

# **Determinants of Regional Competitiveness. Status of Factors Determining Comparative Advantages to Romanian Development Regions**

Corneliu Russu

Centre for Industry and Services' Economy, Romanian Academy, 125 Calea Victoriei, Sector 1, 010071, Bucharest, Romania  
e-mail: corneliu\_russu2007@yahoo.com

## **Abstract**

*The article deals with the main factors determining regional competitiveness and indicators that allow assessment of their state and their effects on regional development. Of the nine factors considered to have the strongest influence on regional competitiveness and economic development, those who provide regions with comparative advantages, corresponding to endowment with primary factors, are natural conditions, natural resources and population, including demographic dynamics, whose state in the development regions of Romania is analyzed and evaluated.*

**Keywords:** *determinant factor; competitiveness; natural conditions; resources; population; demography*

**JEL Classification:** *R11*

## **Introduction**

The economic and social development of a region depends, to a decisive extent, on the competitiveness of the economic activities taking place on its territory. The competitiveness of a country's economy is a function of the competitiveness of its constituent regions, the factors that determine the macroeconomic level of competitiveness are, for the most part, the same acting at the intermediary-economic level (by regions, industries and industry groups).

Most of the studies focusing on competitiveness focus on the final level, and those focusing on the factors that determine it, their status and action, are much less; regional development policies, however, seek to maximize the beneficial effects of the action of these factors and apply solutions to optimize their synergistic combination.

The concept of competitiveness is very comprehensive, can be approached from different angles and, as a result, the definitions that try to capture its essence are varied. Regional competitiveness does not, in these circumstances, benefit from a broadly shared definition.

For example, J. Meyer-Stamer defines it in too general terms: "We can define the (systemic) competitiveness of a territory as the ability of a locality or region to generate high and growing income and improve the lives of its inhabitants." (Meyer-Stamer, 2019).

However, it is clear from all the available definitions that regional competitiveness is the result of aggregating the competitiveness of companies in the region, and that of the economy - the result of aggregation of regional competitiveness.

The analysis of regional competitiveness is necessary, on the one hand, given the large disparities between regions (often disparities between regions of a country are higher than between regions in countries with very different levels of development), and, on the other hand, because on that base one can set up regional development policies whose purpose is precisely to reduce disparities.

None of the theories and approaches of regional development is capable alone of capturing regional competitiveness in its complexity and convincingly explains the existence of regional disparities, whereas these theories focus on one or other of the determinants of competitiveness (endowment with natural resources, human capital, infrastructures, investment potential, innovation, corporate capabilities, etc.) and do not treat them all at the same time.

## **Determinant Factors of Competitiveness and Assessment Indicators**

Attempts to assess the determinants of competitiveness through relevant, primary and aggregate, indicators are numerous, all aiming to provide tools capable of comparing the competitiveness of different regions and explaining the differences between them.

M. Porter has proposed his model of competitiveness long quoted ("Porter's Diamond"), which, in his opinion, highlights the determinants (Porter, 1990): 1. *Factors conditions* - natural resources (climate, raw materials), human resources (knowledge and skills, labor cost, employment), knowledge resources, infrastructures; 2. *Liaison and support industries* - competitive suppliers, closely related industries; 3. *Internal demand conditions* - nature and size of the internal market for the products of the different industries, depending on the link between economies of scale, transport costs and market size; 4. *Firm's strategy, structure and rivalry* - countries and regions may have significant differences between themselves in organizing and managing activities, business interactions, labor discipline, their role in achieving competitive advantage being essential. To these factors, Porter later added two: The Government, which, through its strategy and policies (investment, infrastructure building and modernization, tax, etc.), can strongly support the development of firms and increase their competitiveness; the chance - the opportunities that markets offer to dynamic firms capable of capitalizing on any opportunity to expand their existing businesses or initiate new business.

M. Kitson et al. propose the following determinants of competitiveness (Kitson, Ron and Peter, 2004): productive capital, human capital, social capital, institutional capital, cultural capital, infrastructure capital and capital of knowledge / creativity.

Paola Annoni and L. Dijkstra propose a range of indicators for the regional competitiveness drivers grouped as follows (Annoni and Dijkstra, 2013): 1. *Basic group* - Basic education, Health, Infrastructure, Macroeconomic stability, Institutions; 2. *Efficiency group* - Market size, Labor market efficiency, Higher education / Training and lifelong learning; 3. *Innovation Group* - Innovation, Business sophistication, Technological availability. Each factor is expressed by specific indicators such as the share of the number of households and enterprises using new technologies for the Technological availability factor, the number of innovations products and systems for the Innovation factor, etc.

World Economic Forum - WEF has worked out a composite indicator for competitiveness measurement - Global Competitiveness Index - GCI (Global Competitiveness Index), applicable to the economy and region, with 12 pillars - Institutions, Infrastructure, Macroeconomic environment, Health and Primary Education, Higher education and training, Efficiency of the goods market, Labor market efficiency, Financial market development, Technological

accessibility, Market size, Business sophistication, Innovation - detailed in 124 indicators that can be calculated based on statistical data (World Economic Forum).

Professor A. Sasson from Norwegian Business School proposes a model of the "emerald", whose six facets are: 1. *The attractiveness of the cluster* (national or regional), determined by its size, its ability to add value, its degree of specialization, its export potential, its productivity; 2. *The educational attractiveness of the cluster*, determined by the specific educational programs has, the extent to which it attracts participants to professional and different levels of programs, including foreign participants; 3. *Attractiveness for professionals*, driven by the attraction of highly qualified specialists, including foreigners; 4. *The attractiveness of R & D and innovation activities*, driven by investment in these activities, R & D results (patents, publications, scientific communications), innovation results (new products and services), innovation efficiency (value of new products / total value of sales); 5. *The attractiveness of the cluster's property*, determined by the competence of its management; 6. *Ecological attractiveness*, determined by the share of renewable energy, investments in environmental protection, technologies used for environmental protection, emissions and pollution. The result of the combination of these "attractivenesses" is the "Dynamics of Knowledge", expressed by the mobility of the workforce between firms, the links in the field of knowledge between companies and between them and institutions, the cooperation alliances between firms within the networks (Akpinar, Can and Mermercioglu, 2015).

Presenting existing contributions to literature on regional competitiveness can further be greatly expanded. Despite the appreciable diversity of proposed methodologies for assessing competitiveness, most of them outline a number of determinants of the competitiveness level, those with the highest frequency.

In our opinion, the main factors determining regional competitiveness are presented in the following table, detailed on the relevant sub - factors and with the specification of the relevant indicators reflecting their state (we specify that the evaluation indicators refer to the regional level).

**Table 1.** Determinants of regional competitiveness and examples of indicators to assess their status

<b>Factors</b>	<b>Subfactors</b>	<b>Examples of evaluation indicators</b>
<b>A. Natural conditions</b>	<b>Relief</b>	Weights of relief forms; Average altitude; Hydrographic network, etc.
	<b>Climate</b>	Monthly and annual average temperature; Amount of monthly and annual atmospheric precipitation; The absolute maximum and absolute minimum of the monthly and annual air temperature, etc.
<b>B. Natural reesources</b>	<b>Soil resources</b>	Volume of resources, by type (arable land, surface water resources, forestry resources); Hydro-energetic potential; Number of protected natural areas (national parks, natural parks, biosphere reserves, scientific reservations); Surface water quality, etc.
	<b>Subsoil resources</b>	Volume of resources, by types (hydrocarbons, ores, non-ferrous minerals, etc.); Volume of exploitable resources by type
<b>C. Population, demography, employment of the population</b>	<b>Demographics of the population</b>	Birth rate; Mortality rate; Natural population growth; Total population growth; Life expectancy at birth; The balance of inter-regional migration; The balance of international migration, etc.
	<b>Health</b>	Number of sanitary units; Number of hospital beds / 1000 inhabitants; Number of health care staff with higher education; Number of medical staff with average education; Number of auxiliary healthcare personnel, etc.
	<b>Employment of the population</b>	Activity rate; Occupancy rate; Structure of population occupied by activities of the national economy; Unemployment rate; The number of over-qualified employees and their share in the total number of employees, etc.

Table 1 (cont.)

<b>D. Structure of economic activities</b>	<b>By activity profiles (according to the NACE list)</b>	Value of production of economic activities; Structure of economic activities according to the turnover of the companies; Structure of economic activities by value added; Structure of economic activities by value of export; Value of the export of economic activities, etc.
<b>E. Manufacturing industry activities in the regions</b>	<b>Manufacturing activities present in the regions</b>	Manufacturing activities according to CANE Nomenclature Rev. 1 and Rev. 2
	<b>Demographics of firms</b>	Number of new and active operators in industry; Number of active enterprises in industry by size classes, by forms of ownership, by legal forms; Concentration of industrial enterprises; Number of active SMEs, etc.
	<b>Performances of firms</b>	The main economic and financial indicators of industrial firms, by size classes, by forms of ownership, by legal forms; Turnover of industrial firms; Gross and net investment of firms active in industry, etc.
<b>F. Infrastructures</b>	<b>Road</b>	Length of public roads, by category of roads; Length of upgraded public roads; Density of public roads on 100 km <sup>2</sup> territory, etc.
	<b>Rail</b>	Length of railways in service; Length of electrified railway lines; Density of railway lines per 100 km <sup>2</sup> territory
	<b>Energy</b>	Length of high voltage power lines; Length of power distribution lines; Power installed in the region; Energy efficiency (Regional GDP / Total regional energy consumption); Energy intensity (Total regional energy consumption / Regional GDP) etc.
	<b>Telecommunications</b>	Total number of fixed telephony connections; Total number of mobile telephony connections; Number of minutes of telephone conversations; Internet access traffic; Number of broadcasters, public and private; Number of public and private TV stations; Number of postal connections, etc.
	<b>Digital economy</b>	Number of Internet users; Number of ICT specialists; Share of business digitization; Number of eGovern users; Number of eHealth users; Cloud services volume, etc.
<b>G. Investment</b>	<b>Domestic investment</b>	Net investments by economic activities, by financing sources, by structural elements, by ownership forms; Net investment in industry activities; Balance of tangible assets; Value of tangible assets by economic activities, by ownership, by industry activities, etc.
	<b>Foreign direct investment (FDI)</b>	Value and weight of FDI on the main economic activities; Tangible and intangible assets in FDI enterprises; FDI balance; FDI balance by country of origin; Export and import of goods of FDI enterprises; Value of FDI in greenfield enterprises, etc.
<b>H. Education and instruction</b>	<b>Instruction</b>	Degree of enrollment in education of the school age population; Teaching staff by level of education; School population by level of education; Number of graduates by level of education; Number of pupils enrolled in high school, by high school profiles; Number of pupils enrolled in vocational education, apprentices, post-graduates and foremen, by training profiles; Number of students enrolled in higher education, by groups of specialization; School dropout rate, etc.
	<b>Training</b>	The value of investments in organizing and conducting training programs; Number of training and retraining programs, etc.
	<b>Lifelong learning</b>	Share of adult population aged 25-64 participating in education and training during the four weeks prior to the study, etc.

*Table 1 (cont.)*

<b>I. Scientific and innovation potential</b>	<b>R&amp;D activities</b>	R & D expenditure and its structure by performance sectors; Number of persons in R & D activity, by qualification levels; Number of R & D researchers, etc.
	<b>Innovation activity</b>	Share of the number of enterprises with product and / or process innovations in the total number of enterprises; Share of the number of product and / or process innovative enterprises by economic activity and by size classes in the total number of enterprises; Share of the number of product and / or process innovative enterprises engaged in innovation co-operation agreements in the total number of innovative enterprises, etc.
	<b>Industrial property</b>	Number of submitted patent applications; Number of granted and published patent; Number of applications for registration of designs; Number of applications for registration of utility models; Number of trademark applications, etc.

*Source:* Own conception.

The combined effects of these regional competitiveness determinants are summarized in the GDP / capita indicator, reflecting the general economic and social development level of a region.

The range of factors presented in the table may be supplemented by others such as Macroeconomic stability (political, institutional, legal, financial and tax), Outward opening, Business climate, etc. However, we limit ourselves to the range presented in the table, on the grounds that the nine factors mentioned have a direct influence on regional competitiveness and, implicitly, on the level of regional development.

The analysis below focuses on these factors, many of the indicators presented in the table being used to substantiate the resulting conclusions.

## **The State of the Determinants of the Development Regions Comparative Advantages**

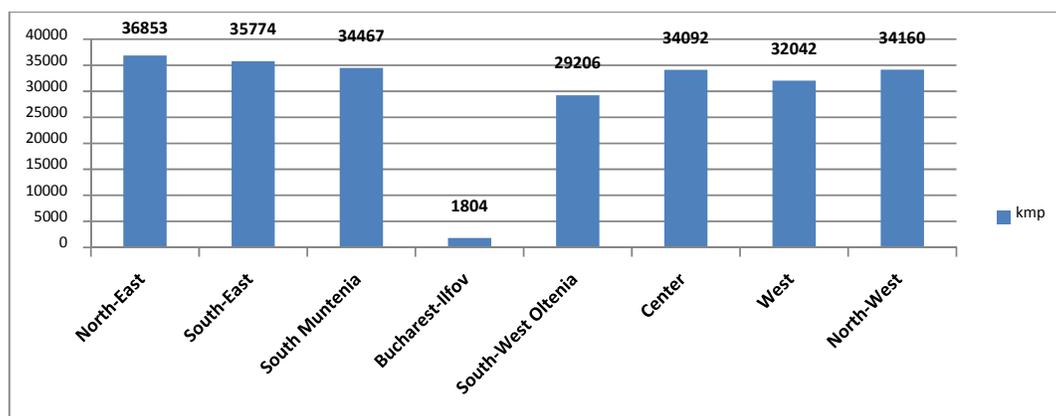
The analysis of these factors' state of and their effects on the regional development is necessary whereas of these elements depend decisively the chances of increasing the competitiveness of economic activities and, implicitly, economic and social development; this approach is despite the fact that most of the regional development research focuses on their competitiveness, which is only the result of the action of the mentioned factors. .

In order to quantify the listed factors, there is a wide range of indicators presented in the table above, which expresses the status of the factors and the possible effects of their regional action. Since using a register of indicators too large would make analysis difficult, we limited the number of indicators used to those we considered to be of particular relevance to our approach. It should be added that the dramatic selection of the indicator range was also determined by the availability of statistical data, which in some respects was very limited or even non-existent.

Of the factors presented in the table, the first three that provide competitive advantages to the regions are natural conditions, natural resources and the population, which we deal with in this article.

### **A. Natural conditions**

The surface of Romania's development regions varies depending on the size of their counties and the number of counties each region has. The largest region is North-East, whose surface is 15.46% of the country, and the smallest is Bucharest-Ilfov, with only 0.76% of that of the country, as shown in the following figure:



**Fig. 1. The area of development regions (km<sup>2</sup>)**

Source: National Institute of Statistics. Romanian Statistical Yearbook 2017, Table 1.8., Bucharest, 2018

If the area of a region may not influence its economic and social development (we have shown the figure only to show that the development regions, with the exception of the Bucharest-Ilfov region, have relatively close areas), relief is a significant factor in this respect, as it may or may not promote the diversification of economic activities in the region, determine the transport costs and the possibilities for expanding economic activities.

The development regions, with the exception of the South East where most of it is flat, have varied relief, often balanced as forms - the mountainous area, the sub-Carpathian hills, the flat area. The South-East region has peculiarities that offer clear comparative advantages - opening to the Black Sea and including the Danube Delta and the Great Island of Braila.

In all regions, the hydrographic network is sufficiently dense and abundant in flows to support economic activity and to meet population consumption needs, but also has some flood areas and water flow cuts down to drought during prolonged droughts.

Most of the regions, except Bucharest-Ilfov and Center, have the border with neighboring countries on their sides, which gives them a favorable outward opening, the advantages of this favorable geographical position being ensured by the existence of numerous border crossing points having the logistics necessary for the transport of goods and passengers.

## B. Natural resources

The endowment with factors - among them natural resources - gives a region or an area a considerable comparative advantage and determines, to a great extent, the configuration of the economic activities that take place within its perimeter. Manufacturing industry activities of national or local interest are dependent on these resources, their volume, accessibility and quality.

Most development regions have a wide range of resources, highlighted in the following table.

**Table 2. The main natural resources of the development regions**

Region	Natural resources
<b>Nord-Est</b>	Natural gas (Tazlău - Oituz, Todirești, Frasin); bituminous shale (Tazlău); manganese, sulfur (Caliman massif); salt (Cacica); peat (Poiana Stampei, Dersca); construction materials - lime, sandstone, gypsum, quartz sand (in multiple locations); carbonated, sulphurous and ferrous mineral waters (in multiple locations). Farmland. Forest resources
<b>South-East</b>	Crude oil (Berca, Sărata-Monteoru, Pâcelele, Ianca); natural gas (Continental Black Sea Platform, in the counties of Braila and Buzau); granite (Măcinului Mountains); iron ore; copper pyrite; quartz; granite; marble; kaolin; barite; salt. Quality agricultural land. Solar and solar energy potential in Dobrogea

*Table 2 (cont.)*

<b>South Muntenia</b>	Crude oil and gas (in the counties of Argeş, Dâmboviţa, Prahova); lignite (Şotânga); non-metallic deposits (Pucioasa); salt; gypsum; useful rocks and building materials; loess with fine texture; sapropelic sludge (Amara, Fundata); mineral waters (Pucioasa, Vulcana Bai, Amara, Giurgeni); sulphurous sources (Amara, Ciulnita, Perieti)). Forest resources. The hydrographic network is dense and abundant in flows, but with relatively low hydropower potential
<b>Bucharest - Ilfov</b>	Limited resources. Reduced crude oil and natural gas deposits (Bragadiru, Cetelu, Jilava, Moara Vlăsiei, Pasărea, Periş). Sand and ballast exploitations in large river rivers, especially in Lunca Arges - Sabar. Geothermal water sources (Otopeni). Agricultural land in Ilfov County
<b>South-West Oltenia</b>	Crude oil and gas (Țicleni, Bustuchin, Băbeni, Potcoava, Corbu, Icoana); manganese; salt; construction rocks; springs of mineral and thermal waters. Forest resources (especially beech). High hydropower potential (hydropowers from Iron Gates and Lotru - Olt). The total agricultural area, with a high productivity potential, represents 12.3% of the total agricultural area
<b>Center</b>	Natural gases; low coal deposits; non-ferrous metals; salt; construction materials - basalt, andesite, marble, travertine; springs of mineral waters. Forests (occupies almost one-third of the region's surface). Hydropower potential
<b>West</b>	Crude oil and natural gas; ores of ferrous and non-ferrous metals (iron, copper, gold, complex ores, radioactive ores); coal deposits (anthracite, brown coal, coal, lignite); bituminous shale; construction materials (andesite, asbestos, refractory clays, limestone, marble, sand, granite); thermal springs, mineral and non-carbonated mineral water
<b>North-West</b>	Complex and gold-silver ores (Oas - Gutâi - Țibleş - Rodna area); bauxite (Pădurea Craiului Mountains and Bihor Mountains); salt (Maramureş Depression, the edge of the Transylvanian Plain); construction materials (common lime, marble, kaolin, refractory clay). Agricultural land covers 61.3% of the area with 5% of the area irrigated, and forests - 30.2%

Source: Plans of regional development 2014-2020 of Regional Development Agencies.

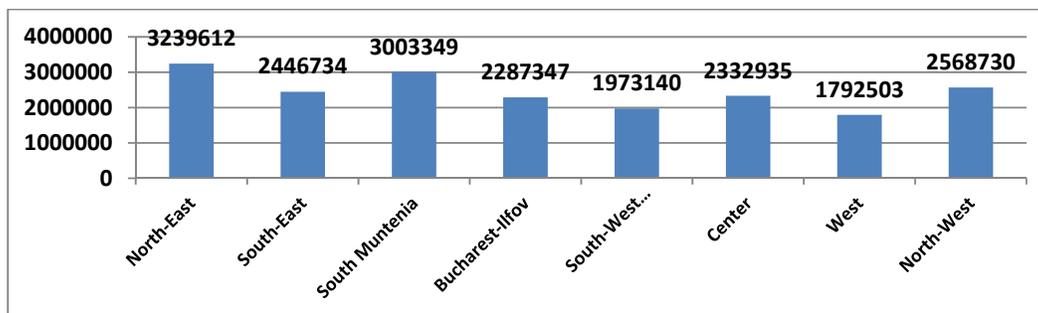
The efficient use of soil and subsoil resources in each region depends on many intra- and extra-regional conditions such as the availability of investment resources, the interest of economic agents, including SMEs, to engage in their exploitation and processing, the support of county public authorities, etc.

The wide range of natural resources available to each region demonstrates that there are many opportunities for the development of national, local and craft and handicraft activities, and the capitalization of these opportunities largely depends, in addition to the conditions mentioned, on the initiative of local authorities and population.

### **C. Population, demography, and employment of the population**

These factors, specific to human capital, determine the productive potential of the regions, their capacity to engage in the realization of large projects and programs meant to ensure their economic and social development.

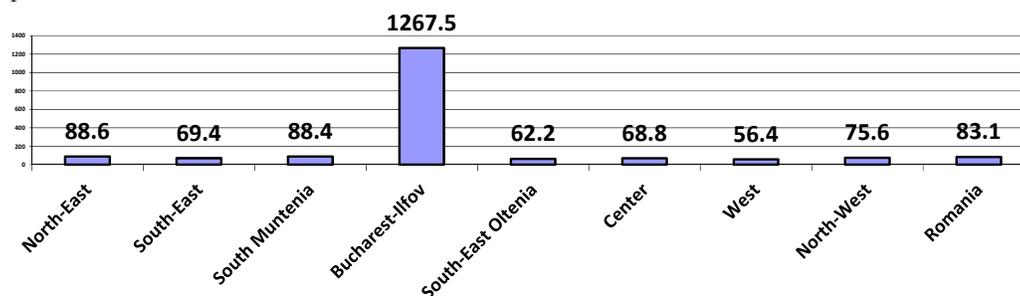
The population of development regions, shown in the following figure, varies in the total population of the country, from 9.1% of the least populated region - the West, to 16.5% of the region with the largest population - North East .



**Fig. 2.** Population of development regions on 1 January 2017 (number of persons)

Source: National Institute of Statistics. Romanian Statistical Yearbook 2017, Table 2.23., Bucharest, 2018

The same positions are occupied by the two mentioned regions and as to the population density indicator, its level in the regions being highlighted in the following figure; the Bucharest-Ilfov region, which has the highest population density, may not be compared with the other seven regions due to the presence of the Capital, which includes 9.1% of Romania's resident population alone.



**Fig. 3.** Population density in development regions, 2015 (inhabitants / km<sup>2</sup>)

Source: National Institute of Statistics. Romanian Statistical Yearbook 2017, Table 2.34., Bucharest, 2018

A worrying phenomenon that manifests in all regions is the demographic decline caused by the decrease in the birth rate, which, combined with the increase of the migration abroad, leads to a reduction of the population and the depopulation of localities, more pronounced in rural areas.

The level of three relevant indicators in this respect, presented in the following table, shows the sensitively different intensity of the phenomenon in the development regions, with the most serious consequences on their economic and social development.

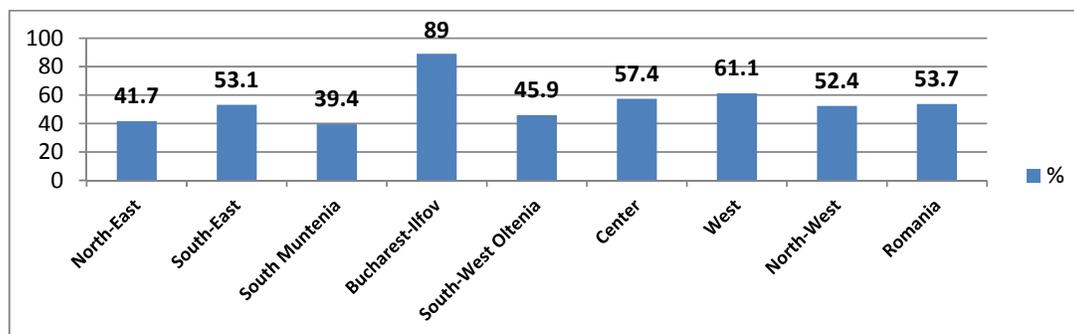
**Table 3.** Demographic indicators on development regions, 2016

	Natural change in population (number)	Total change in population (number)	Gross ratio of the total change in population (%)
North-East	-5938	-16670	-5,1
South-East	-10324	-23067	-9,4
South Muntenia	-16473	-28037	-9,3
Bucharest-Ilfov	-1155	-1191	0,5
South-West Oltenia	-10603	-20601	-10,4
Center	-2938	-8814	-3,8
West	-5895	-9537	-5,3
North-West	-3880	-8047	-3,1
Romania	-57206	-115964	-5,9

Source: EUROSTAT. Population change. Demographic balance and crude rates at regional level (NUTS3) Code [demo\_r\_gind3]

Negative demographic dynamics are accentuated in the less developed regions - South-West Oltenia, South-East and South-Muntenia, affecting significantly the other regions, the least Bucharest-Ilfov region. In the North-East region, the least developed of all, the natural change in population is relatively low, but the external migration of the population makes the total change significantly increasing, keeping the gross rate of this change at a level comparable to that of some developed regions (West).

Another indicator whose level clearly differentiates the developed regions from those with negative development gaps is the share of urban population in the total population, shown in the following figure.



**Fig. 4.** Degree of urbanization of development regions on 1 July 2016 (%)

Source: National Institute of Statistics. Romanian Statistical Yearbook 2017, Table 2.36., Bucharest, 2018

Only the Bucharest-Ilfov, Center and West regions are, by the level of this indicator, above the national average; they are the most developed regions, their high degree of urbanization being an essential feature of their economic and social condition.

## Conclusions

- The different status of the main determinants of regional development and the varying effects of these factors on economic activities, in general, and manufacturing industry, especially, in the development regions, make their mark on economic and social performances of regions, synthesized in the indicator of maximum relevance "regional GDP per capita". Depending on this level, development regions are shared in some of the higher performances and others with modest performances;
- All the determining factors differentiate the regions in terms of their existing economic and social development potential and their prospects in this regard. Differentiation takes place in favor of regions with: varying forms of relief; diversified and of higher quality and quantity natural resources; a workforce whose qualifications are better suited to demand in the labor market. These features of the more developed regions give them superior location advantages and, implicitly, increased attractiveness for domestic and foreign investment capital. Investments, particularly FDI, in turn, potentiate the actions of the aforementioned factors and amplify their beneficial effects on the development of the regions in question, which are part of an upward spiral capable of increasing the gap between them and the less developed regions;
- The condition of the same determinants in regions with development deficits, although sensibly lower than in the advanced regions, presents some advantages which can be capitalized on the basis of a national regional development policy and well-founded regional and local policies, applying them to the authorities public at the three levels has a decisive role.

## References

1. Academia Română, 2002. *Dezvoltarea regională și integrarea europeană* (Simion, E., Iancu, A.(coord.)), Grupul de reflecție Evaluarea stării economiei naționale, ESEN – 2. Integrarea României în Uniunea Europeană, Institutul Național de Cercetări Economice, Centrul de Informare și Documentare Economică.
2. Akpinar, M, Can, Ö and Mermercioglu, M., 2015. *Determinants of competitiveness in European regions: A test of the Emerald model*, Communication presented to The 10th World Economy Research Institute's Annual Conference, Collegium of World Economy, Warsaw School of Economics, 29 June 2015.
3. Annoni, P. and Dijkstra, L., 2013. *European Union Regional Competitiveness Index*, European Commission, Brussels.
4. Antonescu, D., 2012. *Identificarea disparităților și convergenței economice regionale în UE și în România*, în: Studii Economice, Institutul Național de Cercetări Economice, available through [www.ince.ro](http://www.ince.ro).
5. Capello, R. and Nijkam, P. (Eds), 2009. *Handbook of Regional Growth and Development Theories*, editors, published by Edward Elgar Publishing Ltd.
6. Constantin, D. L., 2010. *Economie și politici regionale*, Universitatea "Alexandru Ioan Cuza" Iași, Centrul de Studii Europene.
7. European Commission, 2014. *An Introduction to EU Cohesion Policy 2014-2020*, June 2014, EU Publication Office.
8. Guvernul României, 2014. *România – Strategia națională pentru competitivitate 2014-2020*, Bucharest.
9. Kitson, M., Ron, M. and Peter, T., 2004. Regional Competitiveness: An Elusive yet Key Concept?, *Regional Studies*, Vol. 39.9, December 2004, pp. 991-999.
10. McCall, T., 2006. *What do we mean by Regional Development*, Institute for Regional Development, University of Tasmania.
11. Mereuță, C., 2018. *Some Microeconomic Landmarks of the Transition Process in Romania*, Economic Publishing House.
12. Meyer-Stamer, J., 2008. *Systemic competitiveness and local economic development*, available through : [www.mesopartner.com](http://www.mesopartner.com), accessed on 10<sup>th</sup> March 2019.
13. OEDC, 2011. *OECD regional outlook 2011*, Paris.
14. Porter, M., 1990. *Competitive advantage of nations – creating and sustaining superior performance*, Free Press, New York.
15. Regional Development Agency București-Ilfov (Center, North-East, North-West, South-East, South Muntenia, South-West Oltenia, West), 2014.. *Regional development plan 2014-2020*.
16. Sachs, J.D. and McCord, G.M., 2008. *Geography of Regional Development*, The New Palgrave Dictionary of Economics Online (edited by Steven N. Durlauf and Lawrence E. Blume), Second Edition.
17. Uniunea Europeană – FEDR, 2013. Guvernul României, Ministerul Dezvoltării Regionale și Administrației Publice. *Instrumente structurale 2007-2013. Strategia națională de dezvoltare regională 2014-2020*, 2013, Bucharest.
18. World Economic Forum. *The Global Competitiveness Report*, ediții anuale, Geneva.