REGIONAL COMPETITIVENESS: A KEY FACTOR FOR SUSTAINABLE ECONOMIC DEVELOPMENT IN ALBANIA

Gjokë ULDEDAJ, Edlir ORHANI, Maksim MEÇO

Qiriazi University College, Faculty of Economics, Business Management Department, Rruga Taulantët, Kodër-Kamëz, 1029 Tirana, Albania; E-mails: president@qiriazi.edu.al, edlir.orhani@qiriazi.edu.al, rector@qiriazi.edu.al

Corresponding author: president@qiriazi.edu.al

Abstract

This study describes the effects of regional competition in the Albanian economy during the period 2005-2020. The Albanian economy is faced with numerous problems mainly related to unemployment, lack of competition in the market, the low level of foreign direct investments (FDI), the increase in consumer prices, the immoderate level of productivity and other elements with impact on the country's economy. The purpose of this paper is to identify the comparative advantages of different regions in terms of the efficient use of production resources available to them, facing the pressure of domestic production competition from imported products. To test or even measure the effects of influencing factors on regional competitiveness, econometric modelling was used in this study. The regression model in this analysis has the following form: $Yt = \beta0 + \Sigma\beta iXit$, where: with Yt the real GDP rate (used as a proxy for regional competitiveness) is identified as appropriate, and with Xt the set of variables that explain regional competitiveness. The data used were provided by: INSTAT, statistical yearbooks in years; publications of the Bank of Albania in years, for period 2005-2021. From the final results, we note that all macroeconomic variables taken into consideration have been statistically significant in their impact on GDP and automatically on Regional Competitiveness. Also, their impact seems to have followed the same sign as the raised expectations.

Key words: *competitive advantage, investment, informality, sustainable development, regional competitiveness*

INTRODUCTION

For years, regional development has attracted the attention of scholars from various fields, such as economists, geographers, urban planners, sociologists, etc., developing a series of models to explain why regions differ so much in the level of development, and how they evolve over time. International organizations over the years have developed mechanisms for achieving harmonious regional development. In the context of Albania's aspiration for EU membership, the concepts of region and regional development, according to the European legislature, are important for the country. Reducing regional disparities and strengthening institutional capacity to achieve this, it is an obligation that arises for Albania in relations with the European Union under the Stabilisation and Association Agreement between the European Communities and their Member States, of the one part, and the Republic of Albania, of the other part (SAA, Art.110) [3].

It is important to note that the classification of regions in Albania is in full coherence with the Regulation (EC) no. 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the Establishment of a Common Classification of Territorial Units for Statistics (Nuts) [2].

Table 1. Definition of NUTS according to EU regulation

NUTS	Minimum number of inhabitants	Maximum number of inhabitants
NUTS 1	3,000,000	7,000,000
NUTS 2	800,000	3,000,000
NUTS 3	150,000	800,000

Source: Eurostat, 2021, Principles and characteristics, Principle 1: Population thresholds [5].

According to the DCM 1037(Decision of the Council of Ministers of Albania) [1] in 2010, Albania is classified in a NUTS 1 region, in three statistical regions NUTS II and in 12 statistical regions NUTS 3, which correspond to the level of counties.

The three statistical regions which correspond to NUTS II are: Northern Region which includes-Dibra, Durrës, Lezha and Shkodra; Central Region including Elbasan and Tirana; Southern region which includes - Berat, Fier, Gjirokastra and Vlora (DCM 1037, 2010) [1].

Based on the NUTS classification of the European Commission [4], the OECD has adopted the Regional Typology in order to provide a stable basis for the classification of the territory in the European Union (INSTAT, 2014) [8]. According to the classification of regions, the classification is based on three criteria (OECD, 2011) [13]:

(a) From the data studied for the mainly urban areas (PU), it is evident that the rural population living in these areas is less than 15%.

(b) For intermediate areas (IN), the rural population living in these areas ranges from 15% to 50% of the population of this area.

(c) while for the areas classified as mainly rural (PR), the typical rural population in these areas is greater than 50%.

The territorial division of Albania into: five regions, where we have a rural predominance; in five intermediate regions and in two predominantly urban regions.

- In the mainly rural regions, the fact that more than 50% of the population lives there, these regions are in the rural areas of municipalities that have less than 150 inhabitants per km2.

These municipalities occupy 45.8% of the territorial area of the country, representing about 23.1% of the Albanian population. The main representative districts of this region are: Dibra, Lezha, Gjirokastra, Kukësi, Korça.

-While in the intermediate regions, this figure ranges from 15% to 50% of the population living in the rural areas of the municipalities at the country level. These municipalities occupy about 45.8% of the territorial area of the country, where today about 42.1% of the population lives. in this category the representative regions are: Berat, Elbasan, Fier, Vlora, Shkodra.

- There are only two counties that have a pronounced urban predominance, which are Tirana and Durrës. In these two municipalities, which occupy only 8.4% of

the territorial area, live about 34.8% of the population at the country level. Based on the typology of the OECD, we can say that our study area, based on the number of population and the characteristics of the division in Albania, can be considered as intermediate, as it includes an area with urban predominance (PU), four areas of intermediate (IN), and only two areas with rural predominance (PR).

Also, to increase the level of competitiveness, it is necessary to integrate community-oriented policies with bottom-up policies and vice versa. Proper implementation of rural and urban policies means better coordination between public, private and civil society actors who need to contribute towards knowledge transfer and fostering innovation.

Based on the analysis of NUTS, the typology of the OECD and the characteristics that each of them represents, our analysis will be based on the NUTS II classification, as it will focus and apply national and regional policies towards the economic development of the country.

In order to anticipate all the opportunities for promoting competitiveness in the central and southern area of Albania, we will first make a detailed analysis of macroeconomic indicators, based on a series of indicators defined in advance by us.

Objective of study

Through this study it is intended to achieve a high level of theoretical and practical security in order to increase competitiveness in certain regions of the Albanian territory as one of the essential elements for the design and implementation of efficient economic policies.

The study is mainly focused on the exploitation of comparative advantages according to the evaluated regions and aims to analyse the issues related to the performance of the actors and factors included in this evaluation. The methodology used and conceived in this study is in function of the object and purpose addressed above.

MATERIALS AND METHODS

For the conduct of this study, a special place is occupied by the methodology used. Data

sources and their quality help in performing reliable and usable analysis for control or forecasting purposes. This study was conceived and passed through several stages:

Data selection: After reviewing the theoretical and empirical literature and the availability of data, a clearer idea has been created on the variables that should be taken into consideration for conducting the empirical analysis. At the macroeconomic level, the variables that will be worked are:

(1) Regional competitiveness, where the real rate of GDP is used as a proxy for regional competitiveness, based on several parallel studies with the same research focus [12, 14].

(2) Investments by region: The resources that determine the growth of technological processes are also determinants of regional competitiveness. Huovari et al. (2001) used investments and new patents as such determinants [7].

(3) Number of employees, as a result of new investments.

(4) Employment rate: The number of employees and the employment rate are variables that will determine aspects related to the labor market, which is certainly expected to correlate with regional competitiveness [6].

It is emphasized that the nature of the variables used in this study is only quantitative, these factors have influenced the selection of the econometric model that will be used.

Study area: In this study, we will consider he Central Region (Tirana, Elbasan) and the Southern Region (Fier, Gjirokastër, Berat, Vlorë, Korçë).

Data collection: For the study of the determining factors of regional competitiveness, the data on the variables were obtained from: INSTAT, statistical yearbooks [8, 9, 10, 11]; publications of the Bank of Albania in years, statistical register of enterprises 2016, yearbooks of the Ministry of Economy and Finance, yearbooks of the Ministry of Medicine and Social Protection. Due to the very nature of the study, no primary data obtained from questionnaires were used.

Data analysis: The statistical program SPSS version 21 and EViews were used for the descriptive and analytical analysis of the data. For the macroeconomic analysis, the variables are presented in the form of time series for a period of 17 years (2005 – 2021).

To test or even measure the effects of influencing factors on regional competitiveness, econometric modelling was used in this study. Empirical evaluation through econometric modelling is the basic approach used in the study.

The results of explaining regional competitiveness by variables that directly or indirectly affect, have been achieved through the use of regression models. The reason for using these models consists in reasoning that:

-In this study we are most interested in the relationship that exists between the number of employees, the level of investment and the employment rate, and regional competitiveness, in the face of other factors that affect the latter.

-The use of one-factor models generally eliminates the problems associated with multifactorial models (multicollinearity, heteroskedasticity).

-The amount of data available is limited. The time period covers 2005-2021, for most of the variables used in this analysis and the data are annual.

The regression model in this analysis has the following form:

$$Y_t = \beta_0 + \Sigma \beta_i X_{it} \quad ....(1)$$

where:

Y_t: the real GDP rate (used as a proxy for regional competitiveness) is identified as appropriate.

X_t: the set of variables that explain regional competitiveness.

On the other hand, econometric models have also been used to assess the direction of the relationship (cause-effect) between influencing factors and regional competitiveness. Simple regression analysis that deals with the dependence of one variable on one or more other explanatory variables does not prove the existence of causality or rather the direction of impact.

RESULTS AND DISCUSSIONS

Analytical results of the study

Pearson's correlation coefficients were used to test the multiple relationship between the variables. The analysis shows that some of the variables are statistically related to each other, positively or negatively (Table 2).

Table 2. Correlation matrix for all variables included in the model

		GDP	Employment	Investments	No of employees
GDP	Pearson Correlation	1	-.751	.893	.510
	Sig. (2-tailed)		**.064****	**.019****	**.026****
	N	17	17	17	17
Employment	Pearson Correlation	-.751	1	.425	-.151
	Sig. (2-tailed)	**.064****		.178	.562
	N	17	17	17	17
Investments	Pearson Correlation	.893	.425	1	-.138
	Sig. (2-tailed)	**.019****	.178		.597
	N	17	17	17	17
No of employees	Pearson Correlation	.510	-.151	-.138	1
	Sig. (2-tailed)	**.026****	.562	.597	
	N	17	17	17	17

Note:**. Correlation is significant at the 0.1 level (2-tailed).
Source: Own results based on the data from INSTAT [8, 9, 10, 11].

In Table 2, it can be seen that there are no strong relationships between the variables and the problem of multicollinearity is not essential in this case. The values of the correlation coefficient vary from 0.019, 0.026 and 0.064 respectively, which proves a very low correlation. As long as the results show that the independent variables show no sign of deep correlation between them, we keep them all in the model.

Table 3. Correlation matrix for all independent variables included in the model

		Employment	Investments	No of employees
Employment	Pearson Correlation	1	.425	-.151
	Sig. (2-tailed)		.178	.562
	N	17	17	17
Investments	Pearson Correlation	.425	1	-.138
	Sig. (2-tailed)	.178		.597
	N	17	17	17
No of employees	Pearson Correlation	-.151	-.138	1
	Sig. (2-tailed)	.562	.597	
	N	17	17	17

Note:**. Correlation is significant at the 0.1 level (2-tailed).
Source: Own results based on the data from INSTAT [8, 9, 10, 11].

Model selection: In the next step, we set the variables that showed the relationship with the dependent variable, regional competitiveness, the GDP proxy. According to the significance results presented in Table 4, the econometric tests of the model are done.
Study hypothesis: The determining factors in regional competition are the number of employees and the level of employment, as well as the investments made.

The results of the implemented ARMAX model are presented in Table 4.
From the results obtained, we see that all three factors introduced in the model have influence and significantly affect regional competitiveness (we note the p-values in the table).
We tested the same hypothesis using the simple OLS model, as showed in Table 5.

Table 4. Model 1: ARMAX, using observations 2005-2021 (T = 17)
Dependent variable: GDP

	Coefficient	Std. Error	Z	p-value	
const	96109.7	9991.98	9.619	0.0001	***
phi_1	0.0987751	0.306461	0.3223	0.7472	
theta_1	1.00000	0.181524	5.509	0.0001	***
Employment	−16565.8	2334.34	−7.097	**0.0001**	***
Investments	0.737460	0.101276	7.282	**0.0001**	***
No of employees	1606.63	460.796	3.487	**0.0005**	***

Mean dependent var	123359.5	S.D. dependent var	25299.83
Mean of innovations	−65.05405	S.D. of innovations	10601.49
Log-likelihood	−183.2300	Akaike criterion	380.4599
ASchwarz criterion	386.2924	Hannan-Quinn	381.0397

Source: Own results based on the data from INSTAT [8, 9, 10, 11]

Table 5. Model 2: OLS, using observations 2005-2021 (T = 17)
Dependent variable: GDP

	Coefficient	Std. Error	t-ratio	p-value	
Employment	−8737.84	4374.52	−1.997	**0.0656**	*
Investments	0.689992	0.186698	3.696	**0.0024**	***
No of employees	4794.69	602.145	7.963	**0.0001**	***
Mean dependent var	123359.5		S.D. dependent var	25299.83
Sum squared resid	7.30e+09		S.E. of regression	22839.25
R-squared	0.972846		Centred R-squared	0.286923
F(3, 14)	167.1916		P-value(F)	3.38e-11
Log-likelihood	−193.0876		Akaike criterion	392.1753
Schwarz criterion	394.6749		Hannan-Quinn	392.4237
Rho	−0.258620		Durbin-Watson	2.264331

Source: Own results based on the data from INSTAT [8, 9, 10, 11].

We note that even with the second model used, the factors introduced in the model have influence and significantly affect regional competitiveness.

The work factor is significant for safety up to 94%, however, this conclusion cannot minimize the impact of this factor on the variable focused in this study, regional competitiveness (we note the p-values in the table).

From the final results, we note that all macroeconomic variables taken into consideration have been statistically significant in their impact on GDP and automatically on Regional Competitiveness. Also, their impact seems to have followed the same sign as the raised expectations.

Heteroskedasticity Test

Heteroskedasticity, otherwise known as non-constant variance of the regression error term, is another very important assumption, the presence of which does not allow us to obtain BLUE parameters.

H: Error terms do not have the same variance (heteroscedasticity)

White and Breusch – Pagan tests were used to test heteroskedasticity. In both cases, coefficient values and p-values were obtained which are statistically insignificant.

This means that we cannot reject the hypothesis of homoscedasticity by concluding that the error terms have the same variance. The assumption of homoscedasticity is met, and the parameters estimated by the Least Squares Method are BLUE.

White's test for heteroscedasticity

Table 6. OLS, using observations 2005-2021 (T = 17)
Dependent variable: GDP

	coefficient	std. error	t-ratio	p-value
const	3.34156e+09	3.55073e+09	0.9411	0.3780
Employment	−8.53835e+08	1.50649e+09	−0.5668	0.5886
Investments	45621.0	103182	0.4421	0.6717
No of employees	−2.96033e+08	2.63941e+08	−1.122	0.2990
sq_ Employment	−7.51061e+06	1.45250e+08	−0.05171	0.9602
X2_X3	−3878.83	9722.26	−0.3990	0.7018
X2_X4	7.45150e+07	6.77132e+07	1.100	0.3075
sq_ Investments	0.102921	0.133850	0.7689	0.4671
X3_X4	−3039.66	4140.55	−0.7341	0.4867
sq_No of employees	6.01456e+06	5.42119e+06	1.109	0.3039

Unadjusted R-squared = 0.359843,   Test statistic: TR^2 = 6.117329,

With p-value = P (Chi-square(9) > 6.117329) = 0.728121

Source: Own results based on the data from INSTAT [8, 9, 10, 11].

Table 7. Frequency distribution for dependent variable: GDP
obs 1-17number of bins = 7, mean = 2676.23, sd = 22648.1

	Interval	midpt	frequency	rel.	Cul.
	< -30219	-36116	1	5.88%	5.88% **
-30219 -	-18427	-24323	1	5.88%	11.76% **
-18427 -	-6634.2	-12530	7	41.18%	52.94% **************
-6634.2 -	5158.4	-737.9	1	5.88%	58.82% **
5158.4 -	16951	11055	1	5.88%	64.71% **
16951. -	28744	22847	4	23.53%	88.24% ********
	>= 28744	34640	2	11.76%	100.00% ****

Source: Own results based on the data from INSTAT [8, 9, 10, 11].

Test for null hypothesis of normal distribution:

Chi-square (2) = 0.700 With p-value 0.70456

In both cases, coefficient values and p-values were obtained which are statistically insignificant. This means that we cannot reject the hypothesis of homoscedasticity by concluding that the error terms have the same variance. The assumption of homoscedasticity is met, and the parameters estimated by the Least Squares Method are BLUE.

CONCLUSIONS

The concept of competitiveness is quite broad and serves as one of the essential elements for the design, implementation of economic policies of a country. This concept plays a major role in the sustainable growth of well-being, prosperity of the population over long periods of time. The analysis of the indicators used in this study to assess regional competitiveness in the central and southern areas of Albania help us to reach the following conclusions

-At the level of gross domestic product by central and southern regions, the difference between them is noticeable. To assess the causes that have influenced these results it is necessary to analyze all the elements that affect the gross product of a region.

-The economy in the central area is growing much faster than in the southern area. Agriculture and fishing are exceptions as in the south we have two regions with rural predominance, Gjirokastra and Korça, which are known for the development of their agricultural activity (as orchards, vegetables and livestock). The southern area also consists of coastal cities, where part of the population considers fishing as a basic economic activity.

-The central region, consisting of Tirana and Elbasan counties, has a continuous population growth. Internal migration in Albania is mostly synonymous with urbanization. Most people who have changed their place of

residence in the last two decades have moved to urban centers, which in most cases include the capital, Tirana, or the surrounding areas. In contrast, we note that the population level over the years in the southern region tends to decline steadily. On 1 January 2019, Gjirokastra region presented the lowest percentage of population, occupying 2.1% of it [9].

-The dynamics of gross domestic production in the central region has resulted in an upward trend and in parallel with population growth as well. Population growth in the central region is also a result of internal migration in pursuit of higher incomes enabled by the highest active enterprises in the country. As a result, the average per capita income has not decreased as the migrant population is able to work and integrates immediately into the labour market.

-We do not find the same in the southern region where although the population has shrunk mainly from the migration of active labour and we could suspect a decrease in per capita income, there is an increase in gross per capita income which is explained only by the realization of the gross product from the strategic investments of central or local governments.

-Based on the data published by [10], it results that Tirana has the lowest unemployment rate in the region although it has the highest population. Gjirokastra region results in the highest level of unemployment and the highest level of migration. This means that in this region there is an urgent need for incentive policies towards the efficient use of natural and human resources through a new economic model. We notice the increasing trend of the total number of employees in the central region. Even in this influential factor of this growing trend is undoubtedly the region of Tirana. Tirana is the only region in which the working age population can increase.

- In an analytical way, it is found that employment in the public sector, at both the local and central levels, has a downward trend, but is generally constant. Funding sources for public administration are more sustainable to create new jobs. While in the private sector, both in the field of agriculture and in other sectors, we have an increasing trend, dominating the non-agricultural sector.

In the southern region, employment is in a constant trend stabilized in recent periods. This trend also identifies the markets that provide employment in this region, where the private agricultural sector predominates, followed by the non-agricultural one, and finally the public administration of central and local government. Employment in the private sector (agricultural and non-agricultural) turns out to be the sector that affects the number of employees and the dynamics in this market. We note that the stabilization of employment in this region is created by the dynamics of this sector, where the reduction of employment in the agricultural market is associated with non-agricultural. This dynamic reflects the interest in the amount of income that these two sectors have, because the non-agricultural sector provides higher and more secure income than in the agricultural sector.

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