The Level of Education of Graduates in Romania in the Context of Globalization

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Abstract.

Research background: Technological changes are one of the reasons for the resizing of jobs. Demographic change is affecting the labour market, both locally and regionally. Thus, together with technological changes, they lead to changes in the level of education of graduates. The process is accentuated by globalization. There are changes in the labour market that require people with higher skills.

Purpose of the article: For Romania, the analysis of the level of education of graduates at regional level, depending on the county, is presented in this article. In the paper, depending on the level of education, the evolution at county level of the number of graduates is presented. At the same time, the evolution of the total number of graduates for the levels of primary-secondary, vocational, high school, post-high school education, respectively for the level of university education, is analyzed.

Methods: Thus, following the analysis, it is observed that, at national level, the number of graduates decreased. Also, for certain levels of education and only for some counties, the number of graduates has increased.

Findings & Value added: The radiography performed is important for the regional needs' analysis of the labour market. Thus, following the analysis, it was found that most graduates of tertiary education are from university centers: Bucharest, Cluj, Iași, Timiș. Graduates with a high level of knowledges, skills, and competencies have higher opportunities and abilities to identify and occupy a job.

Keywords: *graduates; educational field; education levels; Romania*

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1 Introduction

Technological changes are one of the reasons for the resizing of jobs. The process is accentuated by globalization. There are changes in the labour market that require people with higher skills. In the field of education, globalization has increased student mobility. They have the opportunity to move from one region to another, in order to acquire new knowledge, skills and competences. Thus, education can contribute to the process of globalization. In this way, issues related to education are closely linked to globalization. Increasing the level of education of the population allows the improvement of human capital and contributes to increasing productivity [1].

Companies are also facing demographic changes. Therefore, investments in education and training systems must also take these aspects into account. Thus, the manifestation of the professional and personal success of young graduates is influenced by the way in which the transition from school to work takes place. This can influence the subsequent socio-economic situation of young graduates. At the same time, the students' subsequent educational path is influenced by the social environment. As educational opportunities increase, an existing family educational environment can lead to further future benefits [2]. Parents' school experience also influences students' attitudes towards education [3, 4]. The graduated educational institution, through the way in which the research and the development of the courses are carried out, influences the decisions that the graduates make regarding their future career and success [5]. Knowing how to manage your own knowledge is a skill that teachers can pass on to future graduates [6, 7]. A level of training and performance of teachers contributes to increasing the quality of the educational act. Thus, their participation in training programs leads to an increase in the level of skills of graduates. The labour market demands that educational institutions, and especially universities, get closer and closer to the professional world. This implies a change in working methods and academic culture, a change that will lead to the acquisition of those skills that are really necessary for the labour market [8-12].

Modern education and training programs meet the requirements of the labour market in terms of a high degree of skills. The exchange of knowledge and ideas between students and faculties is possible through the internationalization of tertiary education [13]. Quality of the educational process has become a goal pursued at all levels. The acquisition by tertiary education graduates of the ability to learn throughout life has increased the importance given to the quality of education at the university level [14]. Participation in mobility between different universities is influenced by the quality of education that students receive. The internationalization of education is increasingly pursued by universities. The European Union has proposed that at least 20% of all tertiary graduates complete part of their studies abroad, respectively to obtain at least 15 credits or to study at least 3 months in other countries [15].

Obtaining a university degree does not automatically imply employment at a job. The guarantee of employment is no longer given by the graduation of a faculty. Getting a good job is not just based on the university education receive. Training in higher education should also be taken into account as students prepare for a variety of non-academic careers [13]. It is found that, in order to develop appropriate work habits, during the studies, graduates need training and volunteering internships [14, 15]. Increasing knowledge through solicitation and collaboration improves the capacity for conceptual understanding and leads to conscious and thoughtful processes for solving the various problems that arise in the workplace [16]. If the focus shifts to quantity, then a decrease in the quality of the standards used can be achieved [17]. Books/paper are among the most commonly used resources for students to learn, followed by laptops [18]. However, for many graduates, the

use of learning technology has been favorable to further work in the workplace [19]. A good organization of time and resources in the workplace requires skills acquired during study periods. Self-determination and self-efficacy help students gain that confidence that will lead them to high results [20].

In addition to demographic change and technological developments, globalization has accentuated the dynamism of the labour market. The new skills acquired by graduates are changing the structure of the labour market. The level of education of those entering the labour market for the first time also contributes to this aspect. Thus, employment rates are influenced, but also economic growth in general [21]. Increasing the relevance of the skills acquired by graduates offers them real employment opportunities on the labour market. However, throughout life, it is necessary to participate in training programs, either to update previously acquired skills or to acquire new skills.

There is a process of aging population, but also the movement of the population from rural to urban areas. In this context, in a globalized economy, measures are needed to maintain competitiveness. The knowledge, skills and competences that graduates acquire, as well as their relevance, can ensure an increased employability in the labour market. High-level basic knowledge and skills increase the chances of professional and social fulfillment, but also the chances of personal fulfillment.

2 Methods

Through this article, an analysis was made of the level of education of graduates at the regional level, depending on the county. The comparative situation of the level of education of the graduates was performed for the counties of Romania, corresponding to the year 2010, respectively to the year 2017. Also, the evolution of the total number of graduates is presented, for the period 2010-2017. At the same time, for the counties of Romania, the article reflected the situation of the share of graduates according to the level of education, corresponding to 2017. For the period 2010-2017, is analyses the evolution of the total number of graduates for the levels of primary and lower-secondary, vocational, upper secondary, respectively post-secondary. For the level of university education, the article highlights the evolution of the number of graduates corresponding to the period 2014-2017.

3 Results and Discussions

Demographic characteristics, as well as social and economic characteristics, influence the educational needs of pupils and students. Graduates' performance may increase based on a high quality of education received. An increased ability to adapt to change is a consequence of acquiring and possessing appropriate social, civic as well as entrepreneurial skills. Changes in education at the level of members of a society reduce inequities and influence social issues [22].

In Romania, in 2017, according to data published by the Romanian National Institute of Statistics [23], for all levels of education, the total number of graduates was 501802 people. Thus, Figure 1 shows the share of graduates by education levels, for 2017 (%). It is found that primary and secondary school graduates have the highest share (of 34.39%), followed by high school graduates (29.62%).

Fig. 1. The share of graduates by education levels, 2017 (%).

Figure 2, for the period 2010-2017, shows the evolution of the total number of graduates.

Thus, it is observed that in 2017, compared to 2010, the total number of graduates decreased from 674713 (in 2010) to 501802 (in 2017).

Fig. 2. The evolution of the total number of graduates, 2010-2017.

Table 1 presents the comparative situation of the number of graduates in each county, for 2010 and 2017.

In 2010, apart from Bucharest (with 106591 graduates), the counties with the most graduates were: Iași (30976), Braşov (30489), Constanţa (27061), Cluj (26259), Dolj (25317), Timiş (24175), Suceava (21494), Argeş (20562).

Table 1. The comparative situation of the number of graduates in each county, 2010-2017.

Counties	2010	2017	Counties	2010	2017
Alba	10569	8246	Hunedoara	13603	9282
Arad	17482	10250	Ialomița	6445	4320
Argeș	20562	15334	Iași	30976	29221
Bacău	17112	13551	Ilfov	5741	4425
Bihor	19681	15300	Maramureș	14257	10737
Bistrița-Năsăud	8128	6444	Mehedinți	7984	5827
Botoșani	10597	8827	Mureș	15404	12159
Brașov	30489	13438	Neamț	12988	9835
Brăila	7826	6083	Olt	11475	8964
Buzău	10147	8052	Prahova	20012	15483
Caras-Severin	8343	5541	Satu Mare	9454	6674
Călărași	6574	4786	Sălaj	5783	4423
Cluj	26259	25928	Sibiu	15174	10751
Constanța	27061	18674	Suceava	21494	17063
Covasna	5222	3590	Teleorman	8226	6135
Dâmbovița	13326	9919	Timiș	24175	20158
Dolj	25317	18197	Tulcea	4983	3515
Galați	18120	14015	Vaslui	11025	8379
Giurgiu	5325	3893	Vâlcea	11974	7735
Gorj	13460	8515	Vrancea	7651	6219
Harghita	7698	6124	București	106591	75790
			Total	674713	501802

In 2017, apart from Bucharest (with 75790 graduates), the counties with the most graduates were: Iași (29221), Cluj (25928), Timiș (20158), Dolj (18197), Suceava (17063), Prahova (15483), Argeș (15334), Bihor (15300).

In 2017, compared to 2010, in all counties there were decreases in the number of graduates. The most significant decreases were in Bucharest (-30801) and Brașov (-17051), but also in the counties: Constanța (-8387), Arad (-7232), Dolj (-7120), Argeș (-5228), Gorj (-4945), Prahova (-4529).

In Table 2, for 2017, depending on the level of education, is presented the situation of the share of graduates for each county.

For primary and lower-secondary, the highest values of the share of graduates are in the counties: Bucharest (7.95%), Iași (4.56%), Suceava (4.11%), Prahova (3.66%). The lowest values are in: Tulcea (1.03%), Covasna (1.04%), Sălaj (1.20%), Ialomița (1.21%), Mehedinți (1.21%), Caras Severin (1.35%), Giurgiu (1.35%).

In 2017, compared to 2010, there were decreases in the number of primary and lower-secondary graduates, in the counties: Suceava (-2617), Iași (-2431), Dolj (-2412), Bacău (-2173).

For upper secondary education, the highest weights of graduates are in the counties: Bucharest (10.26%), Suceava (3.98%), Iași (3.79%), Constanța (3.71%), Argeș (3.63%), Prahova (3.60%). The lowest values: Covasna (0.79%), Giurgiu (0.86%), Tulcea (0.90%), Ilfov (0.97%), Ialomița (1.20%).

For vocational education, it is observed that high shares of graduates are registered in the counties: Iași (7.21%), Suceava (4.65%), Bacău (4.29%), Prahova (3.92%), Bihor (3.72%), Cluj (3.51%), Dolj (3.44%). The lowest values are in: Ilfov (0.34%), Giurgiu (0.50%), Teleorman (0.52%), Mehedinți (0.78%), Caras Severin (0.79%).

Table 2. The situation of the share of graduates for each county, depending on the level of education, 2017 (%).

Counties	Primary and lower-secondary	Upper secondary education	Vocational education	Post-secondary education
Alba	1,72	1,98	2,20	1,49
Arad	2,05	2,21	2,11	1,67
Argeş	3,09	3,63	2,57	4,12
Bacău	3,40	2,93	4,29	2,91
Bihor	2,95	3,15	3,72	3,10
Bistriţa-Năsăud	1,78	1,52	2,04	1,19
Botoşani	2,65	2,07	3,37	1,33
Braşov	2,48	2,14	3,22	2,25
Brăila	1,59	1,54	1,80	1,21
Buzău	2,19	2,10	2,15	1,67
Caras-Severin	1,35	1,51	0,79	1,50
Călăraşi	1,46	1,20	1,36	0,30
Cluj	2,91	3,15	3,51	3,92
Constanţa	3,46	3,71	2,46	4,32
Covasna	1,04	0,79	1,82	0,39
Dâmboviţa	2,58	2,24	1,80	1,37
Dolj	2,77	3,21	3,44	6,63
Galaţi	2,74	2,75	2,74	3,41
Giurgiu	1,35	0,86	0,50	0,55
Gorj	1,95	2,19	1,31	2,92
Harghita	1,65	1,46	2,51	0,82
Hunedoara	1,95	2,15	1,75	4,09
Ialomiţa	1,21	1,20	1,50	0,37
Iaşi	4,56	3,79	7,21	3,79
Ilfov	1,61	0,97	0,34	0,26
Maramureş	2,52	2,59	3,07	1,91
Mehedinţi	1,21	1,43	0,78	2,77
Mureş	2,75	2,37	2,81	2,68
Neamţ	2,63	2,68	3,16	1,67
Olt	2,13	2,33	2,09	3,64
Prahova	3,66	3,60	3,92	3,80
Satu Mare	1,74	1,51	2,33	1,92
Sălaj	1,20	1,20	1,37	0,59
Sibiu	1,98	1,78	2,28	1,41
Suceava	4,11	3,98	4,65	3,17
Teleorman	1,56	1,87	0,52	1,16
Timiş	3,07	3,25	2,94	2,62
Tulcea	1,03	0,90	1,05	0,50
Vaslui	2,42	2,09	3,21	1,25
Vâlcea	1,84	2,13	1,64	2,37
Vrancea	1,72	1,59	1,05	1,86
Bucureşti	7,95	10,26	2,61	11,09

For post-secondary education, the highest values are registered in the counties: Bucharest (11.09%), Dolj (6.63%), Constanţa (4.32%), Argeş (4.12%), Hunedoara (4.09%), Cluj (3.92%), Prahova (3.80%), Olt (3.64%). The lowest values are in: Ilfov (0.26%), Călăraşi (0.30%), Ialomiţa (0.37%), Covasna (0.39%), Tulcea (0.50%), Giurgiu (0.55%), Sălaj (0.59%).

The following figure shows the evolution of the number of graduates for the levels of primary and lower-secondary, vocational, upper secondary, respectively post-secondary education.

Fig. 3. The evolution of the number of graduates for the levels of primary and lower-secondary, vocational, upper secondary, respectively post-secondary education, 2010-2017.

For the period 2010-2017, the previous figure shows a decrease in the number of graduates for primary and lower-secondary, vocational, respectively upper secondary. It is found that for the level of post-secondary education the number of graduates increased by 56.55% in 2017, compared to 2010. The decrease for the level of primary and lower-secondary education is 24.84%. For the level of upper secondary education, the decrease is 26.47%, and for the level of vocational education the decrease is 32.84%.

Fig. 4. The evolution of the number of university-level graduates - graduates with a diploma, 2014-2017.

For the period 2014-2017, the evolution of the number of university-level graduates - graduates with a diploma (bachelor's, master's, postgraduate courses, doctorate, and postdoctoral programs) is presented in Figure 4.

It is observed that, in the period 2014-2016, the number of university graduates decreased from 133478 (in 2014) to 121250 (in 2016). Also, in 2017 their number increased to 126271.

For 2017, the number of graduates of tertiary education level (Bachelor's, Master's studies, post-graduate classes, PhD and post-doctoral programs), depending on the county where the universities and faculties are located, and is presented in Table 3.

Table 3. The situation of tertiary education degree graduates, 2017.

Counties	Tertiary education degree graduates	Counties	Tertiary education degree graduates
Alba	1368	Harghita	273
Arad	2464	Hunedoara	947
Argeş	2700	Iaşi	12878
Bacău	1475	Ilfov	39
Bihor	3752	Maramureş	1250
Bistriţa-Năsăud	287	Mehedinţi	524
Braşov	4588	Mureş	2408
Brăila	190	Neamţ	69
Buzău	123	Olt	165
Caraş-Severin	320	Prahova	1680
Călăraşi	63	Satu Mare	322
Cluj	14151	Sălaj	72
Constanţa	5145	Sibiu	3749
Covasna	88	Suceava	2023
Dâmboviţa	1314	Teleorman	203
Dolj	5775	Timiş	8547
Galaţi	3455	Vâlcea	249
Gorj	637	Vrancea	96
Bucureşti	42882		

From the data presented in the previous table, for 2017, it is found that most graduates in the category of tertiary education degree graduates were registered in the university center of Bucharest (42882). He is followed by the university centers in the counties: Cluj (14151), Iaşi (12878), Timiş (8547), Dolj (5775), Constanţa (5145), Braşov (4588), Bihor (3752), Sibiu (3749), Galaţi (3455).

Although it is considered that graduating from a study program provides access to the labour market, however, throughout life it is necessary to continue to update our skills or even to acquire new ones. The need to acquire a new qualification arises as a result of changes in the labour market. These changes are taking place at high speeds and due to digital transformations. Social or economic interactions are manifested without considering space as a problem. The pressure is now on education.

4 Conclusions

The new competences, skills and aptitudes that people acquire are the basis for increasing the employment rate. Raising and maintaining the standard of living can be achieved on the basis of an appropriate set of skills and competences. Keeping a balance between the qualifications needs of the company and the competences of employees increases the importance given to education and training programs. Therefore, measures to update professional competences are needed for people who have lost contact with the labour market [24].

From the analysis performed at national level, it is observed that in 2017, compared to 2010, the total number of graduates decreased. Even if the number of graduates has decreased, Bucharest offers the most graduates. In 2017, after Bucharest, the counties where the total number of graduates was high are: Iași, Cluj, Timiș, Dolj, Suceava, Prahova, Argeș, Bihor. Also, Bucharest, Suceava and Iasi had the most graduates for the primary and lower-secondary level, respectively for the upper secondary education level. Following the analysis, it was found that most graduates of tertiary education are from university centers: Bucharest, Cluj, Iasi, Timis. Thus, the relevance of the analysis is given by the correlation with the regional needs analysis of the labour market.

For graduates who have a high level of knowledge, skills and competencies, the possibilities and abilities to identify and occupy a job are higher. The capacity for professional insertion and social inclusion decreases for graduates who do not have sufficient reading, mathematics and science skills. Young graduates have a higher degree of mobility, due to interventions in the automation of production processes.

The gap between skilled and unskilled staff may increase due to technological innovations and the process of globalization. In order to overcome the changes caused by globalization, the modernization of educational policies can increase the access of all members of a community to quality education and training programs. There is a growing demand for highly skilled labour. One of the solutions to this demand is given by partnerships between educational institutions and companies. At the same time, the higher the level of innovation and creativity, the higher the level of skills. The evolution of education and training systems will provide graduates with the opportunity to acquire more complex skills and competences.

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