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MEASURING THE REGIONAL AND LOCAL COMPETITIVENESS. CASE STUDY: SOUTH-EAST REGION AND BRAILA COUNTY

Elisabeta ROŞU[1], Ion DONA[2]

[1]Institute of Agricultural Economics, Romanian Academy, 13, Calea 13 Septembrie, District 5, Code 050711, Bucharest, Romania, Phone/Fax: +4021 318.24.11,
E-mail: betty_rosu@yahoo.com
[2]University of Agricultural Sciences and Veterinary Medicine Bucharest, 59 Marasti, District 1, 11464, Bucharest, Romania, Phone: +40213182564, Fax:+40213182888, E-mail: ion_dona@yahoo.com

Corresponding author: betty_rosu@yahoo.com

Abstract

The level at which competitiveness is generated and supported requires an approach at micro and macro economic level. At microeconomic level, competitiveness represents the productivity and efficiency by which inputs are transformed into goods and services; at microeconomic level, competitiveness means the obtained results, materialized into labour employment and income levels, as well as the factors that determine them. Thus one can speak about local, regional and national competitiveness. The study aimed to substantiate a methodology for assessing competitiveness at regional and local level, selecting the South-East Region and Braila County for the case study. This evaluation was made by using a competitiveness index adapted to the local particularities, which included a number of indicators available in the data sources and considered as representative for measuring competitiveness.

Key words**:** *local and regional competitiveness, competitiveness index, South-East Region, Braila County*

INTRODUCTION

The notion of ”comparative advantage” was introduced by M. Porter in his work ”*The Competitive Advantage of the Nations*” and together with this the notion of competitiveness has received a major importance and new meanings, together also with similar terms, as productivity and welfare.

Starting from the already well known notion of *competition* another notion imposed itself, with specific features, that of *competitiveness*. Competitiveness, which exists at firm level does not function the same at local, regional or national level, from the very reason that these are not functioning by the same rules.

Approached at microeconomic level, respectively at firms' or companies' level, the notion of competitiveness represents the capacity of firms to compete, to develop and be profitable. Thus, competitiveness means the capacity of firms or companies to produce, constantly and efficiently, goods and services which reach the standards of an open market, in regard the price, quality, consumers' demands etc. The more competitive a firm is, in comparison with other competitors, the bigger its ability to gain a higher market share. Thus, the noncompetitive firms will register a decline of the market share and as a consequence they will become noncompetitive – being excluded from the market” [2].

Approached at macroeconomic level competitiveness represents the set of political, economic and social measures which a country decides to apply in order to maintain or improve its position on world plan. „The national competitiveness has become one of the main concerns of each nation's government” and represents „the capacity of development and innovation of the industry” [4].

The most complex definition is given by the European Commission, as following: „a country is competitive if its population can enjoy high living standards and even increasing and of a high occupation rate, in a sustainable way. More precisely, the level of the economic activity should not generate a non-sustainable external balance of the

economy, neither compromise the welfare of the next generations" [5].

From the nations' competitiveness the attention switched to the regional competitiveness, the regions being „key localizations for the organization and management of the economic increase and welfare creation" [1].

Starting from two objectives, the first, established by the European Council through the Lisbon Strategy, respectively that of transforming European Union into the most dynamic and competitive economy of the world, and the second, that of the Europe 2020 Strategy – to become a sustainable inclusive economy which could supply high levels of the occupancy, productivity and social cohesion - the real challenge is represented by the deep understanding of the competitiveness term as well as of the factors which act upon it. Thus, competitiveness raises a series of questions linked to the exact meaning of the regions', towns', localities' competitiveness. How, and in what sense competitiveness could be approached? How are the regions, towns and localities competing among themselves?

The main goal of the paper is the assessment of the county Brăila's competitiveness, a county defined by the rurality degree - intermediary, in relation to the development region to which it belongs, South-East Region. This assessment was made with the help of one index of competitiveness in the componence of which it entered a series of indicators considered as representative in competitiveness' measurement.

MATERIALS AND METHODS

The realization of the present study in which it was tried the construction of an index of local competitiveness (LCI) started from the study: "*The evaluation of rural competitiveness in creating a policy of rural development in Croatia"* [3] published in the year 2012. Within the study the authors built up an index of the rural competitiveness (RCI), based on the sustainable rural development concept. The rural competitiveness index was composed of a battery of 16 indicators grouped into four components: the human resource, the nonagricultural sector's economy, the agricultural sector economy and other activities income generating of the rural households. The calculation formula for the rural competitiveness index (RCI) was:

$$\mathbf{X_i = 100\ (x_i / X) / (p_i / P)}, \textbf{ where}:$$

x_i – the variable chosen for the zone studied (county)

X – the variable chosen at country level p_i – the number of inhabitants in the studied zone (county)

P – the number of inhabitants at country level .In the present study we wished to realize an index of local competitiveness by which we could measure the county Brăila's competitiveness versus that of the South - East Development Region.

It was tried an ample coverage of the set of indicators included in the initial pattern, the Croatian one by help of the statistical information available at territorial level in Romania.

A part of the indicators in the initial pattern were not available at desegregations county level, in the sources of official statistical data in Romania. Thus, there were identified other series of available data at level NUTS III and compatible from the point of view of statistical signification with the unavailable indicators. The Croatian pattern was adapted in function of the statistical data available in Romania, the main modifications being found in the following table and were made of:

-Replacement of indicator G*ross Value Added* with *Turn - over rate* which includes, besides the gross value added also the intermediary consumptions' value used for the goods' and services production, commercialized in a given period;

-Replacement of the indicator *Value of investments in long use corporal goods* with *Density of the local active units/1000 inhabitants,* both for the agricultural and the non agricultural sectors, being justified by the fact that a bigger density of the local active enterprises means a higher attractiveness for investors and investments within a certain space;

-The group of indicators O*thers activities*

incomes generating at agricultural farms' level was integrally replaced with a series of three indicators re-united under the name of *Specialization and innovation*. The methodological decision for changing the last set of indicators was motivated by the goal and area of coverage of the study. County Brăila is made of rural and urban communities, and the inclusion in the pattern of the information referring only to the farmers' households could have distorted the analysis (Table 1).

Table 1. Adapted pattern for competitiveness assessment at county level

Variable – Original pattern Croatia	Variable – Adapted pattern
Human resources	
Employed population in the rural zone (pers)	Employed population, thousand persons
Population with higher education (pers)	Population with higher education (pers)
The young population in the rural zone (pers)	The young population (pers)
The population density - pers/sq km	The population density– pers/sq km
The situation of the non-agricultural sector's economy	
GVA(Euro)	Turn -over rate– thousands euros
Exports' value Euro)	Exports' value- thousand euros
Investments in long term goods (Euro)	Density of local active units no/1000inhab.
The net average wage (Euro)	The net average wage (Euro)
The situation of the agricultural sector's economy	
The farm's average size - ha/farm	The farm's average size– ha/farm
GVA (Euro)	The turn-over rate–thousand euros
The exports' value (Euro)	The exports' value– thousand euros
Investments in long term goods (Euros)	The density of the local active units
The net average wage (Euro)	The net average wage (Euro)
Other generating incomes activities at agricultural farms' level	**Specialization and innovation**
The share of touristic farms	The share of employed population in non-agricultural sectors
The share of krafts' cooperatives	The salary workers in CDI at 10000 civil occupied persons
The share of processing farms	% crop production in total value of the production in agricultural branch
The share of farms gaining from other incomes' generating activities	

Source: adaptation after the pattern elaborated by O. Mikuš, R. Franić și I. Grgić, 2012

-It is known the fact that an economy can become more and more competitive as its access to innovation increases. Thus, in the pattern adapted for this analysis was introduced an indicator which should reflect the innovative capacity at level NUTS III which is: *Salary workers in CDI at 10000 employed civil persons.*

Thus the index of local competitiveness was made of four components in which 16 indicators went (Table 2).

Table 2. Source of data for the indicators included in the pattern adapted for competitiveness assessment at county level

Group /Indicators	Source
Human resources	
Employed population (thousand persons)	NSI, tempo on-line, TEMPO_FOM103D
Higher education population (pers)	NSI, General Population and Dwellings Census 2010
The young population (pers)	NSI, tempo on-line, TEMPO_POP106A
Population's density (pers/sq km)	NSI, tempo on-line, TEMPO_POP106A, NSI, Statistical Yearbook – the area in sq. km
Situation of the non-agricultural sector's economy	
Turn-over rate– thousand euros	NSI, Demos data base
The exports' value (thousand euros)	NSI, tempo on-line, TEMPO_EXP101J
Local active units' density (no./1,000inhab.)	INS, tempo on-line, TEMPO_INT101R, TEMPO_POP106A
The net average wage (Euro)	NSI, tempo on-line, FOM106E
Situation of the agricultural sector's economy	
The agricultural farm's average size (ha/farm)	NSI, The General Agricultural Census, 2010
The turnover rate thousand euros)	NSI, _Demos data base
Exports' value (thousand euros)	NSI, tempo on-line, TEMPO_EXP101J
Local active units' density	NSI, tempo on-line, TEMPO_INT101R, TEMPO_POP106A
The net average wage (Euro)	NSI, tempo on-line, FOM106E
Specialization and innovation	
The share of population employed in non-agricultural sectors	NSI, tempo on-line, TEMPO_FOM103D
Salary workers in RDI per 1,0000 civil employed pers.	NSI, tempo on-line, TEMPO_CDP102E
% crop productions in total value of the agricultural branch's production	NSI, tempo on-line, TEMPO_AGR206A

The first component – human resources – included the indicators: employed population, higher studies population, the young population, with the age between 0-20 years old and population density. The second component - the non-agricultural sector's economy – included the indicators: the turnover rate and the exports' value, expressed in thousands euro, the density of

the local active per 1,000 inhabitants and the net average wage, expressed in euros. The third component – the agriculture sector's economy – included the indicators: the agricultural farm's average size, the turnover rate, the exports' value, the density of the local active units per 1,000 inhabitants and the net average wage. In the last component – specialization and innovation – there entered the indicators: the share of employed population in the non-agricultural sectors, the salary workers employed in research – development - innovation per 1,000 civil employed persons and the share of crop production in the total production of the agricultural branch.

For the pattern adapted at county level in Romania, the data were extracted at level of 2012 year, having in view the concrete limitations imposed by certain indicators for which the last available year was 2012. There were two indicators for which data were extracted at level of 2010 year: higher education *population* – The General Population and Dwellings Census 2010 and *average size of the agricultural farm* – The General Agricultural Census 2010.

The calculation formula of the local competitiveness (LCI) was:

$$\mathbf{X_i = 100\ (x_i / X) / (p_i / P),}$$ where

x_i – variable chosen for the county Brăila

X – variable chosen for Region South -East

p_i – population of county Brăila

P – population of the Development South-East Region.

To each indicator was allocated a specific weigh equal to that of the other indicators within the group, and for each group it was calculated an intermediary value of the index (shortened SI), utilizing the arithmetic mean; the calculation thus resulted for each group of indicators (SI) were utilized at the calculation of the value of the local competitiveness index, resulted from the calculation of the arithmetic mean of the SI values – it was considered that all components are equally important for the competitiveness expression.

It was necessary that the indicators which were included in the four components be available at county level, after that being built up those at region level.

RESULTS AND DISCUSSIONS

The main goal of the paper was that of assessing the competitiveness of county Brăila, defined by the rurality degree - as intermediary, in n relation to the development region it makes part of, South-East Region. Thus, on basis of the local competitiveness index, in the year 2012 county Brăila was with 2.32% less competitive as opposed to South-East Region (table 3).

It can be affirmed that the small value of this percentage shows that county Brăila was, in the year 2012, as competitive as the region it makes part of and that there would be necessary minor changes so as county Brăila be equal from competitiveness point of view with the South-East Region. But, if we take into account one of the four components (sub-indexes), the results show totally different.

At three components: the human resources, the economy of the non-agricultural sector specialization and innovation, county Braila was less competitive than the South-East Region, while at the component economy of the agricultural sector, county Brăila was with 28.63% more competitive than the region.

As regards the human resource, county, Brăila was with 5.74% less competitive than the South-East Region. Analyzing each indicator in the component it can be affirmed that the biggest competitiveness difference between county Brăila and South-East Region was given by: young population (county Brăila was with 7.73% less competitive than the South-East Region), higher education population, (county Brăila was with 6.7% less competitive than South-East Region), followed by the population density, (county Brăila was with 5.79% less competitive than the South-East Region).

As regards the indicator employed population, we can say that to county Brăila was lacking 2.74% to be as competitive as the South-East Region. This indicator is the only one which exceeds the mean of the indicators in the first component.

As regards the economy of the non-agricultural sectors, county Brăila was with 29.3% less competitive than the South-East Region.

Table 3. The local competitiveness Index – the county Brăila vs South-East Region, year 2012

Variables	County l Brăila pi = 319,674	Region S-E P=2,538,949	Indicator (X_i) of county Braila competitiveness Region S-E=100
	p_1/P = 0.125908		
Human resources			
Employed Population, 2012 (thousand persons.)[1]	123.8	1,011	97.26
Higher education population (no.pers.)[1]	31,522	268,348	93.30
The young population 0-20 y.o (no.pers.)[1]	62,838	540,895	92.27
The population density (no.pers./sq, km)[2]	66.7	70.8	94.21
The mean of indicators in the first component (sub-index 1)			**SI_1 = 94.26**
The non-agricultural sector's indicator			
The turnover rate (thousand euro) [1]	1,530,457.619	21,982,843.28	55.29
The exports' value (thousand euro) [1]	299,506	4,129,817	57.60
The local active units' density /1,000 inhab.) [2]	18.09	21.34	84.74
The net average wage (euro) [2]	278.05	329.67	84.34
The average of the indicators in the second component (sub-index 2)			SI_2 = 70.70
The agricultural sector's Economy			
The average size of the agricultural farm (ha/farm) [2]	7.91	4.94	160.12
The turn over rate (thousand euro) [1]	315,117.88	1,305,892.82	191.65
The exports' value (thousand euro) [1]	35,499	542,293	51.99
Local active units density (active units /1,000inhab.) [2]	1.58	1.17	134.77
The net average wage (euro) [2]	243.94	233.17	104.62
The indicators' mean in the third component (sub-index 3)			**SI_3 = 128.63**
Specialization and innovation			
% of the employed population in the non-agricultural sectors [2]	67.8	66.3	102.25
The salary workers employed in RDI per 1,000 civil employed persons [2]	15.8	16.4	96.34
% of crop production in total value of production of the agricultural branch (2012) [2]	61.32	65.67	93.37
The mean of indicators in the fourth component (sub-index 4)			**SI_4 = 97.32**
The local competitiveness index – county Brăila			*ICL_{BR} = 97.68*

Note: [1] – variable calculated with the formula: X=100*(xi/Xi)/(pi/Pi); [2] – variable calculated with the formula: X=xi/Xi*100

Thus, we can affirm that industry and services were less present in the economy of county Brăila, affirmation sustained also by the low level of the turnover rate and of the exports' volume within the non-agricultural sector. With all this, the density of the local active units per 1,000 inhabitants and the value of the average net wage in county Brăila were getting near the value of those indicators at the region's level, the value of each of them being net superior to the mean of indicators in the second component. It can be said that in county Brăila the density of the local active units per 1,000 inhabitants and the net average wage were very near the level of those in the South-East Region, but the level of the turnover rate and the export of these units was not a satisfactory one.

As regards the economy of the agricultural sector, county Brăila was situating over the level of the South-East Region. In the case of these component the level of four indicators in the county Brăila was situating over the level of those in the South-East Region, which is: the turnover rate (county Brăila was with 91.65% more competitive than the region), the average size of the agricultural farm (county Brăila was with 60.12% more competitive than the region), the density of the local active units per 1,000 inhabitants (county Brăila was with 34.77% more competitive than the region) and the net average wage (county Brăila was with 4.62% more competitive than the region). Within the economy of the agricultural sector, the value of the exports of county was much under the average of the South-East Region.

The average size of the agricultural farms and the turnover rate in the agricultural sector lead to this big competitive advantage of county Brăila, comparatively to South-East Region.

As regards the component of specialization and innovation, county Brăila was with 2,.8% less competitive than the South-East Region. The indicator the share of employed population in the non-agricultural sector made that county Brăila be with 2.25% more competitive than the South-East Region. The county Brăila was with 3.66% less competitive as regards the salary workers in research-development-innovation (RDI) per 1,000 civil persons employed and with 6.63%

less competitive at share of crop production in total of production value of the agricultural branch opposed to South-East Region.

CONCLUSIONS

In year 2012 county Brăila was with 2.32% less competitive opposed to the development region it makes part of.

The agricultural sector was that which made the county Braila be more competitive than the South-East Region. The average size of the agricultural farm and the turnover rate in this sector made that county Brăila outperform the South-East Region from point of view of competitiveness, together with the density of the local active units per 1,000 inhabitants. Having in view the mentioned above issues it is more than obvious that the average net wage in the agricultural sector in county Brăila was bigger than in the South-East Region. To be mentioned is the fact that in county Brăila a special attention should be given to the exports of products in the agricultural sector.

The specialization and the innovation was the second asset of county Brăila as regards competitiveness towards the South-East Region. The share of the salary workers employed in the non-agricultural sectors of the county Brăila was superior to that of the South-East Region.

The human resource, human capital of county Braila was the third strong point in regard the county's competitiveness opposed to the development region it makes part of. Less representative for county Brăila were the non-agricultural sectors. Even if in county Brăila the density of the local active units per 1,000 inhabitants and the average net wage of the employees of these units were almost near the region's level, the turnover rate and the value of exports in these sectors were with 44.71% and respectively 42.4% smaller than those at the level of the South-East Region. It can be affirmed that the non-agricultural sectors of county Brăila were not competitive.

The agricultural sector was the one to grant it a net competitiveness advantage, the specialization and innovation and the human resource were the two components which situated county Brăila at a competitive level near to that in the South-East Region, while the non-agricultural sectors of the county Brăila were the least competitive.

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