ANALYSIS OF THE ECONOMIC PERFORMANCE OF SMES IN THE SOUTH MUNTENIA REGION

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Abstract

The paper presents the determination of the economic activity of SMEs in the South Muntenia Region of Romania by the method of bibliometric analysis of quantitative type that involves the identification of the evolution in time of the scientific documents representative from the Scopus database, analysis performed with the help of VOSviewer software (version 1.6.18) and an econometric model of linear regression in Excel to determine the evolution in time of the representative scientific documents from the Scopus database, analysis performed with the help of VOSviewer software (version 1.6.18) and an econometric model of linear regression in Excel to determine the influence of the number of active enterprises in the South Muntenia Region on Romania.

      Keywords: *SME; South Muntenia; Romania; Economics; regression; bibliometry.*

      JEL Classification: *E22 Investment, Capital Intangible, Capital, Capacity*

Introduction

Any entity carrying out an economic activity, regardless of its legal form, shall be regarded as an undertaking.

Small, medium-sized enterprises and micro-enterprises (SMEs) form the engine of the national economy. Enterprises are an important source in job development, with a very important role on increasing competitiveness and employment. (Gunter Verheugen)

These SMEs are classified according to the number of employees, namely:

      - Micro-enterprises, which have at most 9 employees and a net annual turnover of up to 2 million euros.

-Small businesses, which have between 10 and 49 employees and an annual net turnover of up to EUR 10 million.

-Medium-sized enterprises, which have between 50 and 249 employees and an annual net turnover of up to 50 million euros.

The purpose of this research is to determine the economic performance of SMEs in the South Muntenia Region and to highlight the evolution of documents published in the Scopus database, from the moment of publication of the first scientific document.

As a research method, the quantitative bibliometric analysis was used, which consists in using the specialized program VOSviewer (version 1.6.18).

Through this application we have identified the evolution in time of the scientific documents published on the topic of SMEs.

Review of the scientific literature

At european Union level, SMEs are 99% of all enterprises, in this way, they provide 65 million jobs for residents, annually being established about 1.5 million.

In Romania, most SMEs carry out activities in the field of services. They easily adapt to the changes, being small and having the ability to attract the labor force, at the same time having a great importance on the state budget through their contribution.

The emergence and development of small and medium-sized enterprises is very important, because they begin as small enterprises, and will develop over the years and evolve towards large enterprises.

Some economists present the enterprise as a production unit, but they also say that enterprises are groups, social organizations with common economic, political and cultural interests.

The activities of enterprises are directly influenced by a series of external factors that directly and indirectly influence the company's activity. Consumption of all factors of production, such as material, financial and human factors, within the enterprise. The literature confirms that the costs with which services and products are obtained, in relation to the quality and capacity of enterprises to market and obtain a profit are dependent on the economic power and standard of living of the country.

Research in this area has led to the conclusion that enterprises can operate at a level of economic parameters lower than those of other countries, they cannot provide the population with similar products in terms of volume and value for money, that is to say, they cannot ensure the same level of welfare.

Research methodology

Bibliometry is a science that deals with the quantitative measurement of all scientific documents and aims to indicate the interest it presents in the analyzed field of research.

In this paper we analyzed the impact factor for the Scopus database, the quantitative research being done in the VOSviewer application, an application that allows the creation of different maps graphically represented depending on the number of identified documents, the links between the authors, the number of publications per author, the countries that hold the most published documents on the interested topic.

The paper provides the analysis of the documents obtained after querying the Scopus database, from which documents such as books, scientific journals, scientific papers and other documents identified with the code TITLE-ABS-KEY (Romanian AND sme) were extracted, on 04.04.2022. In this analysis, 197 published documents containing in the title, summary or keywords the term "Romanian SME", which represents SME Romania, were identified. No filters have been selected to query the database on authors, affiliation, or other classifications regarding the publication of documents.

Also in this work was performed an econometric model, respectively linear regression through which you can highlight the relationship as well as the impact between two variables, of which a variable addiction and an independent one. As a dependent variable, the number of active enterprises in Romania was chosen and, as an independent variable, the number of active enterprises in the South Muntenia Region was chosen.
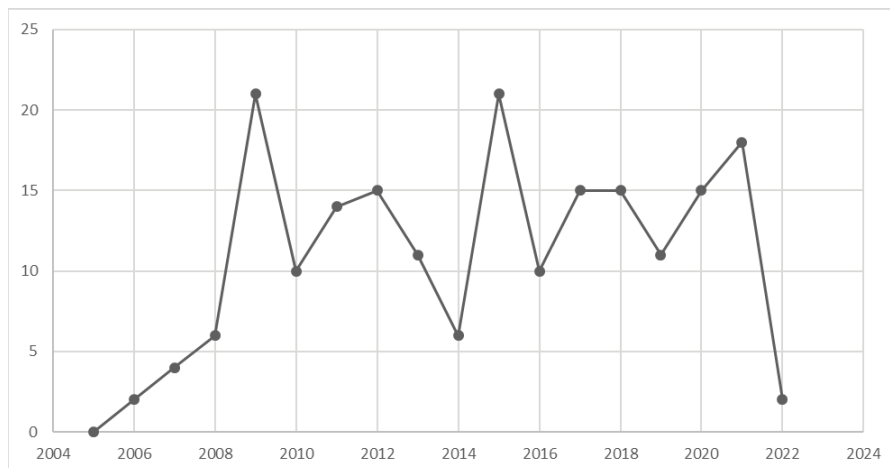
Results and discussions

In the figure below you can see the 197 documents identified in the analyzed database segmented by year, in the period 2004-2022 (Figure 1). The first document found in the Scopus database was published in 2006. With Romania's accession to the European Union, from January 1, 2007, it can also be noticed the increase of interest in the documents on the topic of SMEs in Romania, because the EU has provided financial support to them, through non-reimbursable funds. During the analyzed period, the greatest interest in these publications was identified in 2009 and 2015.

Number of documents published in the Scopus database between 2004 and 2022
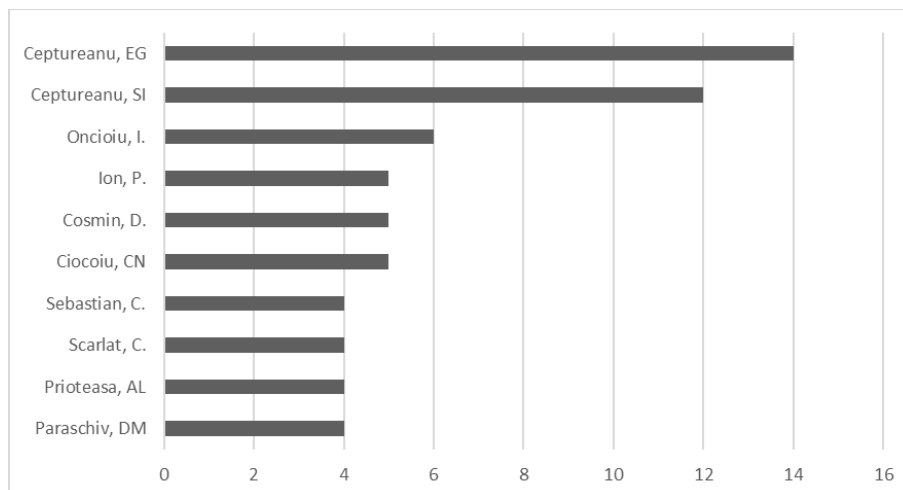
Source: Scopus database

The first 10 authors were identified according to the number of most publications on the topic of SMEs in Romania. On the first place was identified Conf. Univ. Dr. Ceptureanu Eduard Gabriel, with a few 14 publications, being followed by his brother, Conf. Univ. Dr. Ceptureanu Sebastian Ion with 12 publications, both from the Academy of Economic Studies in Bucharest. They published most of the papers on the topic under consideration. Other authors have been identified but with much fewer publications, of no more than 6 publications per author, as can be seen in the figure below (Figure 2).

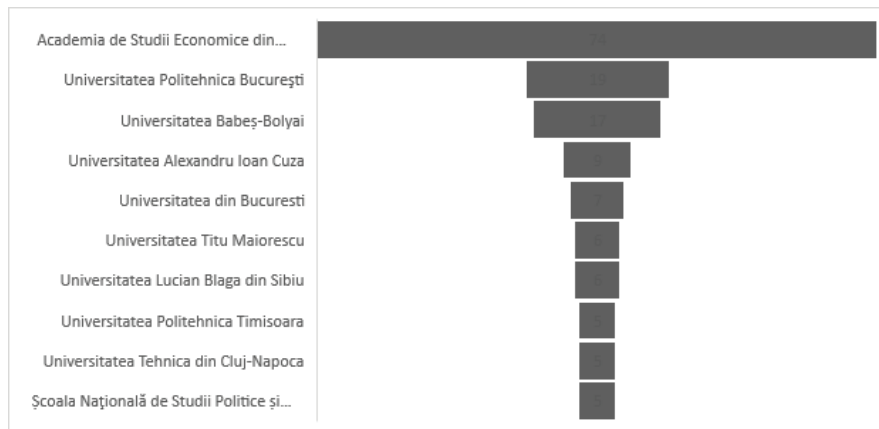**Number of documents published according to the author**

Figure 2

It was analyzed the affiliations that have the greatest interest in publishing documents on the topic of SMEs in Romania. It can be noted that the greatest interest identified was within the Academy of Economic Studies in Bucharest, in several 74 publications, within the other few digits being identified a smaller number of publications. On the second place you can see the Polytechnic University of Bucharest with a few 19 documents published on the analyzed topic and Babes-Bolyai University with several 17 published documents.

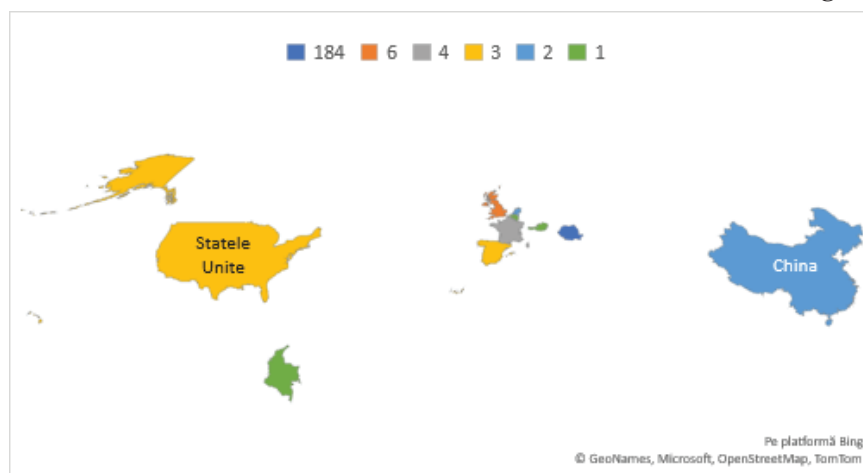**Number of published documents according to the author's affiliation**

Figure 3

Figure 4 shows the countries where documents on SMEs in Romania have been published. Although, the theme is specifically aimed at Romania and here you can also see most of the documents identified, in number of 184, there were identified documents published with the same interest in other countries, such as: 6 documents published in the United Kingdom, 4 documents published in France, 3 documents published in Spain, 3 in the United States of America, 2 documents published in Belgium and a single document was published in Colombia. From here you can see the interest of other countries in Romania.
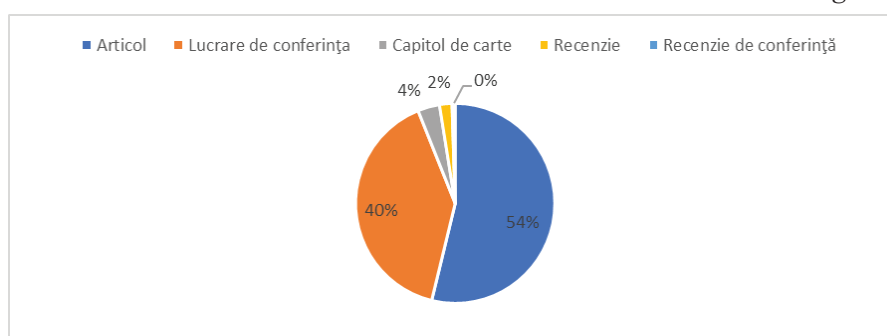
Number of documents published by country

Source: Scopus database processing

Most of the published documents were 54 percent of the articles type, followed by 11 percent less and 40 percent of the conference papers. The other types of published documents are in small proportions, between 1-4% and represented by book chapters, reviews and conference reviews (Figure 5).

Number of documents published according to their type
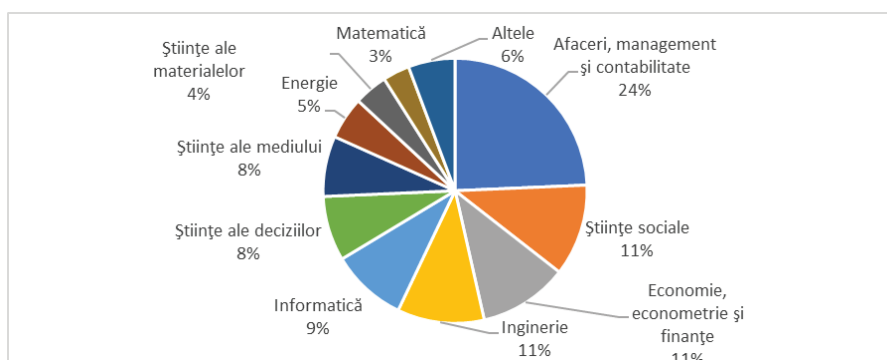
Source: Scopus database

Depending on the fields in which the documents were published, it can be seen from Figure 6. that several documents were published in the field of creations, management and accounting , 24%, engineering, economics,

econometrics, and finance, and social sciences have equal percentages of 11%. There were identified articles published in the field of informatics, in the field of sciences (environmental, decision-making, mathematics) but also in other fields.

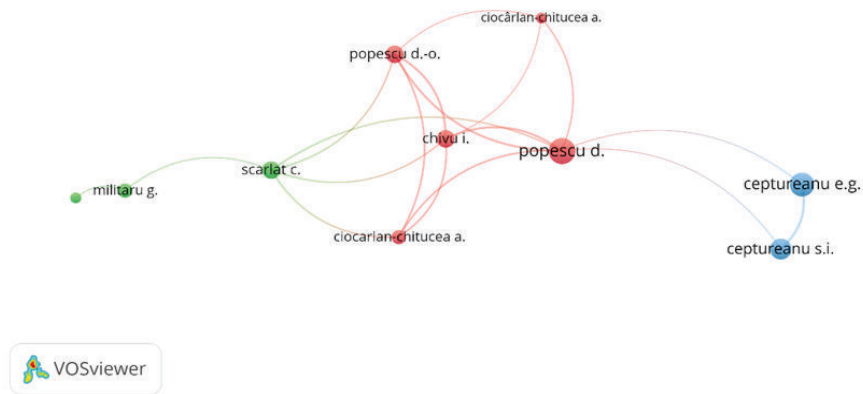**Number of documents published according to their field**

Figure 6

In Figure 7 you can see the authors who have a close connection between them regarding the published documents on the topic of SMEs in Romania. The analysis criterion in the specialized application, VOSviewer was at least two publications per author and a maximum of 15.

Close links can be observed between the authors Popescu D., Ceptureanu E.G., and Ceptureanu S.I., but also other authors such as Militaru G., Scarlat C., Ciocârlan and Chiţucea A., they have common ties and interests in their writing and publication.

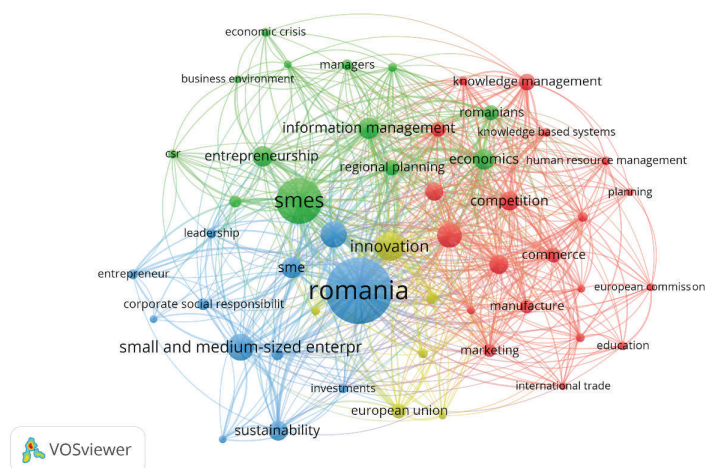**Links between authors who have published documents**

Source: Scopus database processing in VOSviewer application

In Figure 8. the criterion for analysis was at least 5 words identified in the published documents on the topic of SMEs and it can be seen that the most common word encountered is "Romania", followed by "SME". Words have been identified such as: innovation, sustainability, the European Union, competition, entrepreneur, manager, regional plan, human resources, education and much more as can be seen in the figure below.

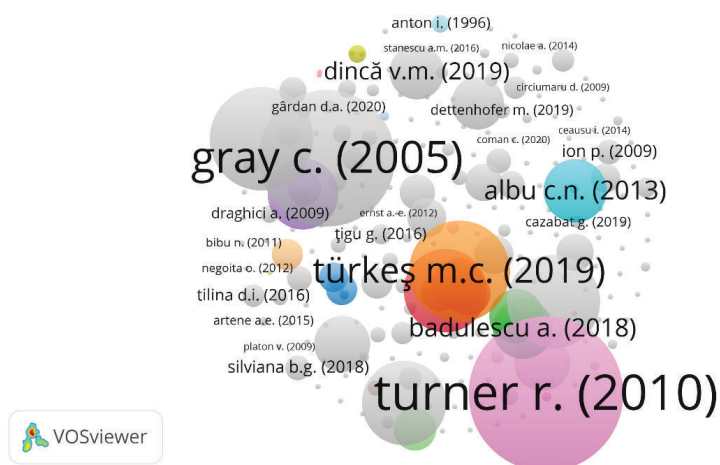**Keywords identified in the published documents**

Source: Basic Scopus data processing in VOSviewer application

In Figure 9, citations can be overrated according to the author who published the document. Most citations were identified in documents published by Turner R. (2010), Gray C. (2005) and Turkes M.C. (2019). There were also citations of the documents published by authors such as: Silviana B.G. (2018), Ion P. (2009), Tilina D.I (2016).

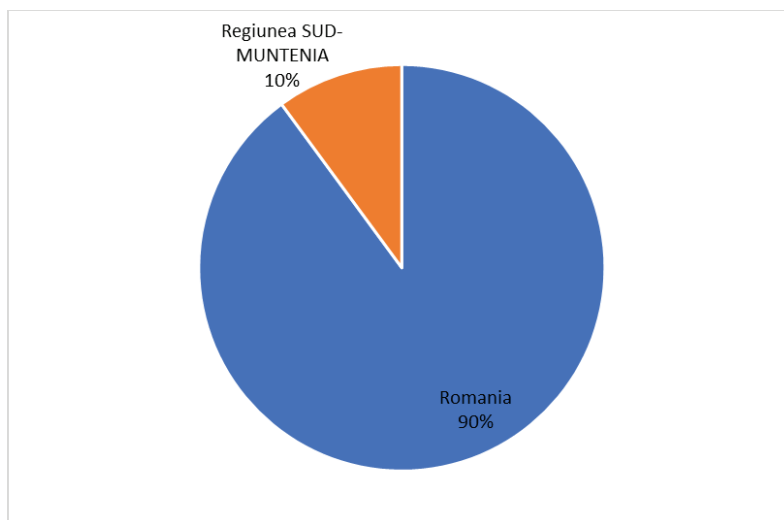**Maximum number of citations per author**

Figure 9

Source: basic Scopus data processing in VOSviewer application

According to the National Institute of Statistics, in 2020, 10% of the total enterprises in Romania were active in the South Muntenia region, placing the region on the 4th place at national level, compared to the other regions of the country.

Share of active enterprises in the South Muntenia Region in the total country

Figure 10

Source: National Institute of Statistics

Number of active enterprises in the period 2008-2020

Table 1

Year	South Muntenia Region	Romania
2008	59482	554967
2009	58214	541696
2010	53686	491805
2011	49587	452010
2012	51563	472187
2013	52890	485082
2014	54764	507440
2015	55620	513850
2016	57083	527792
2017	60276	553796
2018	63262	576545
2019	66199	591259
2020	70099	624206

Source: National Institute of Statistics

Linear regression

Regression Statistics					
Multiple R	0.993564835				
R Square	0.987171081				
Adjusted R Square	0.985888189				
Standard Error	6113.287319				
Observations	12				
ANOVA					
	df	SS	MS	F	Significance F
Regression	1	28757555086	28757555086	769.4888742	8.59776E-11
Residual	10	373722818.5	37372281.85		
Total	11	29131277904			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	49996.84344	17326.87408	2.885508558	0.016231596	11390.16212	88603.52476	11390.16212	88603.52476
59482	8.276615673	0.29836757	27.73966247	8.59776E-11	7.611811299	8.941420047	7.611811299	8.941420047

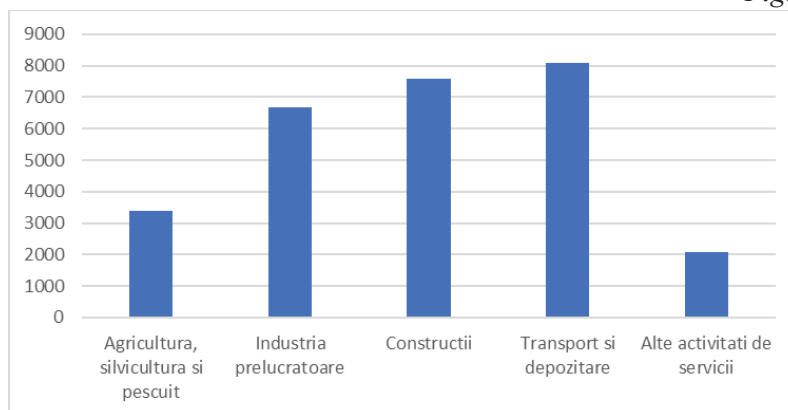*Source: data processing from the INS platform*

In Table 2, one can see the results obtained from the linear regression calculated in Excel and how the number of active enterprises in Romania goes through great changes when the number of turn over the active enterprises in the South Muntenia Region are changing.

The correlation coefficient is 0.99%, which means that it is a close link between the number of active enterprises in the South Muntenia region and the numberof active enterprises in the Republic of Moldova take; The period under analysis in linear regression is 12 years, based on the data in Table 1.

The economic characteristics of the enterprises from the South Muntenia region are divided into two extremely different categories, so that in the northern area an impressive industrial character prevails, while the south of the region is distinguished by agricultural and agro-food production. Therefore, most enterprises have their domain of activity in the industrial branches, of which transport and storage, construction and manufacturing predominate, followed by agriculture, forestry, fisheries and other service activities (Figure 11).

Number of active enterprises in the South Muntenia Region depending on the area of activity in 2020
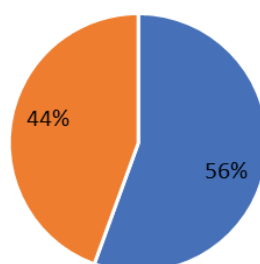
Figure 11

Although there is no significant differences between the 2 types of structures of enterprises, we can observe the upward trend for the establishment of companies to the detriment of individual enterprises (Figure 12), this trend was favored by the national fiscal changes, reflecting the evolution of the legislative environment in the field.

Distribution of active, newly created enterprises by type of unit in 2019 in the South Muntenia Region
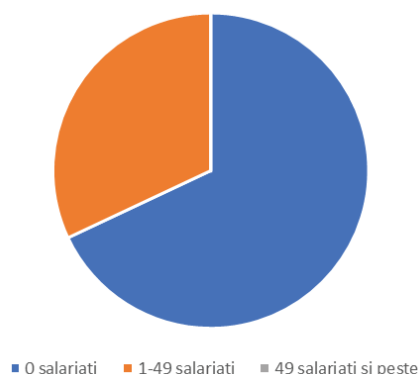
Figure 12

We can observe the preponderance of micro-enterprises, in size class 0 employees, followed by small enterprises (Figure 13), a situation resulting

in principle due to the fiscal and financial advantages they offer. In the South Muntenia region there are no enterprises with a number of over 49 employees.

The share of active enterprises by size class of the number of employees in 2019 in the South Muntenia Region
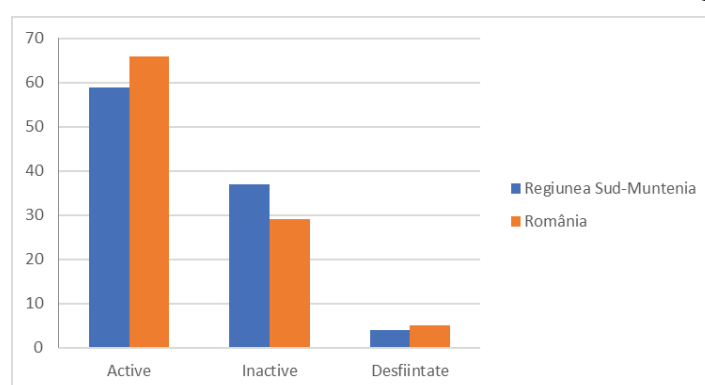
Figure 13

■ 0 salariati ■ 1-49 salariati ■ 49 salariati si peste

Source: National Institute of Statistics

It can be seen in Figure 14., a high number of inactive enterprises one year after its establishment, which places the region at an unsatisfactory level compared to the situation at national level; the situation of the enterprises that remain active is decent in relation to the national one, and as regards the enterprises that have definitively ceased their activity, their number is very small.

Number of enterprises not created one year after their establishment in the South Muntenia Region

Figure 14

Source: National Institute of Statistics

Conclusions

Following the analysis of the resulting documents and graphs, it is concluded that at the level of the South Muntenia Region, the economic performance of SMEs was characterized by a fluctuating evolution, slightly upward, largely influenced by the national fiscal dynamics.

This analysis is particularly important for assessing the progress of enterprises and for creating new functional strategies to help the evolution and economic development of the South Muntenia Region at national level.

There were identified 197 documents published on the topic of SME in Romania, most of them published within the Academy of Economic Studies in Bucharest by Conf. Univ. Dr. Ceptureanu Eduard Gabriel, with a number of 14 publications, this being followed by Conf. Univ. Dr. Ceptureanu Sebastian Ion with 12 publications.

The number of active enterprises in the South Muntenia Region influences to a very large extent their number at national level.

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