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REGIONAL COMPETITIVENESS EVALUATION IN ROMANIA

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Abstract: *The paper approach one of the key concept uses in economic and social analysis of the last decades: regional competitiveness. In this methodological approach are indentified series of social and economical indicators which are considered relevant in evaluation of regional competitiveness. The analysis was made for year 2009, gathering data for the eight development regions of Romania: North-West (N-W), Center (C), North-East (N-E), South-East (S-E), Bucharest-Ilfov (B-I), South (S), South-West (S-W) and West (W)*
Key words: *regional competitiveness, evaluation, utility, quantification*

1. INTRODUCTION

Regional competitiveness is the capacity of one region to generate a level of income and a sustainable growth of the living standard in a durable manner and in conditions of competition. On the other hand, regional competitiveness depends on the productivity and accessibility of markets, on the level of workforces' qualification and on the institutional factors like social capital for entrepreneurial culture to encourage cooperation and initiative and contribute at efficiency for public administration (Negru Strauti et al., 2010).

So, regional competitiveness can be defined as the ability of a region and of its public authority to maintain the local base of qualified workforce and companies, and to attract foreign investments (Negru-Strauti & Taucean, 2008).

There are nevertheless factors that affect competitiveness but which are not easily quantitatively, estimated or approximated. In this category we have for example governmental policies, venture capital and risk capital indicators, firms' rate of registration, industrial conglomerates.

In consequence, to characterize competitiveness of a region it is necessary to analyze some key aspects of regional economic development level.

This paper provides a competitiveness evaluation that helps identifying successful development regions in Romania, and an idea of the broad issues to be investigated in a more detailed analysis in the future.

2. METHOD OF QUANTIFYING RC

Some of the previous researches (Martin, 2006), were based on comparative and regression analysis, across a wide set of primarily micro-economic indicators of the work on regional competitiveness, that is empirically driven, there are two distinguishable approaches: studies that analyse regional competitiveness as a cumulative outcome of factors; studies that focus on a particular driver of competitiveness. The empirical section lists the driving factors that have been used in previous studies to explain regional performance. The breakdown of GDP per capita into constituent parts relation (1) provides an initial set of output indicators, each of which can be explained in terms of its own set of drivers. On the other hand, GDP per head, provides an, albeit incomplete, indicator of the average well-being of the population. For analytical purposes this can be decomposed in elements presented in relation (1).

$$\frac{GDP}{P} = \frac{GDP}{THW} \cdot \frac{THW}{E} \cdot \frac{E}{WAP} \cdot \frac{WAP}{P} \quad (1)$$

Where: GDP/THW – Productivity; THW/E– Work – Leisure; E/WAP – Employment Rate; WAP/P Dependency Rate; GDP – Gross Domestic Product; THW – Total Hours Worked; E – Employment; WAP - Working Age Population.

Some interrelation is likely between these indicators, e.g. highly productive regions using skilled labour may well also display high rates of employment. However, regional productivity – measured as GDP per hour worked – is seen as a primary motor of improved regional GDP per head.(***, 2010)

A more affordable model, which still provide full information on the assessment of regional competitiveness and could be correlated with previous researches and can be developed using a series of social and economical indicators provided by statistics made for the eight development regions (DR) of Romania.

3. DATA AND METHODOLOGY

Proposed methodology aims to range the DR of Romania in terms of competitiveness through series of social and economical indicators that were aggregated in order to establish a high level of accuracy for the final results.

The values for selected indicators are data for year 2009, identified by the national statistics. (***, 2010)

3.1 Social indicators

The social indicators shown (Tab. 1) are average gross earning (AvGE) – represents the ratio between the amounts paid to employees by companies and the average number of employees, life expectancy (LE) – statistically determined value which represents the average number of years of life that a person will live, number of employees in the economy (NEE) – the number of persons engaged in the work field for a specific economy, total monthly income (TMI) – represents the income of a person from different sources, not only cash income.

For a more accurate analysis it was used the linear interpolation (2).

DR	AvGE (RON/empl.)	LE (years)	NEE (number)	TMI (RON/pers.)
N-W	1566	72.82	9265	772.60
C	1645	73.62	7568	791.25
N-E	1629	73.38	6528	706.62
S-E	1699	73.04	5410	717.40
B-I	2488	73.07	4845	1182.32
S	1748	74.94	71846	765.14
S-W	1776	73.08	3884	702.32
W	1712	72.96	11715	853.71

Tab. 1 Social indicators table

$$u_{ij} = \frac{a_{ij} - min\ a_{ij}}{max\ a_{ij} - min\ a_{ij}} \quad (2)$$

Where: a_{ij} – the corresponding value for each indicator.

Using the above relation the utilities table for social indicators was developed (Tab. 2).

DR	U_{AvGE}	U_{LE}	U_{NEE}	U_{TMI}	$\Sigma U_{ij\text{-}so}$
N-W	0	0	0.07917	0.14641	0.2255
C	0.08568	0.37735	0.05420	0.18527	0.7025
N-E	0.06833	0.26415	0.03890	0.00895	0.3803
S-E	0.14425	0.10377	0.02245	0.03141	0.3018
B-I	1	0.11792	0.01414	1	2.1320
S	0.19739	1	1	0.13087	2.3282
S-W	0.22776	0.12264	0	0	0.3504
W	0.15835	0.06603	0.11522	0.31539	0.6549

Tab. 2 Table of utilities for social indicators

3.2 Economical indicators

The economical indicators shown (Tab. 3) are turnover – obtained by the eight regions of development, exports, Active Local Units (ALU) – represents the number of local companies that operated in the analyzed period of time, at a identifiable address, Gross Domestic Product (GDP) (***, 2011).

DR	Turnover (mil.RON)	Exports (th. eur)	ALU (number)	GDP (RON)
N-W	87251	3900393	77731	56652.1
C	89907	3599728	67734	55178.7
N-E	62643	1241400	61000	51979.4
S-E	90059	3374317	65939	52988.7
B-I	317303	6117430	130328	127008.4
S	102056	4798348	60108	65309.4
S-W	50778	1637105	40166	39805.2
W	67987	4114073	52595	48641.3

Tab. 3 Economical indicators table

Using the relation (2) the utilities table for economical indicators was developed (Tab. 4).

DR	$U_{Turnover}$	$U_{Exports}$	U_{ALU}	U_{GDP}	$\Sigma U_{ij\text{-}ec}$
N-W	0.13684	0.54531	0.41663	0.19319	1.2919
C	0.14681	0.48365	0.30576	0.17629	1.1125
N-E	0.04451	0	0.23107	0.13960	0.4151
S-E	0.14738	0.43742	0.28585	0.15118	1.0218
B-I	1	1	1	1	4
S	0.19239	0.72947	0.22118	0.29246	1.4355
S-W	0	0.08115	0	0	0.0811
W	0.06456	0.58914	0.13785	0.10132	0.8928

Tab. 4 Table of utilities for economical indicators

DR	$\Sigma U_{ij\text{-}so}$	P_1	$\Sigma U_{ij\text{-}ec}$	P_2	$\Sigma U_{ij\text{-}fin}$
N-W	0.2255	0.0902	1.2919	0.7751	0.87
C	0.7025	0.2810	1.1125	0.6675	0.95
N-E	0.3803	0.1521	0.4151	0.2491	0.40
S-E	0.3018	0.1207	1.0218	0.6131	0.73
B-I	2.1320	0.8528	4	2.4	3.25
S	2.3282	0.9313	1.4355	0.8613	1.79
S-W	0.3504	0.1401	0.0811	0.0487	0.19
W	0.6549	0.2619	0.8928	0.5357	0.80

Tab. 5 Table of aggregated utilities

The table 5 contains the aggregated utilities for all the considered indicators, where the global utility ($U_{ij\text{-}fin}$) was calculated assuming that the utilities for the social indicators ($U_{ij\text{-}so}$) weight 40% in the final result, and the utilities for the economical indicators ($U_{ij\text{-}ec}$) weight 60%. In accordance with that the values for P_1 and P_2 were obtained (Tab.5).

The final results are presented in Figure 1.

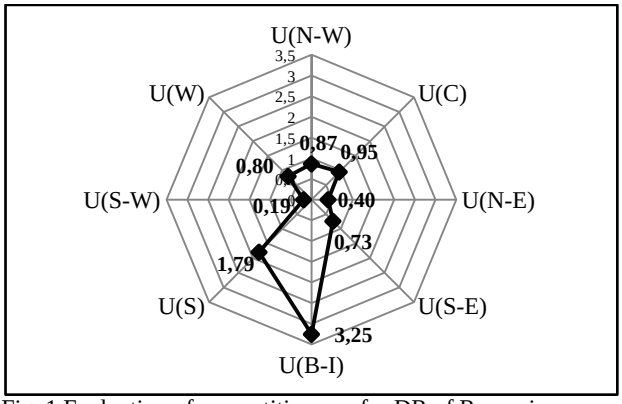

Fig. 1 Evaluation of competitiveness for DR of Romania

4. CONCLUSIONS

Research aspect is based on the use of ten socio-economical indicators that offer a clear preview of the regional competitiveness level in Romania, and can be extended with technical development and foreign investements made in the past years, for a more accurate result.

The objective of this research has been reached by designing a more affordable model, which still provide full information on the assessment of regional competitiveness and could be correlated with previous researches.

Based on the obtained results it has been appreciate which are the development regions with high competitiveness.

First we must observe that the data we processed bring out the following conclusions concerning regional entrepreneurial development:

- Bucharest-Ilfov region is by far in front of the classification with best results for all indicators; for other groups there is a combination of favorable and unfavorable characteristics which need an interpretation from case to case - the South region with entrepreneurial potential holds some advantages that should be exploited further.

This study recognizes the existing of different practices concerning regional initiatives, but the capacity of starting up of prosperous business can be use with success in any region.

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