

PERFORMANCE AND DEVELOPMENT LEVEL - COMPARATIVE ANALYSIS OF DISPARITIES AMONG REGIONS OF DEVELOPMENT AND MACRO-REGIONS IN ROMANIA

MARIA OȚIL

LECTURER Ph.D, FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION, WEST
UNIVERSITY OF TIMISOARA
e-mail:maria.otil@e-uvt.ro

MONICA BOLDEA

LECTURER Ph.D, FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION, WEST
UNIVERSITY OF TIMISOARA
e-mail:monica.boldea@e-uvt.ro

Abstract:

The major challenge of the regional policies is to mitigate the social and economic disparities between different territories and regions. The immediate reality shows that this is a problem which is neither simple nor for short term. For Romania, which has large lags behind compared to the economically developed countries, the intense mobilization of internal and external factors of economic growth in order to reduce and eliminate disparities compared to other countries, is a definite necessity, a regularity resulting from regional and national interests in terms of its finality - the welfare of society. The economic crisis has increased regional disparities in the European Union countries, these especially affecting the countries which are less economically efficient.

The present research aims at accomplishing a comparative analysis regarding disparities among regions of development and macro-regions of Romania in order to assess the performance of the productive sector, of the structural types of economies and of their level of development.

Key words: regional disparities, regions and macro-regions of development, regional development, regional level, sectorial structure

JEL Classification: R11, R12

1. Introduction

In all theoretical and practical steps considering the foundation of strategies and policies of economic and social development at territorial level *the region* represents the key element. *The region* involves an area in the national economic space, structurally sufficiently comprehensive to operate independently, although in reality it certainly has close ties with the rest of the economy.

An important place in the current economic literature is owned by issues concerning the disparities and the convergence between the Member States of the European Union, the relevance of the subject matter being given by the multitude of studies and research in the field. The literature in the field explains the existence of these gaps by reference to the presence of concentration trends (agglomeration) due to the region's external factors (such as the phenomenon of globalization and integration processes of companies and even of nation - states) but also internal, local factors (clustering, the emergence of growth / development poles, involving local institutions in various aspects of the economic life, etc.). In these circumstances, the disparities are the result of differentiated endowment of production factors (natural and human resources) as well as the of the differentiation between the methods of evolution of these structures from economic, technical, demographic, socio-political and cultural points of view, which influenced their development over time. Thus can be explained the prevalence of agriculture as an economic force in regions where weather conditions were favorable, the prevalence of the heavy industry in areas where resources of iron ore and coal were found, and respectively the concentration of the services' sector in administrative centers.

2. The literature in the field

According to the Explanatory Dictionary of the Romanian language *disparity* means lack of equality, of proportion, mismatch, or contrast. In the same range of meanings we find the notion of *gap*, which means distancing in

time or space, disproportion, mismatch, and the notion of *difference* which means contrast, lack of resemblance, mismatch. The Dictionary of Economics defines economic gaps as quantitative and qualitative discrepancy between levels of economic development of countries measured by comparing macroeconomic indicators.

The concept of *disparity* is used in the economic theory and practice to express the differences and gaps identified using appropriate mathematical techniques, using some indicators (of level or structure) or indices. The evaluation of disparity is determined both by the territorial dimension at which the reporting is done (regional, sub-regional, national, supranational, etc.) and the temporal dimension.

The reducing of regional disparities cannot ignore the requirements of the technological revolution and the development of the information society, given the need to adapt the citizens, the public and private sector to the use of information and telecommunications networks.

The theoretical approaches on regional disparities focus on the analysis of the nature of income differences within a territory, over a period of time, and the approaches to convergence consider the process of poor countries catching up with richer ones.

The socio - economic progress of any country with effects on the regions of a country is closely related to economic growth. On the continuous increase at optimal pace in national income depends the accomplishing of objectives which society sets for itself at a certain stage. The high rates of economic growth allow achieving higher absolute increases and therefore lead to the faster increase towards a higher level of material and spiritual civilization. From a certain level of economic development, the higher rates of economic growth in less developed countries require the achievement of equal per capita production increases and then higher than the ones in industrialized countries, accelerating the reducing of relative disparities, entering a new phase - that of the absolute gap eradication.

The deepening of the integration process through the EU enlargement has highlighted other issues related to the nature and extent of disparities. Regional disparities regarding the development and living standards of the population have been and a concern for all Member States. The size of the gap varies according to the type of region, the intra- and inter-regional nature of interdependencies. It can be stated that a high level and an emphasized dynamic of the national activity tend to reduce interregional disparities in the national arena, while specialization and other sociological and cultural factors favor the differentiated division of activities in the territory. Thus, disparities may be determined due to a high degree of specialization, leading to an increase in the concentration of economic activities in areas that provide favorable conditions, bypassing other areas that are closed, isolated or inaccessible.

Friedman's *center-periphery* theory emphasizes the *autonomy - dependence* model, which regards the space of the national economy as a system in which power distribution tends to be uneven, reflecting a dominant and persistent pattern of exchanges between cities and between regions. The center-periphery distinction is not addressed according to differences in the degree of industrialization, urbanization (although central regions have a strong industrial sector and include large urban centers), but more closely, based on the idea that a central region is a major center of the innovation process. More specifically, the central regions are “subsystems of the society with territorial organization, having an increased capacity to generate and absorb innovations”, while peripheral regions are defined as “subsystems whose development trajectory is significantly determined by the institutions in the central regions, with which they are in a relation of dependence” (Friedman, 1972). [6] The central regions are defined in terms of control over their own destinies, while peripheral regions are dependent on and controlled by the central ones (E R. Baldwin, 1999).

There are theories that forecast the convergence of regional disparities, while others provide increased regional divergence. The concept of convergence has generated over time a number of scientific studies, although the problem of convergence is still insufficiently explored in the current economic literature. We notice the increase of its importance in economic studies developed both internationally (de la Fuente, 1992); (Quah, 1996); (Barro, Sala-i-Martin, 1992), as well as at national level (Iancu A., 2005, 2009); (Dinu M.,2005); (Marinas M., 2008); (DL, Constantin, 2008). [1]

For Romania, which registers large lags behind compared to the economically developed countries, the intense mobilization of internal and external factors of economic growth in order to reduce and eliminate disparities compared to other countries is a real necessity, a regularity resulting from regional and national interests based on the results, i.e. increased welfare. Recent studies show that the economic crisis has increased regional disparities in the European Union countries, influencing the most important regions, especially the economically less advanced ones, and in the Eastern European countries there is a high unemployment rate, the significant regional differences being identified at the NUTS 3 level (Holúbek, Vrábelová și Milan Maros, 2014).

The analysis framework of the study consists of regions included in the NUTS system, a statistical system regulated in the European Union by the Department of Statistics, Eurostat. In the contemporary context, the formation of a region is the result of the process of regionalization with its double valence: the region formed by delimitation relative to other areas, and the region as a result of integration. Considering the region as a space delimited within the national state, turns the regional policy objectives into an issue of territorial location, of efficiency and of balance between regions, i.e., an issue of diminishing regional disparities within the national space. In this situation, the feeling of belonging to the community may be found among the underlying premises of economic growth.

The regional demarcation criterion in the NUTS system is the population in an area. The most relevant argument to such a criterion is that the goal of all activities in a society is meeting the needs of the individual and of the community. This possibility is provided by a certain level of economic development of the region. [8]

3. The analysis of indicators characteristic to regions of development in Romania

The present work aims at a comparative analysis of disparities at the level of the regions of development and of the macro-regions in Romania in order to assess the performance of the productive sector, of the structural type of the economy, and their level of development. The assessed regional disparities are related to the gross domestic product (GDP) total and per capita, to the total employed population (E) in the primary, secondary and tertiary sector, and labor productivity (W).

The analysis and interpretation of the indicators mentioned above provides an overview of the situation at the local level and, by comparison, highlighting regional disparities.

It is clear that disparities are present among the 8 regions of development existing in Romania (Table no 1).

Table no. 1 **Level of indicators characteristic for the regions of development**

Regions	PIB (mill.lei)			Employed (thousands)			Labor productivity (lei/pers.)		
	2007	2009	2011	2007	2009	2011	2007	2009	2011
Romania	416006,8	501139,4	557348,2	8725,9	8410,7	8365,5	47674,94	59583,55	66624,61
NORTH-WEST	50724,1	57900,2	61060,3	1186,5	1156,5	1156,7	42751,03	50065,02	52788,36
CENTRE	49416,7	57100,9	61489,7	1049,9	1001,8	1006,8	47068,01	56998,30	61074,39
NORTH-EAST	45990,1	54408,4	57082,7	1262,3	1208,2	1192,8	36433,57	45032,61	47856,05
SOUTH-EAST	44273	52706	59402,3	1056,5	1011,1	986,2	41905,35	52127,39	60233,52
SOUTH-MUNTENIA	52013,50	65141,8	69894,9	1214,8	1159,9	1154,5	42816,51	56161,57	60541,27
BUCHAREST-ILFOV	95798,2	124288,8	148205,6	1211,7	1220,3	1224,5	79060,99	101851,02	121033,56
SOUTH-WEST OLTENIA	34419,6	39953,8	44415,1	875	836,1	828,9	39336,69	47785,91	53583,18
WEST	42995,7	49200,2	55289,7	869,2	816,8	815,1	49465,83	60235,31	67831,80

Source: Own calculation based on INSSE data, Tempo online

The GDP level corresponding to the development regions ranges from the highest value of 148205,6 mill lei, value recorded in 2011 (Bucharest- Ilfov region), to the lowest level of 44415,1 million (South-West Oltenia region). The highest level of employment is registered in the North-East region for the year 2007, the employment level is high, of 1262,3 thousand people, and the lowest level, of 869,2 thousand people, was registered in the W region of development. In the years 2009 and 2011 the Bucharest- Ilfov region recorded the highest level of employment, the North-East region of development being surpassed, and in the West region remaining at the opposite end with the lowest level of employment .(table no.1and table no.2) The indicators are linked to the economic potential of the regions, based on the results and on terms of employment in economic activities.

Table no. 2. **The contribution of regions to the GDP formation and the structure of employment**

Regions	GDP (%)			E (%)		
	2007	2009	2011	2007	2009	2011
Romania	100,00	100,00	100,00	100,00	100,00	100,00
NORTH-WEST	12,19	11,55	10,96	13,60	13,75	13,83
CENTRE	11,88	11,39	11,03	12,03	11,91	12,04
NORTH-EAST	11,06	10,86	10,24	14,47	14,37	14,26
SOUTH-EAST	10,64	10,52	10,66	12,11	12,02	11,79
SOUTH-MUNTENIA	12,50	13,00	12,54	13,92	13,79	13,80
BUCURESTI - ILFOV	23,03	24,80	26,59	13,89	14,51	14,64
SOUTH-WEST OLTENIA	8,27	7,97	7,97	10,03	9,94	9,91
WEST	10,34	9,82	9,92	9,96	9,71	9,74

Source: Own calculation based on INSSE data, Tempo online

The performance of the productive system measured by labor productivity registers the highest value in the Bucharest- Ilfov region and the lowest level in the North-East region throughout the analyzed period. Two regions

exceed the average level of labor productivity - region West and Bucharest- Ilfov region, considered among the most dynamic regions.

4. Analysis of the indicators characteristic to macro-regions of development in Romania

At the macro-region level (table no.3) GDP is the lowest in the macro-region 4, which also has the lowest level of employment. The average level of productivity is exceeded only in the macro-region 3.

Table no. 3 The level of indicators characteristic to macro-regions

Macro-regions	year	GDP(mil lei)	Employment (thousands)	W (lei/capita)	GDP %	E%
1 (Nord Vest , Centre)	2007	100140,80	2236,40	44777,68	24,07	25,63
	2009	115001,10	2158,30	53283,19	22,95	25,66
	2011	122550,00	2163,50	56644,33	21,99	25,86
2(North East , South East)	2007	90263,10	2318,80	38926,64	21,70	26,57
	2009	107114,40	2219,30	48264,95	21,37	26,39
	2011	116485,00	2179,00	53458,01	20,90	26,05
3(South Muntenia, Bucharest Ilfov)	2007	147811,70	2426,50	60915,60	35,53	27,81
	2009	189430,60	2380,20	79586,00	37,80	28,30
	2011	218100,50	2379,00	91677,39	39,13	28,44
4(South West Oltenia, West)	2007	77415,30	1744,20	44384,42	18,61	19,99
	2009	89154,00	1652,90	53937,93	17,79	19,65
	2011	99704,80	1644,00	60647,69	17,89	19,65
TOTAL	2007	416006,80	8725,90	47674,94	100,00	100,00
	2009	501139,40	8410,70	59583,55	100,00	100,00
	2011	557348,20	8365,50	66624,61	100,00	100,00

Source: Own calculation based on INSSE data, Tempo online

The most of the GDP of over 35% belongs to the macro-region 3 in which employment is at its highest level - 28%. In the macro-region 4 there are joint two regions of development with the lowest contribution to the GDP, 18%, and the lowest level of employment, 19%. The situation can be explained by the low level of labor productivity in the macro-region 4.

The disparities' deviations can be analyzed (table no. 4) in a comparative manner for indicators at the level of regions of development and of the macro-regions.

It is noted that the Bucharest Ilfov development region represents the limit to a maximum level of the GDP and W. At the minimum level there is the South West Oltenia region of development for the level of GDP, and for the level of productivity there is the North East region. If the absolute deviation compared to the total GDP level is between 14.75% and 18.62% for w, the absolute deviation varies between 89.41% - 109.84% compared to its average level. Obviously, the North East Development Region is a region with a underperforming productive system.

Table no. 4 Regional disparity deviation

Indicators and region type		Regions at deviation level	Absolute deviation	Relative deviation to the total/average level of the indicator
		Max / min		
GDP	Year		Mill.lei	Relative deviation to the total level of the indicator
				%
Regions of development	2007	6/7	61378,6	14,75
	2009	6/7	84335	16,83

	2011	6/7	103790,5	18,62
Macro-regions	2007	3/4	70396,40	16,92
	2009	3/4	100276,60	20,01
	2011	3/4	118395,70	21,24
E			Thousands of persons	
Regions of development	2007	3/8	393,1	4,50
	2009	6/8	403,5	4,80
	2011	6/8	409,4	4,89
Macro-regions	2007	3/4	682,30	7,82
	2009	3/4	727,30	8,65
	2011	3/4	735,00	8,79
W labor			Lei/capita	Relative deviation to the average level of the indicator (%)
Regions of development	2007	6/3	42627,42	89,41
	2009	6/3	56818,41	95,36
	2011	6/3	73177,51	109,84
Macro-regions	2007	3/2	21988,96	46,12
	2009	3/2	31321,05	52,57
	2011	3/2	38219,38	57,37

Source: Own calculation based on INSSE data, Tempo online

For macro-regions it is obvious the influence of the Bucharest- Ilfov development region in the macro-region 3, which registers the highest level for all indicators. The lower limit of the deviation is represented by the macro-region 4 for the level of GDP and of employment, having the South West Oltenia region in its development structure. Regarding productivity, the macro-region 2, having the North-East region of development in its development structure, indicates the lower limit of the deviation, representing 46.12% of its level - 57.37% of the average level of productivity.

5. The sectorial structure of employment at the regional level

In order to assess the structural type of economy, the productive system performance and the level of economic development of the regions, we analyzed the structure of employment in the three sectors of the regional economy (it is considered that the primary sector is the agriculture, the secondary – industry, and the tertiary - services.)

Table No. 5 The sectorial structure of employment

Regions of development	Sector I			Sector II			Sector III		
	2007	2009	2011	2007	2009	2011	2007	2009	2011
NORTH-WEST	31,13	31,40	31,77	29,70	29,46	29,47	39,17	39,14	38,76
CENTRE	23,53	24,25	24,24	33,94	33,23	33,64	42,54	42,52	42,12
NORTH-EAST	39,50	40,50	41,54	23,91	23,11	22,85	36,59	36,39	35,61
SOUTH-EAST	31,60	32,28	33,74	28,23	27,76	27,07	40,16	39,96	39,19
SOUTH-MUNTENIA	35,83	36,63	37,21	28,91	28,23	28,01	35,26	35,14	34,78
BUCHAREST-ILFOV	3,56	2,95	3,02	29,12	28,30	26,82	67,32	68,75	70,16
SOUTH-WEST OLTENIA	38,06	39,19	40,09	27,21	26,42	25,88	34,73	34,39	34,03
WEST	23,69	24,53	24,95	34,72	33,37	34,25	41,59	42,09	40,79
Romania	28,26	28,66	29,19	29,26	28,53	28,27	42,48	42,81	42,54

Source: Own calculation based on INSSE data, Tempo online

According to the sectorial structure of employment the Bucharest - Ilfov development region has a developed economy with most of the population employed in the tertiary sector (65%), followed by the Central and Western regions (table no. 5). It should be noted that in the Bucharest Ilfov region there is the largest urban agglomeration, the capital of the country and most of the governmental institutions. For the most other regions, the structure is atypical, mostly agrarian and tertiary. It shows an underperforming productive system, with strong income redistribution towards the tertiary sector.

The effect of economic growth and development has GDP / capita as an indicator (Fig. No. 1)

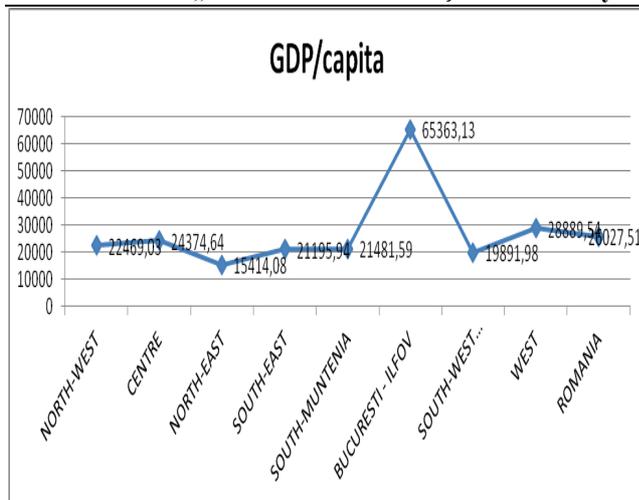


Fig. no. 1. GDP/capita

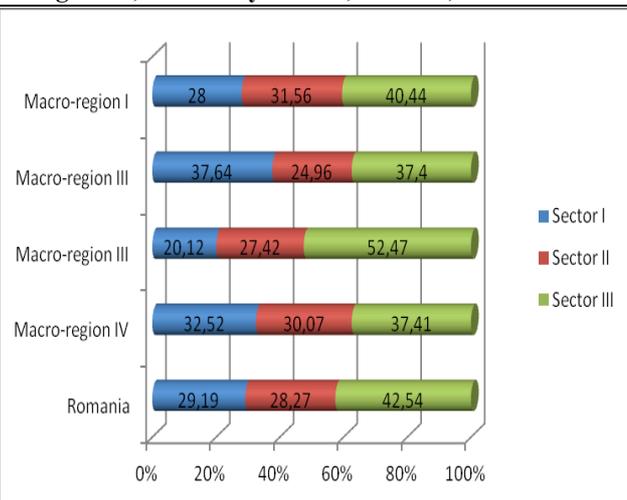


Fig. no. 2. The sectorial structure of the employed population

Source: Own calculation based on INSSE data, Tempo online

It can be seen that the maximum limit is reached by the Bucharest- Ilfov development region, with a GDP / capita of 65363.12 lei / capita and lower limit indicates the North-East region, with a level of 15,414.08 lei / capita. The same position is characteristic to the sectorial structure of employment, the Bucharest Ilfov development region – with the lowest level for employment in the primary sector and the highest in the tertiary sector. The North-East Development Region has the highest level population of employment in agriculture, confirming the lowest GDP / capita.

We note that at macro-regional level, the macro-region III has a developed economy with most of the population employed in the tertiary sector, due to the contribution of the Bucharest Ilfov region (fig. No. 2).

6. Conclusions

The present research article examines comparatively the disparities at the level of regions of development and macro-regions in Romania in order to assess the performance of the productive sector, of the structural types of economy and their level of development.

In Romania, for the period under review, the following conclusions can be drawn:

✓ there is an increase regarding disparities at the level of regions of development and macro-regions, as highlighted by the increasing deviation of the analyzed indicators, as follows:

- at regional level, the relative deviation to the total level of the indicator rapidly increased from 14.75% to 18.62% in terms of the GDP, in terms of employment the deviation varies between 4.50% and 4.89%, and in what concerns productivity the absolute deviation varies between 89.41% - 109.84% compared to its average level. The Bucharest- Ilfov development region represents the limit to a maximum level of the GDP and W, the minimum level is set for the South-West Oltenia region of development for the GDP and the region North-East for productivity.

- at macro-regional level the relative deviation to the total level of the indicator increased from 16.92% to 21.24% in terms of the GDP, in terms of employment the deviation varies between 7.82% and 8.79%, and regarding productivity the absolute deviation varies between 46.12% - 57.37% below its average level. The macro-region 3 has the highest level for all indicators. At the lower limit of the deviation there is the macro-region 4 for the GDP and employment, and for productivity there is the macro-region 2.

✓ At the regional level:

- The highest level of employment is registered in the North-East region, and opposite to it there is region West;

- Labour productivity is highest in the Bucharest IlfovI region and lowest in the North-East region throughout the analyzed period;

- Two regions exceed the average labor productivity , of region West and Bucharest- Ilfov region;

✓ At the macro-regional level:

- The lowest level of the GDP and of employment is to be found in the macro-region 4;

- The average level of productivity is exceeded only in the macro-region 3.

✓ the Bucharest Ilfov region of development has a developed economy with most of the population employed in the tertiary sector (65%). Also, in the Central and Western regions most of the population is employed in the tertiary sector, other regions having an atypical structure, a tertiary agrarian one, which indicates an underperforming productive system.

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