

# Regionalization, Competitiveness and innovation. The case of Romania<sup>1</sup>

**Abstract:** It is known that as of 1998 Romania has started a Top-Down process of regionalization. The main purpose of this process was to subdivide the national territory according to the criteria of the NUTS classification used in the European Union both for statistical purposes and as a dimension to access EU fundings. Within this framework the paper aims to assess the development of the competitiveness of the “new” Romanian regions with a particular focus on innovation seen as a determining factor. For this purpose are mainly used the data shown in the last report on the Regional Competitive Index, by making comparisons with the different European countries and their regions. It emerges that even in a context of progress towards a higher competitiveness, regions in Romania show a substantial deficit in terms of innovation. This condition seems to be indicative of a structural weakness of the innovation process related to both the regional economic structure and to the system of R & D. To keep up with the other European regional economies is crucial that significant efforts are made in the direction of promoting innovation and thus competitiveness also to improve integration in the dynamics of the European economy.

**Keywords:** Romania, romanian regions, regional competitiveness, Regional Competitiveness Index (RCI), territorial innovation.

## 1. Regionalization and development in Romania

After 1990, the Romanian economy has entered a complex restructuring process aimed at enhancing both economic efficiency and the adaptation of the country to the needs of the market economy (Constantin et al., 2011). Among the political and economic transformations that have been developed following the post-revolutionary events,

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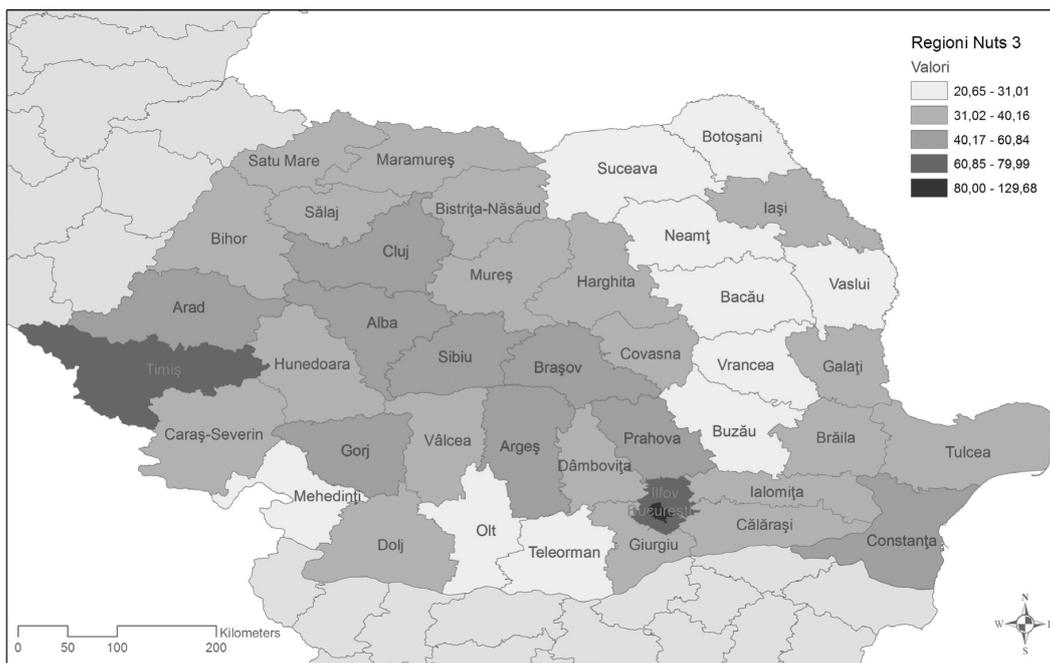
there is a new model of regional development policy, which led to the creation of an *ad hoc* institutional and legal framework, as well as specific implementation mechanisms. In a relatively short time, the regional development policy in Romania has become an integral part of the process of European Union accession, taking the role of a separate chapter of negotiation in the EU accession process, i.e. Chapter 21 „Regional policy and coordination of structural instruments“.

On the basis of the association agreement to the EU as well as the National Program for EU accession in the period 1998-1999, and with the support of the PHARE program, they have been developed, both at central and regional level, a suitable legal framework and adequate institutional structures by recognizing, therefore, the need for an integrated and modern regional development policy. These institutional structures are a means to support the local economic and social poten-

tial through cooperation between national, regional and local authorities, and benefit from financial support from the government and the European Commission (Constantin, 2009).

Law 151/1998 on regional development in Romania – the basic law which regulates this issue – sets the objectives, institutional framework, skills and tools necessary to promote the regional development policy. This law, which was amended by subsequent 143/2003, also defines the decision making and executive bodies at both regional and national levels.

Figure 1. GDP per capita in the Romanian NUTS 3 regions in 2011 (average EU-28 = 100).



Source: Author’s calculations on EUROSTAT data.

As a result of this legislation, have been created 8 „statistical“ and/or „of development“ regions corresponding to NUTS 2 level, resulting as geographical areas that are not, therefore, considered as administrative units. The „development regions“ have been formed by the aggregation of existing provinces into a superior territorial level, and they have been named according to their geographical position in the country (Table no. 1).

Subsequently, with a further grouping of the eight regions, have been created four macro-regions corresponding to the NUTS 1 statistical level. Within the Romanian regional NUTS structure, only the territorial units of NUTS 3 type (namely the 41 provinces and the area of Bucharest) have competencies as administrative authorities. The macro-regions and the development regions have no administrative powers nor their own form of government or administration.

The Romanian regions, therefore, have not been invested by decision-making skills of a territorial nature but they have only been configured as statistical units of NUTS 2 level – standard units with an average size of 13,000 square kilometers and a population of about 2.5 million inhabitants.

Table 1. Macroregions and regions of Development in Romania.

NUTS I	Macroregion I		Macroregion II		Macroregion III		Macroregion IV	
NUTS II	North-West	Centre	North-East	South-East	South-Muntenia	Bucharest-Ilfov	South-West	West
NUTS III	Bihor	Alba	Bacau	Braila	Arges	Bucharest	Dolj	Arad
	Bistrita-Nasaud	Brasov	Botosani	Buzau	Calarasi	Ilfov	Gorj	Caras-Severin
	Cluj	Covasna	Iasi	Constanta	Dambovita		Mehedinti	Hunedoara
	Maramures	Harghita	Neamt	Galati	Giurgiu		Olt	Timis
	Satu Mare	Mures	Suceava	Tulcea	Ialomita		Valcea	
	Salaj	Sibiu	Vaslui	Vrancea	Prahova			
				Teleorman				

Source: Author’s elaborations Based on the provisions of Law 151/1998.

The Romanian „formula“ of regionalization can therefore be seen as a kind of co-operation between local communities consisting in the union of sub-national governments in 8 regions of development, thanks to the voluntary cooperation of the 41 existing provinces and without legal personality at regional level. In other words, the type of regionalization adopted in Romania – definable as administrative decentralization (by delegation) – does not imply administrative functions for the regions, and therefore does not change the administrative organization of the territory by forming regions seen as new territorial communities superior to the existing ones. (Dodescu and Chirilă, 2012).

This aspect makes the difference between the type of regionalization adopted in Romania compared to more advanced forms of regionalization seen in many other EU countries, for example, France (administrative regionalization), Italy and Spain (political regionalization) Germany, Belgium and Austria (regionalization of the federal authorities). Limited both in terms of resources and competences, the Romanian regions of development have been therefore created more as a functional response to the needs of EU regional policy (in terms of the criteria for the use of structural funds) as well as observation statistical unit in order to allow the collection of data in accordance with regional standards and policies of the European Union (Katsarova, 2010), rather than for broad regional functions and objectives such as infrastructures, environmental protection, cultural heritage, etc...

This choice, as we will see later through a set of indicators, it is probably related to the inadequate performance both economic and of implementation of adequate milieux, which came with Romania at regional level. If, in fact, the country has registered as a whole satisfactory economic performances with considerable growth rates of GDP, these do not seem to have reflected uniformly and satisfactorily on its territories. In order to understand this dynamic, in the following paragraphs are analyzed at the regional scale both the competitiveness and the ability of innovation occurring in the regions of Romania.

## 2. Competitiveness: problems of definition and interpretation at the regional scale

In a broad sense, competitiveness can be defined as the ability of a country, measured in relation to the performance of other countries, to build and ensure an economic, social and politi-

cal context able to efficiently support the creation of added value. At the national level, competitiveness also involves a „territorial dimension“, being the geographical spread of competitive economic operators rather uneven, but usually concentrated in certain areas of the country.

As regards this aspect, the extended concept of competitiveness also entails defining its relevant limits. The traditional analysis of competitiveness usually distinguishes three levels: country, industry and society (Porter, 1990; Reiljan et al, 2000), while the latest works tends to include the role of regions and supranational organizations (Reiljan et al., 2000). At the regional level, competitiveness must contemplate the fact that, regardless of the presence in its territory of actors or structures competitive and non-competitive, certain elements in all regional contexts have an impact on the competitiveness of enterprises that are localized. Such items include, among others, the social and physical infrastructure, qualification of labor and the efficiency of public institutions.

The complexity of regional competitiveness was also interpreted through an analytical decomposition into four levels (developed by Esser in 1995 and presented by Annoni and Kozlovska in 2010 in their report on the index of regional competitiveness of the EU), in which they different types of drivers of competitiveness operate.

a) The micro level: where the drivers of competitiveness are identified with the efforts of companies and their collaborative networks; b) the medium level, which aims to create a favorable environment for businesses, here drivers of competitiveness are identified with the physical infrastructure, the sectoral policies of competitiveness (education and R & D, industrial policy, environmental policy, export promotion), but also with the territorially oriented policies (regional policy, localization, promotion of the territory), c) the macro level: includes macroeconomic, political and legal framework that encourages competition. Its key factors are the monetary, fiscal and tax policies and commercial exchange, competition policy and consumer protection and d) the meta-level: the trajectories concerns the main societal directions, where the drivers are identified by a competitive economic system, the ability to develop visions and strategies, value systems that encourage learning and change, the collective memory, social cohesion capital and the social status of entrepreneurs.

At the regional, sub-regional and local scale, the four levels are connected to each other, even though their degree of importance is different. However, is interesting the fact that lately – in the territorial realities – significance of the meta-level seems to have assumed a greater role in relation to the choice of their pathways and methods of development, especially in the medium and long term.

Finally, we should mention the most recent definition proposed in the report on the EU Regional Competitiveness Index 2013, which incorporates both the vision of the company and that of people who are located or live in a region: the regional competitiveness can be defined as “the ability to offer an attractive and sustainable environment for firms and residents to live and work”, where for sustainability must be understood the ability of a region to provide an attractive environment both in the short and in the long term (Annoni and Dijkstra, 2013).

### **3. Competitiveness in the Romanian regions.**

In literature you can find different ways to evaluate regional competitiveness. One of the most often used criteria is the one concerning composite and/or aggregate competitiveness indicators. It should however be specified that can be difficult to build an aggregate indicator to assess regional competitiveness from its defining elements. This is because it is not easy to

choose what to include in such an index, because of evanescence and not direct observability of the concept itself. In addition, all relevant indicators to define competitiveness are inter-related, making it difficult to assess causality, although attempts may be made to distinguish between drivers of competitiveness and its outputs (Camagni, 2002).

Many studies calculate indices of global competitiveness, considering mostly the national level (for example, those calculated by the World Economic Forum and the International Institute for Management Development). Besides these, other studies analyze regional competitiveness using fewer indicators than indices of national competitiveness. Amongst these are the European Competitiveness Index (ECI), the United Kingdom Competitiveness Index, the World Knowledge Competitiveness Index (developed by the Centre for International Competitiveness), the Atlas of Regional Competitiveness (of Eurochambers) and, in relation to the specific case of Romania, both the Regional Competitiveness Index developed in 2007 by the Group for Applied Economics, and the Regions' Competitiveness Index developed in 2011 by IRECSON.

Based on the methodology used by the World Economic Forum which publishes the annual Global Competitiveness Report, an index of competitiveness at the regional level for the NUTS-2 regions has been prepared by the EU. It is based on 11 pillars (areas) and 73 indicators organized in three groups (basic skills, efficiency drivers and drivers of innovation) covering a wide range of factors not solely linked to the economic aspects. The structure of this indicator is shown in Table 2.

Table 2. Typology of sub-indices and dimensions within the Regional Competitiveness Index.

<b>a) Basic sub-index</b>	
a.1	Institutions
a.2	Macroeconomic stability
a.3	Infrastructure
a.4	Health
a.5	Basic education
<b>b) Efficiency sub-index</b>	
b.1	Higher education
b.2	Labour market efficiency
b.3	Market size
<b>c) Innovation sub-index</b>	
c.1	Technological readiness
c.2	Business sophistication
c.3	Innovation

Source: Annoni and Dijkstra, 2013.

The areas from a1) to a5) have a higher importance for the less developed regions, while those from c1) to c3) counts more for the most advanced regions (in particular for those with a very high level of development), but also for the regions in transition from a lower phase of development to a higher one. For each area a score is calculated as the average of standardized indicators (some indicators are calculated only at the national level), and the final score (total RCI) is calculated as a weighted average of the three fundamental pillars.

Because different indicators have a different impact on the competitiveness of regions with regard to their respective levels of development, the weights applied to the three groups of

drivers have been correlated with the regional GDP per capita (3 classes of weighting in the 2010 version and 5 classes in 2013 version). This criterion can also provide useful input to policy makers, because, theoretically, the competitiveness of a less developed region can be increased, for example, by augmenting the quality of institutional and educational factors affecting innovation.

Table 3. Weights of the sub-indices of the drivers of competitiveness of RCI, version of 2013.

Per capita GDP in relation to EU average	Development stage	Basic competencies pillar	Efficiency drivers pillar	Innovation drivers pillar
<50	1	35,00%	50,00%	15,00%
50-75	2	31,25%	50,00%	18,75%
75-90	3	27,50%	50,00%	22,50%
90-110	4	23,75%	50,00%	26,25%
>110	5	20,00%	50,00%	30,00%

Source: Revised from Annoni and Dijkstra, 2013.

This aspect has been recognized by the authors of the RCI report, which have increased the weight of the drivers of innovation even in the case of the less developed regional economies, in order to reward in those regions the innovation policies (Annoni, Dijkstra, 2013 ) (Table 3).

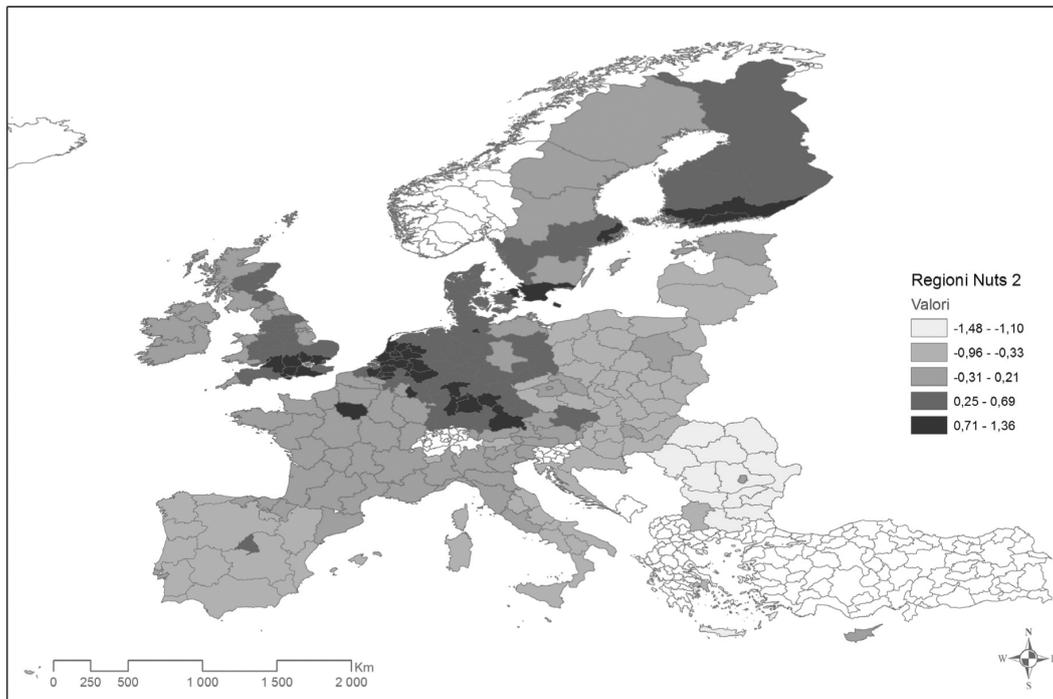
In the European Union, the regional competitiveness index (RCI) shows a remarkable characterization of the regional level in relation to competitiveness and this is true both among Member States and within them. It is possible to detect large differences between the group of most developed states (EU-15) and the least developed, identified in the New Member States (NMS-13), also regarding the territorial distribution of the drivers of competitiveness and the channels of its spread among the regions.

Top 10 most competitive regions are located in the EU-15 countries (more precisely, in seven countries: the Netherlands – 3 regions, United Kingdom – 3 regions, Sweden, Germany, France and Denmark – 1 region each). At the other extreme, the 10 less competitive regions can be found in an EU-15 country (Greece – 5 regions) and in the group of the least developed NMS-13 (Romania – 3 regions and Bulgaria – 2 regions) (Figure 2).

Considering the three main areas of RCI, the situation does not change much, even if the number of countries varies within higher limits. Unfortunately, in the case of the fundamental pillar „skills“ almost all the Romanian regions are among the 10 European less competitive regions, while in the case of the innovation drivers pillar six regions of Romania are just as unfavorably positioned.

The general interregional competitiveness gaps in EU countries are of a higher magnitude in the case of the EU-15 countries than in the case of the NMS-13, but considering the three domains the situation is different (Tables 4 and 5). So, while in the case of the basic skills pillar gaps between regions are similar in the two groups of countries, in the drivers of efficiency pillar, gaps between regions are a bit higher in the EU-15 countries, and in the context of drivers of innovation highest gaps between regions are accounted for the NMS-13 countries (in particular from Romania).

Figure 2. Regional Competitiveness index in the UE in 2013 at NUTS 2 level.



Source: Author's calculations on EUROSTAT data

As for the specifics of Romania, except for the Bucharest-Ilfov region, all other regions are positioned among the least competitive of the European Union (ranks lower than 240 among 262 positions), and the South East region is classified as the penultimate among the European Union (the lowest score of overall competitiveness between regions in the new Member States, next the region Severozapaden of Bulgaria as early as 2010).

In addition, in the case of some sub-indices of the competitiveness pillar, is to be found at least one Romanian region among those placed in the last position among the NMS regions or even throughout the EU: all Romanian regions in the case of the basic education, the region Bucuresti-Ilfov in the case of institutional quality, the region of Sud-Vest Oltenia in the case of infrastructure, the region Vest in the case of the basic skills pillar, the South East region, in the case of health care, higher education, lifelong learning, efficiency of the labour market as well as in the areas of efficiency drivers and drivers of innovation, the Northeast region, in the case of market size, technological readiness and the innovation drivers pillar, finally the South Muntenia region in the case of business sophistication.

Table 4. Differentials of interregional competitiveness in the area of EU-15 countries.

Country	Basic competencies pillar	Efficiency drivers pillar	Innovation drivers pillar	RCI 2013
Belgium	1,32	1,42	1,70	1,45
Denmark	1,05	1,32	1,63	1,32
Germany	1,23	1,47	1,67	1,46
Ireland	1,03	1,23	1,24	1,20
Greece	1,80	3,39	3,80	2,80
Spain	1,22	5,23	2,47	2,75
France	1,64	3,52	2,57	3,64
Italy	1,37	2,93	1,92	1,94
Netherlands	1,13	1,43	1,59	1,35
Austria	1,12	1,20	1,52	1,17
Portugal	1,21	2,04	2,17	1,77
Finland	1,06	1,34	1,61	1,22
Sweden	1,13	1,54	1,98	1,52
United Kingdom	1,33	1,83	3,04	1,66

Source: Author's elaborations on data Annoni and Dijkstra, 2013.

Table 5. Differentials of interregional competitiveness in the area of NMS-13 countries.

Country	Basic competencies pillar	Efficiency drivers pillar	Innovation drivers pillar	RCI 2013
Bulgaria	1,80	1,94	3,83	2,15
Czech Republic	1,13	1,45	1,94	1,42
Croatia	1,03	1,14	1,03	1,08
Hungary	1,27	1,62	2,01	1,65
Poland	1,42	2,08	2,64	1,61
Romania	1,60	3,15	7,03	3,25
Slovenia	1,02	1,19	1,42	1,19
Slovakia	1,29	2,57	2,35	2,11

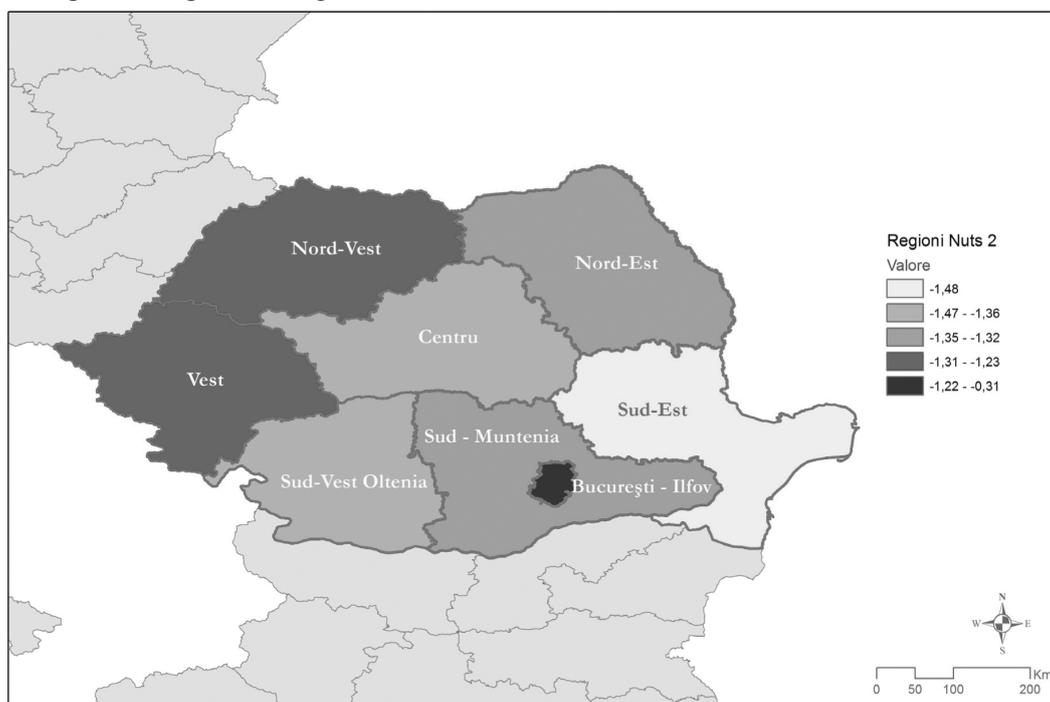
Source: Author's elaborations on data Annoni and Dijkstra, 2013.

Can also be noticed that the Bucharest-Ilfov region (the most developed in Romania, with the highest competitive position – except in the field of basic skills) is surrounded by much less competitive regions (South Muntenia, South-East and South-Vest Oltenia), which reveals a concentration of the drivers of competitiveness in its territory and the limited nature of the dissemination of competitiveness. This is caused both by the poor quality of transport infrastructure and, above all, by the significant gaps regarding the structure and sectoral dynamic as well as the development of economic activities and innovative approach.

Indeed, the region Bucuresti-Ilfov is included between the regions in the development stage 4 (ie, in transition to an innovation driven economy), unlike the others, included between the regions in the second stage of development (or in transition to an efficiency-driven economy

– the region Vest) or even in the early stage of development (economies guided by basic skills – all the other regions of Romania).

Figure 3. Regional Competitiveness Index in Romania in 2013 at NUTS 2 level.



Source: author's calculations on EUROSTAT data

#### 4. Innovation in Romanian regions

Since innovation is a key factor of competitiveness, both at national and regional level, it is appropriate to examine in closer detail some of the problems. The regional performance in terms of innovation in the EU regions was evaluated by the Regional Innovation Scoreboard (RIS); here the regions of the EU member countries have been classified as follows, in four performance groups: the innovation leaders (34 regions), innovation followers (57 regions), average innovators (68 regions) and modest innovators (31 regions).

Although the regional innovation performance can vary widely within a country, generally in Europe groups of regional performance are correlated with the national ones. The data show a clear division of innovativeness between countries (and regions) in North and Western Europe, and those in southern and eastern Europe. Romania has only one region that surpasses the class of modest innovators (the region Bucuresti–Ilfov, included in the group of medium innovators) in line with the competitiveness performance of Romanian regions.

The regions definable as innovation leaders record the best performance in relation to all the indicators in the analysis, to an extent of about 30% above the European average, while the regions classified as modest innovators record the lower trend, in particular as regards the performance relative to business innovation.

Despite the presence in such regions of a highly skilled and educated workforce, they experience both the main weaknesses related to other fields of regional innovation systems, and the negative impacts due to the obstacles that arise from national R & D systems of their own countries. In the case of the Romanian regions, the evolution of the gaps of the overall performance of innovation between 2004-2010 was positive for six of the eight development regions, except for Sud-Vest Oltenia and Vest regions which recorded negative average annual growth rates of R&D between -2.5% and 0%. The best evolution of the performance of innovation have been recorded by Bucharest-Ilfov, Muntenia Sud, Sud-Vest and Nord-Vest regions.

When analyzing the performance of the Romanian regions in relation to individual indicators of R&D it can be noted that most of them have registered performance of 50% below the level of the European average for all indicators. Paradoxically, some of the regions with lower development levels (Nord-Vest, Sud-Vest Oltenia) reported slightly better performance for some indicators related to a greater extent with the capacity for innovation and the ability of trading innovation performance compared to regions with a higher level of development (Vest, but also Bucuresti-Ilfov) which, vice versa, have registered a lower performance.

However, all in all, the weaknesses of the innovation process in Romania, due to both the national system of R & D and company structures and their internal relations, are also true at the regional level. This requires action in several fields (political, economic, institutional, social and entrepreneurial) in order to overcome the current unfavorable situation and build the foundations for a change in thinking and operating in the very near future.

## Note

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