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Regional Inequalities in Romania before and After the EU Accession

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Ibolya Török [1]

[1] Babeş-Bolyai University, Cluj-Napoca, Romania

ibolya.torok@ubbcluj.ro

Abstract. In the last two decades, the effects of inequality on economic growth have become one of the most popular research topics among scholars and policy makers. Growing inequalities have also represented one of the main concerns of the EU Member States. Although European Regional Policy specifically addresses the issue of regional inequalities, so far empirical research has shown its constant persistence, with a deepening tendency in the last two decades at smaller territorial units. Furthermore, the recent economic and financial crisis has aggravated the pre-existing regional problems even more, not only at regional but also at local level. The aim of the paper is to present some actual connections of the Romanian spatial structure and the characteristics of spatial inequalities before and after the EU accession.

1. Introduction

Regional inequalities in Romania are a fundamental characteristic of society, characterized by the fact that a number of factors determine differences between regions and changes in the direction and socio-cultural position of the regions. Social and economic space is unequal in space, which is largely influenced by the different forms of regional and local characteristics, natural, social, cultural and economic factors. The uneven spatial distribution of economic activities, transportation infrastructure, settlements and population often gives locally or regionally differentiated pathways. In our study, we look insight the changes of economic structure before and after the EU accession.

2. Changes in the country's economic structure before the EU accession

In Romania, the dictatorial system based on Marxist ideology has prevailed for more than 40 years. This period was characterized by nationalization, excessive industrialization and planning, the impact of which can still be felt today. The fall of the communist regime in 1989 resulted in a series of political, economic and legal changes. During this period, it was expected that Romania would successfully transform into a functioning market economy within the next 20 years. However, the transformation of the Romanian economy became a much more complicated and complex process than it had originally been thought [1].

As in most transition countries, in Romania the early 1990s were characterized by high inflation, fluctuations in economic output and privatization, a significant decline in exports and a huge increase in imports. After the above mentioned economic changes thousands of jobs have disappeared and the economic structure has been overturned. Most of the industrial establishments that could not generate profits were closed down, mining towns have gradually lost their previous importance and many people moved abroad in hope of a better livelihood.

In the years following the change of regime, Romania has also had to face the fundamental transformation of its economic structure. The restructuring processes mainly refer to industrial transformation, as this represented the main economic sector that was outsized in previous years. The main consequences of the deindustrialisation process have manifested themselves in social and employment problems such as increasing poverty and high unemployment. What's more, the delay in restructuring and privatization has lead to increased economic losses for the whole country.

The most significant changes in the evolution of industrial production have been generated by foreign direct investments, as between 1993 and 2000 more and more foreign investors have launched new businesses in Romania. However, these important changes did not lead to lasting economic stability, as the industrial downturn has reached its peak in 1999, leading to a severe deterioration in the standard of living. The Romanian economy has started to become more stable only with the beginning of the new millennium, aided by the significant increase in exports driven by the increase in industrial production in foreign direct investments which have in turn lead to falling unemployment and declining inflation [2].

3. The EU Accession

Romania submitted a request to join the European Union on the 22nd of June 1995. In 1997, a report was drawn up outlining Romania's progress towards the accession to the European Union. In the following years, accession negotiations with the country began. In 2005, Romania signed the Accession Treaty, and on 1stof January 2007, the country became a full member. After the accession, the amount of foreign direct investments has continuously increased which was in part due to the country's unique tax policy, representing one of the lowest tax burdens on businesses in the EU at the time. Due to the increased foreign investments and the resulting economic development, the share of the tertiary sector in the country's GDP has risen to 50.4%in 2014. Most of this comes from the trade and communication sector, underpinning the country's shift towards a competitive market economy. The share of the secondary sector in the creation of the GDP was 42.9% in 2014, which represents a significant drop compared to 1992. It must be mentioned that between 1990 and 2014, there has been a strong structural change and transformation in all of the Romanian industries. Many of them could not hold up to a real market competition, gradually reducing their production or disappearing completely – a process noticeable mostly in the mining and heavy industries. The share of the primary sector in the GDP is 6.7% in the year of 2015, exceeding three times the EU average. In Romania after the change of communist regime, there was a significant increase in the number of people working in agriculture. This was mainly fuelled by the Law of Agricultural real estate (Law no. 18 / 1991) according to which both agricultural lands and forests were returned to their former landlords, but which in turn could ensure only a minimum standard of living for the population living in rural areas because of lack of equipment for agricultural works. To all these we should also add the fragmentation of agricultural lands, which cannot ensure market production and competitiveness of small scale production for the small farms at the national or international level [3]. Therefore, one of the most important effects of the economic change on the rural population was the increase of the proportion of inhabitants working in agriculture, rising from 28,6% (1990) to 41,4% (2000). Nevertheless, we can observe a decrease up to present, which unfortunately is not that significant. (29%) Naturally, the consequences of recession can mainly be observed in the decrease of the number of people employed in industry and services, although under normal conditions this should not have necessarily lead to the increase of the population working in agriculture, Romania being the only country on the European continent witnessing this reverse change in professional status.

4. Methodology

The analysis was based on the existing territorial statistical data obtained from the National Institute of Statistics, including the Tempo Online web database. The methodology used is mainly related to statistical data processing and interpretation, but we would also like to highlight a series of indices

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used for emphasizing territorial disparities, homogeneity or polarization. The first of them, the weighted relative standard deviation gives us the dispersion of the data series compared to its weighted average. Also, the weighted relative standard deviation expresses the dispersion in relation to the average value of the data series [4].

$$V = 100\left[\frac{1}{\bar{y}}\sqrt{\frac{\sum (y_i - \bar{y})^2 f_i}{\sum f_i}}\right], \quad (1)$$

where $y_i = \frac{x_i}{f_i}$ represents the value of a relative indicator in unit area ‘i’

$\bar{y} =$ y_i weighted average

The Hoover index is the most widely used measure for assessing the concentration or deconcentration tendencies of a country’s evolving income distribution. It measures the deviation from an ideal uniform distribution. The question underlying the calculation of this index is: what share of the studied variable should be redistributed between territories, so that the territorial distribution of this index is equal to the other variable [4].

$$h = \frac{\sum_{i=1}^{n} |x_i - f_i|}{2}, \text{ where } x_i \text{ and } f_i \text{ are two indicators} \quad (2)$$

Another index for measuring the development level of a country is the well-known Human Development Index.

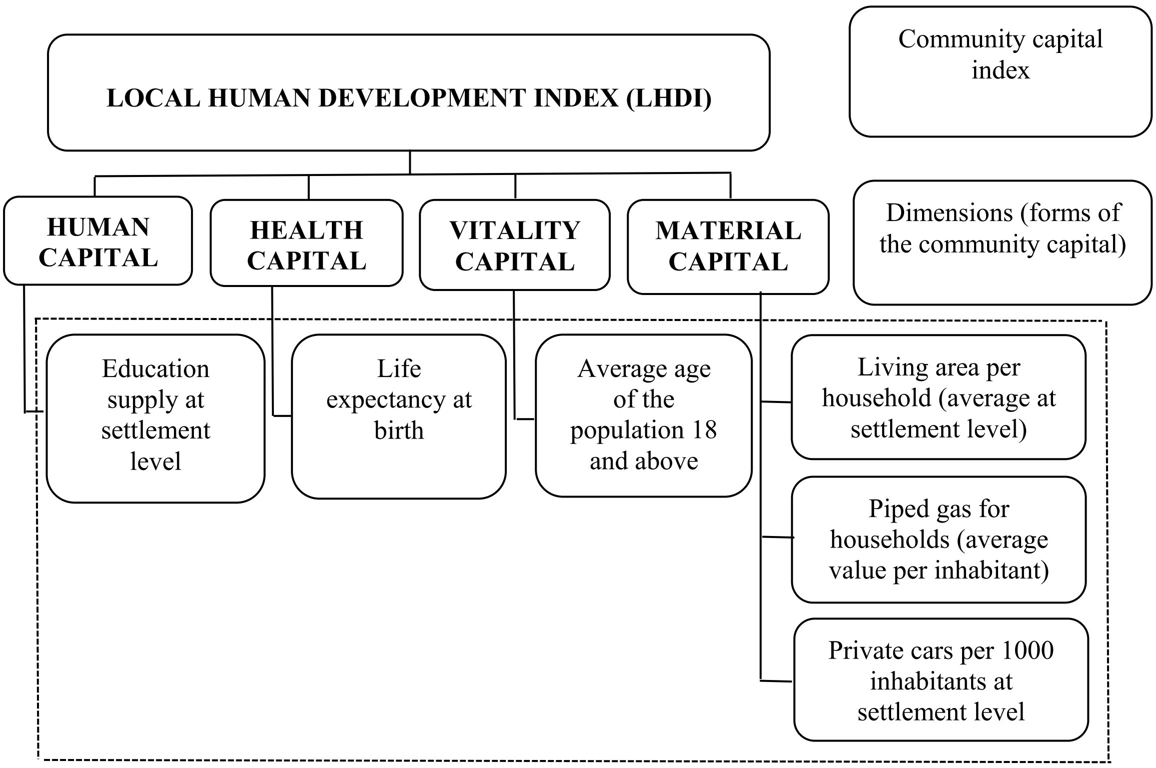

Figure 1. The methodology of constructing the LHDI
Source:[5, 6]

The Local Human Development Index (LHDI) developed by a Romanian sociologist, Dumitru Sandu (2008) is based on the United Nations Human Development Index methodology, which is adjusted to provide more detailed information on local development as an expression of community capital. The LHDI measures the total capital of the localities, considered from the perspective of its human dimensions, health, vital and material status. The first three dimensions are estimated by one indicator. The fourth dimension, material capital, is measured as the factorial score of three indicators regarding local living standards in terms of the size of dwellings (living space per dwelling), private cars per 1000 inhabitants and domestic distributed natural gas consumption per capita. A new factorial score aggregates the values of the four indicators that estimate the size of the community capital. A major advantage of LHDI is that it allows the comparison of very different territorial, urban and rural units.

5. Results and discussion

5.1. The development level of Romanian counties based on GDP per capita

In the years following the economic change GDP growth in Romania has significantly decreased, which is due to closure of industrial plants, high unemployment, inflation and the growth of imports. However, at the end of the nineties, due to the stabilization of macroeconomic processes, the GDP has shown a slight increase. This growth can be attributed mainly to the recovery of industry and trade. Even so, the level of the GDP has still remained well below the EU average, except for the capital region which has shown a higher economic performance, occupying a distinct place in the spatial economic structure of the country. Since its contribution to the GDP exceeds two times the national average, being 23% in 2016, with a share of the population representing only 9% [7]. Besides the Bucharest-Ilfov region, a relatively dynamic development can also be noticed in most of the western regions, which is mainly due to the favourable geographic location, the more diversified economic structure, as well as the qualified workforce. The monoindustrial, mountainous mining towns and the eastern and southern high agri-employment areas did not attract foreign capital, which in turn has lead to their rapid decline. This has in turn caused a rapid growth of development differences between regions, resulting in severely disadvantaged and relatively prosperous regions (Figure 2).

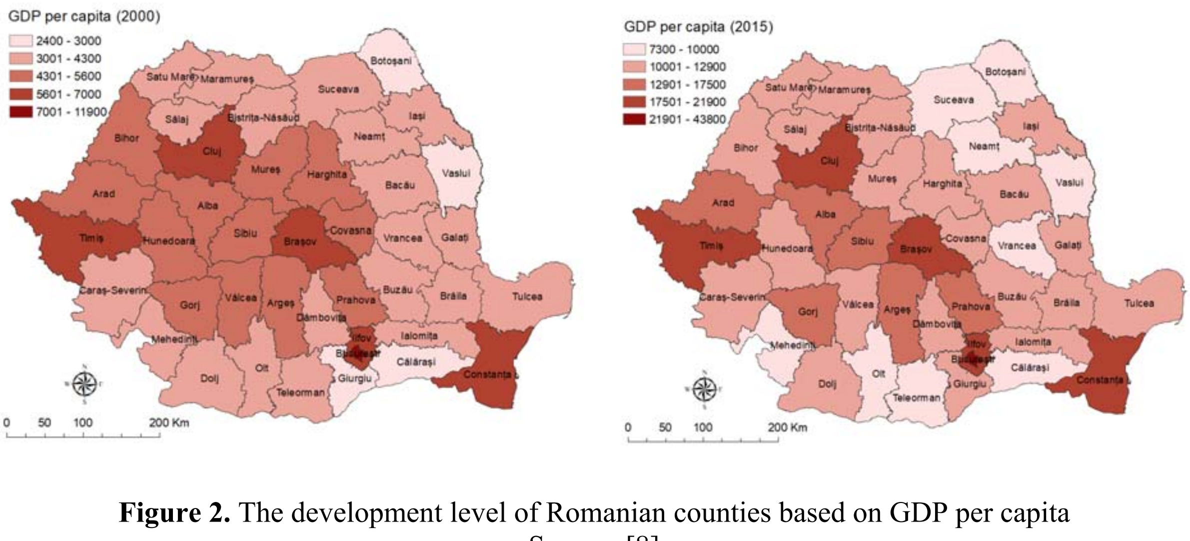

Figure 2. The development level of Romanian counties based on GDP per capita
Source: [8]

For expressing the changes in time of the existing inequalities, we used the GDP measured on the purchasing power parity, on NUTS 3 level, in the 1998–2015 period. Both the extent of the dispersion and the Hoover-index, as well as the weighted relative standard deviation show the increasing disparities between the regions, the difference being measured only in the divergence in values between the indicators. Although until the beginning of the new millennium, we can observe a stabilizing or decreasing development tendency, from the second part of the period the place of the equalization will be taken over by an increased polarization (Figure 3). All these were influenced to a large extent by the process of economic structural change. This resulted in the powerful decline of the eastern and southern rural regions, as well as the mountainous regions dominated by the extractive and heavy industry, compared to the regions with a more favorable position, a better infrastructure and a more diversified economic structure.

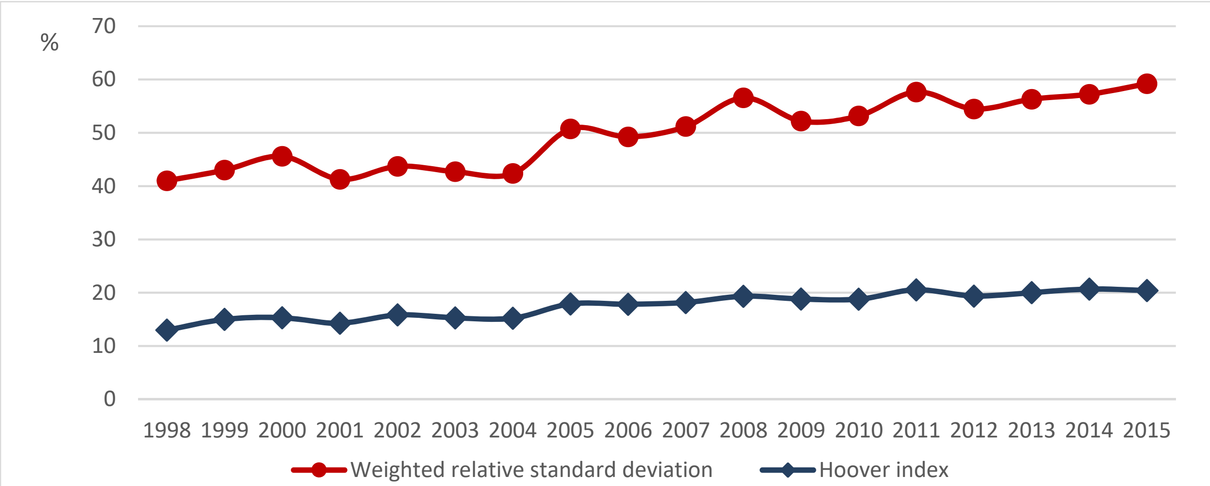

Figure 3. The evolution of regional inequalities in Romania, [9]

Table 1. lists the Romanian counties based on the GDP per capita, as well as the share of the national average. As we could observe, over the last 15 years, the differences between counties have intensified even more: while in 1998 the differences were threefold between the highest (Bucharest) and lowest (Vaslui) counties, by the year 2015 this difference has nearly six fold. It is obvious that the economic development of the country involves the increase in polarization, as has been observed in other countries, however, such a magnitude is worrying and it suggests that the internal cohesion of the country, which formerly has been perceived in a positive manner, has shown significant deterioration on the short run. Examining the value of the GDP per capita in the same period, it is clear that the traditional structure of the country based on large regions (Bucharest – center, Transylvania – developed, Oltenia and Moldavia – undeveloped) is only partially conserved. It can be easily observed that during the analyzed period the southern region made progress in the regional rankings, significantly improving its initial development position. This is mostly due to Argeş County, which was in the middle range of the 1998 developmental hierarchy, but today it is one of the most developed areas of the country (Table 1). The convergent development trends of Argeş County have begun after the Second World War, when the investment policy of the socialist system has concentrated on influential and innovative sectors such as vehicle production (Dacia factory in Piteşti, Aro factory in Câmpulung), chemical industry, etc. Also, it managed to utilize the positive externalities of the metropolitan agglomeration. The post-communist privatization processes, such as the Dacia-Renault investment, have greatly improved the economic structure of the region and have even helped to overcome the negative economic and social processes which are characteristic to such transitions.Tot this can bea added some other counties like Alba, Maramures or Salaj. This can also be attributed to the fact that the above mentioned counties' economic growth rate has started from a relatively lower level, thus the increase seemed to be more dynamic compared to the more developed regions [10].

Table 1. The hierarchy of Romanian counties based on GDP per capita, source: [8]

GDP per capita national average = 100							
Hierarchy 1998			Hierarchy 2015			Change in hierarchy between 1998 and 2005	
1	Bucuresti	186	1	Bucuresti	269	Bucuresti	0
2	Ilfov	164	2	Timiș	134	Timiș	+
3	Timiș	149	3	Constanța	134	Constanța	+
4	Arad	137	4	Cluj	124	Cluj	+
5	Brașov	135	5	Ilfov	121	Ilfov	-
6	Constanța	133	6	Brașov	118	Brașov	-
7	Cluj	132	7	Sibiu	107	Sibiu	+
8	Gorj	126	8	Prahova	105	Prahova	+
9	Mureș	120	9	Arad	100	Arad	-
10	Bihor	112	10	Alba	98	Alba	+
11	Sibiu	109	11	Gorj	96	Gorj	-
12	Covasna	107	12	Argeș	88	Argeș	+
13	Vâlcea	104	13	Bihor	79	Bihor	-
14	Harghita	103	14	Mureș	79	Mureș	-
15	Prahova	101	15	Sălaj	77	Sălaj	+
16	Argeş	101	16	Iași	77	Iași	+
17	Ialomiţa	99	17	Hunedoara	75	Hunedoara	+
18	Hunedoara	99	18	Tulcea	75	Tulcea	+
19	Alba	96	19	Dolj	75	Dolj	+
20	Galați	94	20	Vâlcea	75	Vâlcea	-
21	Caraș-Severin	94	21	Caraș-Severin	75	Caraș-Severin	0
22	Dolj	94	22	Bistrița-Năsăud	73	Bistrița-Năsăud	+
23	Satu Mare	93	23	Maramureș	71	Maramureș	+
24	Iaşi	91	24	Satu Mare	71	Satu Mare	-
25	Brăila	90	25	Brăila	70	Brăila	0
26	Bacău	89	26	Dâmbovița	69	Dâmbovița	+
27	Sălaj	88	27	Ialomița	69	Ialomița	-
28	Vrancea	88	28	Covasna	68	Covasna	-
29	Buzău	86	29	Galați	67	Galați	-
30	Bistrița-Năsăud	85	30	Giurgiu	67	Giurgiu	+
31	Teleorman	82	31	Harghita	66	Harghita	-
32	Olt	81	32	Buzău	66	Buzău	-
33	Dâmboviţa	80	33	Bacău	64	Bacău	-
34	Mehedinţi	79	34	Călărași	61	Călărași	+
35	Suceava	79	35	Vrancea	61	Vrancea	-
36	Maramureș	79	36	Neamț	59	Neamț	+
37	Neamţ	77	37	Olt	58	Olt	-
38	Tulcea	75	38	Suceava	56	Suceava	-
39	Călăraşi	72	39	Mehedinți	56	Mehedinți	-
40	Giurgiu	68	40	Teleorman	55	Teleorman	-
41	Botoşani	66	41	Botoșani	48	Botoșani	0
42	Vaslui	60	42	Vaslui	45	Vaslui	0
Maximum/Minimum		**3.09**			**5.97**		

As we could see, there was no significant shift between counties occupying the last positions of this ranking, Romania's least developed areas still being – like centuries ago – Vaslui, Botosani, Teleorman and Giurgiu counties. This can be underpinned by several indicators, since in these counties not only the GDP per capita, but also the Local Human Development Indexare the lowest, complemented by the highest number of illiterates, unemployed and the highest rate of people working in primary sector.

Analyzing the evolution of GDP per capita it can be stated that the differences between counties are continuously increasing. While some counties still struggle with the transition to a market economy, others already represent stable, competitive poles of the Romanian economy, ready to compete with other regions of the European Union.

5.2. Territorial inequalities based on the Local Human Development Index

The way, in which less developed regions are defined, plays a very important role in the effectiveness of policies targeting them. More specifically, it is essential to understand the elements that constitute a backward region in order to establish the tools needed to help them develop. For example, if we only consider wages, consumption or GDP, interventions in less developed areas will mainly be of an economic nature. Therefore, it is important to capture the social and economic aspects of the regions as a whole with the help of well defined, complex indices.

Figure 4 shows the territorial distribution of LHDI values at county level for 2002 and 2011. As it can be seen, in 2002 only Bucharest could be considered a more developed region and only Brasov County was among the counties with a medium-high value. Most of the counties with a medium level of development are located in the central part of the country (Cluj, Alba, Sibiu, Mureş), in the West (Timiş) and close to Bucharest (Prahova). Poor and very poor counties are concentrated mainly in the eastern and southern parts of the country. The LHDI calculated for 2011 shows a clear improvement in almost every county in Romania. Thus, since 2002, all counties have been able to make progress, even if some of them have moved faster than others. The most notable rate of development was recorded in Bucharest, which become highly developed region, while Timis, Cluj, Sibiu and Brasov counties became developed counties. It is important to note that most of the less developed counties in the East and South have also managed to make a transition, even if it was only to low or medium development counties. All these illustrate certain spillover effects, i.e. the fact that certain regions develop faster than others does not mean that they are left behind, but rather (the high performances of the developed regions have direct positive influences on less developed regions) [11].

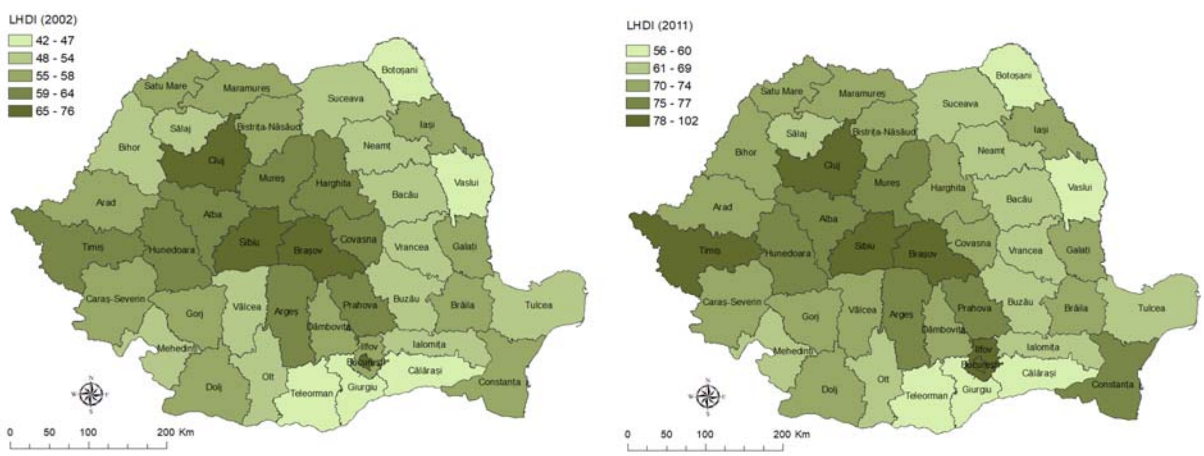

Figure 4. The development level of Romanian counties based on LHDI in 2002 and 2011
Source: [5, 6]

LHDI tends to correlate quite well with overall economic growth, since if we perform a regression analysis it can be stated that the increase of GDP by 1000 RON (200 Euros) is accompanied, on average, by an increase of LHDI at county level of 0.88 points.

6. Conclusion

As a conclusion, it can be stated that there are significant developmental differences between the Romanian counties. The above figures highlight an important key element, namely: that geography matters. In essence, this means that localities that were closer to the western markets have developed faster than those farther away. Proximity to western markets is important and therefore one of the key ways to boost a country's development is to improve accessibility to these markets. Almost the same importance could be attributed to local markets as well. Large urban areas have a strong polarization effect: the closer a settlement is to such urban centres, the faster it tends to develop. That's why improving connectivity with major cities in Romania is essential in order to decrease the existing development differences between counties and to promote a balanced economic and social growth within the whole country.

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