

Comparative Analysis of Return on Public Investment in Education

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Abstract

Education is relevant to the development of the human personality and the quality of human life. Investment in education represents a precondition for attainment of better economic, social and technological development. Investment in education is an important factor that facilitates decreasing unemployment, reducing of social inequality and social exclusion and increasing participation in civic and political life. Most of the investment in education comes primarily from public sources. The main aim of this paper is to compare the estimated return on public investment in education through a method that uses the Organization for Economic Co-operation and Development (public net present value), in the Czech Republic and in other OECD member countries.

Keywords: education, investment in education, OECD, comparison

JEL codes: I21, I22, J24

1. Introduction

The need for education can be defined as the perceived lack of knowledge or skill that an individual considers important for its survival, the preservation of mental, physical and social functions. Chicago economists interpret the educational process as the process of investing in human capital. A prerequisite for this interpretation is that individuals are free to decide about their need to learn, based on a comparison of costs and revenues associated with the process of education (Brožová, 2003). Measuring return on investment in education is not easy and becomes subject to a number of economic analysis and studies, which often have different results. The paper presents the basic methods the return on investment in education is determined by, especially method which uses Organisation for Economic Co-operation and Development (OECD) – public net present value (PNPV). The main aim of this paper is to compare estimates of profitability of public investment in education in the Czech Republic and in other OECD member countries, more precisely in selected counties of the European Union. To fulfill the aim of the paper, secondary statistical data from

Eurostat database and publication Organisation for Economic Co-operation and Development „Education at a Glance: OECD Indicators“ are used. In this paper, the level of education is divided into basic education, secondary education and tertiary education. By International Standard Classification of Education (ISCED) educational attainment ISCED 0 – 2 = basic education, ISCED 3 – 4 = secondary education and ISCED 5 – 6 = tertiary education.

The paper is structured as follows. In Section 2, we define investment in human capital, we introduce and describe costs and benefits of investment in education and methods of measuring return on these investment. In Section 3, we present method that uses the OECD to estimate the return on investment in education. In Section 4, we compare individual public net present values and unemployment rates by level of education attained in selected countries. We selected 18 countries of European Union. These are countries which we collected the necessary data. Section 5 concludes the paper.

2. Investment in Human Capital

In general, the investment in human capital considers activities that enhance knowledge and skills of individuals and exhibit sustained or repeated impact on the monetary or psychic income (Kameníček, 2003). However, when simplifying, investment in human capital are usually identified with investment in education. Each economic entity, whether the individual, company or country that invests its money in education is expected to return the minimum investment or to be profitable. Economic studies confirm that people with higher education and qualification earn more than those with lower education on average and the unemployment rate among people with higher education is lower than the rate of unemployment among people with lower educational attainment (for more details see Figure 2). Educated people adapt better to the changing demands of the labour market, they are willing to accept new knowledge and handle it, they are more mobile. If more educated persons lose their job, they are able to handle this fact even easier.

Economic analysis of human capital is based on assumption that individuals make decisions about their education by comparing the benefits and costs. Definition of costs and benefits of education, inter alia, is the necessary condition for determining the optimum volume of educational services. Analysis of costs and benefits of education also enables us to formulate hypotheses related to determining the optimal method of financing education (Čaplánová, 1999). Various costs of education and educational benefits are described in Table 1.

Table 1: Costs and Benefits of Investment in Education

Impact	Direct costs	Indirect costs	Direct benefits	Indirect benefits
Private	Private expenditure on education (tuition fees, expenditure on school materials, living costs of students)	Foregone earnings of students (opportunity costs)	Higher incomes associated with higher education, better chances of employment, better social status	Organize life values, deepening tolerance, strengthening the ability to solve problems
Public	Public expenditure on education (direct costs of education, student support)	Public expenditure on education (lower tax revenue from income to government budgets)	Higher taxes due to higher earnings, lower social transfers, increased employment of persons with higher education	A healthier population, reduced crime, higher social cohesion, economic growth

Source: Barták and Vomáčková (2007)

Not only the Table 1 displays that sometimes, the costs of education and in particular benefits are very difficult to quantify. Possibilities, success of expression, measure of benefits and costs related to education depend all on the level, form and way of obtaining of education. Costs and benefits associated with formal education can be quantified in the easiest way while the psychological aspects associated with training could not be a financially valued at all (Barták and Vomáčková, 2007). We can also say that the costs and benefits associated with education are the higher, the higher the level of education is.

Return on investment in education can be determined by two main approaches, econometric and investment. While investment approach is based on literature focused on investment decisions, an econometric approach is based on the literature of labour market. The econometric approach, specifically the function of income includes an estimate of the regression equation, which will set the date as education, work experience, sometimes a family environment, gender, parents' earnings, etc., and we expect the regression coefficients (Šperka and Spišák, 2012). The subject of this equation is the regression coefficient b , that, under certain circumstances, presents the approximate value of the private or public return on investment in education (Szarowska, 2012). Mostly, the private rate of return on investment in tertiary education exceeds the public. This equation is named after its creator – Mincer's equation - and its general shape has the following form:

$$\ln W = a + bS + cEXP + dEXP^2 + Xf + e \quad (1)$$

where: W = wages
 a = absolute member
 b, c, d = regression coefficients
 S = duration of studies in years
 EXP = duration of work experience in years
 X = vector of other factors affecting earnings
 e = random component

In terms of investment approach, we mainly work with the full method of calculating the rate of return on investment in education, or more precisely with the internal rate of return. This method results from the definition of rate of return on investment in education. This is the discount rate equalizing the amount of the discounted costs and the discounted benefits, which are created by investment (Urbánek; Barták and Vomáčková, 2007). Public rate of return on investments in education includes on the costs side: all costs of education and on benefits side: gross earnings and externalities (which could be hardly expressed in monetary terms), more precisely gross wages. The basic equation for the calculation of financial flows has the following form:

$$\sum_{t=G}^R \frac{E_1(t) - E_0(t)}{(1+r^*)^t} - \sum_{t=E}^G \frac{E_0(t) + C(t)}{(1+r^*)^t} = 0 \quad (2)$$

where: $E_0(t)$ = earnings function for people with lower education level
 $E_1(t)$ = earnings function for people with higher level of education
 $C(t)$ = function of the direct costs
 E = age at the beginning of education
 G = age at the leaving education
 R = age at the last year of activity in the labour market
 r^* = rate of return on investment in education

These methods of calculating return on investment in education are very often modified in practice and then, the individual measurements often provide a number of different results. Important role while measuring plays the chosen approach and defined conditions, as well as the level of individual estimates and the level of abstraction.

3. Public Net Present Value of Investment in Education

Education is financed by both private and especially public sources. Each entity (individual, company or state) that invests financial resources in education is also interested about what benefits it will bring. Income from attainment of higher education can have not only economic, but also social character. OECD uses in the estimation of return on investment in education one of the most widely used traditional criteria for investment decisions, where the time factor, risk factor and timing of investment is taken into consideration. This is done by net present value method. Net present value is a method of discounting the costs of investment in relation to revenues that will be brought by this investment. Public net present value of investment in education is the discounted net economic benefits for society as a whole from the addition of continuing education of individuals. OECD uses for calculating the public net present value (PNPV) the following form (OECD,2009; OECD,2013):

$$PNPV = - \sum_{t=0}^{d-1} \frac{C_t}{(1+i)^t} + \sum_{t=d}^{64-a-d} \frac{B_t}{(1+i)^t} \quad (3)$$

where: C_t = costs at period t

B_t = benefits at period t

i = discount rate

d = duration of studies in years

a = age at the beginning of education

64 = age at the last year of activity in the labour market

The amount of the real discount rate in the OECD approach is set at 3 %. The discount rate should present an interest that can be possible expected (taking into account inflation rate) in most OECD countries by investing in long-term government bonds. Discounting costs and revenues to present value using the interest rate is a prerequisite for the time and spatial comparison not only for various components included in the calculation but for the financial benefits of the investments as well. If the public net present value of investment in education positive values, it means that we can expect higher return than investment in government bonds. Therefore, Public net present value indicates how much money the society return compared to investment. In case of negative public net present value, it seems more advantageous to invest the funds in government bonds. When calculating the net present value of public investment in education, the direct public costs (eg. salaries of teachers, educational subsidies, payments for renewal or extending of educational facilities, payments related with the acquisition of teaching aids, etc.) and foregone public revenue (ie. foregone tax revenues and social contributions related to higher education of individuals) are included. Revenues included in the calculation of the public net present value are the increases in tax revenues deriving from higher wages and social insurance of individuals and savings on transfer payments. Public net present value is an indicator that compares the public benefits with public costs associated with the addition of higher education. According to the OECD approach, public net present value for an individual obtaining secondary education and public net present value for an individual obtaining tertiary education is distinguished. Values of public net present values for males and for females are shown in Table 2 in section 4.

4. Comparison of Public Net Present Value of Investment in Education

Benefits that accrue to society as a whole from the addition of secondary education are highest in the case of men in Austria (96 404), in United Kingdom (80 179) and in Ireland (60 903). Value of direct costs is -42 552 in Austria, -17 187 in United Kingdom and -29 498 in Ireland. Value of foregone taxes on earnings is -8 054 in Austria, 2 307 in United Kingdom and -763 in Ireland. Total costs are -50 606 in Austria, -14 881 in United Kingdom and -30 261. Total benefits are 147 010 in Austria, 95 060 in United Kingdom and 91 164 in Ireland.

In comparison with other selected countries (ie. Compared with 17 selected EU countries) the Czech Republic is on the 8 site in the public net present value. Value is 36 892. It is slightly below average. Average for the 18 selected countries is 39 254 in case of men.

And in the case of the women the public net present value is the highest in United Kingdom (86 861), in Germany (59 366) and in Sweden (50 875). Value of direct costs is -17 187 in United Kingdom (it is as in the case of the men), -27 953 in Germany and -28 557 in Sweden. Value of foregone taxes on earnings is 4 881 in United Kingdom, -14 248 in Germany and -7 319 in Sweden. Total costs are -12 306 in United Kingdom, -42 201 in Germany and -30 524 in Ireland. Total benefits are 99 167 in United Kingdom, 101 567 in Germany and 40 152 in Ireland.

The Czech Republic is on the 8 site in the public net present value. It is the same position as in the case of the men. Value in the Czech Republic is 28 983 and average for the 18 selected countries is 27 855.

Benefits that accrue to society as a whole from the addition of tertiary education are highest in the case of men in Hungary (251 155), in Ireland (220 792) and in Slovenia (207 728). And then in the case of the women the public net present value is the highest in Slovenia (142 454), in Hungary (133 149) and in Ireland (126 380). For more details see Figure 1. There are public net present values of attaining tertiary education.

Table 2: Return on Investment in Education Calculated Using Public Net Present Values (2009, USD)

	PNPV (Secondary education)		PNPV (Tertiary education)		Difference ¹	
	males	females	males	females	males	females
Austria	96 404	49 318	129 064	84 529	32 660	35 211
Czech Republic	36 892	28 983	120 165	64 415	83 273	35 432
Denmark	55 434	21 218	49 427	-40 189	-6 007	-61 407
Estonia	-6 138	-7 628	27 525	17 170	33 663	24 798
Finland	16 263	11 989	104 071	31 876	87 808	19 887
France	22 713	36 287	81 333	35 448	58 620	-839
Germany	54 788	59 366	140 717	59 896	85 929	530
Greece	30 835	14 303	56 593	67 129	25 758	52 826
Hungary	36 690	37 324	251 155	133 149	214 465	95 825
Ireland	60 903	9 628	220 792	126 380	159 889	116 752
Italy	39 235	26 578	168 693	69 886	129 458	43 308
Poland	1 921	6 500	118 266	55 498	116 345	48 998
Portugal	22 837	1 304	97 476	72 861	74 639	71 557
Slovakia	43 145	21 747	80 061	46 272	36 916	24 525
Slovenia	36 716	36 137	207 728	142 454	171 012	106 317
Spain	17 739	10 603	27 605	41 805	9 866	31 202
Sweden	60 018	50 875	35 654	-9 494	-24 364	-60 369
United Kingdom	80 179	86 861	98 091	88 100	17 912	1 239

Source: Education at a Glance 2013: OECD indicators, own processing

1) Difference between PNPV Secondary education and PNPV Tertiary education

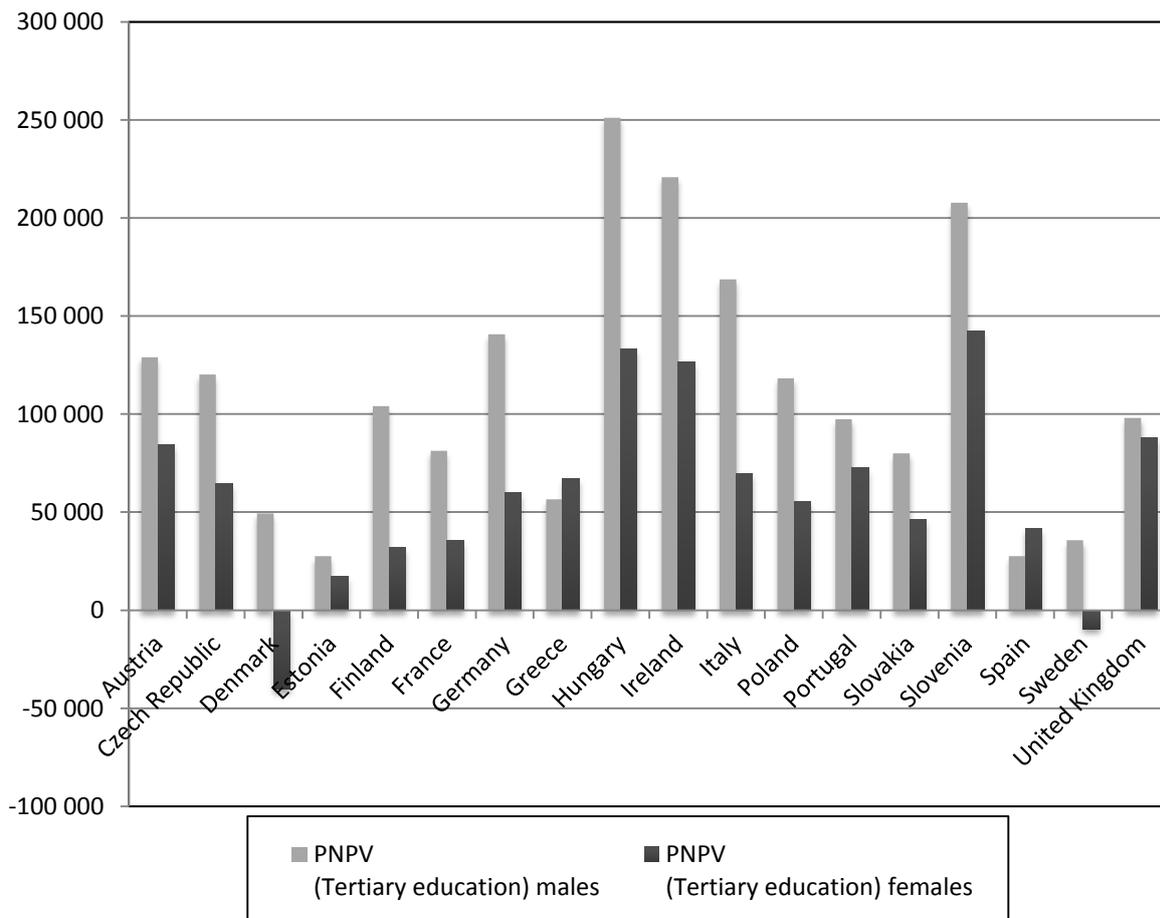
Figure 1 shows differences of public net present values of attaining tertiary education between males and females. It is evident the differences between the genders are mostly strong. The biggest difference is in Hungary. There is public net present value of attaining tertiary education in the case of men bigger than in the case of women. The difference is 118 006. Other the biggest difference between gender is in Italy (98 807) and in Ireland (94 412).

On the contrary public net present value of attaining tertiary education in the case of the women is bigger in Spain (14 200) and in Greece (10 536).

Now if we compare the public net present values of individual levels of education, we know in individual countries are differences. It shows Table 2. The biggest difference is evident in Hungary, there is the public net present value of tertiary education is higher than of secondary education, this difference is 214 465 in the case of men. On the contrary the public net present value of secondary education is higher than of tertiary education in Sweden (24 364) and in Denmark (6 007).

In the case of women the biggest difference is evident in Ireland (116 752; in tertiary is value higher than secondary) and in Slovenia (106 317). On the contrary the public net present value of secondary education is higher than of tertiary education in Denmark (61 407) and in Sweden (60 369).

Figure 1: Public Net Present Values of Attaining Tertiary Education (2009)



Source: Education at a Glance 2013: OECD indicators, own processing

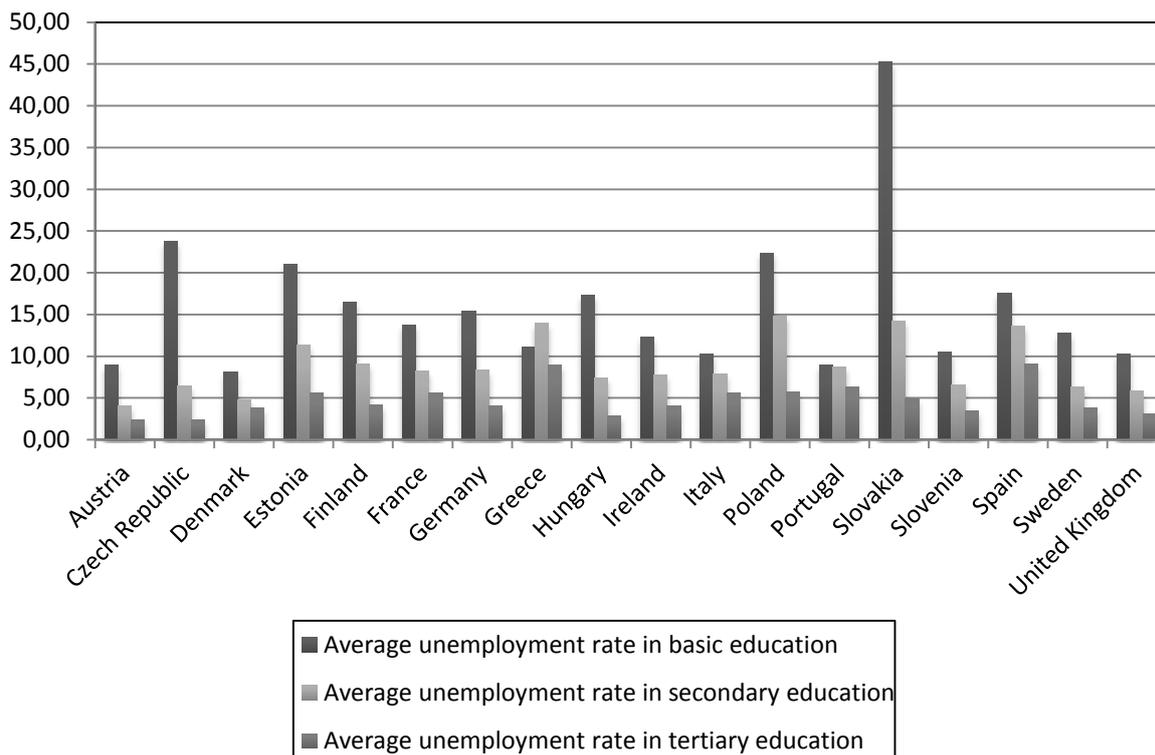
In the second part of this article there is comparison of unemployment rates of attaining level education in selected countries.

Figure 2 shows averages of unemployment rates by highest level of education attained. The averages were count for period 2000-2012. Values are in percentages. There is evident average unemployment rate in attaining basic education is the highest. But there are exceptions. For example in Greece there is unemployment rate in attaining secondary education higher than unemployment rate in attaining basic education. In Greece there are people with secondary education who have more problems with to find job than people with basic education.

Averages of unemployment rate in attaining basic education in selected countries is in the range from 8,11% to 45,25%. The highest average unemployment rate is in Slovakia (45,25%), in the Czech Republic (23,70%) and in Poland (22,37%). On the contrary the lowest average unemployment rate is in Denmark (8,11%), Portugal (8,95%) and in Austria (8,95%). Averages of unemployment rate in attaining secondary education in selected countries is lower than in previous case, it is in the range

from 4,05% to 14,78%. The highest average unemployment rate is in Poland (14,78%), in Slovakia (14,16%) and in Spain (13,57%). On the contrary the lowest average unemployment rate is in Austria (4,05%), in Denmark (4,71%) and in United Kingdom (5,86%). And averages of unemployment rate in attaining tertiary education is in the lowest range. It is in the range from 2,32% to 9,05%. The highest values are in the southern coastal states, it is in Spain (9,05%), in Greece (8,90%) and in Portugal (6,28%). On the contrary the lowest values are in Austria (2,32%), in the Czech Republic (2,37%) and in Hungary (2,84%). Trend of these extreme unemployment rates is showed detailed, in other figure.

Figure 2: Averages of Unemployment Rates by Highest Level of Education Attained (average for period 2000-2012, %)

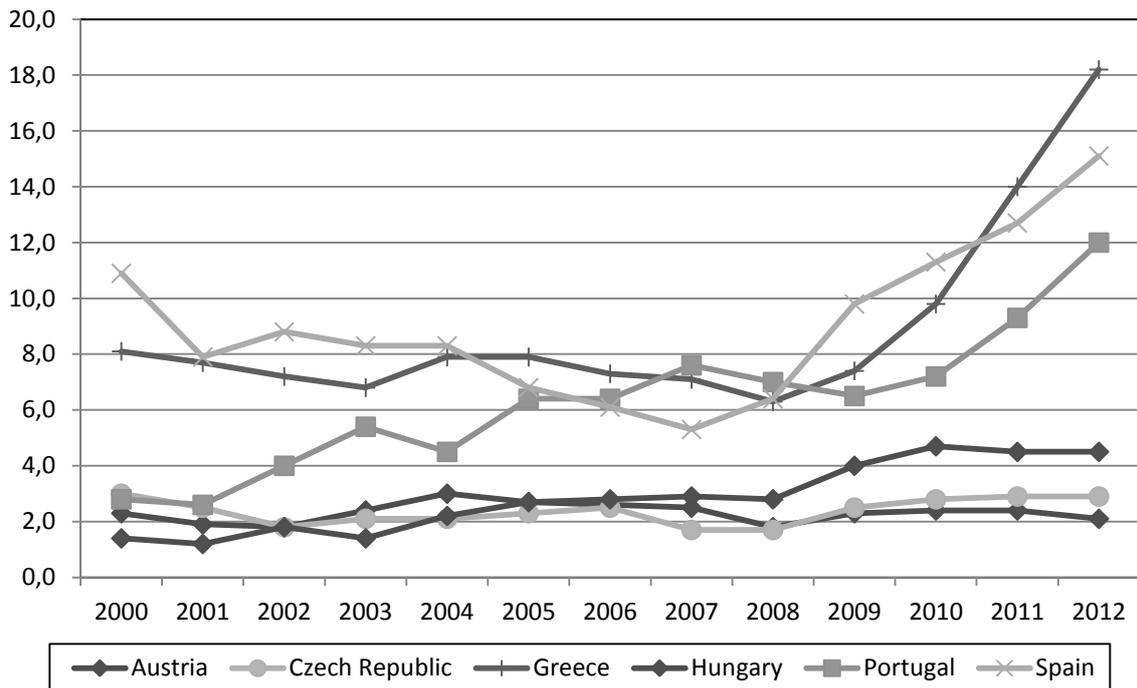


Source: Eurostat, own processing

Figure 3 shows trends in unemployment rates of attaining tertiary education in selected countries. It is detailed view to trend in unemployment rate. In this analysis there were selected 3 countries with the lowest average unemployment rate (Austria, Czech Republic and Hungary) and 3 countries with the highest average unemployment rate (Spain, Greece and Portugal). While the 3 countries with the lowest average unemployment rates show a calmer development, without significant leaps so different it is with 3 other countries (countries with the highest average unemployment rates). There are significant leaps in development, mainly in the period from year 2008.

The most interesting situation is in Portugal. While this country was in the same level as countries with the lowest average unemployment rate at the beginning of the monitored period so at the end of the monitored period Portugal has the worst unemployment rate of attaining tertiary education. Value of the unemployment rate increase from 2,8% in 2000 to 12% in 2012. It is an alarming increase.

Figure 3: Trends in Unemployment Rates of Attaining Tertiary Education in Selected Countries (2000-2012, %)



Source: Eurostat, own processing

5. Conclusion

One of the aims of this article was to compare level of education in selected European countries. There were selected 18 countries which are in the European Union and which are presented with publicly available sources. In the first half of this article there is theoretical background for investment in human capital and public net present value of investment in education. There was used a large proportion of professional resources. In the second half of this article there is comparative analysis of publicly available data.

There were found differences of public net present values of attaining tertiary education between males and females. It is evident the differences between the genders are mostly strong. The biggest difference is in Hungary. There is public net present value of attaining tertiary education in the case of men bigger than in the case of women. The difference is 118 006. Other the biggest difference between gender is in Italy (98 807) and in Ireland (94 412). On the contrary public net present value of attaining tertiary education in the case of the women is bigger in Spain (14 200) and in Greece (10 536).

Benefits that accrue to society as a whole from the addition of tertiary education are highest in the case of men in Hungary (251 155), in Ireland (220 792) and in Slovenia (207 728). And then in the case of the women the public net present value is the highest in Slovenia (142 454), in Hungary (133 149) and in Ireland (126 380). The lowest public net present values are in Denmark and in Sweden in tertiary education attained.

Furthermore there was analysis of the unemployment rate by the level of education attained. Countries with the biggest problems are Slovakia, Poland, Spain, Portugal and Greece. In these countries there are the unemployment rates the highest. The most interesting situation is in Portugal. Value of the unemployment rate increase from 2,8% in 2000 to 12% in 2012. It is an alarming increase.

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Attachments

Table 3: Trends in Unemployment Rates by Educational Attainment (2000-2012, %)

Country	Level of education attained	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Czech Republic	Basic	22,8	21,7	20,6	22,1	26,2	27,0	24,8	20,4	19,4	24,4	25,3	24,6	28,8
	Secondary	7,9	7,1	6,4	6,9	7,5	7,2	6,4	4,7	3,7	6,2	7,0	6,5	6,5
	Tertiary	3,0	2,5	1,8	2,1	2,1	2,3	2,5	1,7	1,7	2,5	2,8	2,9	2,9
Denmark	Basic	6,3	6,3	7,0	8,6	7,5	7,5	6,7	5,7	5,5	9,3	11,3	11,6	12,1
	Secondary	4,4	3,9	3,7	4,4	5,1	4,5	3,2	3,0	2,8	5,6	6,9	6,8	6,9
	Tertiary	2,6	3,5	3,7	4,8	4,1	3,7	3,3	3,0	2,3	3,7	4,8	5,3	4,9
Germany	Basic	12,7	11,7	13,5	15,9	17,9	19,4	18,9	17,3	15,6	15,9	15,1	13,3	12,6
	Secondary	7,9	8,1	8,7	10,1	11,2	11,2	10,0	8,3	7,3	7,7	7,0	5,8	5,4
	Tertiary	4,3	4,2	4,3	5,0	5,5	5,6	4,9	3,9	3,4	3,4	3,2	2,5	2,4
Estonia	Basic	26,4	19,9	20,0	18,8	21,1	15,3	13,5	11,7	12,2	29,9	32,4	27,4	24,7
	Secondary	14,8	13,4	10,3	12,5	10,7	9,3	6,3	4,9	5,9	16,1	19,6	13,0	10,7
	Tertiary	5,0	8,0	4,7	5,4	6,0	4,0	3,3	2,5	3,0	6,4	9,5	8,2	6,2
Ireland	Basic	8,1	6,5	7,0	7,3	7,8	7,4	7,0	7,6	10,1	18,1	22,2	24,4	25,9

	Secondary	3,0	3,0	3,7	3,9	3,9	3,9	4,2	4,4	6,2	13,7	16,2	17,4	17,7
	Tertiary	1,8	1,7	2,3	2,7	2,3	2,5	2,7	2,7	3,4	7,2	7,9	7,9	7,6
Greece	Basic	9,5	9,1	8,6	8,0	9,6	9,0	8,3	7,8	7,6	9,7	12,9	18,5	26,4
	Secondary	15,1	13,6	13,1	12,3	12,4	11,9	10,7	9,8	8,8	11,0	14,5	20,1	27,5
	Tertiary	8,1	7,7	7,2	6,8	7,9	7,9	7,3	7,1	6,3	7,4	9,8	14,0	18,2
Spain	Basic	15,3	11,7	12,5	12,9	12,9	11,1	10,5	10,5	15,4	24,7	27,5	29,2	34,0
	Secondary	13,8	10,5	11,5	11,6	11,0	8,8	8,1	8,1	10,6	17,1	19,3	21,5	24,5
	Tertiary	10,9	7,9	8,8	8,3	8,3	6,8	6,1	5,3	6,4	9,8	11,3	12,7	15,1
France	Basic	15,4	13,3	13,0	12,0	12,9	13,0	13,2	12,3	11,8	14,4	15,4	15,2	16,3
	Secondary	9,1	7,6	7,7	7,9	8,4	8,0	8,1	7,2	6,9	8,8	8,8	8,9	9,9
	Tertiary	5,6	4,9	5,5	6,1	6,6	6,2	5,9	5,5	4,5	5,5	5,5	5,4	5,7
Italy	Basic	12,2	11,2	10,8	10,7	9,7	9,3	8,2	7,5	8,6	9,6	10,5	10,8	13,9
	Secondary	10,7	9,2	8,8	8,2	7,2	7,0	6,2	5,7	6,2	7,3	8,0	7,9	10,1
	Tertiary	6,2	5,6	5,6	5,6	5,2	6,1	5,3	4,5	4,6	5,6	5,8	5,5	6,8
Hungary	Basic	11,6	11,2	11,4	12,4	12,5	14,4	16,7	17,5	18,9	23,4	25,3	24,9	24,9
	Secondary	6,5	5,3	5,1	5,4	5,4	6,9	6,9	6,6	7,2	9,4	10,6	10,6	10,7
	Tertiary	1,4	1,2	1,8	1,4	2,2	2,7	2,8	2,9	2,8	4,0	4,7	4,5	4,5
Austria	Basic	8,2	7,1	8,2	8,9	10,7	10,4	9,4	8,8	8,1	10,1	8,7	8,6	9,1
	Secondary	4,2	3,6	4,8	4,2	4,5	4,5	4,1	3,7	3,3	4,2	4,0	3,6	3,9
	Tertiary	2,3	1,9	1,8	2,4	3,0	2,7	2,6	2,5	1,8	2,3	2,4	2,4	2,1
Poland	Basic	23,4	25,9	28,1	28,0	30,3	29,0	23,7	16,5	12,8	15,4	18,3	19,1	20,3
	Secondary	17,1	19,5	21,2	20,9	20,4	19,2	15,0	10,3	7,6	8,8	10,6	10,5	11,0
	Tertiary	5,4	5,7	6,6	7,1	7,3	7,2	6,0	4,7	3,8	4,4	5,0	5,3	5,7
Portugal	Basic	4,1	4,2	4,8	6,6	7,2	8,4	8,4	8,7	8,3	11,0	12,5	14,6	17,5
	Secondary	4,8	4,4	5,4	6,7	6,4	8,1	8,5	8,2	7,9	9,7	11,4	13,4	17,7
	Tertiary	2,8	2,6	4,0	5,4	4,5	6,4	6,4	7,6	7,0	6,5	7,2	9,3	12,0
Slovenia	Basic	11,5	9,8	9,4	11,2	10,1	10,2	8,4	7,4	6,6	9,5	12,5	14,4	15,7
	Secondary	7,0	5,5	6,1	6,3	6,1	6,9	6,6	5,0	4,4	6,4	7,6	8,7	9,2
	Tertiary	2,2	2,3	2,5	3,8	2,8	3,2	3,3	3,3	3,4	3,2	4,3	5,0	6,1
Slovakia	Basic	40,5	42,5	46,1	47,1	52,1	53,4	48,6	45,1	39,6	41,7	44,3	42,6	44,7
	Secondary	18,4	18,8	17,8	15,9	17,0	14,4	11,8	9,4	8,1	11,5	14,1	13,4	13,5
	Tertiary	5,2	5,2	3,9	4,4	5,9	5,0	3,3	4,1	3,6	4,3	5,8	5,9	6,9
Finland	Basic	19,0	17,8	19,1	18,6	19,7	14,6	14,2	13,0	12,8	15,3	16,7	16,7	16,6
	Secondary	11,1	10,6	10,4	10,9	10,1	8,8	8,2	7,1	6,4	9,2	9,0	8,3	8,3
	Tertiary	5,2	4,3	4,1	4,2	4,9	4,4	3,7	3,6	3,3	4,1	4,5	4,0	3,9
Sweden	Basic	8,4	8,0	8,1	8,8	10,3	14,4	12,7	12,2	13,2	16,4	17,6	17,1	18,2
	Secondary	5,7	4,5	4,8	5,3	6,7	7,2	6,5	5,4	5,4	8,1	8,2	7,2	7,2
	Tertiary	3,0	2,3	2,7	3,5	4,0	4,8	4,4	3,6	3,5	4,6	4,8	4,3	4,4
United Kingdom	Basic	8,9	7,8	8,3	7,6	7,8	8,0	9,2	9,5	10,4	13,3	14,2	14,6	14,4
	Secondary	5,0	4,1	4,3	4,3	4,3	4,5	5,3	5,2	5,6	7,9	8,3	8,7	8,7
	Tertiary	2,5	2,2	2,6	2,6	2,4	2,6	2,8	2,6	2,8	4,0	4,1	4,4	4,3

Source: Eurostat, own processing