2. AN OVERVIEW OF THE LABOUR MARKET
2.1. Introduction

Globalization and demographic and environmental changes present Europe with a challenge in terms of competitiveness, flexibility and sustainability. While the economies of the countries of the European Union are independent of each other in several respects, they do remain in close contact. If, therefore, the response to the challenges requires political intervention, it is expedient for the individual member states to harmonize their policies. The European Commission developed the so-called Lisbon Strategy for growth and jobs in March 2000 in this spirit. Although the objectives of the strategy were too complex and wide-ranging in themselves to succeed, their importance is undeniable. Thus the 2005 revision of the programme set only two main targets to be attained by 2010: an employment rate of 70 per cent; and 3 per cent of Europe’s GDP to be invested in research and development. To encourage implementation of the programme, operational targets and methods are specified individually for each member state at every review stage (EC, 2007b).

This chapter discusses questions related to the objective of improved employment. The growth of employment is of paramount importance – both with respect to the standard of living and in connection with matters of social insurance for the ageing population of Europe. Closely related to this is the cost of labour, which is one of the fundamental determinants of competitiveness. The latter subject will receive relatively little attention in our study, as our focus will be on labour supply (activity) and on the population favoured by the labour demand for employment. The Lisbon Strategy emphasizes the need – with special reference to Hungary – to encourage the growth of labour supply, i.e. to develop policies that involve more people in the labour market. Policies of this kind, aimed at expanding the employable population, include education and training, as well as other active labour market programmes. Only a limited improvement in employability can be achieved without them, since lower labour taxes or an increased number of job opportunities offered by companies are of little use if there is no trained labour force to employ. For this reason, in Hungary and elsewhere, expansion of activity among the employable population is an essential condition for any increase in the level of employment. The EU-SILC population survey provides a good opportunity to draw conclusions concerning the factors determining activity: the willingness and ability to work (or, in other words, employability) and, closely related to it, education.

The level of employment (and work intensity, i.e. the amount of work people and households do) cannot, of course, be disregarded. Although this equilibrium aggregate is influenced by demand (business and market trend) factors as well, the friction-prone nature of the labour market is evidenced by the observation that, given a satisfactory level of activity but a low level of employment, the unemployment rate will be high. This is a situation where people want to work but there is insufficient labour demand, or the demand is for a different kind of workforce (e.g. better trained or with different skills). Frictions of this kind can thus

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17 A different means to this goal (one that does not target employability) is, of course, to raise the age of retirement and tighten the conditions on other welfare and social insurance services (e.g. family support systems, disability pension).
be revealing when it comes to issues of employability. If the labour force has the wrong level or type of training, the result will often be an under-supply and an over-supply of labour at one and the same time. This is a characteristic problem in transitional economies such as Hungary’s.

Our overview of the labour market starts in Section 2.2 with a discussion of the basic processes of economic activity and employment, based on the data of the Eurostat European Labour Force Survey and keeping the Lisbon objective in mind. Next, the effects of gender, age, education and labour market experience on the probability of activity and employment are investigated for each of the countries, based on individual-level data from the EU-SILC survey. Section 2.3 looks at the work intensity of households and the hours worked by individuals, also based on EU-SILC data. While in Section 2.4, educational attainment and education inequalities between the countries are investigated. We look into the relationship between labour market factors (activity and employment rates) and educational differences, and we describe the groups of countries that emerge from the relationship analysis.

2.2. Activity, employment and unemployment

2.2.1. Labour market trends

The main indicators used in this section are the International Labour Organization (ILO) definitions of labour market status.

The recommendations of the International Labour Organization (ILO) define labour market status among the population aged 15–74 years and available to work. The definitions state that:

- economically active people are those who are present on the labour market as workers or job seekers, i.e. the employed and the unemployed;
- employed people are those who did at least one hour of work for wages in the reference week (one-hour criterion) or were only temporarily absent from their regular employment;
- finally, unemployed people are those who did not work in the reference week and do not have a job from which they could be temporarily absent; were actively seeking employment over the four weeks preceding the interview; could start work within two weeks if they found an appropriate job (availability).

The Hungarian Statistical Office (KSH) adopts these definitions in its publications of the Hungarian data of the standardized Labour Force Survey (LFS), used to collect data in several countries of the world. The EU’s Eurostat, however, publishes data for the population aged 15–64 years. To allow a comparison to be made between these data and the results of the EU-SILC survey, this study uses the definitions given above but applied to a narrower age band of the population: people aged 15–64 years. Our chapter discusses long-term unemployment as well. Based on a similar ILO recommendation, the long-term unemployed are those who are classed as actively seeking employment for the past 12 months or longer (and meet the other two criteria of unemployment).
In light of the definitions, and as revealed in Figures 2.1–2.3, both the level of activity and the level of employment show an overall upwards trend in the European Union: the activity rate rose by 1 per cent and the employment rate by 1.3 per cent in 2006. It is also evident, however, that the old (more developed) member states experienced a somewhat faster rate of increase than did the new members, and thus the gap between the EU-15 and the EU-25 figures has widened slightly over the past few years. The unemployment rate has hovered around 8 per cent for the past 6–8 years, and now remains consistently below the magic 10 per cent figure typical of the mid-1990s. This indicator shows a smaller difference between the old and the new member states (roughly half a per cent in 2006) and the gap appears to be shrinking. These results suggest that, although the 70 per cent employment target set by the Lisbon Strategy is not unrealistic, the employment level in the EU-25 would need to increase by over 5 per cent in three years if the target is to be hit. Considering what has happened over the past 10 years, it seems unlikely that the objective will be met. The average employment level in the EU-15, however, may well approach the target of 70 per cent, although no substantial decrease in unemployment can be projected for the future. That is, labour reserves appear to be available in the European economy as a whole, and this could be the starting point for growth. The rise in employment, however, only slightly surpasses the increase in activity, i.e. at an aggregate level, newly active people appear to enter employment immediately, while the unemployment rate remains constant. This suggests that the friction characterizing the labour market has not reduced with the increase in employment.\textsuperscript{18}

The small differences between the EU-15 and the EU-25 and the smooth curves of the individual indicators, however, conceal significant differences between the countries, even in the trends they display. It is clear from the figures that there is substantial heterogeneity among both the old and the new member states. The countries that are important reference points for a comparison with Hungary are represented in Figures 2.1–2.3, where we seek to keep the diversity of possible courses clearly visible.

\textsuperscript{18} It may be that unemployment reflects the tightness/slackness of the labour market rather than friction. If this was a significant factor, a wage decline would be expected until unemployment is resolved according to the textbook scenario. We do not see a decrease in (real) wages, however. The phenomenon could, of course, also be the result of other inflexibilities displayed by labour market institutions.
As regards the labour market aggregates, various clusters of welfare states are clearly distinguishable. The highest activity and employment rates (as well as the lowest unemployment rates) are to be observed in the Scandinavian countries and the United Kingdom (with an activity rate of about 75–80 per cent and an employment rate of about 70 per cent). These are followed by one group of continental states (the Netherlands, Germany and Austria) plus a group of new member states (Cyprus, Slovenia, the Czech Republic and the Baltic states); some of the countries of Southern Europe are at a similar level to another group of continental countries (France, Belgium and Luxembourg), while the remaining Southern countries are at the level of Poland, Hungary and Slovakia.¹⁹

For reference, Figures 2.1 and 2.2 reveal that Spain and Ireland started out at about the same level as Hungary and Italy, but all three of their indicators have caught up with the EU average over the past 10 years. That is why, when the Hungarian indicators showed a spectacular improvement in the second half of the 1990s, the Irish model was held up for the Hungarian labour market as a possible scenario for progress. However, a more negative scenario has also reared its head recently: the example of Portugal. At the outset, Portugal had an activity and an employment rate above the EU average, and it achieved a further increase up to 2000/01. At this point, however, the rising trend in employment was reversed, while both unemployment and activity increased.²⁰

¹⁹ Although Slovakia has shown a robust increase since 2004.
²⁰ The example of Portugal is even more relevant to Hungary in that it faces great economic challenges that are comparable to those characteristic of the Hungarian economy (slow growth, rising unemployment, current balance of payment and budget deficit); for more details, see Blanchard (2007).
The differences between the Visegrad countries are usually attributed to differences in the privatization processes during the transition period and in the subsequent intervention policies. One still discernible consequence is that, while the level of employment and activity did not decline dramatically with privatization in the Czech Republic, Poland did experience a rapid fall in the second half of the 1990s, which it allowed to be absorbed into unemployment (recovery did not start until the next decade, and activity continues to follow a declining trend, albeit at a slower rate). In Hungary, roughly every fourth person lost his or her job as early as the start of the 1990s as a result of the abrupt rationalization and privatization process. The easy availability of early retirement and the slack conditions on disability pension meant that a great number of those who were left without work chose to become inactive rather than unemployed, and kept their inactive status on a permanent basis. The recovery of activity and employment began soon after, around 1997–98, but to this day Hungary continues to have the lowest activity rate in Europe.

Overall, we may conclude that the level of activity shows a gentle upwards trend in the working-age (15–64 years) population. With the data broken down into age groups and sex, we can also reveal which are the groups that enhance growth and which are those that impede it. In less developed countries (in most of the Visegrad states and the countries of Southern Europe – with the exception of Spain), it is only now that the expansion in education is really starting to build up to sizeable proportions. We can see that there has been a much bigger decrease in activity among young people since 1995 in these countries than in others. Nevertheless, the increase in the level of activity can be attributed to women and older people.

As the inactive population with its devalued human capital grows old and its place is taken by more active and better educated cohorts with modern skills, the level of activity may steadily increase. As long as the eligibility conditions on (especially early and disability) pensions fail to be tightened, however, the desired rate of increase will not be achieved. A decomposition of the growth trend of activity is published in MNB (2006) for the period between 1993 and 2004, where the incentive effects of certain social transfers (e.g. family support programmes and pension systems) are clearly demonstrated.
observable growth can be attributed to women, on the one hand, and to the oldest age group (55–64 years), on the other. Interestingly, while the increase tends to be strongest among older women in the new member states, it is women aged 25–54 years who dominate growth in the continental states and the countries of Southern Europe. A labour force expansion is also to be observed among men in the 55–64 year age group both in those continental welfare states that have been forced to cut back on welfare provision (Germany, Austria, France, Belgium) and in some of the new member states (e.g. Hungary), where this is probably on account of the increased age of retirement. Whatever the reason, the fact that, in the above-mentioned old member states, the dominant increase is among women aged 25–54 years, while in the new member states it is an increase among older people that is decisive suggests that, in Hungary, positive changes are primarily to be expected from tightened regulations on retirement, rather than from intervention policies aimed at enhancing employability.  

The overall level of employment shows a gently increasing trend, somewhat slower than the rise in activity. The barely rising employment curve that characterizes Hungary is the second lowest in Europe (after Poland) and has shown an increase of about 4 per cent over the past three or four years. The most successful new member state in this respect – as in the activity rate – is Cyprus. Decomposition of the data into age groups and sex reveals similar trends to those observed for activity: the employment level is raised by the participation of women (in the new and the continental member states) and particularly by the participation of older people. Among young people, by contrast, a marked decline can be observed in the new member states and stagnation elsewhere. What is surprising, and a bad omen, is that the employment rate among men aged 25–54 years, those in their prime, at an age that is assumed to be the most productive, is on the decrease in every new member state (with the exception of the Baltic states), as well as in the continental countries, Sweden, Finland and Ireland, while it remains stagnant everywhere else. It would be an interesting research topic to explore the causes of this emerging trend.

We have mentioned before that the overall unemployment rate (Figure 2.3) is static; falling trends can only be observed in the Baltic states, Poland and Slovakia (the last of which had an exceptionally high starting point), and to a lesser extent in the countries of Southern Europe, with the exception of Portugal (Tárki–UniCredit, 2008, Figure F2.3). No gender differences can be seen here. Looking at the age groups, however, we find an interesting and troubling process. Although unemployment among the population aged 15–24 years is static across the countries, there are significant country-specific differences: where unemployment falls, it falls steeply and drags the indicator for the total population downwards (see the countries mentioned before). In Sweden, the continental countries, Portugal and Hungary, by contrast, the past few years have seen a substantial increase, which implies unsettling processes: a growing share of the economically active (i.e. typically moderately educated)
15–24-year-old population is unemployed in these countries. This requires training programmes for uneducated young people as a priority of public policy.

Macro-level labour market processes are characterized by another important indicator: long-term unemployment. Looking at the size of the population classed as unemployed for 12 months or more, the aggregate curve for all (age and gender) groups shows stagnation, with only slight differences between countries and no systematic patterns dividing countries into groups (Figure 2.4). An examination of the individual age groups is, however, revealing: the indicator has followed a decreasing trend among young people for quite some time, while the figures for older people have increased by about 5 per cent over the past three or four years, in both the old and the new member states.23

23 This finding could suggest a faster rate of skill devaluation, i.e. that older people who have lost their jobs in recent years are statistically more likely to remain unemployed for longer, since their skills are less usable and less renewable. If this is the case, we have found an additional priority for public policy: the need to provide further training and retraining for older working-age populations.
2.2.2. Activity and employment probability

We now leave the Eurostat aggregates and turn to individual-level data from the EU-SILC survey of 2005 to investigate – in line with the ILO definitions given above – the effects of gender, educational attainment and labour market experience on the activity and employment probabilities among the population aged 15–64 years in the various countries. Differences between the old and the new member states will also be examined in terms of the effects of these factors. A cross-sectional non-linear probability model (probit) is built with a binary variable as our dependent variable, which takes a value of 1 if the given individual is active (employed) and a value of 0 if he or she is not. It must be noted that we use the term ‘effect’ for the sake of easier interpretation, but strictly speaking we can only reveal correlations rather than cause and effect relationships due to endogeneity problems caused by measurement errors and omitted variables.

Our results must be consistent with the aggregate Eurostat data discussed in Section 2.1, since the activity, employment and unemployment aggregates reconstructed from the EU-SILC database roughly concur with the Eurostat results. For comparative graphs of the two databases, see Tárki–UniCredit, 2008, Figures F2.1–F2.3.

These are variables omitted from the model which also affect the dependent variables but correlate with other explanatory variables in the model – this means that the effects of an explanatory variable involved in the model include the effects of any omitted variables correlating with it. Omitted variables of this kind may include, in our case, the number of children (which may distort the effects of gender, since women with young children are less likely to be active), place of residence (which may be negatively related to both educational attainment and labour market status) and up-to-date skills (which may be correlated with age).
As is shown in Figures 2.5a–e, the explanatory variables selected tend to have a significant effect on activity and employment probabilities. These effects almost invariably shift the two dependent variables in the same direction, and the two outcomes are very closely related in the case of gender and labour market experience (correlation coefficients: 91.6 per cent and 81.9 per cent, respectively).

We take Hungary as our example in presenting the results of the model. With all other explanatory variables held constant, women in Hungary are significantly – about 4 per cent – less likely to be active or employed than are men. Similarly, with the other explanatory variables held constant, a Hungarian individual one year older than the average age (about 40 years) is roughly 1.7 per cent less likely to be active and 0.4 per cent less likely to be employed than someone of average age (about 40 years), but otherwise the two individuals have the same parameters (in terms of education and labour market experience). Those with close to 27 years of labour market experience are about half a per cent more likely to be active than those who have close to 26 years of labour market experience, but are similar in every other respect.26 Looking at educational attainment, we find that those with upper secondary education are 7 per cent more likely to be active and 35 per cent more likely to be employed than other people with the same status in terms of all other explanatory variables, while those with higher education are 12 per cent and 42 per cent, respectively, more likely to be active and employed.

26 As no data on labour market experience are available for any of the respondents in employment, the correlation between this explanatory variable and employment cannot be analysed.
2. AN OVERVIEW OF THE LABOUR MARKET

b) The effects of age

c) The effects of labour market experience
d) The effects of upper secondary education

![Graph showing probability difference, %](image)

Source: Authors’ computations based on EU-SILC (2005)

Notes: The figures show the results of unweighted probit models estimated with robust standard errors. The effects of gender and age are not statistically significant for Denmark, and the effects of upper secondary education are not statistically significant for Austria, Cyprus, Germany, France, Greece or the United Kingdom. In the estimations of activity probability, the effects of upper secondary education are not significant for Denmark, Poland and for the total of new EU member states. Labour market experience is not available for Denmark, Finland, Ireland, Sweden or the United Kingdom. None of the respondents stating their labour market experience are employed in Hungary, thus the effects of labour market experience on employment cannot be estimated here.

e) The effects of higher education

![Graph showing probability difference, %](image)

Source: Authors’ computations based on EU-SILC (2005)

Notes: The figures show the results of unweighted probit models estimated with robust standard errors. The effects of gender and age are not statistically significant for Denmark, and the effects of upper secondary education are not statistically significant for Austria, Cyprus, Germany, France, Greece or the United Kingdom. In the estimations of activity probability, the effects of upper secondary education are not significant for Denmark, Poland and for the total of new EU member states. Labour market experience is not available for Denmark, Finland, Ireland, Sweden or the United Kingdom. None of the respondents stating their labour market experience are employed in Hungary, thus the effects of labour market experience on employment cannot be estimated here.
Looking at the effects of gender (Figure 2.5a), we find that there are relatively small differences between men and women both in activity and in employment. In this respect, women in the two Anglo-Saxon countries are most disadvantaged and, surprisingly, the countries do not pattern into groups (even though we would expect there to be smaller differences between the Scandinavian countries and greater differences between the continental countries).

Age (Figure 2.5b) has a weaker effect in the Anglo-Saxon and the Scandinavian countries (the effects are in fact positive, although not to any significant extent), while the results appear to reflect the empirical fact observed several times in the context of wage levels that, in the former socialist countries, age has a negative effect (at the average age, which is about 40 years) and its absolute value is generally large in international terms. That is, those older than the average age are significantly less likely to be active or employed, which could be related to the fact that their human capital is more likely to be regarded as obsolete in transitional economies. Compared to the other new member states, in Hungary the difference is small in terms of employment probability, but is of average size in terms of activity probability – i.e. at the average age, the obsolescence of human capital has no consequences (either with respect to an individual’s life course, or presumably in an aggregate time series) in Hungary. Labour market experience (at the average level), by contrast, appears to have the greatest (positive) benefits for employment in the former socialist countries (Figure 2.5c).

The positive effects of upper secondary and higher education – relative to the category of those with less than upper secondary education – on employment probability prove to be strongest in Hungary (Figures 2.5d and 2.5e).\(^{27}\) While the return to secondary education in employment probability is admittedly rather small in the new member states compared to the old member states (barely exceeds 0.28) the benefits of higher education surpass those observed in the Western countries. Education brings especially great benefits in Ireland, for instance, and typically little advantage in Cyprus among the new member states, and in some of the old member states such as the United Kingdom, France and Greece.

\(^{27}\) They are even stronger in Slovakia, where the value of the increase in probability is over 90 per cent. Slovakia is thus not represented in the figures for expository reasons and because of some doubt as to the data.

\(^{28}\) This result could be an indication of the troubling hypothesis investigated in Hungary by Kertesi and Köllö (2006), whose results showed no support for it, that people with higher education leave no jobs for those with only secondary education (see also Footnote 40).
2.3. The work intensity of households and individuals

After estimating activity and employment probability with the help of binary variables, we now turn to a more continuous variable, reflecting the balance between labour demand and labour supply: work intensity. Two indicators of work intensity are used here. One is the household-level Laeken indicator. The total number of months actually worked by the members of a given household is divided by the total number of months the working-age members of the household could work in principle (the number of working-age people multiplied by 12) and the results are sorted to gain a categorical variable. We use this categorical variable to reveal what proportion of the population live in households where no one works (jobless households); next, the Laeken indicator of work intensity is examined. Although work intensity – like employment rate – reflects some kind of labour market demand and supply equilibrium, this household-level indicator is well suited to approximating the labour supply decisions and labour readiness of households. This is because people sharing a household may share labour market work and household work among them, and thus the amount of work falling to each person may be less than that of an individual in a one-person household. This, however, may not hold for the regression model based on individual-level data, where the average number of hours actually worked each week is analysed relative to the statutory full-time hours of work, although the decisions of an individual sharing a household with others are probably not entirely autonomous, individual decisions (we will return to this issue later).

2.3.1. Jobless households

Our analysis of the EU-SILC data of 2005, which cover all members of a household (not only the working-age members), finds that 10.33 per cent of the total population of the 24 countries under consideration live in households where none of the working-age members work (Figure 2.6). The average value of the indicator is about one percentage point higher than this for the new member states and somewhat lower for the old member states. Hungary falls in the mid-range, irrespective of whether we consider all the countries studied or only the countries of its region (9.8 per cent of the population of Hungary live in jobless households).
Breaking down the data into individual household types, we find that the proportion of people living in jobless households is only exceptionally high among old people with no children, while it is lower than the average of either the new member states or the EU-15 in families with children (Figure 2.7). Nevertheless, in the whole of the European Union, parents raising their children alone are the most likely to live in jobless households, and they are followed by a series of different childless household types. The same pattern can be observed for the new member states as a group.

Figure 2.6: Proportion of people living in jobless households by country in the European Union (%)
Source: Authors’ computations based on EU-SILC (2005)

Figure 2.7: Proportion of people living in jobless households in the European Union, by household type (%)
Source: Authors’ computations based on EU-SILC (2005)
Household types especially susceptible to poverty\textsuperscript{29} are examined by country in Figures 2.8a, b and c.

Figure 2.8: Number of people in each of three household types living in jobless households in proportion to the population of the given household type in the European Union, by country (%)

a) Two childless adults, at least one aged 65 and over

b) Parent raising children alone

\textsuperscript{29} Although the results of the indicator shown in Figure 2.7 do not suggest that families with several children are highly susceptible to poverty.
Looking at Figures 2.7 and 2.8a–c, it is clear that the average for the new member states is strikingly high for households with some older members and for those with several children. While no other patterns can be observed among the countries, there are enormous differences between them. In some cases, people in the highest ranking country are six or seven times more likely to live in jobless households than are people in the lowest ranking country (e.g. the Netherlands versus the United Kingdom in Figure 2.8b or the Czech Republic versus Cyprus in Figure 2.8c).

It should be noted that the figures probably underestimate the number of people living in jobless households, since our method only classes a household as jobless if none of its working-age members worked a single (!) month in the period studied. There is likely to be a far greater number of households where practically no one works.

c) Two parents with at least three children

Source: Authors’ computations based on EU-SILC (2005)
2.3.2. The work intensity of households

The work intensity of households is quantified by a Laeken indicator.

The Laeken indicators. The indicator system has been developed to help provide comparative data on income inequalities and poverty in individual member states for the ‘open co-ordination mechanism’, which seeks to co-ordinate social policies across the European Union. The Laeken indicators form a hierarchical system with three levels. The group of primary indicators comprises the major indicators of financial poverty – those which capture the major dimensions leading to social exclusion. They include indicators such as poverty rate, poverty rate by gender, activity status, household type and housing tenure status; share of income quintiles; persistent poverty rate; poverty gap; regional inequalities; long-term unemployment; the share of jobless households; the share of early school leavers; life expectancy at birth, etc.

The group of secondary indicators includes the robustness of the poverty rate, persistent poverty, long-term unemployment share, and the share of low educational attainment. The Laeken system specifies a so-called tertiary level as well, but no specific indicators are listed here – individual countries are free to decide which indicators are important for interpretation of the primary and secondary indicators in their own particular instances.

The indicator of work intensity used in our study was included among the Laeken indicators at a later state. It is intended to show how many of the theoretically available 12 months of work are spent working by the working-age (18–64 years here) members of a household in the income reference period. The number of months spent working by the working-age members of the population is divided by the number of months theoretically available. The final value of the Laeken indicator of work intensity is determined by categorizing the results: 1, 2, 3 or 4 if the active members of the given household worked, respectively, 0, 1–49 per cent, 50–99 per cent or 100 per cent of the total number of working months available. The indicator takes a value of 1 if the household has no working member or working-age member. Unfortunately, these households therefore cannot be distinguished from those where there are working-age members who should be working in theory but who for some reason are not.

The work intensity of the various countries is thus represented by this categorical variable calculated on the basis of the EU-SILC data in Figure 2.9. The bottom data row shows the share of households with a value of 1 and the top row displays the share of those with a value of 4.
The columns in the above figure are arranged in increasing size of the topmost data row, i.e. the share of those households where every member worked throughout the reference period. We can see that the majority of the new member states (the exceptions being Estonia and Hungary) are located in the lower half of the range, along with the countries of Southern Europe, Germany, Ireland and Finland, i.e. these are the countries with the lowest share of households in which everyone works full time. The United Kingdom, the other two Scandinavian countries and the rest of the continental states – together with Hungary and Estonia – are positioned in the higher section of the range, where over half of all households spend all their theoretical working months actually working.

If we look at the opposite end of the spectrum, i.e. the share of those households where no one works, we do not see a reversed order. The Mediterranean countries (with the exception of Italy) are once again at the lower end of the scale, but the majority of the continental states are among the countries with the highest share of jobless households. This result could, in part, be explained by the widely discussed observation that few part-time jobs or temporary jobs are available in these countries. Hungary is located in the middle of the range, with a value somewhat closer to those of the continental countries.

Leaving aside the aggregate national data, we now turn to the distribution of household types. Since childless households in the ‘other’ category (including those

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**Figure 2.9: The distribution of the work intensity of households in the European Union, by country (%)**

*Source: Authors’ computations based on EU-SILC (2005)*

*Explanation: Work intensity is the ratio of the total number of months worked by the adult members of the household to the number of theoretically available working months (0%, 1–49%, 50–99%, 100%).

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The proportion of households where every working-age member works is relatively low in the majority of the new member states and in the Mediterranean countries.

Households with part-time employment are relatively infrequent in the continental states.

Households with elderly members, those with several children and those with lone parents receive special attention in our study.

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30 We must remember, however, that the results should be interpreted with caution, since the indicator shows the number of months worked rather than the regular working hours.

31 Single-person households, households with two parents and one or two children and ‘other’ households with children (e.g. those with more than two generations) are less frequent in the new EU member states than in the old member states. Also, in the new member states the share of childless households is either very high (probably due to the great number of households with all their members aged 65 or over, as in Hungary and the Czech Republic) or very low. The remaining household types (lone parent with at least one child, two parents with at least three children) occur with roughly equal frequencies in the new and the old member states. See Tárki–UniCredit, 2008, Figure F2.4.
with two adults aged 65 and over), lone-parent households and households with several children are highly susceptible to poverty, the following discussion places special emphasis on their work intensity figures.

Let us first examine the work intensities of the various household types in the old and the new member states, as shown in Figure 2.10.

We can see that the work intensity patterns across the different household types are fairly similar in the old and the new member states: the respective shares of households with no work, ‘part-time’ work activity and ‘full-time’ work activity are roughly equal in the majority of household types. It should be noted, however, that the share of jobless households is slightly (but consistently) higher in every household type in the new states. This difference is largest for single-person households, but is also noticeable for childless households with two adults under 65 and for the category of other households with children. A further interesting result is that there is a higher share of workers using their full working capacity among childless households in the EU-15 countries, but the advantage of this group of countries disappears when we look at households with children, and in fact the EU-9 group fares better as regards households with three or more children. A general pattern characterizing both groups of countries is that two-parent households with children spend the highest portion of their theoretical working months working at least some time. They are followed by other childless households, childless couples under 65, lone-parent households, single-person households and finally, not surprisingly, childless households with two adults, at least one of whom is aged 65 or over, which includes pensioner households. The share of households where all available working months are used for work is greatest among lone parents, two parents and single-person households, and lowest among other households with children and other childless households. The latter two household types, however, have the highest share of workers using only part of their working months.

Figure 2.10: The work intensity of household types in the old and new member states of the European Union (%)

Source: Authors’ computations based on EU-SILC (2005)

Explanation: Work intensity is the ratio of the total number of months worked by the adult members of the household to the number of theoretically available working months (0%, 1-49%, 50-99%, 100%).
We now examine the country-level data for the three household types most susceptible to poverty. Figure 2.11 reveals that Hungary is among the countries where the proportion of jobless households remains low among those households that are most susceptible to poverty, and indeed the work intensity values for households with several children are among the best in the new member states. We further find that the share of jobless households is robustly low in the United Kingdom and Sweden, in both of which countries a high proportion of households use their full labour capacity. By contrast, we find several of the continental states among the countries where there is a relatively high proportion of jobless households. Furthermore, among families with several children, we find that the relatively high frequency of jobless households is coupled with a noticeably lower proportion of households working at full intensity – that is, there is a high proportion of households working ‘part time’. Families with several children display a similar pattern in the Mediterranean countries, which suggests that households may follow a traditional family model where there is one earner.

IN NEW MEMBER STATES
THE PROPORTION OF HOUSEHOLDS WITH MANY CHILDREN OR WITH ELDERLY MEMBERS IS HIGH.

Figure 2.11: The distribution of the work intensity of households in three household types in the countries of the European Union (%)
b) Parent raising children alone

Source: Authors’ computations based on EU-SILC (2005)

Explanation: Work intensity is the ratio of the total number of months worked by the adult members of the household to the number of theoretically available working months (0%, 1–49%, 50–99%, 100%).

c) Two parents with at least three children

Source: Authors’ computations based on EU-SILC (2005)

Explanation: Work intensity is the ratio of the total number of months worked by the adult members of the household to the number of theoretically available working months (0%, 1–49%, 50–99%, 100%).
2.3.3. Hours of work – individual work intensity

Leaving the work intensity of households, we now return to individual-level data and look at the work intensity of individuals on the basis of their hours of work. This is more difficult to interpret as a continuous labour supply decision, since people usually either work full time or do not work at all. In some developed countries, however, part-time work is becoming more common, and people may have more than one job if they wish and are able to.

The following paragraphs thus present a regression analysis involving individual-level data on the total working-age (15–64 years, again) population.\(^{32}\) We use the average weekly number of hours of work in proportion to the statutory weekly working hours\(^{33}\) as our dependent variable. This includes the hours worked in both full-time and part-time jobs; for irregular working hours, the weekly average is taken. Our explanatory variables are those used in the activity and employment estimations, and an additional variable of household type (single-person, other childless, lone parent, couple with one or two children, couple with several children, other household with children). To reveal how much of our results is explained by complete joblessness (0 hours of work), a control regression analysis is carried out among the population with jobs. The results are displayed in Figure 2.12.

\(^{32}\) Since we would like to approximate some kind of labour supply decision, the total working-age population, including those currently not working, is included in the analysis, rather than just the employed population alone.

\(^{33}\) The length of the working week is 35 hours in France and 40 hours in all other EU-SILC countries.
b) The effects of age

c) The effects of labour market experience
d) The effects of upper secondary education

Source: Authors’ computations based on EU-SILC (2005)

Notes: The figures show partial effects in an unweighted linear regression model. The first, light-coloured data bar shows the results of the analysis involving the total working-age (15–64 years) population, while the second, darker data bar (E) displays the results for the model run on the employed population. Reference group for educational attainment: people with less than upper secondary education. (The estimations were also carried out in a left-censored tobit model (censored in 0); the results were both qualitatively and quantitatively similar with respect to the average of the continuous variables and the 0 values of the dummy variables.)

Hours of work ratio: the total number of hours worked in a week in full-time and part-time jobs divided by the number of theoretically compulsory working hours (35 hours in France, 40 hours elsewhere).
Once again, we use Hungary as an example to present the results of our analysis. Figure 2.12a shows the effects of gender: women work significantly shorter hours in each of the countries. This effect is strongest in the continental states; it is somewhat weaker in the new member states, but the difference is not striking. Hungary is located in the mid-range of the countries. Looking at the results for the group of employed people, however, we find considerable differences between men and women in an international comparison.\(^{34}\) In Hungary, among the total working-age population, women work on average 6 hours a week less, while the corresponding figure is 8 hours among the employed population. In the Netherlands, however, where part-time work is well known to be common, there is a difference of 14 hours between the sexes in the weekly hours of work among both the employed and the total population, i.e. the gap cannot be attributed to differences in employment probability.\(^{35}\) These results indicate that, among the total population, the labour market differences between men and women in Hungary are smaller than the European average. This could be explained by Hungarian women’s labour supply preferences, but it could equally well be the case that their financial circumstances leave them with less choice, or that part-time jobs are less widely available to them than to women in other (continental) countries. The fact that we find a relatively large gap in terms of hours of work between men and women in the employed population of Hungary suggests that women experience relatively strong segregation in terms of job types: they are more likely to have jobs with shorter working hours, and possibly lower wages (e.g. teacher or low-ranking employee) than are women in countries where we do not find such a large gap between employed men and women.\(^{36}\)

Leaving to one side the minor differences between the sexes, we now turn to the effects of age. In this dimension, as Figure 2.12b shows, the new member states are in the lead: with every other factor held constant, a one-year increase in age is accompanied by a one-hour reduction in the weekly hours of work on average. Hungary is the only exception among the new member states: the effect is close to 0, although it is still significant. In the Scandinavian and the Anglo-Saxon countries, by contrast, age has a positive effect: an extra year of life is accompanied by a statistically significant (though slight) increase in weekly work. These differences (in contrast with gender differences) are, however, almost fully explained by employment status – to a lesser extent in the continental states, and to a greater extent in the new member states, where the level of employment is significantly lower among older people (see Section 2.2.2). Similar observations can be made with respect to the

\(^{34}\) However, with certain employment parameters (whether in management, whether doing manual labour) controlled for, Hungary is among the European countries with the smallest gender gap in terms of hours of work (and also activity and employment probabilities).

\(^{35}\) And this difference (as with the other continental countries) is barely reduced with the two employment parameters mentioned above (whether in management, whether doing manual labour) controlled for.

\(^{36}\) There are no good examples among the 24 countries under consideration; as shown in Figure 2.12a, Portugal is the country with the smallest gap.
effects of labour market experience (Figure 2.12c), but with the opposite sign: an extra year in the labour market is accompanied by longer hours of work per week, and the effect is somewhat stronger in the new member states (almost 1 hour vs. 45 minutes), although the difference is almost entirely down to the employed.

People with upper secondary education work more on average than do people with lower educational attainment, and this gap is substantially greater in the old member states: 1.7 hours more, as opposed to 0.6 hours in the new member states (Figure 2.12d). No effect is observed among the employed population (it is significantly 0). Second only to Slovakia, Hungary has the largest difference between the average hours worked by people with upper secondary education and people with lower educational attainment. In Slovakia, however, the enormous gap disappears among the employed population (i.e. it is the result of differences in employment probability), while in Hungary, the difference persists. That is, in Hungary people with upper secondary education are more likely (as we have seen in Section 2.2.2) to find employment with longer hours of work (and possibly higher wages); although these people are also more likely to find jobs in Slovakia, their jobs are not significantly different in terms of working hours. If we look at the effects of higher education relative to lower secondary education (Figure 2.12e), we find a similar pattern emerging, though overall the effects are stronger than was the case for upper secondary education. This pattern is quite similar to the ranking observed for the effects of higher education on employment probability (see Section 2.2.2). This outcome suggests that in the majority of countries (with the exception of Hungary, Germany and, to a lesser extent, some other countries), differences in hours of work are explained by differences in level of employment. These findings indicate that labour supply tends to be a binary decision at the level of the individual (both on the part of the worker and on the part of the employer), and part-time work is generally infrequent (in terms of either availability or choice). That is, it is more fruitful to study work intensity at a household level (as we did in the previous section), because individuals appear to be able to optimize their working hours at the level of the household. We conjecture, however, that optimization leaves its mark at the level of the individual: people take their household type into consideration in making their labour supply decisions, i.e. it should have an effect on hours of work (Figure 2.13).

No data on labour market experience are available for the Scandinavian or the Anglo-Saxon countries.
As Figure 2.13a shows, Hungary’s behaviour is qualitatively different from the average behaviour of the new member states and shows more similarity with the average of the old member states: people living in different types of family with children work 3–11 hours less on average than people living in single-person households. The corresponding value comes to about 2 hours in the old member states, while the

The lower average number of hours of work in families with children is explained by a lower rate of formal employment among women caring for children.
effect has a small positive value in the new member states. That is, the lower individual ‘work intensity’ (in terms of hours of work) of families with children may be related to the overall shorter working hours of women and to the greater likelihood of women staying at home, and this difference remains impressive when only the employed population is considered.

Although our results may reveal important relationships, we must be careful in interpreting them – just as with the estimation results in Section 2.2.2. Due to various problems of endogeneity, the effects found here simply show correlations and do not signal cause and effect relationships.

2.4. Education and the labour market

Leaving the variables that can be regarded as equilibrium variables in some respects (employment, number of hours of work), in this section we turn to the educational attainment of the working-age (15–64 years) population. This factor is often considered to be a barrier to both labour demand and labour supply – the reason being that, willing though companies may be to expand their workforce, they cannot do so if there are no suitable (suitably qualified) workers in the labour market. By the same token, if a skilled worker, say, is looking for work but finds that there is no demand for his or her skills, s/he will stop looking after a while. Education, therefore, may lower or raise the probability of employability (activity, in our interpretation) as well as the probability of employment. Studies of economic science have shown time and again that labour market inequalities can often be traced back to such factors as educational differences, which are good predictors – well before they enter the labour market – of certain differences in productivity, which in turn have an impact on activity and employment probability, as well as on wages. The investigation of educational attainment and education inequalities can thus lead to very important conclusions and objectives for education policy.

In what follows, some potential indicators of education and training inequalities are presented for the 24 EU member states included in the EU-SILC database, and the relationships that exist between them and labour market aggregates (activity, employment and unemployment rates) are discussed.

38 On this subject, through the example of inequalities between black and white people, see Neal and Johnson (1996).
2.4.1. Educational attainment and education inequalities

The simplest indicator of educational attainment by country is the average level of education and the average number of years of schooling. These two cannot be distinguished here, as only the highest level of education attained is given in the EU-SILC database, classified according to the OECD ISCED-97 categories (see OECD, 1999 for the manual of classification). In our study, the data are recoded into the number of school years, based on the OECD manual, to allow us to investigate the average figures for the countries (Figure 2.14). The indicator is not particularly informative: the country that fares worst is Portugal, and the new member state with the poorest value is Slovenia; Germany and the United Kingdom show the highest average number of school years of all the countries, and Lithuania and Estonia lead the new member states. The old and the new member states do not cluster separately: new member states can be found in both the first and the second half of the countries ranked according to the average number of school years of their population. An interesting pattern emerges, however, within the group of old member states: the countries of Southern Europe and those continental countries with a poor performance in the dimension of labour market aggregates (Belgium, Luxembourg, France) are to be found among the countries with relatively small average numbers of school years, while the Scandinavian and the Anglo-Saxon countries, as well as those of the continental countries that fare better in the labour market, are among the countries with high average levels of schooling. Hungary falls in the lower half of the range, where the only other Visegrad country is Poland. The results of this simple indicator appear to accord with our hypothesis: lower levels of education are accompanied by lower labour market performance.

Though suitable for a cross-country comparison, the average number of school years is not a good indicator of inequality, because it is not at all sensitive to inequalities within a given country. The simplest indicator to use in any analysis of this latter is the standard deviation of school years and its ratio to the mean number of school years (Figure 2.14).

The figure reveals a moderately strong, negative correlation between the average number of school years and their standard deviations (correlation coefficient: −0.55). That is, where the average number of school years is high, their standard deviations tend to be small. In other words: in countries where people are relatively highly educated, education inequalities tend to be smaller. The correlations do not seem to be perfectly linear, but two groups are clearly distinguishable: countries with low means and high standard deviations (from Portugal to Cyprus in the figure) and

39 And whether an individual is currently at school and, if so, what category of school it is according to the ISCED-97 system.

The number of school years does not tell us how long someone took to attain a given level of education; it is simply an unambiguous way of establishing the average number of school years needed to attain a given level of education in a given country. The average number of school years may, in principle, distort education data if a given level of training requires different average numbers of years in different countries.
countries with high means and low standard deviations (from Austria to Germany in the figure).

The indicators used to analyse the human capital of a country – such as the proportion of the population with low educational attainment and the proportion with higher education – can also give at least some indication of education inequalities. The group of people with low educational attainment comprises those with less than upper secondary education in the Hungarian system, and the population with higher education comprises those with a college or university degree. Looking at these two figures in combination, an interesting pattern emerges among the countries (Figure 2.15).

![Figure 2.14: Average years of schooling and their standard deviation in the European Union, by country](image)

*Source: Authors’ computations based on EU-SILC (2005)*
Taking the EU-24 average as our standard of comparison, four clear groups can be distinguished among the countries: in one group, both low educational attainment and higher education occur with about the average EU-24 frequency (Cyprus, Denmark, the Netherlands); in the second group, the proportion of people with low educational attainment is substantially higher than the average (the countries of Southern Europe, Ireland and Luxembourg); in the third group, the proportion of people with low educational attainment is lower than average, while people with higher education occur with higher than average frequency (Belgium, the United Kingdom, Estonia, Finland, France, Germany, Sweden); in the last group, although the share of people with low educational attainment is smaller than average, the same observation holds for the population with higher education (the majority of the new member states and Austria). Hungary is characterized by an average proportion of people with low educational attainment and a smaller than average proportion of the population that is highly educated. The new member states therefore typically have a large share of people with secondary education, which suggests that there are relatively mild education inequalities in these countries. This conclusion is supported by the observation that in the new member states (and in countries with a large share of higher education and a small share of low educational attainment) educational attainment typically has a small standard deviation (Tárki–UniCredit, 2008, Figure F2.6).

Returning to the indicator based on the number of school years: the Gini coefficient of human capital is defined in the population aged 15–64 in accordance with the methods of Castello and Domenech (2002) as an indicator of within-country education inequalities. As with the usual Gini coefficient for income distribution: an indicator value closer to 0 means less inequality in the given country; the highest possible value is 1, which signals perfect inequality (i.e. that 100 per cent of the total

Figure 2.15: The share of people with low educational attainment and those with higher education among the working-age population in the European Union, by country (%)  
Source: Authors’ computations based on EU-SILC (2005)  
Notes: People with low educational attainment are those with less than upper secondary education; people with higher education are those with a college or university degree.

The Gini coefficient of human capital is a good indicator of inequalities.
The only cluster visible is that of Southern European countries with a high Gini coefficient; the rest of the old member states and the new member states show a varied picture. We can also see that the average inequality is somewhat lower among the new member states than among the old member states (Gini coefficients of 0.136 vs. 0.149). Hungary falls in the middle of the range, with a Gini coefficient similar to the average for the new member states.

The indicators of education inequalities discussed so far all point in the same direction, with strong relationships between some of them. The correlation matrix presented in Table 2.1 shows the strengths of the relationships.
2. AN OVERVIEW OF THE LABOUR MARKET

### 2.4.2. Education inequalities and the labour market

With the exception of the share of people with higher education, most indicators show moderately high correlations with each other. This means that a higher average number of school years tends to co-occur with a lower standard deviation in a given country; a higher proportion of people with low educational attainment is accompanied by a smaller average number of school years and a higher standard deviation; and a higher Gini coefficient of human capital goes hand in hand with a smaller average number of school years and a larger share of people with low educational attainment. The two indicators of inequality in a strict sense, the standard deviation of school years and the Gini coefficient, are very highly (almost perfectly) correlated (correlation coefficient: 0.93).

### Table 2.1: Correlation matrix for education indicators

<table>
<thead>
<tr>
<th>Education indicators</th>
<th>Average number of school years</th>
<th>Standard deviation of school years</th>
<th>Share of people with low educational attainment</th>
<th>Share of people with higher education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard deviation of school years</td>
<td>–0.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of people with low educational attainment</td>
<td>–0.71</td>
<td>0.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of people with higher education</td>
<td>0.54</td>
<td>–0.03</td>
<td>–0.25</td>
<td></td>
</tr>
<tr>
<td>Gini coefficient of human capital</td>
<td>–0.65</td>
<td>0.93</td>
<td>0.69</td>
<td>–0.19</td>
</tr>
</tbody>
</table>

The different indicators of inequality are highly correlated.

There are weak moderate correlations between educational attainment and the aggregates of the labour market.
Table 2.2 reveals that a higher average number of school years and a larger share of people with higher education are accompanied by higher activity and employment rates, while a larger share of people with low educational attainment is paired with a somewhat lower activity rate, which has an impact on unemployment. These results could mean that unemployed people with low educational attainment simply leave the labour market behind! A relatively high number of people with higher education is accompanied by a lower unemployment rate and – in a trend that mirrors this and is of the same order of magnitude – a higher unemployment rate is matched by a larger share of people with low educational attainment. The standard deviation and the Gini coefficient, as indicators of inequality, only show fairly strong correlations with activity and employment, but not with unemployment.

Those of the above relationships that show fairly strong correlations and also divide the countries into groups of some kind are displayed graphically in Figure 2.17.

Figure 2.17a reveals that the majority of the new member states have unemployment rates above the EU average and relatively low proportions of people with higher education and of people with low educational attainment. The countries of Southern Europe form a relatively homogeneous group, with average unemployment rates and high proportions both of people with higher education and of people with low educational attainment. In the Netherlands, the Scandinavian states and the Anglo-Saxon countries, average-level unemployment rates are accompanied by high proportions of people with higher education. The continental countries show far less uniformity.

Looking at the relationship between education inequalities and employment (Figure 2.17b), we find several of the new member states in a relatively homogeneous group: low education inequalities are accompanied by low employment rates. This is no cause for celebration. As was suggested before, there is a very high proportion of people with secondary education in these countries, and this, in combination with
this latest finding, implies a relatively low level of employment\textsuperscript{40} not only among people with low educational attainment, but also among the population with secondary education in countries like Hungary.\textsuperscript{41} Two more fairly homogeneous groups emerge in the figures illustrating the relationship between education inequalities and employment: the Mediterranean countries (with the exception of Portugal, where an employment rate above the EU average appears side by side with exceptionally high inequalities), where employment rates are lower than average but education inequalities are higher than average; and the successful group of the Scandinavian, Anglo-Saxon and continental countries (Austria, Finland, the United Kingdom, the Netherlands, Sweden and Denmark), where we find high employment rates and moderate education inequalities relative to the average for the old member states. It must be noted, however, that this ‘low’ education inequality is, in fact, higher than that measured in the region of Central Europe (which is shown by the fact that the EU-15 average is higher than the average for the new member states).

\textsuperscript{40} One possible reason for the relatively low employment rate among people with secondary education is that workers with high human capital (educational attainment) gradually pushed people with secondary or lower education out of jobs. Kertesi and Köllő (2006), however, argue that this hypothesis is not supported by the data in Hungary. While it is true that jobs that used to require secondary training in the past are more and more likely to be taken by workers with higher qualifications, it is also the case that people with secondary education take the places of those with lower educational attainment, and thus their employment probabilities do not show the negative effects of exclusion.

\textsuperscript{41} The position of Hungary is deceptive in the figures – the EU-SILC data estimate higher activity and employment rates than do the Eurostat figures; this is why the employment rate appears close to the EU average.
Figure 2.17: Employment, unemployment and education

a) Educational attainment and unemployment
b) Education inequality and employment

Source: Authors’ computations based on EU-SILC (2005)

Notes: Denmark does not appear in Figure 2.17b, as its employment rate data given in the EU-SILC database appear to be unreasonably high.