

# THE INFLUENCE OF EDUCATION AND TRAINING ON PRODUCTIVE SKILLS, NATURE OF WORK AND GENDER INEQUALITY

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## Abstract

*The present paper is a synthesis of researching the evolution of gender discrimination during 2002-2013, i.e. the inclusion of women in the three levels of the national education system and the effects of education materialized in the degree of female population insertion on the labour market at national and European level.*

*In order to grasp the still existing gender stereotypy and discrimination, it was necessary to analyze the evolution of the share of female population included in the three levels of the national education system (primary (elementary), secondary (lower and upper secondary) and tertiary (university), the correlation of the level of preparation of those graduating these three levels of the national education system with the branch structure of the employed population, respectively with the level of the average earnings (annual or monthly), at-risk-of-poverty rate by poverty threshold and education level, the identification of gender discrimination determined by gender role and gender wage disparity.*

**Keywords:** *gender discrimination, gender stereotypy, education attainment, activity rate, employment rate, at-risk-poverty rate.*

**JEL classification:** I21, I24, I32, J16

The challenges of the transition period towards market economy have generated often inconsistent structural changes and qualitative evolutions of the socio-economic systems and mechanisms.

The institutional changes have affected the behaviours of the economic agents and of the population in general destructuring the social and economic systems, insufficiently elaborated restructuring, and frequent returns on normative acts, attempts and sustained processes of assimilating some exogenous organization forms, in short, confusion.

The questionable effectiveness of *the restructuring, liberalization and privatization processes*, along the 25 years of return to the market economy has resulted in the disappearance of many jobs and the increase of the unemployment rate accompanied by the slow and unsystematic adaptation to new structures of the labour demand, despite the relative growth of the positive impact of national and European programs regarding the professional training and retraining.

The national education system has suffered, in its turn, major changes determined not only by the increased importance of the private education, but

especially by the transitioning, since 2005, to the Bologna system, a process started in the absence of a promulgated organic law to govern the application of the new requirements. It goes without telling that the Organic Law of Education associated to the new system was promulgated with a delay of six years since its adoption.

On the background of the jobs offer diminution and of the changes in the structure of the labour demand, grew not only the unemployment rate, but also the labour emigration, the labour market in Romania not being capable of absorbing the “restructured” unemployed surpluses.

That is why one of the main challenges for the education system in Romania has remained the compatibility of the qualification structures with the new structures of the jobs offer. In this field also, the sheer character of the institutional changes has led to decisional gaps to higher levels, the efforts to adapt to the new conditions of the European labour market having results still far from covering the requirements.

The internal economic and social crisis specific to the transition period was all well largely aggravated by the European and global crisis felt since the last quarter of 2008.

The present paper is a synthesis of researching the evolution of gender discrimination during 2002-2013, i.e. the inclusion of women in the three levels of the national education system and the effects of education materialized in the degree of female population insertion on the labour market at national and Europe level.<sup>1</sup>

For this purpose, it was necessary the analysis of the evolution of the share of female population included in the three levels of the national education system (primary (elementary), secondary (lower and upper secondary) and tertiary (university), the correlation of the level of preparation of those graduating these three levels of the national education system with the branch structure of the employed population, respectively with the level of the average earnings (annual or monthly), the identification of gender discrimination determined by gender role and gender wage disparity.

### **1. Effects of women’s education on economic development<sup>2</sup>**

The literature dedicated to gender discrimination through education highlights the importance of investing the education of the female population. (Dollar David, Gatti Roberta, 1999; Schultz Paul T., 2001) The carried out analyses reject *ab initio* the idea that low investments in the education of the female population would be economically efficient. On the contrary, for some countries,

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<sup>1</sup> The detailed analysis of the topic was conducted under Chapter III of the research study *Gender-based segregation in terms of female occupation of some lower positions on the labour market* realized within the PROFEMIN Project, POSDRU/144/6.3/S/126567. The documentation of the observations in this article can be made consulting the tables contained in the cited study.

<sup>2</sup> See also the synthesis *Socioeconomic impact of female education* retrieved during August-November 2014 at: [http://en.wikipedia.org/wiki/Socioeconomic\\_impact\\_of\\_female\\_education](http://en.wikipedia.org/wiki/Socioeconomic_impact_of_female_education).

the results of investing in girls' education were superior to those obtained from boys' education (for example, for the 1980-1981 period, in Thailand, the additional revenues obtained from girls' education represented 20.1% compared to 11.3% in the case of boys and in Côte d'Ivoire – 28.7% compared to 17.0%). (Paul T. Schultz, 1993)

Both individuals and countries benefit from women's education:

a. Individuals who invest in education receive a net monetary gain over the course of their lifetime. (Psacharopoulos, George, Patrinos Harry Anthony, 2004, p. 111-134) Some studies estimate that providing one extra year of education to girls increases their wages by 10-20%. This increase is 5% more than the corresponding returns on providing a boy with an extra year of schooling. (Ruth Levine, Cynthia Lloyd, Margaret Greene, Caren Grown, 2008)

b. The increase in the individual monetary incomes is explained by the productivity growth cumulatively generated at macro-economic level. In this sense, Harry Patrinos, World Bank's economist in charge of education enunciated one of the axioms of the effects of investment in *human capital*, "the profitability of education, according to estimates of private rate of return, is indisputable, universal, and global." (Harry A. Patrinos, 2008, p. 53-66)

Research conducted in the last two decades have shown more clearly the fact that social returns of women's school years are higher than for men.

The analyses carried out took into account surveys and censuses of the representative households. A series of papers (Boserup E., 1970; Schultz T. P., 1995; Behrman J. R., 1997; King Elizabeth M., Hill Anne M., 1998) intended to analyse the social impact of women's education highlights the inevitable *exceptions* compared to the prevailing models and empirical regularities:

- cultural diversity,
- differences in production techniques used in different stages of the economic development,
- diversity of available resources to ensure complementarity of men and women's work,
- significant differentiation of the skills resulting from the specialization that women and men follow in different parts of the world.

Although investment in women's education is not present everywhere, studies show that this decision of not investing, along with other failures to invest in women are not "an efficient economic choice for developing countries" and that "countries that under-invest grow more slowly." The effect of the educational gender gap is more pronounced when a country is only moderately poor. Thus, the incentive to invest in women goes up as a country moves out of extreme poverty. (Dollar David, Gatti Roberta, 1999, p. 1-50)

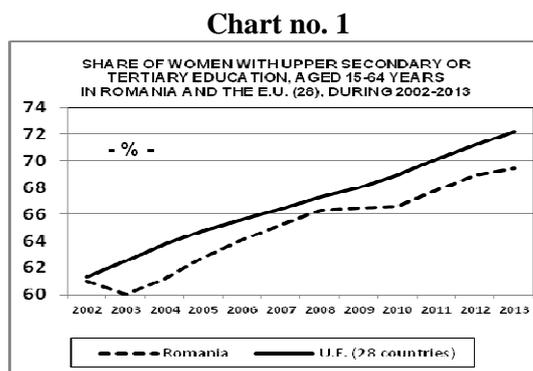
Looking holistically at the opportunity cost of not investing in girls, the total missed GDP growth is between 1.2% and 1.5%. (Jad Chaaban, Wendy Cunningham, 2011) Likewise, regional analyses estimate that about 0.4-0.9% of the difference in GDP growth is accounted for solely by differences in the gender gap in education. (Stephan Klasen, 2002, p. 345-373)

In addition to total economic growth, women's education also increases the equitability of the distribution of wealth in a society. In this regard it is important the increase of women's education as it targets the impoverished women, a particularly disadvantaged group/segment. There is also evidence that lower gender disparity in educational attainment for a developing country correlates with lower overall income disparity within society. (Kabeer Naila, 2005, p. 13-24)

Another significant finding is the fact that as the gender gap regarding the access to education diminishes in a developing country, the Ginni coefficient's values reduce, reflecting a reduction in income disparity. (Hanushek Eric, 2008, p. 23-40)

## 2. The level of the female population's education in Romania and Europe during 2002-2013

Access to primary (ISCED 1 and 2), middle (ISCED 3 and 4) or higher education (ISCED 5 and 6) levels is conditioned by the institutional environment in each country: on the one hand, by the incentive character of the social policies and on the other hand, by the restrictive nature of some cultural traditions preserved at the mentality level.



Regarding the values of the *Share of women with secondary and higher education* indicator, during 2002-2013, Romania was under the European average. For the age group 15-64 years, the European average has increased from 61.3% in 2002 to 72.2% in 2013. (Chart no. 1 and Table no. 1) Although at the beginning of the period the value of the indicator for Romania – 61% – was very close to the European one, by 2013 the gap reaches almost three per cent, despite the increasing of the share to 69.4%.

It is remarkable the performance of the Baltic countries which stood constantly on the first three to four places over the analysed period. The maximum values (for Estonia) have increased from 81.6% to 87.4%. (Chart no. 2 and Chart no. 3).

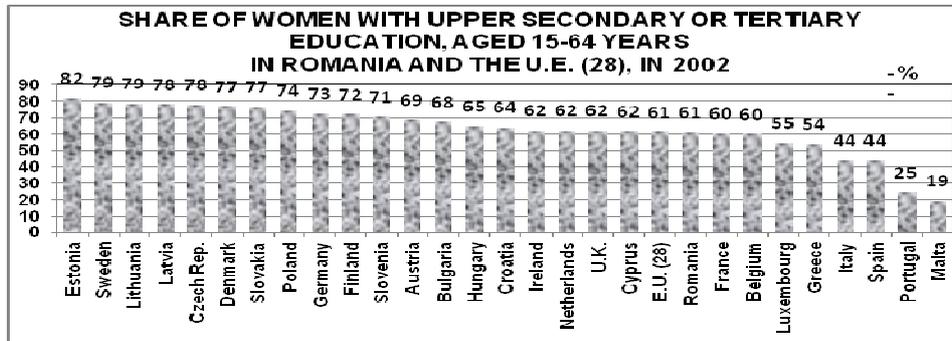
Table no. 1. **The share of women with secondary and higher education in the total female population aged 15-64 years in Romania and the EU (28) during 2002-2013**

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	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Romania	61.0	60.0	61.2	62.8	64.1	65.2	66.3	66.5	66.6	67.8	68.9	69.4
EU.(28 countries)	61.3	62.5	63.8	64.8	65.6	66.4	67.3	68.0	68.9	70.1	71.2	72.2

Source: Eurostat

## Chart no. 2

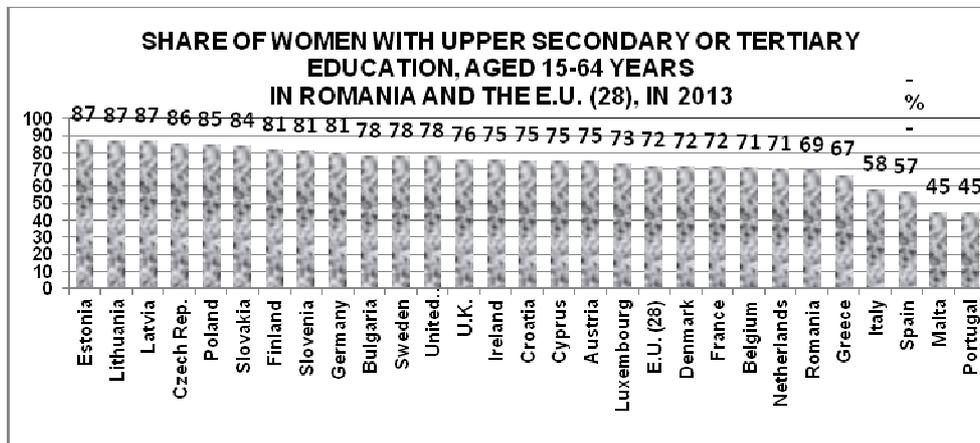


Apparently surprising, in 2002, under the European average there were countries with high levels of socio-economic development (Luxembourg, France, and Belgium).

In their turn, the Nordic countries were at the beginning of the period well above the European average as, from 2006 to 2007, to fall even below the European average (Denmark, 2013).

At the minimum levels have remained along the period the southern countries of the continent (Greece, Italy, Spain, Portugal and Malta).

**Chart no. 3**



Source: Eurostat

### 3. Gender discrimination by level of education in Romania during 2002-2013

The level of women's education taken as an indicator by itself was considered irrelevant in the specialty literature of the past 20 years. Generally, the initially used indicators aimed the gap between the education levels of the total population and of the women.

Unlike some analyses, mostly unilateral, comparing the levels of education of both genders facilitates the distinction between the effects of education on women by the effects of education in general. (King Elizabeth M., Hill Anne M., 1998; Psacharopoulos George, Patrinos Harry Anthony, 2004, p. 111-134)

In Romania, over the period considered is notable the relative reduction of gender discrimination for the population with secondary and higher education studies in the age group 15-64: the share of the female population increased by 9.4% from 61% in 2002 to 69.4% in 2013, while the increase of the share of male population grew by only 4.6%, from 69.8% to 74.4%.

It is significant that, in terms of higher education graduates, for the age group considered, starting with 2009, the gender discrimination has passed to positive values the female population share, increasing from 7.5% to 14.7%, compared with the evolution of the male population share, from 8.5% to 13.1%. The positive nature of discrimination appears even more evident in the case of graduates of secondary school studies, from the beginning the percentage of female population is higher than of male (in 2002, 39% versus 30.2%), emphasizing positive discrimination until 2013 (30.6% compared to 25.6%). It is notable the decline in the share of persons of both sexes included in this group from 34.7% in 2002 to 28.1% in 2013.

In detail, for the age group 20-24, the discrimination appears positive for female graduates of secondary and higher education studies and negative for secondary school studies graduates. Data show that although the share of girls included in secondary education was lower than the share of boys, girls has shown more persistence in continuing secondary and higher education studies than boys. It is reported also the increasing share of the two sexes within ISCED 3-6 levels during 2002-2013 along with the diminishing share of those enrolled in secondary education.

The apparent gender discrimination has decreased gradually after 2008 for the 25-34 age group for graduates of secondary and higher education studies, respectively it has recorded a positive constant positioning in the case of the other two categories of graduates.

An interesting evolution marks the share of the female population with higher studies in the age group 25-64, exceeding, starting with 2008, the share of male population, given that, in the larger group of the population with secondary and higher education studies, it can be notice a constant superiority of the male population.

The segment of the population over 64 years in the age group "over 25" negatively influences the share of women with secondary and higher education studies maintaining an increased gap compared to male population with secondary or higher education studies. A similar evolution is found in the female population with higher education studies, who after 2008 did not recover the difference from the male population, as it was the case for the age group "25-64". Explanation consists in the more restricted access to higher education studies of the female population contained in the aged segment over 64 years.

Despite the presence of the same difference to the detriment of the female population with secondary and higher education studies, the 30-34 years age group presents the highest percentage of female persons that have higher education compared with other age groups considered, evolving from a slight inferiority in the first two years of the period to a positive discrimination in the other years of the reference period.

For the age group 35-44 a relative inferiority of the female population share compared to the share of the male population with secondary and higher education studies is preserved, being confirmed the increase of the share of women that have higher education studies starting from 2005 with positive discrimination trends.

For the age groups over 45 it is obvious the lower inclusion of the female population in secondary and higher education studies, while for the secondary school studies this category still maintains the superiority.

Diminishing the integration of female population at levels 3-6 ISCED of the education is characteristic to the age group 45-64, with a tendency to reduce the gap compared to the share of male population: from about 20% in 2002 to 13% in 2013 for secondary and higher education studies, respectively, from 3.4% in 2002 to 1.6% in 2013 for higher education studies.

For the last analysed category of population, gender discrimination remains positive for the population with secondary school studies, respectively negatively emphasized with regard to secondary and higher education graduates.

The analysis of gender discrimination by level of attained education provides the following conclusions:

- the female population share enrolled in levels 0-2 ISCED (secondary education) in all age groups is greater than the share of the male population;
- the lower enrolment of women in secondary and university education levels (levels 3-6 ISCED) is specific to the wider age groups, being determined by the older age segments (over 45 years), cases in which we can speak of the effects, largely attenuated in the meantime, of the gender stereotypy;
- a sensitive modification of the inclusion of the female population in secondary and higher education is noticeable between 2004-2008, particularly for younger age groups (20-34 years).

Overall, it is obvious the tendency to increase of the positive discrimination regarding the inclusion of the female population in the 3-6 ISCED education levels.

The trends resulting from the data presented by *Eurostat* comply with those from the National Institute of Statistics for the 2003-2011 period.

For the secondary level it is visible a slight superiority of the enrolment degree of the male population, while secondary and higher education graduates are characterized by a greater degree of coverage of the female population. It is notable the gender gap in favour of women for the age group 19-23, respectively for the 5-8 ISCED levels.

#### 4. The activity rates of the female population by age groups and attained educational level in Romania and the European Union

##### *Age group 15-39*

a) The activity rate of the female population graduates of the education system up to the *secondary level* for the age group 15-39 years increased slightly in Romania, from 32.8% in 2002 to 33.3% in 2013, below the European average which was down from 42.3% to 39.2%. Way above the EU average are situated countries such as Spain, the Netherlands, Denmark, Portugal, and at the lower pole Slovakia, Poland, Croatia.

The trend of diminishing the share of the female population from this group was specific not only to some developed countries (Great Britain, France, the Nordic countries, Austria, Italy, Belgium, Netherlands and Luxembourg), but also to the Czech Republic, Ireland, Greece, Portugal, Slovenia, Croatia, Hungary, Slovakia, Poland, Bulgaria, Lithuania. On the other hand, Estonia, Latvia, Germany, Spain recorded slightly positive evolutions.

It should be noted that for the same age group, in the case of the *male population*, the average employment rates at the European level dropped from 61.8% to 56.4%, while for Romania has ranged between 41% and 48%, with 13-15 per cent gaps compared to the activity rates of the female population:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	45.1	44.1	45.3	41.7	43.6	44.5	45.5	47.2	48.0	45.7	47.6	48.7
E.U. (28)	61.8	61.0	60.4	60.0	59.6	59.3	59.0	58.0	57.0	57.9	57.3	56.4

b) By a slightly better situation have benefited the female persons graduating the *upper secondary education*, the activity rates exceeding 60% in Romania in the analysed period. The values were below the European average, which went down from 70% to 67.7%, and they followed, however more pronounced (from 67.4% to 60%), the declining trends of the European average.

The population with secondary studies has a high activity rate in countries such as the Netherlands, Austria, Sweden, Denmark (between 79% -85%) and below the European average in Greece, Italy and Spain. The 2008 crisis seems to have not decisively affected the activity rate, the decreasing trend being specific from the very beginning of the period both to Romania (with one slight recovery in 2004) and to the European average.

A downward trend has registered as well the activity rate of the male population in Romania, but at a higher level of absorption of the labour market (from 83.9% to 77.2%). Compared with the rates activity of the *male population*, the gap was within 13-17% at the expense of the female population:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	80.7	79.9	80.7	78.0	76.9	75.0	73.8	73.5	75.4	76.1	76.7	77.2
E.U.(28)	83.4	82.9	82.9	82.7	82.7	82.4	82.4	81.7	81.3	81.0	81.0	80.5

c) The highest levels of activity rates were specific to the women graduates of *Bachelor, Master or PhD* studies. For Romania, the evolution is downwards, from one of the highest rates in the European Union in 2002 (92.3%), the activity rate reaching the EU average in 2013 (85.6%).

High levels of activity rates of the female population graduating the Bachelor, Master or Doctorate programs are as well seen in Denmark, Croatia, Slovenia, Poland, and Netherlands. However, all these countries present the same downward trend throughout the entire analysed period.

Generally, the series do not show significant fracturing at the time of the crisis, as is the case of Romania (from 92.4% in 2007 to 90.5% in 2009 and 88.5% in 2010).

Somewhat surprisingly, below the European average are situated countries such as Czech Republic and Estonia, which hold leading positions regarding the share of female population graduating secondary and higher education studies. In the case of the *male population*, it is noticeable a slight superiority of the activity rates for the same category of personnel:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	93.5	95.1	95.1	94.4	94.1	94.0	92.3	92.9	91.2	90.3	90.3	90.7
E.U. (28)	92.8	92.5	92.5	92.4	92.5	92.5	92.5	92.3	92.1	91.8	91.8	91.8

d) For the female population from the same age group 15-39, graduating *all levels of education*, Romania has lower activity rates to the European average, with a gap growing from five per cent in 2002 to eight per cent in 2013. The trend of reduction is sharp at the beginning of the period, the activity rate reaching a minimum value in 2008 (54.7%), so that a slight recovery (56.4%) in 2013 to be observed.

High levels of activity rates for the female population from the same age group, graduating all ISCED11 levels of education, more than 8-10% above the European average present the Nordic countries (Denmark, Finland, Sweden) as well as the Netherlands and Austria. The lowest values characterize Hungary, Malta (however increasing from a minimum of 51.8% in 2002 to 63.4% in 2013).

Both the European average and the data for Romania indicate a negative difference to the detriment of the female population in age group 15-39 compared with the activity rates for graduate male population of all levels of ISCED education below:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	70.5	68.9	70.0	67.5	67.8	67.5	67.1	67.4	68.6	68.3	69.4	70.2
E.U. (28)	76.6	76.1	76.0	76.0	76.1	76.0	76.1	75.5	75.2	75.0	75.0	74.8

*Age group 15-59*

a) For the age group 15-59, the level of inclusion of the female population enrolled in 0-2 ISCED levels (up to *secondary level*) versus the age group 15-39 is about 10% cent higher in the case of Romania and about 5-10% higher in the case of the European average. As for Romania, there is a tendency of reduction of about five per cent until 2013, while in the European Union's case an increase by three percentage points.

The Nordic countries (Denmark, Sweden, Finland), as well as Portugal and the UK have a higher absorption capacity than the European average on the labour market of this segment of the female labour force, compared with Malta, Italy, Lithuania, Poland or Ireland which are situated 10-15 per cent below the European average.

Activity rates of the *male population* are higher than those for the female population, with 10-16% for Romania, respectively by about 20% for the European average:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	54.3	53.8	53.3	50.8	52.4	53.4	54.7	56.1	56.3	52.7	54.6	56.1
E.U. (28)	68.8	68.6	68.0	67.9	67.9	67.8	68.0	67.5	67.0	67.7	67.7	67.1

b) The activity rates of the female population in age group 15-59 with *secondary and post-secondary education studies* are somewhat higher than those of the age group 15-39, reflecting the reduced importance of the 39-59 years segment. The indicator shows decreasing trend until 2009, with a slight recovery in the coming years, compared with a slightly permanent increase of the European average.

A high degree of inclusion is specific to Denmark and Sweden (over 80%), Finland, Germany and Austria, below the European average standing Greece, Italy and Poland.

Activity rates of the *male population* for education levels 3-4 were 13-18% higher than in the case of the female population from Romania, respectively 11 to 13% for the European average:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	79.8	79.5	79.8	77.9	78.3	76.8	76.6	77.0	78.6	78.7	80.0	80.6
E.U. (28)	84.8	84.5	84.5	84.6	84.7	84.7	84.9	84.7	84.6	84.6	84.8	84.6

c) Compared to the age group 15-39 for *5-8 ISCED levels*, the activity rates of the female population aged 15-59 years in Romania are slightly lower in the first part of the period (87.6% vs. 92.3% in 2002).

After 2009, up to 2013, the trends are reversed, the share of graduates in the age group 15-59 exceeding the rate of those in the age group 15-39 (87.6% versus 85.6%). The data reflect the enrolment process in higher education, starting with

the 2006-2007 academic year, and the coming under “bachelor degree”, after 2009, of a higher share of women aged 40-59 than those in the age group 15-39.

Over the entire period the indicator values for Romania stood above the European average with about 0.5-5 per cent.

Graduates with higher levels of education maintain the highest activity rates in most European countries, above the European average standing Portugal, Slovenia, Lithuania, Denmark and Sweden. Less inclusive of this category of persons were Spain, Luxembourg, Czech Republic.

Clearly, the activity rates for the *male population* are higher than in the case of the female population, both for Romania and for to the European average:

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Romania	91.5	90.4	92.9	91.5	92.5	92.1	91.5	91.6	91.0	90.7	90.9	91.3
E.U. (28)	93.2	93.1	93.2	93.1	93.2	93.3	93.4	93.4	93.4	93.3	93.4	93.4

d) In the case of the age group 15-59, the activity rates of women graduates of *all education levels* are higher by two to three per cent compared with the age group 15-39 in case of Romania, respectively one to five per cent in the case of the European average. Thus, the 40-59 years segment of population contributes, although in a small measure, in increasing employment rates.

The Nordic countries continue to hold preponderance with activities rates around 80% (Denmark, Sweden and, by three per cent less, Denmark), while in opposite side are Malta, Italy, Ireland, Greece.

A spectacular increase in activity rates was recorded in Spain, from 56.3% in 2002 to 72.1% in 2013.

The activity rates of the *male population* have values by 13-15% higher than in the case of female population from Romania, while between the European averages of the two categories the differences are situated within the 11-16% interval to the detriment of the female population:

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Romania	73.5	72.8	73.3	71.5	72.7	72.3	72.6	73.1	74.1	73.4	75.0	75.8
E.U. (28)	80.4	80.3	80.3	80.4	80.6	80.8	81.1	80.9	80.9	80.9	81.2	81.1

## 5. Women employment rates by age groups and attained educational level in Romania and the European Union

### *Age group 15-39*

a) Compared with the activity rates of the female population in age group 15-39 corresponding to *educational levels 0-2*, the European averages of the women employment rates in this group were lower by about 7%-11%, with a downward trend after 2009. In other words, one of the consequences of the crisis felt from 2008 onwards was the decrease in the employment level for the women with studies up to the secondary level.

High levels of employment rate have recorded Denmark (increase from 52% in 2002 to 62.2% in 2008 and decline to 47.4% in 2013), the Netherlands and the UK. The hardest is to find jobs for the lower educated women in Slovakia, Poland, Bulgaria and the Baltic countries.

For Romania, contrary to the general trend, from 2008 onwards, the employment rate increases by almost two per cent up to 2013, when has exceeded by almost 2% the European average.

The employment rate for the *male population* is higher than that of the females with about 10%-12% for Romania, respectively by 14%-18% for the European average:

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Romania	38.7	38.5	36.8	36.2	36.8	38.2	38.5	40.1	42.1	39.2	41.0	42.1
E.U. (28)	53.3	52.4	51.6	51.1	51.2	51.4	50.3	46.4	44.7	45.2	43.3	42.1

For *women graduates of 3-4 ISCED levels*, the European averages of the employment rates for the age group 15-39 were 9%-11% lower than the activity rates. Compared with the employment rates of the female population with secondary school studies, the activity rates of the women graduates of secondary education were higher by 25% in 2002, respectively almost two times higher in 2013 (58% against 28.6%).

The highest level of the employment is presented by Netherlands with diminishing trends from 80.3% to 75.5%, on the opposite side being Greece (45.2% in 2002 and respectively 33.5% in 2013).

Regarding the employment rate of this category in Romania, the inferiority compared to the European average has increased from 2.1% in 2002 to 4.2% in 2013.

In the case of the *male population*, the employment rate is superior to women employment rate with about 12%-15% both for Romania and the European average:

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Romania	71.8	72.4	71.6	70.1	68.9	68.2	68.0	66.5	67.2	68.0	68.9	68.6
E.U. (28)	74.9	74.3	74.2	74.4	75.4	76.2	76.5	73.3	72.3	72.0	71.1	70.3

c) The highest employment rate is held by the category of women graduating from *university bachelor, masters and doctorate studies*, whose average at European level has evolved tortuous, from 79.5% in 2002 to a peak of 81.3% in 2008, dropping to 77.4%, below the initial level, in 2013. The average rates of employment at the European level for women university graduates (bachelor, master and doctorate) are 17-18 per cent higher than those of women graduates of secondary education. A remarkable level was recorded by Slovenia (90.5%) in 2002, followed however by a decline of almost nine per cent up to 2013 (81.8%).

An employment rate of over 85% was specific to the Netherlands and Denmark, below the European average standing Spain, Italy, Czech Republic and Greece.

In the case of Romania, the employment rate for the female population in age group 15-39, for the education levels 5-8 was above to the European average over the entire presented period, with a maximum of 88.7% in 2007 and a loss of ten per cent (78.7%) up to 2013. Significant is the difference from the employment rates of the female graduates with secondary studies (26%-27%).

Gender differences are 7%-8% for the European averages, respectively 3%-5% for Romania, in favour of the *male population*:

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Romania	90.2	90.2	90.3	89.5	89.3	90.5	89.2	87.4	84.3	84.4	83.5	83.6
E.U. (28)	88.1	87.4	87.3	87.3	87.8	88.5	88.6	86.5	85.8	85.6	84.8	84.5

d) For *all levels of education* of the age group 15-39, although below the European averages, the employment rates are closer to the activity rates in the Romanian case (difference of 5%-7%) compared with the European averages (differences of 8%-9%).

The highest employment rates for all levels of education were recorded by the Netherlands (73%-77%), Denmark (67%-74%) and Sweden (63%-67%), in contrast, below the European average standing Greece (37%-48%), Italy (41%-48%) and Hungary (46%-48%).

As for Romania, for the age group 15-39, it is notable the absence of fluctuations (the maximum of 52.7% in 2004, compared to a minimum of 50.1% in 2005) and a slight recovery after 2009, from 50.5% to 51.2% in 2013.

The European employment rates' average of the *male population* for the same age group, all ISCED levels of education, are about 10%-13% higher than the female population employment rates, as against 10%-11% for Romania:

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Romania	62.7	62.2	61.4	60.6	60.5	61.1	61.2	60.5	61.3	61.0	62.1	62.4
E.U. (28)	68.8	68.2	67.9	68.2	68.9	69.7	69.6	66.6	65.8	65.6	64.7	64.3

#### *Age group 15-59*

a) Compared to the age group 15-39, the female population aged 15-59 years employment rates, *0-2 ISCED levels of education*, show lower differences at the beginning than at the end of the reviewed period. In the case of the European averages, in 2002 the difference was of 5.6% reaching 10.5% in 2013, given that the European average for the age group 15-59 has decreased by only 1.6%. The reduction by 5.1% in 2007-2013 in the employment rate for the age group 15-39 indicates the fact that the female population in this group lost more jobs than.

As for Romania, the employment rate's evolution reflects the decrease of the 49-59 age segment share, whereas for the age group 15-39 the employment rate

had scored a slight increase from 29.4% to 30.5%, while for the age group 15-59 the same indicator showed a reduction from 41.3% to 36.8%.

The employment rates for the *male population* are higher by 7%-14% in the Romanian case, respectively by 14%-23% for the European average. As in the case the age group 15-39, for age group 15-59 the employment rate presents slight increase trends after 2011:

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Romania	48.2	48.4	45.7	45.3	45.6	47.0	47.8	49.2	50.8	46.5	48.5	50.0
E.U. (28)	61.3	60.9	60.0	60.1	60.4	60.9	60.3	57.2	55.9	56.1	54.7	53.5

b) Female employment rate for the age group 15-59, 3-4 *ISCED education levels*, for Romania is below the European average, with a slight decrease trend compared with the growth trend of the European average. Worthy to remember is the significant reduction in the employment rate for the age group 15-39 for the same education levels (from 59.2% to 53.8%) reflecting the fact that, since 2006, this latter age segment has been affected more.

At the European level, a high level of employment for the females with secondary studies in the age group 15-59 is held by the Nordic countries (71%-83%), the Netherlands (74%-81%), Austria and Germany, the Southern countries (Greece, Spain and Italy) maintaining a lower position.

Characteristic to the *male population* is a higher employment rate than that of the female population from the same age group (15-59 years), the differences from the European averages being significantly close: 10%-15% for Romania compared to 11%-14% in the case of the European averages:

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Romania	72.0	73.0	72.4	71.3	71.6	71.0	71.6	71.0	71.8	72.2	73.8	73.9
E.U. (28)	77.3	76.9	76.8	77.2	78.2	79.3	79.8	77.6	77.1	77.2	76.8	76.3

c) The category of female persons with *higher education studies (bachelor, master, doctorate degree)* from Romania is the only one that, in the case of the age group of 15-59 as well, shows higher levels of employment rates than the European averages. The differences from the activity rates are similar for Romania and the European average (4%-5%).

An interesting situation results while comparing the evolution of the employment rates to the age group 15-39. The fluctuation in employment rates for this age group is higher than for the age group 15-59: if in 2002 the employment rate for the age group 15-39 was higher than the age group 15-59 (8.9% versus 83.8%), in 2013 the situation is reversed, the age group 15-59 appearing as favoured (82.3%) compared to the age group 15-39 (78.7%), 40-59 age segment maintaining a higher level of employment.

Denmark and Sweden retain their leading position at European level with employment rates between 84%-90%, while Greece and Spain remain on the last positions.

*Male population* employment rate in the age group 15-59 is superior to the female population employment rate for persons with higher education studies, the gender gap being higher for the European average (6%-9%) compared to Romania (2%-4%):

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Romania	87.9	86.8	89.8	88.3	89.3	89.4	89.1	87.5	86.0	86.3	86.0	86.1
E.U. (28)	89.4	88.9	88.9	88.8	89.3	90.0	90.2	88.9	88.5	88.4	88.1	87.8

d) Overall, *for all levels of education*, female employment rate of the age group 15-59 in the Romanian case (53%-56%) is below the European average (57%-62%).

The Nordic countries and the Netherlands hold the leading positions with females' employment rates varying between 70% and 79%.

Compared with activity rates, the employment rates show approximately the same differences for Romania and the European averages (4%-6%).

Continuing the comparison with the age group 15-39, for all educational levels, age segment 40-59 is more favoured in case of the European average as compared to employment rates in Romania.

Over the analysed period, the employment rates of the *male population* compared to females' employment rates in the age group 15-59, for all levels of education, show close differences in the Romanian case (12%-14%) compared to the European averages (10%-16%):

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Romania	66.6	66.8	66.2	65.6	66.3	66.7	67.4	67.1	67.9	67.3	68.9	69.4
E.U. (28)	73.6	73.3	73.1	73.6	74.4	75.3	75.6	73.5	72.9	73.0	72.5	72.1

The data presented, centralized at *Eurostat* level, reflect aspects of gender discrimination in terms of *Activity rates and Employment rates of the female population*.

Both activity and employment rates of the female population in Romania are situated, for most of the age groups and levels of education considered, under the European averages, a situation characteristic as well to the male population in Romania.

Exception makes the population category enrolled in education levels 5-6 (respectively 5-8) ISCED, where activity rates and employment rates are close to the European averages, with a decreasing trend for Romania in 2013 as compared to 2002.

For Romania, the gender differences are noticeable, women's activity and employment rates being below the activity rates corresponding to the male

population on average by 10 to 17 per cent for 0-4 ISCED levels, respectively 2-6 per cent for 5-8 ISCED levels.

In its turn, the indicator *Employed population by educational level, age groups and sex* **provided by the National Institute of Statistics** reflects the differentiation trends between the two genders.

a) For *university graduates* it is visible the trend of reversing the majority shares during 2003-2013: between 2003-2008 men's share was dominant, 2009 being the moment when women started to represent more than half of the employed population with higher education studies.

Employed women from 15-24 and 25-34 age groups held the majority in the total of the age group along the entire period. Except the age group 65 and above, all other age groups present a clear tendency of female population shares to become majority. In the case of age groups 35-49 and 50-54 since 2009, respectively 2011, the share of women with higher education studies has become majority, as against men's share.

b) Regarding the *employed secondary education graduates*, the data indicate a sharp decline starting with 2009 (49.2%) of the women's share. After being positively discriminated during 2003-2008 (from 51.7% to 50.2%), the employed women started to be negatively discriminated representing only 46.8% of the total of secondary school graduates in 2013.

The decisive contribution to reducing the share of employed women belonged to the age groups corresponding to the 15-49 age segments. A better situation is characteristic to employed women with secondary studies from the age group 50-54, whose share has preserved a slight majority (excepting 2012) than the share of the male population. A first explanation of this phenomenon is the growing share of women who have continued their studies, becoming now graduates of higher education, compared with male persons.

Employed female population having completed *specialized or technical secondary education* shows a significant increase in the overall employment rate as compared to that of the male population starting with 2008 (from 49.3% to 52.5% in 2013).

An overwhelming contribution to increasing the share of employed women had the 25-34 and 35-49 age groups. It should be noted as well the women's dominant share of the 15-24 age group, which was however in decline along the analysed period (from 73.9% to 51.8%). Although with a lower specific weight in total of the employed population graduating specialized, secondary studies, the age groups corresponding to 55-64 age segments have also recorded increases.

It is clear that this level of training corresponding to level 4 ISCED is an alternative to womens' access to levels 5-6, increasing for the age group 35-49 (Chart 4), and decreasing in absolute value (number of persons) for the 15-24 and 25-34 age groups.

An obvious gender differentiation is specific to the employed women, graduates of specialized or technical secondary education.

The share of women in this category is less than one third of the total for each age group.

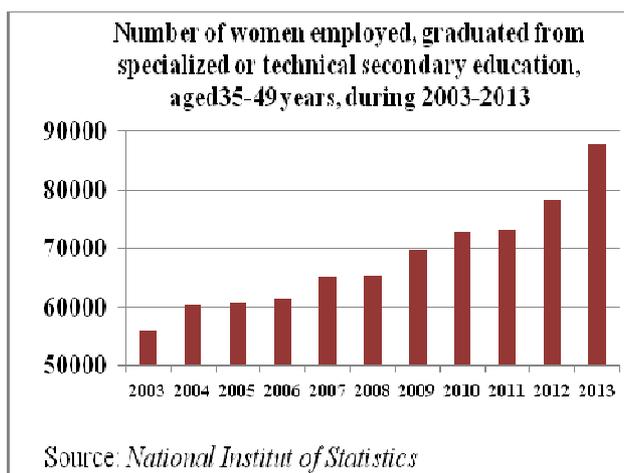
The low degree of enrolment of the some groups of employed women in the category of specialized or technical post-secondary education graduates is also the consequence of gender stereotypy, given the technical specific of the post-secondary schools, traditionally designed primarily for the male population.

The data presented regarding the employed population by education level reflects the growth trends, significant in some cases, of including the female population in the traditional training forms.

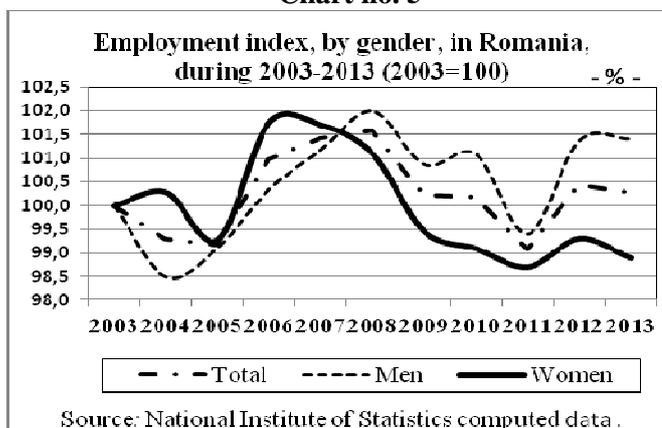
The enrolment in growing number of women in various forms of training is due as well to age segments over 34, which, given the structural changes in labour demand, attend masters or doctoral post-secondary or postgraduate courses increasing their empowerment on the labour market.

Moreover, the total employed population *dynamics* during 2003-2013 (Chart no. 5) highlights the more pronounced decline of women employment.

**Chart no. 4**



**Chart no. 5**



The age groups that have had higher values for the women employment index than those of male employment index were “15-24”, “50-54”, “65 and older”. The evolution for the first age group’s indices, although reflects a positive discrimination of the female population, marks the steepest decline during the analysed period, not only for the women employed, but also for men representing, in 2013, only 63%-64% of 2003’s level.

The permanent reduction, from year to year, of the employed population indices for the “15-24” age group and, to a lesser extent, of the “25-34” age group reflects the worsening imbalances between the structure of the educational qualifications and structure of the labour demand. Indeed, the evolution of the age group “25-34” shows a smaller decline than the first age group. Also, except for the age group “50-54” for which the indices of the employed population have evolved tortuously (growth until 2008 followed by decline up to 2013), the upwards evolution of the indices for the age groups “35-49”, “55-59” and “60-64” reflect a normalization of the employment rate.

Positive growth of the employment levels observed in the age groups “35-49” and “55-59”, even when we talk of discrimination to the detriment of women, suggests stages of employment *stabilization*.

Gender discrimination is more evident when we consider the *share of employed women* compared to the share of employed male, in total employed population, on age groups.

Except the age group “65 or older”, all other age segments reflect women negative discrimination.

The analysis of the indicator *Employed population* in Romania, also taking into account the evolution of *The activity rates* and of *The employment rates* according to the level of training highlights the fact that, despite female population access to education, there is still the persistence of some gender stereotypes (“Woman’s purpose is to take care of the house”), respectively of some serious distortions on the labour market regarding the correspondence between the structure of qualifications and the structure of the labour demand.

It must not be forget the fact that the signalled imbalances together with the prolonged effects of the crisis experienced since 2008 have affected both female population and the male population. At the same time, the two categories of population equally feel the effects of the nominal average earnings disparities between the levels achieved in other European Union countries and those from Romania, as it will be seen below.

## **6. Gender wage discrimination in the European Union in 2010-2013**

a) In the case of the population enrolled in *0-2 ISCED levels of education* (up to the secondary level), the equalled average annual net income has registered slight reduction tendencies to the level of the EU average in the four years taken into account from 13959 euros to 13715 euros.

The average of male wages marks a slight increasing difference compared to those of women, from about 500 euros in 2010 to almost 800 euros in 2013.

The equalled net incomes for lower levels of education have recorded the highest values in the case of Luxembourg (oscillating around 29,000 euros) and the Nordic countries (among which Denmark stands out with averages of 25,000 to 26,000 euros).

In terms of dynamics, Sweden recorded significant increases between 2010-2013, while in Greece the equalled net income decreased to about 60% in the same period. Opposed to the high-income countries are situated Romania and Bulgaria.

The differences between the average incomes of both sexes are minor, with slight negative gender discrimination tendencies in general, but also with positive discrimination in case of Romania, Croatia, Greece, Poland.

b) For *secondary or post-secondary graduates*, the European average of the equalled net incomes was about 30% above the income average of those enrolled in lower levels of education.

The European average reflects a slight gender discrimination, with differences of 200-300 euros in favour of male population incomes. Moreover, in each country there are not notable significant stable differences between sexes.

It remains extremely large the difference between equalled average net incomes, six to seven times lower in Romania compared to the European average. In the Romanian case, a slightly positive discrimination is noticeable as well in favour of the female population.

c) In the case of the equalled net incomes of the persons enrolled in *levels 5-6 of the educational systems* (bachelor and master) gender discrimination appears obvious.

The European averages of the incomes show differences of 3,000-4,000 euro in favour of men (annual average of 26,000-27,000 euros, compared with 23,000-23,500 euros).

The greatest discrepancies are preserved between the incomes from developed and less developed parts of Europe: the Nordic countries preserve the leading positions, average net income over 30,000 euros (higher in the case of Denmark – 32,000-36,000 euros). Thus, the gap from the last ranked, Romania, remains of 7-7.5 times.

In the Romanian case as well it is obvious a slight manifestation of gender discrimination, the incomes of the male population with higher education studies being with about 200-300 euros higher than the incomes of the female population.

Thus, the *Equivalent average net income by level of education* indicator highlights the differences in favour of men population only for the 5-6 ISCED level, respectively for male and female graduates of higher education. As regards 0-2 and 3-4 education levels, respectively lower and upper secondary cycles, the differences recorded during 2010-2013 present evolutions in the equivalised net income of the female population slightly superior to those of the male population.

National Institute of Statistics provides data on the average net nominal monthly earnings by activities of the national economy (at the level of CAEN rev. 2 Section) for 2011-2013, which partially confirm the Eurostat's data.

Table no. 2. Average net nominal monthly earnings by activities of the national economy

- lei -

Activities of the national economy (CAEN Rev. 2)		2011	2012	2013
A Agriculture, forestry and fishing	Total	1044	1093	1179
	Male	1053	1105	1190
	Female	<b>1012</b>	<b>1055</b>	<b>1141</b>
B Extractive industry	Total	2577	2786	2943
	Male	2553	2756	2909
	Female	<b>2705</b>	<b>2946</b>	<b>3113</b>
C Manufacturing industry	Total	1324	1393	1466
	Male	1479	1554	1633
	Female	<b>1153</b>	<b>1212</b>	<b>1283</b>
D Production and supply of electricity, gas, hot water and air conditioning	Total	2787	2904	2917
	Male	2816	2925	2950
	Female	<b>2690</b>	<b>2836</b>	<b>2816</b>
E Water distribution sewerage, waste management and remediation activities	Total	1333	1388	1427
	Male	1332	1389	1384
	Female	<b>1337</b>	<b>1386</b>	<b>1548</b>
F Constructions	Total	1247	1193	1191
	Male	1215	1165	1158
	Female	<b>1450</b>	<b>1374</b>	<b>1398</b>
G Wholesale and retail trade; repair of motor vehicles and motorcycles	Total	1227	1305	1293
	Male	1355	1447	1398
	Female	<b>1103</b>	<b>1176</b>	<b>1192</b>
H Transport and storage	Total	1580	1624	1629
	Male	1591	1606	1606
	Female	<b>1550</b>	<b>1677</b>	<b>1700</b>
I Hotels and restaurants	Total	841	850	898
	Male	893	911	960
	Female	<b>808</b>	<b>811</b>	<b>857</b>
J Information and communications	Total	2965	2992	3067
	Male	3117	3119	3233
	Female	<b>2744</b>	<b>2799</b>	<b>2815</b>
K Financial intermediations and insurances	Total	3435	3587	3645
	Male	4167	4292	4488
	Female	<b>3094</b>	<b>3263</b>	<b>3257</b>
L Real estate transactions	Total	1268	1248	1349
	Male	1352	1256	1356
	Female	<b>1159</b>	<b>1238</b>	<b>1341</b>
M Professional, scientific and technical activities	Total	2061	2216	2351
	Male	2126	2268	2434
	Female	<b>1990</b>	<b>2156</b>	<b>2255</b>
N Activities of administrative services and activities of support services	Total	966	1030	1132
	Male	903	946	1044
	Female	<b>1105</b>	<b>1222</b>	<b>1326</b>
O Public administration and defence; social insurance	Total	1909	2102	2420
	Male	1841	2021	2321

<b>Activities of the national economy (CAEN Rev. 2)</b>		<b>2011</b>	<b>2012</b>	<b>2013</b>
from the public system	Female	<b>1961</b>	<b>2163</b>	<b>2494</b>
	Total	1316	1371	1533
P Education	Male	1450	1500	1701
	Female	<b>1254</b>	<b>1314</b>	<b>1461</b>
	Total	1210	1315	1456
Q Health and social care	Male	1324	1446	1627
	Female	<b>1181</b>	<b>1281</b>	<b>1414</b>
	Total	1076	1148	1216
R Arts, entertainment and recreation	Male	1113	1216	1290
	Female	<b>1049</b>	<b>1099</b>	<b>1163</b>
	Total	852	929	991
S Other service activities	Male	979	1065	1158
	Female	<b>754</b>	<b>819</b>	<b>861</b>

Source: *National Institute of Statistics*

The activities showing a positive gender discrimination in favour of the female population are the following: „Extractive industry”, „Water distribution sewerage, waste management and remediation activities”, „Construction”, „Transport and storage” (for 2012 and 2013), „Public administration and defence; social insurance from the public system”, „Activities of administrative services and activities of support services”.

The simple browsing of the activities listed suggests, by virtue of gender stereotypes, some incompatibility, seemingly paradoxical, between the nature of the activities mentioned and the female population. In other areas, such as “Education”, „Health and social care”, “Arts, entertainment and recreation”, apparently more suitable for women and where they are present in a greater number than men, women’s earnings are lower than those of the male population.

The efficient analysis of the causes of gender discrimination requires the availability of the data corresponding to the path after obtaining the qualification. Such statistical evidence (like ALUMNI) would allow to outline the effectiveness of the educational system by identifying the number of people who are not employed according to qualifications acquired within the national education system or retraining programs.

## **7. Consequences of gender wage discrimination, by level of education**

### *The risk of poverty or social exclusion for the age group 18-64*

a) Considering the categories enrolled in *all levels of education*, the average risk of poverty or social exclusion at the European level has marked a slight increase in 2010-2013 from 23.5% to 25%, with a slight discrimination in favour of the male population.

The lowest levels of risk of poverty or social exclusion are specific to the Nordic countries (Sweden and Finland in the first place), the Czech Republic, the Netherlands, Austria, Slovenia and Slovakia. At the opposite side are Bulgaria,

Romania and Latvia. More exposed appears to be the female population in Italy, Cyprus, the Netherlands, Austria, and the U.K. In Romania the differences to the detriment of the female population (39.5%) are minimal, as compared to the male population (38.4%).

b) The categories most exposed to the risk of poverty or social exclusion are represented by the population enrolled in *the lower educational levels*. The European average evolutions reflect a slight worsening of the overall situation (from 37.6% to 42.4%) and, especially, for women (from 39.4% to 44.1%).

Less impacted by risks appear to be the same northern area countries, Finland, Denmark and Sweden, with a gender discrimination greater for the last, respectively the Netherlands and Austria. Most exposed are some countries from Central and South-Eastern Europe such as Hungary and Croatia, as well as the Baltic countries (primarily Lithuania and Latvia).

The most exposed are Bulgaria (72%-77%) and Romania (63%-67%), with a slight positive discrimination in favour of the female population, in the Romanian case.

A higher degree of exposure to the risk of poverty or social exclusion is specific to categories of persons enrolled in the lower levels of education for which the labour market offers fewer alternatives and less flexibility of jobs' supply.

c) To a lower risk are exposed the persons enrolled in *educational levels 3-4 ISCED* respectively high school or post-secondary graduates.

The European average of the risk of poverty or social exclusion for the persons enrolled in 3-4 educational levels is about 30-35% lower than the average of the population enrolled in the 0-2 levels (22-25% compared to 35-40%).

Besides the Nordic countries, compared to the European average, a reduced risk characterizes as well secondary education graduates in Austria, the Netherlands, Slovakia and Luxembourg.

To a higher risk than in the Romanian case are exposed the persons enrolled in the 3-4 ISCED levels from the Baltic countries (Latvia and Lithuania) and Bulgaria, where gender discrimination to the detriment of the female population is more pronounced.

d) As expected, the category least exposed to risk of poverty is represented by *university graduates* (bachelor, master), respectively those included in 5-6 ISCED levels. The European average is one third of the average risk secondary education graduates are exposed to, being six times below the level of secondary school studies graduates.

Romania presents a risk of exclusion for higher education graduates close to the European average, being notable a level of gender discrimination to the detriment of women by 3%-7%.

Truly remarkable are the reduced averages of poverty risk registered in Luxembourg, Finland, Slovenia and Czech Republic. Malta, Estonia, Portugal and Poland, associated with slight gender discrimination (except Portugal). More exposed appear to be the categories of university graduates in Bulgaria, Ireland, Latvia and Lithuania, countries which also present significant discrepancies in the sense of gender discrimination.

Although Eurostat data for Romania show a slight positive discrimination of the employed women incomes corresponding to 0-4 education levels, the female population enrolled in 5-6 education levels appears negatively discriminated both in terms of incomes and exposure to poverty risk or social exclusion.

### 8. Effects of the economic crisis on gender differentiation, according to the level of training

The data presented regarding the enrolment of the female population in the educational system, activity and employment rates according to the level of education reflect the evolutions determined since 2008 by the economic crisis.

For this reason, as shown by other studies as well (for example, the bulky report of the European Commission *The Impact of the Economic Crisis on the situation of Women and Men and on Gender Equality Policies*”, European Commission, December, 2012), the positive evolutions reported towards reducing the gender gap or even the manifestation of positive gender discrimination in 2009-2013 should be understood especially in the context of the crisis.

The reduction of the wage gap between men and women after 2008 is explained primarily by the consequences of the austerity policies that have determined the reduction of incentives contained before especially in the salaries of men. Secondly, an important role was played by the differentiated share of women in the economic sectors: in public administration activities, for example, the number of the female staff is larger and the wage differences are smaller as compared to men, while in other sectors of the economy, even if women incomes are lower, the presence of women is as well lower compared to that of men.

On the other hand, austerity caused by the crisis led to job cuts, most affected being the male population rather than the female one.

The data provided by the National Institute of Statistics and Eurostat, although different as annual average values, reflect the lowest level of unemployment in the case of the female population:

Table no. 3. **The evolution of unemployment in Romania, by gender, during 2002-2013**

- % -

Genders	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total	8.4	7.4	6.3	5.9	5.2	4.0	4.4	7.8	7.0	5.2	5.4	5.7
Male	8.9	7.8	7.0	6.4	5.7	4.2	4.4	8.4	7.6	5.5	5.9	6.2
<b>Female</b>	<b>7.8</b>	<b>6.8</b>	<b>5.6</b>	<b>5.2</b>	<b>4.6</b>	<b>3.9</b>	<b>4.4</b>	<b>7.1</b>	<b>6.3</b>	<b>4.9</b>	<b>4.9</b>	<b>5.1</b>

Source: *National Institute of Statistics*

Table no. 4. **The evolution of unemployment in Romania, by gender, during 2002-2013**

- % -

Genders	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total	8.3	7.7	8.0	7.1	7.2	6.4	5.6	6.5	7.0	7.2	6.8	7.1
Male	8.8	8.3	8.9	7.7	8.1	7.2	6.5	7.3	7.6	7.7	7.4	7.7
<b>Female</b>	<b>7.8</b>	<b>7.0</b>	<b>6.8</b>	<b>6.4</b>	<b>6.0</b>	<b>5.2</b>	<b>4.4</b>	<b>5.4</b>	<b>6.2</b>	<b>6.5</b>	<b>6.1</b>	<b>6.3</b>

Source: *Eurostat*

The diminishing unemployment rate trends previous to the crisis (for 2008 both sources indicate a minimum rate of 4.4% unemployed women) have been replaced by resuming the uptrend, up to 5.1% according to NIS, respectively 6.3% according to Eurostat in 2013. Between the female population unemployment rate and that of the male population the gap has remained in the margins of 1%-1.4%, recording positive gender discrimination.

Moreover, the crisis has not affected more or less the female population compared to the male one, but in a differentiated manner. Job reduction has mainly affected women who, at returning from maternity leave, failed to resume their activity.

On the other hand, the persons who have completed higher levels of education have managed to keep their jobs to a greater extent than the category of those graduating lower levels of training.

Table no. 5. **The evolution of youth unemployment rate from the age group 18-34, in Romania, by gender, during 2002-2013**

		Education levels 0-4 ISCED (1-3 years after graduation)											- % -
Genders	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Total	32.8	31.3	28.7	26.9	27.8	24.5	20.2	24.4	28.9	32.5	30.9	33.4	
Male	33.0	31.4	34.2	28.5	28.9	25.8	20.7	25.7	29.1	32.5	30.1	33.7	
<b>Female</b>	<b>32.6</b>	<b>31.1</b>	<b>22.8</b>	<b>24.9</b>	<b>26.2</b>	<b>22.7</b>	<b>19.3</b>	<b>22.3</b>	<b>28.6</b>	<b>32.6</b>	<b>32.1</b>	<b>33.0</b>	

Source: Eurostat

Table no. 6. **The evolution of youth unemployment rate from the age group 18-34, in Romania, by gender, during 2002-2013**

		Education levels 3-8 ISCED (1-3 years after graduation)											- % -
Genders	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Total	25.2	24.9	22.5	21.4	21.1	18.0	13.7	18.6	22.7	24.4	23.8	25.7	
Male	24.9	27.0	27.2	22.6	23.5	20.6	15.2	20.9	23.9	24.8	24.4	26.5	
<b>Female</b>	<b>25.6</b>	<b>22.5</b>	<b>18.0</b>	<b>20.1</b>	<b>18.6</b>	<b>15.3</b>	<b>11.9</b>	<b>16.1</b>	<b>21.5</b>	<b>23.9</b>	<b>23.2</b>	<b>24.9</b>	

Source: Eurostat

The female population in the age group 18-34 appears positively discriminated in terms of the level of unemployment rate: in 2007 the minimum level of women unemployment rate was of 22.7%, as compared to 25.8% for the male population enrolled in ISCED 0-4 levels of education, respectively 15.3% compared to 20.6% for 3-8 ISCED levels of education.

On the other hand, against the background of the economic crisis, the unemployment rate increased during 2007-2013 to 10.3% for the female population, compared to only 7.9% for the male population (Table no. 5) and 6.3%, compared to 5.9% (Table no. 6).

In these circumstances, it can be assumed with good reason that the number of women who have accepted part-time paid jobs or jobs from the "not taxed area" of the economy increased compared with that of men.

## **Conclusions regarding the effects of education on gender discrimination in Romania**

1. Statistical data confirm the disadvantaged status of women enrolled in the lower levels of education, in terms of activity and employment rates compared to that of the male population.

2. The female population appears favoured in case of 4-8 ISCED levels, the trend being favourable to employment and job maintaining for secondary and post-secondary schools graduates, respectively, for women graduates of higher education studies.

3. As far as the equalized average net income indicator is regarded, the female population enrolled in higher levels of education appears to be disadvantaged, while lower levels of education graduates would be slightly favoured compared to the male population.

4. A major difficulty in conducting fundamental analysis is the absence of data regarding the transition from school to active life, respectively the extent to which the obtained qualification as a result of the studies is confirmed throughout the activity performed in the economic and social sectors. A large number of middle and higher education graduates continue to activate in other fields than those for which they acquired skills during schooling.

## **REFERENCES**

- Schultz Paul, T., "Investment in the Schooling and Health of Women and Men; Quantities and Returns", *Economic Growth Center Discussion Paper (702)*, Yale University, 1993.
- Behrman, J. R., *Mothers Schooling and Child Education*, 1997, Mimeo, University of Pennsylvania, PA.
- Birdsall, Nancy, Ruth Levine, and Amina Ibrahim, "Towards Universal Primary Education: Investments, Incentives, and Institutions," *European Journal of Education* 40, no. 3 (2005): 337-349.
- Boserup, E., *Womens Role in Economic Development*, 1970, London, St. Martin's Press.
- Chaaban, Jad, Cunningham Wendy, *Measuring the Economic Gain of Investing in Girls: the Girl Effect Dividend*, Washington, D.C.: The World Bank, 2011.
- Corleto Buquet, Ana, Cooper Jennifer A., Loreda Rodriguez Hilda, *Sistema de indicadores para la equidad de género en instituciones de educación superior*, Universidad Nacional Autónoma de México, Instituto Nacional de las Mujeres, 2010.
- Dollar, David, Gatti, Roberta, *Gender Inequality, Income, and Growth: Are Good Times Good for Women?*, Washington D.C.: The World Bank, 1999.
- Fuchs G., Füller E., Lask S., *Zahlen? Bitte*. Gleichstellungsbüro Basel-Stadt, Basel, 2004.
- Hanushek, Eric, "Schooling, Gender Equity, and Economic Outcomes." *In Girls' Education in the 21<sup>st</sup> Century: Gender Equality, Empowerment, and Economic Growth*, Washington DC: World Bank, 2008. 23-40.

- Kabeer, Naila, "Gender Equality and Women's Empowerment: A Critical Analysis of the Third Millennium Development Goal," *Gender & Development* 13, no. 1 (2005): 13-24.
- Kimmel, Michael S., Aronson, Amy, *The Gendered Society Reader*, New York: Oxford UP, 2011.
- King, Elizabeth M., Hill, Anne M., *Women's Education in Developing Countries Barriers, Benefits, and Policies*, Baltimore. Volume edited for the World Bank, Johns Hopkins University Press, 1998.
- Klasen. Stephan. "Low Schooling for Girls, Slower Growth for All? Cross-Country Evidence on the Effect of Gender Inequality in Education on Economic Development," *The World Bank Economic Review*, 16, no. 3 (2002): 345-373.
- Levine, Ruth, Lloyd, Cynthia, Greene, Margaret, Grown, Caren, *Girls Count: a Global Investment & Action Agenda*, Washington, DC: Center for Global Development, 2008.
- Moretti, Enrico, "Estimating the social return to higher education: evidence from longitudinal and repeated cross-sectional data," *Journal of Econometrics*, 121, 2004, p. 175-212.
- Nussbaum, Martha, *Creating Capabilities: The Human Development Approach*, Cambridge, Mass.: Belknap Press of Harvard University Press, 2011.
- Patrinos, Harry, "Returns to Education: The Gender Perspective," in *Girls' Education in the 21st Century: Gender Equality, Empowerment, and Economic Growth*. Washington DC: World Bank, 2008. 53-66.
- Psacharopoulos, George, Patrinos, Anthony Harry, "Returns to Investment in Education: A Further Update," *Education Economics* 12, no. 2 (2004): 111-134.
- Schultz, Paul T., *Why Governments Should Invest More to Educate Girls*, New Haven, CT: Economic Growth Center, Yale University, 2001.
- Schultz, T. P., "Human Capital and Development", in Peters, G. H. et al. (Eds.), *Agricultural Competitiveness*, 22nd International Conference of Agricultural, Economics, Aldershot, England, Dartmouth, 1995.
- Schultz Paul, T., "Investment in the Schooling and Health of Women and Men; Quantities and Returns", *Economic Growth Center Discussion Paper (702)*, Yale University, 1993.
- Sen, Purna, "Enhancing Women's Choices in Responding to Domestic Violence in Calcutta: A Comparison of Employment and Education", *The European Journal of Development Research* 11, no. 2 (1999): 65-86.
- \* \* \* "Raport de cercetare privind discriminarea de gen în piața muncii", Proiect POSDRU: *ESTHR – pachet integrat de acțiuni pentru dezvoltarea rolului femeii în societatea românească*, Blocul Național Sindical, 2009.
- \* \* \* *Diferențele bazate pe gen în ceea ce privește profesiile, cariera și veniturile*, elaborat în cadrul Proiectului POSDRU ProFeminAntrep Editura *Fundației România de Mâine*, București, 2011.
- \* \* \* *EU Gender Equality Law*, European Communities, 2008.
- \* \* \* *Eurostat*, [http://epp.eurostat.ec.europa.eu/portal/page/portal/employment\\_social\\_policy\\_equality/education\\_training](http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_social_policy_equality/education_training)
- \* \* \* *Gender-based segregation in terms of female occupation of some lower positions on the labour market - Segregarea bazată pe gen din perspectiva ocupării de către femeii a unor poziții inferioare pe piața muncii*, Proiect PROFEMIN/POSDRU/144/6.3/S126567.

- \* \* \* *GHID pentru promovarea egalității între femei și bărbați pe piața muncii*, Proiect POSDRU, ANOFM.
  - \* \* \* Legea nr. 202/2002 privind egalitatea de șanse dintre femei și bărbați, *Monitorul Oficial*, Partea I, nr. 301, 8 mai 2002.
  - \* \* \* *Studiu privind segregarea de gen pe piața muncii*, elaborat în cadrul Proiectului POSDRU ProFeminAntrep, Editura *Fundației România de Mâine*, București, 2012.
  - \* \* \* *The Current Situation of Gender Equality in Romania – Country Profile*, Romania, Comisia Europeană, 2012.
  - \* \* \* *The Impact of the Economic Crisis on the Situation of Women and Men and on Gender Equality Policies*”, European Commission, December, 2012.
- [http://ec.europa.eu/justice/gender-equality/equality-pays-off/index\\_en.htm](http://ec.europa.eu/justice/gender-equality/equality-pays-off/index_en.htm)  
[http://en.wikipedia.org/wiki/Socioeconomic\\_impact\\_of\\_female\\_education](http://en.wikipedia.org/wiki/Socioeconomic_impact_of_female_education)  
<http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database>  
[http://epp.eurostat.ec.europa.eu/portal/page/portal/employment\\_social\\_policy\\_equality/education\\_training](http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_social_policy_equality/education_training)  
[http://epp.eurostat.ec.europa.eu/portal/page/portal/sdi/indicators/all\\_indicators](http://epp.eurostat.ec.europa.eu/portal/page/portal/sdi/indicators/all_indicators)  
[http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search\\_database](http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database)  
<http://www.insse.ro/cms/>

