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Article

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Low participation and regional inequalities – interrelated features of the Hungarian labour market*

– Case study –

Károly Fazekas

Low participation and spatial polarisation are two interrelated features of the Hungarian labour market. The paper investigates these features taking stock of stylised facts and results of the relevant empirical literature. The first part gives a brief overview of the impact of transition on the Hungarian labour market. Three phases of transition are discussed and post-transitional labour market development is described in an international comparison. In the second part of the paper the main reasons for the low employment and high inactivity rates are pointed out. In the third part determinants of the spatial labour market differences and polarisation are analysed. The fourth part concludes and offers some policy options.

Contents

	Introduction	3	Regional differences in economic activity – why does it increase and why could it not be mitigated?
1	Impact of transition on the Hungarian labour market	3.1	Time path of regional differences in economic activity
2	Who are the economically inactive? Why do they not work and why do they not search for work?	3.2	Winners and losers of transition
2.1	Declining search intensity of the non-employed	3.3	On the causes of micro-regional differences
2.2	Main reasons of declining search intensity on the labour market	3.4	The role of FDI in increasing regional differences
		4	Conclusions and policy options

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Introduction

Hungary has been a front-runner among CEE countries in the transition from the state planned economy to capitalism over the last fourteen years. The country successfully passed through the most painful periods of economic transformation and has turned into a vigorous market economy. The average growth of the real GDP has been 4.1 percent annually since 1997, steadily exceeding the EU15 average (2.2%). Economic growth has been accompanied by a rapid increase of productivity and large scale economic restructuring. This excellent performance of the economy was mainly due to the dynamism of the export oriented manufacturing sector which has become dominated by foreign-owned companies. Hungary takes fourth place in the per capita ratio ranking of the positive net FDI inflows in the group of OECD countries (OECD, 2004).¹

1 Impact of transition on the Hungarian labour market

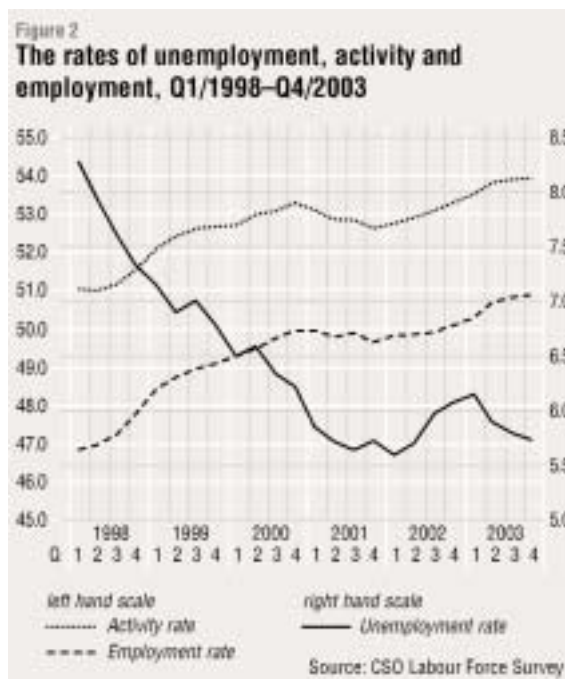
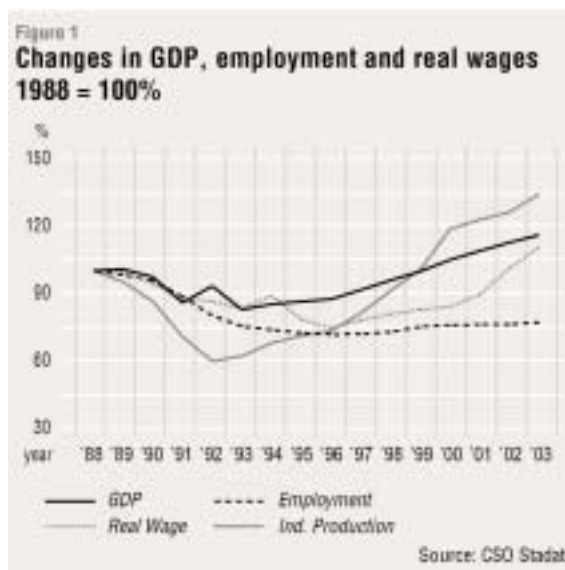
Social costs of transition

Nevertheless, similarly to other transition countries Hungarians have had to pay the price: the enormous social costs of transition. Full employment, social equality, and balanced regional development had been the major explicit policy goals during the old regimes for more than four decades. Transition brought about dramatic changes in this field of “socialist achievements”. Hungary experienced one of the largest declines in employment in the CEE countries during transition (Svejnar 2002). Total employment decreased from 4.8 million in 1987 to 3.5 million in 1996. All (net) job destruction took place outside of public administration, health and education. Employment outside those sectors fell from 4 million in 1987 to 2.7 million in 1995, which meant that one third of all jobs were destroyed (Kézdi 2002).

Where full and lifetime employment, scarcity of labour, compressed income and regional distribution used to be the standard, the situation is now the reverse in many respects. The system change has been accompanied by large-scale redundancies, massive long term or frequently recurrent unemployment, a high level of inactivity, and growing income and regional disparities.

Three phases of transition

Based on the evolution of GDP, employment and real wages indicators between 1989–2004 (Figure 1) the post socialist era so far can be divided into three peri-



ods: *transitional crises* (1989–1993), *economic recovery* (1994–1997) and *catching up* leading to the accession to the European Union (1998–2004). The evolution of the Hungarian labour market adequately reflects the different characteristics of the three periods.

¹ According to the latest report of the Central Statistical Office, more than 40 percent of the GDP, 47 percent of gross sales, 44 percent of value added and 83 percent of the total exports were performed by foreign investment enterprises (FIEs) in 2002. FIEs engaged 25 percent of the corporate sector employees in the same year (CSO 2004).

During the years of transitional crises GDP fell by 17.5 percent. One and a half million jobs (25%) disappeared and the employment rate of the working age population decreased from 76 to 60 percent. Large scale job destruction led to a fast increase of open unemployment and massive outflows from employment to inactivity. In the first quarter of 1993, at the bottom of the recession, the unemployment rate was 12 percent and the ratio of long-term unemployed exceeded 43 percent. At the end of 1993 the inactivity rate of the working age population reached as much as 31 percent. Parallel to this, fast deterioration of real wages took place. In 1993 the average real wages were less than 83 percent of the wages paid in 1989.

During the years of economic recovery GDP started to increase and exceeded their pre-transition level in 1999. Hungary followed an export led economic growth fuelled by massive inflows of foreign direct investment concentrated in the manufacturing sector. The improving economic situation had certain positive effects on the labour market as well. The unemployment rate decreased from 11.9 percent to 8.7 percent between 1993–1997 and real wages started to grow in 1997. On the negative side, however, the revival of the economy did not induce growth in employment. The participation rate continued to decrease and had become the lowest among the transition countries. On the other hand, the rapid increase of production together with stagnating employment was a driver for the substantial increase of productivity.

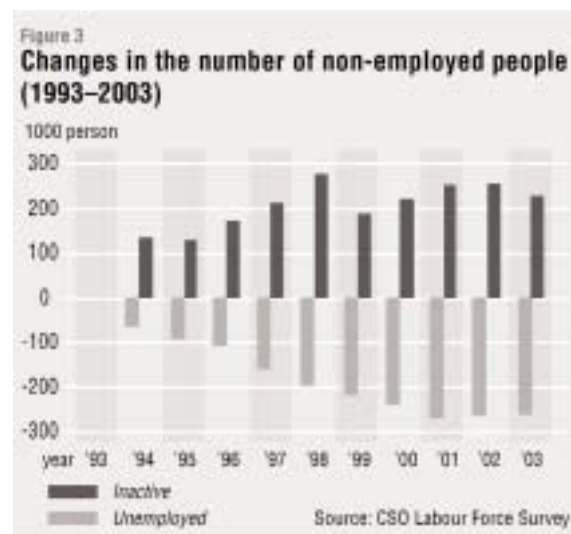
This “jobless” type of growth had come to end in 1997. In the following three years the average yearly growth of GDP and industrial production was 4.7 and 13 percent respectively, and the growth of employment recorded a positive 1.4 percent. Between 1997–2000 the unemployment rate decreased from 8.7 percent to 6.4 percent. Mainly due to fast pre-election wage increases and the direct and indirect effects of the nearly doubled minimum wage, real wages increased by 6.4 in 2001. The salaries of civil servants increased on average by 50 percent from 1st September 2002, contributing to a 13.6 percent real wage increase for the whole year. In 2002, the export driven growth of the previous years was replaced by a development stimulated by internal demand. Strong fiscal expansion and state financed infrastructure developments prevented the economy from slowing down but the cost was high: the macro-economic balance of the Hungarian economy deteriorated. The growth of GDP decreased from 3.7 percent to 3.3 percent in 2002 and to 3 percent in 2003. Hungary’s export growth slowed down and the inflow of foreign direct investment (FDI) decreased substantially in 2002 with a further deterioration of this trend 2003.

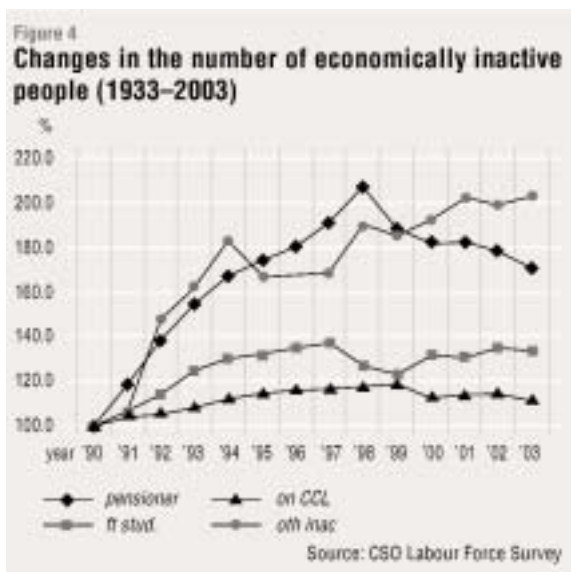
The labour market reflected these negative tendencies. The employment ratio, which showed a steady increase since 1997, started to stagnate after in 2002 (see Figure 2).

The Hungarian economy reached the bottom of the slowdown in the summer of 2003 and growth slightly accelerated in the second half of the year. The GDP increased by 3.6 percent in the fourth quarter of 2003 and by 4 percent in the first half of 2004. Industrial production increased by 6.4 percent in 2003 and by more than 10 percent in the first half of 2004. The inflow of FDI was substantially higher than last year and investments in manufacturing industry began to increase after the sharp decline of the previous year. Labour market indicators somewhat reflect the improving economic situation. However, as employment adjusted to expanding demand more slowly than did production, accelerated growth in productivity was recorded. The unemployment ratio returned to its downward trend in 2003 and was fluctuating around 5.7 percent during the whole year – a much lower level than the EU average in 2003.

The post transitional labour market in international comparison

Unfortunately, a more detailed analysis of labour market activity shows a far less impressive picture. The outcome of the post-transitional Hungarian labour market is exceptionally poor or at least paradoxical by international comparison. Although, Hungary has one of the lowest unemployment rates in Europe, as a result of continuous decrease since the transition crises were over, decreasing unemployment was mostly a consequence of increasing economic inactivity within the stagnating non-employed population and definitely not the result of growing





15–24 age group and 25–54 male age group the participation rate is exceptionally low and is out of the range not only of the EU countries but that of the Visegrad countries³ as well. 19.9 percent of the prime age male population and 70.2 percent of the 55–64 age population do not want or could not enter the labour market. The corresponding figures of the EU 15 average 7.6 percent and 55.4 percent. According to these figures the Hungarian labour market is surprisingly small compared to the size of the population.

Such a relative smallness is accompanied by high and increasing regional disparities, and growing spatial polarisation. Enterprises, jobs, the employed population, income, the wealth and the general wellbeing are more and more concentrated in the most developed core regions while the long term unemployed, inactivity, the poverty, ill health and social exclusion are more and more concentrated in the less developed peripheral local labour markets (LLM) of the country (Faluvégi 2004).

demand for labour (see Figure 3). Reducing unemployment via decreasing search intensity² of the non-employed could hardly be appreciated as a positive feature of the labour market.

Here we arrive at the main questions of this paper: Why is the Hungarian participation ratio so low? Why is the ratio of the inactive population within the

The employment rate of the 15–64 old Hungarian population is one of the lowest among the OECD and EU countries including the new member states while the Hungarian participation ratio is the lowest both in the EU member states and in the OECD countries. Data show that in certain age/gender groups such as:

² Search intensity = (number of the unemployed) / (number of the non-employed population).

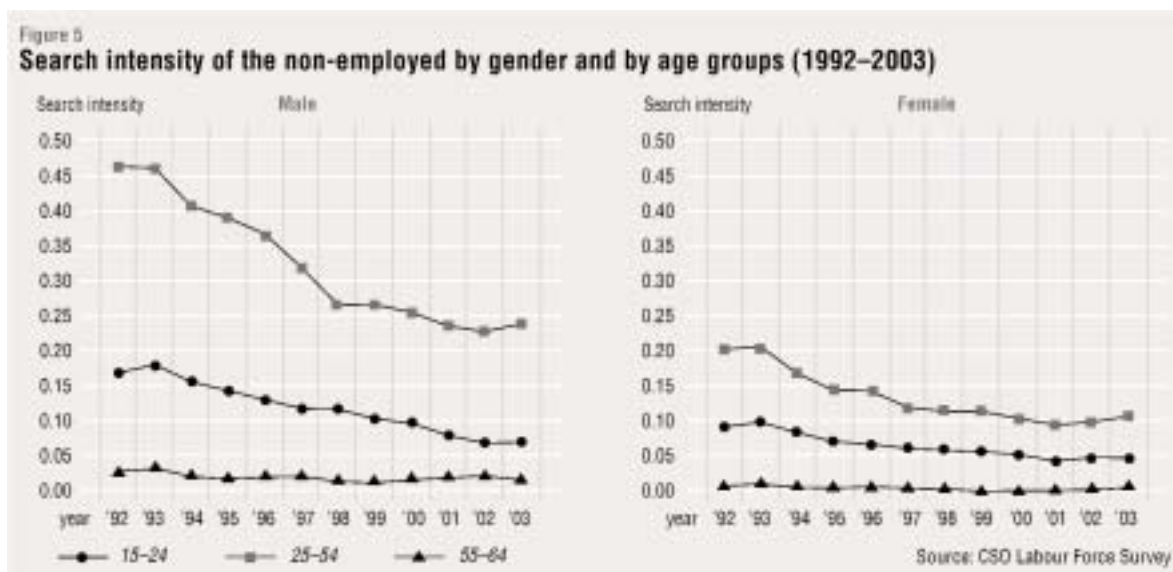
³ Czech Republik, Hungary, Poland, Slovakia.

Table 1
Participation rates age by age and gender (2003)

		EU15*			AC3**			Hungary
		Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean
15-64	total	70.0	61.1	79.6	68.0	64.6	70.7	60.1
	Male	78.5	73.1	84.5	74.9	70.6	78.7	67.7
	Female	61.5	47.9	75.8	61.3	58.7	63.2	52.9
15-24	Total	47.2	34.7	73.7	38.1	37.8	43.4	34.4
	Male	50.6	38.3	74.5	41.7	41.6	47.5	37.8
	Female	43.6	31.0	73.0	34.5	34.1	39.2	30.9
25-54	Total	83.2	75.7	88.1	86.2	81.5	88.6	76.9
	Male	92.4	89.8	95.1	91.9	87.2	94.8	84.3
	Female	73.9	60.3	85.5	80.5	75.8	83.9	69.5
55-64	Total	44.6	27.8	71.2	34.3	26.9	42.5	27.5
	Male	55.1	37.6	74.3	49.2	38.7	59.4	38.2
	Female	34.4	18.1	68.2	21.5	11.1	27.3	18.9

* EU member states before accession ** Poland, Czech Republic, Slovakia

Source: EUROSTAT



non-employed so high? Who are the inactive people? Why don't they search for a job? Why are the spatial differences of the local labour markets so high and what are the main reasons for the increasing gap and polarisation of the LLMs? Which regions and localities are the winners and which are the losers of transition. Why couldn't the labour market differences be elevated by mobility of workers or mobility of the jobs between the high and low employment regions in such a small country? What are the possibilities for employment policy measures aiming to increase employment and to mitigate labour market differences?

In the following parts of the paper we are going to answer these questions taking stock of stylised facts and results of the relevant empirical literature. In the second part the main reasons of the low employment and high inactivity on the post transitional Hungarian labour market will be discussed. In the third part determinants of the spatial labour market differences and polarisation will be analysed. In the fourth part conclusions and some policy options will be summarised.

2 Who are the economically inactive? Why do they not work and why do they not search for jobs?

2.1 Declining search intensity of the non-employed

The CSO Labour Force Survey identified 1,278 thousand working age inactive people in Hungary in 2003. This figure represents 20.2 percent of the

working age population.⁴ One third of the inactive people were students, 12.4 percent were women on childcare leave, 31.1 percent were on pension and 23.8 percent, more than half a million people were absent from the labour market for unknown reasons. The number of working age inactive increased by 717 thousand (52 percent) between 1990–2003. 28 percent of this growth comes from the increasing number of working age pensioners, 25 percent comes from the increasing number of full time students, 4 percent comes from the increasing number of women on child care leave and 42 percent of the increase comes from the increasing number of working age inactive having no known reason for their inactivity. Figure 4 shows that the number of pensioners decreased after 1998 while the number of those inactive with no known reason continued to grow even during recent years.

Such a rapid increase of the inactive population was mainly a result of declining search intensity within the non-employed working age population following the transition crises. In 2003, the search intensity of the working age population was less than half of the same figure in 1993. The fraction of active job seekers fell from nearly 21 percent in 1993 to 10 percent in 2003. The decline of search intensity had a differential intensity within the separate age-gender brackets of the non-employed (see Figure 5). The decline was the greatest in the prime age male population (25–54).

⁴ Working age population refers: male age 15–59, female age 15–54.

2.2 Main reasons of declining search intensity on the labour market

The increasing share of inactivity within the non-employed can be attributed to a large set of different reasons. According to the results of empirical studies on this issue⁵ the following strongly interrelated factors seem to have the greatest importance in Hungary:

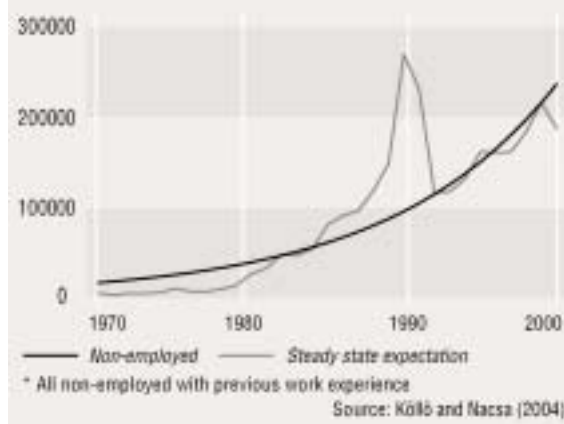
- Deteriorating employability of those who lost their jobs during the transitional crises and who never returned to permanent employment;
- Increasing participation of the 15–24 age generation in full time education;
- Low employment probability and high ratio and continuous supply of the unskilled population;
- Devaluation of human capital accumulated by the older generations before the transition;
- Increasing number and decreasing search intensity of women on child care leave;
- Increasing share and decreasing employment probability of the disabled population;
- Growing number and decreasing employment probability of the Roma population;
- Deteriorating employment capacity of backward regions, persisting obstacles to labour mobility.

In the following part of this chapter we will shortly discuss the above listed reasons and tendencies. Regional processes will be discussed separately in the third chapter.

Legacy of the transitional crises

According to a recent analysis of Köllő-Nacsá (2004) and Lelkes-Scharle (2004) the huge gap between Hungary's participation ratio and that of the EU is mostly accounted for by a great number of the prime-age (25–54) population *completely* withdrawn from the labor market. A high fraction of these workers left employment as long as 15 years ago and will presumably never return to the labor market. Withdrawal was encouraged by indulgent retirement policies, generous child-care schemes, and a sizeable informal economy providing income for those who were pushed out of employment or voluntarily chose to leave the labor market. Köllő and Nacsá compared the actual distributions of the non-employed to the expected distributions under steady state and constant exit job hazards. They found minor deviations

Figure 6
The distribution of the non-employed population in 2000 by the year its members were last employed (Labour Force Survey, 2000. Q4.)*



from the expectation with respect to cohorts leaving employment *before* 1989 and *after* 1991. In the case of people losing their jobs in 1989–91 and remaining non-employed until recently the difference between the expected and the actual number was 403 thousand in all age groups and 147 thousand in the age group 15–59. The surplus above the expected values account for 10 and 4 percent of the number of employed population in the respective age range (Figure 6). This is roughly equal to the gap between the Hungarian and the EU employment rates. The extremely high share of inactive people within this group could be easily understood taking into account that most of them exhausted their unemployment benefit entitlement period in the early nineties, their health condition deteriorated and their knowledge, accumulated during the old regime, seriously depreciated. Most of them gave up searching for jobs realising that they had little if any probability of returning to employment again.

Increasing participation of the 15–24 age generation in full time education

In 2003 participation rate of the 15–24 age population was 34.5 percent, much less than the EU15 average (47.2 %). Table 2 shows that participation rate decreased over the nineties. Employment rate of the 15–24 old generation decreased from 35.3 percent to 26.7 percent between 1992–2003. Unemployment ra-

⁵ The following part of the paper is predominantly based on a series of empirical studies carried out within the working group of labour researchers of the Institute of Economics – HAS. See: Budapest Working Papers on the Labour Market <http://econ.core.hu/index.php?cmd=27&lang=en>.

tio decreased from 8.2 percent to 4.1 percent, inactivity ratio increased from 56.5 to 69.2 percent in the same period. Figure 4 shows that search intensity of the 15–24 old was less than a half of the figure in 1992. Decreasing search intensity can be attributed to a long term trend of increasing participation of young people in full time education. Nevertheless CSO labour force survey found more than 220 thousand non-studying inactive young people (16.8%). Some of them obviously had a good reason to stay away from the labour market including childcare disability, etc. However, more than 160,000 were out of the labour market without any socially recognised reasons.

In the framework of the labour force survey, the Central Statistical Office analysed the labour market situation of the young people in the 4th quarter of 2002, on the fifth occasion (CSO, 2003). According to the results, at the end of 2002, 22 percent of the employed young people were able to find a job immediately after the completion of their school, and approximately 50 percent found a job within 1–2 months, but 6 per cent had an at least 12 months spent in job search. People with college and university degrees had the best chance to find employment smoothly, mainly with the help relatives, acquaintances and the school. Less than 4 percent found a job with the assistance of the employment agencies, although this ratio is to and a half times higher among the unemployed. More than one-third of the unemployed young people have never worked, and they have typically been searching for a job for at least 12 months. Almost 25 percent of the young people already registered at the local employment office. 67 percent of the employed, and 87 percent of the inactive have never been at the employment office, because they did not need to go there. 22 percent of the job-seekers did not register because they would never get any support. Only 5 percent of the asked young people considered themselves registered unemployed.

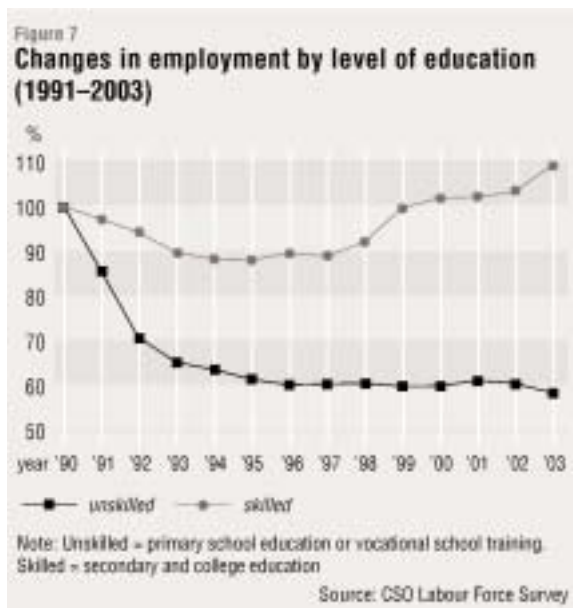
Low employment probability and high ratio and continuous supply of the unskilled population

Kertesi and Varga (2004) decomposed the 14 percentage point difference between the EU and Hungarian employment rate in 2001. According to their result only 2.1 – 3.6 percentage points can be attributed to the relatively low absorption capacity of the Hungarian labour market towards skilled labour. 3.5–5.2 percentage points come from the relatively high ratio of the unskilled population. The bulk of the difference, 5.3–8.0 percentage points comes from the low employment probability of the unskilled labour compared to the EU countries.

Unfortunately the relatively high ratio of the unskilled population cannot be evaluated as a provisional legacy of the underdeveloped status of pre-transitional Hungary. Besides a strong expansion of the medium and high level education, reproduction of the unskilled population continued in the nineties. According to the calculations of Kertesi and Varga about one fifth of each 20 years old age cohort left the education system and had to enter the labour market with no “tradable” skill in each year between 1985–2000. The main reasons for this shocking failure of the education system is that the expansion of the education system failed to serve the needs of the most disadvantaged groups of the society. The existing basic level Hungarian schools could definitely not compensate for the social backwardness of children socialised in families from within the most deprived layers of Hungarian society.

Relatively low employment probability of the unskilled population has different reasons. One factor may be linked to the specific features of the job destruction and job creation process during transition. Fazekas (2004) showed that the vast majority of net job creation was carried out by foreign investment enterprises and was concentrated towards the most developed part of the country during the nineties.⁶ Another important feature of job creation was related to skill biased technological change during transition. Commander and Köllő (2004) examined the skill content of job creation and job destruction using a detailed three-country survey. Their results show that transition has exerted a strong bias against unskilled labour and unskilled workers have lost employment disproportionately. Job creation in new firms tends to be biased against workers with low educational attainments and skills. In the case of Hungary, demand for unskilled labour had already started to diminish during the pre-transitional period. Between 1987 and 1996, the employment of people with 11 grades or less fell from 3,1 to 1,9 million (–38%), compared to 1,17 to 1,09 million (–7%) for those with 12 grades, and 0,56 to 0,54 million (–5%) for the college educated. Demand for unskilled labour dropped much more significantly than its average decrease in the years following the regime change. The number of jobs available to people with primary school education or vocational school training dropped by 48 percent between 1990 and 1995, and did not increase after that time. In the early 1990s, the demand for people with secondary and college education also dropped by 11 percent, but for this group years of economic recovery created roughly the same number of jobs that had

⁶ Spatial characteristics of job creation will be discussed in the third part of the paper.



disappeared after the collapse of the socialist economy (Köllő 2003, Kézdi 2002, Kertesi-Köllő 2002, Tarjáni, 2004).

The changing composition of the employed population in Hungary reflects this process. Figure 7 shows that the number of unskilled and skilled jobs decreased by 35 and 11 percent between 1989–1993. During the years of economic recovery the number of skilled jobs began to increase but the destruction of unskilled jobs continued albeit with much slower intensity. In 2003 the number of skilled jobs exceeded the level of 1990 by 9 percent while the number of unskilled jobs was less than 60 percent of the level in 1990.

In Hungary similarly to other CEE countries the participation rates (as well as employment ratios) of those with a low educational level are low compared to the developed western OECD countries (Kertesi - Varga 2004, Kézdi-Horvát-Hudomiet 2004). Nevertheless Köllő and Nacsá (2004) argues that this pattern is crucially altered from that prevailing in low income OECD member states where low skilled people flow in and out of low-wage, unstable jobs with relatively short spells of unemployment between two spells of employment. In Hungary the vast majority of unskilled people are out of employment permanently or for long periods of time. According to the authors this fact is most probably explained by lack of a sizeable small-firm sector employing low-skilled/low-paid labor.

Another important cause of low demand for the low-skilled/low-paid jobs is the high tax wedge in Hungary. Despite a decrease in social security contribu-

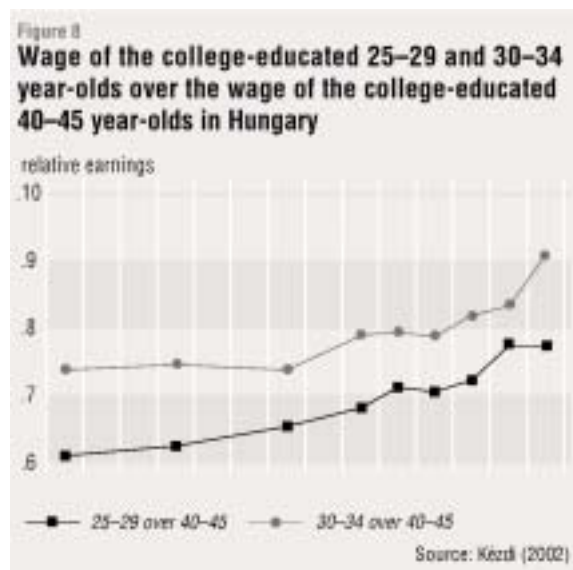
tion rates since the early nineties, total taxes and contributions on labour remain the highest in Europe. A key element of the high tax wedge effect on low paid work is the employer's lump-sum contribution to healthcare funds. In 2003, this fixed contribution represented 9 percent of the employer's contribution at the average wage level but 17 percent at the minimum wage level. Lump-sum contribution also discourages the development of part-time employment. Part time employment slightly increased but represented only 4.4 percent of the total registered employment in Hungary against the 17.1 percent EU average in 2003. According to the latest government proposal discussed by the social partners lump-sum contribution will be substantially reduced at the end of 2005 and will be terminated at the end of 2006.

Demand for low skilled/low paid jobs was largely reduced by the large increases in the statutory minimum wage since 2000. While in 2000, 10 percent of business employment was at the minimum wage this share had risen to 18 per cent in 2002. The increase in labour costs hit the small domestically owned firms and local labour markets in the less developed regions especially hard (Kertesi and Köllő 2003).

Devaluation of human capital accumulated by the older generations before the transition

The employment rate of the older workers decreased rapidly during the years of transitional crises. In cases of redundancies and mass dismissals Hungarian firms preferred to use early retirement and disability pension schemes as the least painful means of workforce reduction. Moreover, early retirement was explicitly encouraged by the government in the early transition period. In 1991–97 early retirement (as opposed to old-age and disability pensions) accounted for a high and growing share of total retirement: 23 percent in 1991, 27 percent in 1994, and 30 percent in 1997. With a radical change of government policy the ratio dropped to 17 percent in 1998 and 3–4 percent in 1999–2001. Currently, only older workers with long contribution histories are allowed to benefit from early retirement, and less than 170,000 people – or 2.6 percent of the working age population – are now receiving these benefits, against more than 500,000 in 1999.

In the second part of the nineties, the government decided to raise the retirement age for old age pension benefit and to introduce stricter conditions for disability schemes. The increased employment rate of the older population in 1999–2003 reflects these changes (Széman 1994, Köllő and Nacsá 2004). Nevertheless the employment rate of the 55–74 years old population remained relatively low by international



comparison and the search intensity of the old age non-employed did not increase.

One of the main features of changes in labour market relations during transition is a sizeable increase in the returns to skill and decrease in return to age and experience in employment pattern and wage formation within the corporate sector. Kézdi (2002) and Kertesi-Köllő (2001, 2002) found that transition had dramatically different impacts on different age cohorts. In general, labour market experience accumulated through the years of the old regime devaluated after 1990. Figure 8 shows the significant increase in the wage of the college-educated 25–29 years old and the 30–34 years old relative to the college-educated 40–54 years old. All improved their position compared to the middle aged during the whole time period (except for 30–34 year-old women until the mid-1990's), and these trends accelerated after 1995.

Increasing number and decreasing search intensity and re-employment probability of mothers on childcare leave

While slightly above the OECD average in 2000, the prime-age female labour force participation has been decreasing significantly in Hungary over the past two decades, more than in the other OECD Central European countries. The decrease in the participation rate for women has been slightly higher than for men over the nineties.

In the case of the male population the economically inactive working age population ratio increased from 18 percent to 30 percent between 1990–2003, while the inactive working age population ratio of females increased from 27 percent to 41 percent during this peri-

od. The difference between the number of the male and female inactive population is more or less equivalent to the number of women on childcare leave. Their ratio in the inactive female population was 23 percent in 1990 and did not decrease during recent years. While the number of births decreased by 35 percent between 1990–2003 the number of women participating in child care benefit schemes increased by 18 percent in this period. For a lot of young mothers childcare leave means an escape from the unemployed status. Meanwhile the decreasing search intensity of women covered by CCB schemes shows that the longer the period they spend out of the labour market the lower their re-employment probability after exhausting their eligibility period. While child care leave theoretically has a positive impact on female participation by helping women reconcile working and family lives, the extended child care leave of up to 3 years makes it more difficult for women to return to the labour market. OECD (2003) evaluation on the Hungarian labour market emphasises that generous family support measures such as child care, benefit female labour force participation, particularly among the low-skilled. Child benefits, which were raised by 20 percent in 2002, are relatively high, amounting for example to over 40 percent of the minimum wage for a family with three children. Given that the funding of childcare institutions is decentralised, access is particularly limited in poor areas or localities with high unemployment and poor tax returns, notably those with a high concentration of Roma population.

Increasing share and decreasing employment probability of the disabled population

The number of persons of working age receiving disability benefit has grown from 412,000 in 1998 to 461,000 in 2002 (OECD 2003). By international comparison, the ratio of people receiving disability benefit in Hungary is very large, 9 percent of the 20–64 age group are on disability benefit. As much as 577 thousand people, 7.4 percent of the 15–74 age population was identified as disabled by the CSO Census in 2001. The ratio of the inactive in the disabled population increased from 57.5 percent to 76.7 percent between 1990–2001.

In 2003, more than 700,000 working age disabled people was covered by disability benefit schemes (11.1 percent of the working age population).⁷ The average disability benefit received by people of working age was equivalent to around 50 percent of the average wage in early 2003, somewhat above the

⁷ Source: Statistical Yearbook of the Directorate of the National Pension Fund 2003.

OECD average. In part the high disability rate reflects the poor health condition of Hungarian workers. However, increasing numbers of beneficiaries at a pace beyond what might be expected from an ageing population suggests that for reasons beyond trends in health, successful applications for disability benefit have swelled, possibly because of the tightening up of other forms of income support.

The employment of people with disabilities is also extremely low in Hungary compared to western countries and most importantly, most of them are employed in so-called sheltered workplaces and not at integrated workplaces. Their employment rate was 9 percent while the relevant figure of the EU15 countries was 40–50 percent for the disabled and 30–40 percent for the seriously disabled. In addition to their disability disabled people also suffer from their educational backwardness. 70 percent of the disabled have as a maximum basic level education while the relevant figure for the non-disabled is less than 50 percent. 5 percent of the disabled while more than 12 percent of the non disabled have completed high level education. According to the latest survey conducted by the Central Statistical Office in 2002, less than 15 percent of the population with long-term health problems were present on the labour market (13 percent as employed and 1.5 per cent as unemployed). Among those employed less than 20 % were employed in special (sheltered or supported) jobs. One of the main reasons for the low employment probability of disabled people is the inadequate availability of integrated education and the lack of disabled friendly access to buildings.

Poor labour market access of the Roma population

Roma are the biggest ethnic minority in Hungary. The estimated size of the Roma minority is about 600 thousand, more than 6 percent of the population and this ratio will grow to 10–11 percent in the next ten years. Their fate is the most painful example of cumulative causation of labour market backwardness during transition. In 1984 the employment rate of the male Roma working age population was 75 percent, more or less equivalent to the country average. Unfortunately most of them were dismissed during the transitional crises. By 1993 the employment rate of the male working age Roma population was less than 30 percent.

Kertesi (2004) demonstrated that the employment of Romany workers in the middle of the nineties was not only at a very low level, but was characterised by high in- and outflow rates and an employment pattern showing unstable employment and short employment spells. Kertesi observed a growing gap between the

employment possibilities of the Roma and non-Roma people (to the disadvantage of the Roma), that cannot be fully attributed to the differences in the composition of the two populations. The Roma have lost their jobs to a far greater extent not only because they have much less schooling but also because of their disadvantageous regional dispersion. Discrimination against them in the market place also plays an important part.

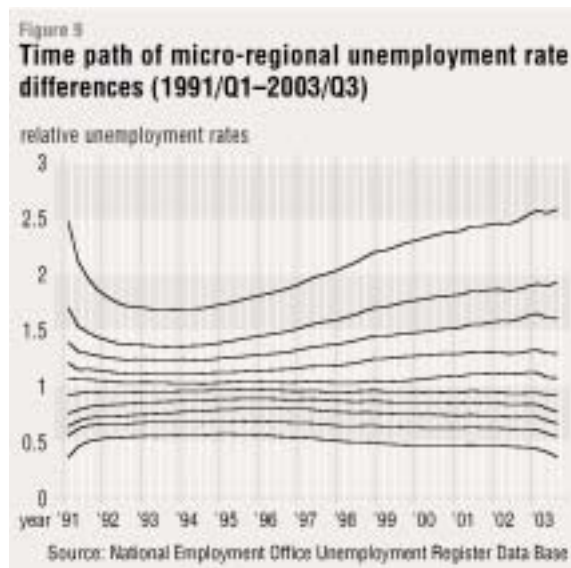
Based on individual cross-sectional data Kertesi (2004) tried to compare the relative weights of the different causes of low employment: low schooling, regional disadvantages and discrimination. With equations predicting the probability of being employed, Kertesi demonstrated that about half of the differences in employment probabilities depending on the type of schooling were caused by the effect of differences in the composition of the Romany and non-Romany populations by schooling. The analysis of regional disadvantages pointed out that although the effect of differences in composition is sizeable, these disadvantages have a much more depressing effect on the employment of the Roma than on the employment of non-Romany workers with the same attributes. Summing up results of the analysis the author stated that “the employment prospects – and from another viewpoint: life chances – of the Romany population are rendered feeble by basically three factors: low schooling, regional disadvantages and discrimination. All therapy should work to mitigate these forces.”

Today the employment rate of the Roma is roughly half, their unemployment rate three to five times higher and the number of dependants per earner three times higher than the corresponding figures for the non-Roma population. Family allowance and social benefits are the only source of living for many Roma families. The persistence of low education, growing ethnic segregation in schools (Havas/Kemény and Liskó 2002) and residential disadvantages, and the growing concentration of the Roma population in poor regions (Kertesi 2004) carries the danger of increasing social exclusion and severe ethnic separation in the future.

3 Regional differences in economic activity – why does it increase and why could it not be mitigated?

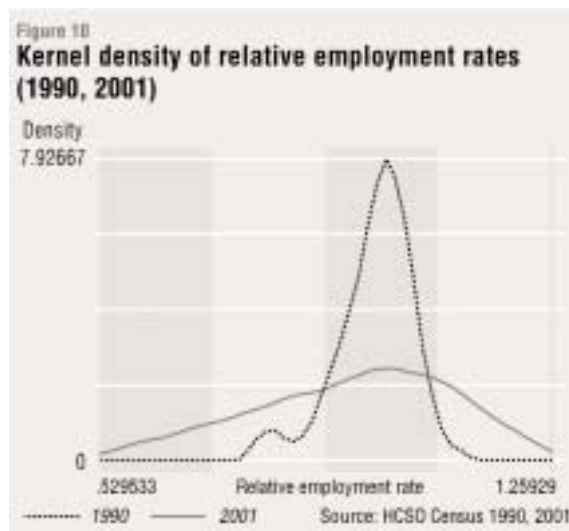
3.1 Time path of regional differences in economic activity

Indicators of local labour market differences have been showing a steadily increasing trend in terms of



the range of relative differences, polarisation and increasing core-periphery division. The Central Statistical Office (CSO) provides region level⁸ time series of the Labour Force Surveys and the national accounts. These data show that the decline in economic performance and employment has been much more severe in disadvantaged rural regions of the East and Southwest than in the more urbanised Central and North-western territories. Regional employment or unemployment rate differences at NUTS-2 level, however, are not particularly large by international comparison and did not tend to increase during recent years. The problem is that, in the case of Hungary, NUTS-2 level analyses of labour market indicators give a distorted picture. This is because due to the relatively high travel costs of commuting and the underdeveloped transport infrastructure, local labour markets (LLMs) are small sized, closed and fragmented. The size of LLMs fits more into the category of NUTS-4 level “micro-regions”.⁹

Figure 9 shows the time path of average registered unemployment rates¹⁰ of 150 micro regions in Hungary between 1990–2003. Expressing mean registered unemployment rates of each decile of the 150 micro-regions in the percentage of the median at each period gives us a detailed picture of the time path of the relative unemployment rate differential at micro-regional level. We can see that large differences had appeared during the turbulent period of the collapse of the socialist economy. In the second phase of transition, after a short period of decrease and stagnation, regional differences began to increase again. The widening gap has been mainly generated by the continuously deteriorating position of the high unemployment regions.



Growing micro-regional disparities were accompanied by two other important features: high rank stability on the one hand and polarisation of micro-regions on the other. The majority of micro-regions which were in a relatively good position at the start recovered faster from the transitional shock and turned out to be the winners of the post transitional period, while the vast majority of backward regions of the socialist economy was not able to overcome their disadvantageous status even after 10 years of transition. High rank stability points to long-term, hard-to-change explanatory factors behind the successes and failures of the micro-regions (Ábrahám/Kertesi 1998, Fazekas 1996, 2000, Nemes Nagy 2004).

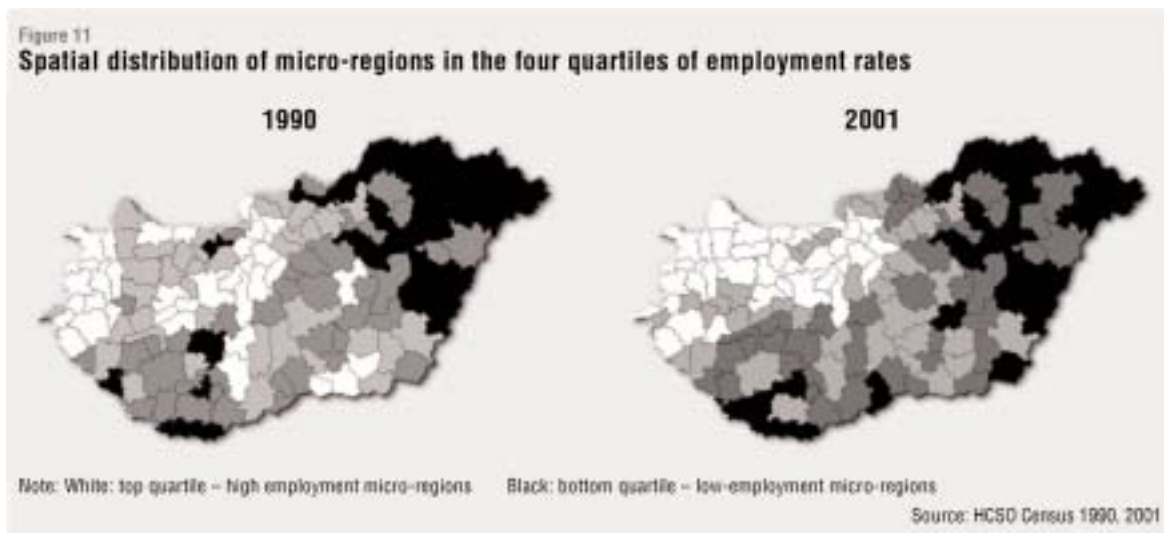
Figure 10 shows the Kernel density estimation¹¹ of relative employment rates of micro-regions in 1990

⁸ There are 7 statistical-planning regions (NUTS-2 units), 19 counties and the capital, Budapest (NUTS-3 level units), 150 statistical micro-regions (NUTS-4 level units) and 3,120 settlements (NUTS-5 level units) in Hungary. The average size of micro-regions is 620.2 km², the average number of the local population is 77,279 and the average density of population is 108.5 cap./km². On the NUTS classification (see: Eurostat 1995).

⁹ Given the relatively high cost of public transport the effective local labour market in backward regions is estimated to be confined to a radius of 16 km or less in case of unskilled labour. (OECD 2002)

¹⁰ The small sample size of the HCSO Labour Force Survey does not allow us to calculate micro-region level time series for different labour market status of the local population. Micro-region level registered unemployment rates time series can be calculated from the settlement level Unemployment Register Data Base of the National Employment Office.

¹¹ Kernel density estimation is a non-parametric technique for density estimation in which a known density function (the kernel) is averaged across the observed data points to create a smooth approximation. Silverman (1986).



and 2001. The two lines reflect *polarisation* of micro-regions. Both the range of the relative employment rates and the density of regions at the low and high end of the distribution have increased during the 1990's. This polarisation has led to an emergence of sizeable groups of “extremely high” and “extremely low” employment regions.

3.2 Winners and losers of transition

Grouping micro-regions into quartiles according to employment rates¹² gives a simple but clearly defined picture of the “winners” and “losers” of transition at the level of LLMs. The top quartile (high employment) regions had a 65.7 percent employment rate in 2001, covered 20.3 percent of the territory and 38.8 percent of the population of the country. The corresponding figures of the bottom quartile (low employment) regions were: 40.9 percent, 24.6 percent and 14.1 percent.

Figure 11 shows the geographical distribution of top and bottom quartiles of micro-regions in 1990 and 2001. One can see a clear east-west, core-periphery division before and after the transition. The central agglomeration and regions along the main east-west transport routes in the direction of Graz and Vienna have the highest employment rates while most of the low employment regions are located at the periphery, along the East-Slovakian, Ukrainian, Romanian and Croatian borders. Comparing the two maps, it is visible that the core-periphery division of micro-regions has become stronger during the nineties. The average distance of the high employment regions from the main Austrian border crossing point (Hegyeshalom) decreased from 150 km to 111 km (–26%) while the average distance of the low employment regions in-

creased slightly, from 349 to 352 km (+1%).¹³ The correlation coefficients between the average employment rates of micro-regions and average distance of the region's centre from the Austrian border changed from –0.54 to –0.77 between 1990–2001 (Fazekas 2004).

3.3 On the causes of micro- regional differences

During the last decade a series of empirical studies investigated determinants of micro regional differences of economic activity in Hungary (Ábrahám/Kertesi 1998, Fazekas, 1996, 2000b, 2002, Nemes-Nagy 2004). Unanimous results show that the differences were generated by the demand side of the labour market. While the intensity of job destruction shows an equal regional distribution, the intensity of job creation follows an uneven pattern (Nemes-Nagy 2000). Emerging unemployment rate differences could be attributed mainly to the differences in geographic location, and in the entrepreneurial capacity and industrial heritage of the regions. The effect of existence of the state run large industries on their own was negatively related to the level of unemployment. The dominance of state industry has led to higher unemployment only in those regions where this dominance was coupled with low entrepreneurial capacity. Entrepreneurial capacity refers to the extent

¹² Employment rate = (employed population / working age (15–64) population)*100.

¹³ Distance of the high and low employment regions means the average minimum distance of the region's administrative centres from the Austrian Border (Hegyeshalom) on public road weighted by the number of working age population.

to which infrastructure and social, human and conditions of local economic development “were ready” at the start of the transition. Nemes Nagy (2004) and Fazekas (2000) found that until the middle of the decade the regional inequalities of unemployment on the micro-region level were mostly explained by the distance from the Western border. Beside the West-East division, however, the variable representing the lack of intellectual capital and also the share of uneducated persons became similarly important by now in shaping regional inequalities. The farther away a micro-region from the Western border and the higher the rate of uneducated people, the higher the unemployment in the region.

A relatively large level of the Hungarian undeclared employment is often presumed to play a key role in the low level of formal employment and search activity in high unemployment regions. Nevertheless, there is no straightforward linkage between the size of a region’s informal economy and its level of employment or search intensity. The question of whether formal and informal jobs are substitutes or complements, and whether people’s engagement in informal employment is conducive to lower search intensity, are difficult ones that require disaggregate data in order to properly address the problem. Köllő and Nacsá (2004) present some rough calculations estimating how employment and some proxies of the local informal economy were correlated in Hungary’s micro-regions, in 2000. Results of the estimations show a statistically significant inverse relationship between employment (as well as labour force participation) and indicators of the informal economy. Regions with a sizeable informal economy have lower *employment* rates. However, as soon as the equations were controlled for the level of education – thought of as a proxy of a region’s level of development and ability to absorb capital investments – all relationships between informal economy and labour market outcomes became statistically insignificant. Variations in the size of the informal economy actually do not explain variations in formal employment, unemployment, or search intensity once human capital endowments are controlled for.

According to the authors the observed correlation is consistent with the expectation of no causal relationship between informal and formal employment, or between informal employment and search intensity. The informal economy is widespread in regions with low levels of education and a number of related endowments conducive to low levels of job creation and employment. In this sense the informal economy is an effect rather than a ‘cause’ of low formal employment.

Impact of regional mobility on spatial labour market differences

On the supply side of the labour market regional labour market differences could be alleviated: by *commuting*, by *internal migration* from high unemployment regions towards low unemployment areas.

Köllő (1997) and Kertesi (2000) estimated the impact of transport costs on the openness of local labour markets. They found that the equalisation of regional unemployment rate differences is strongly limited by the high costs of commuting and the resulting segregation of the local labour markets. Kertesi (2000) examined commuting possibilities in the case of villages. He estimated how the costs of the availability of better urban labour markets affect the probability of becoming employed by those who could not find jobs in their places of residence. He found a strong effect of schooling on increasing the probability of work by commuting, mostly in the case of the male labour force. The more educated a person is, the higher his or her chances are to find employment that requires daily commuting. It is mostly educated people who could find jobs with wage levels high enough to cover commuting costs. Education raises the chances of employment by commuting travel costs induced job finding differentials are very large for unskilled workers, whereas similar travel costs have only trivial consequences for the job finding chances of people with higher education.

On the basis of large and increasing unemployment rate disparities accompanied by substantial regional wage differentials across regions one could have expected that internal migration flows would increase in Hungary as well. Yet, the reality has contradicted this expectation. Using aggregate in and out migration data by settlements, Kertesi (2000) and Cseres-Gergely (2003) has proved that migration behaviour reacts to economic incentives. Regions with high unemployment rates have suffered substantial migration losses while those with a low level of unemployment had migration gains. The magnitude of this effect, however, is quite modest and likely to remain so in the near future. Nevertheless there are several sets of factors (tight housing market, scarcity of rented flats, and serious regional mismatch of skill) that explain the low level of internal migration in Hungary and in other CEE countries.

3.4 The role of FDI in increasing regional differences

An important factor behind the changing location preferences of firms is the massive inflow of foreign direct investments and the fast increase of foreign firms’ em-

Table 2
Changes in corporate employment in the low and in the high employment regions between 1993 – 2002

Quartiles of micro-regions according to the average of employment rates in 2000	Changes in the number of employees 1993 = 100 %			Changes in the number of employees as a percentage of the working-age population		
	DEs %	FIEs %	Total %	DEs %	FIEs %	Total %
Low-employment regions Bottom quartile	-14.6	+79.2	-4.6	-2.5	+1.6	-0.9
High-employment regions Top quartile	+13.8	+106.0	+30.9	+4.1	+7.1	+11.2
Country total	+8.8	+91.1	+22.2	+2.2	+4.4	+6.6

Note: Financial sector excluded

Source: IE-FDI Database

ployment during the nineties. Fazekas (2004) found that the spatial concentration of corporate sector employment in the developed urban centres has substantially increased labour market differences. Allocation preferences of foreign firms had a further important positive impact on this process. The number of employees in the business sector increased by 404 thousand (22.2 percent) in Hungary between 1993–2002. This number equals 6.6 percent of the working age population of the country. More than two thirds of the net job creation was within the group of foreign firms. The number of foreign firms' employees increased by 91.1 percent while the number of domestic firms' employees increased by 8.8 percent.

Table 2 shows the size of employment changes in the corporate sector in two groups of micro regions. Employment change is presented as a percentage of the working age population. High employment regions and low employment regions refer to the top quartile and bottom quartile of micro regions ranked according to their employment rates in 1990. One can see that between 1993 – 2000 job creation of FIEs in the two quartiles had a crucial impact on employment rate differences. In the high employment regions net job creation of FIEs was 8 percent of the working age population while it was only 1.8 percent in the low employment regions. After 2000 net job destruction of FIEs was more concentrated in high employment regions. It means that after 2000 the spatial distribution of job destruction of FIEs decreased regional employment differences. This effect was counterbalanced by the spatial distribution of job creation/job destruction of domestic firms. In low employment regions DEs jobs decreased as much as 4 percent of the working age population while DEs job creation in high employment regions was around 3 percent of the working age population. In sum, for the whole period between 1993–2002 we can observe a net job destruction (-1 percent of the working age population) in the low employment regions and a net job creation (+11 percent) in the high employment regions.

Why do firms concentrate in high employment regions?

CSO-FDI data base contains information on the distribution of FDI stock and of FIEs employees at the level of macro regions and counties between 1995–2002 (CSO 2004). Data show that both FDI stock and FIEs employees were highly concentrated in the most developed regions (Central Hungary, Central Transdanubia and Western Transdanubia). In 1995 83 percent of the FDI stock and 72 percent of FIEs employees were located in these regions. On the level of macro regions the most important change that occurred between 1995–2002 was that the share of the Central Region in FIEs employment decreased by 10 percentage points, while the share of Northern Hungary increased by the same degree. Unfortunately the CSO FDI data base is not suitable for measuring the impact of firms' job creation on local labour markets for two reasons: 1.) It contains information on the regional distribution of foreign and domestic firms only at the level of macro regions and counties. 2.) In the CSO FDI data base firms are classified into regions according to the settlement of the headquarters of the firms. This method, however, overestimates the spatial concentration of firms because premises located in different regions are taken into account as if they were located in the headquarters' region (Hamar 1999).

We can investigate, however, at the micro region level the distribution of foreign and domestic enterprises with the help of the IE-FDI micro-regional data base. It contains a set of balance sheet data of all foreign and domestic enterprises, *separately* aggregated at NUTS-4 level of regions. Since the balance sheets of the firms contain the settlement code and the number of employees of each establishment of enterprises, the bias found in the CSO FDI data base has been reduced by the redistribution of firms' data between micro-regions in proportion to the branch's share in the total number of employees of the given firms.

Studies on spatial distribution of FDI (Hamar 1999, Fazekas 2001, Békés 2004) revealed that FDI inflows were highly concentrated in certain regions so it comes as no surprise that the concentration of FIEs jobs is higher than the concentration of the working age population and higher than the concentration of DEs employees. The difference between the concentration of FIEs and DEs jobs is, however, not particularly high. According to Fazekas' (2004) calculations for the year 2002 the Gini coefficients of the working age population, DEs employees and FIEs employees were 0.50, 0.63 and 0.70 respectively. 17.1 percent of the working age population, 23.0 percent of the domestic firms' employment and 23.5 percent of the foreign firms' employment were concentrated in one region: in the capital of the country. The top quartile of the micro regions (37 regions) having the highest shares covered 61.1 percent of the working age population, 73.3 percent of the DE's jobs and 78.3 percent of FIE's jobs in 2002.

Using relative concentration indexes we could measure the difference between the spatial distribution of FIE's or DE's jobs and the distribution of a benchmark variable (the working age population in this case). Fazekas (2004) found that the relative concentration of FIE's jobs is the highest in most of the micro-regions along the Austrian border but that there are also several regions of the top quartile in the eastern part of the country as well. The relative concentration of DE's jobs does not show a similarly clear east-west division.

We can have a more detailed picture of the determinants of spatial concentration of FIEs and DE's jobs by estimating the relative concentration of jobs by regressions using selected explanatory variables. Fazekas (2003, 2004) came to the conclusion that regional differences in unemployment rates of micro-regions have been determined by three main factors: the industrial past of the regions, the proximity of the regions to the western portals and the education level of the local labour force.

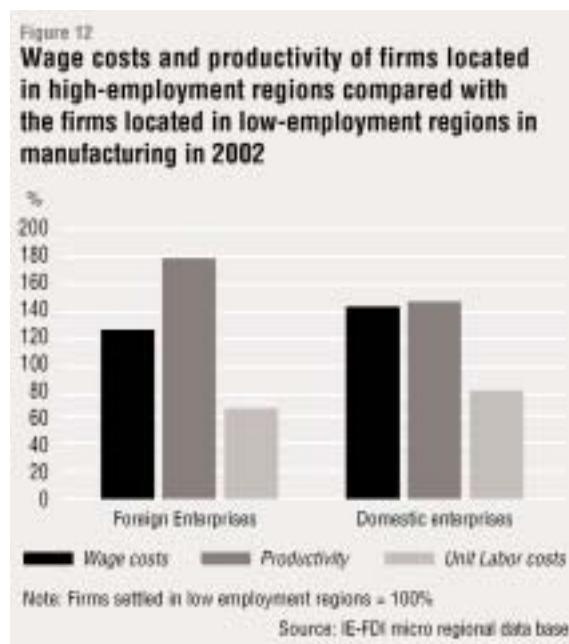
Impact of regional wage differences on spatial distribution of corporate employment

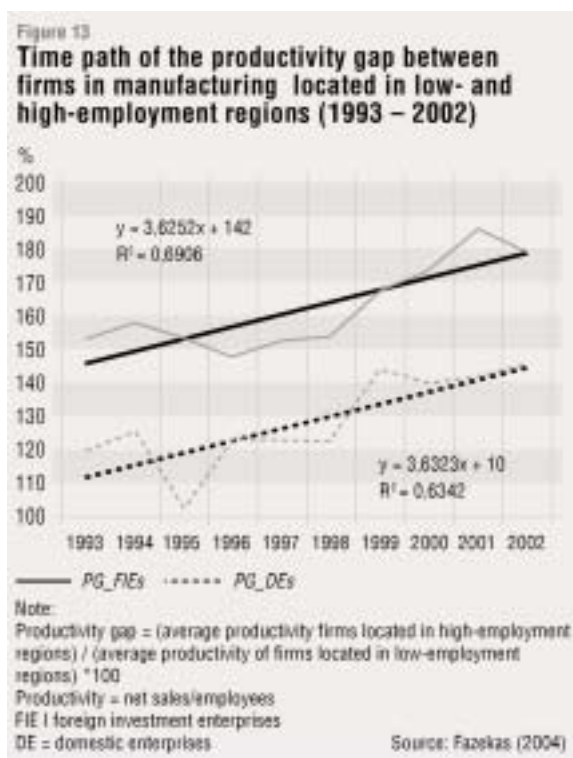
Elasticity of net earnings to local unemployment rates had reached 10 percent in Hungary in the mid 1990's. According to the literature it is a typical value in developed market economies (Köllő 2002, 2004). At that time the highest unemployment rate at micro-region level was eight times that of the lowest unemployment rate. Taking into account the effect of the 10 percent elasticity the estimated net earnings difference between the two regions was around 17 percent. So the question arises: Why are the foreign and

domestic investors alike so reluctant to relocate their activities towards the high unemployment/low employment regions?

The regional differences of productivity and the unit labour costs of foreign and domestic firms explain a great deal of this reluctance. According to Köllő's (2003) calculations a considerable part of wage differences related to unemployment rates disappears if we take into account the large productivity gaps between the low and high unemployment regions. Because of the productivity gaps the same wage level means much larger unit labour costs in the "bad" regions than in the "good" ones. After clearing the effect of productivity gaps Köllő found that firms moving from the most developed regions to the less developed regions could save a meagre 2–7 percent in wage costs.

Figure 12 shows Fazekas' (2004) calculation on regional differences in wages, productivity and unit labour costs between firms in manufacturing operating in high and low employment regions. One can see that there are substantial regional differences in both FIEs and DEs groups. Wage costs are higher in high employment regions than in low employment regions but because of the high productivity the unit labour costs of firms operating in high employment regions is less than 80 percent of those settled in low employment regions. There is no doubt that besides region-specific factors (proximity, density of firms, externalities offered by urban agglomerations etc) the regional productivity gap has been influenced by a number of firm specific factors, such as: sector composition,





different technologies and labour/capital ratios. Nevertheless, the time paths of regional gaps in the case of FIEs and DEs reveal a striking tendency (Figure 13). The regional gaps of productivity between firms settled in high and in low employment regions have substantially increased in both groups over the last ten years. Explanations of the main factors behind the increasing wage and productivity gaps require a careful analysis which is beyond the scope of this paper. Nevertheless, we are convinced that increasing return to agglomerations constitutes an important part of the explanation. Regional spillover effects between firms could be an important element of agglomeration effects. The higher the density of foreign firms in the high employment regions, the stronger the spillover effect towards domestic (and foreign) firms and, as a consequence, the higher the productivity advantages of these regions are. According to empirical evidence from Hungary the increasing density of FIEs has a significant positive effect on the productivity of domestic firms (Schoors/van der Tol 2002, Sgard 2001).

4 Conclusion and policy options

Taking into account the large pool of non-employed workers who left employment during the transition crises the huge gap between the EU and the Hungarian participation rate of the working age population will

decrease without any special intervention as they reach the retirement age. Nevertheless the virtue of patience far than enough to cure the problem since individual and regional backwardness seems to be continuously reproduced and this process will maintain high level of economic inactivity over the coming years.

Recent employment policy of the government¹⁴ contains a wide selection of possible active employment policy measures, but does not focus on the main reasons for high inactivity. Understanding the motives of those who leave the labour market and assessing the impact of the current welfare system seems to be crucial in this respect. Employment policies can be efficient if they address the most important determinants of long term inactivity, the institutions that encourage permanent exit from the labour market contribute to decreasing search intensity of the non-employed and maintain regional inequalities that arise in labour force participation.

Search intensity could be increased by a shift from programs assisting withdrawal from the labor market, such as early retirement and child-care, to the more targeted assistance of job seeker. It is preferable to increase the access of active job seekers to benefits, and reduce the subsidization of non-seekers, by better targeting and monitoring of unemployment compensation. No doubt, the scope of policies combating high inactivity is far beyond the scope of active employment policy. Employment policies can generate employment on a large scale in the short or medium run. We have seen that many of the prime-age non-employed are older and/or left the labour market more than a decade ago. Whereas they are unlikely to re-enter employment others are constrained in entry by lack of skills, regional backwardness, prohibitive travel costs of commuting, constraints of regional mobility or discrimination – problems to be addressed by co-ordinated actions of anti segregation educational policy, large scale infrastructural development and consistent law enforcement.

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¹⁴ Hungary as a new member state prepared its first National Action Plan (NAP) for employment in October 2004. NAP (2004) contains a detailed analysis of the labour market and main policies, priorities taking into account Employment Policy guidelines of the Commission and recommendation of the Wim Kok Committee.

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