Theoretical and Applied Economics
Volume XXV (2018), No. 3(616), Autumn, pp. 77-90

Analysis of the educational activity in Romania

Constantin ANGHELACHE
The Bucharest University of Economic Studies, Romania
"ARTIFEX" University of Bucharest, Romania
actincon@yahoo.com
Mădălina Gabriela ANGHEL
"ARTIFEX" University of Bucharest, Romania
madalinagabriela_anghel@yahoo.com

Abstract. *An important problem for each country is that of providing serious education in the field of education. This does not exclude the provision of health conditions that will lay the foundation of a profound and complex education. In fact, the Latin word Mens sana in sano body is to build the healthy future physically and intellectually. In this article, we intend to analyze the concrete situation, based on the results of the year, we call it educational, 2017-2018, to identify progress, some shortcomings and especially the short, medium and long term perspective of evolution in this domain. Education is the essential element for improving social behavior, understanding the evolution of the population in line with the complex (globalized) evolutionary trends of mankind. The educational process is one that, without much comment and argumentation, means the enrichment of individuals and generations with complex knowledge about universal evolution, evolution in specialized fields, and, last but not least, the perspective of individual evolution. Within this article, the authors proposed that on the basis of the study on the distribution of the school population by region and on the whole of the country, in the legally established, biologically existing, stages of the preparation and evolution of the population in Romania. In the alternative, elements concerning the distribution of the population by region, the educational level achieved, the availability of teaching staff, the results of the complex training program are just a few of the aspects that the authors propose to carry out and, consequently, bending over of these aspects, allowed some opinions and concretised some conclusions on how this process took place in the newly concluded 2017-2018 school/university year. The article is accompanied by a series of graphs and tables, containing clear data which in the context support the conclusions issued by the authors.*

Keywords: analysis, education, primary education, secondary education, tertiary education.

JEL Classification: I21, I23.

Introduction

The authors' study in this field is complex and refers to the concrete results recorded in the school/university year 2017-2018. On the basis of this framework-stopping element of the evolution in this field, the authors sought to highlight the evolution in all educational spheres by the year 2017-2018 and to forecast the perspective of the school/university education in Romania in the perspective of the following years, aiming at a prognosis on short, medium and long term.

The educational and vocational framework is closely correlated with the generations' inclinations for future professions, correlated with the structure of the workforce and the need for trained people, specialists, in all fields of the economy. Certainly there are no issues concerning the educational offer according to the criteria that can be controlled and covered by the central and local administration, but at the same time it reveals some shortcomings that are encountered in this field. There are a number of issues regarding the existing teaching staff, the quality of the teaching staff existing in the Romanian educational system at all levels, the situation of the graduates in the school/university field and their linking to the labor market, the needs of the national economy. In the course of the study we draw some conclusions that are true and important to be taken into account by the macroeconomic management. First of all, we can currently see that there is an inappropriate list or correlation between the needs of the labor market and the structure of educational education. Thus, there are missing links that refer to the need to have a concrete professional orientation starting with the secondary, high school and, ultimately, the university education.

The structure of graduates accepted in the workplace is edifying. There are general areas, specialized fields in which there are graduates with good degrees of theoretical training that do not find themselves in the workplace. On the other hand, it is important to bear in mind that vocational education is only a matter of principle, which is discussed but which does not result from a number of causes which can be easily removed. Firstly, fewer jobs are created in the workforce to urge the younger generation to pursue professional studies that give us the prospect of a future activity, specifically remunerated and of interest to the national economy. In other news, higher education maintains its attraction and level of competition, only in state higher education for stockpile (stock market) places for which, due to the level of training, material level and other considerations, active competition persists. Otherwise, for private higher education, whether it is in the state or in the private sector, there is only competition for the individual cost involved in the pursuit and graduation of these higher education institutions.

It is easy to understand if we compare the number of graduates with a baccalaureate diploma registered each year and the total job offer provided by the system of higher education institutions considered. The problem of education is a fair one, it is an urge for every individual to improve his/her training, but this must be correlated with the professional orientation and especially with the offer of the field of work (of the available or possibly occupational places). In this article, the authors strived and realized a concrete

presentation based on figures, materialized in graphs and tables that reveal the perspective of the educational system in Romania. We did not undertake in this article an international comparison on the education system in Romania compared to the other countries of the European Union. If we were to make such an analysis we would reach a paradox. It shows that Romania is not among the leading countries in the European Union in terms of the number of students, high school students, graduates compared to other states. But at the same time it is revealed that in this context there is a "surplus" of graduates who do not find a job according to the vocational training, and thus it is difficult to interpret the level of general training and especially at the final level, university graduates from Romania.

1. Literature review

Anghelache (2017) carried out a broad analysis of Romania's economic and social evolution. Anghelache and Anghel (2017) conducted a study of the education systems of the Member States of the European Union. Anghelache, Partachi and Anghel (2017) analyzed the EU education strategy. Anghelache, Gogu and Anghel (2017) analyzed the quantitative and qualitative development of the activity in the university education system in Romania. Batory and Lindstrom (2011) addressed issues related to financial incentives and European policy in the field of higher education. Belfield, Nores, Barnett and Schweinhart (2006) and Duncan and Magnuson (2013) discussed investment in preschool programs and their effects. Doepke and Zilibotti (2008) presented benchmarking of occupational choices. Jacob and Lefgren (2008) studied methods of assessing performance in education. McNamara, G. and O'Hara (2008) and Saarinen Ursin (2011) also dealt with some aspects of education policy. A similar theme is researched by Pépin (2007), which highlighted that lifelong learning has become a strategic goal. Papay and Kraft (2015) have been studying ways to improve their long-term careers. Slavin, Lake, Chambers, Cheung and Davis (2009) presented evidence of effective educational programs.

2. Research methodology, data, results and discussions

- **The main methodological notions**

According to the methodology of the National Institute of Statistics, the education system represents the ensemble of educational units and institutions of different types, levels and forms of organization of the education and training activity that ensure the educational process of the school population at all levels of education for the purpose of professional training.

Educational level is an educational level in which elementary, medium or higher education is conducted, according to the curriculum. According to the International Standard Classification of Education (ISCED 2011) applicable after 2013, existing levels in the National Education System are: pre-primary education (ISCED level 01), preschool (ISCED level 02), primary (ISCED level 1), gymnasium ISCED level 3, ISCED level 3, ISCED level 3, ISCED level 4, ISCED level 4, ISCED level 6, 7 and 8 ISCED levels).

In the field of formal education, statistical surveys are carried out with exhaustive character, encompassing all educational units in each educational level, irrespective of the form of ownership, public or private, or the residential environment in which they have their headquarters, urban or rural.

The school population represents the total number of children in nurseries and nurseries, pupils and students enrolled in the education/training process of a school/university year of formal education, irrespective of the forms of education they attend (day, evening, reduced and distance), study program and age. The school age population comprises the resident population aged within the official education age of each educational level.

Starting with the school year 2012-2013, according to the legislation in force (Education Law no.1/2011 with subsequent amendments and supplements), the age groups for the school age population are: 0-2 years, 3-5 years, 6-10 years, 11-14 years, 15-18 years old, 19-23 years old and over.

By resident population we understand the total of Romanian, foreign and non-citizens, who are habitually resident in Romania.

- **School population in the school/university year 2017-2018**

According to data published by the National Institute of Statistics, the school population in the national education system was 3578.6 thousand pupils and students in the school/university year 2017-2018, decreasing by 18.7 thousand compared to the school/university year the school population increased (by 6.9% and 1.4%, respectively) compared to the previous school year, and the number of graduates in the year 2017 was 497.6 thousand pupils and students, down 0.3% year-on-year.

In the school/university year 2017-2018, almost half of the school population was found in primary and secondary education (46.9%), and about one third in high school and pre-school and pre-school education (17.8% and 15.1%). Of the total school population in the education system, 50.1% were male students and 71.4% studied in the urban environment.

Compared with the previous school/university year, higher education and vocational education registered increases in the school population (+7.3 thousand students/trainees, respectively +5.8 thousand pupils), 90.2 thousand pupils enrolled in vocational education.

The most significant decreases in the number of pupils enrolled in the school year 2017-2018 compared to the previous one (-17.5 thousand, respectively -13.1 thousand) were in primary and lower secondary education.

The educational units that functioned in the school/university year 2017-2018 were allocated to primary and lower secondary education (57.2%), high school (21.2%), pre-primary and pre-primary (17.1%). 95.4% of the school population were enrolled in the public school units. Students in the 11-14 age group recorded 89.8%, compared to the other age groups. In 2017-2018, 538.9 thousand students were enrolled in higher education, of which 54.2% were students.

According to ISCED-F, higher education predominated in specialized fields of business, administration and law (23.8% of all students), respectively in engineering, processing and construction (21.0% of total students).

Territorial, in the school/university year 2017-2018, the North-East regions (623.0 thousand people) and Bucharest-Ilfov (506.8 thousand persons) registered the highest values of the school population.

The distribution of the school population by development regions and educational levels compared to the total of each region shows that the highest share was in primary and secondary education in the South Muntenia region (54.4%). Higher education was predominant in the Bucharest-Ilfov region (34.8%), and the lowest shares were registered in post-secondary education and foremen in the Central, North-East and Bucharest-Ilfov regions (2.0% region).

In the school/university year 2017-2018, the teaching staff was 236.2 thousand people. The average ratio of the school population to the number of teachers was 15 pupils/students per teacher. The number of graduates from the 2016-2017 school year at the secondary, high school, postgraduate level, post-graduate and post-doctoral programs was 497.6 thousand pupils and students.

In the regional profile, 171.4 thousand pupils graduated from gymnasium, of which the North-East Region (20.3%). In the urban area, secondary school graduates account for 53.9% of the total graduates, with the North-East and South Muntenia regions registering higher shares of rural graduates (60.0% and 57.2% respectively).

In high school education, they graduated 153.6 thousand students, up 0.5% compared to the previous year, most of them attended the daily education courses (89.7%).

Half of the high school graduates attended the theoretical courses (51.3%), 41.1% the technological ones, and 7.6% the vocational courses. At the baccalaureate exam, 141.2 thousand graduates were present, out of which 121.8 thousand came from the 2017 promotion (86.3%). 100.8 thousand persons were declared successful (71.4%). Of the graduates of the 2017 promotion, 94.6 thousand people (77.6%) were declared successful.

In vocational education, 19.4 thousand pupils graduated, of which 97.2% attended the courses of the public school units. Graduates of post-secondary education and foremen have graduated 32.0 thousand pupils, of which 64.3% attended the courses of public units and 35.7% private ones.

The number of graduates with higher education diplomas was 121.3 thousand students, of which 27.7% from faculties with business, administration and law, engineering, manufacturing and construction 18.2%, health and social care 11.6%. Funding for education was provided by public funds (from the state budget and local budgets) (90.5%).

- **Highlights of school/university activity in the school/university year 2017-2018**

The school/university population in Romania, in accordance with the legal regulations in force, is divided into six age groups, namely: 0 - 2 years, 3-5 years, 6-10 years, 11-14 years old, 15-18 years old, 19-23 years and over. Individuals in each age group belong to a class in the educational structure in Romania. The extent of coverage is shown in Table 1.

Table 1. *Degree of enrollment of the school-age population in the school/university year 2017/2018*[*)]

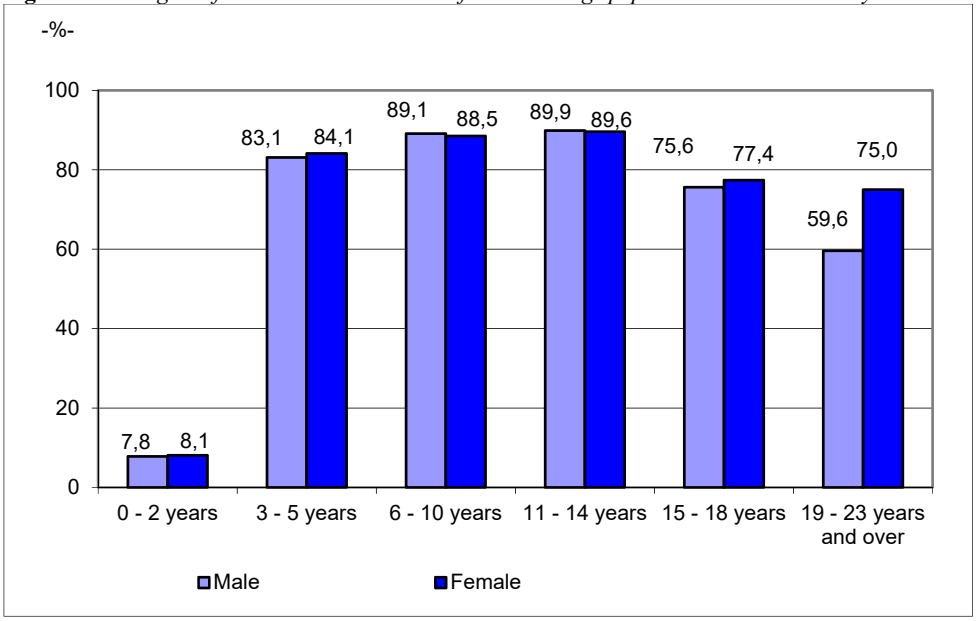
- percent -

Age groups	Male	Female
0 - 2 years	7.8	8.1
3 - 5 years	83.1	84.1
6 - 10 years	89.1	88.5
11 - 14 years	89.9	89.6
15 - 18 years	75.6	77.4
19 - 23 years and over	59.6	75.0

*) The resident population was used on 1 January 2017 (provisional data).
Source: National Institute of Statistics, Comprehensive Statistical Surveys on Education Statistics in the School/University Year 2017-2018.

In Figure 1 is a graphical presentation of the state of school enrollment of the population of school age in the academic year 2017-2018.

Figure 1. *The degree of enrollment in education of the school age population in the academic year 2017-2018*



Source: National Institute of Statistics, Press release no. 157/06.25.2018.

The data in Figure 1 graphically transpose the situation in Table 1.

The data on the distribution by region of the school population is shown in Table 2.

Table 2. *Distribution by region of the school population by levels, in the school/university year 2017/2018*

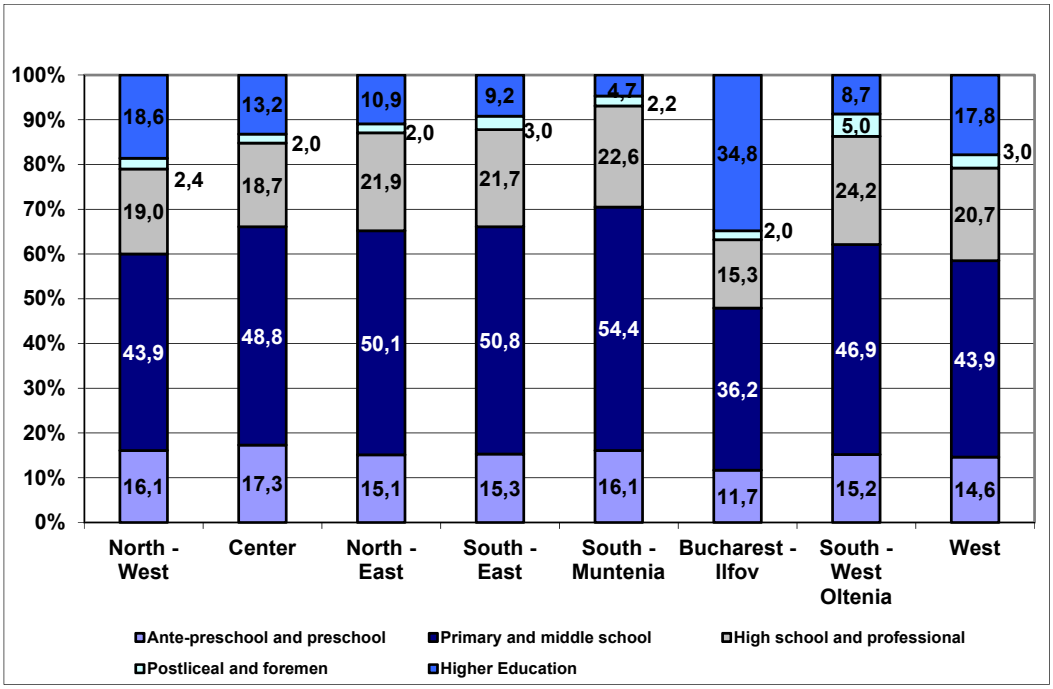
– percent –

Development Region	Ante-preschool and preschool	Primary and middle school	High school and professional	Post-liceal and foremen	Higher Education
North-West	16.1	43.9	19.0	2.4	18.6
Center	17.3	48.8	18.7	2.0	13.2
North-East	15.1	50.1	21.9	2.0	10.9
South-East	15.3	50.8	21.7	3.0	9.2
South Muntenia	16.1	54.4	22.6	2.2	4.7
Bucharest-Ilfov	11.7	36.2	15.3	2.0	34.8
South-West Oltenia	15.2	46.9	24.2	5.0	8.7
West	14.6	43.9	20.7	3.0	17.8

Source: National Institute of Statistics, Exhaustive statistical surveys on education statistics in the school year 2017/2018.

The distribution by region of development of the school population highlights an imbalance from one region to another. Thus, the North-West region has a high share of pre-school and pre-school education (16.1%). In Primary and Secondary Education, the South Muntenia region ranks first (54.4%), followed by the South-East (50.8%) and North-East (50.1%). High-school and vocational education is the most active in the South-West Oltenia region (24.2%), followed by the South Muntenia region (22.6%), the North-East (21.9% South-East (21.7%) and West (20.7%). In post-secondary education and foremen, the level is very low, only the South-West Oltenia region comprising 5% of the population able to follow these courses. In higher education, the Bucharest-Ilfov (34.8%), North-West (18.6%) and West (17.8%) regions are leading.

Figure 2. *Distribution by region of the school population by educational level, in the school/university year 2017-2018*



Source: National Institute of Statistics, Press release no. 157/06.25.2018.

In Figure 2 we presented graphically the data included in Table 2. Graphical representation is more suggestive. In the following, we will carry out an analysis of the school population taking into account the ISCED level that applies in all EU Member States. The study is also based on the structure of the school population by gender and urban and rural environment. Starting from the total population of the school population it was found that it was 3,578,561 persons, out of which 1,785,568 females and 1,792,993 males. On average, 2,556,054 people were in the urban area and only 1,022,507 in rural areas. This structure by medium is in line with the structure of the entire population of the country. The rural population has shrunk as a result of population migration, especially younger generations, to the city, as well as cities of many communes.

By levels of education, we find that women have a higher share in high school, post-secondary/higher education and higher education. Male students and students had a higher share in pre-primary and primary education, primary and secondary and vocational education. On average, the overwhelming share in all levels of education is held by the urban environment. Thus, in higher education only 186 students were enrolled in rural areas. Data analyzed are summarized in Table 3.

Table 3. *School population by educational levels in the school/university year 2017-2018*

- persons -

Educational levels	ISCED Level	Total	Female	Male	Urban[2)]	Rural[2)]
Total[1)]		*3578561*	*1785568*	*1792993*	*2556054*	*1022507*
Ante-preschool and preschool education	ISCED 0	541922	263443	278479	317719	224203
Primary and Secondary Education	ISCED 1 and 2	1677968	809566	868402	938042	739926
High school education	ISCED 3	637706	330064	307642	595804	41902
Professional education	ISCED 3	90205	28222	61983	76113	14092
Post-secondary education and foremen	ISCED 4	91889	62430	29459	89691	2198
Higher education	ISCED 6,7,8	538871	291843	247028	538685	186

[1)] Starting with the school year/school year 2014-2015, the school population includes nursery children and, besides the undergraduate students, the students enrolled in master's degree studies, postgraduate studies and postgraduate studies, postgraduate doctoral studies and postdoctoral programs.

[2)] According to the NUTS classification of territorial units. The distribution of children/pupils/students in the territorial and urban/rural areas is based on the geographic location of the school units or faculties, not their domicile or residence.

Source: National Institute of Statistics, Comprehensive Statistical Surveys on Education Statistics in the School/University Year 2017-2018.

Another important structure of the school population is by forms of ownership of total education or educational levels. The private sector is still underdeveloped in Romania because of the poor financial resources of organizing education.

In higher education (bachelor, master, doctorate and postdoctoral), private higher education had a rapid pace of development, after which some universities closed their activity or were dismantled by the Ministry of National Education. These data are summarized in Table 4.

Table 4. *School population by educational levels and forms of ownership in the school/university year 2017-2018*

- persons -

Educational levels	ISCED Level	Total	Public property	Private property
Total		*3578561*	*3413076*	*165485*
Ante-preschool and preschool education	ISCED 0	541922	515215	26707
Primary and Secondary Education	ISCED 1 and 2	1677968	1659361	18607
High school education	ISCED 3	637706	627310	10396
Professional education	ISCED 3	90205	87841	2364
Post-secondary education and foremen	ISCED 4	91889	51973	39916
Higher education	ISCED 6, 7, 8	538871	471376	67495

Source: National Institute of Statistics, Comprehensive Statistical Surveys on Education Statistics in the School/University Year 2017-2018.

Evolution by educational development regions, by educational levels, is presented in Table 5. It is noted that the highest number of pupils/students was in the school/university year in 2017-2018 in the North-East and Bucharest-Ilfov regions, while the lowest figures were registered in the West and South-West Oltenia.

At pre-school and pre-school level, the North-East, North-West and Center regions have the largest share, and the lowest weights were recorded in the West and South-West Oltenia regions. There is the same distribution of the school population and the level of primary and secondary education.

In high-school education, the highest shares are in the North-East, South Muntenia and North-East regions.

At post-secondary level and foremen, the number of students in South-West Oltenia, South-East, North-East and South Muntenia predominates, while in Bucharest-Ilfov region almost one third of the students.

Table 5. *School population by educational levels and development regions in the school/university year 2017-2018*

- persons -

Development regions*)	Total	Ante-preschool and preschool	Primary and secondary school	High school and professional	Post-liceal and foremen	Higher
TOTAL	*3578561*	*541922*	*1677968*	*727911*	*91889*	*538871*
North-West	498257	80397	218638	94446	11914	92862
Center	429541	74367	209448	80426	8497	56803
North-East	622986	93858	312316	136496	12544	67772
South East	423192	64828	214806	91946	12704	38908
South Muntenia	454205	73107	246929	102481	10206	21482
Bucharest-Ilfov	506791	59495	183574	77352	9985	176385
South-West Oltenia	329735	50146	154575	79729	16417	28868
West	313854	45724	137682	65035	9622	55791

*) According to the NUTS (Nomenclature of Territorial Statistical Units). The distribution of children/pupils/students in the territorial and urban/rural areas is based on the geographic location of the school units or faculties, not their domicile or residence.

Source: National Institute of Statistics, Comprehensive Statistical Surveys on Education Statistics in the School/University Year 2017-2018.

Regarding the teaching staff enrolled in the academic year 2017-2018, on the ISCED educational levels, on the structures by gender and after the environment, the situation is presented in Table 6.

Note that in the analyzed school/academic year there were 236,208 teachers in all Romanian education, out of which 183,720 were female and only 52,488 male. In the urban area there were 158,747 teachers and in the rural area, specific for the lower levels, only 77,461 persons. The share is held by the first three levels of education, both in total and in both genres or averages. In the higher education there were 26,266 teachers, in balanced proportions by gender (13,469 females and 12,797 male), and after only 14 teachers were in the rural area.

Table 6. *Teaching staff during the school/university year 2017-2018*

- persons -

Educational levels	ISCED Level	Total	Female	Male	Urban*)	Rural*)
Total		*236208*	*183720*	*52488*	*158747*	*77461*
Ante-preschool and preschool education	ISCED 0	35468	35349	119	22597	12871
Primary and Secondary Education	ISCED 1 and 2	117183	93870	23313	57171	60012
High school education	ISCED 3	54257	38798	15459	50101	4156
Professional education	ISCED 3	1155	788	367	775	380
Post-secondary education and foremen	ISCED 4	1879	1446	433	1851	28
Higher education	ISCED 6,7,8	26266	13469	12797	26252	14

*) According to the NUTS (Nomenclature of Territorial Statistical Units). The distribution of children/pupils/students in the territorial and urban/rural areas is based on the geographic location of the school units or faculties, not their domicile or residence.

Source: National Institute of Statistics, Comprehensive Statistical Surveys on Education Statistics in the School/University Year 2017-2018.

The material basis is presented in Table 7 and reflects the current educational system (educational) situation. The structure of the material base is synthesized on classrooms, school labs, swimming pools, gymnasiums, school workshops and sports fields. The data are presented in total and in ownership forms. The most suitable facilities are schools for primary and secondary education, high school and university level in public education, as well as those for secondary and high school education.

Table 7. *The material basis of the school/university year 2017-2018*

- number -

Educational levels Property form	ISCED Level	Classrooms	School laboratories	Swimming pools	Gymnasiums	School workshops	Sports field
Total		*146977*	*26526*	*51*	*4845*	*4863*	*5494*
Ante-preschool and preschool education	ISCED 0	28725	-	-	-	-	-
Primary and Secondary Education	ISCED 1 and 2	71127	8168	21	3184	535	3617
High school education	ISCED 3	37551	8036	11	1416	3545	1547
Professional education	ISCED 3	773	143	-	29	201	28
Post-secondary education and foremen	ISCED 4	1078	400	3	12	26	10
Higher education	ISCED 6,7,8	7723	9779	16	204	556	292
Form of public property		*141134*	*25268*	*35*	*4642*	*4763*	*5312*
Ante-preschool and preschool education	ISCED 0	26685	-	-	-	-	-

Educational levels Property form	ISCED Level	Classrooms	School laboratories	Swimming pools	Gymnasiums	School workshops	Sports field
Primary and Secondary Education	ISCED 1 and 2	69936	8021	11	3064	505	3520
High school education	ISCED 3	36962	7898	8	1375	3512	1508
Professional education	ISCED 3	740	135	-	26	185	26
Post-secondary education and foremen	ISCED 4	290	119	2	6	18	7
Higher education	ISCED 6,7,8	6521	9095	14	171	543	251
Form of private property		*5843*	*1258*	*16*	*203*	*100*	*182*
Ante-preschool and preschool education	ISCED 0	2040	-	-	-	-	-
Primary and Secondary Education (including special education)	ISCED 1 and 2	1191	147	10	120	30	97
High school education	ISCED 3	589	138	3	41	33	39
Professional education	ISCED 3	33	8	-	3	16	2
Post-secondary education and foremen	ISCED 4	788	281	1	6	8	3
Higher education	ISCED 6,7,8	1202	684	2	33	13	41

Source: National Institute of Statistics, Comprehensive Statistical Surveys on Education Statistics in the School/University Year 2017-2018.

Table 8 presents the situation of graduates at the end of the school/university level 2017-2018 by levels of education. As a result, in this academic year, a total of 497,632 pupils and students graduated, the share of gymnasium, upper secondary and upper secondary education for both female and male graduates.

The two areas are clear, according to the number of students, the high share of the urban environment at all levels of education.

Table 8. *Number of graduates at the end of school/university year 2016-2017*

- persons -

Educational levels	ISCED Level	Total	Female	Male	Urban[1)]	Rural[1)]
Total		*497632*	*260587*	*237045*	*404177*	*93455*
Gymnasium education	ISCED 2	171387	84029	87358	92412	78975
High school education	ISCED 3	153590	79129	74461	143158	10432
Professional education	ISCED 3	19423	5492	13931	16251	3172
Post-secondary education and foremen	ISCED 4	31982	20216	11766	31161	821
Higher education[2)]	ISCED 6,7,8	121250	71721	49529	121195	55

[1)] According to the NUTS (Nomenclature of Territorial Statistical Units). The distribution of children/pupils/students in the territorial and urban/rural areas is based on the geographic location of the school units or faculties, not their domicile or residence.

[2)] Higher education data refers to graduates with a diploma.

Source: National Institute of Statistics, Exhaustive statistical surveys on education statistics at the end of school/university year 2016-2017.

The same distribution of graduates meets and their structure according to ownership, see Table 9.

Table 9. *Number of graduates by form of ownership at the end of school/university year 2016-2017*

- persons -

Educational levels	ISCED Level	Total	Public property	Private property
Total		*497632*	*464182*	*33450*
Gymnasium education	ISCED 2	171387	170498	889
High school education	ISCED 3	153590	150687	2903
Professional education	ISCED 3	19423	18880	543
Post-secondary education and foremen	ISCED 4	31982	20557	11425
Higher education*)	ISCED 6,7,8	121250	103560	17690

*) Higher education data refers to graduates with a diploma.

Source: National Institute of Statistics, Exhaustive statistical surveys on education statistics at the end of school/university year 2016-2017.

It is noted that from the total number of the graduates, the one in the public institutions was predominant, the ones in the private sector being used less frequently, on most educational levels, except for the post-secondary education and foremen. In higher education, out of a total of 121,250 graduates, 103,560 come from public institutions and only 17,690 from private ones. We use the notion of an individual because in higher education we find a particular form of "tax education" from public institutions, which can be considered by those who follow these courses to be "on their own/private" from the point of view material.

Table 10. *Number of graduates in higher education, by education and gender, at the end of the academic year 2016-2017*

Education domain	Undergraduate education		Higher education, postgraduate courses and postgraduate studies		Doctoral studies and postdoctoral programs	
	Total	from which: female	Total	from which: female	Total	from which: female
T O T A L	*80035*	*46515*	*39327*	*24179*	*1888*	*1027*
Education sciences	3260	3036	2710	2227	46	31
Arts and Humanities	7027	4624	3589	2287	357	183
Social sciences, journalism and information	6374	4768	3895	3081	205	132
Business, administration and law	21460	14257	11871	8367	219	134
Natural sciences, mathematics and statistics	3829	2520	2479	1797	156	100
Information and Communication Technologies (ICT)	4891	1589	1821	695	38	22
Engineering, processing and construction	14522	4919	7236	2906	348	139
Agriculture, forestry, fish farming and veterinary sciences	3840	1598	1408	619	92	49
Health and social assistance	11485	8126	2227	1593	355	213
Services	3347	1078	2091	607	72	24

Source: National Institute of Statistics, Comprehensive Statistical Surveys on Higher Education (ISCED 6, 7 and 8) at the end of the academic year 2016-2017.

In Table 10 we distributed the graduates with a degree, by fields (specializations) by total, by gender, by levels (bachelor, master, postgraduate, doctoral and postdoctoral). From the point of view of the field of higher education, ten such fields were considered, most of them graduates from the fields of business, administration and law (21,460 graduates, of which 14,257 female), engineering, manufacturing and construction (14,522 graduates of which 4,919 females) and health and social assistance (11,485 graduates, out of which 8,126 females).

Conclusions

The authors' study shows that the analysis of the evolution of the places of the population in the educational field is of great importance.

The ability to cover and attract younger generations to all grades is delicate. First of all, due to the labor market situation, a number of young people give up training and especially deep training for the profession they are targeting for the future.

The second conclusion is that in the field of vocational guidance the results are inconclusive and there is no correlation between the situation of the generations who go through national education and job offers. On the other hand, the lack of interest in some forms of training, the slightly inconclusive teaching staff level, have made the illiteracy level increase.

The article suggests that vocational guidance needs to be improved, the high school and vocational education network needs to be better structured, and better links between the areas where younger generations are trained and the labor market offer. We do not refer here to the professional reconversion but we appreciate that in a general context, for graduates, there should be no question of professional reconversion as long as they complete the studies in the field they wanted and should be correlated with the labor market.

References

Anghel, M.G. and Anghelache, C., 2017. Analysis of the labor market in the Member States of the European Union. *Romanian Statistical Review, Supplement*, 11, pp. 13-22.

Anghelache, C., 2017. *România 2017. Starea economică la un deceniu de la aderare*, Editura Economică, București.

Anghelache, C. and Anghel, M.G., 2017. *România – membră a Uniunii Europene. Zece ani de la aderare*, Editura Economică, București.

Anghelache, C. Partachi, I. and Anghel, M.G., 2017. Analysis of the European Union Strategy on Education and Vocational Training. *Economica, Scientific and Didactic Journal*, Year XXIV, 3 (101), September 2017, pp. 129-149.

Anghelache, C., Gogu, E. and Anghel, M.G., 2017. The analysis of the offer of university education system. *Romanian Statistical Review Supplement*, 4, pp. 168-197.

Batory, A. and Lindstrom, N., 2011. The Power of the Purse: Supranational Entrepreneurship, Financial Incentives, and European Higher Education Policy. *Governance: An International Journal of Policy, Administration and Institutions,* 24 (2), pp. 311-329.

Belfield, C.R., Nores, M., Barnett, W.S. and Schweinhart, L., 2006. The High/Scope Perry Preschool Program: Cost-benefit analysis using data from the age-40 follow-up. *Journal of Human Resources*, 41 (1), pp. 162-190.

Doepke, M. and Zilibotti, F., 2008. Occupational Choice and the Spirit of Capitalism. *The Quarterly Journal of Economics*, 123 (2), pp. 747-793.

Duncan, G.J. and Magnuson, K., 2013. Investing in preschool programs. *Journal of Economic Perspectives,* 27 (2), pp. 109-132.

Jacob, B.A. and Lefgren, L., 2008. Can principals identify effective teachers? Evidence on subjective performance evaluation in education. *Journal of labor Economics*, 26 (1), pp. 101-136.

Mcnamara, G. and O'Hara, J., 2008. The importance of the concept of self-evaluation in the changing landscape of education policy. *Studies in Educational Evaluation,* 34 (3), pp. 173-179.

Papay, J. and Kraft, M., 2015. Productivity returns to experience in the teacher labor market: Methodological challenges and new evidence on long-term career improvement. *Journal of Public Economics*, 130, pp. 105-119.

Pépin, L., 2007. The History of EU Cooperation in the Field of Education and Training: how lifelong learning became a strategic objective. *European Journal of Education,* 42 (1), pp. 121-132.

Saarinen, T. and Ursin, J., 2011. Dominant and emerging approaches in the study of higher education policy change. *Studies in Higher Education,* 37 (2), pp. 143-156.

Slavin, R., Lake, C., Chambers, B., Cheung, A. and Davis, S., 2009. Effective reading programs for the elementary grades: A best-evidence synthesis. *Review of Educational Research*, 79 (4), pp. 1397-1466.

Institutul Național de Statistică, Comunicatul de presă nr. 157/25.06.2018.

Institutul Național de Statistică, Cercetări statistice exhaustive privind statistica educaţiei în anul şcolar/universitar 2017-2018.

Institutul Național de Statistică, Cercetările statistice exhaustive privind învăţământul superior (ISCED 6, 7 şi 8) la sfârşitul anului universitar 2016-2017.