labem Region	4.3	7.6	11.9	3.6	11.8	15.5	4.7	8.6	13.3
Liberec Region	3.3	12.4	15.7	4.6	13.2	17.8	3.7	13.3	17.0
Hradec Králové Region	3.7	10.6	14.3	4.3	13.1	17.4	4.2	11.6	15.8
Pardubice Region	4.2	9.6	13.8	3.7	13.8	17.5	2.9	10.1	13.1
Vysočina Region	3.4	8.1	11.5	2.8	11.1	13.9	2.9	9.8	12.7
South Moravia	4.6	10.1	14.7	4.7	11.8	16.5	3.1	12.7	15.8
Olomouc Region	2.5	8.4	10.9	4.1	10.0	14.1	3.8	9.7	13.5
Zlín Region	3.3	11.9	15.2	3.9	11.5	15.5	4.3	11.9	16.3
Moravia- Silesia	3.6	7.0	10.7	3.5	9.2	12.7	3.1	8.3	11.3
Czech Republic	4.1	10.2	4.1	4.2	12.4	16.5	4.1	11.4	15.5

Source: ČSÚ (2000, 2003b, 2006f), own calculations.

Table 8A: Educational attainment of entrepreneurs and employees (2006, %)

	entrepreneurs total						employees total					
	(ISCED 0)	(ISCED 1,2)	(ISCED 3c)	(ISCED 3b,3a,4)	(ISCED 5,6)	Total	(ISCED 0)	(ISCED 1,2)	(ISCED 3c)	(ISCED 3b,3a,4)	(ISCED 5,6)	Total
Prague	0.0	3.0	23.1	42.4	31.5	100.0	0.0	3.6	22.9	44.7	8.8	100.0
Central Bohemia	0.0	2.2	44.0	40.0	13.9	100.0	0.0	7.0	43.3	38.4	11.4	100.0
South Bohemia	0.0	2.8	43.8	35.9	17.5	100.0	0.0	5.8	43.8	37.2	13.3	100.0
Plzeň Region	0.0	2.3	39.0	43.4	15.4	100.0	0.0	6.5	42.5	39.3	11.7	100.0
Karlovy Vary Region	0.0	4.2	49.7	35.9	10.3	100.0	0.0	9.8	47.8	33.3	9.2	100.0
Ústí nad Labem Region	0.0	4.5	47.2	35.5	12.8	100.0	0.0	8.9	43.5	37.7	9.9	100.0
Liberec Region	0.0	4.3	47.5	36.9	11.3	100.0	0.0	8.1	48.6	33.7	9.6	100.0
Hradec Králové Region	0.0	2.9	50.6	33.5	13.0	100.0	0.0	4.5	43.6	37.6	14.3	100.0
Pardubice Region	0.0	2.2	51.9	31.7	14.2	100.0	0.0	5.2	48.9	33.4	12.6	100.0
Vysočina Region	0.0	1.1	48.9	43.5	6.5	100.0	0.0	5.5	47.3	35.6	11.6	100.0
South Moravia	0.0	2.4	37.0	34.8	25.8	100.0	0.0	4.9	40.5	36.8	17.8	100.0
Olomouc Region	0.0	1.8	48.9	36.9	12.5	100.0	0.0	5.2	50.2	30.5	14.0	100.0
Zlín Region	0.0	2.1	50.1	33.2	14.6	100.0	0.0	5.5	46.9	34.9	12.6	100.0
Moravia- Silesia	0.0	3.4	39.4	41.2	16.0	100.0	0.0	6.0	44.5	36.5	13.0	100.0
Czech Republic	0.0	2.8	40.9	38.2	18.1	100.0	0.0	5.9	42.0	37.3	14.9	100.0

Source: ČSÚ (2006f), own calculations.

Table 9A: Share of part-time employees by education

	2000						2003					2006				
	(ISCED 0)	(ISCED 1,2)	(ISCED 3c)	(ISCED 3b,3a,4)	(ISCED 5,6)	Total	(ISCED 1,2)	(ISCED 3c)	(ISCED 3b,3a,4)	(ISCED 5,6)	Total	(ISCED 1,2)	(ISCED 3c)	(ISCED 3b,3a,4)	(ISCED 5,6)	Total
Prague	0.0	9.3	4.6	6.9	5.4	6.0	18.2	4.0	6.6	9.2	7.0	18.1	4.0	5.6	7.7	6.3
Central Bohemia	22.9	11.8	3.8	4.6	3.7	5.1	9.0	3.5	3.8	2.2	4.0	10.3	3.8	4.6	6.0	4.8
South Bohemia	0.0	14.1	4.4	3.4	2.1	4.7	8.6	4.1	4.8	3.4	4.7	8.9	4.8	4.7	4.0	4.9
Plzeň Region	0.0	14.5	5.0	7.2	4.6	6.6	9.2	5.4	5.0	6.2	5.6	11.8	3.4	5.5	3.5	4.8
Karlovy Vary Region	0.0	7.7	4.9	5.6	8.6	5.8	6.7	2.3	2.6	1.7	2.9	4.4	3.1	3.7	4.1	3.5
Ústí nad Labem Region	63.7	4.3	2.2	2.8	3.6	2.8	3.9	2.8	3.4	1.8	3.1	7.0	3.1	2.7	3.5	3.3
Liberec Region	0.0	8.0	4.7	6.3	8.0	5.9	9.7	2.9	3.2	4.4	3.6	7.7	2.6	4.6	6.6	4.1
Hradec Králové Region	0.0	10.0	5.2	6.3	4.4	5.9	17.5	6.4	5.5	7.5	6.8	12.9	5.3	4.3	4.0	5.1
Pardubice Region	0.0	10.7	6.0	5.8	8.4	6.5	8.9	4.0	5.7	2.5	4.7	11.5	5.4	6.0	8.0	6.3
Vysočina Region	21.4	7.7	6.1	4.8	2.7	5.5	11.1	5.4	5.9	4.1	5.7	14.0	3.9	6.6	7.7	5.8
South Moravia	30.2	10.4	3.2	5.3	6.1	5.0	6.7	3.5	5.6	5.1	4.7	6.5	4.4	5.3	6.2	5.2
Olomouc Region	0.0	5.3	4.5	4.5	0.2	4.1	10.8	4.0	3.4	4.4	4.3	12.4	3.8	3.4	4.7	4.3
Zlín Region	0.0	8.5	7.4	6.9	4.6	7.0	13.8	6.3	4.1	5.1	5.8	5.0	3.7	6.8	4.0	4.9
Moravia- Silesia	0.0	7.9	4.6	4.1	2.0	4.4	8.2	5.2	3.7	3.2	4.6	11.6	5.7	5.4	4.7	5.8
Czech Republic	19.6	9.4	4.5	5.3	4.5	5.2	9.5	4.3	4.7	5.4	4.9	10.1	4.2	5.0	5.8	5.1

Note Share of part-time employees with no qualification (ISCED 0) was in 2003 and 2006 0. Source: ČSÚ (2000, 2003b, 2006f), own calculations.

Table 10A: Share of employees with second job in total employment by education (%)

	2000					2003					2006				
	(ISCED 0)	(ISCED 1,2)	(ISCED 3c)	(ISCED 3b,3a,4)	(ISCED 5,6)	(ISCED 0)	(ISCED 1,2)	(ISCED 3c)	(ISCED 3b,3a,4)	(ISCED 5,6)	(ISCED 0)	(ISCED 1,2)	(ISCED 3c)	(ISCED 3b,3a,4)	(ISCED 5,6)
Prague	0.0	6.3	3.1	3.0	6.2	0.0	0.0	1.7	3.2	9.1	0.0	2.5	2.0	1.5	3.1
Central Bohemia	0.0	1.0	1.4	1.9	2.9	0.0	2.1	1.5	2.5	4.3	0.0	0.3	1.3	2.5	3.8
South Bohemia	0.0	0.5	1.1	3.1	3.0	0.0	1.5	0.8	1.8	3.3	0.0	0.7	0.8	1.9	3.8
Plzeň Region	0.0	0.4	2.5	3.9	8.1	0.0	1.6	2.4	3.4	4.1	0.0	0.0	1.7	3.5	5.8
Karlovy Vary Region	0.0	1.0	2.7	5.1	1.2	0.0	0.0	1.4	4.1	3.0	0.0	0.7	1.2	2.5	3.2
Ústí nad Labem Region	0.0	1.1	1.2	2.2	5.5	0.0	0.6	1.2	3.1	3.0	0.0	1.1	0.7	3.5	4.1
Liberec Region	0.0	0.5	1.6	4.5	8.6	0.0	1.5	2.0	3.4	4.2	0.0	0.9	2.0	2.5	0.8
Hradec Králové Region	0.0	0.8	2.9	4.1	6.9	0.0	2.1	2.3	5.1	8.1	0.0	2.2	1.9	4.4	3.7
Pardubice Region	0.0	4.2	1.7	4.6	8.4	0.0	2.5	1.4	2.9	6.2	0.0	2.7	2.2	3.1	8.2
Vysočina Region	0.0	2.2	2.1	3.9	6.2	0.0	1.1	2.0	3.2	6.0	0.0	2.8	1.6	4.7	6.8
South Moravia	0.0	0.9	1.5	1.9	5.7	0.0	1.2	0.5	2.5	5.9	0.0	1.6	0.8	2.1	5.0
Olomouc Region	0.0	1.2	2.0	2.4	3.6	0.0	0.0	1.0	1.4	3.2	0.0	0.0	0.6	2.1	2.3
Zlín Region	0.0	0.9	1.3	4.2	7.5	0.0	1.3	1.7	3.0	6.2	0.0	0.0	1.2	2.4	3.3
Moravia- Silesia	0.0	1.2	1.4	2.3	6.1	0.0	0.0	1.7	2.4	4.4	0.0	0.0	1.4	3.0	5.8
Czech Republic	0.0	1.5	1.8	3.0	5.8	0.0	1.1	1.5	2.9	6.0	0.0	1.0	1.3	2.7	4.2

Source: ČSÚ (2000, 2003b, 2006f), own calculations.

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