



MAGYAR TUDOMÁNYOS AKADÉMIA  
KÖZGAZDASÁGTUDOMÁNYI INTÉZET

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**Adult education in the European Union –  
how does Hungary compare with other  
countries?**

SZILVIA HÁMORI

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MAGYAR TUDOMÁNYOS AKADÉMIA KÖZGAZDASÁGTUDOMÁNYI INTÉZET  
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Institute of Economics, Hungarian Academy of Sciences  
Department of Human Resources, Corvinus University of Budapest

Author:  
Szilvia Hámori  
Junior research fellow  
Institute of Economics Hungarian Academy of Sciences  
PhD student  
Center for Doctoral Studies in Economics, University of Mannheim  
E-mail: hamori@econ.core.hu

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# **Adult education in the European Union**

## **How does Hungary compare with other countries?**

Szilvia Hámori

### **Abstract**

This paper examines adult education in Hungary for the years 1999, 2001 and 2003 along three dimensions: (a) the fraction of individuals participating in adult education, (b) their demographic and socio-economic characteristics and (c) the probability of participating in adult education / adult education lasting less than one year in the framework of a logit model. In a second step the paper focuses on a cross-country comparison of the three areas described above based on the European Union Labour Force Survey (EU LFS). The international comparison covers nine EU Member States, namely, Belgium, Denmark, Estonia, Finland, Greece, Italy, Lithuania, Poland and Sweden.

JEL: I21, C35

**Keywords:** Analysis of education, adult education, logit model

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# **A felnőttképzés Magyarországon és nemzetközi összehasonlításban**

Hámori Szilvia

## **Összefoglaló**

A tanulmány célja, hogy képet adjon a felnőttképzésben való részvételről az 1999-től 2003-ig terjedő időszakban Magyarországon, majd a magyar felnőttképzés jellemzőit összehasonlítsa számos Európai Unió tagállamával.

A tanulmány az Európai Munkaerőfelvétel adatbázis adatain alapszik, amely egyéni adatokkal rendelkezik 25 Európai Unió tagállamról. A felnőttképzéssel kapcsolatos adatok információt nyújtanak a felnőttképzés időtartamáról és a felnőttképzés céljáról. Ezen kívül az adatbázis számos olyan egyénekre vonatkozó információt tartalmaz, melyek felhasználásával kiszűrhető, hogy kik és milyen létszámban vesznek részt felnőttképzésben Magyarországon. Az adatok felhasználásával a tanulmány képet ad a felnőttképzés nem és korcsoport szerinti megoszlásáról, a felnőttképzésben résztvevők iskolai végzettségéről, munkaerőpiaci státuszáról és foglalkozási köréről. Továbbá a tanulmány célja, hogy logit modellek felhasználásával vizsgálja a felnőttképzés részvételének valószínűségét az alábbi magyarázó változókkal: korcsoportok, nem, iskolai végzettség, munkaerőpiaci státusz és családi állapot.

A tanulmány második részének célja, hogy tükrözze a magyar felnőttképzés helyzetét az Európai Unióban. Az összehasonlítás szintén az Európai Munkaerőfelvétel adatait használja fel, melynek előnye az, hogy a komparatív vizsgálat nemzetközileg összehasonlítható indikátorok és azonos keresztmetszetek felhasználásával történik. A teljes komparatív kép érdekében az összehasonlítás kiter a régi tagállamokra – mint például Belgium, Dánia és Finnország – és az új tagállamokra is – mint például Lengyelország, Észtország és Litvánia.

Tárgyszavak: Felnőttképzés, logit modell

## **1 INTRODUCTION**

The objective of this study is twofold. First, it aims to provide a descriptive analysis of adult education in Hungary for the time period of 1999 – 2003. More specifically, the paper examines (a) the fraction of individuals who participate in adult education for the time period of 1999 – 2003, (b) their demographic and socio-economic characteristics and (c) it fits a logit model which addresses the decision to participate in adult education based on numerous factors such as age, marital status, education level, gender and labour status. Second, using comparable data – in terms of the time period under analysis, the definitions and classifications of the variables – the paper focuses on an international comparison of adult education for the three areas described above. The international comparison covers nine EU Member States, namely, Belgium, Denmark, Estonia, Finland, Greece, Italy, Lithuania, Poland and Sweden.

The data for the analysis is drawn from the “EU Labour Force Survey” (EU LFS). One of the advantages of the EU LFS lies in the high degree of comparability among EU Member States given the common coding of the individual replies and the definitions and classifications of the variables used. Subsequently, the data is well suited for the purpose of a detailed international comparison of adult education.

The first set of results for the selected EU Member States concerning the fraction of individuals who participate in adult education indicate that the selected countries can be grouped into three categories: those with very low participation rates, ranging from less than 1 percent to at most 4 percent, those with slightly higher participation rates, and those with (relatively) high participation rates, over 12 percent. Hungary, Greece, Italy and Lithuania belong to the first group of countries. Belgium, Estonia and Poland constitute the second group and, finally, the Northern European countries, namely, Denmark, Finland and Sweden belong to the group with the highest participation rates.

The second set of results characterises the composition of individuals who participate in adult education along different dimensions: age, gender, marital status, main labour status, highest educational attainment, professional status if employed, economic activity if employed, occupation if employed, duration and purpose of adult education for all the ten countries under analysis. A few general similarities across the selected EU Member States merit comment. In terms of average age of the selected sample, Greece and Poland are similar to Hungary, with mean age at around 35. The rest of the countries, namely, Belgium, Denmark, Estonia, Finland, Italy, Lithuania and Sweden are characterised by a higher average age, in the early 40s. In all of the countries under analysis (a) a larger fraction of the selected sample is female, (b) a higher percentage of the selected sample belongs to the

married category (as opposed to the merged category of single, widowed, divorced or separated) and (c) the large majority of the selected sample belongs to the group “Carries out a job or profession, including unpaid work for a family business or holding, including an apprenticeship or paid traineeship, etc.”. Furthermore, regarding the subsample of employed who participate in adult education (in all of the countries under analysis) (a) the majority are employees (for instance, around 90 percent of the selected sample are employees in Hungary) and (b) work in the service sector. Finally, the occupational composition for the employed subsample is also similar across the selected EU Member States.

The third set of results describes the estimated probability of participating in (a) adult education and (b) in adult education lasting less than one year for Hungary. The most important findings for Hungary can be summarised as follows: (a) older individuals, (b) married individuals and (c) males are less likely to participate in adult education, (d) for individuals with lower educational levels the probability of participating in education falls, (e) whereas the unemployed are more likely to participate in adult education relative to those who are working, those who are in retirement, are fulfilling domestic tasks or belong to the group of other inactive persons are less likely to participate in adult education. The sign pattern is robust across the years under analysis and across the two different specifications. The final part of the paper addresses the cross-country comparison of the estimated probability of participating in (a) adult education and (b) in adult education lasting less than one year.

The remainder of this paper is organised as follows: Section 2 presents the data used in the empirical analysis and some descriptive evidence for the subsamples who participate in adult education for each country. Section 3 proceeds with a brief description of the empirical framework and Section 4 describes the estimation results for the years under analysis. Finally, Section 6 concludes with focus on an international comparison. Tables are presented in the Appendix.

## **2 DATA AND DESCRIPTIVE EVIDENCE**

### **2.1 DATA**

The data is drawn from the “EU Labour Force Survey” (EU LFS). The EU LFS is a micro dataset, first collected by Eurostat in spring 1983 (quarter 2 in most countries), covering a wide range of variables on the demographic background, labour status and employment characteristics of the individuals in the respective countries<sup>1</sup>. There are numerous

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<sup>1</sup> Between 1983 and 1997 the EU LFS was collected only in the second quarter. From 1998 onwards data for the additional quarters became progressively available.

advantages of using the EU LFS for the empirical analysis, namely (a) the organisation of the EU LFS is such that the countries use common coding, definitions and classifications and (b) the EU LFS provides data on 25 EU Member States which suits the purpose of an international comparison sufficiently. The time period under analysis is restricted to 1999, 2001 and 2003.

The countries for the analysis are selected using the following criteria: (a) the dummy variable indicating participation in adult education is available, (b) there is a sufficient number of observations to carry out meaningful econometric analysis, and (c) the main labour status of the individual is available (in order to drop those individuals who are students and those who are in compulsory military service). Ten countries satisfy this selection criterion for all three years: Hungary, Belgium, Denmark, Estonia, Finland, Greece, Italy, Lithuania, Poland<sup>2</sup> and Sweden. The sample for each country is restricted to cover individuals who (a) are aged 25 or older, (b) are not in compulsory military service, and (c) are not full-time students. The definitions of the variables used in the analysis are presented in Tables 1 and 2.

## 2.2 PARTICIPATION IN ADULT EDUCATION

Table 3 presents the percentage of individuals who participate in adult education for the ten countries for the three years under analysis. Before discussing the results, it is important to point out that for the purposes of this paper, participants in adult education are those individuals who are aged 25 or older and have received (some form of) education or training during the four weeks prior to the survey, excluding full-time students and those in compulsory military service. The figures point to three groups of countries: those with very low participation rates, those with slightly higher participation rates and those with (relatively) high participation rates. Hungary belongs to the first category: in Hungary, the percentage of the individuals (from the sample of individuals aged 25 or older) who participate in adult education amounts to around 2 percent in 1999 and 2001 and almost 4 percent in 2003. Other EU Member States with correspondingly low rates of adult education participation include Greece – with less than 1 percent in 1999 and 2001 and approximately 2 percent in 2003 –, Italy – with 3, 3 and 2 percent in 1999, 2001 and 2003 respectively – and Lithuania – with 3, 2 and 3 percent in 1999, 2001 and 2003 respectively. The Northern European countries, namely, Denmark, Finland and Sweden occupy the other end of the scale, whereby in Denmark and in Finland the participation rate ranges from around 12 to 14 percent for all the years under analysis, and Sweden stands out with an even higher rate of participation: approximately 21, 15 and 30 percent in 1999, 2001 and 2003 respectively. Belgium, Estonia and Poland represent the middle group of countries with slightly above the

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<sup>2</sup> The Polish data only satisfies the selection criteria for the empirical analysis in 2001 and in 2003.

lowest participation rates and well below their Northern European counterparts: ranging from approximately 4 to 6 percent in Belgium, around 4 percent in Estonia and between 3 and 4 percent in Poland for the time period under analysis.

### 2.3 DESCRIPTIVE STATISTICS

Turning to the figures concerning sample composition, Tables 4 – 13 present some descriptive statistics for the subsamples who participate in adult education for the years under analysis for the ten countries respectively. Note that these figures are to be interpreted for the selected sample only. Starting with Hungary, the average age of the participant subsample ranges between 34 and 35. In terms of the five age groups reported in Table 4, the percentage of individuals belonging to the age group of 25 – 29 year olds is the highest (30 – 38 percent), followed by the age group of 35 – 44 (26 – 29 percent), the age group of 30 – 34 (19 – 23 percent), the age group of 45 – 54 (12 – 17 percent) and finally those aged over 54 (1 – 5 percent). In terms of average age of the selected sample, Greece and Poland are similar to Hungary, with mean age at around 35 and the rest of the countries, namely, Belgium, Denmark, Estonia, Finland, Italy, Lithuania and Sweden are characterised by a higher average age, in the early 40s. It is also worth noting that, whereas there are compositional differences in terms of the age groups, especially with respect to the youngest and oldest age categories across the countries, the age group with the lowest cross-country standard deviation is the group of 35 – 44 year olds.

In all countries a higher proportion of the selected sample is female – in Hungary around 58, 62 and 59 percent in 1999, 2001 and 2003 respectively. In terms of marital status, in all countries a higher percentage of the selected sample belongs to the married category (as opposed to the merged category of single, widowed, divorced or separated) – in Hungary around 61, 60 and 62 percent in 1999, 2001 and 2003 respectively. Turning to main labour status of the selected sample, in Hungary in 1999 the large majority of the selected sample belongs to the group “Carries out a job or profession, including unpaid work for a family business or holding, including an apprenticeship or paid traineeship, etc.” (around 83 percent), followed by the group of unemployed (around 10 percent), the group “Fulfilling domestic tasks” (around 5 percent), the (aggregated) group of “In retirement / early retirement / has given up business / permanently disabled” (around 1 percent), and finally the group of “Other inactive person” (around 1 percent). The corresponding figures are similar in 2001 and 2003 and for the selected EU Member States.

The educational composition indicates that in Hungary in 1999 around 55 percent of the selected sample are middle skilled (which corresponds to the upper secondary or post-secondary non-tertiary levels of education, see Table 2), around 38 percent are high skilled individuals (which corresponds to the first and second stages of tertiary education, see Table



2) and the remaining 5 percent are low skilled individuals (which corresponds to lower secondary level of education or less, see Table 2). The countries with the same ranking in terms of the educational composition of the selected sample are Belgium, Estonia, Finland and Lithuania. In Italy, Poland and Sweden the composition of the selected sample is such that for all three years the fraction of individuals in the middle skilled category is the highest followed by the middle and low skilled categories respectively. Finally, in Denmark and Greece the fraction of individuals who belong to the high and middle skilled groups is around the same and is higher than in the low skilled group.

Two characteristics of adult education are uniformly available for the selected years: the length of training / education and its purpose. The data indicates that in Hungary in all three years over 50 percent of those individuals participating in adult education undertook training / education lasting over one year – as in Greece, in Sweden, in Lithuania and in Poland in 2003. The purpose of the adult training / education received is overwhelmingly some type of vocational training for all of the countries for the time period under analysis.

Concerning the subsample of employed who attend adult education / training, three variables are available in terms of employment characteristics: (1) professional status, (2) economic activity (based on the Statistical Classification of Economic Activities (NACE)) and (3) occupation (based on the International Standard Classification of Occupations (ISCO-88)). In Hungary, Estonia, Finland, Lithuania and Sweden around 90 percent of the selected sample are employees, around 4 – 9 percent are self-employed and only around 1 percent (or less) are family workers. For Greece and Italy the percentages are somewhat different: 81 – 84 of the selected sample are employees, 14 – 18 percent are self-employed and 1 – 3 percent are family workers. The selected EU Member States are similar in terms of the distribution economic activity: around 74 – 89 percent of the selected sample are employed in the service sector, around 9 – 22 in industry and at most 5 percent in agriculture. The occupational composition of the selected sample is also similar across the EU Member States in that less than 20 percent of the selected sample belong to the groups of skilled agricultural and fishery workers, craft and related trades workers, plant and machine operators and assemblers and elementary occupations. The remaining 80 percent (or more) belong to the groups of legislators, senior officials and managers, professionals, technicians and associate professionals, clerks and service workers and shop and market sales workers. In Hungary, (a) as high as 33, 30 and 28 percent of the selected sample are employed professionals in 1999, 2001 and 2003 respectively, (b) which represents the occupational group with the highest fraction of individuals. The latter finding is also characteristic of Belgium, Estonia, Finland, Greece, Italy, Lithuania and Poland.

### **3 ESTIMATION STRATEGY**

The paper analyses participation in adult education in the framework of a logit model, whereby the outcome variable of interest is participation in adult education (as defined above) which equals 1 if the individual participates in adult education and 0 otherwise. The probability of participating in adult education is related to (a) the age of the individual, which is coded as a set of dummy variables with age group 35 – 44 as the reference category (given that this age group has the smallest cross-country standard deviation), (b) a dummy variable for marital status, which takes on the value 1 if “single / widowed / divorced / seperated” and 0 if married, (c) a set of dummy variables for highest educational attainment, with the high skilled category as the reference category, (d) a dummy variable for gender which takes on the value 1 for female and 0 for male, and, finally, (e) a set of dummy variables for the main labour status of the individual with the group “carries out a job or profession, including unpaid work for a family business or holding, including an apprenticeship or paid traineeship, etc.” as the reference category.

There are two different samples used in the empirical analysis for each selected EU Member State and each year (depending on the availability of the data). First, the entire sample of individuals aged over 26 (independent of the length of adult education) is used. Second, the group of individuals participating in adult education is restricted to the individuals who attended adult education lasting less than one year. The control variables remain identical for the two specifications.

### **4 ESTIMATION RESULTS**

Table 14 presents the parameter estimates for the logit estimation for Hungary for 1999, 2001 and 2003. The first and last three columns of the table correspond to the estimation results for the two different specifications (i.e. participation in adult education and participation in adult education lasting less than one year) respectively. As the second aim of the study is comparative in nature, that is, to compare the probability of participating (a) in adult education and (b) in adult education lasting less than one year in Hungary for the years under observation to that in other EU Member States, Tables 15 – 23 present the parameter estimates for the respective years and for the two different specifications for Belgium, Denmark, Estonia, Finland, Greece, Italy, Lithuania, Poland and Sweden.

#### **4.1 HUNGARY**

Table 14 presents the parameter estimates for Hungary for the time period under analysis. The first three columns present the parameter estimates for the specification where the

binary outcome variable equals 1 if the individual participated in adult education. Starting with 1999, the effects of the age groups on the probability of participating in adult education have the expected signs: older individuals are less likely to participate in adult education (i.e. the parameter estimates for the younger age groups relative to the age group of 35 – 44 are positive and decreasing in magnitude and the parameter estimates for the (relatively) older age groups are negative and increasing in magnitude). Being single, widowed, divorced or separated (henceforth single) increases the probability of participating in adult education. Education also plays a significant role for the probability of participating in adult education: the parameter estimates indicate that with lower educational levels, the probability of participating in education falls. Being female increases the probability of participating in adult education. Finally, main labour status is a significant determinant of the probability of participating in adult education: whereas relative to the group of individuals who “carries out a job or profession, including unpaid work for a family business or holding, including an apprenticeship or paid traineeship, etc.” (henceforth working), the unemployed are more likely to participate in adult education, those who are “in retirement, early retirement, have given up business or are permanently disabled” (henceforth in retirement), are fulfilling domestic tasks or belong to the group of other inactive persons are less likely to participate in adult education. The sign pattern is robust across the years under analysis.

The last three columns of Table 14 present the parameter estimates for the specification where the binary outcome variable is restricted to participation in adult education lasting less than one year. Again, starting with the year 1999, the sign pattern for the effect of age on the probability of participation in adult education lasting less than one year is the same as for the specification above, indicating that with age the probability of participating in adult education lasting less than one year falls. Marital status does not have a significant impact on the probability of participating in adult education lasting less than one year – unlike on the probability of participating in adult education. Education on the other hand has the same effect on the probability of participating in adult education lasting less than one year, that is, with lower education levels the probability of participation falls. Gender does not have a statistically significant effect on the probability of participating in adult education lasting less than one year. Finally, main labour status of the individual is a significant determinant of the probability of participating in adult education, and has the same sign pattern as for the participation probability in adult education independent of duration, namely, whereas relative to the group of individuals who are working, the unemployed are more likely to participate in adult education lasting less than one year, those who are in retirement, are fulfilling in domestic tasks or belong to the group of other inactive persons are less likely to participate in adult education lasting less than one year. The sign pattern is robust across the years under analysis, other than for gender: being female increases the probability of participating in adult education lasting less than one year in both 2001 and 2003.

## 4.2 BELGIUM

The first three columns of Table 15 present the parameter estimates for Belgium for 1999, 2001 and 2003 respectively for the specification where the binary outcome variable equals 1 if the individual participated in adult education. The parameter estimates for Belgium – and for the other eight EU member States – will be discussed with reference to Hungary and for all three years combined. The general pattern of the effect of age on the probability of participating in adult education is such that the probability of participating in adult education only falls with age for the higher age groups, namely for the age group 45 – 54 and for those older than 54. Unlike in Hungary, marital status has no effect on the probability of participating in adult education. As in Hungary, educational background plays a significant role for the probability of participating in adult education: with lower educational levels, the probability of participating in education falls. Unlike in Hungary, the effect of being female on the probability of participating in adult education cannot be pinned down: in 1999 being female decreases the probability of participating in adult education, in 2001 it has no statistically significant effect and in 2003 it increases the probability of participating in adult education. Finally, main labour status is a significant determinant of the probability of participating in adult education, and the sign pattern reveals the same story as in Hungary.

The last three columns of Table 15 present the parameter estimates for the specification where the binary outcome variable is restricted to participation in adult education lasting less than one year. The difference to the first specification in terms of the age effects is that relative to the age group of 35 – 44 only those who are aged over 54 are significantly less likely to participate in adult education lasting less than one year for all three years. Another interesting point merits comment: unlike in Hungary, in Belgium, the age groups of 30 – 34 and 25 – 29 are less likely to participate in adult education lasting less than one year in 1999 and in 2003 respectively. The sign pattern of the other parameter estimates reveal the same effects as for the previous specification, with three exceptions: (a) single individuals are less likely to participate in adult education lasting less than one year in 1999 and (b) females are less likely to participate in adult education lasting less than one year in 1999, and the effect is not statistically significant for the other two years.

## 4.3 DENMARK

The first three columns of Table 16 present the parameter estimates for Denmark for 1999, 2001 and 2003 respectively for the specification where the binary outcome variable equals 1 if the individual participated in adult education. The general pattern of the effect of age on the probability of participating in adult education is similar to that in Belgium: the probability of participating in adult education only falls with age for the higher age groups, namely for the age group 45 – 54 and for those aged more than 54. Unlike in Hungary,

marital status has no effect on the probability of participating in adult education. As in Hungary, (a) educational background plays a significant role for the probability of participating in adult education: with lower educational levels, the probability of participating in education falls and (b) females are more likely to participate in adult education. Finally, main labour status is a significant determinant of the probability of participating in adult education, and the sign pattern reveals the same story as in Hungary. The last two columns of Table 16 present the parameter estimates for the specification where the binary outcome variable is restricted to participation in adult education lasting less than one year and are very similar to the effects discussed above except for one point: similarly to Belgium in 1999, in Denmark in 2001 the age group of 30 – 34 year olds is less likely to participate in adult education lasting less than one year.

#### 4.4 ESTONIA

The first three columns of Table 17 present the parameter estimates for Estonia for 1999, 2001 and 2003 respectively for the specification where the binary outcome variable equals 1 if the individual participated in adult education. The general pattern of the effect of age on the probability of participating in adult education is similar to that in Hungary: older individuals are less likely to participate in adult education. Unlike in Hungary, marital status has no statistically significant effect on the probability of participating in adult education. As in Hungary, (a) with lower educational levels, the probability of participating in education falls and (b) females are more likely to participate in adult education. Finally, the effect of the main labour status of the individual is somewhat different than that in Hungary: in 1999 all labour status groups – the unemployed, those in retirement and those fulfilling domestic tasks – are less likely to participate in adult education, relative to their working counterparts. The last two columns of Table 16 present the parameter estimates for the specification where the binary outcome variable is restricted to participation in adult education lasting less than one year for 1999 and 2001. One point in terms of the age effects merits comment, namely, the sign pattern is such that individuals who are younger than the reference category are significantly more likely to participate on adult education lasting less than one year, yet the effects of the older groups are insignificant.

#### 4.5 FINLAND

The first three columns of Table 18 present the parameter estimates for Finland for 1999, 2001 and 2003 respectively for the specification where the binary outcome variable equals 1 if the individual participated in adult education. First, the general picture that the probability of participating in adult education falls with age applies to two groups: those who are aged 25 – 29 are significantly more likely to participate in adult education and those who are aged

over 54 are significantly less likely to participate in adult education relative to the age group of 34 – 45. Unlike in Hungary, in Finland, it is married individuals who are more likely to participate in adult education. As in Hungary, less educated individuals are less likely to participate in adult education. A noteworthy difference to the Hungarian results is that in Finland, all of the labour status groups – the unemployed, those in retirement, those fulfilling domestic tasks and the group of other inactive persons – are less likely to participate in adult education, relative to the working individuals. The last two columns of Table 18 present the parameter estimates for the specification where the binary outcome variable is restricted to participation in adult education lasting less than one year for 1999 and 2001. Note that (a) only those who are aged 55 and older are less likely to participate in adult education lasting less than one year, and (b) the other parameter estimates indicate the previous conclusions.

#### 4.6 GREECE

The first three columns of Table 19 present the parameter estimates for Greece for 1999, 2001 and 2003 respectively for the specification where the binary outcome variable equals 1 if the individual participated in adult education and the final two columns of Table 19 present the parameter estimates for Greece for 1999 and 2001 respectively for the specification where the binary outcome variable equals 1 if the individual participated in adult education lasting less than one year. The sign pattern of the parameter estimates correspond to their Hungarian counterparts in terms of the effect of age, marital status and education: (a) older individuals are less likely to participate in adult education (i.e. the parameter estimates for the younger age groups relative to the age group of 35 – 44 are positive and decreasing in magnitude and the parameter estimates for the (relatively) older age groups are negative and increasing in magnitude), (b) being single increases the probability of participating in adult education, (c) for the lower educated the probability of participating in education falls. Being female has no significant effect on the probability of participating in adult education, other than in 2003 when it increases the probability of participation. Finally, as in Hungary, the main labour status of the individual is a significant determinant of the probability of participating in adult education: whereas relative to the group of individuals who are working, the unemployed are more likely to participate in adult education, those who are in retirement or are fulfilling in domestic tasks are less likely to participate in adult education. The effect of education, being female and labour status remains robust for the specification which addresses participation in adult education lasting less than one year.

#### 4.7 ITALY

The first three columns of Table 20 present the parameter estimates for Italy for 1999, 2001 and 2003 respectively for the specification where the binary outcome variable equals 1 if the

individual participated in adult education and the final three columns of Table 20 present the parameter estimates for Italy for the specification where the binary outcome variable equals 1 if the individual participated in adult education lasting less than one year for respective years. As in Hungary, in Italy, (a) older individuals are less likely to participate in adult education – other than the group of 30 – 34 year olds, for whom the probability to participate in adult education is not significantly different from the reference group of 35 – 44 year olds –, (b) single individuals are more likely to participate in adult education than their married counterparts, (c) less educated individuals are less likely to participate in adult education than their higher qualified counterparts and (d) females are more likely to participate in adult education. In terms of labour status, in opposition to the Hungarian sample, (a) unemployed individuals are less likely to participate in adult education, and (b) the group of other inactive persons are more likely to participate in adult education in 2003, and (c) in accordance with the Hungarian sample, those in retirement and those fulfilling domestic tasks are less likely to participate in adult education. It is worth noting that for the second specification for all three years under analysis, (a) individuals aged over 54 are less likely to participate in adult education lasting less than one year, (b) the sign pattern of the education dummies is as expected, (c) unemployed are less likely to participate in adult education lasting less than one year, as are those in retirement, fulfilling domestic tasks and the other inactive persons – note however that in itself the effect of this specific group is more difficult to pin down given the heterogeneity in terms of labour status composition. Finally, in 2001 all age groups are less likely to participate in adult education lasting less than one year relative to the age group of 35 – 44.

#### 4.8 LITHUANIA

The first three columns of Table 21 present the parameter estimates for Lithuania for 1999, 2001 and 2003 respectively for the specification where the binary outcome variable equals 1 if the individual participated in adult education and the final two columns of Table 21 present the parameter estimates for Lithuania for 1999 and 2003 respectively for the specification where the binary outcome variable equals 1 if the individual participated in adult education lasting less than one year. First of all, the sign pattern on the age groups is similar to that in Finland in that the youngest and oldest group is more and less likely to participate in adult education respectively. Single individuals are significantly more likely to participate in adult education relative to their married counterparts in 2001 only and, as for all the countries discussed above, the probability of participating in adult education falls with lower education levels. As in Hungary, being female increases the probability of participating in adult education. All labour status groups are less likely to participate in adult education relative to their working counterparts. Regarding participation in adult education for less than one year, three points must be emphasized: (a) similarly to Belgium in 1999 and to Denmark in 2001,

in Lithuania in 1999 the coefficient estimates indicate that the age group of 30 – 34 year olds is less likely to participate in adult education lasting less than one year relative to the reference category of 35 – 44 year olds, (b) neither age nor marital status have a significant effect on the probability of participation for less than one year, and (c) all the labour status groups are less likely to participate in adult education lasting less than one year relative to their working counterparts.

#### 4.9 POLAND

The first two and last two columns of Table 22 present the parameter estimates for Poland for 2001 and 2003 for the specification where the binary outcome variable equals 1 if the individual participated in adult education and for the specification where the binary outcome variable equals 1 if the individual participated in adult education lasting less than one year respectively. As in Hungary, (a) the probability of participating in adult education decreases with age, (b) being single increases the probability of participating in adult education, (c) education plays a significant role for the probability of participating in adult education: with lower educational levels, the probability of participating in education falls and (d) being female increases the probability of participating in adult education. Finally, main labour status is a significant determinant of the probability of participating in adult education: relative to the group of working individuals, all the labour status groups – the unemployed, those who are in retirement, are fulfilling in domestic tasks or belong to the group of other inactive persons are less likely to participate in adult education. The sign pattern is robust across the years under analysis. Regarding participation in adult education for less than one year, two points are must be emphasized: (a) neither gender nor marital status have a significant effect on the probability of participation for less than one year and (b) all the labour status groups are less likely to participate in adult education lasting less than one year relative to their working counterparts.

#### 4.10 SWEDEN

The first three columns of Table 23 present the parameter estimates for Sweden for 1999, 2001 and 2003 respectively for the specification where the binary outcome variable equals 1 if the individual participated in adult education and the final two columns of Table 23 present the parameter estimates for Sweden for 1999 and 2001 respectively for the specification where the binary outcome variable equals 1 if the individual participated in adult education lasting less than one year. In terms of age effects, as in Italy (a) older individuals are less likely to participate in adult education – other than the group of 30 – 34 year olds, for whom the probability to participate in adult education is not significantly different from the reference group of 35 – 44 year olds –. Unlike in Hungary, married individuals are more



likely to participate in adult education. As in Hungary, (a) education plays a significant role for the probability of participating in adult education: with lower educational levels, the probability of participating in education falls, and (b) being female increases the probability of participating in adult education. The labour status indicators (relative to the working group) merit comment: (a) whereas in 1999 and 2001 the group of unemployed are more likely and the group of retired individuals are less likely to participate in adult education, (b) in 2003, being unemployed does not increase the probability of participating in adult education, and all the other labour status groups are less likely to participate in adult education. Note that the latter finding also applies for the specification which is restricted to participation in adult education lasting less than one year. Also note that the age group of 30 – 34 year olds in Sweden is less and more likely to participate in adult education lasting less than one year in 1999 and in 2001 respectively.

## **5. CONCLUSION**

This paper examined adult education in Hungary for the years 1999, 2001 and 2003 along three dimensions: (a) the fraction of individuals participating in adult education and (b) their demographic and socio-economic characteristics and (c) the probability of participating in adult education / adult education lasting less than one year in the framework of a logit model. In a second step the paper focused on a cross-country comparison using comparable data for the three areas described above. The international comparison covered nine EU Member States, namely, Belgium, Denmark, Estonia, Finland, Greece, Italy, Lithuania, Poland and Sweden. The data for the analysis was drawn from the EU LFS which is well suited for the purpose of an international comparison as the organisation of the dataset is such that the countries use common coding, definitions and classifications.

The most important results can be summarised as follows: the EU countries under analysis can be grouped into three groups in terms of the fraction of individuals participating in adult education: (1) the first group covering countries with very low participation rates, (2) the second composed of those countries with slightly higher participation rates and (3) the third category containing those countries where the participation in adult education is substantially higher. Hungary belongs to the first category: in Hungary the percentage of the individuals (from the sample of individuals aged 25 and over) who participate in adult education amounts to around 2 percent in 1999 and 2001 and almost 4 percent in 2003. Other EU Members with correspondingly low rates of adult education participation include Greece, Italy and Lithuania. The Northern European countries, namely, Denmark, Finland and Sweden belong to the third group of countries, whereby Sweden stands out with the highest fraction of individuals attending adult education: approximately 21, 15 and 30 percent in 1999, 2001 and 2003 respectively. Finally, Belgium, Estonia and Poland represent

the second group of countries with slightly above the lowest participation rates and well below their Northern European counterparts.

The estimation results of the logit model provide useful insights about the probability of participation in adult education in Hungary based on (a) age, (b) marital status, (c) highest educational attainment, (d) gender, and (e) main labour status, which can be compared to the corresponding estimates for the nine other EU Member States. Starting with Hungary, the time period under analysis is characterised by the following: (a) older individuals are less likely to participate in adult education, (b) being single increases the probability of participating in adult education, (c) education plays a significant role for the probability of participating in education, that is, with lower educational levels, the probability of participating in education falls, (d) females are more likely to participate in adult education and (e) finally, main labour status is a significant determinant of the probability of participating in adult education: whereas relative to the group of individuals who “carry out a job or profession, including unpaid work for a family business or holding, including an apprenticeship or paid traineeship, etc.” the unemployed are more likely to participate in adult education, those who are in retirement, are fulfilling in domestic tasks or belong to the group of other inactive persons are less likely to participate in adult education. Turning to the other EU Member States, whereas the probability of participating in adult education decreases with age in (almost) all of the selected countries, lower educated individuals are less likely to participate in adult education, and females are more likely to participate in adult education in all the selected countries (other than Belgium in 1999 and 2001), the effect of marital status, and that of main labour status is not uniform across the selected EU member states. As in Hungary, single individuals are more likely to participate in adult education in Greece, in Italy, in Poland and in Lithuania in the 2001 sample. Single individuals are less likely to participate in adult education in Finland and in Sweden and marital status has no significant effect on the probability of participating in adult education in Belgium, in Denmark and in Estonia. Finally, in terms of main labour status, similarly to Hungary in all of the selected EU Member States, those in retirement, fulfilling domestic tasks, and those who belong to the group of other inactive persons are less likely to participate in adult education. However, whereas the unemployed are more likely to participate in adult education in Belgium (in 1999), in Denmark (in 2001), in Greece (in 1999 and 2001) and in Sweden (in 1999 and 2001), they are less likely to participate in adult education in Estonia (in 1999), in Finland, in Italy (in 1999 and 2003), in Lithuania (in 2003) and in Poland.

## **6. REFERENCES**

European Commission, Eurostat (2006) LFS User Guide, Labour Force Survey, Anonymised data sets.

Greene, WH (2000) Econometric Analysis. New Jersey: Prentice-Hall Inc, fourth edition.

## 7 APPENDIX

### 7.1 DESCRIPTION OF VARIABLES AND DESCRIPTIVE STATISTICS

Table 1.

#### Definition of variables

Variable	Description / Categories
Dependent variable	Participation in adult education
Age groups	Binary choice (1) 25 – 29 (2) 30 – 34 (3) 35 – 44 (4) 45 – 54 (5) 55 and older
Marital status	(1) Single / widowed / divorced /seperated (2) Married
Education	(1) High skilled (2) Low skilled (3) Middle skilled
Gender	(1) Male (2) Female
Main labour status	(1) Carries out a job or profession, including unpaid work for a family business or holding, including an apprenticeship or paid traineeship, etc. (2) Unemployed (3) In retirement / early retirement / has given up business / permanently disabled (4) Fulfilling domestic tasks (5) Other inactive person
Professional status	(1) Self-employed with or without employees (2) Employee (3) Family worker
Economic activity	(1) Agriculture (2) Industry (3) Service
Occupation	(1) Legislators, senior officials and managers (2) Professionals (3) Technicians and associate professionals (4) Clerks (5) Service workers and shop and market sales workers (6) Skilled agricultural and fishery workers (7) Craft and related trades workers (8) Plant and machine operators and assemblers (9) Elementary occupations
Adult education	Education or training received during previous four weeks for individuals aged 25 or older
Total length of this education or training	(1) Less than one year (2) One year or more
Purpose of the training received	(1) Initial vocational training (2) Continuous vocational training (3) Other purposes

*Notes on Table 1:* 1) Grouping for economic activity is based on the *Statistical Classification of Economic Activities* (NACE). 2) Grouping for occupational activity is based on the *International Standard Classification of Occupations* (ISCO-88). 3) Grouping for educational attainment is based on the *International Classification of Education* (ISCED 1997).

Table 2.

**Education groups used in the analysis**

Education groups used in the analysis	Corresponding International Classification of Education (ISCED 1997)	
Low	ISCED0	Pre-primary level of education
	ISCED1	Primary level of education
	ISCED2	Lower secondary level of education
Middle	ISCED3	Upper secondary level of education
	ISCED4	Post-secondary non-tertiary
High	ISCED5	First stage of tertiary education
	ISCED6	Second stage of tertiary education

Table 3.

**Participation in adult education**

	Participation in adult education (%)		
	1999	2001	2003
Hungary	1.77	1.65	3.82
Belgium	4.61	4.33	5.90
Denmark	12.06	11.98	12.75
Estonia	4.29	3.70	4.13
Finland	11.74	13.02	13.72
Greece	0.49	0.39	1.97
Italy	2.72	2.98	2.10
Lithuania	2.78	2.28	3.03
Poland	-	3.97	3.25
Sweden	20.68	14.73	30.23

Table 4.

**Descriptive statistics for those who participate in adult education, Hungary**

Variable	Hungary		
	1999	2001	2003
Mean age	35.25	34.09	34.84
Age group (%)			
25 – 29	35.75	38.41	29.83
30 – 34	19.10	23.18	20.24
35 – 44	29.30	25.61	28.22
45 – 54	14.10	11.92	16.64
55 and older	1.74	0.88	5.07
Gender (%)			
Male	41.68	35.86	41.12
Female	58.30	62.14	58.88
Marital status (%)			
Single / widowed / divorced / seperated	39.33	39.74	38.08
Married	60.67	60.26	61.92
Main labour status (%)			
(1)	83.45	80.91	82.53
(2)	9.70	10.93	8.21
(3)	0.61	0.77	2.77
(4)	5.11	6.51	5.44
(5)	1.12	0.88	1.06
Professional status of employed (%)			
Self-employed	10.60	7.95	9.92
Employee	89.04	91.91	89.86
Family worker	0.34	0.13	0.22
Economic activity of employed (%)			
Agriculture	2.17	1.48	3.73
Industry	18.43	19.14	19.63
Service	79.40	79.38	76.64
Occupation of employed (%)			
(1)	9.52	9.75	9.05
(2)	33.35	30.22	25.92
(3)	26.51	24.86	21.89
(4)	9.88	12.23	11.50
(5)	8.19	10.03	10.94
(6)	0.96	0.14	1.95
(7)	5.54	6.18	8.21
(8)	4.58	4.40	6.70
(9)	1.45	2.20	1.84
Education (%)			
High	38.11	29.44	30.23
Low	5.23	4.42	7.05
Middle	54.66	64.13	60.72
Length of adult education (%)			
Less than one year	34.99	24.05	42.88
More than one year	65.01	75.95	55.12
Purpose of adult education (%)			
(1)	2.45	4.19	5.39
(2)	86.82	82.78	78.54
(3)	10.73	13.02	16.04
Observations	979	906	2,169

Table 5.

**Descriptive statistics for those who participate in adult education, Belgium**

Variable	Belgium		
	1999	2001	2003
Mean age	39.61	40.50	41.62
Age group (%)			
25 – 29	18.85	17.52	14.08
30 – 34	16.09	15.21	16.11
35 – 44	35.52	34.06	29.34
45 – 54	22.53	23.34	25.97
55 and older	7.01	9.85	12.50
Gender (%)			
Male	55.06	48.78	45.01
Female	44.94	51.22	52.99
Marital status (%)			
Single / widowed / divorced / seperated	30.34	34.67	38.38
Married	69.66	65.33	61.62
Main labour status (%)			
(1)	84.81	83.70	79.75
(2)	7.48	6.26	8.40
(3)	3.80	4.41	5.84
(4)	3.11	4.17	3.71
(5)	0.81	1.45	2.30
Professional status of employed (%)			
Self-employed	15.38	11.45	12.61
Employee	82.86	87.97	86.17
Family worker	1.75	0.58	1.22
Economic activity of employed (%)			
Agriculture	0.94	0.43	0.44
Industry	16.19	18.84	14.60
Service	82.86	80.72	84.96
Occupation of employed (%)			
(1)	12.69	13.62	12.06
(2)	35.92	34.81	34.96
(3)	13.50	12.03	16.26
(4)	16.87	18.55	18.14
(5)	7.83	8.41	6.97
(6)	1.08	0.58	0.55
(7)	4.18	3.91	4.29
(8)	2.83	1.88	1.77
(9)	3.10	4.20	4.98
Education (%)			
High	53.68	54.81	55.35
Low	14.25	15.45	14.70
Middle	30.07	25.74	29.93
Length of adult education (%)			
Less than one year	59.41	60.55	60.15
More than one year	40.59	39.45	39.85
Purpose of adult education (%)			
(1)	4.48	5.23	7.48
(2)	77.93	48.91	49.12
(3)	17.59	45.86	43.40
Observations	870	822	1,134

Table 6.

**Descriptive statistics for those who participate in adult education, Denmark**

Variable	Denmark		
	1999	2001	2003
Mean age	41.39	42.28	43.01
Age group (%)			
25 – 29	14.16	14.02	13.83
30 – 34	17.11	16.35	15.55
35 – 44	30.58	29.29	28.24
45 – 54	26.05	24.34	23.34
55 and older	12.10	15.98	19.00
Gender (%)			
Male	39.29	41.45	38.72
Female	60.69	58.55	61.28
Marital status (%)			
Single / widowed / divorced / seperated	38.38	41.07	40.61
Married	61.62	58.93	59.39
Main labour status (%)			
(1)	84.19	77.83	75.40
(2)	8.80	14.18	14.41
(3)	1.51	6.79	9.10
(4)	0.21	0.60	0.34
(5)	5.29	0.60	0.73
Professional status of employed (%)			
Self-employed	4.05	4.78	5.60
Employee	95.71	94.55	93.83
Family worker	0.24	0.67	0.55
Economic activity of employed (%)			
Agriculture	1.06	0.58	1.61
Industry	19.35	19.50	16.05
Service	79.59	79.92	82.34
Occupation of employed (%)			
(1)	7.45	5.76	6.74
(2)	20.94	24.88	26.19
(3)	28.81	30.55	29.89
(4)	13.29	10.66	9.49
(5)	13.96	12.78	13.28
(6)	0.49	0.67	0.76
(7)	7.06	7.01	5.88
(8)	3.81	4.23	3.42
(9)	4.14	3.44	4.34
Education (%)			
High	40.10	40.65	45.38
Low	13.96	11.92	12.16
Middle	45.94	45.44	42.44
Length of adult education (%)			
Less than one year	80.30	71.88	-
More than one year	19.68	28.13	-
Purpose of adult education (%)			
(1)	7.25	19.16	17.26
(2)	92.75	70.65	59.21
(3)	0.00	10.19	23.53
Observations	1,455	1,305	1,354



Table 7.

**Descriptive statistics for those who participate in adult education, Estonia**

Variable	Estonia		
	1999	2001	2003
Mean age	39.04	38.61	39.88
Age group (%)			
25 – 29	20.55	28.10	23.08
30 – 34	20.30	17.34	18.44
35 – 44	30.14	25.62	28.44
45 – 54	20.30	22.29	18.44
55 and older	8.68	6.61	11.54
Gender (%)			
Male	30.35	29.40	34.92
Female	69.63	68.60	63.08
Marital status (%)			
Single / widowed / divorced / seperated	39.25	44.63	45.69
Married	60.73	55.35	52.29
Main labour status (%)			
(1)	90.41	85.12	87.69
(2)	5.71	4.13	6.15
(3)	1.14	3.29	3.08
(4)	2.74	5.79	3.08
(5)	0.00	1.65	0.00
Professional status of employed (%)			
Self-employed	7.07	4.90	6.14
Employee	91.92	95.10	93.86
Family worker	1.01	0.00	0.00
Economic activity of employed (%)			
Agriculture	4.55	3.92	4.39
Industry	13.38	11.76	15.79
Service	82.07	84.29	79.82
Occupation of employed (%)			
(1)	25.51	17.65	21.93
(2)	33.08	30.35	30.44
(3)	24.24	20.59	19.30
(4)	1.52	3.92	3.51
(5)	8.33	5.88	12.28
(6)	2.02	1.96	1.75
(7)	2.25	7.84	6.14
(8)	1.77	5.88	1.75
(9)	1.26	3.92	0.88
Education (%)			
High	60.50	55.85	49.23
Low	0.91	3.29	3.85
Middle	38.58	38.84	44.92
Length of adult education (%)			
Less than one year	62.94	54.30	-
More than one year	35.06	43.70	-
Purpose of adult education (%)			
(1)	26.48	35.19	34.15
(2)	62.79	51.24	45.69
(3)	10.73	11.55	16.15
Observations	438	121	130

Table 8.

**Descriptive statistics for those who participate in adult education, Finland**

Variable	Finland		
	1999	2001	2003
Mean age	41.07	41.60	43.42
Age group (%)			
25 – 29	13.09	14.18	13.71
30 – 34	16.11	14.29	12.71
35 – 44	30.70	29.23	29.03
45 – 54	30.66	29.59	25.93
55 and older	7.43	10.70	18.62
Gender (%)			
Male	45.44	44.43	40.92
Female	54.54	50.55	59.08
Marital status (%)			
Single / widowed / divorced / seperated	35.90	41.17	40.02
Married	64.10	58.83	59.98
Main labour status (%)			
(1)	93.55	92.74	84.93
(2)	4.17	3.59	4.00
(3)	4.17	2.05	8.44
(4)	0.97	1.42	2.03
(5)	0.15	0.19	0.58
Professional status of employed (%)			
Self-employed	7.48	8.80	9.76
Employee	92.45	91.11	89.88
Family worker	0.06	0.09	0.35
Economic activity of employed (%)			
Agriculture	4.03	4.87	4.62
Industry	21.55	19.82	20.25
Service	74.40	75.29	75.13
Occupation of employed (%)			
(1)	12.18	12.18	11.05
(2)	33.55	33.09	28.63
(3)	19.81	21.15	21.53
(4)	9.03	8.94	8.44
(5)	8.90	8.38	12.44
(6)	2.89	3.85	4.06
(7)	6.01	5.21	5.82
(8)	4.45	4.03	3.71
(9)	3.18	3.18	4.29
Education (%)			
High	53.91	51.66	50.29
Low	12.24	11.11	13.04
Middle	33.84	35.23	34.67
Length of adult education (%)			
Less than one year	76.35	75.30	-
More than one year	23.63	24.68	-
Purpose of adult education (%)			
(1)	7.66	11.67	20.86
(2)	87.21	81.40	61.95
(3)	5.13	6.93	17.19
Observations	3,284	3,653	3,297

Table 9.

**Descriptive statistics for those who participate in adult education, Greece**

Variable	Greece		
	1999	2001	2003
Mean age	34.40	34.79	34.08
Age group (%)			
25 – 29	34.99	30.89	29.62
30 – 34	25.34	28.07	22.73
35 – 44	23.97	24.54	26.75
45 – 54	11.30	12.28	13.75
55 and older	2.40	2.19	5.14
Gender (%)			
Male	44.92	49.12	43.41
Female	53.08	50.88	54.69
Marital status (%)			
Single / widowed / divorced / seperated	48.63	53.95	53.51
Married	51.35	44.05	44.49
Main labour status (%)			
(1)	66.44	77.63	81.67
(2)	28.77	18.42	11.13
(3)	0.34	0.44	1.29
(4)	2.74	1.30	4.86
(5)	1.71	2.19	1.03
Professional status of employed (%)			
Self-employed	14.29	16.11	14.64
Employee	83.25	80.54	83.65
Family worker	2.44	3.33	1.70
Economic activity of employed (%)			
Agriculture	4.43	1.67	2.16
Industry	10.84	9.44	11.44
Service	84.73	88.89	86.38
Occupation of employed (%)			
(1)	4.93	8.89	6.45
(2)	44.83	30.78	34.21
(3)	10.84	15.00	15.21
(4)	20.69	16.67	18.25
(5)	7.88	16.67	12.60
(6)	3.94	1.11	2.16
(7)	4.93	5.00	4.99
(8)	0.49	1.67	1.59
(9)	1.84	2.22	2.50
Education (%)			
High	48.63	44.93	48.25
Low	9.25	7.02	9.26
Middle	42.12	44.05	42.45
Length of adult education (%)			
Less than one year	42.97	44.48	-
More than one year	55.03	53.52	-
Purpose of adult education (%)			
(1)	25.05	26.75	11.23
(2)	68.84	71.49	60.24
(3)	4.11	1.75	28.53
Observations	292	228	1,069

Table 10.

**Descriptive statistics for those who participate in adult education, Italy**

Variable	Italy		
	1999	2001	2003
Mean age	40.04	38.68	41.93
Age group (%)			
25 – 29	18.83	21.38	18.78
30 – 34	17.96	18.84	16.55
35 – 44	30.55	30.55	28.79
45 – 54	20.98	20.55	20.22
55 and older	9.67	6.66	15.63
Gender (%)			
Male	51.22	44.72	42.38
Female	48.78	53.28	55.62
Marital status (%)			
Single / widowed / divorced / seperated	38.78	45.20	42.79
Married	61.22	54.80	55.21
Main labour status (%)			
(1)	81.33	82.30	74.76
(2)	9.26	8.85	7.43
(3)	4.66	3.39	9.11
(4)	3.48	4.63	7.06
(5)	1.28	0.82	1.64
Professional status of employed (%)			
Self-employed	17.55	17.80	18.14
Employee	81.18	80.17	80.26
Family worker	1.25	2.03	1.60
Economic activity of employed (%)			
Agriculture	2.05	1.61	2.05
Industry	19.45	17.00	16.72
Service	78.48	81.39	81.24
Occupation of employed (%)			
(1)	4.66	3.45	3.29
(2)	30.78	26.80	28.10
(3)	23.54	26.42	25.43
(4)	14.21	16.44	15.07
(5)	9.68	11.79	11.83
(6)	1.04	0.96	1.42
(7)	8.58	7.16	6.40
(8)	4.11	3.48	3.11
(9)	3.40	3.48	3.33
Education (%)			
High	25.68	25.40	25.65
Low	22.26	19.00	21.89
Middle	50.06	53.60	50.45
Length of adult education (%)			
Less than one year	65.75	64.67	48.90
More than one year	34.25	35.33	51.10
Purpose of adult education (%)			
(1)	12.69	1.48	1.44
(2)	68.02	88.38	45.19
(3)	19.29	10.14	51.35
Observations	3,909	3,153	2,987

Table 11.

**Descriptive statistics for those who participate in adult education, Lithuania**

Variable	Lithuania		
	1999	2001	2003
Mean age	40.14	34.79	38.05
Age group (%)			
25 – 29	24.55	35.71	28.10
30 – 34	11.38	15.71	15.70
35 – 44	29.94	25.14	28.51
45 – 54	22.75	15.00	21.07
55 and older	11.38	6.43	6.61
Gender (%)			
Male	29.74	30.00	35.54
Female	68.26	70.00	64.44
Marital status (%)			
Single / widowed / divorced / seperated	25.75	33.55	28.51
Married	74.25	66.43	71.49
Main labour status (%)			
(1)	91.62	89.29	89.67
(2)	5.99	7.86	7.85
(3)	1.80	0.71	1.24
(4)	0.00	2.14	1.24
(5)	0.60	0.00	0.00
Professional status of employed (%)			
Self-employed	5.88	1.59	6.34
Employee	93.44	98.41	92.73
Family worker	0.65	0.00	0.91
Economic activity of employed (%)			
Agriculture	0.65	0.79	4.09
Industry	13.07	12.70	15.91
Service	86.25	86.51	80.00
Occupation of employed (%)			
(1)	13.16	14.29	13.64
(2)	40.13	50.00	39.09
(3)	19.08	16.67	17.25
(4)	5.92	4.76	6.82
(5)	7.89	4.76	6.34
(6)	0.00	0.00	2.25
(7)	9.21	6.35	4.09
(8)	3.29	2.38	7.25
(9)	1.30	0.79	3.18
Education (%)			
High	71.86	62.86	51.65
Low	1.20	0.71	2.48
Middle	26.95	34.43	45.87
Length of adult education (%)			
Less than one year	76.19	-	40.68
More than one year	23.81	-	59.30
Purpose of adult education (%)			
(1)	-	17.86	34.30
(2)	-	30.71	43.39
(3)	-	51.43	22.29
Observations	167	140	242

Table 12.

**Descriptive statistics for those who participate in adult education, Poland**

Variable	Poland	
	2001	2003
Mean age	35.35	35.30
Age group (%)		
25 – 29	35.82	34.25
30 – 34	17.68	19.06
35 – 44	29.81	25.22
45 – 54	15.41	15.11
55 and older	1.28	2.34
Gender (%)		
Male	43.48	42.89
Female	54.52	55.11
Marital status (%)		
Single / widowed / divorced / seperated	29.45	30.45
Married	68.55	67.53
Main labour status (%)		
(1)	87.15	85.86
(2)	9.48	9.85
(3)	0.34	0.89
(4)	1.28	1.94
(5)	1.73	1.45
Professional status of employed (%)		
Self-employed	8.58	9.03
Employee	90.79	90.29
Family worker	0.63	0.66
Economic activity of employed (%)		
Agriculture	2.20	3.39
Industry	18.72	21.45
Service	79.08	75.16
Occupation of employed (%)		
(1)	9.73	8.94
(2)	40.69	34.90
(3)	22.49	24.08
(4)	8.68	9.69
(5)	6.49	7.90
(6)	1.44	2.35
(7)	4.08	5.25
(8)	4.39	4.89
(9)	1.99	1.98
Education (%)		
High	43.30	44.75
Low	1.28	1.94
Middle	55.42	53.29
Length of adult education (%)		
Less than one year	35.35	84.42
More than one year	64.63	15.58
Purpose of adult education (%)		
(1)	35.94	-
(2)	54.55	-
(3)	7.49	-
Observations	1,079	1,238

Table 13.

**Descriptive statistics for those who participate in adult education, Sweden**

Variable	Sweden		
	1999	2001	2003
Mean age	41.63	42.11	43.65
Age group (%)			
25 – 29	15.04	16.33	12.16
30 – 34	15.76	14.59	13.73
35 – 44	29.35	28.09	25.61
45 – 54	26.70	24.78	25.93
55 and older	13.13	16.20	20.58
Gender (%)			
Male	45.17	43.39	44.98
Female	54.83	54.61	55.02
Marital status (%)			
Single / widowed / divorced / seperated	44.75	49.82	45.38
Married	53.24	50.18	52.62
Main labour status (%)			
(1)	87.87	87.96	92.15
(2)	9.14	7.20	4.01
(3)	0.43	2.60	2.08
(4)	1.23	1.02	0.64
(5)	1.34	1.21	1.12
Professional status of employed (%)			
Self-employed	5.01	6.16	6.69
Employee	94.66	93.70	93.14
Family worker	0.33	0.15	0.17
Economic activity of employed (%)			
Agriculture	1.60	1.33	1.79
Industry	20.86	17.60	17.11
Service	77.53	81.07	81.10
Occupation of employed (%)			
(1)	6.26	5.48	6.83
(2)	22.44	26.58	28.77
(3)	25.42	26.60	25.63
(4)	9.51	8.38	7.88
(5)	17.99	17.34	15.94
(6)	1.61	1.06	1.64
(7)	6.50	4.99	5.74
(8)	6.09	6.18	4.88
(9)	2.18	3.40	2.69
Education (%)			
High	40.66	39.64	41.05
Low	12.79	9.73	8.76
Middle	44.55	50.62	50.19
Length of adult education (%)			
Less than one year	77.87	65.19	-
More than one year	22.13	34.81	-
Purpose of adult education (%)			
(1)	17.54	13.21	-
(2)	82.44	62.04	-
(3)	0.00	24.75	-
Observations	2,772	5,355	12,084

## 7.2 ESTIMATION RESULTS

Table 14.

**Estimation results for Hungary**

Hungary						
Outcome	Participation in adult education			Participation in adult education lasting less than on year		
Year	1999	2001	2003	1999	2001	2003
<i>Age group</i>						
25 – 29	0.98 (0.10)**	1.13 (0.10)**	0.66 (0.07)**	0.63 (0.18)**	0.54 (0.25)*	0.22 (0.11)*
30 – 34	0.45 (0.11)**	0.64 (0.11)**	0.43 (0.08)**	0.35 (0.19)*	0.35 (0.26)	0.20 (0.12)*
45 – 54	-0.60 (0.12)**	-0.74 (0.13)**	-0.55 (0.08)**	-0.16 (0.18)	-0.54 (0.25)*	-0.45 (0.11)**
55 and older	-1.34 (0.29)**	-2.16 (0.41)**	-0.99 (0.14)**	-1.05 (0.44)*	-1.55 (0.77)*	-1.01 (0.19)**
Single	0.30 (0.08)**	0.14 (0.08)*	0.10 (0.06)*	-0.22 (0.16)	-0.01 (0.21)	-0.09 (0.09)
<i>Education group</i>						
Low skilled	-2.54 (0.18)**	-2.49 (0.20)**	-2.14 (0.12)**	-1.83 (0.25)**	-2.87 (0.45)**	-1.55 (0.16)**
Middle skilled	-1.15 (0.08)**	-0.86 (0.09)**	-0.96 (0.06)**	-0.71 (0.16)**	-0.79 (0.22)**	-0.75 (0.09)**
Female	0.44 (0.08)**	0.58 (0.08)**	0.45 (0.06)**	0.15 (0.14)	0.45 (0.19)**	0.30 (0.08)**
<i>Main labour status</i>						
Unemployed	0.30 (0.13)**	0.58 (0.13)**	0.08 (0.10)	0.79 (0.18)**	1.65 (0.23)**	0.39 (0.14)**
In retirement	-2.75 (0.44)**	-2.39 (0.45)**	-1.79 (0.18)**	-2.79 (0.78)**	-0.91 (0.66)	-2.26 (0.29)**
Fulfilling domestic tasks	-0.98 (0.17)**	-0.69 (0.17)**	-0.76 (0.12)**	-1.16 (0.40)**	-0.54 (0.45)	-0.81 (0.19)**
Other inactive person	-0.54 (0.35)	-0.88 (0.42)*	-0.45 (0.25)*	-0.29 (0.54)	-0.90 (1.00)	-0.05 (0.30)
Constant	-2.87 (0.11)**	-3.18 (0.12)**	-2.07 (0.08)**	-4.18 (0.17)**	-4.96 (0.25)**	-2.93 (0.12)**
Observations	55,069	54,844	54,851	54,353	54,083	55,612



Table 15.

**Estimation results for Belgium**

<b>Belgium</b>						
<b>Outcome</b>	<b>Participation in adult education</b>			<b>Participation in adult education lasting less than on year</b>		
<b>Year</b>	<b>1999</b>	<b>2001</b>	<b>2003</b>	<b>1999</b>	<b>2001</b>	<b>2003</b>
<i>Age group</i>						
25 – 29	0.20 (0.11)*	0.17 (0.12)	0.03 (0.11)	0.07 (0.15)	-0.20 (0.17)	-0.34 (0.16)*
30 – 34	-0.15 (0.11)	-0.03 (0.12)	0.00 (0.10)	-0.29 (0.15)*	-0.19 (0.16)	0.00 (0.13)
45 – 54	-0.19 (0.10)*	-0.33 (0.10)**	-0.05 (0.09)	-0.14 (0.13)	-0.23 (0.13)*	0.02 (0.11)
55 and older	-1.09 (0.17)**	-0.90 (0.16)**	-0.55 (0.13)**	-1.50 (0.23)**	-1.13 (0.23)**	-0.54 (0.17)**
Single	-0.11 (0.09)	-0.05 (0.09)	0.09 (0.07)	-0.41 (0.12)**	-0.16 (0.12)	0.11 (0.09)
<i>Education group</i>						
Low skilled	-1.72 (0.12)**	-1.59 (0.12)**	-1.62 (0.10)**	-1.65 (0.15)**	-1.54 (0.16)**	-1.54 (0.13)**
Middle skilled	-0.67 (0.09)**	-0.85 (0.09)**	-0.85 (0.08)**	-0.58 (0.11)**	-0.76 (0.12)**	-0.79 (0.10)**
Female	-0.20 (0.08)**	-0.01 (0.08)	0.12 (0.07)*	-0.28 (0.10)**	-0.01 (0.10)	0.04 (0.09)
<i>Main labour status</i>						
Unemployed	0.29 (0.15)*	0.06 (0.17)	0.11 (0.12)	0.16 (0.20)	-0.26 (0.25)	-0.08 (0.17)
In retirement	-1.35 (0.22)**	-1.69 (0.22)**	-1.52 (0.17)**	-1.63 (0.29)**	-2.43 (0.39)**	-1.79 (0.23)**
Fulfilling domestic tasks	-0.99 (0.23)**	-0.82 (0.20)**	-0.88 (0.18)**	-2.09 (0.49)**	-1.23 (0.29)**	-1.50 (0.30)**
Other inactive person	-0.73 (0.41)*	-0.21 (0.33)	0.09 (0.22)	-1.28 (0.84)	-1.10 (0.64)*	-0.38 (0.33)
Constant	-1.64 (0.09)**	-1.65 (0.09)**	-1.66 (0.08)**	-2.03 (0.10)**	-2.09 (0.11)**	-2.11 (0.10)**
Observations	18,842	18,979	19,224	18,458	18,623	18,745

Table 16.

**Estimation results for Denmark**

Denmark						
Outcome	Participation in adult education			Participation in adult education lasting less than on year		
Year	1999	2001	2003	1999	2001	2003
<i>Age group</i>						
25 – 29	0.17 (0.119)	0.08 (0.12)	0.50 (0.13)**	-0.14 (0.13)	-0.24 (0.15)	-
30 – 34	0.08 (0.10)	-0.04 (0.11)	0.21 (0.12)*	-0.07 (0.11)	-0.22 (0.13)*	-
45 – 54	-0.15 (0.09)*	-0.23 (0.09)**	-0.17 (0.09)*	-0.17 (0.09)*	-0.12 (0.10)	-
55 and older	-0.4 (0.11)**	-0.62 (0.12)**	-0.58 (0.12)**	-0.30 (0.12)**	-0.50 (0.14)**	-
<i>Education group</i>						
Single	0.03 (0.07)	-0.06 (0.08)	-0.01 (0.08)	-0.03 (0.08)	-0.15 (0.09)*	-
Low skilled	-0.96 (0.11)**	-1.14 (0.12)**	-0.91 (0.12)**	-1.21 (0.12)**	-1.29 (0.14)**	-
Middle skilled	-0.59 (0.07)**	-0.53 (0.07)**	-0.60 (0.07)**	-0.62 (0.08)**	-0.53 (0.08)**	-
Female	0.34 (0.07)**	0.17 (0.07)**	0.35 (0.07)**	0.34 (0.07)**	0.09 (0.08)	-
<i>Main labour status</i>						
Unemployed	-0.09 (0.14)	0.35 (0.14)**	0.10 (0.13)	-0.23 (0.17)	0.05 (0.17)	-
In retirement	-2.13 (0.24)**	-0.77 (0.15)**	-0.44 (0.14)**	-2.29 (0.28)**	-0.97 (0.18)**	-
Fulfilling domestic tasks	-1.61 (0.60)**	-0.44 (0.43)	-0.59 (0.50)	-2.01 (0.73)**	-0.66 (0.50)	-
Other inactive person	0.51 (0.19)**	-0.62 (0.44)	-1.07 (0.49)*	-0.42 (0.30)	-3.61 (1.01)**	-
Constant	-1.17 (0.09)**	-1.20 (0.09)**	-1.34 (0.09)**	-1.24 (0.09)**	-1.40 (0.10)**	-
Observations	8,999	9,834	9,534	8,696	9,429	-

Table 17.

## Estimation results for Estonia

Estonia						
Outcome	Participation in adult education			Participation in adult education lasting less than on year		
	Year	1999	2001	2003	1999	2001
<i>Age group</i>						
25 – 29	0.68	1.22	1.39	0.40	0.94	-
	(0.17)**	(0.34)**	(0.33)**	(0.24)*	(0.45)*	-
30 – 34	0.61	0.65	0.48	0.48	-0.25	-
	(0.17)**	(0.35)*	(0.30)	(0.23)*	(0.55)	-
45 – 54	-0.16	0.03	-0.75	-0.12	0.09	-
	(0.16)	(0.33)	(0.29)**	(0.21)	(0.39)	-
55 and older	-0.64	-1.12	-0.51	-0.30	-0.89	-
	(0.23)**	(0.58)*	(0.42)	(0.28)	(0.66)	-
Single	0.16	0.08	0.00	0.06	0.04	-
	(0.12)	(0.24)	(0.24)	(0.16)	(0.30)	-
<i>Education group</i>						
Low skilled	-2.96	-1.84	-2.58	-2.99	-1.75	-
	(0.55)**	(0.66)**	(0.76)**	(0.77)**	(0.83)*	-
Middle skilled	-1.23	-1.15	-0.93	-1.12	-1.33	-
	(0.12)**	(0.23)**	(0.23)**	(0.16)**	(0.29)**	-
Female	0.70	0.42	0.48	1.09	0.38	-
	(0.13)**	(0.24)*	(0.23)*	(0.18)**	(0.30)	-
<i>Main labour status</i>						
Unemployed	-0.53	-0.67	-0.26	-0.26	-0.11	-
	(0.25)*	(0.55)	(0.45)	(0.30)	(0.59)	-
In retirement	-2.35	-1.51	-2.28	-2.44	-1.76	-
	(0.54)**	(0.74)*	(0.72)**	(0.71)**	(0.86)*	-
Fulfilling domestic tasks	-1.18	-0.55	-1.30	-1.08	-2.07	-
	(0.34)**	(0.48)	(0.62)*	(0.45)**	(0.86)**	-
Other inactive person		0.42			0.92	-
		(0.86)			(0.93)	-
Constant	-2.35	-2.65	-2.44	-3.21	-2.92	-
	(0.15)**	(0.30)**	(0.30)**	(0.21)**	(0.35)**	-
Observations	10,104	3,254	3,014	9,914	3,220	-

Table 18.

## Estimation results for Finland

Finland						
Outcome	Participation in adult education			Participation in adult education lasting less than on year		
	Year	1999	2001	2003	1999	2001
<i>Age group</i>						
25 – 29	0.22	0.34	0.34	0.09	-0.01	-
	(0.07)**	(0.07)**	(0.07)**	(0.09)	(0.08)	-
30 – 34	0.05	0.09	0.06	-0.04	0.06	-
	(0.06)	(0.06)	(0.07)	(0.08)	(0.07)	-
45 – 54	-0.03	-0.05	-0.20	-0.01	0.06	-
	(0.05)	(0.05)	(0.05)**	(0.06)	(0.06)	-
55 and older	-0.58	-0.41	-0.25	-0.62	-0.22	-
	(0.08)**	(0.07)**	(0.07)**	(0.10)**	(0.08)**	-
Single	-0.15	-0.08	-0.14	-0.14	-0.13	-
	(0.04)**	(0.04)*	(0.04)**	(0.05)**	(0.05)**	-
<i>Education group</i>						
Low skilled	-1.25	-1.21	-1.11	-1.08	-1.13	-
	(0.06)**	(0.06)**	(0.06)**	(0.08)**	(0.07)**	-
Middle skilled	-0.79	-0.60	-0.59	-0.66	-0.63	-
	(0.04)**	(0.04)**	(0.04)**	(0.05)**	(0.05)**	-
Female	0.22	0.25	0.39	0.16	0.19	-
	(0.04)**	(0.04)**	(0.04)**	(0.05)**	(0.04)**	-
<i>Main labour status</i>						
Unemployed	-0.97	-0.98	-0.67	-0.82	-0.95	-
	(0.09)**	(0.10)**	(0.10)**	(0.11)**	(0.11)**	-
In retirement	-2.75	-2.76	-1.04	-2.71	-3.35	-
	(0.18)**	(0.13)**	(0.08)**	(0.22)**	(0.18)**	-
Fulfilling domestic tasks	-1.91	-1.5	-1.00	-2.30	-1.95	-
	(0.19)**	(0.15)**	(0.14)**	(0.30)**	(0.23)**	-
Other inactive person	-1.55	-1.08	0.10	-1.58	-1.35	-
	(0.44)**	(0.40)**	(0.26)	(0.59)**	(0.53)**	-
Constant	-0.90	-0.96	-1.20	-1.45	-1.25	-
	(0.05)**	(0.05)**	(0.05)**	(0.06)**	(0.06)**	-
Observations	23,754	28,048	24,022	22,411	26,950	-

Table 19.

## Estimation results for Greece

Greece						
Outcome	Participation in adult education			Participation in adult education lasting less than on year		
	Year	1999	2001	2003	1999	2001
<i>Age group</i>						
25 – 29	0.73	0.54	0.55	0.04	0.04	-
	(0.16)**	(0.20)**	(0.10)**	(0.29)	(0.34)	-
30 – 34	0.45	0.52	0.35	0.28	0.50	-
	(0.17)**	(0.19)**	(0.10)**	(0.24)	(0.28)*	-
45 – 54	-0.29	-0.28	-0.30	-0.54	-0.02	-
	(0.22)	(0.24)	(0.11)**	(0.30)*	(0.30)	-
55 and older	-1.18	-1.30	-1.09	-1.38	-0.77	-
	(0.44)**	(0.55)*	(0.19)**	(0.63)*	(0.55)	-
Single	0.33	0.52	0.59	-0.34	-0.08	-
	(0.13)**	(0.15)**	(0.08)**	(0.24)	(0.24)	-
<i>Education group</i>						
Low skilled	-2.19	-2.50	-2.21	-1.75	-2.30	-
	(0.23)**	(0.28)**	(0.12)**	(0.29)**	(0.35)**	-
Middle skilled	-0.73	-0.6	-0.74	-0.82	-0.74	-
	(0.13)**	(0.14)**	(0.07)**	(0.21)**	(0.22)**	-
Female	0.17	0.21	0.41	0.21	0.30	-
	(0.12)	(0.14)	(0.07)**	(0.20)	(0.21)	-
<i>Main labour status</i>						
Unemployed	0.97	0.43	0.01	1.38	0.81	-
	(0.14)**	(0.18)**	(0.11)	(0.22)**	(0.25)**	-
In retirement	-2.95	-2.61	-1.92			-
	(1.12)**	(1.16)*	(0.30)**			-
Fulfilling domestic tasks	-1.55	-2.40	-1.09	-1.61	-2.54	-
	(0.39)**	(0.63)**	(0.16)**	(0.55)**	(0.73)**	-
Other inactive person	0.63	0.63	-0.21		-0.14	-
	(0.44)	(0.44)	(0.30)		(1.01)	-
Constant	-4.41	-4.58	-2.93	-4.99	-5.12	-
	(0.17)**	(0.18)**	(0.09)**	(0.22)**	(0.25)**	-
Observations	59,055	58,544	54,252	42,785	42,249	-

Table 20.

## Estimation results for Italy

Italy						
Outcome	Participation in adult education			Participation in adult education lasting less than on year		
	Year	1999	2001	2003	1999	2001
<i>Age group</i>						
25 – 29	0.19	0.16	0.33	-0.01	-0.28	-0.13
	(0.06)**	(0.06)**	(0.07)**	(0.08)	(0.09)**	(0.12)
30 – 34	0.01	0.07	0.09	-0.06	-0.17	-0.18
	(0.05)	(0.06)	(0.06)	(0.07)	(0.08)*	(0.11)*
45 – 54	-0.13	-0.21	-0.11	-0.06	-0.16	0.09
	(0.05)**	(0.06)**	(0.06)*	(0.06)	(0.07)*	(0.09)
55 and older	-0.73	-0.70	-0.63	-0.53	-0.70	-0.59
	(0.09)**	(0.09)**	(0.08)**	(0.10)**	(0.12)**	(0.14)**
Single	0.18	0.41	0.24	-0.01	0.21	-0.02
	(0.04)**	(0.05)**	(0.05)**	(0.05)	(0.06)**	(0.08)
<i>Education group</i>						
Low skilled	-1.78	-1.84	-1.87	-1.92	-1.81	-2.05
	(0.05)**	(0.06)**	(0.06)**	(0.07)**	(0.09)**	(0.11)**
Middle skilled	-0.65	-0.48	-0.54	-0.67	-0.40	-0.52
	(0.04)**	(0.05)**	(0.05)**	(0.05)**	(0.07)**	(0.08)**
Female	0.14	0.25	0.39	0.16	0.34	0.55
	(0.04)**	(0.04)**	(0.04)**	(0.05)**	(0.06)**	(0.07)**
<i>Main labour status</i>						
Unemployed	-0.23	-0.10	-0.13	-0.54	-0.25	-0.65
	(0.06)**	(0.07)	(0.08)*	(0.09)**	(0.11)*	(0.17)**
In retirement	-1.19	-0.54	-0.50	-1.97	-1.38	-1.18
	(0.11)**	(0.12)**	(0.10)**	(0.16)**	(0.21)**	(0.19)**
Fulfilling domestic tasks	-1.80	-1.23	-0.86	-2.70	-1.84	-1.80
	(0.10)**	(0.10)**	(0.09)**	(0.17)**	(0.16)**	(0.20)**
Other inactive person	0.13	-0.01	0.29	-1.20	-0.71	-0.75
	(0.17)	(0.21)	(0.16)*	(0.34)**	(0.42)*	(0.45)
Constant	-2.08	-2.62	-2.80	-2.29	-3.10	-3.59
	(0.05)**	(0.06)**	(0.06)**	(0.06)**	(0.08)**	(0.09)**
Observations	130,901	105,867	142,543	129,582	104,354	140,642

Table 21.

**Estimation results for Lithuania**

<b>Lithuania</b>						
<b>Outcome</b>	<b>Participation in adult education</b>			<b>Participation in adult education lasting less than on year</b>		
<b>Year</b>	<b>1999</b>	<b>2001</b>	<b>2003</b>	<b>1999</b>	<b>2001</b>	<b>2003</b>
<i>Age group</i>						
25 – 29	0.58 (0.25)*	1.08 (0.25)**	0.86 (0.23)**	-0.09 (0.35)	-	-0.86 (0.53)
30 – 34	-0.04 (0.30)	0.49 (0.30)	0.35 (0.24)	-0.63 (0.38)*	-	-0.62 (0.51)
45 – 54	0.05 (0.25)	-0.29 (0.29)	-0.34 (0.21)	0.10 (0.29)	-	-0.12 (0.34)
55 and older	0.24 (0.33)	-0.82 (0.41)*	-0.73 (0.35)*	0.18 (0.35)	-	-0.16 (0.48)
Single	0.21 (0.21)	0.50 (0.22)*	-0.03 (0.19)	0.23 (0.26)	-	0.38 (0.34)
<i>Education group</i>						
Low skilled	-3.38 (0.74)**	-3.88 (1.03)**	-2.26 (0.45)**	-1.07 (0.26)**	-	-3.11 (1.11)**
Middle skilled	-0.86 (0.21)**	-1.44 (0.21)**	-1.06 (0.16)**	0.81 (0.23)**	-	-1.66 (0.29)**
Female	0.78 (0.19)**	0.75 (0.22)**	0.48 (0.16)**	-1.10 (0.55)*	-	0.48 (0.29)
<i>Main labour status</i>						
Unemployed	-0.51 (0.38)	-0.35 (0.38)	-0.54 (0.29)*	-2.30 (0.85)**	-	-2.29 (1.02)*
In retirement	-2.44 (0.73)**	-3.35 (1.03)**	-2.52 (0.65)**	-1.52 (1.01)	-	-2.38 (0.88)**
Fulfilling domestic tasks		-0.85 (0.66)	-0.89 (0.63)		-	
Other inactive person	-1.96 (1.01)*				-	
Constant	-3.26 (0.23)**	-3.10 (0.26)**	-2.58 (0.20)**	-3.42 (0.26)**	-	-3.29 (0.33)**
Observations	5,934	6,122	7,949	4,218	-	7,618

Table 22.

**Estimation results for Poland**

<b>Poland</b>						
<b>Outcome</b>	<b>Participation in adult education</b>			<b>Participation in adult education lasting less than on year</b>		
<b>Year</b>	<b>1999</b>	<b>2001</b>	<b>2003</b>	<b>1999</b>	<b>2001</b>	<b>2003</b>
<i>Age group</i>						
25 – 29	-	0.87	0.82	-	0.08	0.00
	-	(0.09)**	(0.08)**	-	(0.16)	(0.23)
30 – 34	-	0.29	0.40	-	-0.22	0.21
	-	(0.10)**	(0.09)**	-	(0.17)	(0.23)
45 – 54	-	-0.68	-0.60	-	-0.45	-0.41
	-	(0.10)**	(0.10)**	-	(0.14)**	(0.22)*
55 and older	-	-1.41	-1.61	-	-0.93	-1.14
	-	(0.29)**	(0.22)**	-	(0.35)**	(0.48)**
Single	-	0.40	0.33	-	0.04	0.09
	-	(0.08)**	(0.07)**	-	(0.14)	(0.19)
<i>Education group</i>						
Low skilled	-	-3.55	-2.82	-	-3.41	-2.62
	-	(0.29)**	(0.23)**	-	(0.44)**	(0.55)**
Middle skilled	-	-1.65	-1.30	-	-1.79	-1.16
	-	(0.07)**	(0.07)**	-	(0.12)**	(0.17)**
Female	-	0.24	0.26	-	0.03	0.16
	-	(0.07)**	(0.07)**	-	(0.11)	(0.16)
<i>Main labour status</i>						
Unemployed	-	-0.42	-0.45	-	-0.45	-0.08
	-	(0.12)**	(0.11)**	-	(0.21)*	(0.24)
In retirement	-	-2.58	-2.45	-		
	-	(0.52)**	(0.35)**	-		
Fulfilling domestic tasks	-	-1.50	-1.04	-	-2.29	-2.28
	-	(0.29)**	(0.23)**	-	(0.72)**	(1.01)*
Other inactive person	-	-0.84	-1.09	-		
	-	(0.24)**	(0.25)**	-		
Constant	-	-1.72	-1.97	-	-2.25	-3.74
	-	(0.09)**	(0.09)**	-	(0.13)**	(0.21)**
Observations	-	25,630	38,079	-	21,611	22,390



Table 23.

**Estimation results for Sweden**

Sweden						
Outcome	Participation in adult education			Participation in adult education lasting less than on year		
Year	1999	2001	2003	1999	2001	2003
<i>Age group</i>						
25 – 29	0.18 (0.08)**	0.34 (0.05)**	0.10 (0.04)*	-0.01 (0.09)	0.21 (0.07)**	-
30 – 34	-0.01 (0.07)	0.07 (0.05)	0.03 (0.04)	-0.15 (0.08)*	0.12 (0.07)*	-
45 – 54	-0.18 (0.06)**	-0.14 (0.04)**	-0.03 (0.03)	-0.10 (0.07)	-0.01 (0.06)	-
55 and older	-0.54 (0.08)**	-0.45 (0.05)**	-0.19 (0.04)**	-0.42 (0.08)**	-0.33 (0.07)**	-
Single	-0.10 (0.05)*	-0.04 (0.04)	-0.11 (0.03)**	-0.08 (0.05)	-0.11 (0.05)**	-
<i>Education group</i>						
Low skilled	-1.01 (0.07)**	-1.19 (0.06)**	-1.42 (0.04)**	-0.94 (0.08)**	-1.25 (0.08)**	-
Middle skilled	-0.53 (0.05)**	-0.64 (0.04)**	-0.75 (0.03)**	-0.44 (0.05)**	-0.63 (0.05)**	-
Female	0.24 (0.05)**	0.23 (0.03)**	0.21 (0.03)**	0.18 (0.05)**	0.13 (0.04)**	-
<i>Main labour status</i>						
Unemployed	0.79 (0.09)**	0.89 (0.07)**	-0.03 (0.06)	0.44 (0.10)**	0.65 (0.10)**	-
In retirement	-2.62 (0.30)**	-0.29 (0.10)**	-0.77 (0.08)**	-4.13 (0.63)**	-2.34 (0.35)**	-
Fulfilling domestic tasks	-0.24 (0.21)	-0.12 (0.17)	-0.97 (0.14)**	-0.70 (0.29)**	-0.64 (0.28)*	-
Other inactive person	0.23 (0.19)	-0.14 (0.15)	-0.41 (0.11)**	-0.30 (0.25)	-0.89 (0.26)**	-
Constant	-0.78 (0.06)**	-1.30 (0.05)**	-0.13 (0.04)**	-1.06 (0.07)**	-1.97 (0.06)**	-
Observations	12,916	34,353	35,387	12,213	33,612	-

*Notes on Tables 14 - 23:* 1) The reference group among the age groups is aged 35 – 44. 2) The reference group among the education groups is high skilled. 3) The reference group among main labour status is “Carries out a job or profession, including unpaid work for a family business or holding, including an apprenticeship or paid traineeship, etc.” 4) Standard errors are in parentheses. 5) \* denotes significance at 5% level and \*\* denotes significant at 1% level. 6) Missing coefficients estimates for the education and main labour status dummies indicate that the dummy variable predicts failure (i.e. nonparticipation in adult education / nonparticipation in adult education lasting less than one year perfectly) and hence the observations are dropped from the model.

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