

MEASURING THE INEQUALITIES OF ECONOMIC DEVELOPMENT BETWEEN THE REGIONS OF DEVELOPMENT THROUGH THE METHOD OF RELATIVE DISTANCES

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Abstract

The analysis of the economies of all states, it was observed that differences in the development of regions, areas and regions of countries have led to disruptions in the economy. Thus while in developed countries have differences in territorial development significantly lower, they are eliminated by the development of a country is lower.

The paper presents a brief analysis of the level and dynamics of regional disparities in Romania. In order to estimate the development of regional disparities various methodologies were used, for instance method of relative distances.

Keywords: regional disparities, regional development indicators, measures of regional disparity;

Classification JEL: C13, R11, R23

1. INTRODUCTION

According to the economy dictionary, economic gaps are defined as "quantitative and qualitative discrepancies between the levels of economic development of the countries measured by comparing some macroeconomic indicators such as: gross domestic product, net national product per inhabitant, branch structure of the economy and the weight of different branches in the formation. the gross domestic product, the production and consumption per inhabitant of the main products and services, the degree of literacy, the structure of the external trade, indicators of the economic and social welfare "[1].

Even though statistical data regarding the socio-economic situation of the regions. Of development present some time variations (in particular due to local factors), their analysis indicates that economic growth had a significant geographic component, the underdeveloped areas being concentrated in North-East at the border with Moldova and in the South along the Danube. Thus, it might be said that the regional disparity poles are the result of the North-East region with a GDP/capita in 2015 of 5300 euro/inhabitant and the Bucharest-Ilfov region with 20500 euro/inhabitant, which is almost four times higher than the one of the North-East region[6].

The measurements for various aspects of quantitative and qualitative, are used to using a set of indicators, the possibilities are limited to statistical data from official territorial.

In terms of GDP / capita at regional level, the relationship between the ratio of the highest GDP / capita (Bucharest region) and the lowest GDP / capita (Sud-Vest Region) is presented in Table 1.1.:

TABLE 1.1

The ratio of the highest GDP/capita and the lowest GDP/capita per year					
2008	2010	2012	2014	2015	2017
3,91	3,09	3,40	3,70	3,79	3,77

Sursa: Calcule proprii pe baza anexei 1

However, if we exclude from these calculations the Bucharest-Ilfov, because it includes the capital, the most developed region of Romania, the ratio of GDP / capita with the highest value and GDP / capita the lowest value is shown in Table 1.2.

TABLE 1.2

The ratio of the highest GDP/capita and the lowest GDP/capita per year (except the Bucharest-Ilfov region)					
2008	2010	2012	2014	2015	2017
1,75	1,55	1,53	1,79	1,66	1,61

Sursa: Calcule proprii pe baza datelor din anexa 1

As result, regional disparities in Romania represent a real challenge and their understanding is essential in promoting regional development policies that would ensure the harmonious economic development and the improvement of the living standard in the entire country.

The paper has as purpose using a sample of socio-economic indicators selected at the level of the eight regions of development from Romania, and of some statistical methods to quantify regional disparities for providing some empirical perspectives about the current situation of these territorial units from Romania.

2. General considerations on the relative distance regions

Relative distance method is a method that allows observation of the relative distance of each county / region to the county / region that records up to national level. Maximum variation to the county / region is at a distance determined by the relative size of less than 100% coordination, and then a geometric mean of the relative size of each county Coordination called average distance, calculated using a synthetic indicator (I).[3]

By applying this method to obtain a clearer hierarchy of regions, because the method requires relative distances for each ranking criterion, determining the relative distance of each unit to one that records the maximum.

The method involves setting up a fictitious units whose characteristics have the highest quality in corporate performance observed. Then we chose a method of measuring the distances between the real and the drive unit shell, every feature under study and finally, we have established a process of aggregation of information from every real unity. Thus, in this case, expressing the distance seen in each feature studied was the relative size of coordination as calculated for each element of corporate performance to drive with maximum quality.

Aggregation of specific regions coordinate quantities in a synthetic environment index was obtained by using the geometric mean. Average synthetic index was recalculated, reporting the average synthetic index of each region to the maximum level of that of the entire studied.

The basis of comparison being the maximum variation for each feature, comparisons between units were limited between 0-100%.

Final rank is achieved by assigning each region based on synthetic index value obtained (Table 1.3)[4].

Table nr. 1.3.

Ranking of regions by the method relative distances in 2008

REGIONS	Ranks assigned by:				Index Synthetic (I)	Final Ranks
	GDP/capita	Rate unemployment	Activity rate	Occupancy rate		
Nord-Est	25,57	56,07	97,44	94,98	60,35	8
Sud-Est	34,33	70,09	90,22	86,83	65,89	5
Sud	34,59	74,76	98,79	94,20	70,03	3
Sud-Vest Oltenia	32,20	63,55	97,29	93,88	65,75	6
Vest	45,00	56,07	93,83	91,84	68,28	4
Nord-Vest	36,84	52,33	88,12	86,52	61,91	7
Centru	39,43	100	92,93	86,36	75,00	2
București-Ilfov	100	37,38	100	100	78,19	1

Graph 1.1. Ranking of regions according to relative distances method for 2008 (the lowest rank = favorable situation)

Next we analyze how the situation hierarchy of regions in 2010 (Table 1.4.)

Table nr. 1.4.

Ranking of regions by the method relative distances in 2010

Regions	Rank assigned by:				Index synthetic(I)	Final Rank
	GDP/capita	Rate unemployment	Activity rate	Ocupancy rate		
Nord- Vest	37,5	63,1	93,5	92,5	71,65	5
Centru	40,2	100	88,0	83,7	77,98	2
Nord Est	25,8	53,3	100	100	69,78	8
Sud-Est	34,5	79,6	90,9	88,3	73,33	4
Sud	34,8	75,7	96,9	94,4	75,45	3
Bucuresti-Ilfov	100	45,6	97,9	99,2	85,68	1
Sud-Vest Oltenia	32,2	73,0	96,3	94,1	70,9	7
Vest	47,5	58,2	90,3	90,2	71,55	6

Table nr. 1.5.

Ranking of regions by the method relative distances in 2016

Regions	Rank assigned by:				Index synthetic(I)	Final Rank
	GDP/capita	Rate unemployment	Activity rate	Ocupancy rate		
Nord- Vest	37,5	43,4	93,9	92,7	66,88	6
Centru	40,6	52,5	86,5	84,6	66,05	7
Nord Est	26,6	30,3	99,7	100	64,15	8
Sud-Est	38,4	77,7	86,9	81,8	71,2	4
Sud	33,3	89,9	92,8	86,8	75,7	2
Bucuresti-Ilfov	100	47,4	100	98,2	86,4	1
Sud-Vest Oltenia	32,0	100	80,3	80,7	73,25	3
Vest	44,9	49,4	89,4	88,8	68,13	5

3. Conclusion

After ranking the regions by the method relative distances, according to GDP / capita, unemployment rate, employment rate, activity rate, according to tables 1.3, 1.4 and 1.5 we get an overview of the Bucharest-Ilfov region that ranks first, through the synthetic index followed by the West. In last place is situated North-East. Such a result confirmed by this method is that the Bucharest-Ilfov region the situation has proved most advantageous in terms of the criteria used.

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Evolution of the regional gross domestic product 2010-2017

Regiunea	2010	2012	2014	2015	2017
Nord-Vest	60723,9	67650,5	76641,5	81669,4	99403
Centru	60409,1	67715,4	73205,0	78814,5	96703
Nord Est	56763,1	61423,7	67169,4	71470,3	86109
Sud-Est	56363,6	54813,5	75239,3	76187,3	90865
Sud	66193,0	71087,1	86814,7	86647,2	103846
Bucuresti-Ilfov	132050,3	157693,8	178921,9	197788,4	243515
Sud-Vest Oltenia	42614,7	46273,3	48340,0	52067,7	64479
Vest	53852	58223,6	61339,4	67446,5	81787
TOTAL	529623,5	595367,3	668143,6	717658,5	858333

Source : Statistical Yearbook of Romania 2012,2015,2016, 2017

Rate unemployment 2010,2012,2014,2016

Regiunea	2010	2012	2014	2016
Nord-Vest	6,5	4,6	3,8	4,3
Centru	10,3	9,5	9,2	5,2
Nord Est	5,5	4,2	4,2	3
Sud-Est	8,2	9,4	10,4	7,7
Sud	7,8	9,5	9,0	8,9
Bucuresti-Ilfov	4,7	6,5	7,2	4,7
Sud-Vest Oltenia	7,3	6,1	6,5	9,9
Vest	6,0	5,1	4,8	4,9
TOTAL	7,0	6,8	6,8	5,9

Source: www.insse.ro/ repere economice si sociale regionale, statistica teritoriala 2016, rata somajului calculata conform definiției internaționale BIM (BIM = Biroul Internațional al Muncii).

Activity rate 2010,2012,2014,2016

Regiunea	2010	2012	2014	2016
Nord-Vest	64,2	65,4	66,4	66,9
Centru	60,4	59,3	60,4	61,6
Nord Est	68,6	68,8	69,9	71,3
Sud-Est	62,4	62,0	60,9	61,3
Sud	66,5	64,6	66,8	66,1
Bucuresti-Ilfov	67,2	68,2	69,5	71,2
Sud-Vest Oltenia	66,1	66,7	66,8	62,2
Vest	62,0	61,6	62,4	60,1
TOTAL	64,9	64,8	65,7	65,6

Source: www.insse.ro/ repere economice si sociale regionale, statistica teritoriala 2016

Occupancy rate 2010,2012,2014,2016

Regiunea	2010	2012	2014	2016
Nord-Vest	59,8	62,3	63,8	64,0
Centru	54,1	53,6	54,8	58,4
Nord Est	64,6	65,7	66,8	69,0
Sud-Est	57,1	55,9	54,4	56,5
Sud	61,0	58,1	60,5	59,9
Bucuresti-Ilfov	64,1	63,8	64,5	67,8
Sud-Vest Oltenia	60,8	62,3	62,1	55,7
Vest	58,3	58,4	59,4	57,2
TOTAL	60,2	60,2	61,0	61,6

Source: www.insse.ro/ repere economice si sociale regionale, statistica teritoriala 2016