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**EVALUATION OF THE EFFECTIVENESS OF THE ACTIVITY OF ACTIVE ECONOMIC ENTERPRISES WITH AN IMPACT ON THE PROGRESS OF ECONOMIC AND SOCIAL DEVELOPMENT IN ALBANIA USING THE DEA METHOD****Abstract:**

The aim of this study is to evaluate the efficiency of the productivity of the active enterprises that operate with their influence on the dynamics of the economic and social development processes on a county and regional basis. The performance evaluation aims to investigate their contribution to mitigating negative social aspects such as migration (net internal migration and external migration) with an impact on GDP growth, etc. The trend of displacement in large urban centers and departures from the country requires a special study evaluation. The study pertains to the period 2017-2021, which includes some variable factor sizes such as the number of economic enterprises per 1000 inhabitants that operate according to the economic structure, the rate of internal and external migration, the nominal GDP growth (in %) on a county basis and the region. The analysis based on counties and regions evaluates the efficiency and operational development potential of active enterprises classified according to the branches of their operating economic structure such as agriculture, industry and services. The conclusions found contribute to the improvement and the visions of the further expansion of the value capacity of economic enterprises, the need to expand classified micro, small and medium enterprises that enable greater employment, but also with premises for large operational enterprises. business. This study is also an alternative for more in-depth managerial studies on the role and impact of active enterprises and for the support they need in investments and the application of new technologies.

**Keywords:**

active enterprise, DEA method, rate of internal migration and external migration, county, region

## Introduction

The Albanian economy, like other former communist countries, moved from a centralized economy to a market economy after 1990-1991. The phenomenon of transition is related to a radical economic and political transformation and in the mentality of the understanding and application of the necessary reforms. The influence of the features with distinct features and between different countries as well as in the competition between them is included in facing the challenges and ambiguities which can be the best solution in economic development and progress. Lack of experience, unlike other ex-communist countries in which some trends of the market economy were stimulated, the transition in Albania is more prolonged. Agricultural cooperatives in the centralized system in Albania comprised 75% of the total agricultural economies (state farms plus cooperatives), which even after their collapse (along with other privatizations) and the creation of agricultural microfarms, these microfarms had approximately only 1.2 -1.3 ha each [1]. Here it can be said that the active property market was also missing, which was not a small blocking obstacle for agricultural modernization and the creation of expanded business enterprises, so Albania can be considered as an economy with a difficult transition [2]. Small and medium-sized enterprises have a central role in the national economy of each country with a great impact on the employment market in the private sector, contribute to reducing poverty and increasing national income as well as the level of well-being. Small and medium-sized enterprises express their flexibility to acclimatize more quickly to the fierce competition that is not missing in the free market. Creating jobs from MSMEs (Micro, small and medium enterprises) has a lower capital cost. The structure of the composition of MSMEs has a significant impact on the competitive conditions of the economy as a whole, but also on mitigating the level of migration (internal and external migration). In the world experience and in the economic literature, MSMEs are given a special attention and care[6],[7]. The Department of Economy and Social Affairs of the United Nations [3] emphasizes that the composition of MSMEs helps to reduce the level of poverty through the creation of employment and economic growth, there it is emphasized that it is the key to the direction of employment, decent jobs with more favorable conditions and for the employment of women. The International Labor Organization [4] also emphasizes that MSMEs are central to the good promotion of work, economic growth and social justice, against the triple challenge of low productivity, working conditions of poverty and high vulnerability of the economy. The employment of women and young people is emphasized, where their activity is often unprotected in the face of increased conditions. 70% of world employment is from MSMEs. In emerging markets, 60% of small businesses now have an impact on climate change. MSMEs generate a significant increase in the value of GDP. [5] presents the aim of studying the tripartite relationship between human capital, labor markets and migration, where it can be determined how the impact of the labor market on migration currently works in each country. Many authors have paid attention to the phenomenon of immigration, which seems to be noticeable in recent decades, seeing it in terms of economic development [8], [9], [10], [11]. Migration during the last three decades in the countries of the Western Balkans has been a dynamic process. The labor market in Albania needs deep structural changes, as the unemployment rate is high, especially the unemployment rate of young people (15-29) years old. This is related to the lack of satisfactory and qualified jobs, low wages, job insecurity, etc. The World Bank (2016) places Albania and the other two countries of the Western Balkans, Bosnia-Herzegovina and Montenegro, in the first 20 countries for the relatively high rate of migration. Seeing it as a wound of the Albanian economy, the Albanian government has defined the document "National strategy for the administration of migration 2019-2022" in

cooperation with the IOM. Based on the stated aim of this study, the following hypotheses were defined:

H1: The influence of the structure of the composition of active economic enterprises with the tendencies for the production of material goods and for the production of services is visible in the development of the economic and social growth of the district and the region.

H2: The influence of the scale of the size of the composition of enterprises per 1000 inhabitants affects the mitigation of migration (internal migration and external migration).

H3: The impact of the composition of active enterprises in accordance with the features of demographic expansion is distinct to urban and environmental trends.

H4: The impact of the composition of active economic enterprises, related to joint Albanian and foreign ownership, promotes the growth of gross added value in the economy on a district and regional basis.

## Methodology

In order to evaluate the hypotheses and aim of the study, the following factors of variable sizes were selected, in addition to the data obtained from the regional statistical years, and further processed on a district and region basis, determining (estimated for each year of the period 2017 -2021):

- Coefficient of active economic enterprises per 1000 inhabitants
- Coefficient of active economic enterprises of producers of material goods
- Coefficient of active economic enterprises of service producers
- Nominal growth of GDP at current prices
- Net internal migration rate per 1000 inhabitants
- The rate of population change (external migration) by district and region.

Correlative relationships between variable factors were also evaluated in the study.

In this paper, the Data Envelopment Analysis (DEA) method is used. The DEA method is a non-statistical linear programming method [12], [13]. Both basic models of the DEA method are used, the CCR model and the VRS model, where the relative technical efficiencies of the decision-making units (DMU) are evaluated.

### CRS model:

min  $\theta$

$$\text{S.t } \sum_{j=1}^n \lambda_j x_{ij} \leq \theta x_{io}, \quad i = 1, 2, \dots, m;$$

$$\sum_{j=1}^n \lambda_j y_{rj} \geq y_{ro}, \quad r = 1, 2, \dots, s;$$

$$\lambda_j \geq 0, \quad j=1, 2, \dots, n$$

### VRS model:

min  $\theta$

$$\text{S.t } \sum_{j=1}^n \lambda_j x_{ij} \leq \theta x_{io} \quad i = 1, 2, \dots, m;$$

$$\sum_{j=1}^n \lambda_j y_{rj} \geq y_{ro} \quad r = 1, 2, \dots, s;$$

$$\sum_{j=1}^n \lambda_j = 1$$

$$\lambda_j \geq 0 \quad j=1,2,\dots,n$$

For two variable quantities (which will be used as outputs): the rate of net internal migration per 1000 inhabitants and the rate of population change (external migration) based on the district and region, which have negative values (which can be evaluated unwanted outputs), based on the DEA method, are transformed into variable quantities to have positive values by adding the highest absolute value of the negative number plus 1 to the corresponding column. After evaluating the relative technical efficiencies CRS and VRS, the scale efficiency for each DMUs is also evaluated. This makes it possible to better justify the inefficiency assessment for each DMU as the case may be, if: a)  $CRS < 1$  and  $VRS < 1$ , but  $SE < VRS$  the inefficiency is a consequence of the managerial inefficiency of the DMUs themselves; b) if  $CRS < 1$ ,  $VRS = 1$  and  $SE < VRS$  the reason is scale inefficiency; c)  $CRS < 1$ ,  $VRS < 1$  and  $SE > VRS$  the reason is managerial inefficiency and unfavorable conditions [14]. For the evaluation of the relative technical efficiency as a period and the determination of the ranking, the average of the harmonic efficiency is calculated. With the DEA method, the "weight" of the influence (%) of each variable factor is determined, both for inputs and for outputs for each DMU, for each region and in the overall assessment using the formulas  $gEf_0(I_i) = \frac{Ef_0(I_i)}{\sum_{i=1}^m Ef_0(I_i)}$  for each input and  $gEf_0(O_r) = \frac{Ef_0(O_r)}{\sum_{r=1}^s Ef_0(O_r)}$  for each output [15]. This allows for a more detailed analysis of the impact assessment and the role of each variable factor in the performance assessment. Taking into account the "rule" of the DEA method that the total number of DMUs is greater than or equal to 3 times the number of the sum of input plus output, the two corresponding groups (3x2) were built.

### Numerical application

Based on the territorial division based on counties and regions, Albania has 12 counties and 3 regions. The regions have been defined according to the recommendations of the EU and by the decision of the Council of Ministers, which are: the first region (AL<sub>01</sub>, the northern region) which includes 5 counties which are AL<sub>011</sub> (Diber), AL<sub>012</sub> (Durrës), AL<sub>013</sub> (Kukës), AL<sub>014</sub> (Lezhë), AL<sub>015</sub> (Shkoder); the second region (AL<sub>02</sub>, central region) includes two counties AL<sub>021</sub> (Elbasan), AL<sub>022</sub> (Tiranë) and the third region (AL<sub>03</sub>, southern region) includes 5 counties which are AL<sub>031</sub> (Berat), AL<sub>032</sub> (Fier), AL<sub>033</sub> (Gjirokastër), AL<sub>034</sub> (Korçë), AL<sub>035</sub> (Vlorë). For the year 2021, the AL<sub>01</sub> region includes 28.1% of the population, the AL<sub>02</sub> region includes 41.9% of the population, and the AL<sub>03</sub> region includes 30% of the population. Based on the objectives of the study, these variable factors were selected as Inputs:

X<sub>1</sub> - The calculated coefficient of active economic enterprises per 1000 inhabitants for each district and region; X<sub>2</sub> - The calculated coefficient of active economic enterprises of producers of material goods per 1000 inhabitants, X<sub>3</sub> - Calculated coefficient of active economic enterprises producing services per 1000 inhabitants, as output: Y<sub>1</sub> - Nominal growth of GDP at current prices (in %) for each district and region, Y<sub>2</sub> - Net internal migration rate per 1000 inhabitants for each district and region, Y<sub>3</sub> - The rate of population change (external migration) in percentage. The data are taken from regional statistical yearbooks [16], [17], [18], [19], [20], [21]. Table 1 and Table 2 are the values of the variable sizes based on the county and region for the period 2017-2021.

Table 1: Data for variable size X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, Y<sub>1</sub>, Y<sub>2</sub>

DMU	X <sub>1</sub>			X <sub>2</sub>			X <sub>3</sub>			Y <sub>1</sub>			Y <sub>2</sub>		
	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max
<b>AL<sub>01</sub></b>	41.5	43.0	46.6	12.6	15.0	19.4	26.9	28.0	27.3	-4.3	2.1	11.2	-7.7	-4.1	-2.1
AL <sub>011</sub>	23.6	26.9	35.5	7.3	11.1	19.7	15.4	15.8	16.3	-6	2.0	11.4	-49.4	-26.7	-13.6
AL <sub>012</sub>	43	44.3	45.4	8.6	9.6	11.6	33.5	34.7	36.5	-4.6	5.4	14.1	2.8	9.6	16.1
AL <sub>013</sub>	24.8	27.9	33.5	10.2	13.7	19	13.9	14.2	14.6	-2.1	2.7	6.8	-30.6	-18.1	-8.8
AL <sub>014</sub>	41.7	43.3	46.6	11.6	13.9	17.2	28.3	29.4	30.2	-6	1.5	9.5	-11.1	-6.0	-2.3
AL <sub>015</sub>	54.6	56.2	59.8	22.8	26.5	32.2	27.5	29.8	33.4	-4.7	2.8	11.2	-7.1	-4.5	-2.3
<b>AL<sub>02</sub></b>	57.2	58.5	61.4	11.7	14.7	22.1	36.4	43.8	46.6	-6.7	3.2	13.7	4.1	8.6	15.3
AL <sub>021</sub>	46.9	50.8	57.5	19.9	25.4	32.8	24.7	25.5	27.1	0.8	3.8	10.8	-14.1	-8.0	-4.6
AL <sub>022</sub>	59.5	60.9	62.5	8.3	11.6	22.8	39.4	49.3	52.8	-2.2	6.7	14.7	6.7	13.7	23.7
<b>AL<sub>03</sub></b>	67.2	73.5	85.9	33.4	41.5	54.6	31.1	32.0	33.8	-1.7	3.3	10	-13.7	-8.0	-3.7
AL <sub>031</sub>	67.6	76.5	90.1	38.1	47.7	61.7	28.4	28.8	29.5	-1.1	1.8	7.5	-26.5	-15.5	-7.8
AL <sub>032</sub>	69.3	78.6	92.2	38.1	48.9	63.5	28.7	29.7	31.2	-4.5	4.4	12	-10.3	-5.5	-2.8
AL <sub>033</sub>	75.2	81.4	94.7	36.4	44.2	57.9	36.3	37.2	38.8	-2.4	2.4	6.8	-44.4	-23.8	-9.1
AL <sub>034</sub>	65.1	72.1	88.6	36.7	44.8	62.1	26.5	27.3	28.4	-2.2	2.3	8.8	-14.3	-8.1	-3.7
AL <sub>035</sub>	59.7	62.9	68	18	21.6	27.7	39	41.2	45.2	-0.4	4.0	12.9	-7.8	-1.9	0.3

Table 2: Data for variable Y3 (Rate of population change in percentage)

DMU	2017/2016	2018/2017	2019/2018	2020/2019	2021/2020	2021/2017
<b>AL<sub>01</sub></b>	<b>-3.00</b>	<b>-0.81</b>	<b>-0.93</b>	<b>-0.99</b>	<b>-1.31</b>	<b>-4.10</b>
AL <sub>011</sub>	-8.82	-2.77	-2.18	-2.29	-2.81	-10.44
AL <sub>012</sub>	2.94	0.91	0.18	0.33	0.11	1.53
AL <sub>013</sub>	-7.08	-1.93	-1.29	-1.47	-1.81	-6.66
AL <sub>014</sub>	-6.02	-1.52	-1.65	-1.86	-2.28	-7.51
AL <sub>015</sub>	-4.37	-1.23	-1.24	-1.44	-1.79	-5.83
<b>AL<sub>02</sub></b>	<b>3.79</b>	<b>1.03</b>	<b>0.58</b>	<b>0.35</b>	<b>0.10</b>	<b>2.05</b>
AL <sub>021</sub>	-6.30	-1.60	-1.55	-1.63	-2.09	-7.05
AL <sub>022</sub>	7.04	1.85	1.23	0.94	0.73	4.66
<b>AL<sub>03</sub></b>	<b>-3.53</b>	<b>-1.41</b>	<b>-1.32</b>	<b>-1.47</b>	<b>-2.02</b>	<b>-6.36</b>
AL <sub>031</sub>	-7.81	-2.69	-2.20	-2.36	-2.97	-10.61
AL <sub>032</sub>	-4.04	-1.31	-1.41	-1.52	-2.03	-6.42
AL <sub>033</sub>	-9.12	-3.64	-2.96	-2.89	-3.62	-13.77
AL <sub>034</sub>	-4.46	-1.54	-1.30	-1.40	-1.88	-6.26
AL <sub>035</sub>	3.14	0.14	-0.10	-0.43	-1.06	-1.46

Correlative relationships were also evaluated for the values of variable quantities, which can be mentioned  $\rho(Y_1, Y_2)=0.71$ ,  $\rho(Y_1, Y_3)= 0.74$  dhe  $\rho(Y_2, Y_3) = 0.93$ , which shows an obvious correlative relationship between nominal GDP growth and internal and external migration rates as well as between the two migrations together. Correlative relationships between inputs and outputs are also visible, for example  $\rho(X_3, Y_1)= 0.58$ ,  $\rho(X_3, Y_2)= 0.72$ ,  $\rho(X_3, Y_3)= 0.63$ , while  $\rho(X_2, Y_3)= -0.54$ .

Taking into account the objectives of the study of the impact of active economic enterprises on net internal immigration and on external immigration, as well as the rule of application of the DEA method, where the number of DMUs must be greater than 3 times of the input output amount, two groups are used, respectively:

Group A-  $(X_1, X_2, X_3) \times (Y_1, Y_2)$ ; Group B-  $(X_1, X_2, X_3) \times (Y_1, Y_3)$ .

For each grouping, the harmonic average of the relative technical efficiencies is evaluated. The conclusions obtained according to each grouping of the evaluation of relative technical efficiencies for each year of the period are given in the following tables.

In the group A model (Table 3 and Table 4) the average value of the harmonic efficiency is 0.734465. By classifying the efficiency values into four groups (quartiles), the first quartile  $Q_1$  [0.32678 ; 0.530623] belongs to the "Very weak" evaluation, the second quarter belongs to the "weak"  $Q_2$  (0.530623 ; 0.734465], the third quartet belongs to "average"  $Q_3$  (0.734465; 0.867233] and the fourth quartile  $Q_4$  (0.867233; 1], in which the decision-making units rated "good and very good" are evaluated, it is noted that the decision-making units rated very weak are  $AL_{033}$ ,  $AL_{011}$ ,  $AL_{031}$  and the weak ones are  $AL_{03}$  dhe  $AL_{014}$  and the decision-making units rated well and very well are  $AL_{022}$ ,  $AL_{012}$ ,  $AL_{013}$  and  $AL_{02}$ .

Table 3: Values of relative technical efficiency according to years of the impact of variable sizes (per 1000 inhabitants) of the number of active enterprises in the economic structure to the nominal GDP growth (%) and net internal migration.

DMU	2017		2018		2019		2020		2021	
	$Ef^{CRS}$	$Ef^{VRS} \begin{pmatrix} > \\ = \\ < \end{pmatrix} SE$	$Ef^{CRS}$	$Ef^{VRS} \begin{pmatrix} > \\ = \\ < \end{pmatrix} SE$	$Ef^{CRS}$	$Ef^{VRS} \begin{pmatrix} > \\ = \\ < \end{pmatrix} SE$	$Ef^{CRS}$	$Ef^{VRS} \begin{pmatrix} > \\ = \\ < \end{pmatrix} SE$	$Ef^{CRS}$	$Ef^{VRS} \begin{pmatrix} > \\ = \\ < \end{pmatrix} SE$
<b>AL<sub>01</sub></b>	<b>0.736</b>	<b>0.867&gt;0.849</b>	<b>0.877</b>	<b>0.879&lt;0.997</b>	<b>0.820</b>	<b>0.908&gt;0.903</b>	<b>0.790</b>	<b>0.867&lt;0.911</b>	<b>0.911</b>	<b>0.921&lt;0.989</b>
AL <sub>011</sub>	0.849	1.000>0.849	1.000	1.000=1.000	0.275	1.000>0.275	0.212	1.000>0.212	1.000	1.000=1.000
AL <sub>012</sub>	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000
AL <sub>013</sub>	1.000	1.000=1.000	1.000	1.000=1.000	0.731	1.000>0.731	1.000	1.000=1.000	0.945	1.000>0.945
AL <sub>014</sub>	0.657	0.809<0.812	0.835	0.866<0.963	1.000	1.000=1.000	0.562	0.781>0.719	0.740	0.862>0.858
AL <sub>015</sub>	0.619	0.745<0.831	0.838	0.843<0.995	0.802	0.890<0.901	0.668	0.779<0.857	0.905	0.915<0.988
<b>AL<sub>02</sub></b>	<b>0.926</b>	<b>0.946&lt;0.979</b>	<b>0.945</b>	<b>0.980&gt;0.964</b>	<b>0.774</b>	<b>0.811&lt;0.954</b>	<b>0.995</b>	<b>1.000&gt;0.995</b>	<b>0.761</b>	<b>0.769&lt;0.990</b>
AL <sub>021</sub>	0.702	0.846>0.829	0.840	0.845<0.995	0.764	0.892>0.856	0.972	1.000>0.972	0.925	0.937<0.987
AL <sub>022</sub>	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000
<b>AL<sub>03</sub></b>	<b>0.513</b>	<b>0.653&lt;0.785</b>	<b>0.602</b>	<b>0.608&lt;0.990</b>	<b>0.728</b>	<b>0.805&lt;0.905</b>	<b>0.723</b>	<b>0.727&lt;0.994</b>	<b>0.699</b>	<b>0.712&lt;0.981</b>
AL <sub>031</sub>	0.505	0.533<0.949	0.477	0.544<0.875	0.470	0.583<0.805	0.650	0.661<0.984	0.551	0.576<0.956
AL <sub>032</sub>	0.655	0.787<0.833	0.855	1.000>0.855	1.000	1.000=1.000	0.700	0.786<0.890	0.882	0.887<0.994
AL <sub>033</sub>	0.252	0.376<0.669	0.246	0.374<0.659	0.703	0.738<0.954	0.417	0.456<0.915	0.290	0.394<0.736
AL <sub>034</sub>	0.552	0.746>0.740	0.816	0.830<0.982	0.848	0.933>0.908	0.816	0.817<0.999	0.757	0.808<0.937
AL <sub>035</sub>	0.539	0.610<0.883	0.512	0.535<0.957	0.690	0.717<0.962	0.791	1.000>0.791	0.714	0.715<0.997

Table 4. The harmonic mean of relative technical efficiencies according to group A model

DMU	Harmonic mean for $E_f^{CCR}$
AL01	0.82196
AL011	0.43410
AL012	1.00000
AL013	0.92159
AL014	0.72984
AL015	0.75106
AL02	0.86977
AL021	0.82849
AL022	1.00000
AL03	0.64102
AL031	0.52311
AL032	0.79886
AL033	0.32678
AL034	0.73943
AL035	0.63097

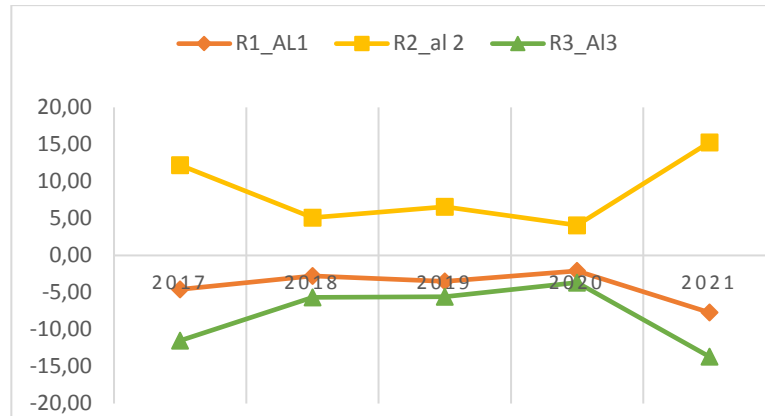


Fig 1. The rate of net internal migration per 1000 inhabitants by region

For the weak and very weak evaluated units, there are units that have economically active enterprises that belong to the group 1-4 workers, which are above the general average of the value of enterprises that employ from 1 to 4 workers on a national scale. At the same time, these decision-making units have a higher net internal migration rate than the general average of the country. Also, these have the lowest value of the nominal GDP growth percentage from the average value. These show that the effectiveness of active economic enterprises is weak. These should expand the number of enterprises that employ more than four workers, especially enterprises that employ more than ten workers. This is argued by looking at the enterprises evaluated good and very good, thus for the decision-making unit AL<sub>021</sub> the enterprises that employ from 1 to 4 workers make up 83.96% of 89.86% which is the average value and the enterprises that employ from 5 to 9 workers in this decision-making unit 7.99% of the total from 4.91% which is the average value. This can also be argued for decision-making units AL<sub>012</sub> and AL<sub>02</sub>. Fig.1 shows the rate of internal migration for each region, where the second region has the rate of net internal migration with positive values, which also shows the demographic trend of population displacement in the most populated urban areas. Also, from Table 3, it is found that among the evaluated units, very weak ones such as AL<sub>033</sub>, AL<sub>031</sub> their inefficiency is managerial inefficiency, since the scale efficiency (SE) is greater than the VRS efficiency, the same can be said for inefficient units that have scale efficiency greater than  $E_f^{VRS}$ , while for units that have scale efficiency lower than VRS efficiency, their inefficiency is a consequence of managerial inefficiency and in unfavorable competitive conditions.

Table 5. Values of relative technical efficiency according to the years of the influence of variable sizes (per 1000 inhabitants) of the number of active enterprises in the economic structure in relation to nominal GDP growth (%) and external migration.

DMU	2017		2018		2019		2020		2021	
	$Ef^{CRS}$	$Ef^{VRS} \begin{pmatrix} > \\ = \\ < \end{pmatrix} SE$	$Ef^{CRS}$	$Ef^{VRS} \begin{pmatrix} > \\ = \\ < \end{pmatrix} SE$	$Ef^{CRS}$	$Ef^{VRS} \begin{pmatrix} > \\ = \\ < \end{pmatrix} SE$	$Ef^{CRS}$	$Ef^{VRS} \begin{pmatrix} > \\ = \\ < \end{pmatrix} SE$	$Ef^{CRS}$	$Ef^{VRS} \begin{pmatrix} > \\ = \\ < \end{pmatrix} SE$
<b>AL<sub>01</sub></b>	<b>0.599</b>	<b>0.789&gt;0.760</b>	<b>0.784</b>	<b>0.785&lt;0.999</b>	<b>0.844</b>	<b>0.893&lt;0.946</b>	<b>0.753</b>	<b>0.788&lt;0.955</b>	<b>0.840</b>	<b>0.842&lt;0.998</b>
AL <sub>011</sub>	0.849	1.000>0.849	1.000	1.000=1.000	0.735	1.000>0.735	0.682	1.000>0.682	1.000	1.000=1.000
AL <sub>012</sub>	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000
AL <sub>013</sub>	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000
AL <sub>014</sub>	0.408	0.681>0.599	0.620	0.716<0.866	1.000	1.000=1.000	0.508	0.701<0.725	0.650	0.862>0.754
AL <sub>015</sub>	0.442	0.580<0.761	0.575	0.619<0.929	0.782	0.845<0.926	0.526	0.528<0.996	0.692	0.746<0.927
<b>AL<sub>02</sub></b>	<b>0.877</b>	<b>0.926&lt;0.948</b>	<b>0.888</b>	<b>0.948&gt;0.938</b>	<b>0.824</b>	<b>0.901&lt;0.914</b>	<b>0.966</b>	<b>1.000&gt;0.966</b>	<b>0.757</b>	<b>0.769&lt;0.985</b>
AL <sub>021</sub>	0.495	0.590<0.839	0.609	0.640<0.952	0.752	0.846<0.888	0.698	1.000>0.698	0.705	0.753<0.936
AL <sub>022</sub>	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000	1.000	1.000=1.000
<b>AL<sub>03</sub></b>	<b>0.477</b>	<b>0.616&lt;0.774</b>	<b>0.512</b>	<b>0.550&lt;0.931</b>	<b>0.750</b>	<b>0.790&lt;0.949</b>	<b>0.452</b>	<b>0.453&lt;0.997</b>	<b>0.540</b>	<b>0.570&lt;0.946</b>
AL <sub>031</sub>	0.468	0.495<0.945	0.346	0.481<0.721	0.401	0.552<0.725	0.533	0.636<0.838	0.417	0.519<0.803
AL <sub>032</sub>	0.529	0.639<0.828	0.589	1.000>0.589	1.000	1.000=1.000	0.477	0.486<0.981	0.651	0.714<0.912
AL <sub>033</sub>	0.252	0.376<0.669	0.246	0.374<0.659	0.703	0.738<0.954	0.282	0.386<0.731	0.258	0.394<0.654
AL <sub>034</sub>	0.458	0.677=0.677	0.581	0.615<0.945	0.870	0.905<0.961	0.538	0.552<0.975	0.610	0.637<0.958
AL <sub>035</sub>	0.743	0.770<0.966	0.668	0.805<0.830	0.661	0.768<0.860	0.702	1.000>0.702	0.637	0.658<0.968

Table 6. The harmonic mean of Relative technical efficiencies according to group B

DMU	Harmonic mean for $Ef^{CCR}$
AL01	0.75242
AL011	0.83265
AL012	1.00000
AL013	1.00000
AL014	0.58317
AL015	0.57970
AL02	0.85693
AL021	0.63751
AL022	1.00000
AL03	0.52913
AL031	0.42395
AL032	0.60801
AL033	0.29624
AL034	0.58463
AL035	0.68029

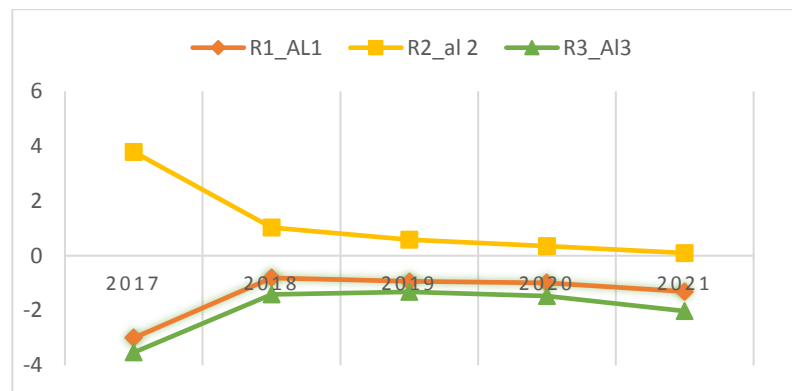


Fig.2 Coefficient of population change according to regions (external migration in %)

In the group B model (Table 5 and Table 6) the average value of the harmonic efficiency is 0.690975. Dividing into quartiles for the assessment "very weak", "weak", "average" and "good and very good" we find that in the first quartile  $Q_1$ [0.29624; 0.493608] the evaluated units very weak are AL<sub>033</sub>, AL<sub>031</sub> and in the second quartile  $Q_2$ (0.493608; 0.690975] the evaluated "weak" units



are 7 decision-making units, while the quartile  $Q_3(0.690975; 0.845488]$  there are two decision-making units  $AL_{01}$ ,  $AL_{011}$ , in the quartile  $Q_4(0.845488; 1]$  in which "good" and "very good" decision-making units are evaluated, there are four decision-making units. The decision-making units rated very weak are the same decision-making units as in group A, where the same argumentation that was presented above can be said. Here too, looking at Table 5, it is found that both decision-making units evaluated as "very weak" have the scale efficiency greater than the VRS efficiency, so it can be said that their inefficiency is caused by managerial inefficiency. The weight of the impact of each variable size related to the efficiency value evaluated in percentage for each DMU<sub>s</sub> for both groups are given in Table 7.

Table 7: The weight of the impact of each variable input, output, in percentage to the efficiency value

DMU	A					B				
	$I_1^a$ (%)	$I_2^a$ (%)	$I_3^a$ (%)	$O_1^a$ (%)	$O_2^a$ (%)	$I_1^b$ (%)	$I_2^b$ (%)	$I_3^b$ (%)	$O_1^b$ (%)	$O_2^b$ (%)
<b>AL<sub>01</sub></b>	35.4	22.0	42.6	36.5	63.5	38.2	23.7	38.1	37.4	62.6
AL <sub>011</sub>	38.4	19.6	42.0	92.4	7.6	38.4	19.6	42.0	57.7	42.3
AL <sub>012</sub>	33.3	33.3	33.3	50.0	50.0	35.4	35.4	29.2	50.0	50.0
AL <sub>013</sub>	37.1	15.9	47.0	61.4	38.6	37.0	16.3	46.7	50.0	50.0
AL <sub>014</sub>	35.4	23.8	40.8	31.2	68.8	38.0	25.6	36.4	38.6	61.4
AL <sub>015</sub>	34.0	15.7	50.3	40.9	59.1	37.3	17.2	45.5	48.2	51.8
<b>AL<sub>02</sub></b>	34.3	29.7	36.0	37.2	62.8	36.7	31.6	31.7	36.2	63.8
AL <sub>021</sub>	35.1	14.8	50.1	52.1	47.9	37.0	15.5	47.5	59.4	40.6
AL <sub>022</sub>	33.0	36.4	30.6	52.0	48.0	34.5	38.1	27.4	50.2	49.8
<b>AL<sub>03</sub></b>	32.4	12.0	55.6	48.4	51.6	35.1	13.0	51.9	53.7	46.3
AL <sub>031</sub>	29.4	10.1	60.5	45.8	54.2	32.9	11.0	56.1	56.7	43.3
AL <sub>032</sub>	31.2	10.5	58.3	53.0	47.0	32.9	11.1	56.0	61.3	38.7
AL <sub>033</sub>	35.8	13.8	50.4	77.5	22.5	35.8	13.8	50.4	87.7	12.3
AL <sub>034</sub>	29.3	10.2	60.5	40.2	59.8	32.7	11.4	55.9	44.9	55.1
AL <sub>035</sub>	35.9	22.2	41.9	49.8	50.2	38.2	24.1	37.7	47.5	52.5
Average	34.0	19.3	46.7	51.2	48.8	36.0	20.5	43.5	52.0	48.0

For both groups (Table 7), which shows the weight of the influence of each variable factor on the efficiency value for each DMUs, it is noted that the greatest influence of the variable input factors, the highest weight of influence is Input 3 (Calculated coefficient of active economic enterprises producing services per 1000 inhabitants). For the model of grouping A, the "weight" of the influence of this variable factor is 46.7% and for the model of grouping B it is 43.5%, and in all DMUs the weight of the influence of this variable factor is greater than the weight of the influence of the two other factors. In the weight of the influence of the variable output factors, only a slightly greater tendency is found in the variable output factor 1 (Nominal growth of GDP at current prices (in %)). Fig. 2 in which foreign immigration is presented (The rate of population change in percentage) has positive values for region  $AL_{02}$ , in contrast to the other two regions  $AL_{01}$  dhe  $AL_{03}$ .

## Conclusions

This study proved that small and medium-sized economic enterprises have a significant impact on the economic development and growth of the country on a county and regional basis. This influence is also expressed in the structure of the composition of active economic enterprises: active economic enterprises for the production of material goods and active

economic enterprises for the production of services for each district and region in particular. Active economic enterprises have a significant role in increasing the nominal percentage of GDP for the county and its region and mitigating migration, increasing employment. The composition of active economic enterprises according to the economic structure also has an impact on the trends of population displacements from rural areas to urban areas with denser populations. Visible influence on active economic enterprises is expressed for counties and regions, where the weight of active economic enterprises that employ more than 10 workers is more sensitive, which was found during the study in the evaluation of the performance of each decision-making unit. The effectiveness of active economic enterprises is also related to the obstacles faced by businesses in the sector of micro, small and medium economic enterprises. Among the risks found in small and medium-sized enterprises, taking into account the birth and bankruptcy of small economic enterprises, it is also related to investments for the improvement of innovative technology, financial situations, profitable competition, qualification and training of employees as well as their qualified management. The relevant institutions should promote the expansion of enterprises that employ more than 10 workers, since enterprises that employ 1 to 4 workers currently occupy about 89% of the total.

## References

- [1] [https://www.monitor.al/100-vjet-ekonomia-shqiptare-gjate-regjimit-komunist-1945-1990/\(28/11/2012\)](https://www.monitor.al/100-vjet-ekonomia-shqiptare-gjate-regjimit-komunist-1945-1990/(28/11/2012))
- [2] Civici A. (2019) Tranzicioni i vështirë i Shqipërisë, nga ekonomia e centralizuar, drejt ekonomisë së tregut, *Bota.al*, <https://shtetiweb.org/2019/09/30/tranzicioni-i-veshtire-i-shqiperise-nga-ekonomia-e-centralizuar-drejt-ekonomise-se-tregut/?print=pdf?print=pdf?print=print>
- [3] United Nations, Department of Economic and Social Affairs Sustainable Development (<https://sdgs.un.org/topics/capacity-development/msmes>)
- [4] <https://www.ilo.org/topics/micro-small-and-medium-enterprises>
- [5] Ilir Gëdeshi “Si ndërveprojnë migrimi, kapitali njerëzor dhe tregu i punës në Shqipëri”, European Training Foundation, 2021, Vienna Institute for International Economic Studies, July 2021 (<https://openspace.etf.europa.eu/sites/default/files/2021-10/Albanian%20version.pdf>)
- [6] Pedraza.M. J (2021). The Micro, Small, and Medium-Sized Enterprises and Its Role in the Economic Development of a Country. *Business and Management Research*, 10(1):33-44, DOI: [10.5430/bmr.v10n1p33](https://doi.org/10.5430/bmr.v10n1p33)
- [7] OECD (2022), SME Policy Index: Western Balkans and Turkey 2022: Assessing the Implementation of the Small Business Act for Europe, SME Policy Index, *OECD Publishing, Paris*, <https://doi.org/10.1787/b47d15f0-en>.
- [8] King, R (2005). Albania as a Laboratory for the Study of Migration and Development. *Journal of Southern Europe and Balkans*, 7(2):133-155 DOI: [10.1080/14613190500132880](https://doi.org/10.1080/14613190500132880)
- [9] de Haas, H. (2010). Migration and Development: A Theoretical Perspective. *The International Migration Review*, 44(1), 227–264. <http://www.jstor.org/stable/20681751>
- [10] King, R. (2018). Is Migration a Form of Development Aid Given by Poor to Rich Countries? *Journal of Intercultural Studies*, 39(2), 114–128. <https://doi.org/10.1080/07256868.2018.1444356>
- [11] King, R and Kuschminder.K (2022). Handbook of return migration, *Published by Edward Elgar Publishing Limited*, Print ISBN 9781839100048, eISBN 9781839100055, DOI: <https://doi.org/10.4337/9781839100055>
- [12] Zhu,J (2014) Quantitative Models for Performance Evaluation and Benchmarking, *International Series in Operations Research & Management Science*, Third Edition, vol 213, Springer,ISBN 978-3-319-06646-2, DOI [10.1007/978-3-319-06647-9](https://doi.org/10.1007/978-3-319-06647-9)

- [13] Luptáčík.M (2010) *Mathematical Optimization and Economic Analysis*, Springer, ISBN 978-0-387-89551-2, DOI 10.1007/978-0-387-89552-9
- [14] W.Cooper, L.Seiford, K.Tone, *Data Envelopment Analysis, A comprehensive Text with Models, Applications, References and DEA-Solver Software* (2002), Kluwer Academic Publishers, New York, Boston, Dordrecht, London, Moscow, ISBN 0-7923-8693-0
- [15] Blerta (Kristo) Nazarko, *Performance Evaluation in Macroeconomics based on DEA Malmquist Index with a New Approach for the Efficiency Evaluation in a Two-Stage Process*, *WSEAS Transactions on Information Science and Applications*, vol. 21, pp. 169-185, 2024, DOI:10.37394/23209.2024.21.17
- [16] Vjetari Statistikor Rajonal, 2018, INSTAT, ISBN 978-9928-188-68-7
- [17] Vjetari Statistikor Rajonal, 2019, INSTAT
- [18] Vjetari rajonal Statistikor, 2020, INSTAT, ISBN 978-9928-188-89-2
- [19] Vjetari rajonal Statistikor, 2021, INSTAT, ISBN 978-9928-188-94-6
- [20] Vjetari Statistikor Rajonal, 2022, INSTAT, ISBN 978-9928-390-02-8
- [21] Vjetari Statistikor Rajonal, 2023, INSTAT, ISBN 978-9928-390-01-1