Convergence or Divergence?
The Position of Romania in the Spatial Structure of the European Union

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"A pan-European convergence and a local divergence."

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The Spatial Structure of the European Union

THE SPATIAL structure of the EU reflects not only the existence of the West-East disparities, but also outlines an area known as the "Blue Banana," which stretches from London to Milan, comprising the most developed agglomerations (London, Brussels, Amsterdam, Cologne and Frankfurt), having a GDP/capita between Euro 30,000 and 68,000 (Fig. 1). The most developed regions are Inner-London, with Euro 83,200/inhabitant, Luxembourg (Euro 68,500/inhabitant), and Brussels (Euro 55,000/inhabitant) (Table 1). A high level of development can also be observed within the triangle of the Sunbelt zone, which comprises the area between the Barcelona, Lyon and Bologna urban agglomerations, with a GDP/capita between Euro 25,000 and 35,0000. In the Eastern European countries, the GDP/capita is at a low level, only some regions managing to

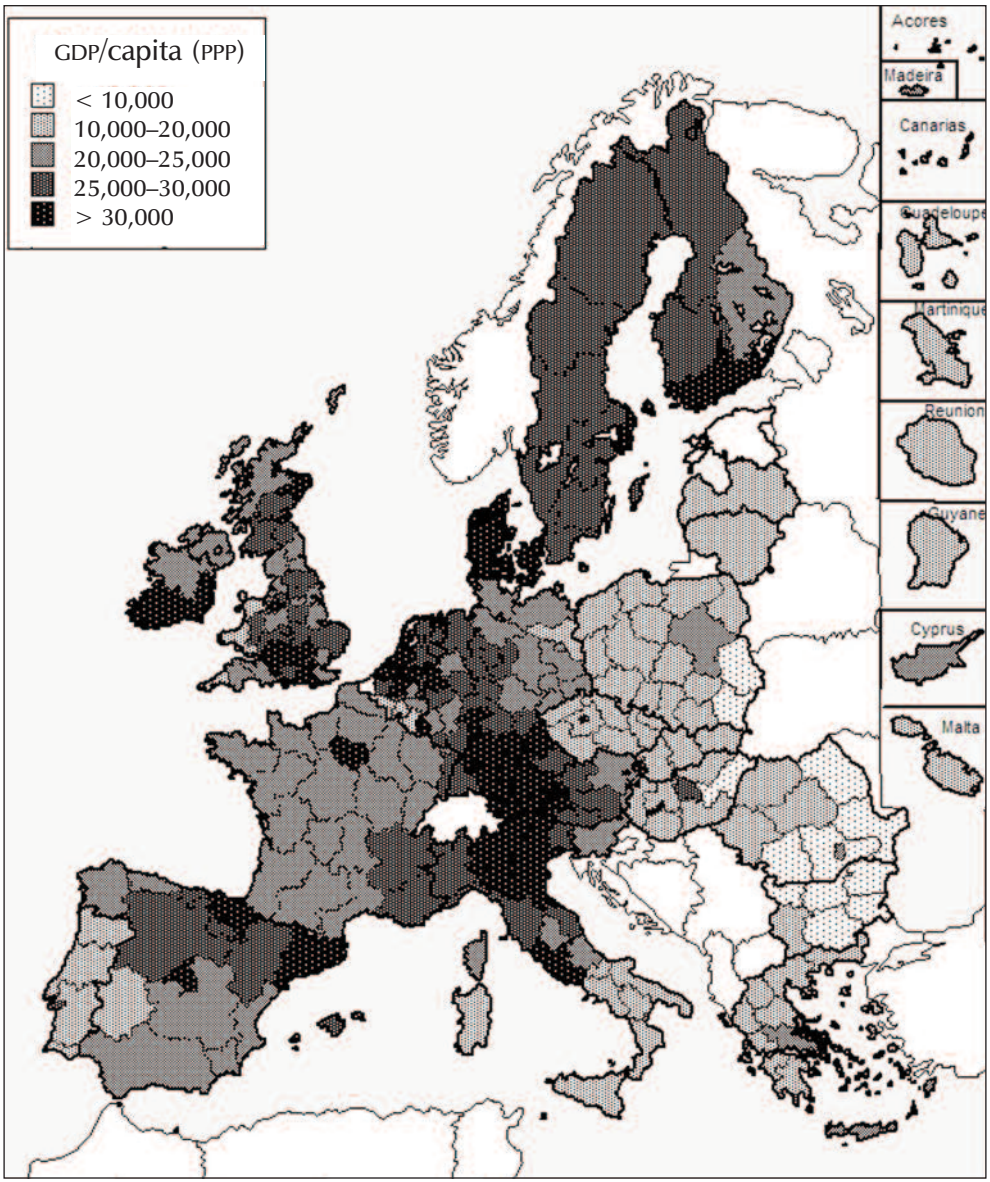


FIG. 1. Development differences between European countries based on GDP/capita, in 2007

SOURCE: authors, based on the Eurostat data.

reach a higher development (GDP/capita between Euro 25,000 and 40,000). The lowest development is recorded in Bulgaria and Romania. Within these countries, the lowest gross domestic product is recorded by Severozapaden region in Bulgaria (Euro 6,400/capita), with GDP/capita values 13 times lower than the maximum amount recorded in the Inner-London region. In these two countries, only the regions of the capitals, Bucharest–Ilfov and Sofia, show a relatively high economic performance.

It must be noted that over the last years the peripheries of the European Union showed a remarkable growth in the gross domestic product, which evidences a more balanced territorial development of the European Union. The correlation between the GDP/capita and the annual average rate of GDP growth is high, but negative, at –0.527. Thus, the highest increases were recorded in Latvia, Estonia, Lithuania, Slovenia, Poland (over 6%), in Romania the recorded increase being 6.9% in 2007 as compared to 2006, while in some countries belonging to the European nucleus this increase stayed below 2% (Luxembourg, Italy or Netherlands).

An important aspect of the analysis of the GDP/capita within the European Union refers to the evolution of the development differences. Can the existence of a convergence within the European regions be proved, or is there an ever more significant regional differentiation? In his longitudinal analysis of the GDP/capital evolution, Verspagen indicated that several periods of convergence between the European regions existed during the 20th century (Verspagen 1995).

This conclusion is also presented in the works of Williamson and his colleagues, who compared the development of the European regions in the aftermath of the Second World War with the previous periods, delineating four phases of convergence and divergence (Nemes Nagy 2005). Meliciani (2006), upon reviewing the evolution of the revenues in the period 1988 to 1996, reached the conclusion that this period is characterized by a process of slow convergence between the regions, and of divergence within them. If labor productivity contributes to territorial convergence, the population occupancy and the participation rate (which results from the difference between the workforce and the population capable of work) rather reveals a divergent trend. According to Le Gallo and Dall'Erba's analyses (2006), in the '90s the convergence was characteristic only for the peripheral regions of the EU, emerging rather as convergence "clubs" in these regions. Fischer and Stirböck (2006) talk about two convergence clubs: one is composed of the Central-European regions, and the other one integrates the Eastern and Southern European regions. Having in view that during the period 1995 to 2003 the economy of the Central-Eastern European countries increased at a faster pace, we can expect the continuation of the territorial convergence process. However, it is very important to retain Meliciani's general idea that even

TABLE 1. The "richest" and the "poorest" regions in the European Union, 2008

Countries	Regions	GDP/capita (PPP)	% in EU-27
	"Richest" European Union regions, 2008		
United Kingdom	Inner-London	85,800	343
Luxembourg	Luxembourg	70,000	279
Belgium	Brussels	54,100	216
Netherlands	Groningen	49,700	198
Germany	Hamburg	47,100	188
Czech Republic	Prague	43,200	172
France	Île de France	42,000	168
Sweden	Stockholm	41,900	167
Slovakia	Bratislavský kraj	41,800	167
Austria	Vienna	40,900	163
	"Poorest" European Union regions, 2008		
Bulgaria	Severozapaden	7,100	28
Romania	North-East	7,200	27
Bulgaria	Severen tsentralen	7,500	30
Bulgaria	Yuzhen tsentralen	7,600	30
Bulgaria	Yugoiztochen	9,000	36
Romania	South-West Oltenia	9,100	36
Bulgaria	Severoiztochen	9,400	37
Romania	South-East	9,700	39
Poland	Podkarpackie	9,700	39
Romania	South-Muntenia	9,800	39

SOURCE: computation made by the authors, based on the Eurostat data.

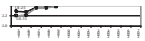
if the EU countries might show a diminution of territorial disparities, within the NUTS 3 regions the differences are on the rise (Marelli 2007).

Further on, we had in view the hypothesis of a territorial convergence between the European regions, taking into account the decrease in the variation coefficient during the period 1995 to 2005, in the 27 member countries, from 1.12 to 1.08. Prior to establishing the existence of an absolute convergence (β convergence), the regional development inequalities were analyzed with the aid of the relative amplitude index, the weighted relative average deviation index, and the Hoover index.

With reference to the evolution of the relative amplitude index, it is certain that the inequalities increased constantly, ever since 1995 (Fig. 2), which reflects the fact that the accession of the 10 countries in 2004 did not significantly influence the level of the regional disparities in the EU-27. As a matter of fact, an analysis of only the regions of the central nucleus of the EU (EU-15) reveals that the differences are constantly deepening. However, these differences are much smaller in the case of the EU-25 regions. Thus, in the case of the EU-15 regions,

the relative amplitude is 2.20 in 1995, going up to 2.69 in 2007, while in the case of the EU-25 this index was 2.29 in 1995, going up to 2.72 in 2007. This increase is ever more marked if we also include the two newly acceded states, Romania and Bulgaria: the relative amplitude in relation to EU-27 indicates an increase from 2.44 in 1995 to 2.98 in 2005.

FIG. 2. Inequalities in the European Union

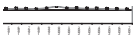


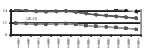
SOURCE: computation made by the authors, based on Eurostat data.

As regards the evolution of other two indices, that is to say, the weighted relative average deviation index and the Hoover index, the development related inequalities indicate a constant diminution, which can be also explained by the efforts of the European community to implement the regional policies (Fig. 3).

If in the case of the EU-15 the weighted linear average deviation was 30.12% in 2007, in the EU-25 this goes up to 34.89%, reaching the maximum level within the EU-27, of 38.80%. Such an evolution can also be ascertained in the case of the However index, its value increasing in the respective year from 9.50% (EU-15) to 12.23% (EU-25), respectively to 14.01% in EU-27. Nevertheless, both in the case of the EU-15 and of the EU-27, the development related inequalities diminished gradually, which actually reveals the existence of a territorial convergence.[1] In order to be able to talk about a convergence, the β value must be negative, which also happened in the case of this analysis: if we take into account the 15 EU countries, the β value is –0.095, and can also be explained by the accession of Ireland and Portugal to the EU; in the case of the 25 countries, this value is –0.123; and in the case of 27 states, this decreases to –0.115, which

FIG. 3. Inequalities in the development of EU countries





SOURCE: authors, based on Eurostat data.

indicates a lower increase dynamics in the more developed countries. Having in view that the significance level is not very high (0.025), these results must be treated with great caution, since other development factors, such as the population occupational rate, labor productivity, and human capital level, may influence to a large extent both the evolution of the GDP/capita and the evolution of the regional development differences.

THE DEVELOPMENT of the education and health system is best expressed by the Human Development Index (HDI). The efforts over the last years for the improvement of the population's living standard are also reflected by the increase of this index. It is important to mention that, within a short time, in the period 2000 to 2007, Romania managed to move from an average human development level into the class of the countries with a high HDI. If we take into account the 182 countries of the world, Romania ranked 74th in 1995, with a value of 0.767, going up to 63rd place by 2007 (0.837). Notwithstanding that, Romania is ranked last in the European Union, being left behind even by Bulgaria. The differences are of over 0.100 points, if we have in view that the country with the highest value, Ireland, has a value of 0.965. The classification of the 27 countries by the HDI both in 2000 and in 2005 indicates that no significant shifts of positions occurred. At the same time, it can also be noticed that this index grows faster in the case of the underdeveloped countries, as compared to the Western European countries. In 2007, based on the HDI value, the European Union countries could be grouped as follows:

- countries with high HDI (0.900–0.965): Ireland, Netherlands, Sweden, France, Luxembourg, Finland, Austria, Spain, Denmark, Belgium, Italy, Great Britain, Germany, Greece, Slovenia, Cyprus, Portugal, the Czech Republic and Malta;
- countries with an average IDU (0.850–0.900): Estonia, Poland, Slovakia, Hungary, Lithuania and Latvia;
- countries with a low IDU (0.800–0.850): Bulgaria and Romania.

While in the case of the developed countries, the HDI value increase in the period 2000 to 2007 stabilized between 0.1% and 0.2%, in the Central-Eastern European countries the respective indicator increased even up to 1% in the case of Estonia, Latvia and Romania.

While the EU-related regional development differences expressed by GDP/capita indicate a constant diminution, and HDI an ongoing improvement, it is important to verify the evolution of the inequalities existing at the income level. As a general objective of economic policies, the diminution of the inequalities existing in relation to the level of income is a purpose just as important as the growth of the population's income, and generally of the economy. The indicator most often used to express the income-related inequalities is the Gini coefficient. The higher the Gini coefficient, the less uniform the income allocated, and the more marked the inequalities between various countries.[2] For a better comparison of the EU countries, we also computed the rate of deviation from the average medium values. It can be noticed that, in most countries with an income above the average value, the territorial inequalities are a lot smaller than in those countries where the income does not reach even the EU average (Table

2). Ireland, Italy and Spain are the exceptions, since although their income is higher, the inequalities are also more significant.

TABLE 2. Inequalities in income distribution within the European Union countries[a]

	Population's income		Gini index	
	Euro/Inhabitant	Rate compared with average	%	Rate compared with average
Denmark	23,257.7	1.85	24.0	0.80
Sweden	20,872.9	1.66	25.2	0.84
Austria	20,745.2	1.65	26.0	0.87
Ireland	20,510.4	1.63	32.0	1.07
Germany	20,020.6	1.59	26.0	0.87
Belgium	20,019.2	1.59	28.0	0.94
France	19,629.2	1.56	28.0	0.94
Netherlands	19,580.9	1.55	27.0	0.90
Finland	17,961.5	1.43	26.0	0.87
Italy	16,293.8	1.29	33.0	1.10
Spain	14,151.4	1.12	32.0	1.07
Average value	*12,602.0*	*1.00*	*29.9*	*1.00*
Greece	11,933.4	0.95	33.0	1.10
Portugal	9,461.1	0.75	38.0	1.27
Slovenia	9,037.7	0.72	27.8	0.93
Czech Republic	5,585.9	0.44	25.8	0.86
Hungary	5,424.4	0.43	27.9	0.93
Estonia	4,454.5	0.35	36.1	1.21
Slovakia	4,370.1	0.35	26.0	0.87
Poland	4,130.8	0.33	36.6	1.22
Lithuania	4,076.2	0.32	30.9	1.03
Latvia	3,444.6	0.27	32.1	1.07
Romania	2,282.3	0.18	36.1	1.21

SOURCE: World Income Inequality Database, Eurostat, calculated by authors.

a. There are no data available for Bulgaria, Cyprus, Luxembourg, Malta and Great Britain.

At the same time, countries like Slovenia, the Czech Republic and Hungary have an income level below the EU average; however, the territorial inequalities remain much lower than in many Western European countries. The highest territorial inequalities can be seen in Portugal (38%), Poland (36.6%), Estonia and Romania (36.1%), these being characterized both by high percentages of the population working in agriculture, and by a lower education level, especially in the case of Portugal and Romania.

The analysis of Romania's position in the spatial structure of the European Union has revealed the unfavorable position of the Romanian regions, as well as the differences arising between the central territories of the EU and our regions. However, taken as a whole and with the help of several mathematical and statistical indices we concluded that at the level of European regions there is a steady decrease in territorial inequalities, and therefore we can expect that in the future the alignment of the territories to be made at a higher pace. In this context we could quote Philip Martin (1998), who speaks about a "pan-European convergence and a local divergence."

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Notes

1. In order to prove this hypothesis, the existence of a β convergence is computed. In accordance with Solow's theory, it is presumed that over the long term the less developed countries will draw closer to the more developed countries. This hypothesis is tested by using an estimation of the linear regression for transverse data, where the independent variables are the data taken into account for an initial period, and the dependant (explicative) variable is the average rate of growth of the revenues over the reviewed period. The equation of the estimated linear regression is: $\Delta \ln y_i = \alpha + \beta \ln y_{i0} + \varepsilon_t$, where α and β are the unknown parameters, and ε_t is the random factor effect, factored in at 0.
2. The Gini coefficient can also be calculated using only the revenues, total revenues, money revenues or any other form of income. Both the gross revenues and the net revenues shall be used as base of the computations. In our study, the Gini coefficient is computed based on the net revenues, which include both pecuniary and non-pecuniary income, and the source of data is World Income Inequality Database, and the Eurostat database comprising data referring to the territorial income allocation.

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Abstract

Convergence or Divergence? The Position of Romania in the Spatial Structure of the European Union

The political and economic changes that occurred at the end of the 1980s brought about considerable changes in the spatial structure of Romania. The goal to achieve a rapid economic growth overshadowed the objectives of social equity, economic and territorial cohesion, contributing to the increase in regional disparities. The main goal of the study is the presentation of the spatial structure of the European Union and the analysis of the regional disparities using two basic indicators: GDP/capita and the Human Development Index. In this framework a distinct attention will be given to the position of Romania and of the Romanian regions in the spatial structure of the European Union.

Keywords

convergence, cohesion, Romania, European Union