

A CROSS-REGIONAL STUDY OF THE ECONOMIC REALITIES OF THE ROMANIAN RURAL ENVIRONMENT

Diana-Maria BRANGA¹

Lucian Blaga University of Sibiu, 0000-0003-0881-1484

Abstract: *The focus of the contemporary world is on technological development and advances in artificial intelligence. However, another reality exists in the form of the rural environment, which constitutes a crucial aspect of the economy and is considered by some the backbone of the economy. The aim of this study is to conduct a thorough examination of the Romanian rural environment, with a particular emphasis on understanding the economic characteristics of its four macro-regions. The results of this research highlight and emphasize the significant differences between them through different criteria such as GDP, poverty rates, access to healthcare and education and agriculture production. The results showed major disparities between the rural environment of the 4 macro-regions.*

Keywords: *rural environment, regional economic differences, Romanian rural area, economic development*

JEL classification: *R11*

1. Introduction

Technological advances reached their peak this year. With artificial intelligence being the main focus and with technology that most people barely understand we got enchanted by the beauty that they promise. However, when we take a step back and watch the bigger picture, we see the other reality that exists in the form of the rural environment. This research aims to see the reality of Romania's rural area and how its GDP, unemployment rate, education levels, access to healthcare and agriculture production influence the country's economy. For the purpose of this research, we will consider Romania's 4 macro-regions:

- Macro-region 1 is represented by the North-West and Centre (12 counties)
- Macro-region 2 is represented by the North-East and South-East (12 counties)
- Macro-region 3 is represented by the South and Bucharest, Ilfov (8 counties and Bucharest)
- Macro-region 4 is represented by the South-West and West (9 counties).

The Council of Europe Recommendation No.1296/1996 defines rural areas as geographic regions that encompass "the inner or coastal zone containing the villages and small towns," and are primarily characterized by their utilization for agricultural, forestry, aquaculture and fishing activities, as well as for "the economic and cultural activities of the inhabitants of these areas," such as crafts, industry and services. Additionally, these areas are utilized for leisure and recreational activities, as well as for other non-residential purposes, such as nature reserves.

At the level of the European Union, rural space is the starting point when developing development strategies. Irrespective of nationality, the importance of rural space is highlighting and can provide not only a picture of what it was, the heritage left by ancestors, but it can also be the place where the young generation can thrive (Dumitru, 2019). As of January, 1st 2021, 46.37% of Romania's population lived in the rural area.

¹ diana.vonica@ulbsibiu.ro

The subject of rural economic development has been a persistent challenge that has been extensively studied by researchers globally. The determinants of local economic growth in rural communities have been investigated, with studies highlighting factors such as the appeal of a location to retirees, the existence of right-to-work laws, and high high-school completion rates (Aldrich & Kusmin, 1997). Additionally, research has sought to explore the underlying factors driving growth in the agriculture sector, with one study concluding that the growth of agriculture is not necessarily correlated with the growth of income per capita within that sector (Gardner, 2005). The issue of rural economic development has also been studied in other countries, including the United States (Galston & Baehler, 1995), Japan (Francks, 2005), South Africa (Rogerson, 2010), Europe (Leon, 2005), and it has even been briefly touched in Romania (Burja & Burja, 2014), among others.

The connection between rural development and regional disparities is a complex and multi-faceted topic that has been widely studied by researchers around the world. In 2010, Maureen Kilkenny examined the applicability of regional theories to rural problems and found that rural development is not an exact science and that significant differences between regions exist. This issue was further explored in 2011 by Josef Abraham, who conducted a study across several EU member states, including Bulgaria, the Czech Republic, Estonia, Lithuania, Latvia, Hungary, Romania, Slovenia, and Slovakia. The study found that, with the exception of Latvia, an increase in regional disparities has been reported in these countries, highlighting the ongoing challenges facing rural areas and the need for effective strategies for addressing regional disparities. Jan Douwe van der Ploeg and other authors, describe a process of regional differentiation happening in rural Europe. This process is driven by multiple and interrelated factors, resulting in a spatial diversity characterized by five extreme poles and one interlinked category.

It is clear from this extensive body of research that the challenge of rural economic development is a universal one that is being studied across the globe.

2. GDP and poverty

The Bureau of Economic Analysis (BEA) gives a clear definition for GDP: “Gross domestic product (GDP) is the value of the goods and services produced by the nation’s economy less the value of the goods and services used up in production. GDP is also equal to the sum of personal consumption expenditures, gross private domestic investment, net exports of goods and services, and government consumption expenditures and gross investment.”

In examining the economic conditions of Romania's regions, it is evident that a significant degree of disparity exists. In 2018, Romania exhibited the highest regional disparities among its regions in terms of GDP per capita, with the wealthiest region, Bucharest-Ilfov, having a GDP per capita that was 3.6 times greater than the poorest region, North-East. Furthermore, a report by the European Commission on "left-behind" EU regions in 2017 identified that Romania had 5 such regions, including North-East, North-West, South-East, South-Muntenia, and South-West Oltenia. This affirms the findings of prior studies, such as that of Benedek et al. (2019), which indicate that Romania has disproportionately invested in relatively prosperous regions as opposed to those "left-behind.”

Table 1: Rate of relative poverty

Macro-regions and development area	2019	2020	2021
Macro-region 1	17,8	23,4	17
Macro-region 2	36,8	34,3	33,4
Macro-region 3	15,8	14	14,1
Macro-region 4	23,5	26,6	25,8

Source: The National Institute of Statistics

As we can observe from Table 1, which presents the relative poverty rate in Romania split by macro-regions, the region with the highest poverty rate over the years is macro-region 2 (comprising North-East and South-East). Conversely, macro-region 3 (comprising South and Bucharest-Ilfov) demonstrates the lowest poverty rate. It is worth noting that the poverty rates of each macro-region exhibit different fluctuations throughout the years. For instance, while the poverty rate of macro-region 1 has decreased, the poverty rate of macro-region 4 has increased in 2020, and only slightly decreased by 0.6% in recent years. The most significant decrease in poverty rate is observed in macro-region 2.

3. Unemployment rate in the rural area

As noted by Sorin Burlacu in his publication "The Economic and Social Effects of Unemployment in Romania," unemployment has been a persistent issue in Romania, arising in tandem with industrial development since the latter half of the 18th century. Specifically, Burlacu states that in times of economic downturn, industrial enterprises tend to reduce their production, leading to a significant number of individuals becoming unemployed. Furthermore, Burlacu argues that unemployment in Romania is, in part, a result of structural changes to the national economy, aimed at increasing efficiency and adapting to the competitive global environment.

Table 2: Romanian workforce

Macro-regions and development area	2019	2020	2021
Macro-region 1	3068,3	3074,4	3085,2
Macro-region 2	3427,8	3425	3420,2
Macro-region 3	3365,1	3383,1	3370,8
Macro-region 4	2337,1	2334,3	2325,2

Source: The National Institute of Statistics

As illustrated in the table, over the course of a 3-year period, there are no significant variations in the number of individuals in the workforce.

If we have a glimpse at the data from the National Institute of Statistics which illustrates the rural unemployment rate in Romania split by age and macro-regions, the rate of unemployment reached its peak in 2021, which is in line with the impact of the COVID-19 pandemic. Upon further examination of the data by age group, it is observed that for the 15-24 years age group, the highest unemployment rate in 2021 is found in macro-regions 3 and 4, at 31.2%. Similarly, in the 25-34 years age group, macro-regions 2 and 4 exhibit the highest rate of unemployment at 11.6%. Furthermore, the same macro-regions show the highest unemployment rate in the 35-54 age group, at 7.5%. In the final age group (55-64), the highest rates of unemployment are found in macro-regions 2 and 3, at 6.7%. Based on these findings, it can be concluded that the regions with the highest rural unemployment rates in Romania are macro-region 2 and 4.

4. Access to Healthcare

In rural Romania, healthcare facilities are often outdated and lack basic equipment and medicine. Many rural areas have a shortage of doctors and nurses, and people have to travel long distances to receive medical attention. Furthermore, many rural residents are not aware of their rights to healthcare and the services available to them, and the lack of information and communication contribute to poor health outcomes.

The lack of healthcare access in rural Romania contributes to high rates of preventable diseases

and mortality. The Romanian Government has implemented various initiatives to improve healthcare access in rural areas, but progress has been slow and the implementation of these initiatives is often inadequate.

Improving healthcare access in rural Romania is essential for the overall health and well-being of the population. The government and society as a whole must invest more in healthcare in rural Romania to ensure that all citizens have equal access to quality healthcare services. This includes investing in new healthcare facilities, training healthcare professionals, and providing information and education to rural residents about their healthcare rights and services.

Access to healthcare in rural Romania varies significantly depending on the specific macro-region of the country. In general, areas with larger cities and higher levels of economic development, such as macro-region 1, have better access to healthcare facilities and services compared to more remote and less developed areas, such as macro-region 2.

Despite some areas within macro-region 3 having access to healthcare that is on par with that of macro-region 1, there are still certain locations within the region where healthcare infrastructure is insufficient. Similarly, while macro-region 4 generally has access to healthcare that is similar to that of macro-region 2, there are some variations in availability of services depending on the specific location. The access of health care services in rural areas is influenced by economic, demographic and geographic factors, such as the insufficient distribution of health care infrastructure, inadequate number of doctors, as well as poor financing of the health system.

5. Education Levels in the rural area

Education is a fundamental right for all individuals, yet in rural Romania access to education is often limited due to a lack of resources and qualified teachers. The literacy rate in Romania is relatively low compared to other European countries, and this is particularly evident in rural areas where the quality of education is generally lower than in urban areas.

Many rural schools in Romania lack basic facilities such as electricity and running water, and the curriculum is often outdated, which does not prepare students for the workforce or higher education. Dropout rates in rural Romania are high, with many students leaving school early to work or support their families.

Improving education in rural Romania is essential for the country's overall economic development and reducing poverty and unemployment. Education is a powerful tool that can break the cycle of poverty and provide individuals with the skills and knowledge they need to succeed in life. The government and society as a whole must invest more in education in rural Romania to ensure that all citizens have equal opportunities to access quality education.

Figure 1: Education units in rural areas

Levels of education	Urban and rural areas	Macroregions, development regions and counties	Years
			Year 2021 MU: Number Number
Early childhood education	Rural	MACROREGION 1	1
Pre-primary (preschool) education	Rural	MACROREGION 1	22
-	-	MACROREGION 2	21
-	-	MACROREGION 3	29
-	-	MACROREGION 4	9
Pre-university education	Rural	MACROREGION 1	805
-	-	MACROREGION 2	929
-	-	MACROREGION 3	607
-	-	MACROREGION 4	698
Primary and lower-secondary education (special education included)	Rural	MACROREGION 1	741
-	-	MACROREGION 2	842
-	-	MACROREGION 3	557
-	-	MACROREGION 4	640
2nd cycle secondary education (high school and vocational)	Rural	MACROREGION 1	63
-	-	MACROREGION 2	86
-	-	MACROREGION 3	50
-	-	MACROREGION 4	57
Upper secondary education	Rural	MACROREGION 1	49
-	-	MACROREGION 2	63
-	-	MACROREGION 3	42
-	-	MACROREGION 4	53
Vocational education	Rural	MACROREGION 1	14
-	-	MACROREGION 2	23
-	-	MACROREGION 3	8
-	-	MACROREGION 4	4

Source: The National Institute of Statistics

As depicted in Figure 1, an examination of the distribution of education units, reveals that only macro-region 1 exhibits a presence of early childhood education centres across Romania's macro-regions. In terms of rural pre-university education centres, macro-region 2, followed by macro-region 1, exhibits the greatest number of such centres, with 929 and 805 respectively. Furthermore, these same macro-regions also possess the highest number of primary and lower-secondary education units.

However, it is worth noting that macro-region 4 demonstrates the lowest number of education units across all levels. These findings suggest that there are disparities in the provision of education across Romania's macro-regions, with macro-region 1 and 2 showing the most favourable conditions in terms of availability of education units for the early childhood and rural pre-university education in particular.

6. Agriculture Production

Table 3: Agricultural Production

	2019	2020	2021
Crop Production	62967	52807	75345

Animal Production	25229	26757	28421
Agricultural Services	1793	1836	1668

Source: The National Institute of Statistics

As demonstrated by the data presented in the table, which illustrates agricultural production in Romania, there are fluctuations in the production of crops, animal products, and agricultural services over the course of two years. Specifically, in 2020, crop production was observed to be at its lowest level, while animal production and agricultural services experienced an increase. However, in 2021, crop production and animal production reached its peak, with values of 75345 million lei and 28421 million lei respectively. Additionally, it's worth mentioning that the agricultural services decreased by 168 million lei in the last 2 years. These fluctuations in agricultural production underscore the need for further analysis and understanding of the factors that influence agricultural production in Romania.

Macro-region 1 is known for its developed agriculture and food industry, it has a high potential for agriculture because of its favourable climate conditions and fertile soil. This macro-region is mainly focused on cereal crops, horticulture and vineyards, as well as animal husbandry.

Macro-region 2 has large areas of arable land, but it is one of the poorest regions of Romania, with low levels of agricultural mechanization and low productivity levels. This macro-region mainly focuses on cereals and livestock production.

Macro-region 3 is characterized by the diversity of its agriculture, with a good potential for the development of intensive agriculture, horticulture and vineyards, but also for extensive agriculture. This macro-region is relatively more developed compared to the other macro-regions in terms of agriculture.

Macro-region 4 has a significant potential for agricultural production, but is characterized by an underdeveloped infrastructure and low levels of mechanization. This macro-region mainly focuses on cereals, fruits, vegetables and livestock.

7. Conclusions

In conclusion, this research aimed to explore and scrutinize the Romanian rural environment as it is and grasp how the economy is in all its 4 macro-regions. The results of this research have highlighted and emphasized the biggest differences between these regions. The GDP per capita in the richest region (Bucharest-Ilfov) was found to be 3.6 times higher than the poorest region (North-East). Additionally, it is evident that unemployment, poverty and access to healthcare and education are some of the main challenges faced by the rural population in Romania.

It is clear that the economic conditions of Romania's rural regions require further attention and action. Improving these conditions will not only benefit the rural population but will also have a positive impact on the overall economic development of the country. The government, as well as private and non-profit organizations, should invest more in these regions to ensure that all citizens have equal opportunities to access healthcare, education, and employment. In order to improve the rural environment of Romania, addressing the main challenges that have been presented throughout the research is crucial.

References

- Abrahám, J. (2011). *Rural development and regional disparities of the new EU Member States*. Agric. Econ. - Czech, 57(6), 288-296. doi: 10.17221/6/2011-AGRICECON
- Aldrich, L., & Kusmin, L. (1997). *Rural Economic Development: What Makes Rural Communities Grow?*. Journal of Rural Studies, 13(3), 365-373.
- Bureau of Economic Analysis. *What to know about GDP*. Retrieved from <https://www.bea.gov/resources/learning-center/what-to-know-gdp>

- Burja, C., & Burja, V. (2014). *Sustainable development of rural areas: A challenge for Romania*. Environmental Engineering and Management Journal, 13(8), 1861-1871. Retrieved from <http://omicron.ch.tuiasi.ro/EEMJ/>
- Burlacu, S., Diaconu, A., Bălu, P. E., & Gole, I. (2010). *The economic and social effects of unemployment in Romania*. Revista de Management Comparat Internațional, 1, 21-27. <https://www.ceeol.com/search/article-detail?id=994070>
- Cristina, A., Manescu, C., Popescu, A., & Mateoc-Sarb, N. (2015). *Analysis of the Romanian Rural Area*.
- Dumitru, E., Micu, M., & Tudor, V. (2019). *Conceptual Approaches Regarding the Romanian Rural Area*.
- Dynan, K. E., & Sheiner, L. (2018). *GDP as a measure of economic well-being*. Brookings. Retrieved from <https://www.brookings.edu/research/gdp-as-a-measure-of-economic-well-being/>
- Fina, S., Heider, B., & Rat, C. (2021). *Romania Inegala*.
- Francks, P. (2005). *Rural Economic Development in Japan: From the Nineteenth Century to the Pacific War*. Routledge. <https://doi.org/10.4324/9780203027806>
- Galston, W. A., & Baehler, K. J. (1995). *Rural Development in the United States: Connecting Theory, Practice, and Possibilities*. Westview Press.
- Gardner, B. L. (2005). *Causes of rural economic development*. Journal of Agricultural Economics, 56(3), 517-539. <https://doi.org/10.1111/j.0169-5150.2004.00012.x>
- INS (2022). *Romania in figures*, statistical abstract.
- Kilkenny, M. (2010). *Urban/Regional Economics and Rural Development*. Journal of Regional Science, 50(1), 1-19. <https://doi.org/10.1111/j.1467-9787.2009.00661.x>
- Léon, Y. (2005). *Rural development in Europe: a research frontier for agricultural economists*. European Review of Agricultural Economics, 32(3), 301-317. <https://doi.org/10.1093/eurrag/jbi012>
- Mikulcak, F., Newig, J., Milcu, A., Hartel, T., & Fischer, J. (2013). *Integrating rural development and biodiversity conservation in Central Romania*. Environmental Conservation, 40(2), 129-137. doi:10.1017/S0376892912000392
- Parliamentary Assembly. (1996). *Recommendation 1296 (1996) of the Parliamentary Assembly on the European Charter for Rural Areas*. Retrieved from <https://rm.coe.int/16804ce0bc>
- Pavel, A., & Moldovan, O. (2019). *Determining Local Economic Development in the Rural Areas of Romania. Exploring the Role of Exogenous Factors*. Sustainability, 11(1), 282. <https://doi.org/10.3390/su11010282>
- Rogerson, C. M. (2010). *Local economic development in South Africa: Strategic challenges*. Journal of Social Science, 34(3), 231-239. <https://doi.org/10.1080/0376835X.2010.508580>
- Ryser, L., & Halseth, G. (2010). *Rural Economic Development: A Review of the Literature from Industrialized Economies*. Journal of Rural Studies, 26(2), 193-205. <https://doi.org/10.1111/j.1749-8198.2010.00321.x>
- Ungureanu, G., & Mateoc-Sarb, N. (2012). *Regional and rural development*. Tipo Moldova Publishing House.
- Van der Ploeg, J. D., Van Broekhuizen, R., Brunori, G., Sonnino, R., Knickel, K., Tisenkopfs, T., & Oostindie, H. (2008). *Towards a new theoretical framework for understanding regional rural development*. In *Unfolding Webs: The dynamics of regional rural development* (Chapter 1). Van Gorcum, Assen.