

A SHORT ANALYSIS OF THE STATISTICAL INDICATORS FOR THE EDUCATION LEVEL IN EU COUNTRIES

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Abstract: *The following paper is based on data collected from the Human Development Report of 2014 - Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience of the United Nations Development Programme, which comprises the data recorded until the end of the year 2013. As it has been the case every year, the report contains complex statistical data gathered from 187 countries in the form of section grouped indicators reflecting the essential aspects of human development. We have analyzed the data presented in Section 9: Education and focused solely on the countries which are part of the European Union.*

Key words: *human development index, ranks, education, indicators.*

1. Introduction

In this report, the countries are categorized according to the Human Development Index (HDI), a composite index measuring the average achievement in three basic dimensions of human development—a long and healthy life, knowledge and a decent standard of living.

A complex indicator which takes 3 aspects into account: Life expectancy at birth (1), Mean years of schooling combined with Expected years of schooling (2) and Gross national income (GNI) per capita (3).

The situation for the EU countries is as follows:

Human Development Index (HDI) 2013

Table 1

Country	AT	BE	BG	HR	CY	CZ	DK	EE	FI	FR
Value	0.881	0.881	0.777	0.812	0.845	0.861	0.900	0.840	0.879	0.884
Rank	21	21	58	47	32	28	10	33	24	20

Country	DE	EL	HU	IE	IT	LV	LT	LU	MT	NL
Value	0.911	0.853	0.818	0.899	0.872	0.810	0.834	0.881	0.829	0.915
Rank	6	29	43	11	26	48	35	21	39	4

Country	PL	PT	RO	SK	SI	ES	SE	UK
Value	0.834	0.822	0.785	0.830	0.874	0.869	0.898	0.892
Rank	35	41	54	37	25	27	12	14

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As we can see, the country with the best results in the standings is The Netherlands (4th place), followed by Germany (6th place), Denmark (10th place), Ireland (11th place), Sweden (12th place) and The United Kingdom (14th place). There is a tie for the 21st place between Austria, Belgium and Luxembourg. The best place of all the Eastern European countries is held by Slovenia (25th place). Romania is only the 54th while Bulgaria is lower on the 58th position. All the countries ranked over the 49th position are considered to be in the Very High Human Development, while those between the 50th and the 102nd are in the High Human Development Category.

2. Method and main results

The education component of the HDI is measured by mean of years of schooling for adults aged 25 years and expected years of schooling for children of school entering age. Mean years of schooling is estimated by the UNESCO Institute for Statistics based on educational attainment data from censuses and surveys available

in its database. Expected years of schooling estimates are based on enrolment by age at all levels of education. This indicator is produced by the UNESCO Institute for Statistics. The expected years of schooling are capped at 18 years. The indicators are normalized using a minimum value of zero and maximum aspirational values of 15 and 18 years respectively. The two indices are combined into an education index using the arithmetic mean.

In this paper, in all tables and charts, the official indicators will be used and the official definitions from HDR 2014, listed alphabetically.

Except for the two indicators mentioned above (Mean Years of Schooling and Expected Years of Schooling) which we have been analyzed separately by gender, we have looked at other indicators which will be presented, in depth, in the following sections.

The first indicator is: **Population with at least some secondary education:**

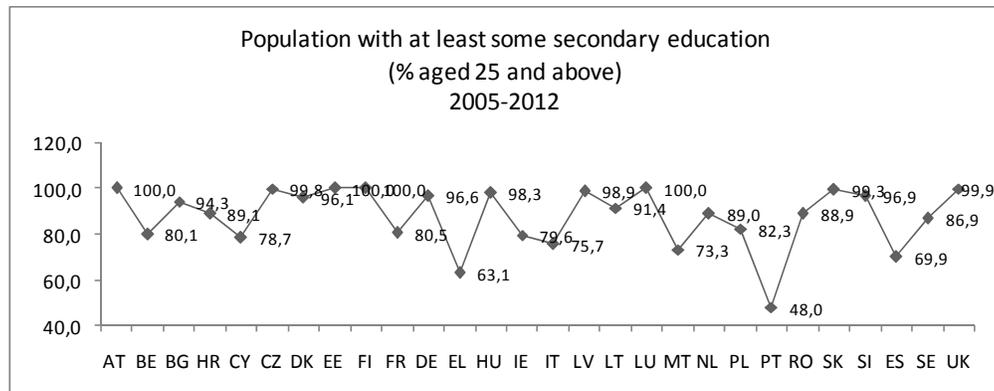


Fig. 1. *Population with at least some secondary education in EU*

Percentage of the population aged 25 and older who have reached (but not necessarily completed) a secondary level of education.

In Portugal, Greece and Spain the

indicator is below 70%. In Malta, Italy, Cyprus and Ireland, it is between 70 and 80% while in Belgium, France, Poland, Sweden, Romania, the Netherlands and Croatia it is between 80-90%. In Lithuania,

Bulgaria, Denmark, Germany, Slovenia, Republic, the United Kingdom it is between 91.4% Hungary and Latvia it is between 99,3 and 99,9%, while in Estonia, and 98.9%, in Slovakia, the Czech Finland and Luxembourg, it is 100%.

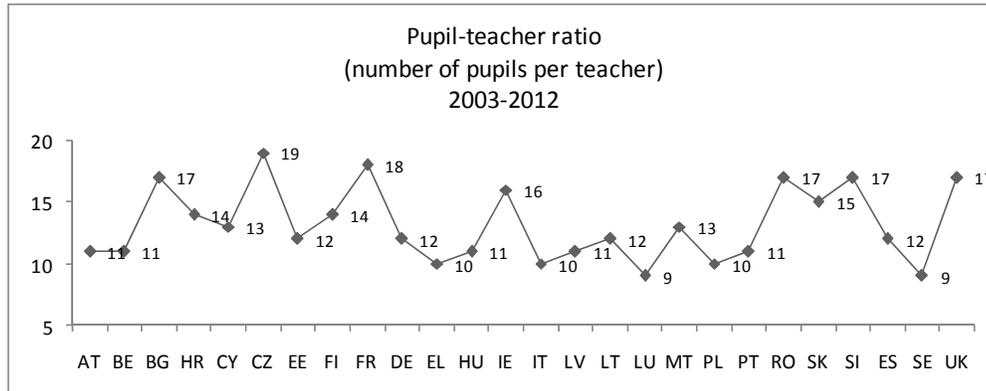


Fig. 2. Pupil-teacher ratio in EU

The second indicator is: **Pupil-teacher ratio:** Average number of pupils per teacher in primary education in a given school year.

By analyzing the data between 2003 and 2012 it can be noticed that there are small differences between EU countries: the minimum number is 9 pupils in Luxembourg and Sweden while the maximum number is 19 in the Czech Republic. In Romania, there are, 17 pupils per teacher, on average.

The third indicator is: **Education expenditure:** Total public expenditure (current and capital) on education,

expressed as a percentage of GDP (Gross Domestic Product).

The percentage varies between 4.1% in Eastern European Countries and 8.7% in Denmark. The situation is quite similar when it comes to the Estimated GNI per capita, meaning the lowest values are in Eastern European countries.

Gross national income (GNI) per capita: Aggregate income of an economy generated by its production and its ownership of factors of production, less the incomes paid for the use of factors of production owned by the rest of the world, converted to international dollars using PPP rates, divided by midyear population.

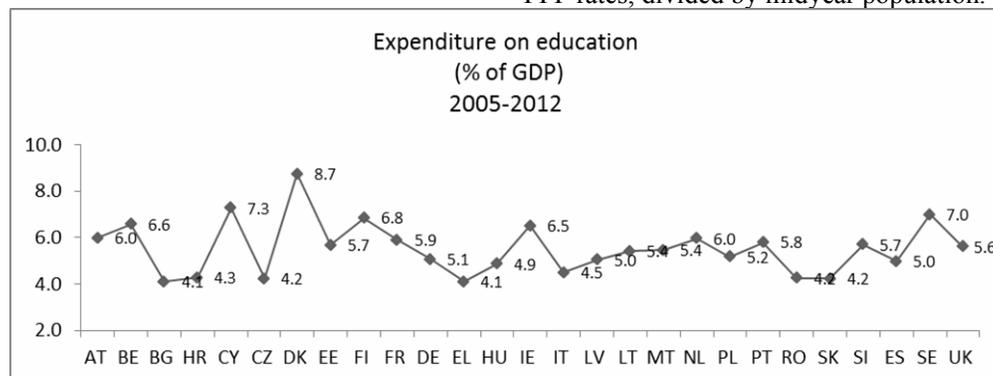


Fig. 3. Expenditure on education in EU

We can see that there are clear differences in income, between men and women, in all European Union countries. The largest differences are in Austria and in Luxembourg, while the smallest are in

Bulgaria, Estonia, Lithuania, Latvia and Croatia. In Romania, the values are 12,005 for women and 23,148 for men (PPP\$ - Purchasing Power Parity in current international \$).

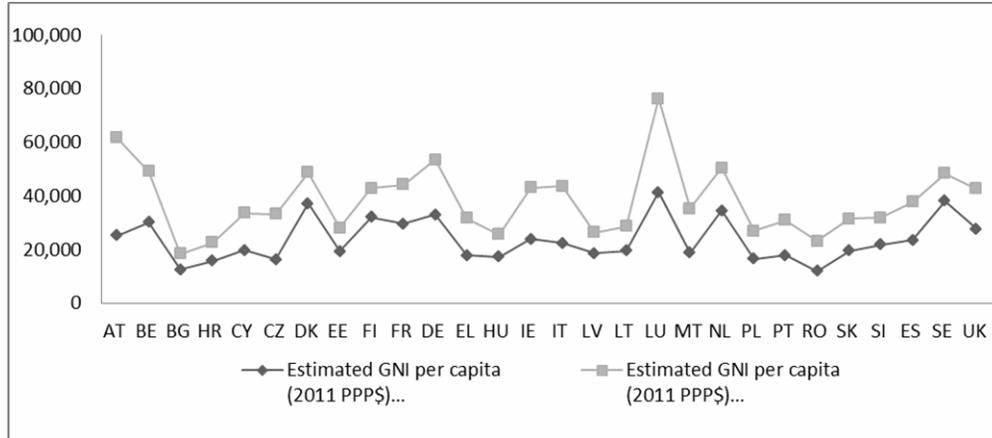


Fig. 4. Estimated GNI per capita for male and female in EU

The next indicator analyzed is: **Inequality in education:** Inequality in distribution of years of schooling based on data from household surveys estimated using the Atkinson inequality index. It is a

measure of income inequality. The measure is useful in determining which end of the distribution contributed most to the observed inequality.

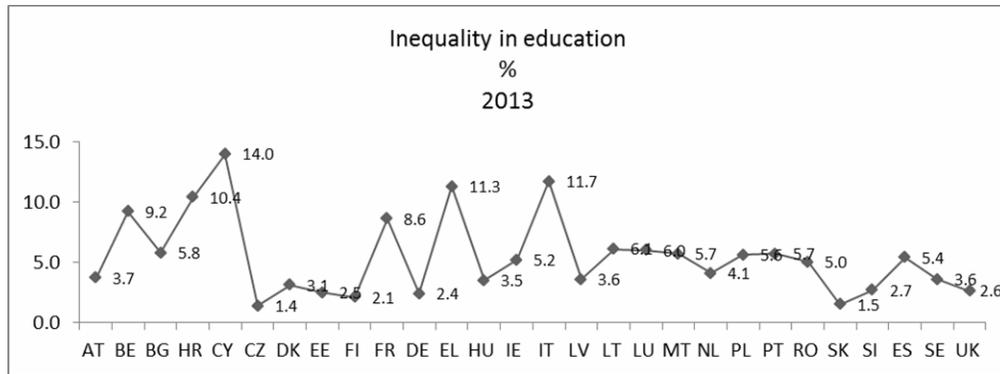


Fig. 5. Inequality in education in EU

Immediately derived from the indicator above is the Inequality-adjusted education index. **Inequality-adjusted education index:** The HDI education index adjusted

for inequality in distribution of years of schooling based on data from household.

Inequality-adjusted education index Value 2013

Table 2

Country	CY	PT	HR	MT	IT	BG	EL	RO	LU	BE
Value	0.668	0.686	0.690	0.691	0.697	0.706	0.707	0.710	0.716	0.738

Country	FR	ES	AT	HU	PL	LV	SK	FI	SE	LT
Value	0.745	0.751	0.765	0.777	0.779	0.784	0.790	0.798	0.800	0.823

Country	EE	UK	SI	IE	DK	CZ	NL	DE
Value	0.837	0.838	0.840	0.841	0.846	0.854	0.857	0.863

The main indicators of the education level evolution are „Mean years of schooling” and “Expected years of schooling”. The difference is of approximately four years for every country in the study.

Mean years of schooling: Average number of years of education received by people aged 25 and older, converted from

education attainment levels using official durations of each level.

From the data collected in previous Reports, the evolution of this indicator in Romania is as follows: in 1980 there were 7.9 years, in 1990 there were 9.0 years, in 2010 there were 10.6 years while in 2012 (the last available data) there were 10.7 years.

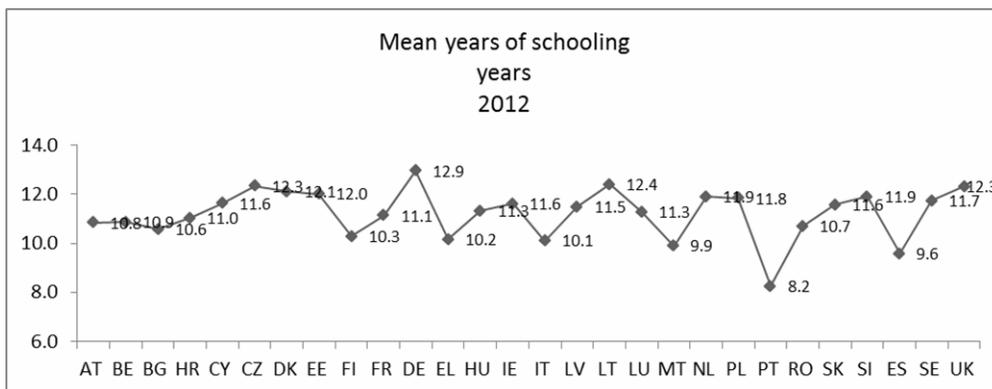


Fig. 6. Mean years of schooling in EU

Expected years of schooling: Number of years of schooling that a child of school entrance age can expect to receive if prevailing patterns of age-specific enrolment rates persist throughout the child’s life. In Romania the value is 14,1 years.

Also, the two indicators were calculated separately for men and women, even though the differences are not so great in EU countries. We must take into account the fact that these indicators are calculated at a global level and in many countries around the world these differences are significant.

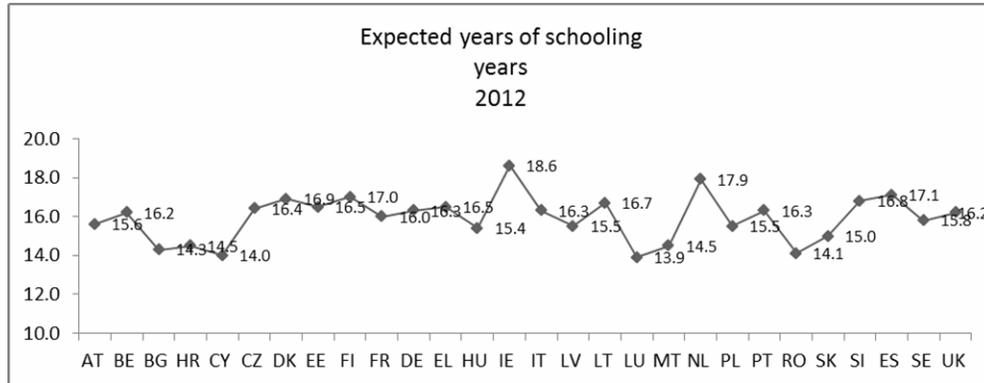


Fig. 7. *Expected years of schooling in EU*

The next indicator is: **Combined gross enrolment in education** (both sexes) (%)

The number of students enrolled in primary, secondary and tertiary levels of education, regardless of age, as a percentage of the population of theoretical school age for the three levels.

Its evolution is as follows: in 2000 it was 67%, in 2005 it was 75%, in 2010 it was 82% while in 2012 it was 81%. It is the only indicator which has registered a decrease.

3. Conclusions and recommendations

Education is very important in human development, ensuring easy access to the workforce market and creating the possibility to have a higher standard of living, even though, at the moment, at different levels for men and women and for different countries.

As we know, at higher education level, Romania has become part of the Bologna Process and also takes part in numerous teacher and student exchange programs from the European Union.

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