URBAN EDUCATION VERSUS RURAL EDUCATION IN ROMANIA

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Abstract

Studying educational inequalities represents a popular topic especially in developing countries. Unfortunately, Romania is divided into two distinct parts when it comes to education at the urban and rural levels. However, the minimal level of school education which does not lead to a drop in the chances of integration into society is always changing. In the past century it changed from primary to lower secondary and then to higher secondary. Romania has low rates of secondary participation as compared to most European countries. Recently the urban-rural divide started to decrease, but it still exists. This study is designed to obtain an updated perspective on the differences between Romanian county towns from the point of view of secondary level graduates and economic development. The results confirm previous studies and affirm the presence of inequalities between the two environments. This study may represent a new signal for public education authorities.

Key words: *education, urban, rural, Romania, high school graduates*

JEL Classification: I20, I21, I29

1. Introduction

Romania is a member country of the European Union, but in terms of education, it differs significantly from other member countries, such as the Netherlands, Sweden, Norway, Germany etc. This is because of the great differences that exist between urban areas of the country and rural areas. The differences are both in the number of graduates and in terms of school infrastructure or educational opportunities. This leads to major discrepancies between urban and rural, which is also observed in economic indicators, such as average income or unemployment rate.

Education is the basis of every society. Over time, the compulsory level of education has increased, so the completion of high school and the passing of the national baccalaureate exam are necessary to get most opportunities in the labor market. In the contemporary educational context, the choice of high school for the continuation of studies represents an important moment in the student's life. Marking, at the same time, the end of the primary and secondary cycles, the moment crowns the capitalization of the cognitive acquisitions of this period and represents a first step in choosing the professional route. The decision regarding the choice of high school considers various factors, such as: the personality of the student, the preferences in terms of subjects studied, the cognitive or practical skills, but also the external pressure exerted by the parent or the group of acquaintances. However, the final choice depends to the greatest extent on the average obtained for admission, the distribution being made hierarchically according to the preferences. However, the presence of high schools is limited depending on the school population in the area. Thus, students from rural areas who come from disadvantaged backgrounds where there is no high school and cannot attend studies in a nearby locality, are deeply disadvantaged. With additional expenses related to transportation, the need for school supplies, food or even accommodation, most often they give up the completion of their studies and choose to work. Therefore, this study aims to provide an updated picture of the number of high school graduates at county level and at locality level in Romania, while also specifying the main conclusions that emerge.

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2. Literature review

Pre-university education in Romania is an integrated part of the national education system, which brings together authorized state or private units. There are three compulsory levels of education: primary education, lower secondary education and the first two years of upper secondary education. High-school education comprises three routes: the theoretical route (humanities and real profiles), the technological route (technical and service profiles) and the vocational route (military, theological, sports profiles). The vocational route represents a particular case because the admission also involves practical eliminatory tests supported in the period prior to the National Evaluation. There are two stages of distribution, the first being in June, and the second in August, dedicated to students who have not completed the school year. The results of both sessions are published online by the Ministry of Education and Research by counties, by schools or in the alphabetical order of the candidates.

If for the choice of primary school, students are enrolled in the schools to which they are assigned according to their domicile, for upper secondary education, parents and pupils can opt for the high school whose educational offer corresponds to the child's development and learning needs. Thus, based on the national methodology (Order of the Minister of Education and Research no. 4.802/2010 with subsequent additions), parents together with students have the opportunity to create a list of options of the high schools in the county where they want to study, to be distributed on the basis of a computerized software according to the admission average obtained. This average is calculated by the formula:

$$MA = 0{,}2ABS + 0{,}8EN$$

ABS represents the general graduation average of grades V-VIII, and EN is the average obtained at the National Evaluation held at the end of class VIII. This is calculated as an arithmetic mean between the grade obtained in the Romanian Language and Literature test and the one obtained in the Mathematics test. In order to reduce the possibility of inequity, it was chosen to reduce the weight of the gymnasium graduation average and to give greater importance to the national exam. Studies show that students with high marks in such tests are more likely to have academic successes and choose prestigious schools (M.M. Supphey et al, 2018).

In Romania, the chance of being admitted to one high school or another can be calculated according to the last admission average of the previous year. Thus, schools cannot show preferences towards students, they cannot select them according to grades of a certain subject or according to any custom exam. Mainly, high schools want students with as high admission averages as possible, reflecting in this way, a high performance of future students, which means maintaining attractiveness for next year. The distribution model seems to be one that eliminates discriminatory or strategic behaviors, being in fact a system based on meritocratic criteria (A. Gheba, 2018).

This distribution system is also found in Hungary and Finland, with the mention that in it, students can opt for only 5 schools in their preferences (M. Salonen, 2014). Also in these countries, students are assigned taking into account the grades obtained in the final exams. A special case is Germany. There is its own distribution system in each Länder. In the case of Berlin, students can opt for 3 high schools after consulting with the coordinating teachers. Following the applications received, the schools establish the list of students admitted according to their own criteria (the average in the gymnasium, the marks obtained at the final evaluations, the foreign languages sutdiate, the existence of a sibling who is already studying there, the existence of social needs) (C. Basteck, K. Huesmann, H. Nax, 2015). At the same time, in Frankfurt, the obtained marks are not used as a separation element, establishing from year to year its own criteria (proximity of the home to the school, if the student has brothers / sisters in the school, family income, social problems). The system also applies in countries such as Spain and Italy. This mechanism also has a disadvantage. Students will be tempted to

apply to the schools where they are most likely to be admitted, and not where there is a profile that meets their needs.

However, none of the things presented above matter when there is no high school in the locality of residence. Thus, in rural areas there are students who cannot access high school education because of their background. In this way the discrepancies appear. The topic of educational inequities is a main topic in the field of educational research both in Romania and internationally. The most recent empirical research, using different models, variables, and time spans, confirmed regional economic divergence in Romania (e.g. (Moroianu, et al., 2015), (Goschin, 2017)). As for the timeliness of the studies, they are mainly from the period 2000-2015. The main conclusions are that inequities do not refer only to performance, but also to the access itself to education (Shavit, 2007), the causes often consist of the family environment (Mare, 1981) and that economic factors such as the economic recession or the disappearance of the socialist regime contribute significantly to the deepening of inequities (Voicu&Vasile, 2010). The concept of equity in education refers to inclusion (all students should have access to a minimum level of schooling, such as high school graduation) and non-discrimination depending on ethnicity, gender, socio-economic environment etc. (Field, Kuczera & Pont, 2007).

3. Methodology

The data used in this study were taken from the TEMPO database of the National Institute of Statistics in Romania. These include the number of high school graduates at the county and local level during 2019-2020. These years were chosen being the most current available. All the localities that contained data on the variable of interest were selected and maps were processed using the Tableau software.

Subsequently, a simple regression model was processed regarding the link between the number of high school graduates in 2020 for each county and the average gross salary at the county level for 2020. The classic pattern of simple linear regression is in the form of:

$$y_i = \alpha + \beta x_i + e_i, \qquad (1)$$

- i = 1, 2, ..., 42 (counties)
- Variables y_i and x_i - registration of phenomena in county i
- α şi β – model parameters,
- e - errors.

The assumptions of the linear regression model are:

- Linear relationship.
- Multivariate normality.
- No or little multicollinearity.
- No auto-correlation.
- Homoscedasticity.

4. Results and discussions

As can be seen from the maps below, there are no significant differences between the two years analyzed. Bucharest remains the area with the highest number of graduates (16000 graduates), and Giurgiu and Covasna counties the lowest number (around 1100 graduates).

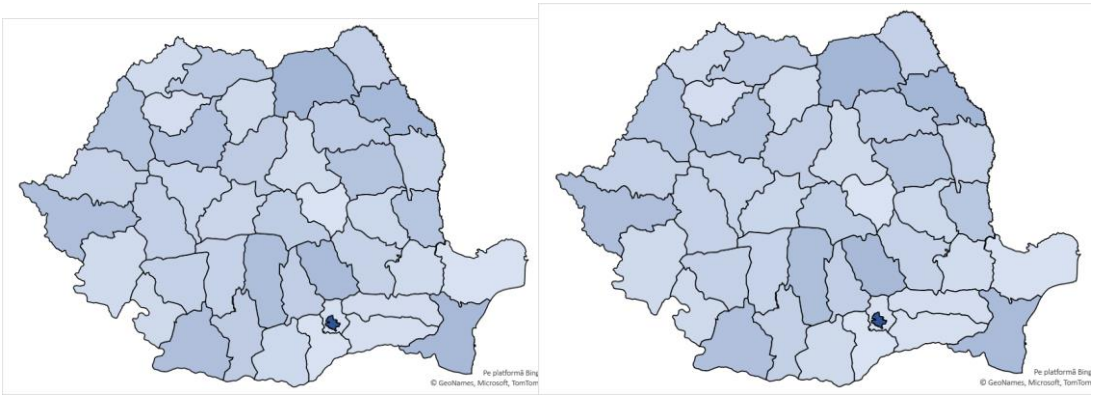

Figure 1. Map of high school graduates at county level – 2019 and 2020
Source: created by author based on collected data

Regarding the data at the locality level for the number of graduates in 2019 and 2020, there are six illustrations below, two for each year, to suggest in the best possible way the current situation. Again, there are no significant differences between the two periods. Bucharest remains the city with the highest number of high school graduates, followed by Iasi, Timisoara, Cluj-Napoca, Constanța, Ploiești. Also, in the figures from point 3, it can be noted that there is a cumulation of high schools in the Muntenia area, as well as a deficit in the north of the country.

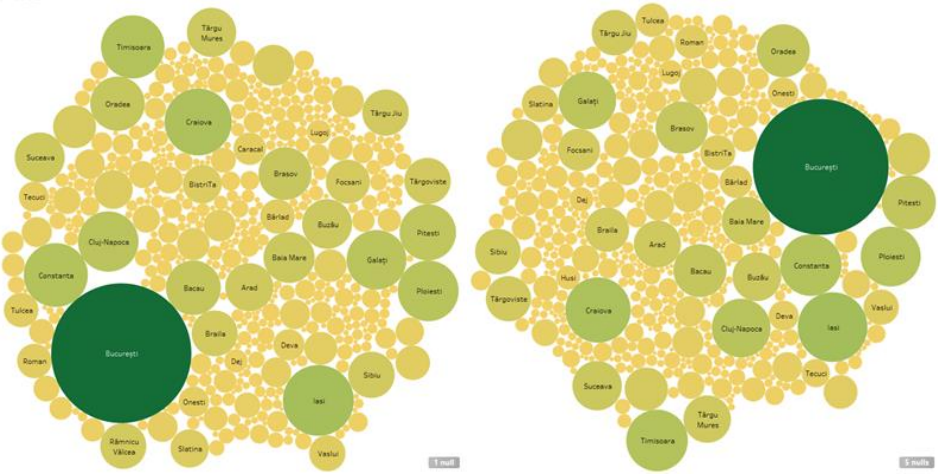

Figure 2. Map of high school graduates at locality level – 2019 and 2020
Source: created by author based on collected data

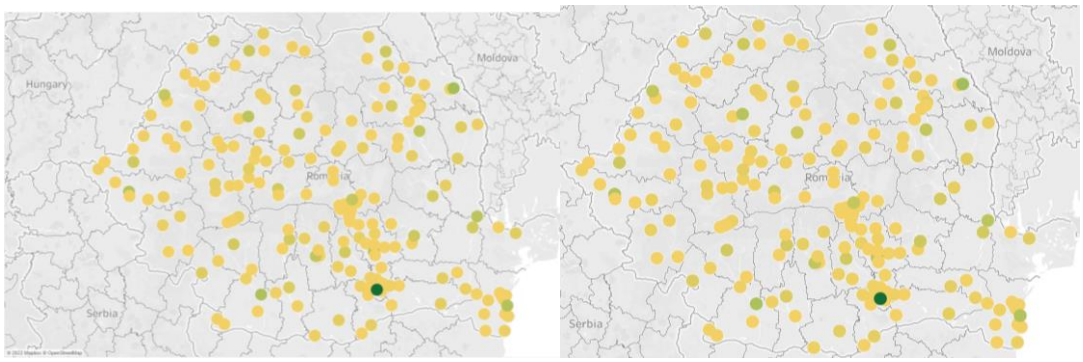

Figure 3. Map of high school graduates at locality level – 2019 and 2020
Source: created by author based on collected data

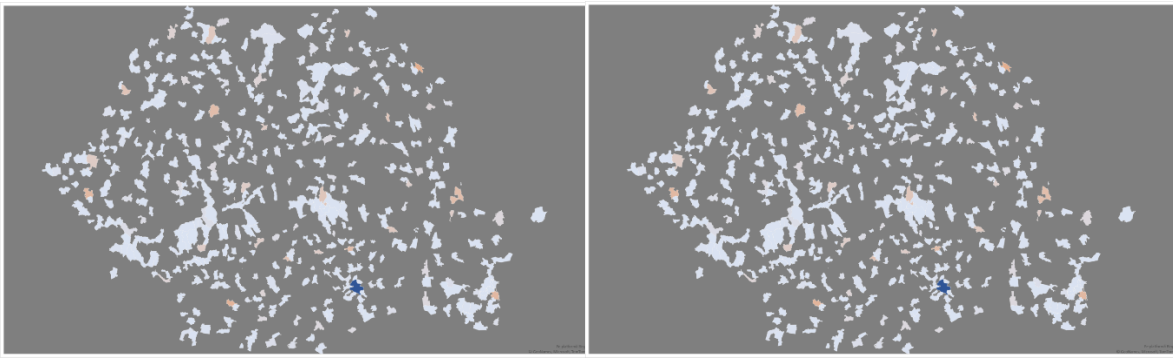

Figure 4. Map of high school graduates at locality level – 2019 and 2020
Source: created by author based on collected data

Moreover, it can be seen that in each county there is a pole with a large number of high school graduates, this being the very city with the role of county residence. This is normal, as they are the largest cities, with a large school population and multiple sources of educational opportunities.

As regards the simple linear regression model, the results confirm the validity of the model as well as the fact that the statistical coefficients are statistically significant. This model explains the variation of the dependent variable, the average gross income per county, at a rate of about 52% through the chosen independent variable, the number of high school graduates in each county. Below are the main results.

Tables 1-3. Regression Summary

Regression Statistics	
Multiple R	0.719874517
R Square	0.51821932
Adjusted R Square	0.506174803
Standard Error	423.0295923
Observations	42

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	7699556.465	7699556.46	43.0253300	7.74057E-08
Residual	40	7158161.44	178954.036		
Total	41	14857717.9			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	3999.646015	115.9260933	34.50168897	2.21583E-31	3765.350641	4233.941
Graduates	0.183013094	0.027901019	6.559369639	7.74057E-08	0.126623032	0.239403

Thus, the regression model obtained is of the form:

$$y_i = 3999.64 + 0.183013x_i + e_i \quad (2)$$

The regression model can be interpreted as follows: in a county where there would be no graduate, the average gross income would be 3999 lei. For each graduate who exists in the county, the average gross income increases by 0.18 lei. As expected, it can be said that graduating from high school brings added value in the case of the average income, but this is very low. This may be since it is tertiary education that brings a significant plus to the salary, since employees with higher education receive higher incomes from the qualification obtained.

5. Conclusions

The choice of high school is a very important step in the educational, but also for the personal evolution of a young teenager. Because Romania applies a "deserving" system of distribution based on the marks obtained at the National Evaluation and based on the graduation average of the gymnasium, these are the main criteria in choosing a profile.

The results obtained in this study are in accordance with the present reality and with the studies already existing in the literature. There are significant differences between education in urban and environmental education, with students being victims of social and educational inequities. It can be clearly seen how the county residences register a large number of high school graduates compared to other localities in the same county, which also leads to an economic development. This also confirms that education means evolution.

Analyzing the link between the variables, it has been observed that there is a moderate link between the number of high school graduates and the average gross income in a county. Applying the linear regression model, good results have been achieved that can be used for estimation. The increase by one unit of the number of graduates in a county leads to an increase of 0.18 lei in the average gross monthly income in that county.

Applying a technique that has brought valid results, the analysis can also be a starting point for those interested in pursuing educational inequities in urban-rural areas. In addition, the lack of such current research maximizes its need for a better understanding of the educational context present in Romania. Also, based on these predictions, high schools can decide if there is a need to improve the educational offer, supplementing the places available for enrollment. Another future direction of research could look at whether there is a link between the number of high school graduates and other economic indicators such as the unemployment rate or the average income at the locality level, as well as whether there is a spatial dependence between counties or localities regarding these variables.

This research also presents several limitations that need to be taken into account. The main disadvantage is the small number of analyzed variables. Also, the lack of a longer time interval for the analysis provides only a momentary image without capturing the dynamics of the phenomenon studied.

We consider this subject to be of interest for teachers, academic world, and researchers since education has an important impact on future generations.

6. References

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