
SWOT ANALYSIS OF THE CENTRAL REGION WITHIN ROMANIA

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Abstract

This paper aims to present the SWOT analysis of the Central Region within Romania. The Center Region consists of the counties of Alba, Braşov, Covasna, Harghita, Mureş and Sibiu. In order to conduct this analysis, the following indicators will be presented:

- *Subsidies received from the state budget*
- *The total length of the simple drinking water distribution network*
- *GDP by macro-regions*
- *Number of school units*
- *Unemployment rate*

The SWOT analysis aims to identify strengths, weaknesses, opportunities and threats in the Center region, in order to find possible solutions to improve the socio-economic situation of those counties. According to the European Commission, regional development aims to reduce disparities between the regions of a state, but also between them and other Member States. In this context, regional development must take into account the funding priorities associated with that period. Among these priorities is the development of low-carbon regions, with an emphasis on the importance of citizens and the digitalisation of society. Regarding the review of the scientific literature, the VOSViewer software was used to analyze the bibliometric links between states, as well as the most frequently used keywords by researchers.

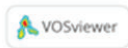
Keywords: *SWOT analysis, Center region, socio-economic situation, bidimensional analysis*

I. Review of scientific literature

In this chapter, the bibliometric analysis for the field of regional development was performed. Approximately 237 documents published in the period 2000-2019 in the Scopus database were analyzed. Thus, the collaboration relations between states and the keywords used by the authors will be presented.

Co-autorship between states

Fig.1



Source: own conceptualization based on Scopus database

The analysis was conducted for 11 states. On the first place in terms of collaboration relations is China with 4 collaboration relations and 94 published documents. The second position is occupied by the United Kingdom with 3 collaboration links and 12 published documents. Figure 2 shows the co-occurrence of authors' keywords.

Co-occurrence of authors' keywords

Fig.2



Source: own conceptualization based on Scopus database

The figure above shows the evolution of the use of the most important words in scientific papers on regional development. Thus, during 2008-2016 the most used words were “regional planning” - “regional planning”, with 8 appearances and “innovation” - “innovation” with 7 appearances. In the next period there is another, integrative approach, that of „economic and sustainable development” - 21 appearances.

II. Research methodology

Bibliometrics is a type of quantitative analysis through which scientific publications are analyzed. The VOSViewer software was used to carry out this research work (Chirescu, 2020). Thereby, 237 articles taken from the Scopus database were analyzed. After opening the VOS Viewer software and inserting the database downloaded from Scopus, the categories for the analysis of the scientific literature were selected, respectively the collaboration between the appearance of keywords (Co-occurrence of author’s keywords) and the collaboration relations between states). The maps were rendered and interpreted. In the second part of the paper, it is presented the analysis of the main indicators chosen to characterize the Center region.

III. Results and discussion

A. Analysis of socio-economic indicators

In this subchapter it will be analyzed the indicators established in order to draw some conclusions regarding the existing situation in the Center region (Pike, 2016).

1) Subsidies received from the state budget

At the level of the Center region, in the period 2015-2017, the level of subsidies received from the state budget fluctuated.

The evolution of the subsidies received from the state budget 2015-2017, million lei

Table 1

Income and expenditure categories	Macro-regions, development regions and counties	2015	2016	2017
Subsidies received from the state budget	Center region	784,7	830	541,6
-	Alba	173,8	151,7	137,3
-	Brasov	124,3	119	84,8
-	Covasna	94,3	88,5	33,5
-	Harghita	119	164,8	76,8
-	Mures	136,4	141,5	112,4
-	Sibiu	136,9	164,5	96,8

Source: own conceptualization based on Tempo Online data

During 2015-2016, the subsidies increased by 45.3 million lei, but in 2017 they had a downward trend, reaching the value of 541.6 million lei, which means a decrease of 288.4 million lei. If a comparison is made between the counties of the Center region, it could be observed that, for the year 2015, the county that received the most subsidies was Alba, with 173.8 million lei, followed by Sibiu with 136.9 million lei, Mureş 136,4 million lei, Braşov 124.3 million lei, Harghita 119 million lei and Covasna with 94.3 million lei. For the year 2016, the county with the highest subsidies received was Harghita with 164.8 million lei, followed by Sibiu with 164.5 million lei, Alba 151.7 million lei, Mureş with 141.5 million lei, Braşov with 119 million lei and Covasna with 88.5 million lei. In 2017, the county with the most subsidies received was Alba with 137.3 million lei, followed by Mureş with 112.4 million lei, Sibiu with 96.8 million lei, Braşov 84.8 million lei, Harghita with 76,8 million lei and Covasna with 33.5 million lei. The county that received the most subsidies in 2015-2017 was Alba, and the smallest subsidies were received by Covasna County.

2) The total length of the simple drinking water distribution network

At the level of the Center region, in the period 2015-2017, the total length of the simple drinking water distribution network had an ascending trend, reaching from the value of 9.696,3 km in 2015 to 10.325,2 km in 2017.

Evolution of the total length of the simple drinking water distribution network 2015-2017, kilometers

Table 2

The total length of the simple drinking water distribution network	Macro-regions, development regions and counties	2015	2016	2017
-	Center region	9696,3	10053	10325,2
-	Alba	1763,7	1794,1	1890,6
-	Braşov	2099,4	2103,3	2105,7
-	Covasna	667,1	722,8	732,7
-	Harghita	1473,6	1528,8	1600,2
-	Mureş	2213,6	2327,8	2352,7
-	Sibiu	1478,9	1576,2	1643,3

Source: own conceptualization based on Tempo Online data

Regarding the year 2015, the county with the longest total length of the simple drinking water distribution network is Mureș with a value of 2213.6 km, followed by Brașov with 2099.4 km, Alba with 1763.7 km, Sibiu 1478.9 km, Harghita 1473.6 km and Covasna 667.1 km. In the year 2016, the county with the longest total length of the simple drinking water distribution network is also Mureș with 2327.8 km, followed by Brașov 2103.3 km, Alba 1794.1 km, Sibiu 1576.2 km, Harghita 1528.8 km and Covasna 722.8 km. In the year 2017, the county with the longest total length of the simple drinking water distribution network is Mureș with 2352.7 km, followed by Brașov with 2105.7 km, Alba 1890.6 km, Sibiu 1643.3 km, Harghita 1600, 2 km and Covasna 732.7 km. The county with the longest total length of the simple drinking water distribution network is Mureș, and the county with the lowest value registered in this respect is Covasna.

3) GDP by macro-regions

At the level of the Center region, during 2015-2017, the GDP experienced an ascending trend, increasing from 78,706.6 million lei in 2015 to 96,984.1 million lei in 2017.

GDP evolution by macro-regions 2015-2017, million lei

Table 3

GDP by macro-regions	Macro-regions, development regions and counties	2015	2016	2017
-	Center region	78706,6	86532,8	96984,1
-	Alba	11711,2	12616,1	14538,1
-	Brașov	23425,3	26277,1	28965,2
-	Covasna	5076,3	5595,4	6415,1
-	Harghita	7330	8063,2	9567,1
-	Mureș	15647,5	16274,8	18007,9
-	Sibiu	15516,3	17706,2	19490,7

Source: own conceptualization based on Tempo Online data

In the year 2015, the county with the highest GDP is Brașov with a value of 23,425.3 million lei, followed by Mureș 15,647.5 million lei, Sibiu 15,516.3 million lei, Alba 11711.2 million lei, Harghita 7330 km and Covasna 5076, 3 km. In 2016, the county with the highest GDP is Brașov with a value of 26,277.1 million lei, followed by Sibiu 17,706.2 million lei, Mureș 16,274.8 million lei, Alba 12,616.1 million lei, Harghita 8,063.2 million lei and Covasna 5,595.4 million lei. When speaking about 2017, the county with the highest GDP is Brașov with a value of 28,965.2 million lei, followed by Sibiu 19,490.7 million lei, Mureș 18,007.9 million lei, Alba 14,538.1 million

lei, Harghita 9567.1 million lei and Covasna 6415.1 million lei. The county with the highest GDP between 2015-2017 was Braşov, and the lowest GDP was registered in Covasna County.

4) Number of school units

At the level of the Center region, in the period 2015-2017, the largest number of school units experienced a downward trend.

Evolution of the number of school units 2015-2017, number of units

Table 4

Number of school units	Macro-regions, development regions and counties	2015	2016	2017
-	Center region	933	916	910
-	Alba	141	140	140
-	Braşov	211	204	196
-	Covasna	81	81	81
-	Harghita	132	129	128
-	Mureş	189	185	187
-	Sibiu	179	177	178

Source: own conceptualization based on Tempo Online data

In 2015, the county with the highest number of school units is Braşov with 211 units, Mureş with 189 units, Sibiu with 179 units, Alba with 141 units, Harghita with 132 units and Covasna with 81 units. In 2016, the county with the highest number of school units is Braşov with 204 units, followed by Mureş with 185 units, Sibiu with 177 units, Alba with 140 units, Harghita 129 units and Covasna with 81 units. In 2017, the county with the largest number of school units is Braşov with 196 school units, Mureş with 187 units, Sibiu with 178 units, Alba with 140 units, Harghita with 128 units and Covasna with 81 units. The highest number of school units, in the period 2015-2017, is Braşov, and the county with the lowest number of school units is Covasna.

5) Unemployment rate

At the level of the Center region, in the period 2015-2017, the unemployment rate experienced a downward trend.

Evolution of the unemployment rate 2015-2017,%

Table 5

Unemployment rate	Macro-regions, development regions and counties	2015	2016	2017
-	Center region	4,7	4,4	3,5
-	Alba	5,6	5,1	3,7
-	Braşov	3,8	3,6	2,8
-	Covasna	5,7	5,2	4,2
-	Harghita	5,5	5,8	4,9
-	Mureş	4,8	4,7	4
-	Sibiu	3,7	3,4	2,4

Source: own conceptualization based on Tempo Online data

In 2015, the county with the highest unemployment rate is Covasna with 5.7%, Alba 5.6%, Harghita 5.5%, Mureş 4.8%, Braşov with 3.8% and Sibiu with 3.7%. In 2016, the county with the highest unemployment rate is Harghita with 5.8%, Covasna 5.2%, Alba 5.1%, Mureş 4.7%, Braşov 3.6% and Sibiu 3.4%. In 2017, the counties with the highest unemployment rate Harghita with 4.9%, Covasna 4.2%, Mureş 4%, Alba with 3.7%, Braşov with 2.8% and Sibiu with 2.4%. The counties with the highest unemployment rate during 2015-2017 are Harghita, Covasna and Alba, and the lowest unemployment rate was registered in Sibiu.

B. SWOT analysis of the Center region

The SWOT analysis is performed to identify the strengths, weaknesses, opportunities and threats of the Center region, respectively of the component counties, and to be able to find solutions to improve the socio-economic situation in the area (Leigh, 2009). Taking into account the indicators analyzed above, the following conclusions were reached.

• Strengths

Subsidies received from the state - Alba recorded the highest level of subsidies in 2015, respectively 173.8 million lei. Harghita registered the highest value in 2017, 164.8 million lei. Regarding the total length of the simple drinking water distribution network, the county with the most developed status is Mureş, with 2,352.7 km in 2017. The highest value of the GDP corresponds to Braşov with 28,965.2 million lei in 2017. Regarding the

number of school units, the highest number has been registered in Braşov, respectively 211 units in 2015. Analyzing the unemployment rate, the county with the lowest percentage is Sibiu, 2.4% in 2017.

- **Weaknesses**

The county that received the least subsidies was Covasna, which in 2017 approximately 33.5 million lei. Regarding the total length of the simple drinking water distribution network, the county with the weakest infrastructure is Covasna with 667.1 km in 2015. The county with the lowest GDP is again Covasna, which in 2015 recorded the value of 5076.3 million lei. The number of school units, the smallest number is found in the same county, where, during the analyzed period, the number of schools was constantly mentioned, respectively 81 units. The counties with the highest unemployment rate during 2015-2017 are Harghita, Covasna and Alba.

- **Opportunities**

Opportunities represent the improvement of the value of the indicators chosen for the SWOT analysis. For example, in terms of subsidies received from the state, Braşov and Covasna could try to attract more subsidies. Considering the fact that Alba received subsidies amounting 173.8 million lei in 2015, there is a possibility to increase this indicator. Regarding the total length of the simple drinking water distribution network, Harghita and Covasna would still have to work on this particular type of infrastructure. Unlike Mureş which in 2017 reached 2,352.7 km, Harghita had 1600.2 km and Covasna 732.7 km. By attracting European funds, there are opportunities for infrastructure development. Regarding the GDP, for Covasna and Harghita there are opportunities to increase this macroeconomic indicator. In 2017, the GDP of Covasna was 6.415,1 million lei, and for Harghita 9.567,1 million lei. The development of tourism would be an opportunity to increase the GDP in these counties. Regarding the fewest school units, Harghita and Covasna are mentioned, which in 2017 registered a value of 128, respectively 81 units. In this context, state subsidies are needed to build schools. Educational units are one of the most appropriate indicators that reflect the level of development of a county. Education is essential for a strong and well-informed society, and for that to happen, schools are needed. Also, in Covasna and Harghita, the highest unemployment rate was registered, in 2016, 5.2%, respectively 5.8%. There are opportunities to reduce the unemployment rate, by creating jobs or vocational retraining projects.

• Threats

The threats refer to the counties in which the lowest values of the analyzed indicators were registered. The threats of Braşov and Covasna counties regarding the fact that a low level of subsidies is received, could be represented by the fact that these counties do not have the same development opportunities as the other counties in the Center region. This fact directly influences the quality of life of the citizens, which can move to other areas. The threats of Harghita and Covasna counties regarding the total length of the simple drinking water distribution network are represented by the decrease of the quality of life for citizens, due to the fact that they do not have access to drinking water. This can endanger the health of people who consume water from other sources. The fact that the GDP of Harghita and Covasna is lower than in other counties of the region, is due to the specifics of economic activity. A threat to the fact that the GDP of these two counties is lower would be that the living standard of the population is lower and they can move to other areas. A threat of the fact that in Harghita and Covasna the number of schools is lower than in other counties of the region could be represented by the increase of the dropout rate, the increase of the unemployment rate, the existence of some categories of unskilled people. Due to the fact that the unemployment rate is high in Covasna and Harghita, there is a part of the population that does not have adequate income to support themselves. There is also an unsatisfied demand for work places.

Conclusions

By conducting the SWOT analysis, both weaknesses and strengths, opportunities and threats were identified in terms of the level of development of the Center region. Also, solutions were proposed to improve the quality of life in the counties of Alba, Braşov, Covasna, Harghita, Mureş and Sibiu. Through an exceptional professional training, desire for work and the use of European funds, the social infrastructure could be improved and, nonetheless, also the economic sphere of the Center region, so that Romania can get closer to what sustainable development means.

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