

## REGIONAL DEVELOPMENT AND DIVERSITY/VARIETY OF FIRMS: THE CASE OF ROMANIA

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### **Abstract:**

*In this paper we try to find empirical evidence regarding the region diversity by firm characteristics, using spatial data from Tempo (INS Romania database) at NUTS 1, 2 and 3 region level for the period 1997-2008. Using instruments of statistical analysis of spatial data (Anselin, Varga) we try to sketch the spatial pattern of firm agglomerations and the values of the main firm's characteristics (size class according to employee's number and economic activity by NACE Rev.1 sections). Starting point is represented by the discussion made by Saviotti [1] regarding the efficiency versus diversity/variety in economic development respectively development versus growth. The pattern variation of the regions' "profile" by diversity/variety of the firms could offer an image of the structural transformation of economic development tendencies in the last decade.*

**Keywords:** region development, diversity/variety, spatial pattern, firm agglomeration

### **1. Introduction**

Regional development could be characterised also under the evolutionary theories of economic development perspective. In this frame the development is not only a process of quantitative growth, but also of qualitative changes. As this is emphasized by Saviotti [1], there is a trade of between efficiency and diversity/variety in economic development respectively development versus growth and the role of variety is both a determinant and a result of growth. We make reference to one of the two hypotheses that link variety to economic development (Saviotti, 1996): "**The growth in variety is a necessary requirement for long-term economic development.**" [2]

If we consider variety a changing development mechanism, then every component of the economic system (actors, resources, activities, results) is transformed and dynamically differentiated from the others. In the specialized literature there is some development regarding the concept of variety applications in the "theories of consumption and welfare (Lancaster, 1975, Dixit Stiglitz, 1977) and, increasingly, of economic growth (see for example Romer, 1987, 1990; Bils et al 2001; Funke, Ruhwedel, 2001a, 2001b)." [3]

#### **1.1. Economic development in Romania's regions**

The relative position into the NUTS 2 total of 268 EU-27's regions places Romanian regions in the group of the **most lagging regions** (medium stages of development) in Europe with the exception of RO32 region (in intermediate stage of development see Table1):

**Table 1**  
**EU Regional Competitiveness Index 2010 RCI scores and ranks RCI scores and ranks, and the Stages of development of EU NUTS 2 regions for Romania**

Region Eurostat code	Region NUTS 2 level	Weighted RCI score EU Regional Competitiveness Index 2010	Corresponding rank (low ranks are associated to high RCI scores)[4] from 268 positions	Stages of development of EU NUTS 2 regions [5]	% GDP per capital (PPP per inhabitant as % of EU average)
RO32	Bucuresti - Ilfov	0.339	177	INTERMEDIATE	92.2
RO11	Nord-Vest	1.146	244	MEDIUM	40.2
RO42	Vest	1.193	248	MEDIUM	48.2
RO31	Sud - Muntenia	1.197	249	MEDIUM	34.2
RO21	Nord-Est	1.260	253	MEDIUM	26.6
RO12	Centru	1.294	257	MEDIUM	42.2
RO41	Sud-Vest Oltenia	1.369	259	MEDIUM	32.7
RO22	Sud-Est	1.385	261	MEDIUM	33.8

Under EU RCI 2010 methodology the Romania's position under the CCI (Country Competitiveness Rank) is 27 out of 27 items, with the same tendency indicated by the 2009/2010 edition of the Global Competitiveness Index [6] GCI 2009/2010 where the rank is 24 for Romania (in the EU27 selection). Another tendency is pointed out in the specialized literature: the transition to the market economy increases **regional development inequalities** "Territorial inequalities have increased during the transition period to the market economy, although their level is still below the one recorded in most European countries [7], [8]". In another paper, authors adapted different statistical measures of variation to the specificity of spatial analyses, many indicators and techniques for territorial comparisons and ranking (at NUTS 3 level), as well as for inequality measurement like Gini index, Herfindahl index and Theil index, "showing a low level of concentration, which suggests a **low amplitude of both inter-regional and intra-regional disparities**, although, the **intra-regional disparities are much higher than the inter-regional disparities**." [9] Following the crises period and its persistence in 2009-2010, is accentuated this tendency of increasing the „regional disparities". [10] Under these differences, inequalities and disparities increasing tendencies are new pressures and difficulties in view to implement an efficient cohesion policy. We have to emphasize the essential role of the cohesion policy played "in the development of regions and local communities and in increasing their adaptation capacity in a globalised economy and their role in regional development." [11]

## 1.2. Some evidence regarding the catching up factors in the regions development

An important subject for the regional policies is the identification of the catching up factors, in order to enhance regional growth and convergence:

1.2.1. Technological differences among regions could be diminished through encouragement of employment in advanced technological sectors. "Catch-up to the leading regions is feasible only amongst those regions whose technological conditions are similar or close to those of the technologically advanced regions. [12]" In terms of activities the technological differences are shaped by high-technology activities and knowledge creating activities (including R&D from universities and scientific and research institutions).

1.2.2. The impact of the past conditions/ different externalities interfere in the present and could shape effects that persists longer or „Individual localities will have limited ability to influence or change what they do, particularly in the short run" [13]. From Henderson's results we mention that "for all industries both localization (Marshall-Arrow-Rome MAR externalities) and urbanization (Jacobs externalities) effects are important. For traditional industries most effects die out after four or five years, but for high tech industries effects can persist longer. The biggest effects are typically from conditions of three to four years ago, in the county and metropolitan area" [13].

1.2.3. The importance of dynamic externalities in favouring the growth of economic activity (Lucio, Herce, Goicolea, 2002). "If specialization is sufficiently high, it seems to be positive for growth as Henderson (1994) argues. On the other hand, if specialization is low, we find a negative effect on growth, a result that coincides with Glaeser et al. (1992). We do not find clear evidence on the presence of diversity (Jacobs type) and competition (Porter type) externalities" [14]. A different

role of diversity as a dynamic externality on growth is found by Glaeser et al.(1992), Lucio et al.(1996) given by the “cross fertilization among different industries amongst others”.

1.2.4. The significant role played by the most innovative regions from the knowledge economy perspective. “The key minority of most innovative regions is playing an increasingly significant role in driving not only exports their own economic growth but also that of their national economies. Their role as gateways for the exchange and trading of leading edge ideas and best practice means that they also play a significant part in diffusing this knowledge through their respective national urban and regional hierarchies. As a result regions still matter in a globalized economy because of the differential ways in which knowledge is concentrated and circulated both within and between them.” [15]

## 2. Methodology and data

“In the economic literature, variety is used to describe differentiation within a given product group...but “Structural change can occur for *activities* and *actors* as well as for outputs, thus also for knowledge, and institutions. In biology, the concept of diversity is defined as the number of species existing in a given habitat.”[3]

Based on these references the formalisation of variety is represented as a number of distinguishable entities. Making the analogies with the biodiversity approach leads us to the conclusion that diversity/ variety represents the distinguishable number of economic species in the system or that the “variety is the number of actors, activities and objects required to describe the economic system.” [2]

### 2.1. Definition of variety and methodological issues

In order to characterize the regions development by the diversity / variety of the firms we consider:

-Among the actors that develop economic activities we select only the active local units by activity of national economy at level of CANE Rev.1 classes, size classes of number of employees, macro regions, development regions and counties as measured by the INS (National Institute for Statistics from Romania as the indicator **INT101J** provided by the **TEMPO** online database (see Annex 1).

-The exclusion of the institutional actors and the common methodological framework of the measurement permit to consider the units related and in the same time distinctive from each others by the following criteria:

One “species” could be described as a vector with (region NUTS 3, class size according to employees’ number, class CANE Rev.1) dimension descriptions.

a. CANE Rev.1 – classes. Because official statistical developments exist we can access the number of items at the most detailed level of the current classification

514 classes

b. Size class according to employees’ number

b1. 0-9 employees: microenterprises;

b2. 10-49 employees: small enterprises;

b3. 50-249 employees: medium enterprises;

b4. 250 employees and more: large enterprises;

For the time period 2002-2008, yearly frequency at NUTS 1, NUTS 2 and NUTS 3 regional aggregation level where the regional level represent the “habitat of the analysed species” or the environment where we make the analogy with the natural environment described as the “**ecosystem** is a community of living and non-living things that work together.”[16]

### 2.2. The species richness S

If “the species richness S is simply the number of species present in an ecosystem” [17] then in our case the maximum imposed by the methodology is:

$S_{\text{maximum}} = 514 \text{ classes} \times 4 \text{ firm type by size classes of number of employees} = 2056 \text{ species of active local units}$  (see Annex 1)

Indexes to measure diversity /variability: Simpson's diversity (see Box 1a [17]) and Hirschman-Herfindahl Index (HHI) (see Box 1b) [18].

In the same idea another source mention that "Simpson's diversity index: An index of species diversity devised in **1949** by **E. H. Simpson**, given by  $D = 1 / \sum p_i^2$ , where  $D$  is the diversity index,  $p_i$  is the proportion of individuals in the  $i$ -th species, and  $\sum$  means 'sum of'." [19]

#### *Box 1a*

##### *Simpson's diversity index*

*If  $p_i$  is the fraction of all organisms which belong to the  $i$ -th species, then **Simpson's diversity index** is most commonly defined as the statistic:*

$$D = \frac{1}{\sum_{i=1}^S p_i^2}$$

*This quantity was introduced by Edward Hugh Simpson.*

*Note that  $0 \leq D \leq 1$ , where values near zero correspond to highly diverse or heterogeneous [ecosystems](#) and values near one correspond to more homogeneous [ecosystems](#). Biologists who find this confusing sometimes use  $1/D$  instead; confusingly, this reciprocal quantity is also called Simpson's index. A more sensible response is to redefine Simpson's index as*

$$\tilde{D} = 1 - D = 1 - \sum_{i=1}^S p_i^2,$$

*(called by statisticians the index of diversity), since*

- *this quantity has a simple intuitive interpretation: it represents the probability that if we randomly choose two individuals, that they will belong to distinct [species](#)*

### 2.3. The model

The equivalent of the Simpson's diversity index is HHI:

#### *Box 1b*

##### *Hirschman-Herfindahl index (HHI)*

*In economics essentially the same quantity is called the Hirschman-Herfindahl index (HHI), defined as the sum of the squares of the shares in the population across groups (with  $E$  as the group size, that is, the number of employees or the number of specimens):*

$$D = \sum_{i=1}^S \left(\frac{E_i}{E}\right)^2.$$

*Note that a HHI is also used within sectors, to measure competition.*

In order to "decode" the calculated results, the significance of HHI is:  
 "a HHI index below 0.01 (or 100) indicates a **highly competitive** index.  
 a HHI index below 0.1 (or 1,000) indicates an **unconcentrated** index.

a HHI index between 0.1 to 0.18 (or 1,000 to 1,800) indicates **moderate concentration**.  
 a HHI index above 0.18 (above 1,800) indicates **high concentration** (1).”[20]

The limits (assuming infinite categories with equal representation in each category) of the scores for this index are:

- “0” the case of perfectly **homogeneous population**.
- “1” the case of perfectly **heterogeneous population**

In our model then, for every year between 2002 and 2008:

$$\mathbf{HHI}_{NUTSm} = \sum_j^{Sk} \left( \frac{n_k}{N_{NUTSm}} \right)^2 = \sum_j^{Sk} \left( \frac{n_{(a;bl)j}}{N_{NUTSm}} \right)^2 \quad (1)$$

where:

For every  $m=1$  to  $3$ ,  $m=1$  then NUTS 1 – 4 cases;

$m=2$  then NUTS 1 – 8cases;

$m=3$  then NUTS 1 – 42 cases .....54 cases /year

with  $i= 1$  to 514 cases; $l= 1$  to 4 cases;  $j=1$  to 2056 cases.

## 2. Results

The results for the 54 scores for the HHI index for each year are presented in the Table 2 and Figure 1. The scores of the HHI index calculated at regional level indicate **an unconcentrated index** situation as general characteristic (with values of HHI below 0.1). As shown in figure 1, these areas are presented in red with higher diversity of units and also a high competition level. **A homogeneous population with some exceptions** is indicated where HHI index is 0.1 to 0.18 and indicates a situation considerate with moderate **concentration** (the case of Teleorman at NUTS 3 level for the years 2002-2005 and Tulcea for 2002).

Table 2

a. The Hirschman-Herfindahl Index (HHI) and the grade of "S - species richness" at NUTS 1 level by CANE Rev.1class and firm dimension

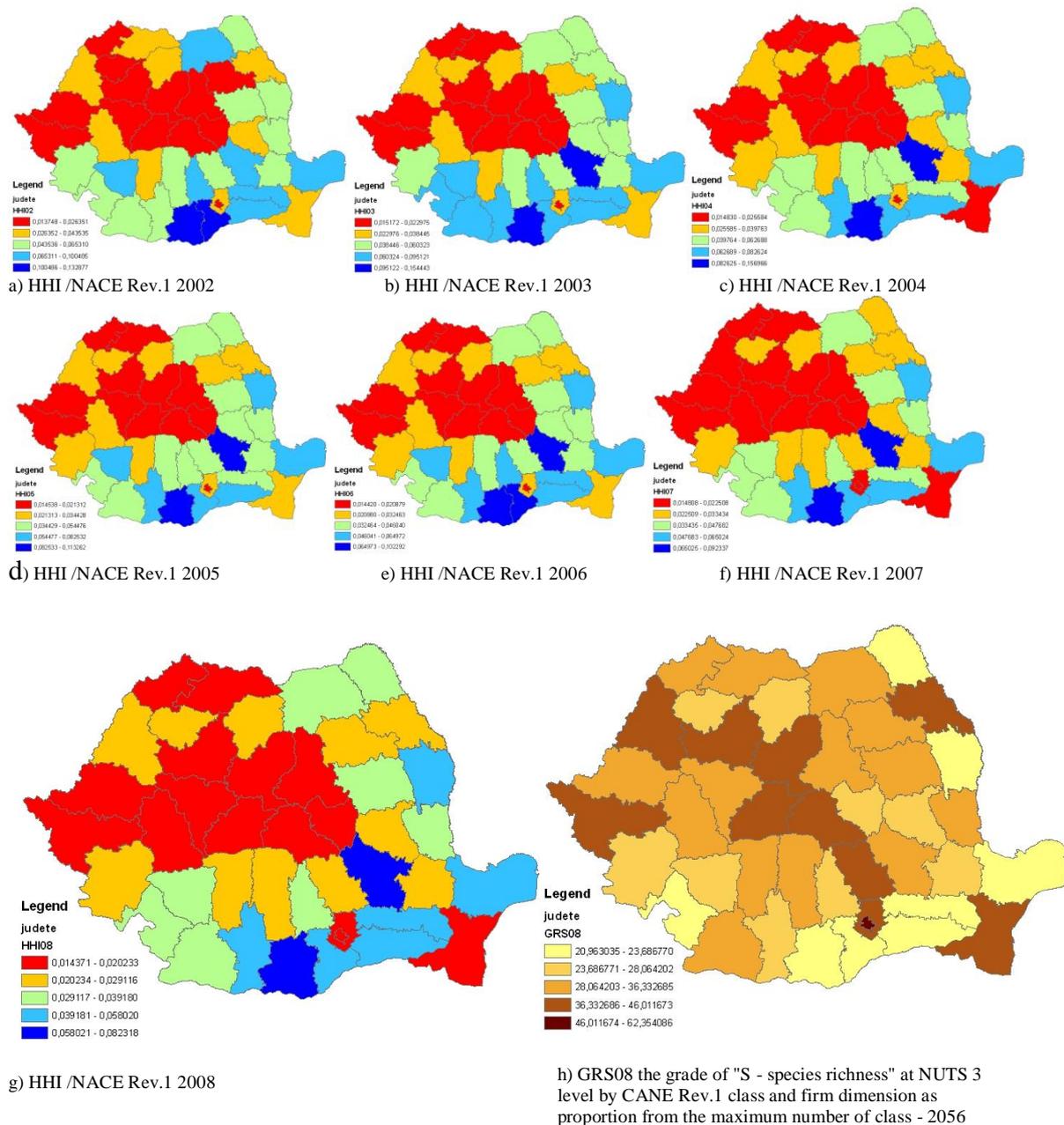
MACRO	HHI02	HHI03	HHI04	HHI05	HHI06	HHI07	HHI08	GRS02	GRS03	GRS04	GRS05	GRS06	GRS07	GRS08
Macroreg1	0,020	0,020	0,018	0,018	0,017	0,017	0,016	62,6	63,9	63,9	64,5	64,6	65,3	66,1
Macroreg2	0,046	0,049	0,045	0,040	0,037	0,033	0,030	58,8	61,0	60,9	59,4	59,4	59,8	60,7
Macroreg3	0,035	0,029	0,026	0,024	0,023	0,021	0,020	68,6	68,8	68,7	70,2	70,6	71,0	71,1
Macroreg4	0,035	0,036	0,032	0,029	0,027	0,024	0,022	56,0	58,5	58,6	59,1	59,1	60,1	60,5

b. The Hirschman-Herfindahl Index (HHI) and the grade of "S - species richness" at NUTS 2 level by CANE Rev.1class and firm dimension

REGIUNE	HHI02	HHI03	HHI04	HHI05	HHI06	HHI07	HHI08	GRS02	GRS03	GRS04	GRS05	GRS06	GRS07	GRS08
RegBucuresti_ lfov	0,020	0,017	0,017	0,018	0,018	0,017	0,016	62,2	62,4	62,8	64,2	64,7	65,1	65,0
RegCentru	0,019	0,019	0,018	0,017	0,017	0,016	0,016	53,9	55,4	56,1	56,5	56,3	56,6	58,1
RegNE	0,044	0,047	0,043	0,039	0,036	0,032	0,030	49,8	51,5	51,9	51,4	51,5	52,0	53,9
RegNV	0,022	0,021	0,019	0,018	0,018	0,018	0,017	52,8	55,4	55,2	55,9	55,7	55,6	57,1
RegSE	0,049	0,051	0,049	0,041	0,038	0,035	0,031	49,2	51,2	50,8	50,0	50,5	50,0	50,8
RegSud	0,072	0,066	0,058	0,052	0,047	0,041	0,037	50,5	52,7	52,7	52,1	53,0	53,4	54,8
RegSV	0,053	0,061	0,054	0,049	0,044	0,039	0,034	42,5	44,9	46,0	45,7	45,9	46,6	48,2
RegV	0,023	0,022	0,020	0,019	0,018	0,017	0,016	49,5	51,5	51,7	52,5	52,8	53,7	54,1

c. The Hirschman-Herfindahl Index (HHI) and the grade of "S - species richness" at NUTS 3 level by CANE Rev.1class and firm dimension

JUDET	HHI02	HHI03	HHI04	HHI05	HHI06	HHI07	HHI08	GRS02	GRS03	GRS04	GRS05	GRS06	GRS07	GRS08
ALBA	0,016	0,020	0,020	0,019	0,019	0,019	0,019	27,0	29,4	29,8	29,9	29,6	30,0	31,2
ARAD	0,014	0,015	0,015	0,015	0,016	0,016	0,016	31,8	33,7	34,0	34,7	34,9	34,6	35,6
ARGES	0,060	0,056	0,048	0,042	0,037	0,033	0,029	30,4	32,1	32,7	33,0	34,2	34,4	36,3
BACAU	0,048	0,052	0,046	0,042	0,040	0,037	0,033	31,3	32,9	32,7	33,0	32,2	32,8	33,8
BIHOR	0,044	0,032	0,028	0,026	0,024	0,023	0,022	34,6	36,5	36,3	37,2	37,6	38,0	38,7
BISTRITA-NASAUD	0,035	0,035	0,033	0,033	0,030	0,028	0,026	22,9	25,1	25,1	25,6	26,0	26,8	27,4
BOTOSANI	0,062	0,050	0,044	0,041	0,038	0,033	0,032	21,0	22,5	23,3	22,8	22,8	23,1	23,7
BRAILA	0,046	0,041	0,040	0,038	0,035	0,032	0,029	24,4	26,4	26,7	27,1	27,0	27,0	27,7
BRASOV	0,024	0,020	0,018	0,017	0,017	0,016	0,015	38,2	40,1	40,9	41,9	41,7	42,3	42,9
BUCURESTI	0,019	0,016	0,017	0,018	0,018	0,017	0,016	59,9	60,2	60,5	62,0	62,5	62,4	62,4
BUZAU	0,083	0,154	0,157	0,113	0,102	0,092	0,082	26,0	27,2	28,3	28,5	28,3	29,0	30,8
CALARASI	0,076	0,081	0,079	0,072	0,065	0,057	0,051	18,5	20,0	20,6	21,0	21,7	22,0	22,8
CARAS-SEVERIN	0,047	0,041	0,036	0,034	0,032	0,029	0,027	21,4	22,6	23,0	23,6	23,5	24,0	24,9
CLUJ	0,015	0,018	0,017	0,016	0,015	0,016	0,016	40,3	42,9	42,7	43,6	44,0	44,4	46,0
CONSTANTA	0,030	0,027	0,026	0,024	0,023	0,022	0,020	36,0	37,5	37,5	37,6	38,2	37,1	38,7
COVASNA	0,022	0,023	0,022	0,021	0,021	0,020	0,019	22,8	23,9	24,9	24,1	24,5	24,9	26,6
DAMBOVITA	0,088	0,067	0,059	0,054	0,049	0,044	0,039	24,0	26,1	27,7	26,6	26,9	27,9	28,1
DOLJ	0,058	0,063	0,055	0,050	0,045	0,040	0,034	30,7	32,3	33,3	33,9	34,4	34,2	36,1
GALATI	0,065	0,056	0,049	0,045	0,041	0,036	0,032	28,4	31,5	31,5	31,9	32,2	32,5	33,2
GIURGIU	0,133	0,095	0,083	0,083	0,078	0,065	0,058	17,5	19,8	19,8	20,0	20,2	20,3	21,3
GORJ	0,081	0,071	0,063	0,058	0,051	0,044	0,039	21,9	23,2	23,6	23,3	23,2	23,2	24,7
HARGHITA	0,018	0,019	0,020	0,019	0,019	0,018	0,018	27,0	27,5	27,9	28,7	28,9	29,1	30,8
HUNEDOARA	0,036	0,029	0,028	0,026	0,023	0,021	0,019	29,5	31,1	31,4	31,5	32,2	32,3	32,8
IALOMITA	0,079	0,064	0,059	0,054	0,051	0,048	0,043	17,8	19,8	20,0	20,6	20,5	20,6	21,0
IASI	0,037	0,041	0,037	0,032	0,029	0,026	0,023	33,2	35,0	35,6	36,1	37,0	37,9	39,0
ILFOV	0,037	0,036	0,030	0,026	0,023	0,021	0,020	28,6	31,5	33,2	35,1	36,0	38,4	40,2
MARAMURES	0,027	0,022	0,020	0,020	0,020	0,021	0,020	29,9	32,2	31,5	31,3	31,6	31,5	32,5
MEHEDINTI	0,050	0,063	0,056	0,051	0,046	0,040	0,035	18,2	18,9	19,7	20,3	20,1	21,6	21,4
MURES	0,021	0,021	0,020	0,019	0,019	0,018	0,017	33,6	34,9	34,6	35,1	35,7	36,3	37,3
NEAMT	0,021	0,030	0,031	0,031	0,030	0,029	0,027	27,8	29,4	30,5	30,0	29,8	30,3	31,4
OLT	0,063	0,083	0,075	0,068	0,060	0,055	0,048	21,1	21,9	22,5	21,9	22,7	23,5	24,8
PRAHOVA	0,056	0,052	0,044	0,039	0,036	0,033	0,029	38,1	40,1	40,9	40,4	41,4	41,7	42,3
SALAJ	0,026	0,030	0,028	0,027	0,026	0,026	0,024	20,1	21,8	22,7	23,3	24,0	24,3	24,6
SATU-MARE	0,021	0,018	0,018	0,018	0,019	0,020	0,019	27,0	27,9	28,5	29,0	29,9	29,8	30,3
SIBIU	0,014	0,015	0,015	0,015	0,014	0,015	0,014	33,1	34,4	34,4	35,8	36,4	37,5	37,9
SUCEAVA	0,077	0,060	0,053	0,046	0,041	0,037	0,034	26,6	28,4	28,6	28,7	28,4	29,1	30,8
TELEORMAN	0,120	0,129	0,120	0,105	0,096	0,085	0,073	18,5	19,4	19,6	20,5	20,8	21,4	22,9
TIMIS	0,021	0,020	0,018	0,017	0,017	0,017	0,016	39,3	41,3	41,6	42,7	42,9	44,0	44,8
TULCEA	0,100	0,071	0,066	0,058	0,053	0,050	0,043	19,2	21,3	21,2	21,2	21,9	21,8	23,0
VALCEA	0,033	0,038	0,035	0,032	0,030	0,027	0,025	24,5	26,6	27,1	26,8	28,0	28,3	30,2
VASLUI	0,048	0,069	0,071	0,067	0,062	0,054	0,052	19,8	21,1	20,6	21,8	21,9	21,9	22,8
VRANCEA	0,033	0,042	0,039	0,037	0,034	0,031	0,028	21,1	22,8	23,8	23,5	23,2	23,4	24,6



**Figure 1. Hirschman-Herfindahl index (HHI) variation at NUTS 3 level during the period 2002-2008 (using Arc Gis 9.0) with data from TEMPO data base INS Romania**

### 3.1. Local Spatial Autocorrelations characteristics for the HHI in 2008 compared to 2002, at NUTS 3 level.

Figure 2 and Table 3 presents the situation of Local Spatial Autocorrelations characteristics for the HHI in 2008 compared to 2002, at NUTS 3 level using Arc GIS 9.3. (Arc GIS Catalog and Arc MAP)[21]. With the Arc GIS software the NUTS 2 region's map for Romania (the map for development regions) was aggregated into NUTS 1 region's map for Romania (the map for macroregions). Spatial econometrics (Varga) [22] through the GeoDa software [23] has some applications like the spatial Lag Construction LISA using rook contiguity weight file.

The cluster map, the significance map the Moran scatter plot and the box plot ( $p=0.05$  are not reliable then the location with significant local Moran statistics are the location with at least  $p=0.01$ ) (Anselin) [24]. There are two visible cores for the spatial clusters:

**Table 3**

	2002	2008
Low-Low	<b>Bihor, Alba</b> , Salaj, Cluj, Mures	<b>Bihor, Alba, Mures</b> , Salaj, Cluj, Sibiu, Arad
High – High	<b>Teleoman, Giurgiu, Dimbovita</b>	Teleoman, Giurgiu

In our cluster map is a positive situation the blue counties /judete described in the Low-Low case.

Bihor, Alba and lately Mures represent core clusters for the locations where diversity index (calculated as  $1-HHI$ ) is higher.

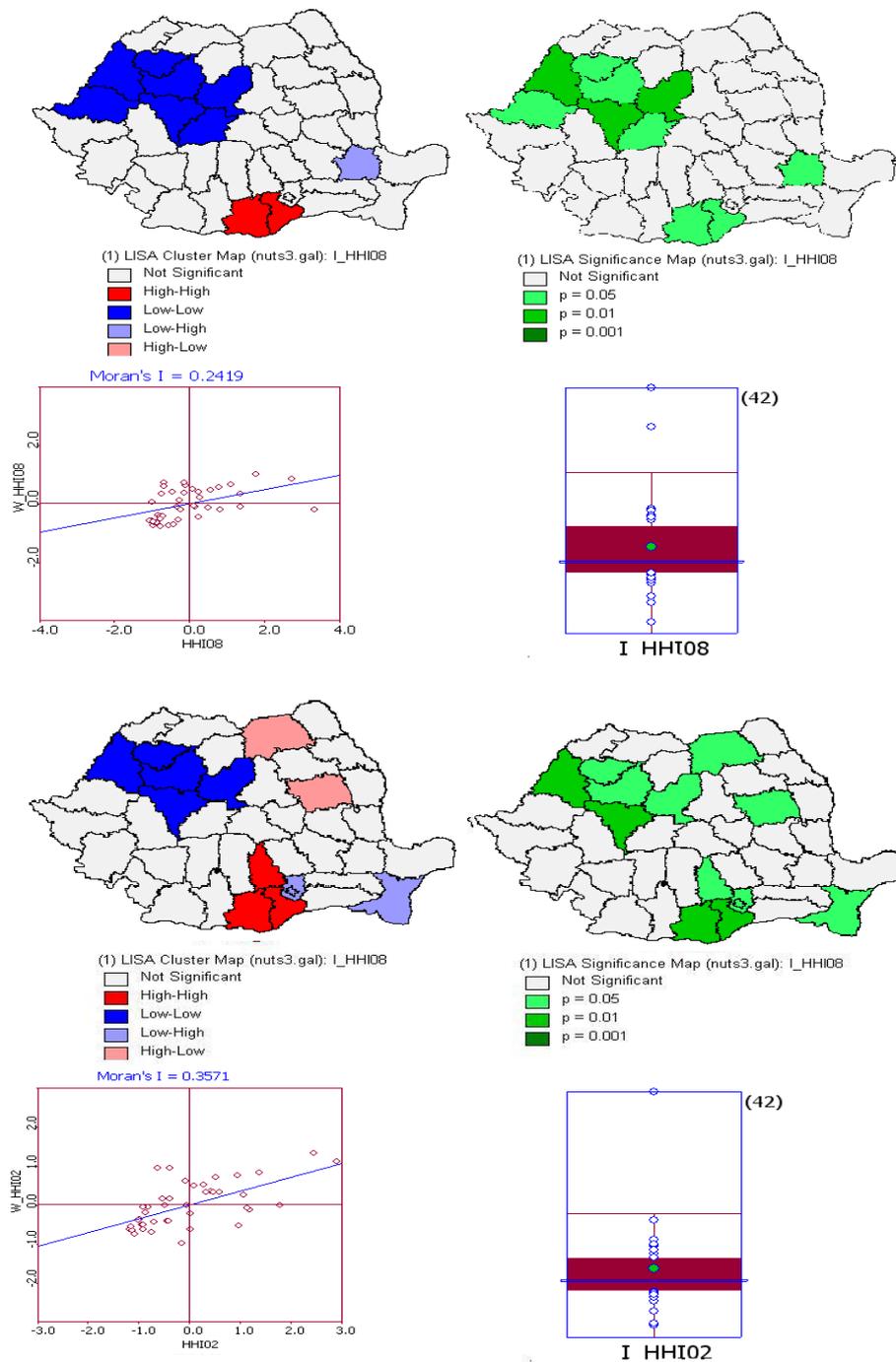
### 3. Conclusions

Admitting that “the growth in variety is a necessary requirement for long-term economic development” then also the region as a host or environment for activities, actors outputs, knowledge or institutions are extremely important in view to support the variety creation and the richness of “species” from both perspective natural and artificial.

Region as environment is a complex and dynamic structure. The HHI annual variation (at NUTS 1, 2, and 3 levels) could indicate the development tendencies of the regions. Another useful characteristic for the region is represented by the possible quality of the region to be a core cluster as a result of Local spatial Autocorrelation Analysis.

One important limit of our model is represented by the only one dimension perspective –the active local units by activity of national economy at level of CANE Rev.1 classes, size classes of number of employees.

Next to this dimension at the regional level there are “other” many species waiting to be integrated in order to better understand how to build a sustainable development for every region.



**Figure 2. Local Spatial Autocorrelations characteristics for the HHI in 2008 comparing to 2002, at NUTS 3 level.**

The cluster map, the significance map the Moran scatter plot and the box plot ( $p=0.05$  are not reliable then the location with significant local Moran statistics are the location with at least  $p=0.01$ ) (Anselin). {using rook contiguity weight file) There are visible two cores for the spatial clusters:

	2002	2008
Low-Low	<b>Bihor, Alba, Salaj, Cluj, Mures</b>	<b>Bihor, Alba, Mures, Salaj, Cluj, Sibiu, Arad</b>
High – High	<b>Teleoman, Giurgiu, Dimbovita</b>	Teleoman, Giurgiu

The values of the HHI for neighbours of this core clusters are similar with the HHI value for the core clusters (as summarized by the weighted average of the neighbouring values, the spatial lag).

“The global Moran’s I statistic is the mean of the local Moran statistics.”(Anselin)[24]

## Annex 1

### Methodological issues [25]

TEMPO-Online, NATIONAL INSTITUTE OF STATISTICS Romania, database selection of the indicator:

INT101J - Distribution of active local units by activity of national economy at level of CANE Rev.1 classes, size classes of number of employees, macroregions, development regions and counties	
<b>Definition</b>	<p>Economic unit represents an organisation (consisting of one or several persons) with legal entity, created in order to carry out certain activities according to the Law no. 15 and on Law no. 31 / 1990 with subsequent modifications of Law no. 507/2002 and Decree no. 44/2008.</p> <p>Social unit represents an organisation (consisting of one or several persons) with legal entity, created in order to carry out an activity devoted to social interest.</p> <p>Legal unit represents any economic or social unit having its own patrimony, which could conclude, on own account, contracts with third parties and defend their interests in justice (has legal entity). Legal units are either natural persons or family associations (as entrepreneurs) or legal persons.</p> <p>Enterprise is the group of legal units set up as an organisational entity producing goods, trading services or social interest services, enjoying decisional autonomy, particularly for ensuring its current resources.</p> <p>Active enterprise is the entity which, from economic viewpoint is active (during the observation period), namely it produces goods or provides services, outlay and draws up the balance sheet.</p>
<b>Periodicity</b>	Annual
<b>Data sources</b>	Statistical business register managed
<b>Methodology</b>	Local unit is an enterprise or part thereof (workshop, factory, warehouse, office, mine or station a.s.o) situated in a geographically identified place.
<b>Last update</b>	DEC 08, 2009
<b>Observations</b>	<p>The data are available since 2002.</p> <p>Because administrative sources are developed in time, for 1990 - 2001 period the completed sources of data are not available.</p> <p>The activities - Education or Health and social assistance - include only the local units with activities related to education or health and social assistance, organised as companies.</p> <p>Due to structural changes between CANE Rev.1 and CANE Rev.2 (such as aggregation and/or detail of the classification entities of CANE Rev.1) may occur changes of the number of companies related to one or more sectors of activities.</p> <p>So, it is possible that the number of enterprises calculated for a particular sector of CANE Rev.2 to be higher than the number of enterprises calculated for the same segment of CANE Rev.1.</p>
<b>Interruption</b>	Last period of this series: Year 2008. After this period, the series continue with the <a href="#">INT101U matrix</a>
<b>Responsible person</b>	Iacob Gh Georgeta Octavia, Tel. 1488, geta.iacob@insse.ro

## Annex 2

**Selection from the UN Questionnaire regarding the National Classifications, CAEN Rev.1 [26], Country / Area: Romania;  
Classification category: Activity Classifications**

	Question	Answer
1	Name of the current national classification (Original)	Clasificarea Activităților din Economia Națională rev.1(CAEN rev.1)
2	Name of the current national classification (English)	Classification of Activities of National Economy rev.1 (CANE rev.1)
3	Link to international classifications (Give the name of the international standard classification the current classification is linked to or derived)	CANE rev.1 comply with NACE Rev.1.1
4	Levels in the structure: Is the structure identical to international standard or, if not, how does it differ? Have additional levels been added or have changes been made, e.g. aggregations or additional breakdowns?	5 levels. All levels are identical to NACE Rev.1.1
5	Number of items at the most detailed level of the current classification	<b>514 classes</b>
6	Name of institution / office responsible for the elaboration and maintenance of the classification	National Institute of Statistics (NIS)
7	Contact address, phone number, e-mail or website for public information and inquiry	<a href="http://www.insse.ro/NOMENCLATOARE">Http://www.insse.ro/NOMENCLATOARE</a>
8	Implementation date: Please state the date of the first official adoption and the programme for the implementation of the various statistical applications.	CANE rev.1 is approved by Order No 601/Nov.2002 of NIS President, on base of Government Decision No. 656/Oct. 1997, published in the Official journal 908/13.12.2002. It came into force on January 1st, 2003.
9	Plans for revision or update of the current classification. Please state if plans are made to revise the classification (e.g. due to national needs not reflected in the international classification).	CANE rev.1 will be updated in 2007 according with the revisions of international classifications
10	Users of the classification for statistical purposes Please state in which statistics (surveys etc.) this classification is used and if there are users outside of the Statistical Office.	It is used for grouping the statistical indicators from all branches. Institutions and bodies with statistical activities grouping indicators by activity criterion.
11	Statistical data collected according to the current classification Please describe for which statistical surveys or indicators the classification is used and, if not used at the most detailed level, indicate the level or aggregates used.	<ul style="list-style-type: none"> <li>- Structural Survey in Industry, Construction, Transport and Services.</li> <li>- Business Survey in Manufacturing and Trade.</li> <li>- Survey on Goods Retail and Vehicle Sales.</li> <li>- Statistical Reports (goods and passengers transport; research and development; labour force-employees and incomes; investments, construction and geological works; wholesale; market services rendered to economic units and population; energy and fuels use).</li> </ul> All data are collected at class level.
12	Statistical data published according to the current classification Please describe for which statistical surveys or indicators the classification is used and, if not used at the most detailed level, indicate the level or aggregates used.	The results are published at the level of divisions, sub-sections and sections.

13	In which languages is the classification available?	CANE rev.1 is available in Romanian language.
14	Is the classification available in electronic form?	It exists as handbook and in electronic form
15	Do the conversion key(s) exist in electronic form?	Yes, between CANE and CANE rev.1
16	Have national explanatory notes and recommendations been elaborated?	Yes
17	Problems occurred during the period of use of the current classification Please describe the kind of problems that have occurred (interpretation, methodology, etc.)	- Description of activities for each CANE rev.1 classes (the same of NACE rev.1.1) does not exhaustively define the respective classes, entailing sometimes difficulties when framing the units in the nomenclature; - The methodology of main activities is the same NACE rev.1.1 The diversity of activities carried out by the units affect the algorithms to define the main activity
18	Users of the classification for non-statistical purposes Please give the names of institutions that use the classification for non-statistical purposes (as opposed to statistical purposes in question 13). Also indicate the kind of use (e.g. tax offices, social security, customs, enterprise register etc.)	CANE is used for non-statistical purposes by the Trade Register, the Ministry of Finances, various institutions of public administration, economic agents registering, balance sheets drawing out, some fiscal or social regulations, trade agreements, and prices setting up - aggregate and detail levels
19	Alternative classifications used by other institutions of the economy Please indicate if these classifications are available and useful for the Statistical Office.	No
20	Link of former classification to international classifications	No

Source: UN questionnaire, 7/30/2004

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- a. Stage of development „medium” <75% GDP per capital (PPP per inhabitant as % of EU average) - regions eligible for funding under the Convergence criteria of the EU Regional Policy 2007-2013 framework
- b. Stage of development „intermediate”  $\geq 75\%$  and  $< 100\%$  GDP per capital (PPP per inhabitant as % of EU average);

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