

# **Education - Determining Factor for the Development of the Romania's Counties**

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## **Abstract**

*The article contains the critical analysis of some relevant aspects of the current condition of education in Romania and at the level of some counties, highlighting the major existing difficulties and their effects on the current and prospective economic and social development at both levels.*

**Keywords:** *education; educational infrastructure; educational institutions; participation rate of the population in education; dropout rate*

**JEL Classification:** *H52; I21*

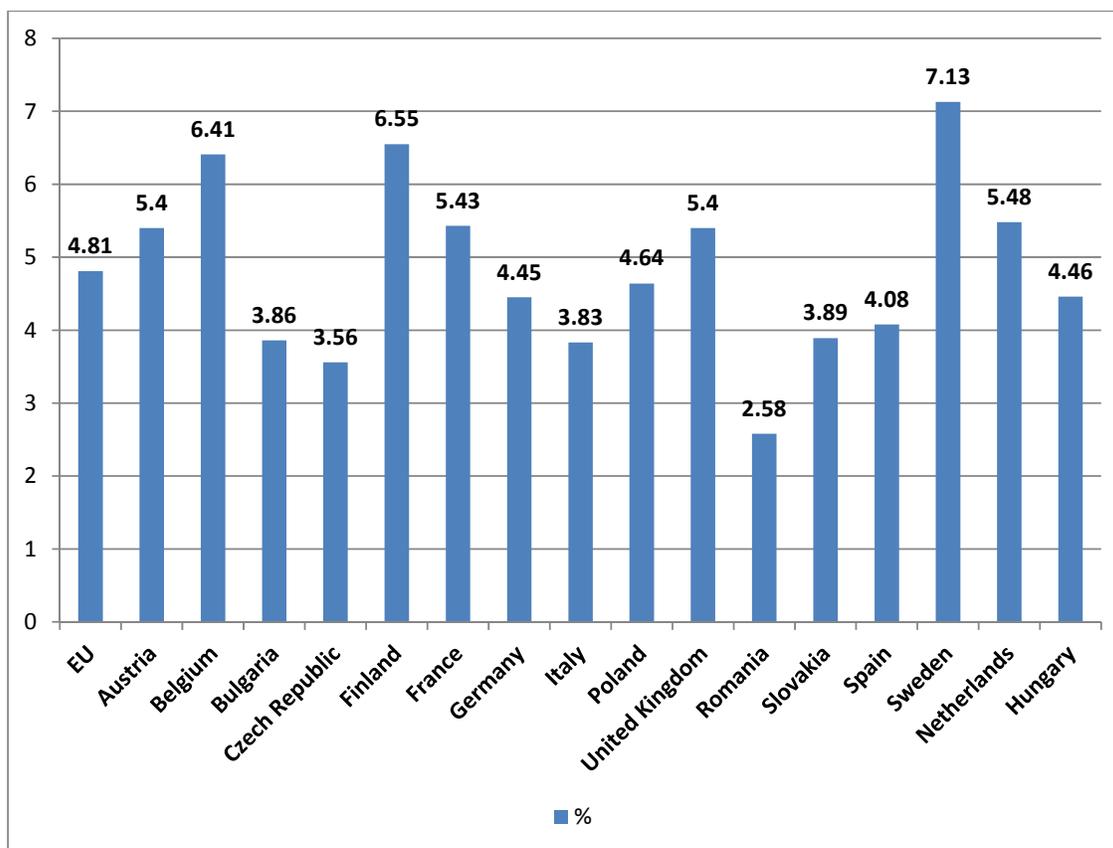
## **Introduction**

Under the current conditions of globalization, accelerated technological progress and the building of the information and knowledge society, the essential asset of the economic and social development of countries and regions has become knowledge, for its expanding and deepening superior quality of the workforce having a decisive role. In the new context generated by the mentioned phenomena, the qualitative demands on the available workforce increase appreciably, imposing ever higher standards in terms of knowledge, in general, and professional ones, in particular: skills and behaviors.

In terms of regional development, the chances of accelerating it, therefore, depend on the training of the available workforce, on its ability to adapt effectively to technological progress, to have a potential for knowledge and action appropriate to the new requirements. The quality of the training of the labor force available at regional level depends on the state of the national education system, the regional education infrastructure, the participation of the population in education, the extension of the continuous learning within it.

## **Public Expenditure on Education and Educational Infrastructure**

The national context is, however, not conducive to ensuring the special demands placed on the current period in terms of training the population and the workforce that have the necessary capabilities, given that Romania allocates the lowest share of public spending on education within the European Union, as shown in the following figure.



**Fig. 1.** Share of public expenditure on education in GDP, in some member countries of the European Union, 2016

Source: EUROSTAT. Public expenditure on education by education level and programme orientation – as % of GDP, Code[educ\_uae\_fine06]

The low amount of the expenses allocated to education in Romania has profoundly negative effects at the regional level, especially affecting the less developed regions and counties, in which the educational infrastructure, the availability of the teachers, the participation of the population in education present major deficiencies, for their removal considerable efforts being required.

Presentation of the main aspects regarding education for all the counties of the country would require a space too large for the size of an article and, therefore, we will refer only to the first five most developed counties, in descending order (Cluj, Timiș, Constanța, Brașov, Ilfov), and the last five least developed counties, in ascending order (Giurgiu, Vaslui, Botoșani, Teleorman, Suceava), thus identified by the level of GDP / inhabitant of 2017, the last one presented by EUROSTAT. The classification of the counties in the two categories was made according to the level of the mentioned indicator above or below the national average.

Thus, the educational infrastructure of the selected counties, reflected, among others, by the number of education units by levels, clearly highlights the large gaps between the developed and least developed counties in terms of the density of the unit network and its structure, as illustrated by the figures in the following table.

**Table 1.** Number of educational institutions on levels and selected counties, the 2017/2018 school year

County	Primary and secondary education	High schools	Vocational schools	Post high and foremen schools	Tertiary education	Faculties
<b>Cluj</b>	110	71	3	10	10	50
<b>Timiș</b>	121	58	1	3	7	39
<b>Constanța</b>	100	66	-	7	5	27
<b>Brașov</b>	84	41	1	3	2	22
<b>Ilfov</b>	63	18	-	-	1	1
<b>Giurgiu</b>	65	12	-	2	-	-
<b>Vaslui</b>	106	24	1	5	-	-
<b>Botoșani</b>	86	29	5	2	-	-
<b>Teleorman</b>	109	20	-	3	-	3
<b>Suceava</b>	141	43	3	10	1	11

Source: NIS. Statistical Yearbook of Romania 2018. Bucharest, 2019, tables 8.25., 8.26.,8.27.,8.28.,8.29.

The main aspects that emerged from the analysis of the figures contained in the table are the following:

- the number of school units in primary and secondary education varies widely between counties and is probably not properly correlated with their population in some cases;
- if the number of units in primary and secondary education does not clearly separate from this point of view the counties in the first category from the ones in the second, at the level of high schools the difference between the two categories begins to be visible. The exception is Suceava county, where the number of high schools is much higher than the one existing in the other four counties in the least developed category, although the respective populations do not justify such differences;
- the number of vocational schools in the counties in which this type of school exists is ridiculous in relation to the requirements of the economic activities carried out in these counties of skilled labor force at this level and with the profiles corresponding to the respective activities. The lack of vocational schools is felt in both categories of counties. In these conditions, the lack of a strategy and realistic policies of the ministry is evident, since Botoșani county, with modest economic performances and a relatively narrow structure of economic activities, has five vocational schools, while developed counties with a wide range of activities have one or even no vocational school;
- regarding the number of post high schools and foremen education, the situation appears to be better and more balanced between the counties, but the lack of data on the profile of these schools and its concordance with the structure of the economic activities carried out in the counties makes it impossible to outline a global assessment;
- the number of tertiary education institutions and, implicitly, that of the faculties, is significantly higher in the first category of counties, some of them having traditional university centers, recognized for the quality of education they provide, capable of attracting candidates from neighboring counties and all over the country.

Regarding this indicator relevant to the educational structure existing in the selected counties, no net appreciation can be made on the differences between the two categories, the only level of training that makes them more visible is that of the tertiary education institutions. The economic and social development at regional level in Romania is affected by the density and the distribution in the territory of the network of educational units, but in a significantly higher proportion by the current precarious state of the national education system which, for different reasons, fails to provide the necessary match between its educational offer and the real demands on the labor market.

## Population Participation to Education

Whereas there is no data on the rate of population participation in education and training detailed by counties, we have to resort to the data available for NUTS2 regions in the idea that they reflect, to a certain extent, the level of the respective indicator in the NUTS3 regions, but not the disparities between components (see table below).

**Table 2.** Participation rate of age groups from 15-24 years and 20-24 years in education by development regions, 2013-2017 (%)

	2013		2015		2017	
	15-24	20-24	15-24	20-24	15-24	20-24
<b>UE28 (2013-2018)</b>	62,2 <sup>a</sup>	41,5 <sup>a</sup>	62,6	41,5	:	:
<b>Romania</b>	58,9 <sup>a</sup>	43,6 <sup>a</sup>	56,1	39,3	52,4	33,5
<b>North-West</b>	59,0 <sup>a</sup>	45,0 <sup>a</sup>	58,8	44,4	58,6	42,2
<b>Centre</b>	55,1 <sup>a</sup>	39,0 <sup>a</sup>	52,4	34,8	49,3	29,6
<b>North-East</b>	54,0 <sup>a</sup>	36,9 <sup>a</sup>	49,7	29,9	45,8	23,8
<b>South-East</b>	55,1 <sup>a</sup>	37,7 <sup>a</sup>	47,9	29,2	43,6	21,3
<b>South Muntenia</b>	44,0 <sup>a</sup>	21,2 <sup>a</sup>	41,0	17,1	36,2	11,0
<b>Bucharest-Ilfov</b>	93,9 <sup>a</sup>	80,7 <sup>a</sup>	100,0	95,1	100,0	100,0
<b>South-West Oltenia</b>	58,4 <sup>a</sup>	43,2 <sup>a</sup>	52,5	33,1	44,2	21,3
<b>West</b>	62,1 <sup>a</sup>	47,3 <sup>a</sup>	58,8	43,1	54,4	38,9

*Source:* EUROSTAT. Participation rate of selected age groups in education at regional level, Code [educ\_uae\_enr14]

*Note:* a – Definition differs (see metadata).

The comparative analysis of this indicator's level by the entities listed in the table leads to the conclusion that there is a visible gap between the development regions considered developed (with GDP / inhabitant above the national average) and those with deficits in this respect (with GDP / inhabitant below the national average), obviously unfavorable to the regions of the second category. Although they do not highlight the disparities existing between the counties within each development region, the figures in the table nevertheless reflect the differences between the different areas of the country in terms of their specific socio-cultural patterns, which express the greater or lesser propensity of the population of those areas towards education and culture and, thus, the attractiveness of the school; a socio-cultural model is generally valid for a development region and for its component counties, with the exception of regions comprising a strong university center, with attractive force for the population in the area.

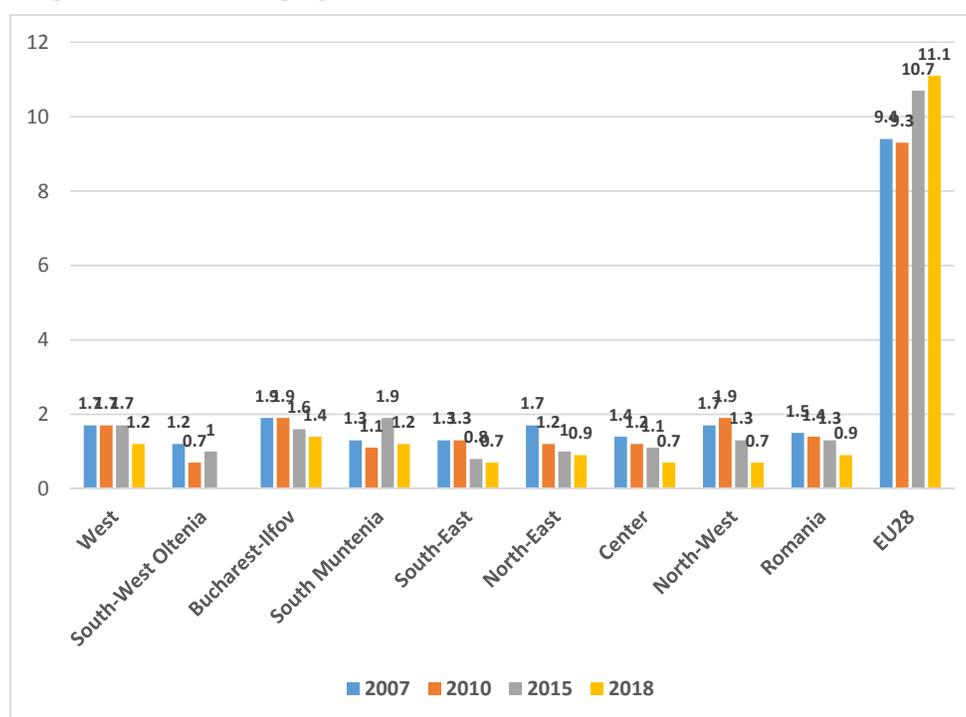
In this sense, for example, the North-East region, which is the least developed of the eight, is not in the last place in terms of the rate of participation of young people in education as it includes Iași county, whose capital houses a university center of large scale that attracts candidates from many other counties. The most modest performance regarding this rate was recorded in the South-Muntenia region, which also includes attractive university centers (Ploiești, Pitești, Târgoviște), but whose population structure, with a high share of the rural one, determined the registration of a reduced rate.

Of concern are not so much the negative gaps registered by the national average as compared to the EU28 average and by most of the development regions, but the sometimes abrupt decrease in the analyzed interval of the participation rate of young people in education, evolution with effects between the serious ones on the prospects of economic development of the country and regions. Evolution also affects, in varying proportions, the developed and the least developed regions, as well as the two age groups of young people; we notice the much higher rate reductions in the less developed regions, especially in the age group of 20-24 year olds.

The only development region in which the rate has increased in both age groups to the maximum level was Bucharest-Ilfov, due, first of all, to the Capital but also to Ilfov County, for

the following reasons: the Capital and the neighboring county attract strong investments, so they register the continuous increase of the number of jobs, therefore of the demand on the labor market; the Capital is the most powerful center of education in the country, which therefore offers numerous learning opportunities; high demand for labor also means strong competition in the labor market, what strongly determines young people to learn in order to acquire the required qualifications.

Lifelong learning is an imperative of the contemporary society generated by the accelerated technological progress and profound transformations it has produced in the world and, as a result, there is now a growing demand for each person to continuously develop their existing knowledge and skills and to acquire new ones that are relevant to specific jobs or create opportunities for new career paths. In this regard also the performances of Romania and its development regions are far below the European average and show the same worrying trend of decline, contrary to the rate recorded at the level of the European Union as a whole, according to the figures in the following figure.



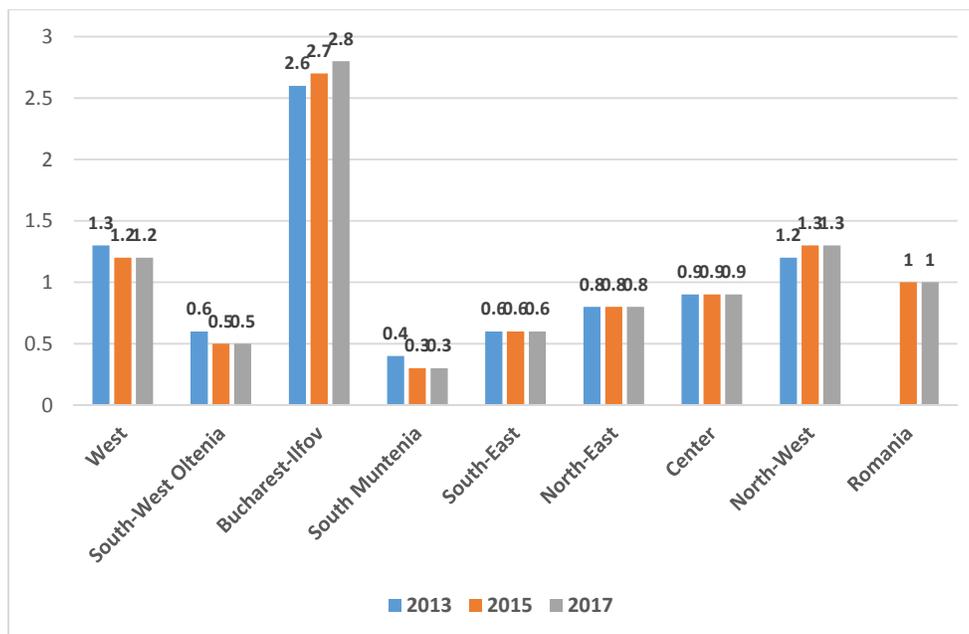
**Fig. 2.** Participation rate of population (from 25-64 years) in education and training (last 4 weeks) by NUTS2 regions, 2007-2018 (%)

Source: EUROSTAT. Participation rate in education and training (last 4 weeks) by NUTS2 regions,. Code [ trng\_lfse\_04]

The reduction of the participation rate of the population in the continuous learning has occurred in all the development regions, there being no differences from this point of view between the developed and the least developed regions. This negative tendency reflects the weak inclination of the population towards education, due to a deficient socio-cultural model existing at national level, but also the poor availability of the national system of education for such type of training.

Another indicator that also expresses the participation of the population in education, this time in the tertiary one, is the ratio of the proportion of students to the proportion of the population in a region. The indicator is relevant because graduates of higher education represent the segment of the number of graduates of all education forms that has, potentially, the most substantial contribution to the development of a region due to the high level of knowledge and skills they

possess. The figures in the following figure show the existence of some significant differences regarding the level of this indicator between the development regions of the country.



**Fig. 3.** Ratio of the proportion of students to the proportion of the population by development regions, 2013-2017

Source: EUROSTAT. Ratio of the proportion of tertiary students over the proportion of the population by NUTS1 and NUTS2 regions Code [educ\_uae\_enrt105]

The developed regions are, from the point of view of this indicator, above the national average (except for the Center region), while the less developed regions have the indicator level below the national average at different distances, the lowest being the one recorded by the South Muntenia region. The Bucharest-Ilfov region, placed at a great distance from the others, which raises much of the national average, cannot be compared with the rest of the regions for the reasons stated above.

It should be noted that the national average registered in 2017 is at or even above the average displayed by EU member countries placed at the top of their hierarchy based on their overall development.

Another negative phenomenon that has however diminished in the last period in the Romanian pre-university education is that of early school leaving, as the figures in the following table show.

**Table 3.** Dropout rate in pre-university education, by counties, in different school years (%)

County	School year	Primary and secondary education	High schools	Vocational and apprenticeship education	Post high and foremen education
Cluj	2006/2007	2,2	3,7	7,6	6,0
	2009/2010	1,3	2,1	9,9	7,3
	2015/2016	1,1		2,7	11,3
	2016/2017	1,3		1,9	11,6
Timiș	2006/2007	2,3	3,5	9,2	13,8
	2009/2010	2,6	2,6	6,3	4,1
	2015/2016	2,1		4,5	11,6
	2016/2017	1,2		3,0	13,6

Table 3 (cont.)

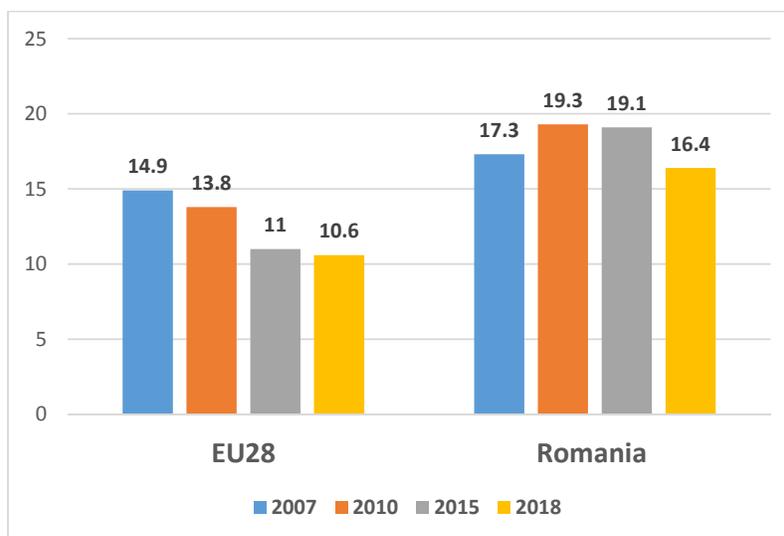
<b>Constanța</b>	2006/2007	3,0	3,0	8,0	6,8
	2009/2010	2,1	2,4	9,7	2,7
	2015/2016	2,4		3,9	8,0
	2016/2017	1,7		3,0	8,8
<b>Brașov</b>	2006/2007	3,6	3,9	8,9	7,5
	2009/2010	3,0	1,4	11,4	7,2
	2015/2016	3,5		4,8	15,3
	2016/2017	3,2		3,6	13,1
<b>Ilfov</b>	2006/2007	2,3	2,4	9,9	0,9
	2009/2010	1,3	-	7,2	2,7
	2015/2016	2,1		3,0	0,5
	2016/2017	2,0		3,0	3,9
<b>Giurgiu</b>	2016/2017	2,4	2,1	3,6	2,2
	2009/2010	1,9	1,6	14,1	14,4
	2015/2016	2,5		2,7	15,7
	2016/2017	2,1		2,6	20,2
<b>Vaslui</b>	2006/2007	1,6	2,2	7,7	7,8
	2009/2010	1,5	2,4	7,6	8,3
	2015/2016	1,8		3,6	11,8
	2016/2017	1,3		2,5	11,9
<b>Botoșani</b>	2006/2007	1,9	3,4	7,8	13,0
	2009/2010	1,4	3,2	9,8	8,2
	2015/2016	1,4		3,8	7,9
	2016/2017	1,1		3,2	7,1
<b>Teleorman</b>	2006/2007	2,4	2,7	4,9	4,6
	2009/2010	0,1	1,6	7,0	5,6
	2015/2016	1,8		3,5	9,5
	2016/2017	1,3		3,5	9,1
<b>Suceava</b>	2006/2007	1,4	2,2	6,8	6,7
	2009/2010	1,1	3,2	6,5	1,0
	2015/2016	1,1		2,3	7,3
	2016/2017	1,0		1,7	9,2
<b>România</b>	2006/2007	2,0	3,3	8,2	7,5
	2009/2010	1,6	2,2	8,6	5,5
	2015/2016	1,8		3,6	9,7
	2016/2017	1,6		2,6	10,0

Source: NIS. Statistical Yearbook of Romania years 2008, 2011, 2017, 2018, tables 8.29., 8.29., 8.29., 8.32. respectively

From the standpoint of this indicator level, the counties from the two categories cannot be separated, with some of the second category having better performances compared to the most developed counties. Encouraging is the fact that in all counties the dropout rate in primary and secondary education, high school and vocational and apprenticeship education (for the last category - with two exceptions: Ilfov and Teleorman, which has remained constant) has decreased significantly; the same trend was manifested at national level in the analyzed years.

In contrast, in post high and foremen education the dropout rate has grown alarmingly, with two exceptions - Timis and Botosani counties -, including at national level, probably as a result of the migration abroad of many young people who attended this form of education, but also the lack of alignment of the young people training with the real demands of the labor market.

Regarding the education and training programs, the rate of leaving them by the young people aged 18-24 is, at national level, much higher than the one registered at the level of the European Union; between the rates of decrease of this rate recorded by Romania and by Union there also are visible differences to the detriment of our country (see figure below).



**Fig. 4.** The weight of the number of young people leaving the education and training programs in Romania compared to the EU28 average, 2007-2018 (%)

Source: EUROSTAT. Early leavers from education and training by sex and NUTS2 regions, Code [edat\_lfse\_16]

The lower pace of the mentioned rate decrease recorded by Romania compared to the one achieved by EU28 increased the ratio between the rate of Romania and that of the Union from 1.16 in 2007 to 1.55 in 2018, which means the widening gap between the two compared entities.

## Conclusions

In the contemporary world education has a decisive importance for the development of any economic entity regardless of its level - blocks of countries such as the European Union, national economies, regions or counties -, as it contributes fully to the increase the productivity and the people creativity, to stimulate the entrepreneurship spirit and the generation and assimilation of technological progress; these are the main reasons for which the countries invest heavily in human capital to ensure their sustainable economic development.

In the context of these realities existing in all developed countries and in a good part of those with development deficit, the precarious state of the educational system in Romania, whose negative effects are illustrated by the level of many indicators analyzed above, offers one of the multiple explanations of the lags that our country has vis-à-vis most of the member countries of the European Union. Felt with different intensities at the county level, the negative effects of modest performances of the Romanian education reduce the paces of regional development and approach of the development level of regions and counties to the level of the correspondent entities from other member countries of the community area.

In addition, the modest performance of the education and learning system negatively influences the scientific and innovation potential existing in the same entities, whereas it insufficiently provides people with high intellectual potential, able to generate and effectively apply ideas of products, technologies and systems new and increasingly efficient, indispensable to increase the competitiveness of economic activities.

## References

1. \*\*\*, 2004. *A Study on the Factors of Regional Competitiveness. A draft final for the European Commission – Directorate General Regional Policy*, Cambridge Econometrics/ECORYS NEI/University of Cambridge.
2. Academia Română, 2002. *Dezvoltarea regională și integrarea europeană* (Simion, E., Iancu, A.(coord.)), Grupul de reflecție Evaluarea stării economiei naționale, ESEN – 2. Integrarea României în Uniunea Europeană, Institutul Național de Cercetări Economice, Centrul de Informare și Documentare Economică.
3. Akpınar, M., Can, Ö. and Mermercioglu, M., 2015. *Determinants of competitiveness in European regions: A test of the emerald model*, Communication presented to The 10th World Economy Research Institute's Annual Conference, Collegium of World Economy, Warsaw School of Economics, 29 June.
4. Armstrong, H. and Taylor, J. *Regional Economics and Policy* (third edition), Blackwell Publishing Inc., 2000.
5. Banca Națională a României. *Monografii*, 2013-2019; *Monografii județe*, Colecția Județele Patriei, different editions.
6. Barca, F. and McCann, P., 2011. *Outcome indicators and targets - Towards a new system of monitoring and evaluation in EU Cohesion Policy*, [http://ec.europa.eu/regional\\_policy/sources/docgener/evaluation/doc/performance/outcome\\_indicators\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docgener/evaluation/doc/performance/outcome_indicators_en.pdf)
7. Capello, R. and Nijkam, P., (Eds.), 2009. *Handbook of Regional Growth and Development Theories*, Published by Edward Elgar Publishing Ltd.
8. Constantin, D. L., 2010. *Economie și politici regionale*, "Alexandru Ioan Cuza" University, Iași, Centrul de Studii Europene.
9. European Commission, 2016. *Key achievements of Regional Policy. Commission staff working document. Ex-post evaluation of the ERDF and Cohesion Fund 2007-2013*, SWD (2016) 318 final, Brussels.
10. [http://ec.europa.eu/regional\\_policy/information/evaluations/guidance\\_en.cfm#1](http://ec.europa.eu/regional_policy/information/evaluations/guidance_en.cfm#1)
11. [http://ec.europa.eu/regional\\_policy/sources/docgener/evaluation/doc/performance/outcome\\_indicators\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docgener/evaluation/doc/performance/outcome_indicators_en.pdf)
12. Jovovic, R., Draskovic, M., Delibasic, M. and Jovovic, M., 2017. The concept of sustainable regional development – institutional aspects, policies and prospects, *Journal of International Studies*, 10(1), CSR 2017, Scientific Papers, 2017, pp. 255-266.
13. Lucas, R.E., 1998. On the Mechanics of Economic Development, *Journal of Monetary Economics*, 22, 1998, pp. 3-42
14. OECD, 2001. *Regions in the Learning Economy*, Paris.
15. Romer, P.M., 1994. The Origins of Endogenous Growth. *The Journal of Economic Perspectives*, 8 (1), 1994, pp. 3-22.
16. Zaman, Gh., Georgescu, G. (coord.), Goschin, Z., Antonescu, D. and Popa, F., 2015. *Dezvoltarea economică endogenă la nivel regional. Cazul României*, Expert Publishing House, Bucharest.