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REGIONAL ANALYSES OF THE EDUCATION SYSTEM IN ROMANIA

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REGIONAL ANALYSIS OF THE EDUCATION SYSTEM IN ROMANIA

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Abstract:

The education represents one of the fundamentals of the social and economic environment in each and any society, even more in the current stage of development that involves higher educational levels for a proper access to technologies. Depending on the specific level of education and training, people are able to find a suitable position in the society by integrating themselves into the labor market. The human potential within a region might be an essential element for embarking the area upon a positive trend in the economic development. With no doubt, the economic environment is primarily attracted to areas rich in human and material resources. Skilled human resources provide an edge, especially as the share of the tertiary sector in the economy is becoming larger. Previous researches were focused on determining the skill, knowledge and activities of the management and marketing specialists from the public and private areas - similarities and differences, selection schemes.

A regional analysis of the educational system by taking into account the distribution of infrastructure and the educational categories within the structure of the active population could lead towards an “attractiveness chart” from this perspective. This paper aims to perform specific analyses for various types of infrastructure elements of the individual and integrated educational system in order to emphasize the educational capacity of each county. At the same time, based on the existing data about the occupational groups in each county and by using the same method, counties can be ranked with respect to the materialized potential of the educational system.

The outcomes of the study can be integrated into complex structural analyses, which underpin the public policies on education and employment of labor force and represent a possible approach of the infrastructure and outputs of a system.

Medium and long term organizational changes and strategies are outcomes of high technologies used by a skilled workforce. Romania is less known as a high-tech generation laboratory, but especially as having a skilled and highly qualified labor force with outstanding creative and

innovative skills reservoir. That is why the management of technological change should be understood in relationship with the labor force.

Keywords: analysis, dispersion, education system, infrastructure

1.INTRODUCTION

1.1. Education system in Romania

The national education system in Romania is organized on the base of the Romanian constitution and the Education law no.84 of July 24, 1995, with subsequent changes and supplements. For Romania, education is a national priority, recently proved by the reform on the education structure. For this purpose, a new Law of the national education no.1/2011 was adopted and is under implementation now. The new law of education establishes the structure, functions, organization and running of the national education system.

The teaching system represents the main subsystem of the education system and refers to its institutional organization. In a broad sense, the teaching system comprises „the totality of institutions contributing to the school architecture, namely the general working of studies on different courses, directions, successions”, including school and university institutions, all institutions specialized in informal education (family, church, local community, social workers etc.).

In a limited sense the learning system comprises the school institutions organized on grades, cycles and years of study and is defined as „ specialized to perform the teaching functions of the education system at the teaching process level, within the concrete framework of the educational activity”.

The main grades of structuring the teaching system are:

1. Primary education:

- pre-school education
- gymnasium school (I-IV forms)

2. Secondary education:

- lower secondary school(V-IX forms)
- higher secondary school: secondary education (X-XII forms) or vocational one (1-2 years for simple vocations and 2-3 years for the more complex ones).

3. Higher education:

- University bachelor's degree;
- University master of science;
- PhD (doctor of philosophy) university education.

1.2. Present context and premises

In May 2008, all political parties, the Unions and civil society representatives and other interested factors signed „The National Pact for Education” which marks out the restructuration process of the Romanian education with the view to its ranging to the European requirements, but also to the national needs.

The act provides for Vision, Mission and Strategic Objective and express them so¹:

- **The vision** to transform Education as a system is the following: **DURING 2008-2013, ROMANIA IS DEVELOPING AN EDUCATIONAL SYSTEM BASED ON VALUES, COMPETENCE AND RESPONSIBILITY. The values** cultivated by the educational pattern developed during this period are : trust; honesty; performance; social wit; civic action courage; creativity; personal involvement; competence delegation; team power; respect and turning into good account the human differences; humanism; solidarity.
- **The mission** to transform the Education system lies in: **CHANGE, BY EDUCATION, OF THE MENTAL INFRASTRUCTURE OF THE ROMANIAN SOCIETY**, in accordance with the changes that are brought about by the Romanian membership of the European Union. The change of the mental infrastructure implies an adjusting process that, correctly coordinated and controlled, would last 10-20 years, using concretely the main public sub-system meant to this aim, the education.
- **The strategic objective** of transforming the system of education is: **THE SUSTAINABLE ENGENDERING OF A NATIONAL HIGHLY COMPETITIVE HUMAN RESOURCE**, able to work efficiently in the actual and future society. The action directions and the necessary projects for the implementation of the strategic objective points to the education system orientation towards its beneficiaries needs, including the special needs of the disabled, the anticipation and pro-active meeting of the actual or future needs of the competent labor market.

In the same document there are provided the 8 objectives that the reform process of the education system aims as prior:

1. Education modernization during 2008-2013, so that, in the future the Romanian education to be competitive at an European and global level;

¹ *** National Pact for Education, <http://www.presidency.ro>, accessed March 2011

2. Providing for the period 2008-2013 a minimum 6% of GDP for education and minimum 1% for research;
3. Transformation of pre-schooling in a public asset, the achievement of a compulsory elementary education of 10 years and guaranteeing an unlimited access to the free of charge education until the graduation of high school;
4. Comprehensive decentralization - financial, curricular and of human resources - curriculum adapting to the personal development of specific needs, each community labor market requirements, based on the subsidiary principle;
5. Adopting the principle “financing follows the pupil/student”, in the pre-university education and respectively the principle of “multi-annual financing, on study grades and programs” in the university education” ;
6. Adopting a charter of the rights and choices of education, that guarantees the access to an education of quality;
7. Defining priority areas of education to overcome the gap that separates dramatically the rural environment of the urban one or different social categories of citizens in Romania;
8. Long-life education will become the base of the education system in Romania and will be extended so as to include, yearly till 2013, at least 12% of the active labor force of Romania.

The National Pact for Education, through its established directions, answers to the conclusions drawn in the Memorandum regarding the Policies of the Education Sector in Romania². In the abstract of the paper it is shown: “The education system in Romania is at a crossroad. Important reforms that took place in the system after the fall of communism – which include the change of the curriculum, assessing the pupils, training the teachers/professors, finance and the management manner – have to be followed for the improvement of the education results. The Romania’s integration in the European Union will have new requirements for the human asset of the country, bringing about new challenges for this sector. The demand for qualified labor force will increase with the increase of the weight of the high value added production and services in the economy. These changes will need a more competitive labor force, with new skills and

² *** Memorandum regarding the Policies of the Education Sector in Romania, Ana Maria Sandi, Mariana Moarcăș, and contributions of Alec Gershberg, Raluca Banioti and Truman Packard, Info R. Romania from membership to integration, world Bank 2007, <http://siteresources.worldbank.org/INTROMANIAINROMANIAN/Resources/EducationPolicyNoteRomanian.pdf>

qualifications. To meet these requirements, the government will have to (i) increase the efficiency and impartiality of education under the context of decentralization through introduction of financing the pupil, schools network optimization and training managers for the field of education; (ii) to raise the quality of education, in the first place through a better management of the human resources; (iii) to create more opportunities for long-life training and education; and (iv) to increase efficacy, through the working out of a strategic coherent program of reform, planning, administration and management of the sector. The memorandum synthesizes the findings and conclusions of the most recent analysis of the education sector achieved by the World Bank”.

A large study on the education system in Romania is achieved by EACEA, the Executive Agency for Education, Audio-visual and Culture of the European Commission³ and presents a complete radiography of it at the level of the year 2008/2009. There are brought up, at the same time the aspects that have to be taken into account for the restructuring and adapting the education system to the labor market requirements at national and European level.

In our opinion, there is no analysis of the education system from a regional point of view in any other paper. This work tries to analyze, based on statistics, aspects related to the education process. At the same time it tries to point out possible connections between the economic development of the counties as share of GDP and GaddV.

2. ANALYSIS METHODOLOGY

Identification of the land units at regional level – the regions, as legally established are 4 macro regions (not relevant for our study), 8 regions – North-West, Center, North-East, South-East, Bucharest-Ilfov, South-Muntenia, South-West Oltenia, West (as already named in the EUROSTAT database), and 42 counties, as shown in table no.1.

1	Alba	11	Buzău	21	Gorj	31	Olt	41	Vaslui
2	Arad	12	Călărași	22	Harghita	32	Prahova	42	Vrancea
3	Argeș	13	Caraș-Severin	23	Hunedoara	33	Sălaj		
4	Bacău	14	Cluj	24	Ialomița	34	Satu Mare		
5	Bihor	15	Constanța	25	Iași	35	Sibiu		
6	Bistrița-Năsăud	16	Covasna	26	Ilfov	36	Suceava		
7	Botoșani	17	Dâmbovița	27	Maramureș	37	Teleorman		
8	Brăila	18	Dolj	28	Mehedinți	38	Timiș		
9	Brașov	19	Galați	29	Mureș	39	Tulcea		
10	București	20	Giurgiu	30	Neamț	40	Vâlcea		

³ *** Organizarea sistemului educațional în România 2008/2009, EURYDICE, EACEA, Agenția Executivă pentru Educație, Audiovizual și Cultură, Comisia Europeană, <http://eacea.ec.europa.eu>

Statistic data for the period 2000-2008⁴ for GDP and GaddV were used to rank these in accordance with their contribution to the total value.

The calculation of the X county contribution to the national GDP was achieved based on the formula:

$$[1] \quad CTB - GDP - C_x = \left(\frac{GDP - C_x}{GDP_t} \right) * 100$$

where:

CTB-GDP-C_x = County X contribution in GDP

X = 1,2,...42 (counties Alba, Arad,... Vaslui, Vrancea)

GDP-C_x = County X GDP

$$GDP_t = \text{total national GDP} = \sum_{x=1}^{42} GDP - C_x$$

Similar formulae are also used for GAddV.

$$[2] \quad CTB - GAddV - C_x = \left(\frac{GAddV - C_x}{GAddV_t} \right) * 100$$

where:

CTB-GAddV-C_x = County X contribution in GAddV

X = 1,2,...42 (counties Alba, Arad,... Vaslui, Vrancea)

GAddV-C_x = County X GAddV

$$GAddV_t = \text{total national GAddV} = \sum_{x=1}^{42} GAddV - C_x$$

Also based on the statistics for 2000/2001, 2005/2006, 2006/2007, 2007/2008 and 2008/2009 regarding the population at different levels of education (pre-school, elementary, secondary, high school, post-high school, university), the teaching personnel and the graduates of these levels of education it was calculated their weights in the national total. Another component taken into account is the active population and its county distribution.

To be able to do pertinent comparisons between the state of the education system and the regional economic development we propose in this paper an analysis of the counties ranking by their weight in GDP, the aggregated score for the school population, that one for the teaching personnel and the number of the active population.

⁴ *** Regional statistics 2010, National Institute for Statistics

The aggregated scores were calculated beginning with the idea that a simple addition of the school population or of the teaching personnel at different education levels is not sufficiently significant. For this reason adjusting coefficients were assigned to show the increased significance of highly educated population and the personnel at their service.

The calculation formulae are:

$$[3] \quad S_{s-pop} = \sum_{i=1}^6 c_i SPop_i$$

where:

S_{s-pop} = aggregated score for the school population

$SPop_i$ = school population for an education level in 2008/2009

c_i = importance coefficient; $c_1 = 0.5$ pre-school; $c_2 = 0.5$ gymnasium; $c_3 = 1$ high school; $c_4 = 1$ vocational school; $c_5 = 1.5$ college; $c_6 = 3$ university.

$$[4] \quad S_{tc-pers} = \sum_{i=1}^6 c_i TPers_i$$

where:

$S_{tc-pers}$ = aggregated score for the school population

$TPers_i$ = school population for an education level in 2008/2009

c_i = importance coefficient; $c_1 = 0.5$ pre-school; $c_2 = 0.5$ gymnasium; $c_3 = 1$ high school; $c_4 = 1$ vocational school; $c_5 = 1.5$ college; $c_6 = 3$ university.

Based on the resulted scores, the four parameters were ranked in a table as follows:

	GDP%	S_{s-pop}	$S_{tc-pers}$	APop
1	County X ₁	County Y ₁	County Z ₁	County W ₁
[5] 2	County X ₂	County Y ₂	County Z ₂	County W ₂
...				
...				
42	County X ₄₂	County Y ₄₂	County Z ₄₂	County W ₄₂

County X_i, County Y_i, County Z_i, County W_i represent the position that a county can fill for these four characteristics. Thus, a county is defined by four indices, thus: County A₇₋₉₋₆₋₁₂ showing so the possible correlations of those 4 elements. The above mentioned correlation analysis will be the object of another research.

We shall signal, in this work, only the characteristics of the resulted general picture and the changes of the first identified category.

A third level of the analysis is based on indices sometimes more representative, related to the absolute scores or values. Thus, two indices were calculated I_1 , I_2 , defined in accordance with the formulae:

$$[6] \quad I_1 = \frac{S_{s-pop}}{S_{tc-pers}}$$

$$[7] \quad I_2 = \frac{S_{g-pop}}{APop}$$

$$[8] \quad S_{g-pop} = \sum_{i=1}^5 c_i GPop_i$$

where:

I_1 = index of school population representation to teaching personnel

I_2 = index of graduates to active population

S_{g-pop} = aggregated score for the number of graduates

$GPop_i$ = number of graduates for an education level in 2008 (graduates are permanently referred to a lower year)

c_i = importance coefficient; $c_1 = 0.5$ gymnasium; $c_2 = 1$ high school; $c_3 = 1$ vocational school; $c_4 = 1.5$ college; $c_5 = 4$ university.

The resulted table is similar to that of the formula [5].

The analysis will point out the changes in the positions of the first 11 ranked counties.

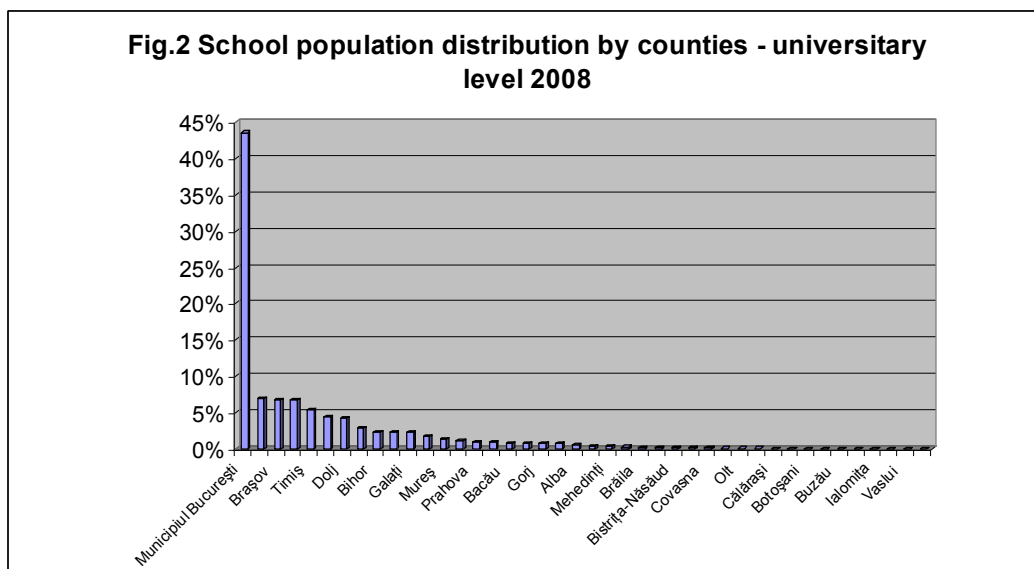
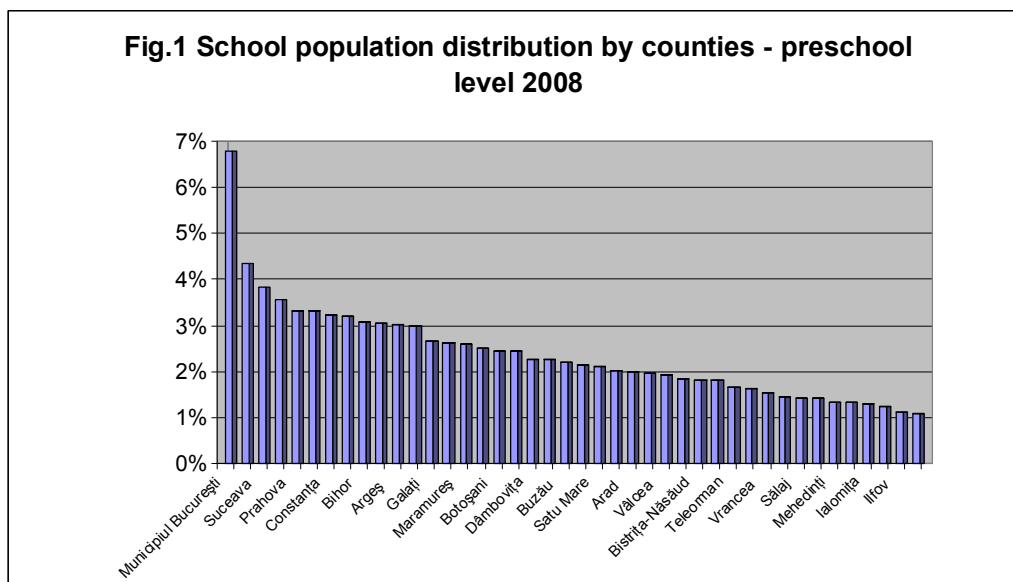
3. RESULTS

Regarding the population in schools, on different levels of education for 2000/2001, 2005/2006, 2006/2007, 2007/2008, 2008/2009 it appears a relatively constant distribution, over the time, for each county 1% and 4%, excepting Bucharest (Appendix 1).

It can be seen that as the level of education rises the number of counties having a rate of 3% is higher. It raises, also the number of the counties of the last category. If Bucharest registers for the pre-school grade 7% followed by Iasi, Suceava, Bacău with 4% each, for the university level their number rises to 7 : Bucharest scoring a weight of 44%, followed by Cluj, Brasov and Iasi with 7% each, Timis with 5% and Constantza and Dolj with 4% each.

On the last places are 9 counties: Caras-Severin, Sălaj, Călărași, Mehedinți, Covasna, Ialomita, Tulcea, Ilfov, Giurgiu with 1% for the pre-school level. Their number rises to 21 counties (half) where school population has a weight that tend to zero.

Exemplifications of the preschool and university leves for school population in 2008/2009 are presented in figure 1 and figure 2.

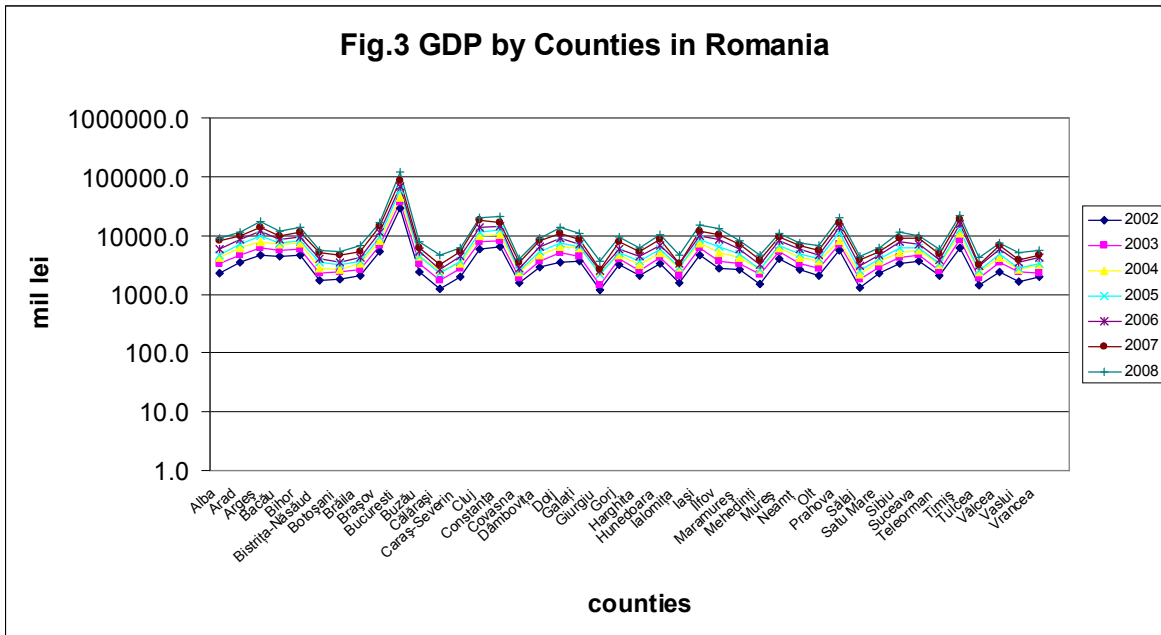


Studying the teaching personnel in education, over the same period, it could be seen that the distribution among the counties is similar for 2008, taking into consideration the educational levels. No differences were registered from 2000/2001 until 2008/2009 in terms of counties distribution (Appendix 2).

The number of graduates also keeps the same distribution and proportions (Appendix 3).

The question that came up is: Could be a connection between the education system, active population and GDP?

The result of the analysis points out the evolution of GDP and its distribution by counties (figure 3).



According to the analyzed data for the value of GDP and GaddV, during the period 2002-2008, the conclusion reached is that the counties are grouped in three categories as following – those having a 3-4% contribution to total GDP, 2% and 1%, the exception being Bucharest Municipality. Roughly, the same counties achieved a total contribution of 60%, respectively 80% cumulated. During the analyzed period it is obvious that, from year to year there are slight alterations of ranks without bringing about major changes.

Now, it can also be seen, from Appendix 4, at the level of 2008 that in the first group there are the counties Bucharest, Timis, Constantza, Cluj, Prahova, Arges, Brasov, Iasi, Bihor, Dolj, Ilfov, Bacău. Nevertheless, it has to be pointed out the fact that if Bucharest registers much higher scores related to the other counties, some other 4 counties register the highest level of contribution (4%), namely Timis, Constantza, Prahova, Cluj. The last 10 places are filled by Vrancea, Botosani, Vaslui, Ialomitza, Mehedinti, Călărași, Sălaj, Tulcea, Covasna, Giurgiu. At the same time the values registered for GDP are found as weights also for GaddV (Appendix 5, 6).

Studying the volume of active population in each county, during the period 2000-2008 it can be seen that they are grouped by the weight, also in three value groups (except Bucharest) presented in Appendix 7. The first group comprises, with slight exceptions, what can be seen in Table 2.

TABLE 2

GDP 2008		Civil active population 2008	
București	23%	București	12%
Timiș	4%	Cluj	4%
Constanța	4%	Timiș	4%
Cluj	4%	Constanța	3%
Prahova	4%	Prahova	3%
Argeș	3%	Iași	3%
Brașov	3%	Dolj	3%
Iași	3%	Bihor	3%
Bihor	3%	Argeș	3%
Dolj	3%	Suceava	3%
Ilfov	3%	Brașov	3%
		Mureș	3%
		Bacău	3%

The counties on the last places are in the same state, as seen in Table 3.

TABLE 3

GDP 2008		Civil active population 2008	
Vrancea	1%	Bistrița Nasaud	1%
Botoșani	1%	Caraș-Severin	1%
Vaslui	1%	Mehedinți	1%
Ialomița	1%	Călărași	1%
Mehedinți	1%	Sălaj	1%
Călărași	1%	Ialomița	1%
Sălaj	1%	Covasna	1%
Tulcea	1%	Giurgiu	1%
Covasna	1%	Tulcea	1%
Giurgiu	1%		

To be able to compare regional distribution of GDP, school population, teaching personnel and active population scores were aggregated.

If we create a chart as shown in table 4 with GDP, school population, teaching personnel and active population for 2008, it could be seen that Bucharest Municipality is on the first place, as an exception, with the highest level. The next 10 positions are taken by Timis, Constanta, Cluj, Prahova, Arges, Brasov, Iasi, Bihor, Dolj, Ilfov. 7 counties, from the above mentioned ones, remain for the school population, on top of the hierarchy. Exceptions are Arges and Prahova that go on the 12th and 14th places, and Ilfov that spectacularly goes on the 40th place. For teaching

personnel only Prahova goes on the 11th and Ilfov on the 42nd. The active population hierarchy is closer to the GDP, with only one exception Ilfov that goes only on the 26th place.

TABLE 4

GDP by Romanian counties 2008			School population - score 2008			Teaching personnel - score 2008			Active population		
1	București	23%	Municipiul București	1342134		Municipiul București	45258		Municipiul București	1140	
2	Timiș	4%	Iasi	275947		Cluj	16429		Cluj	345	
3	Constanța	4%	Cluj	251539		Iasi	16161		Timiș	340	
4	Cluj	4%	Brașov	238325		Timiș	14433		Constanța	319	
5	Prahova	4%	Timiș	216562		Bihor	9443		Prahova	314	
6	Argeș	3%	Constanța	197741		Doj	9419		Iasi	313	
7	Brașov	3%	Doj	186270		Constanța	8287		Doj	301	
8	Iasi	3%	Bihor	133558		Brașov	7472		Bihor	284	
9	Bihor	3%	Galați	124542		Mureș	6843		Argeș	269	
10	Doj	3%	Sibiu	121499		Argeș	6702		Suceava	253	
11	Ilfov	3%	Suceava	116321		Suceava	6689		Brașov	250	
12	Bacău	2%	Argeș	116038		Prahova	6307		Mureș	248	
13	Arad	2%	Arad	107866		Bacău	6054		Bacău	236	
14	Sibiu	2%	Prahova	106305		Galați	5978		Galați	221	
15	Galați	2%	Bacău	98276		Sibiu	5768		Arad	215	
16	Mureș	2%	Mureș	97811		Arad	4846		Dâmbovița	210	
17	Hunedoara	2%	Maramureș	78659		Maramureș	4829		Hunedoara	207	
18	Suceava	2%	Dâmbovița	77541		Dâmbovița	4746		Maramureș	206	
19	Gorj	2%	Hunedoara	71637		Hunedoara	4098		Neamț	202	
20	Dâmbovița	2%	Gorj	68397		Neamț	3672		Buzău	190	
21	Alba	2%	Neamț	59793		Gorj	3606		Sibiu	186	
22	Maramureș	2%	Alba	55780		Olt	3590		Alba	181	
23	Buzău	1%	Vaslui	53231		Vâlcea	3533		Olt	179	
24	Neamț	1%	Vâlcea	52903		Alba	3472		Vâlcea	178	
25	Vâlcea	1%	Olt	51806		Vaslui	3463		Teleorman	169	
26	Brăila	1%	Botoșani	51134		Buzău	3427		Ilfov	162	
27	Olt	1%	Buzău	48811		Botoșani	3333		Vaslui	161	
28	Caraș-Severin	1%	Satu Mare	46157		Teleorman	2999		Satu Mare	156	
29	Satu Mare	1%	Caraș-Severin	45633		Satu Mare	2930		Botoșani	155	
30	Harghita	1%	Harghita	42733		Caraș-Severin	2873		Vrancea	151	
31	Teleorman	1%	Mehedinti	42660		Harghita	2690		Gorj	150	
32	Bistrița-Năsăud	1%	Bistrița-Năsăud	41057		Bistrița-Năsăud	2584		Harghita	143	
33	Vrancea	1%	Brăila	40986		Brăila	2425		Brăila	138	
34	Botoșani	1%	Teleorman	39221		Mehedinti	2294		Bistrița-Năsăud	132	
35	Vaslui	1%	Vrancea	37562		Vrancea	2259		Caraș-Severin	129	
36	Ialomița	1%	Călărași	33283		Sălaj	2055		Mehedinti	123	
37	Mehedinti	1%	Ialomița	30298		Covasna	1955		Călărași	107	
38	Călărași	1%	Sălaj	28616		Călărași	1911		Sălaj	106	
39	Sălaj	1%	Covasna	28447		Ialomița	1845		Ialomița	105	
40	Tulcea	1%	Ilfov	25971		Tulcea	1753		Covasna	94	
41	Covasna	1%	Giurgiu	24683		Giurgiu	1560		Giurgiu	92	
42	Giurgiu	1%	Tulcea	24415		Ilfov	1419		Tulcea	91	

Another type of analysis could be done using indices. The proposed indices are (as we define in methodology) $I_1 = \text{School population}/\text{Teaching personnel}$ and $I_2 = \text{Graduates}/\text{Active population}$.

The table 5 shows the hierarchies for the GDP, I_1 , I_2 .

According to the found figures and compared to the GDP hierarchy for I_1 only 5 counties out of the first 11 are in the same echelon (Brașov, Bucharest Municipality, Constanța, Dolj, Ilfov). Since other counties go on inferior positions: Argeș on the 14th from the 6th, Iasi on the 15th from the 8th, Prahova on the 17th from the 5th. Spectacular changes of the positions were registered for Cluj on the 32nd from the 4th, Timis on the 33rd from the 2nd and Bihor on the 39th from the 9th. This could suggest a potential role in the economic development of a proper rate of school population to teaching personnel.

TABLE 5

GDP by Romanian counties 2008			School population / Teaching personnel 2008		Graduates / Active population 2008	
1	București	23%	Brașov	32	Municipiul București	111
2	Timiș	4%	Municipiul București	30	Iași	101
3	Constanța	4%	Constanța	24	Brașov	88
4	Cluj	4%	Arad	22	Cluj	84
5	Prahova	4%	Sibiu	21	Sibiu	84
6	Argeș	3%	Galati	21	Gorj	70
7	Brașov	3%	Dolj	20	Timiș	70
8	Iași	3%	Gorj	19	Constanța	67
9	Bihor	3%	Mehedinți	19	Galati	66
10	Dolj	3%	Ilfov	18	Arad	66
11	Ilfov	3%	Hunedoara	17	Argeș	63
12	Bacău	2%	Călărași	17	Dolj	62
13	Arad	2%	Suceava	17	Suceava	60
14	Sibiu	2%	Argeș	17	Bihor	56
15	Galati	2%	Iași	17	Bacău	53
16	Mureș	2%	Brăila	17	Prahova	53
17	Hunedoara	2%	Prahova	17	Caraș-Severin	53
18	Suceava	2%	Vrancea	17	Maramureș	53
19	Gorj	2%	Ialomița	16	Mehedinți	52
20	Dâmbovița	2%	Dâmbovița	16	Mureș	50
21	Alba	2%	Maramureș	16	Hunedoara	47
22	Maramureș	2%	Neamț	16	Dâmbovița	47
23	Buzău	1%	Bacău	16	Vâlcea	46
24	Neamț	1%	Alba	16	Harghita	46
25	Vâlcea	1%	Bistrița-Năsăud	16	Brăila	45
26	Brăila	1%	Caraș-Severin	16	Alba	45
27	Olt	1%	Harghita	16	Botoșani	44
28	Caraș-Severin	1%	Giurgiu	16	Olt	44
29	Satu Mare	1%	Satu Mare	16	Vaslui	43
30	Harghita	1%	Vaslui	15	Neamț	43
31	Teleorman	1%	Botoșani	15	Covasna	43
32	Bistrița-Năsăud	1%	Cluj	15	Satu Mare	43
33	Vrancea	1%	Timiș	15	Bistrița-Năsăud	42
34	Botoșani	1%	Vâlcea	15	Ialomița	42
35	Vaslui	1%	Covasna	15	Tulcea	41
36	Ialomița	1%	Olt	14	Călărași	40
37	Mehedinți	1%	Mureș	14	Buzău	40
38	Călărași	1%	Buzău	14	Sălaj	39
39	Sălaj	1%	Bihor	14	Teleorman	34
40	Tulcea	1%	Tulcea	14	Vrancea	32
41	Covasna	1%	Sălaj	14	Giurgiu	28
42	Giurgiu	1%	Teleorman	13	Ilfov	18

For I_2 , 7 counties out of the first 11 maintain their high position (Bucharest Municipality, Iasi, Brasov, Cluj, Timis, Constantza, Arges). Dolj, Bihor and Prahova are losing few positions and Ilfov goes from 11 to the 42nd. In our opinion this prefigures a stronger relation with the economic development.

4. CONCLUSIONS

One can see from the achieved analyses that significant differences are between counties, regarding the educational system. It is natural that the economic developed counties to attract numerous active populations and implicitly to develop teaching structures for these, at all educational levels. We can say that, based on results of this analysis there could be important connections between the educational and economic system. A thorough analysis, also for a longer period of time could offer data about these relations. It is important to establish if the economic

development leads to the progress of the educational system – to its development and success or it is possible that a well structured educational system to bring about the qualified labor force that produces economic development.

We have to specify that the importance indices were rather arbitrarily established and it is possible that their value modification to lead to other conclusions. The establishing of a methodology to estimate these coefficients and the recalculation represent a further direction to continue the analysis. This work aims from this perspective to propose a possible approach and to estimate the probable outcomes.

Another direction of development is that of calculating the index of type County $A_{i-j-k-l}$ and, respectively County A_{m-n-q} for the two hierarchy matrices tables and the analysis of changes.

The educational system and its connection with the regional economic development remain a broad study both from quantitative and qualitative perspectives so as the proper coordinates for mutual stimulation to be established.

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Appendix 1

School population 2008

Preschool		Gymnasium		High school		College		University	
Municipiul București	7%	Municipiul București	6%	Municipiul București	10%	Municipiul București	9%	Municipiul București	44%
Iași	4%	Iași	4%	Suceava	4%	Iași	6%	Cluj	7%
Suceava	4%	Suceava	4%	Constanța	4%	Dolj	5%	Brașov	7%
Bacău	4%	Bacău	4%	Timiș	4%	Mureș	5%	Iași	7%
Prahova	3%	Prahova	4%	Iași	4%	Prahova	4%	Timiș	5%
Mureș	3%	Constanța	3%	Prahova	3%	Cluj	4%	Constanța	4%
Constanța	3%	Dolj	3%	Bihor	3%	Bihor	4%	Dolj	4%
Cluj	3%	Argeș	3%	Dolj	3%	Hunedoara	3%	Sibiu	3%
Bihor	3%	Galați	3%	Argeș	3%	Brașov	3%	Bihor	2%
Timiș	3%	Bihor	3%	Bacău	3%	Olt	3%	Arad	2%
Argeș	3%	Timiș	3%	Cluj	3%	Argeș	3%	Galați	2%
Dolj	3%	Mureș	3%	Maramureș	3%	Timiș	3%	Argeș	2%
Galați	3%	Cluj	3%	Galați	3%	Constanța	3%	Mureș	1%
Vaslui	3%	Neamț	3%	Brașov	3%	Maramureș	3%	Suceava	1%
Maramureș	3%	Vaslui	3%	Gorj	3%	Neamț	2%	Prahova	1%
Brașov	3%	Dâmbovița	3%	Hunedoara	3%	Gorj	2%	Dâmbovița	1%
Botoșani	2%	Botoșani	3%	Mureș	2%	Sibiu	2%	Bacău	1%
Neamț	2%	Maramureș	3%	Neamț	2%	Galați	2%	Hunedoara	1%
Dâmbovița	2%	Brașov	2%	Arad	2%	Vrancea	2%	Gorj	1%
Sibiu	2%	Buzău	2%	Vâlcea	2%	Bacău	2%	Maramureș	1%
Buzău	2%	Olt	2%	Dâmbovița	2%	Brăila	2%	Alba	1%
Olt	2%	Hunedoara	2%	Olt	2%	Suceava	2%	Caraș-Severin	0%
Satu Mare	2%	Arad	2%	Buzău	2%	Buzău	2%	Mehedinți	0%
Harghita	2%	Sibiu	2%	Vaslui	2%	Mehedinți	2%	Vâlcea	0%
Arad	2%	Gorj	2%	Alba	2%	Dâmbovița	2%	Brăila	0%
Gorj	2%	Vâlcea	2%	Sibiu	2%	Arad	1%	Harghita	0%
Vâlcea	2%	Satu Mare	2%	Botoșani	2%	Covasna	1%	Bistrița-Năsăud	0%
Hunedoara	2%	Vrancea	2%	Satu Mare	2%	Vâlcea	1%	Satu Mare	0%
Bistrița-Năsăud	2%	Teleorman	2%	Mehedinți	2%	Tulcea	1%	Covasna	0%
Alba	2%	Alba	2%	Harghita	2%	Harghita	1%	Neamț	0%
Teleorman	2%	Bistrița-Năsăud	2%	Caraș-Severin	2%	Satu Mare	1%	Olt	0%
Brăila	2%	Călărași	2%	Teleorman	2%	Alba	1%	Teleorman	0%
Vrancea	2%	Harghita	2%	Vrancea	2%	Teleorman	1%	Călărași	0%
Caraș-Severin	1%	Brăila	2%	Bistrița-Năsăud	1%	Vaslui	1%	Sălaj	0%
Sălaj	1%	Caraș-Severin	1%	Brăila	1%	Bistrița-Năsăud	1%	Botoșani	0%
Călărași	1%	Giurgiu	1%	Ialomița	1%	Călărași	1%	Ifov	0%
Mehedinți	1%	Ialomița	1%	Călărași	1%	Ialomița	1%	Buzău	0%
Covasna	1%	Ifov	1%	Sălaj	1%	Caraș-Severin	1%	Vrancea	0%
Ialomița	1%	Mehedinți	1%	Covasna	1%	Giurgiu	1%	Ialomița	0%
Tulcea	1%	Sălaj	1%	Ifov	1%	Botoșani	1%	Giurgiu	0%
Ifov	1%	Covasna	1%	Tulcea	1%	Sălaj	0%	Vaslui	0%
Giurgiu	1%	Tulcea	1%	Giurgiu	1%	Ifov	0%	Tulcea	0%

Appendix 2

EDUCATION TEACHING PERSONNEL BY LEVEL OF EDUCATION 2008

Preschool		Gymnasium		High school		College		University	
Municipiul București	8%	Municipiul București	6%	Municipiul București	10%	Municipiul București	11%	Municipiul București	35%
Iași	4%	Iași	4%	Prahova	4%	Olt	10%	Cluj	12%
Mureș	4%	Bihor	3%	Iași	4%	Constanța	8%	Iași	10%
Bihor	4%	Mureș	3%	Constanța	4%	Galați	6%	Timiș	10%
Cluj	3%	Dolj	3%	Dolj	4%	Mureș	6%	Bihor	4%
Bacău	3%	Suceava	3%	Cluj	4%	Prahova	6%	Dolj	4%
Suceava	3%	Prahova	3%	Bihor	4%	Iași	4%	Brașov	3%
Timiș	3%	Constanța	3%	Argeș	3%	Argeș	4%	Constanța	3%
Argeș	3%	Argeș	3%	Timiș	3%	Sibiu	4%	Sibiu	3%
Constanța	3%	Cluj	3%	Suceava	3%	Buzău	4%	Mureș	2%
Dolj	3%	Timiș	3%	Brașov	3%	Hunedoara	3%	Galați	2%
Prahova	3%	Bacău	3%	Bacău	3%	Dolj	3%	Argeș	2%
Brașov	3%	Maramureș	3%	Mureș	3%	Vrancea	3%	Arad	2%
Maramureș	3%	Dâmbovița	3%	Maramureș	3%	Timiș	3%	Prahova	1%
Vaslui	3%	Brașov	3%	Galați	2%	Arad	2%	Suceava	1%
Galați	2%	Galați	3%	Neamț	2%	Vâlcea	2%	Dâmbovița	1%
Sibiu	2%	Neamț	3%	Hunedoara	2%	Botoșani	2%	Bacău	1%
Harghita	2%	Vaslui	3%	Dâmbovița	2%	Cluj	2%	Hunedoara	1%
Satu Mare	2%	Olt	2%	Vâlcea	2%	Giurgiu	2%	Maramureș	1%
Neamț	2%	Teleorman	2%	Gorj	2%	Maramureș	1%	Alba	1%
Dâmbovița	2%	Buzău	2%	Botoșani	2%	Tulcea	1%	Gorj	0%
Botoșani	2%	Botoșani	2%	Buzău	2%	Ialomița	1%	Caraș-Severin	0%
Olt	2%	Vâlcea	2%	Caraș-Severin	2%	Dâmbovița	1%	Vâlcea	0%
Buzău	2%	Arad	2%	Alba	2%	Mehedinți	1%	Brăila	0%
Vâlcea	2%	Sibiu	2%	Olt	2%	Covasna	1%	Ifov	0%
Alba	2%	Hunedoara	2%	Arad	2%	Suceava	1%	Bistrița-Năsăud	0%
Hunedoara	2%	Gorj	2%	Harghita	2%	Brăila	1%	Satu Mare	0%
Teleorman	2%	Alba	2%	Satu Mare	2%	Brașov	1%	Sălaj	0%
Bistrița-Năsăud	2%	Satu Mare	2%	Vaslui	2%	Sălaj	1%	Covasna	0%
Gorj	2%	Bistrița-Năsăud	2%	Mehedinți	2%	Satu Mare	1%	Harghita	0%
Arad	2%	Harghita	2%	Teleorman	2%	Gorj	1%	Botoșani	0%
Brăila	2%	Vrancea	2%	Sibiu	2%	Bistrița-Năsăud	1%	Neamț	0%
Sălaj	2%	Caraș-Severin	1%	Vrancea	1%	Bacău	1%	Vaslui	0%
Vrancea	2%	Sălaj	1%	Brăila	1%	Bihor	0%	Buzău	0%
Covasna	2%	Brăila	1%	Covasna	1%	Alba	0%	Tulcea	0%
Caraș-Severin	1%	Mehedinți	1%	Bistrița-Năsăud	1%	Harghita	0%	Vrancea	0%
Mehedinți	1%	Călărași	1%	Călărași	1%	Teleorman	0%	Călărași	0%
Călărași	1%	Giurgiu	1%	Ialomița	1%	Ifov	0%	Giurgiu	0%
Tulcea	1%	Covasna	1%	Sălaj	1%	Neamț	0%	Ialomița	0%
Ialomița	1%	Ialomița	1%	Tulcea	1%	Vaslui	0%	Teleorman	0%
Ifov	1%	Tulcea	1%	Giurgiu	1%	Călărași	0%	Mehedinți	0%
Giurgiu	1%	Ifov	1%	Ifov	1%	Caraș-Severin	0%	Olt	0%

Appendix 3

NUMBER OF GRADUATES BY LEVEL OF EDUCATION

	Gymnasium	High school	Colledge	University			
Municipiul București	6%	Municipiul București	12%	Municipiul București	12%	Municipiul București	39%
Iași	4%	Constanța	4%	Mureș	6%	Cluj	8%
Suceava	4%	Prahova	4%	Iași	6%	Iași	8%
Prahova	4%	Iași	4%	Cluj	5%	Timiș	5%
Bacău	4%	Timiș	4%	Dolj	4%	Brasov	5%
Dolj	3%	Bihor	3%	Timiș	4%	Constanța	4%
Argeș	3%	Argeș	3%	Argeș	4%	Dolj	4%
Constanța	3%	Suceava	3%	Bihor	4%	Sibiu	4%
Timiș	3%	Dolj	3%	Prahova	3%	Arad	3%
Galați	3%	Cluj	3%	Buzău	3%	Argeș	3%
Bihor	3%	Brasov	3%	Olt	3%	Bihor	2%
Neamț	3%	Galați	3%	Constanța	3%	Galați	2%
Cluj	3%	Bacău	3%	Hunedoara	3%	Suceava	2%
Dâmbovița	3%	Gorj	3%	Sibiu	3%	Mureș	1%
Maramureș	3%	Hunedoara	3%	Galați	3%	Prahova	1%
Botoșani	2%	Neamț	3%	Brasov	2%	Bacău	1%
Mureș	2%	Mureș	3%	Suceava	2%	Dâmbovița	1%
Vaslui	2%	Maramureș	2%	Gorj	2%	Gorj	1%
Olt	2%	Dâmbovița	2%	Bacău	2%	Maramureș	1%
Hunedoara	2%	Vâlcea	2%	Tulcea	2%	Alba	1%
Gorj	2%	Arad	2%	Brăila	2%	Caras-Severin	1%
Brasov	2%	Olt	2%	Neamț	2%	Mehedinti	1%
Buzău	2%	Buzău	2%	Mehedinti	2%	Hunedoara	1%
Arad	2%	Sibiu	2%	Vrancea	2%	Vâlcea	1%
Vâlcea	2%	Vaslui	2%	Maramureș	2%	Brăila	0%
Satu Mare	2%	Alba	2%	Dâmbovița	2%	Harghita	0%
Teleorman	2%	Botoșani	2%	Vâlcea	1%	Covasna	0%
Sibiu	2%	Harghita	2%	Teleorman	1%	Bistrița-Năsăud	0%
Alba	2%	Teleorman	2%	Alba	1%	Teleorman	0%
Vrancea	2%	Satu Mare	2%	Arad	1%	Satu Mare	0%
Bistrița-Năsăud	2%	Caras-Severin	2%	Harghita	1%	Neamț	0%
Brăila	2%	Mehedinti	2%	Satu Mare	1%	Olt	0%
Harghita	2%	Brăila	2%	Ialomița	1%	Vrancea	0%
Caras-Severin	2%	Bistrița-Năsăud	1%	Vaslui	1%	Botoșani	0%
Călărași	1%	Vrancea	1%	Caras-Severin	1%	Buzău	0%
Mehedinti	1%	Ialomița	1%	Giurgiu	0%	Ifov	0%
Giurgiu	1%	Sălaj	1%	Botoșani	0%	Sălaj	0%
Ialomița	1%	Călărași	1%	Covasna	0%	Vaslui	0%
Sălaj	1%	Covasna	1%	Sălaj	0%	Tulcea	0%
Ifov	1%	Tulcea	1%	Călărași	0%	Călărași	0%
Tulcea	1%	Ifov	1%	Ifov	0%	Giurgiu	0%
Covasna	1%	Giurgiu	1%	Bistrița-Năsăud	0%	Ialomița	0%

Appendix 4

GDP by Romanian counties 2002-2008

2002	2003	2004	2005	2006	2007	2008
București	București	București	București	București	București	București
Constanța	Timiș	Timiș	Timiș	Timiș	Timiș	Timiș
Timiș	Constanța	Constanța	Constanța	Constanța	Cluj	Constanța
Cluj	Cluj	Cluj	Cluj	Prahova	Constanța	Cluj
Prahova	Prahova	Prahova	Prahova	Cluj	Prahova	Prahova
Brasov	Brasov	Brasov	Argeș	Argeș	Brasov	Argeș
Bihor	Iași	Argeș	Brasov	Brasov	Argeș	Brasov
Iași	Argeș	Bihor	Iași	Iași	Iași	Iași
Argeș	Bihor	Iași	Bihor	Bihor	Bihor	Bihor
Bacău	Bacău	Bacău	Bacău	Dolj	Dolj	Dolj
Mureș	Mureș	Dolj	Dolj	Ifov	Ifov	Ifov
Suceava	Dolj	Mureș	Arad	Bacău	Arad	Bacău
Galați	Arad	Arad	Mureș	Arad	Bacău	Arad
Dolj	Suceava	Galați	Ifov	Mureș	Mureș	Sibiu
Arad	Galați	Suceava	Galați	Sibiu	Sibiu	Galați
Sibiu	Hunedoara	Hunedoara	Suceava	Galați	Suceava	Mureș
Hunedoara	Sibiu	Sibiu	Sibiu	Suceava	Hunedoara	Hunedoara
Gorj	Gorj	Ifov	Hunedoara	Hunedoara	Galați	Suceava
Dâmbovița	Dâmbovița	Gorj	Dâmbovița	Dâmbovița	Dâmbovița	Gorj
Ifov	Ifov	Dâmbovița	Gorj	Gorj	Alba	Dâmbovița
Neamț	Vâlcea	Buzău	Neamț	Alba	Gorj	Alba
Maramureș	Buzău	Maramureș	Vâlcea	Vâlcea	Maramureș	Maramureș
Vâlcea	Neamț	Neamț	Maramureș	Maramureș	Vâlcea	Buzău
Buzău	Maramureș	Vâlcea	Alba	Neamț	Neamț	Neamț
Alba	Alba	Alba	Buzău	Buzău	Buzău	Vâlcea
Satu Mare	Satu Mare	Olt	Satu Mare	Satu Mare	Olt	Brăila
Brăila	Olt	Satu Mare	Olt	Olt	Caras-Severin	Olt
Teleorman	Caras-Severin	Brăila	Caras-Severin	Harghita	Satu Mare	Caras-Severin
Olt	Brăila	Caras-Severin	Brăila	Caras-Severin	Harghita	Satu Mare
Harghita	Teleorman	Vrancea	Harghita	Vrancea	Brăila	Harghita
Caras-Severin	Teleorman	Vrancea	Bistrița-Năsăud	Brăila	Bistrița-Năsăud	Teleorman
Vrancea	Botoșani	Harghita	Teleorman	Bistrița-Năsăud	Teleorman	Bistrița-Năsăud
Botoșani	Vaslui	Ialomița	Vrancea	Teleorman	Botoșani	Vrancea
Bistrița-Năsăud	Vrancea	Bistrița-Năsăud	Botoșani	Botoșani	Vrancea	Botoșani
Vaslui	Bistrița-Năsăud	Vaslui	Ialomița	Vaslui	Sălaj	Vaslui
Covasna	Mehedinti	Botoșani	Vaslui	Ialomița	Vaslui	Ialomița
Ialomița	Ialomița	Mehedinti	Mehedinti	Mehedinti	Mehedinti	Mehedinti
Mehedinti	Tulcea	Călărași	Sălaj	Sălaj	Covasna	Călărași
Tulcea	Covasna	Covasna	Covasna	Tulcea	Ialomița	Sălaj
Sălaj	Sălaj	Tulcea	Tulcea	Covasna	Tulcea	Tulcea
Călărași	Călărași	Giurgiu	Călărași	Călărași	Călărași	Covasna
Giurgiu	Giurgiu	Sălaj	Giurgiu	Giurgiu	Giurgiu	Giurgiu

Appendix 5

GAddV by Romanian counties 2002-2008

2002	2003	2004	2005	2006	2007	2008
București	București	București	București	București	București	București
Constanța	Timiș	Timiș	Constanța	Timiș	Timiș	Timiș
Timiș	Constanța	Constanța	Timiș	Constanța	Cluj	Constanța
Cluj	Cluj	Cluj	Cluj	Prahova	Prahova	Prahova
Prahova	Prahova	Prahova	Prahova	Cluj	Constanța	Cluj
Brașov	Brașov	Brașov	Argeș	Argeș	Brașov	Argeș
Argeș	Iași	Argeș	Brașov	Brașov	Argeș	Brașov
Bihor	Argeș	Bihor	Iași	Iași	Iași	Iași
Iași	Bihor	Iași	Bihor	Bihor	Bihor	Bihor
Bacău	Bacău	Bacău	Bacău	Doj	Doj	Doj
Mureș	Mureș	Doj	Doj	Ifov	Arad	Ifov
Suceava	Doj	Mureș	Arad	Bacău	Ifov	Bacău
Galați	Suceava	Arad	Mureș	Arad	Bacău	Sibiu
Doj	Arad	Galați	Ifov	Mureș	Mureș	Arad
Arad	Galați	Suceava	Galați	Sibiu	Sibiu	Galați
Hunedoara	Hunedoara	Hunedoara	Suceava	Galați	Suceava	Mureș
Sibiu	Gorj	Sibiu	Sibiu	Suceava	Hunedoara	Hunedoara
Gorj	Sibiu	Ifov	Hunedoara	Hunedoara	Galați	Suceava
Dâmbovița	Dâmbovița	Gorj	Gorj	Dâmbovița	Dâmbovița	Gorj
Maramureș	Ifov	Dâmbovița	Dâmbovița	Gorj	Alba	Dâmbovița
Ifov	Vâlcea	Buzău	Neamț	Alba	Gorj	Alba
Neamț	Maramureș	Maramureș	Vâlcea	Vâlcea	Maramureș	Maramureș
Vâlcea	Buzău	Alba	Maramureș	Maramureș	Vâlcea	Buzău
Buzău	Alba	Neamț	Alba	Neamț	Neamț	Neamț
Alba	Neamț	Vâlcea	Buzău	Buzău	Buzău	Vâlcea
Satu Mare	Satu Mare	Olt	Satu Mare	Satu Mare	Olt	Brăila
Teleorman	Olt	Satu Mare	Olt	Olt	Caraș-Severin	Olt
Brăila	Caraș-Severin	Caraș-Severin	Caraș-Severin	Caraș-Severin	Satu Mare	Caraș-Severin
Harghita	Brăila	Brăila	Brăila	Harghita	Harghita	Satu Mare
Olt	Harghita	Teleorman	Harghita	Vrancea	Brăila	Harghita
Caraș-Severin	Teleorman	Harghita	Bistrița-Năsăud	Brăila	Bistrița-Năsăud	Teleorman
Vrancea	Botoșani	Vrancea	Teleorman	Bistrița-Năsăud	Teleorman	Bistrița-Năsăud
Botoșani	Vaslui	Ialomița	Vrancea	Teleorman	Botoșani	Vrancea
Bistrița-Năsăud	Vrancea	Bistrița-Năsăud	Botoșani	Botoșani	Vrancea	Botoșani
Vaslui	Bistrița-Năsăud	Vaslui	Ialomița	Vaslui	Sălaj	Vaslui
Covasna	Mehedinți	Botoșani	Vaslui	Ialomița	Vaslui	Ialomița
Ialomița	Ialomița	Mehedinți	Mehedinți	Mehedinți	Mehedinți	Mehedinți
Mehedinți	Tulcea	Călărași	Sălaj	Sălaj	Covasna	Călărași
Tulcea	Covasna	Covasna	Covasna	Tulcea	Ialomița	Sălaj
Sălaj	Sălaj	Tulcea	Tulcea	Covasna	Tulcea	Tulcea
Călărași	Călărași	Giurgiu	Călărași	Călărași	Călărași	Covasna
Giurgiu	Giurgiu	Sălaj	Giurgiu	Giurgiu	Giurgiu	Giurgiu

Appendix 6

GAddV by Romanian counties 2008

1	București	23%
2	Timiș	4%
3	Constanța	4%
4	Prahova	4%
5	Cluj	4%
6	Argeș	3%
7	Brașov	3%
8	Iași	3%
9	Bihor	3%
10	Doj	3%
11	Ifov	3%
12	Bacău	2%
13	Sibiu	2%
14	Arad	2%
15	Galați	2%
16	Mureș	2%
17	Hunedoara	2%
18	Suceava	2%
19	Gorj	2%
20	Dâmbovița	2%
21	Alba	2%
22	Maramureș	2%
23	Buzău	1%
24	Neamț	1%
25	Vâlcea	1%
26	Brăila	1%
27	Olt	1%
28	Caraș-Severin	1%
29	Satu Mare	1%
30	Harghita	1%
31	Teleorman	1%
32	Bistrița-Năsăud	1%
33	Botoșani	1%
34	Vaslui	1%
35	Ialomița	1%
36	Mehedinți	1%
37	Călărași	1%
38	Sălaj	1%
39	Tulcea	1%
40	Covasna	1%
41	Giurgiu	1%
42	Vrancea	1%

GDP by Romanian counties 2008

1	București	23%
2	Timiș	4%
3	Constanța	4%
4	Cluj	4%
5	Prahova	4%
6	Argeș	3%
7	Brașov	3%
8	Iași	3%
9	Bihor	3%
10	Doj	3%
11	Ifov	3%
12	Bacău	2%
13	Arad	2%
14	Sibiu	2%
15	Galați	2%
16	Mureș	2%
17	Hunedoara	2%
18	Suceava	2%
19	Gorj	2%
20	Dâmbovița	2%
21	Alba	2%
22	Maramureș	2%
23	Buzău	1%
24	Neamț	1%
25	Vâlcea	1%
26	Brăila	1%
27	Olt	1%
28	Caraș-Severin	1%
29	Satu Mare	1%
30	Harghita	1%
31	Teleorman	1%
32	Bistrița-Năsăud	1%
33	Vrancea	1%
34	Botoșani	1%
35	Vaslui	1%
36	Ialomița	1%
37	Mehedinți	1%
38	Călărași	1%
39	Sălaj	1%
40	Tulcea	1%
41	Covasna	1%
42	Giurgiu	1%

Appendix 7

Civil active population by counties 2000-2008					
	2000	2005	2006	2007	2008
Municipiul București	8%	11%	11%	12%	12%
Cluj	3%	4%	4%	4%	4%
Timiș	3%	4%	4%	4%	4%
Constanța	3%	3%	3%	3%	3%
Prahova	3%	3%	3%	3%	3%
Iași	4%	4%	3%	3%	3%
Dolj	4%	3%	3%	3%	3%
Bihor	3%	3%	3%	3%	3%
Argeș	3%	3%	3%	3%	3%
Suceava	3%	3%	3%	3%	3%
Brașov	3%	3%	3%	3%	3%
Mureș	3%	3%	3%	3%	3%
Bacău	3%	3%	3%	3%	3%
Galati	3%	3%	2%	2%	2%
Arad	2%	2%	2%	2%	2%
Dâmbovița	2%	2%	2%	2%	2%
Hunedoara	2%	2%	2%	2%	2%
Maramureș	2%	2%	2%	2%	2%
Neamț	3%	2%	2%	2%	2%
Buzău	2%	2%	2%	2%	2%
Sibiu	2%	2%	2%	2%	2%
Alba	2%	2%	2%	2%	2%
Olt	2%	2%	2%	2%	2%
Vâlcea	2%	2%	2%	2%	2%
Teleorman	2%	2%	2%	2%	2%
Ifov	1%	1%	2%	2%	2%
Vaslui	2%	2%	2%	2%	2%
Satu Mare	2%	2%	2%	2%	2%
Botoșani	2%	2%	2%	2%	2%
Vrancea	2%	2%	2%	2%	2%
Gorj	2%	2%	2%	2%	2%
Harghita	2%	2%	2%	2%	2%
Brăila	2%	2%	2%	2%	2%
Bistrita Nasaud	1%	1%	1%	1%	1%
Caraș-Severin	2%	1%	1%	1%	1%
Mehedinți	1%	1%	1%	1%	1%
Călărași	1%	1%	1%	1%	1%
Sălaj	1%	1%	1%	1%	1%
Ialomița	1%	1%	1%	1%	1%
Covasna	1%	1%	1%	1%	1%
Giurgiu	1%	1%	1%	1%	1%
Tulcea	1%	1%	1%	1%	1%