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e-ISSN: 2067 – 9270 ISSN–L: 2066 – 7329

Revista Românească pentru Educație Multidimensională

2017, Volume 9, Issue 3, December, pp. 157-165

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Ana-Maria ZAMFIR

Doi: <https://doi.org/10.18662/rrem/2017.0903.10>

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Selection and peer review under the responsibility of LUMEN Publishing House.

How to cite: Zamfir, A-M. (2017). Urban-Rural Educational Inequalities and Human Capital Polarization in Romania. *Revista Romaneasca pentru Educatie Multidimensionala*, 9(3), 157-165. DOI: <https://doi.org/10.18662/rrem/2017.0903.10>

Urban-Rural Educational Inequalities and Human Capital Polarization in Romania

Ana-Maria ZAMFIR¹

Abstract: Equal access to education is among the basic human rights. However, numerous studies show that educational gaps between various groups in many countries persist (OECD, 2012). Educational inequalities are on the agenda of policy makers in many countries as they affect life chances of individuals and contribute to perpetuation of social disadvantages. In many cases, children coming from disadvantaged communities register lower school outcomes and grow up without acquiring the skills needed on the labour market. The present paper aims to analyse the level and evolution of urban-rural educational inequalities in Romania. We analyse data on educational attainment in urban and rural areas, showing how participation to education is influenced by the area of residence. It is argued that rural-urban educational inequalities determine human capital polarization, producing labour market segmentation in long term.

Keywords: Education; Inequalities; Urban-rural gaps.

1. Introduction

Equal access to education is among the basic human rights. Human capital development is crucial for achieving the European goal of smart, sustainable and inclusive growth (Velciu, 2010). However, numerous studies show that educational gaps between various groups in many countries persist (OECD, 2012). Inequalities affect educational achievement among students coming from disadvantaged groups. The concept of equity in education is based on two complementary dimensions: inclusion and fairness. Inclusive education refers to ensuring that all students reach a minimum level of education, usually upper secondary education. Fairness in education means that personal characteristics such as ethnicity, gender, socio-economic background, etc. do not affect educational success of students (Field, Kuczera & Pont, 2007).

Educational inequalities are on the agenda of policy makers in many countries as they affect life chances of individuals and contribute to perpetuation of social disadvantages. In many cases, children coming from

¹ National Scientific Research Institute for Labour and Social Protection INCSMPS, Bucharest, Romania, anazamfir@incsmips.ro.

disadvantaged communities register lower school outcomes and grow up without acquiring the skills needed on the labour market. Educational inequalities have negative consequences from both social and economic perspectives. After leaving education and training, many low-educated young people remain outside the labour market for long term, representing a waste of human capital (Mocanu, 2016). Inequality in educational achievement and wage inequality are correlated, over time and across countries (Bedard & Ferrall, 2003; Blau & Kahn, 2005). Cristescu, Stanila and Vasilescu (2014) found that the distribution of high-skilled labour force is conducive for regional earnings inequalities in Romania.

Educational gaps between rural and urban localities are both significant and persistent. Studying data collected in 2000 via the Program for International Student Assessment (PISA), Williams (2005) showed that mathematics scores of students from rural localities were lower than students from urban and medium-size localities in 14 of the 24 investigated countries. Other educational outcomes such as school retention, attendance and participation to higher education display similar urban-rural differences (Welch, Helme & Lamb, 2007).

The present paper aims to analyze the level and evolution of urban-rural educational inequalities in Romania. The topic of urban-rural educational gap is relevant for many developing countries which display similar situations. According to OECD, quality education in rural localities is very important for attracting youth and young families. Top three OECD countries registering high urban-rural variations of students' performance in science include Hungary, Slovak Republic and Turkey (OECD, 2017).

We analyze data on educational attainment in urban and rural areas, showing how participation to education is influenced by the area of residence. It is argued that rural-urban educational inequalities in Romania determine human capital polarization, producing labour market segmentation in long term.

Studying the influence of immigration on educational careers of young natives in Italy, Brunello et al. (2017) demonstrate that low skilled immigration determines an increase of marginal benefits of higher education and a decrease for medium education. This phenomenon produces human capital polarization which refers to the contemporaneous increase in the share of individuals with lower education and in the share of those with higher education. Human capital polarization is conducive for reduction of the middle class and productivity loss (Brunello et al., 2017).

Following the definition of Brunello et al. (2017) for human capital polarization, this paper shows that urban-rural educational inequalities in

Romania are conducive for human capital polarization. Such polarization constructs and reconstructs labour market segmentation which refers to the division of the labour market into separate submarkets or segments, distinguished by different characteristics and behavioral rules (Peck, 1989). Different segments of labour market may arise due to the type of workers concerned, in this case based on their level of education and skills.

2. Data

In order to address the proposed objectives, this paper analyses official statistics on education attainment coming from the most recent census that was carried out in 2011 in Romania by the National Institute for Statistics. In order to assess the evolution of the patterns of educational attainment, three different age categories have been constructed: 25-34 years old, 35-44 years old and 45+ years old. Each category presents a distinctive profile in relation to participation to education:

- 25-34 years old – most of their educational career took place in post-communist period;
- 35-44 years old – most of their educational career took place in late communist period and in the first transition years;
- 45+ years old – their educational career took place in the communist period.

By comparing the educational attainment in the three age groups, one can assess the evolution of educational inequalities over time in Romania. Additionally, for confirming the phenomenon of human capital polarization, the present study constructs a decision tree model for classification / segmentation of Romanian population aged 25+ years. The model is constructed on 2014 EUSILC micro data for Romania. The dependent variable is represented by the educational attainment, having three categories: 1) lower secondary education at most, 2) higher secondary education and post-secondary education and 3) tertiary education. The independent variables included in the model are as follows: age category, gender and area of residence.

3. Results

According to 2011 census data, distribution of tertiary education attainment in Romania indicates a significant increase in the proportion of those with higher education from 10.6% among the 45+ age category to 30.3% at the level of the young generation (25-34 years old). This trend is in

line with the process of massification of higher education that is present in most of the European countries (Figure 1).

Although the increased access to education is a general trend in the recent period, different patterns of evolution have emerged in urban and rural areas. Tertiary educational attainment has increased in both urban and rural areas in time. In the case of rural population, the indicator peaks for 25-34 age category to 11.6%, while urban population register 43%. So, while participation to higher education of rural population has improved in recent times, urban-rural gaps persist (Figure 2).

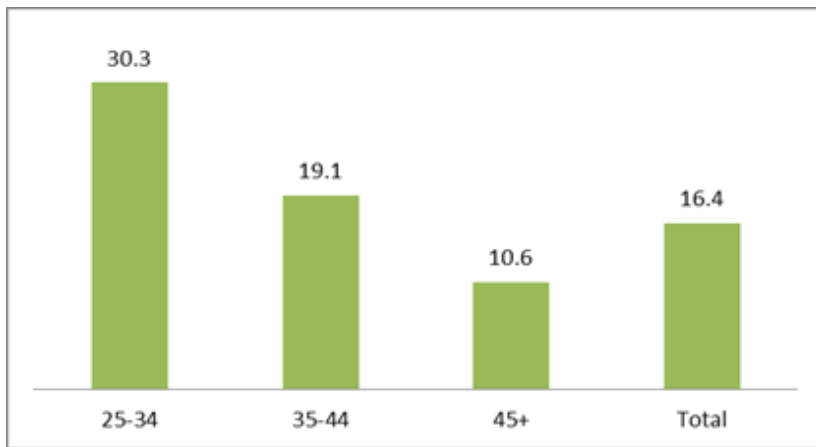


Figure 1. Tertiary educational attainment by age (%)

Source: authors' calculation on data from NIS - 2011 Census data

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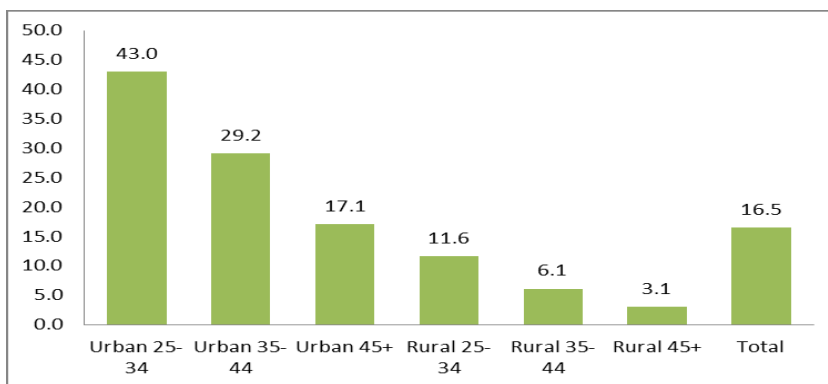


Figure 2. Urban and rural tertiary educational attainment by age (%)

Source: authors' calculation on data from NIS - 2011 Census data

Another relevant indicator for educational inequality is the educational poverty that refers to the percentage of individuals of 25+ years old who reached lower secondary education at most. At national level, educational poverty has declined significantly from 48.2% in the case of those 45+ years old to 24.1% for 35-44 age group. However, the youngest generation registers a slight increase for this indicator to 27.8%.

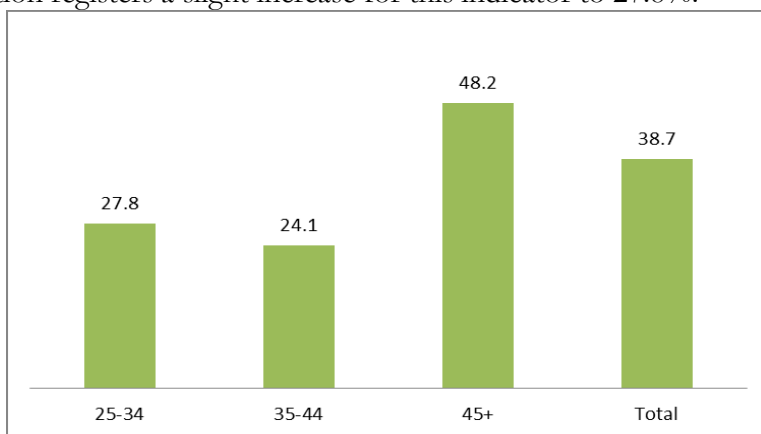


Figure 3. Educational poverty (% individuals of 25+ years old who reached lower secondary education at most) by age (%)

Source: authors' calculation on data from NIS - 2011 Census data

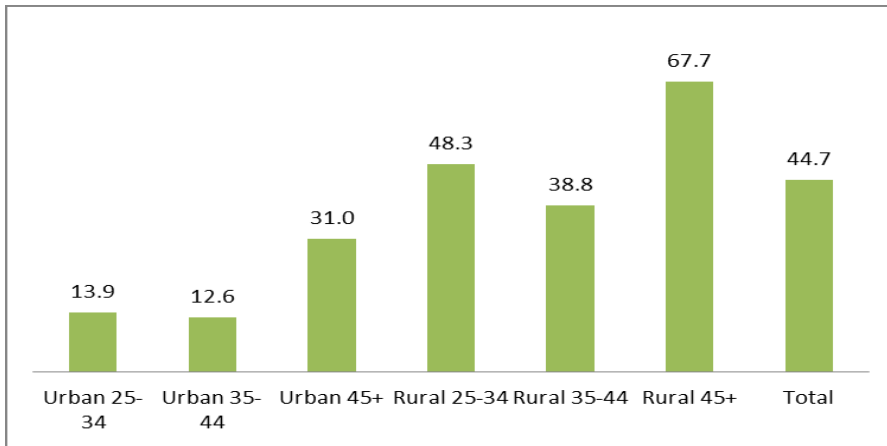


Figure 4. Urban and rural educational poverty (% individuals of 25+ years old who reached lower secondary education at most) by age (%)
Source: authors' calculation on data from NIS - 2011 Census data

Analyzing the level of educational poverty for urban and rural areas, one could notice the important existing gap between the two areas. For all the age groups, educational poverty is higher in rural as compared to urban localities. Regarding its evolution, the educational poverty decreased sharply for those aged 35-44 years old. In the case of the youngest generation having the educational career in post-communist period, the educational poverty registers a contradictory evolution. The indicator displays an incremental increase for urban population and a significant increase for those living in rural areas. So, the main source for the national increase in educational poverty is the negative evolution at the level of rural population (Figure 4).

For better understanding the influence of the area of residence together with other factors on the educational attainment, we constructed a decision tree model for population 25+years old. The area of residence is the first and most important predictor for educational attainment. Thus, urban population include higher share of individuals with tertiary education, while rural population include higher share of individuals with lower secondary education at most. The next most important factor predicting educational attainment in Romania for both rural and urban areas is the age category, confirming the influence of the policy changes over the years. The structure of the nodes from the second layer of the tree confirms the findings obtained from the analysis of the census data. The model retains also the influence of the gender on educational career of individuals. The output of the model presented in Figure 5 shows that the segment

registering the higher tertiary educational attainment is represented by female of 25-34 years old from urban localities.

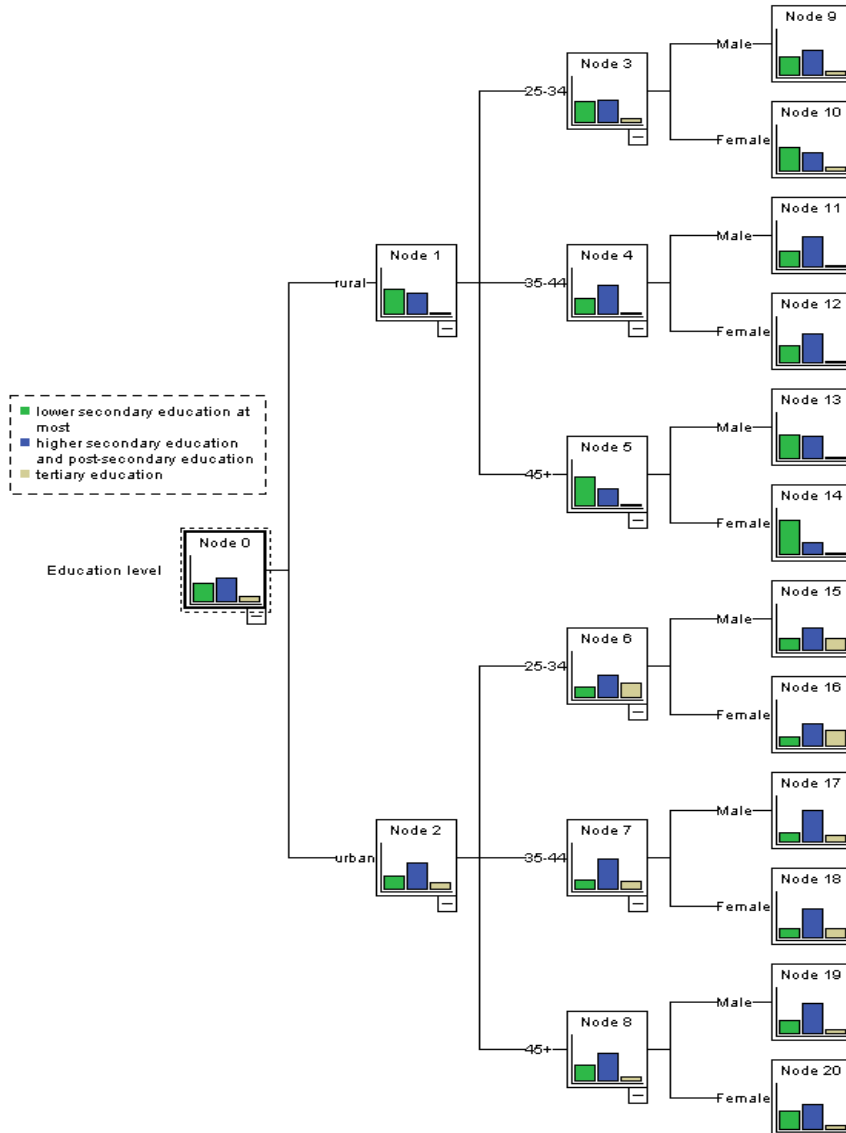


Figure 5. Decision tree model for educational attainment of population 25+ years old (Chaid method)

4. Conclusions

This paper has contributed to the study of urban-rural educational inequality in Romania by comparing educational attainment for three age categories representative for different policy periods. In order to confirm and supplement the analysis, decision tree classification method was employed with the aim to highlight how key factors interact and influence educational attainment in Romania.

While participation to higher education has improved in both urban and rural areas, findings of this study confirm the persistent tertiary attainment gap between urban and rural population. Our findings confirm results of previous studies highlighting the persistence of educational gaps between rural and urban areas in developing countries. On the other hand, educational poverty displays a general positive trend. Unfortunately, the youngest generations register higher share of educationally poor people, especially in rural area. Following the definition of Brunello et al. (2017), Romania faces a phenomenon of human capital polarization. It means that in the post-communist period, Romania displays a contemporaneous increase in the share of people with tertiary education and an increase in the share of people with lower secondary education at most. Moreover, educational attainment by area of residence indicates that this polarization tends to widen the gap between an educated urban area and a poorly educated rural area.

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