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AN ASSESSMENT OF REGIONAL DISPARITIES EVOLUTION IN ROMANIA

This paper studies the level and evolution of regional disparities in Romania over the period 2007-2017. In this respect, we employ two methodologies highly relevant and well-established in the literature: (i) the relative distance method and (ii) the cluster analysis. The results of the empirical analysis indicate a major discrepancy between the Bucharest-Ilfov region and all the other seven development regions. During the analysis period, there are no significant changes in the positioning of the regions. Regional disparities were not reduced over the period considered, although there are European and national programs for this matter. Therefore, we conclude that an efficient public sector should consolidate the regional disparities with the EU Cohesion Policy.

Keywords: regional disparities, relative distance method, cluster analysis, Romania.

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Introduction

The globalization phenomenon, as well as the quality of Romania as a European Union member state, impose the necessity of sustained development in terms of the public sector performance and the equivalence of citizens' living conditions in the country. Romania and all the European Union member states are going through a continuous process of adapting the national legislation to the European legislation, by promoting the principles and values of the European Union. One of the main objectives of the European Union is to strengthen economic, social and territorial cohesion and solidarity between member states.

This paper contributes to the specialized literature with a new approach regarding the analysis of the evolution of regional disparities in Romania. The novelty of the approach lies in the use of two distinct methodologies undertaking a more complex and comprehensive analysis. The opportunity of the topic consists in the fact that the standardization of the way of life for all the European Union citizens, in general, and of every country, in particular, represents a fundamental European principle.

The paper is structured as follows. The first part contains an overview of the specialized literature in the field of analysis of regional disparities. The second part of the paper describes the methodology performed in the analysis. The results are presented in the third part of the paper and the conclusions of the study are described in the last part.

Literature review

Since the establishment of the European Economic Community in 1957, through the Treaty of Rome (1957), its main objective was the harmonious and balanced development of the Member States. Moreover, it was intended to establish good and equal standards of living among citizens. The Treaty of the European Union (1991) defines and justifies the purpose of economic and social cohesion at the level of art. 130 A (158). Respecting the provisions of this article, an essential role of the cohesion process is to reduce gaps between regions. Thus, we conclude that the reduction of regional disparities is a European objective existing since the

establishment of the Community to this day. In order to be able to apply policies to reduce disparities, they must first be quantified.

The objective of achieving the territorial cohesion of the European Union is also present in the Treaty of Lisbon (2007). In the sense of the treaty, territorial cohesion implies the adequacy of natural and anthropogenic resources to the needs of socio-economic development in order to eliminate disparities and disfunctionalities between different spatial unities, while preserving the natural and cultural diversity of the regions. In line with the principles of the Cohesion Policy of the European Union, the Romanian Government has developed the National Development Plan. Its purpose is to rapidly reduce the socio-economic development disparities in Romania. The solutions identified to reduce disparities are: (i) improving administrative performance and local public infrastructure, (ii) protecting natural and cultural heritage, (iii) rural development, and (iv) strengthening the business environment and innovation.

According to the OECD (Spiezia, 2002) vision, regional or spatial disparities express the existence of marked differences in some economic phenomena under investigation. Thus, we can make the analysis of disparity considering a multitude of indicators, in accordance with the specifics and objectives of the analysis undertaken. Nelea (2006) performs a study of the disparities between European states using the rank method, a method based on relative distances. The indicators used by the author are: (i) Net income on households, (ii) Poverty rate, (iii) Average number of rooms / person, (iv) Percentage of people claiming at least two environmental problems in the area of residence, (v) Proportion of households in which active persons aged 18 to 64 do not work, (vi) Probability of loss of jobs over the next six months, (vii) Percentage of people with poor health and (viii) Trusted people. Babucea (2007) conducts a study on the disparities between the regions of Romania using the cluster method and considering the nominal average salary as the indicator. The results of the study indicate the existence of three clusters. Two of these were represented by the Bucharest-Ilfov region and the Western region, which distinguished themselves from the other regions. The third cluster consists of the remaining six regions that are close to results. Cumatrenco (2007) advocates the need to structure communities in homogeneous groups. Moreover, the author performs a qualitative analysis that reveals the main advantages of cluster analysis, such as the wide variety of available analyzed.

Ceaușescu (2011) analyzes the disparities of the developing regions in Romania through the relative distance method. The indicators considered by the author are GDP per capita, unemployment rate, activity rate, and occupancy rate. The results indicate that the Bucharest-Ilfov region is stronger than the rest of the regions, and the Western region is performing well in every year considered in the analysis. Țotan et al. (Țotan, Geamănu, and Tudose, 2012) apply the rank method and the relative distance method to quantify the regional disparities in Romania. The indicators selected for analysis are (i) GDP per capita, (ii) employment rate, (iii) adult literacy rate, (iv) life expectancy and (v) gross enrollment rate in all levels of education. Once again, the Bucharest-Ilfov and Western regions record the best results. Cojocaru (2013) performs a qualitative analysis of the phenomenon of regional disparities in the Republic of Moldova. The author emphasizes the importance of disparities between regions of a country in order to be able to formulate public policies that reduce existing socio-economic disparities.

Crudu (2015) analyzes the gap between how the European Union Member States have been affected by the global economic crisis. The author considers three indicators, GDP / inhabitant, unemployment rate and labor productivity, analysing the results of European states before and after the crisis. The conclusion of the study is that EU cohesion policies on European states and regions have played a decisive role in reducing the effects of the economic crisis. Postoiu and Busega (2015) conduct a study on regional and national disparities at European level. The authors use the sigma convergence to quantify the level of disparity and consider two indicators: GDP per capita and employment rate. The results of the analysis indicate large

discrepancies between the regions and the European states, with the best results being recorded in the central and northern parts of the Union.

The European Commission (2018) identifies at the level of the 2018 Country Report on Romania a strong level of disparities between development regions. The Commission's recommendation to reduce these large discrepancies is the proper implementation of active labor market policies to mobilize disadvantaged groups. There are eight development regions in Romania: (i) North-Eastern Development Region, (ii) South-Eastern Development Region, (iii) South-Muntenia Development Region, (iv) South-Western Development Region Oltenia, (v) the Western Development Region, (vi) the North-Western Development Region, (vii) the Center Development Region and (viii) the Bucharest-Ilfov Development Region. These regions were established in 1998 by the Association of County Councils in Romania. The constitution of the regions has been properly achieved with the NUTS II level divisions in the European Union. This constitution came as a necessity of regional development, imperative for the accession of Romania to the European Union. Moreover, each region must operate efficiently in order to achieve the general public sector performance target.

Methodology and data

The classification or grouping method is an important method in the statistical processing of data. Such data hierarchies allow qualitative and quantitative analyses of the socio-economic peculiarities of the studied collectivities. In the particular case of the empirical analysis developed in our study, we achieve a multi-criteria hierarchy of the development regions in Romania. In achieving this goal, we use two methods mentioned in the literature: (i) the relative distance method and (ii) the cluster analysis.

The relative distance method involves transforming the initial values of selected indicators into relative distances from the best value of each indicator for each criterion. So the report $\frac{x_{ij}}{x_{maxj}}$ shows the relative distance of each region „i” to the region with the maximum performance for the indicator / criterion „j”. Finally, determine the average relative distances for each region and calculate the simple geometric mean of all reports determined for all criteria „j”:

$$D_i = \sqrt[m]{\prod_{j=1}^m \frac{x_{ij}}{x_{maxj}}}, \text{ where } m \text{ is the number of criteria used.} \quad (1)$$

The geometric mean shows the central trend or the typical value of a set of data by extracting the root of m , where m represents the number of terms.

An alternative to this method is the rank method, which is based on the relative distance method but involves the construction of an aggregate index using weightings or importance given to the indicators considered. For indicators whose maximum value represents the best value, the partial rank is calculated using the formula:

$$R_j^i = n - \frac{a_j^i - a_j^{min}}{a_j^{max} - a_j^{min}} * (n-1), \text{ cu } i = 1, 2 \dots n ; j = 1, 2 \dots m \quad (2)$$

Where:

a_j^i = the level of the indicator j in the territorial unit i

a_j^{min} = indicator level j in the minimum performance territory unit

a_j^{max} = the level of the j indicator in the maximum performance territory unit

n = number of territorial units

m = number of characteristics (indicators) included in the analysis

For indicators whose minimum value represents the best value, the partial rank is calculated using the following formula:

$$R_j^i = n - \frac{a_j^{max} - a_j^i}{a_j^{max} - a_j^{min}} * (n-1) \quad (3)$$

Where:

a_j^{min} = the level of the j indicator in the maximum performance territory unit

a_j^{max} = the level of the j indicator in the minimum performance tertiary unit

The final rank is obtained by aggregation by applying the formula:

$$\check{R}_j = \frac{\sum_{j=1}^m R_j^i p_j}{100}, \text{ unde } \sum_{j=1}^m p_j = 100\%. \quad (4)$$

We consider that this approach involves a subjective dimension by assigning the weights of each indicator to determine the aggregate index. As a consequence, we believe that approaching the method using geometric means allows for an objective study.

We conduct a study on the quantification and evolution of disparities between all regions of Romania and all regions except the Bucharest-Ilfov region for a period of 11 years from 2007 to 2017. The analysis period was selected as the first year in which Romania has become a member state of the European Union and the last year for which the data collection could be carried out considering the limit of their availability at the level of the specialized institutes. The indicators selected for this analysis are the indicators of sustainable territorial development according to the National Statistics Institute:

- (i) GDP per capita / region, starting from GDP, the primary indicator for economic performance, GDP per capita is an indicator that reveals living standards. GDP per capita is also likely to be the most relevant and enlightening indicator for the well-being of the regions because it is decisive for internal economic well-being. We also consider that the GDP per capita indicator would be strongly correlated with other important aspects of well-being that affect individuals of any community (labor, social or public welfare);
- (ii) gross average wage, an indicator of economic and social development that shows the purchasing power of citizens in a given area as well as a general level of population incomes;
- (iii) the active population, representing persons of at least 15 years of age who supply labor. This indicator is relevant to our study to outline a realistic picture of the region's labor potential;
- (iv) the poverty rate, reflecting the percentage of people living in a material deprivation life below a minimum standard of living;
- (v) the unemployment rate, reflecting the number of unemployed persons and the general labor market.

For an exhaustive analysis of the study of regional disparities, we also apply another highly effective hierarchical tool, the cluster analysis. This analysis is based on a series of classification algorithms that divide a set of variables into homogeneous groups. By working on the principle of the distance between variables, cluster analysis starts from the Euclidean distance determination, where the distance between points x and y is determined using the formula:

$$d(x,y) = \sqrt{\sum_i (x_i - y_i)^2} \quad (5)$$

For the study of the disparities using the cluster analysis, in the years 2007, 2012 and 2017, we selected only three indicators: (i) GDP per capita/region, (ii) gross average wage and (iii) unemployment rate. We consider that this limited selection indicates a more realistic picture of the socio-economic situation of the regions, considering three basic indicators for the analysis of regional disparities. We analyze the years 2007, 2012 and 2017 to capture the evolution of the grouping of regions. The data set is the same as the analysis of relative distances, with data collected from the National Institute of Statistics. The data was processed in SPSS.

Results

We conducted the analysis starting from the year 2007, based on five indicators to achieve a ranking of the regions in Romania. The hierarchy of regions is realised by considering all eight development regions, but also by excluding the Bucharest-Ilfov region from the analysis. In table 1 we note that the Western region is the most developed of the seven provincial regions of Romania. The final rank is the result of the geometric mean of all reported indicator ratios.

Table 1. Relative distances between regions except Bucharest-Ilfov in 2007

| Year 2007 | Region | Indicator-report (xi/ximax) | | | | | Final rank | Position |
|--------------|----------------------------------|-----------------------------|----------------------------|----------------------|-----------------|----------------------|---------------|----------|
| | | GDP / capita | Gross average salary | Active population | Poverty rate | Unemployment rate | | |
| 1 | <i>NORTH-WESTERN Region</i> | 0.83 | 0.92 | 0.69 | 0.49 | 0.98 | 0.76 | 2 |
| 2 | <i>CENTRE Region</i> | 0.88 | 0.93 | 0.61 | 0.54 | 0.50 | 0.67 | 3 |
| 3 | <i>NORTH-EASTERN Region</i> | 0.55 | 0.92 | 1.00 | 0.27 | 0.84 | 0.65 | 5 |
| 4 | <i>SOUTH-EASTERN Region</i> | 0.70 | 0.96 | 0.68 | 0.32 | 0.51 | 0.60 | 6 |
| 5 | <i>SOUTH-MUNTENIA Region</i> | 0.71 | 0.96 | 0.87 | 0.37 | 0.55 | 0.65 | 4 |
| 6 | <i>SOUTH-WESTERN Region</i> | 0.68 | 1.00 | 0.59 | 0.27 | 0.65 | 0.59 | 7 |
| 7 | <i>WESTERN Region</i> | 1.00 | 0.97 | 0.48 | 1.00 | 0.77 | 0.81 | 1 |

By including the Bucharest-Ilfov region in the analysis, it becomes the most developed, at a considerable distance from the other regions, as it can be observed in Table 2.

Table 2. Distances between Bucharest and Ilfov regions in 2007

| Year 2007 | Region | Indicator-report (xi/ximax) | | | | | Final rank | Position |
|--------------|----------------------------------|-----------------------------|----------------------------|----------------------|-----------------|----------------------|---------------|----------|
| | | GDP / capita | Gross average salary | Active population | Poverty rate | Unemployment rate | | |
| 1 | <i>NORTH-WESTERN Region</i> | 0.43 | 0.66 | 0.69 | 0.45 | 0.98 | 0.61 | 3 |
| 2 | <i>CENTRE Region</i> | 0.45 | 0.66 | 0.61 | 0.49 | 0.50 | 0.54 | 4 |
| 3 | <i>NORTH-EASTERN Region</i> | 0.29 | 0.66 | 1.00 | 0.24 | 0.84 | 0.52 | 6 |
| 4 | <i>SOUTH-EASTERN Region</i> | 0.36 | 0.69 | 0.68 | 0.29 | 0.51 | 0.48 | 7 |
| 5 | <i>SOUTH-MUNTENIA Region</i> | 0.37 | 0.69 | 0.87 | 0.33 | 0.55 | 0.53 | 5 |
| 6 | <i>BUCHAREST Region</i> | 1.00 | 1.00 | 0.61 | 1.00 | 1.00 | 0.90 | 1 |
| 7 | <i>SOUTH-WESTERN Region</i> | 0.35 | 0.72 | 0.59 | 0.24 | 0.65 | 0.47 | 8 |
| 8 | <i>WESTERN Region</i> | 0.52 | 0.69 | 0.48 | 0.91 | 0.77 | 0.66 | 2 |

For all 11 years of the analysis, such hierarchies were made, the final results of the final ranks of the regions being presented in table 3. The North-Western Region records the best results in the 11 years analysed, followed by the Western region, which, except for the years, occupies the 2nd position, compared to the first position in 2007 and 2009.

Table 3. Final position of the regions, except for Bucharest-Ilfov

| No. | Region | The final position of the region in the year | | | | | | | | | | |
|-----|------------------------------|--|------|------|------|------|------|------|------|------|------|------|
| | | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| 1 | <i>NORTH-WESTERN Region</i> | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | <i>CENTRE Region</i> | 3 | 5 | 6 | 5 | 5 | 4 | 5 | 5 | 4 | 2 | 2 |
| 3 | <i>NORTH-EASTERN Region</i> | 5 | 4 | 5 | 4 | 3 | 2 | 3 | 3 | 3 | 3 | 3 |
| 4 | <i>SOUTH-EASTERN Region</i> | 6 | 6 | 4 | 6 | 7 | 7 | 6 | 7 | 6 | 6 | 6 |
| 5 | <i>SOUTH-MUNTENIA Region</i> | 4 | 3 | 3 | 3 | 4 | 5 | 4 | 4 | 5 | 5 | 5 |
| 6 | <i>SOUTH-WESTERN Region</i> | 7 | 7 | 7 | 7 | 6 | 6 | 7 | 6 | 7 | 7 | 7 |
| 7 | <i>WESTERN Region</i> | 1 | 2 | 1 | 2 | 2 | 3 | 2 | 2 | 2 | 4 | 4 |

By including the Bucharest-Ilfov region in the analysis of relative distances, this region keeps the first position, with all the other regions following. Such a positioning of the region where the capital of the country is located is natural. Bucharest is Romania's most powerful economic engine, with all the studied indicators having the best values at the capital level (as indicated in results from Table 4).

Table 4. The final position of the regions

| No. | Region | The final position of the region in the year | | | | | | | | | | |
|-----|------------------------------|--|------|------|------|------|------|------|------|------|------|------|
| | | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| 1 | NORTH-WESTERN Region | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 2 | CENTRE Region | 4 | 6 | 7 | 6 | 6 | 5 | 6 | 6 | 5 | 3 | 3 |
| 3 | NORTH-EASTERN Region | 6 | 5 | 6 | 5 | 4 | 3 | 4 | 4 | 4 | 4 | 4 |
| 4 | SOUTH-EASTERN Region | 7 | 7 | 5 | 7 | 8 | 8 | 8 | 8 | 7 | 7 | 7 |
| 5 | SOUTH-MUNTENIA Region | 5 | 4 | 4 | 4 | 5 | 6 | 5 | 5 | 6 | 6 | 6 |
| 6 | BUCHAREST Region | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 7 | SOUTH-WESTERN Region | 8 | 8 | 8 | 8 | 7 | 7 | 7 | 7 | 8 | 8 | 8 |
| 8 | WESTERN Region | 2 | 3 | 2 | 3 | 3 | 4 | 3 | 3 | 3 | 5 | 5 |

Figure 1 shows the evolution of the final scores recorded by all 8 development regions. There is a significant distance between the Bucharest-Ilfov region and all the other 7 regions. The cluster analysis begins with the determination of Euclidean distances (results are presented in Table 5), based on which the dendrogram is outlined as the next step.

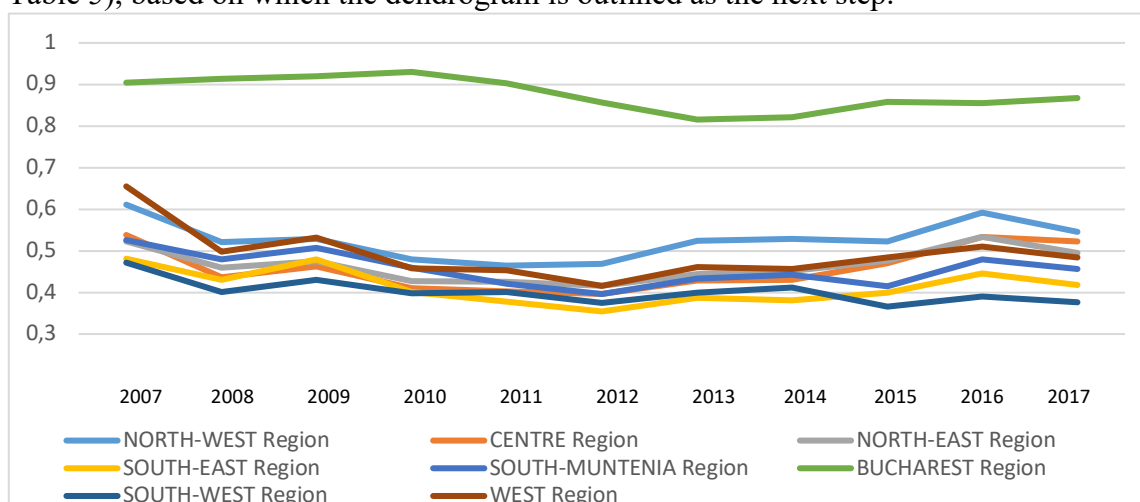


Figure 1. Evolution of the ranks of the regions over the period 2007-2017

Table 5. Euclidean distances between all regions in 2007

Proximity Matrix

| Case | Squared Euclidean Distance | | | | | | | |
|------------|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 1:N_V | 2:Centru | 3:N_E | 4:S_E | 5:S_Munt | 6:Bucurest | 7:S_V | 8:Vest |
| 1:N_V | .000 | 939042.640 | 39307920.65 | 8816004.690 | 8140824.850 | 597082007.3 | 12354243.08 | 13927191.40 |
| 2:Centru | 939042.640 | .000 | 52397346.21 | 15507506.33 | 14607507.53 | 550671624.3 | 20100120.84 | 7633778.760 |
| 3:N_E | 39307920.65 | 52397346.21 | .000 | 10898160.70 | 11677516.90 | 942674742.6 | 7608147.210 | 100023137.3 |
| 4:S_E | 8816004.690 | 15507506.33 | 10898160.70 | .000 | 13457.360 | 750861537.1 | 299508.490 | 44891428.85 |
| 5:S_Munt | 8140824.850 | 14607507.53 | 11677516.90 | 13457.360 | .000 | 744518053.5 | 439177.690 | 43350441.65 |
| 6:Bucurest | 597082007.3 | 550671624.3 | 942674742.6 | 750861537.1 | 744518053.5 | .000 | 780929830.3 | 428637143.9 |
| 7:S_V | 12354243.08 | 20100120.84 | 7608147.210 | 299508.490 | 439177.690 | 780929830.3 | .000 | 52486346.16 |
| 8:Vest | 13927191.40 | 7633778.760 | 100023137.3 | 44891428.85 | 43350441.65 | 428637143.9 | 52486346.16 | .000 |

Figure 2 presents the clustering of all the eight development regions in 2007. The results indicate the existence of two clusters. One is represented by the Bucharest-Ilfov region, and the second is consisting of the other seven development regions.

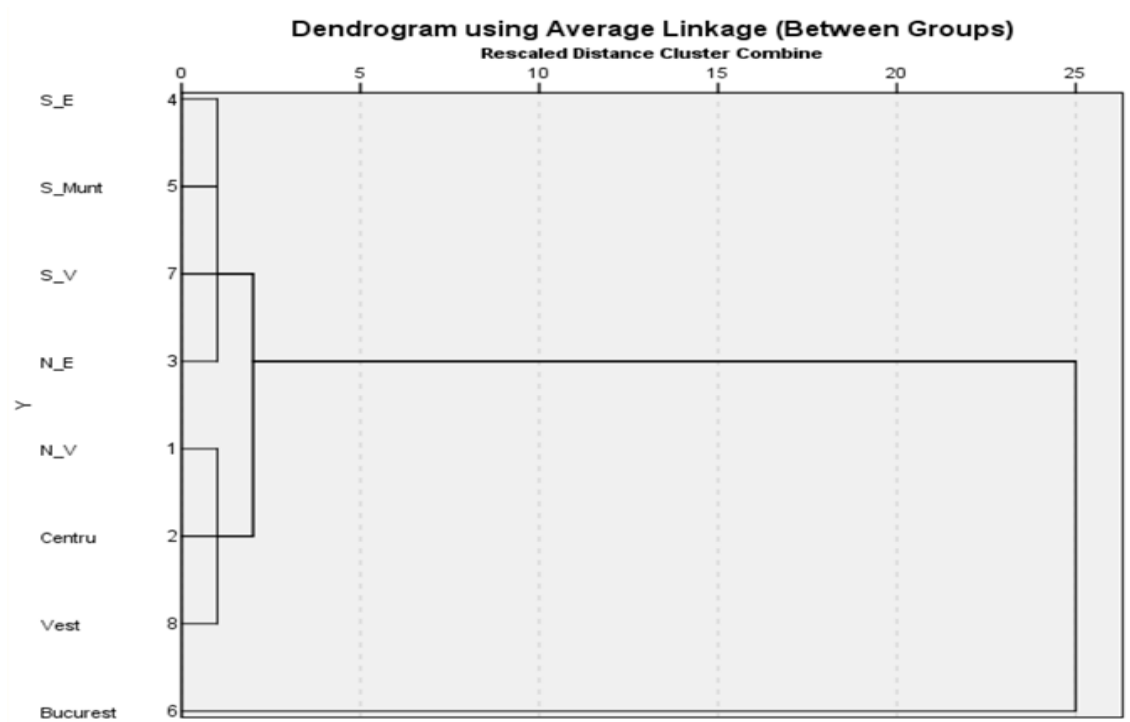


Figure 2. Dendrogram clustering all regions in 2007

An analysis of the regions by excluding the Bucharest-Ilfov region in 2007 indicates the existence of two clusters (illustrated in the Figure 3). One consists of the best-performing regions: Western, Center and North-Western regions, and the second cluster, based on the weakest regions: North-Eastern, South-Western, South-Muntenia, and South-Eastern regions.

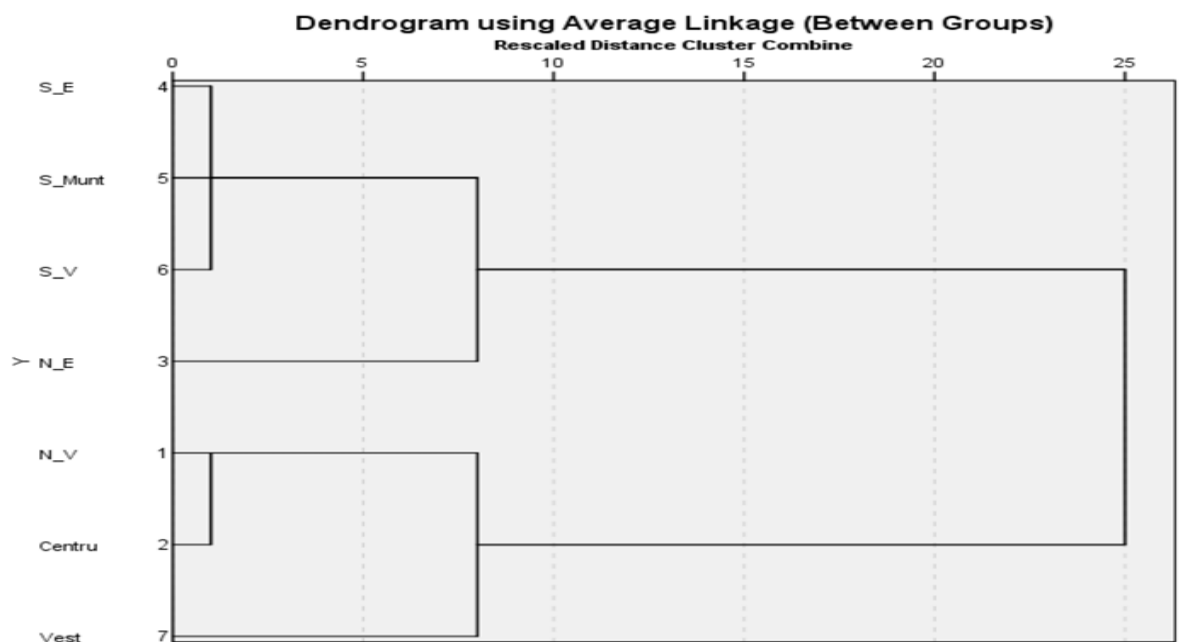


Figure 3. Dendrogram clustering all regions, except for Bucharest-Ilfov in 2007

Repeating the analysis in 2012 we do not identify significant changes in the grouping of the eight development regions in Romania. Once again, the Bucharest-Ilfov region forms an independent cluster while all the other regions form the second cluster (Figure 4).

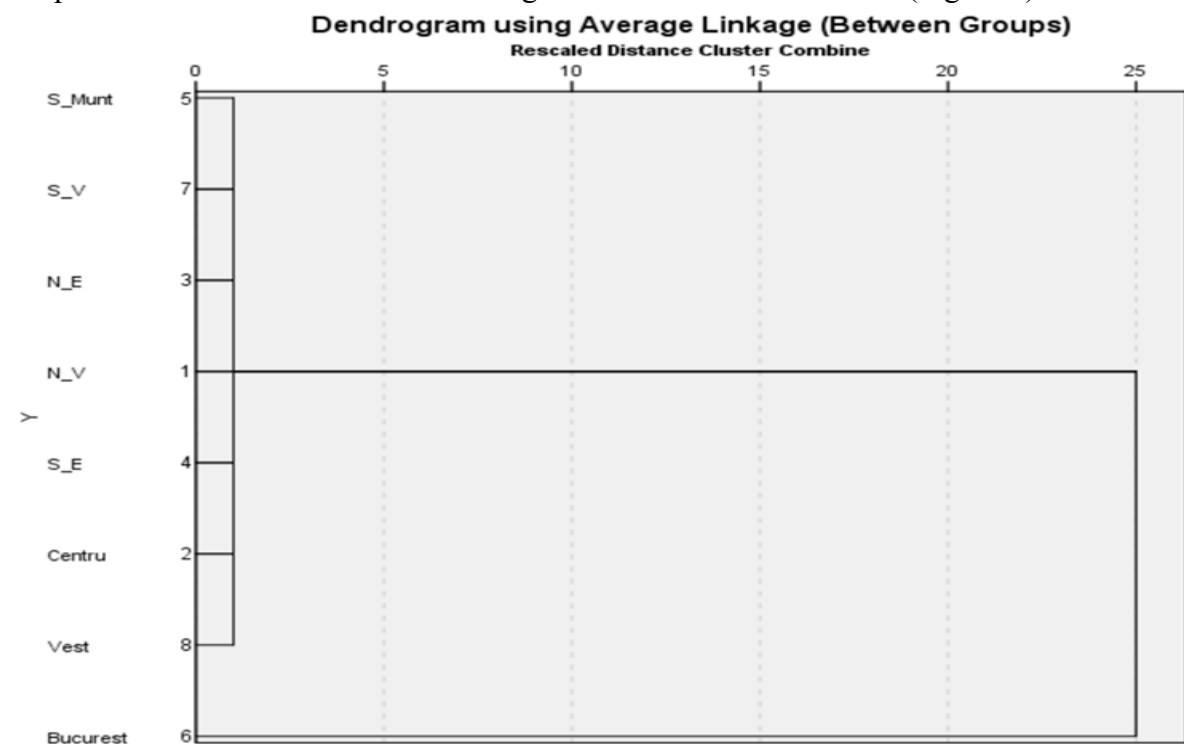


Figure 4. Dendrogram clustering all regions in 2012

In the year 2012, we notice a small change compared to 2007 in the grouping of regions, with the exception of the Bucharest-Ilfov region. We observe two clusters, but the South-Eastern region becomes part of the cluster containing the best performing regions (Figure 5).

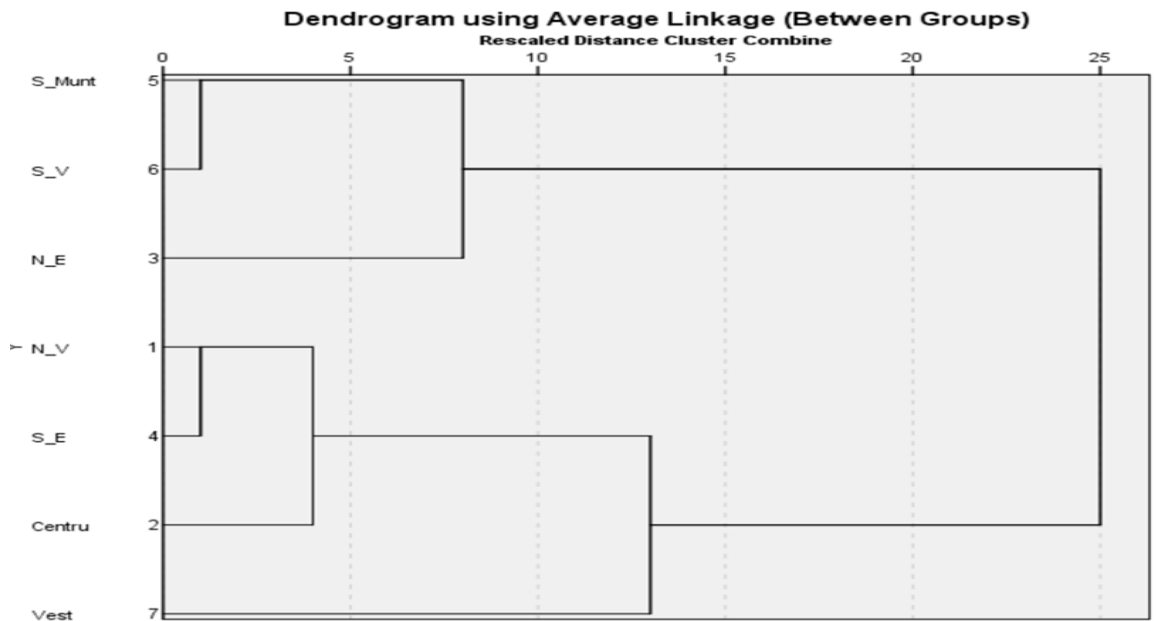


Figure 5. Dendrogram Clustering regions, except for Bucharest-Ilfov in 2012

In 2017, the distances between the Bucharest-Ilfov region are maintained. We identify the same two clusters, one representing the Bucharest-Ilfov region, and the other all the other regions (Figure 6).

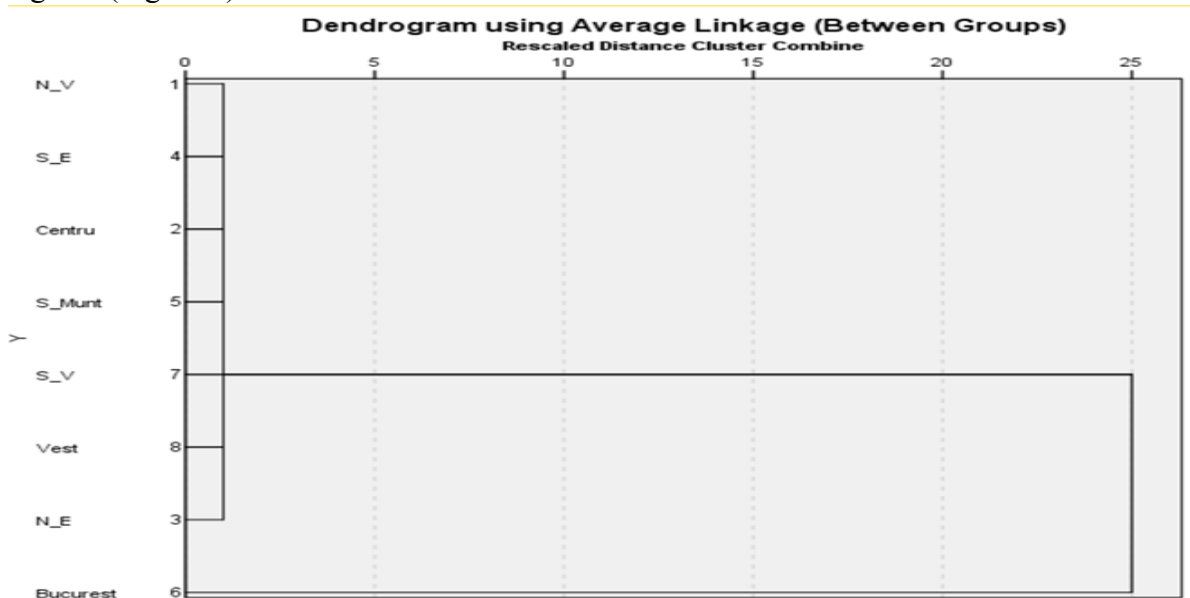


Figure 6. Dendrogram clustering all regions in 2017

Figure 7 illustrates the existence of three clusters in the analysis, realised after the exclusion of the Bucharest-Ilfov region. A cluster is based on the Western region, which has the best results, the second one is consisting of the North-Eastern region, with the worst result, and the third cluster gathers all the other regions.

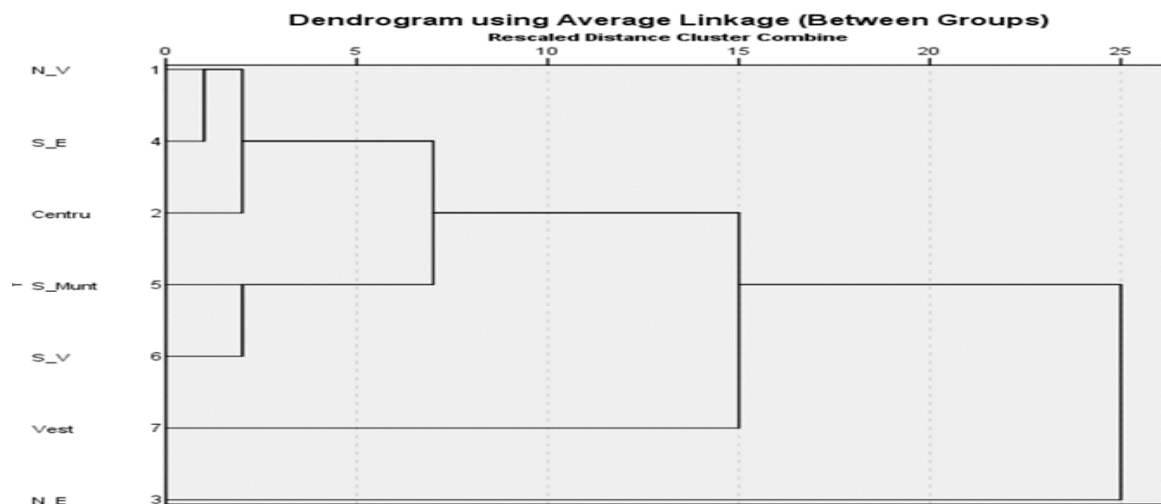


Figure 7. Dendrogram clustering all regions, except for Bucharest-Ilfov in 2017

Conclusions

This paper aimed to analyse the level and evolution of regional disparities in Romania. We have identified major discrepancies between the development regions in Romania, the Bucharest-Ilfov region being the most detached from all the other seven development regions. High levels of regional disparities have been identified between the development regions in Romania, and these are maintained throughout the analysis period.

Achieving public sector performance is a difficult task involving multiple areas and areas of activity. A condition for an efficient public sector is the consolidation of regional disparities in line with the EU Cohesion Policy. First, we identified from the rich literature on the analysis of regional disparities various methods of quantifying them. After considering them and the data available, we selected two well-established and relevant methods for studying disparities: the relative distance method and the cluster analysis. These methods allowed us to classify the regions, as well as to group them into clusters. The process of reducing regional disparities is a difficult one, involving time and sustained efforts from both, national authorities and European institutions. This paper is of interest to decision-makers at the national level, for academia, and also for Romanian citizens, setting up the basis for future research on regional disparities.

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A. Пелін

ОЦІНКА РОЗВИТКУ РЕГІОНАЛЬНИХ ДИСПРОПОРЦІЙ У РУМУНІЇ

Ця стаття досліджує рівень та розвиток регіональних диспропорцій у Румунії протягом періоду 2007-2017. Досягнення ефективності державного сектору є складним завданням, яке охоплює багато сфер і сфер діяльності. Умовою ефективного державного сектору є консолідація регіональних диспропорцій відповідно до Політики згуртованості ЄС. У цьому дослідженні ми використовуємо дві методології, що мають велике значення та добре зарекомендували себе в літературі: (i) метод відносної відстані та (ii) кластерний аналіз. Результати емпіричного аналізу вказують на значну розбіжність між регіоном Бухарест-Ілфов та всіма іншими семи регіонами розвитку. Ми виявили великі розбіжності між регіонами розвитку в Румунії, регіон Бухарест-Ілфов є найбільш відокремленим від усіх інших семи регіонів розвитку. Було виявлено високі рівні регіональних відмінностей між регіонами розвитку в Румунії, які зберігаються протягом аналізованого періоду.

Процес зменшення регіональних диспропорцій є складним, що вимагає часу та постійних зусиль як національних органів влади, так і європейських інституцій. Цей документ представляє інтерес для тих, хто приймає рішення на національному рівні, для наукових кіл, а також для громадян Румунії, створюючи основу для майбутніх досліджень регіональних відмінностей. За період аналізу суттєвих змін у позиціонуванні регіонів не спостерігається. Регіональні диспропорції не зменшувались за розглянутий період, хоча існують європейські та національні програми з цього питання. Тому ми дійшли висновку, що ефективний державний сектор повинен узгодити подолання регіональних диспропорцій з політикою згуртованості ЄС.

Ключові слова: регіональні диспропорції, метод відносної відстані, кластерний аналіз, Румунія.