

## DIAGNOSTIC ANALYSIS OF SUSTAINABLE DEVELOPMENT IN TELEORMAN COUNTY

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### Abstract

*This article presents the synthesis of a research project which aims the diagnostic analysis of sustainable development in Teleorman county. The work methods used in this study consist of: analysis of resources, definition of rural territory, the global analysis of the indicators and SWOT analysis. Also, based on the documentation, it was intended: to analyse the existing county development and planning, to highlight the main issues and priorities, to suggest territorial development ideas on the short and medium term of the main objectives, to correlate the suitable territorial landscaping projects with the county development and sectorial policies. Following the global analysis of the key socio - economic indicators in Teleorman county, compared to the Southern - Muntenia part of the county that it belongs to, it is found that they are below the regional average. Given the geographic positioning of Teleorman county near the capital and especially its location next to the Danube River and the powerful enterprises in the area, there are chances for Teleorman county to get out of Romania's poorest counties list by investing both in the development of these old dating enterprises and also in Teleorman's major asset, the agro-tourism.*

*Key words:* cohesion, diagnostic, indicators, rural, Teleorman

### INTRODUCTION

Sustainable development is the process of development that comprises all the requirements without jeopardizing the future generations.

In 2002, the European Commission accredited SAPARD Agency (2002/638 / EC) as a competent authority to implement the program in Romania.

Its main objectives are [5]:

- to improve the living conditions of the economic agents and the residents in rural areas;
- to support in the joining process;
- increasing the competition and strengthening the agricultural sector;
- stabilizing the rural population;
- adjusting the agricultural sector and rural economy to EU standards;
- EU agricultural policy implementation and market diversification.

Through sustainable rural development, Romania has set four priorities [7]:

Axis 1: Improving access to markets and

competitiveness of agricultural products;

Axis 2: Improving infrastructure for rural development and agriculture;

Axis 3: Rural development;

Axis 4: Development of human resources.

Local development is both a goal and a consequence of good local government, which must generate and maintain its collective welfare transfer mechanisms as for an individual welfare.

The main programs of the national rural development strategy are [1]:

• „FARMER” program, which was established in 2005 by the Ministry of Agriculture and Rural Development;

• A program called „Annuity rent AGRICOLA” program that was unfolded by the end of 2009;

• INCREASE COMPETITIVENESS OF FOOD „program”

Social cohesion is an important characteristic of a society based on social connections and relationships between units and individuals, groups, associations and territorial units [3].

The concept of social cohesion covers three

categories of issues [4]:

- values, identity and culture, all defining a particular community;
- differences and divisions: inequalities and inequities, cultural diversity, geographic divisions;
- associations and networks, infrastructure, values and identity.

## MATERIALS AND METHODS

Diagnostic Analysis of Teleorman county has been developed on the basis of defining rural territory referring to the location of the county in Romania, the topography, climate, fauna and vegetation and to its population.

Rural areas was analyzed in terms of local development, infrastructure and environment, community economic development and human resources, both social and natural.

Based on county's statistical indicators, a comparison between social and economic indicators of Teleorman county and the indicators of the region of Muntenia Sud, which Teleorman county is part of, has been made.

SWOT analysis was conducted in the terms of regional context, economic domain, industry and agriculture, administrative capacity, entrepreneurial environment, social services, employment and education, tourism potential, transport, public services and the environment

## RESULTS AND DISCUSSIONS

The real GDP growth rate in the South Muntenia Region varied between -0.5 % in the year 2010 and 9.8 % in 2008, the year when the economic crisis started.

In the Teleorman County, the GDP growth rate varied between -6.1 % in 2009 and 9.8 % in 2007. The figures show a worse situation regarding the GDP rate in Teleorman County compared to the region growth rate mainly after the year 2008. The same situation regard the GDP/inhabitant in Teleorman County where the figures are smaller than at the Region level (Table 1).

The growth rate of the average employed population in Teleorman county reflects that in this county there were less opportunities for

finding a job by the local population compared to the situation at the Southern Muntenia Region (Table 1).

Also, the unemployment rate was higher in the period 2007-2014 in Teleorman County compared to the unemployment rate at Region level (Table 1).

The average net earnings/month and employee as well as the average net earnings per month growth rate were smaller in Teleorman County than in the Southern Muntenia Region (Table 1).

Table 1. Evolution of main socio – economical indicators of Teleorman county, compared to the southern – Muntenia region according to 2007-2014.

Real GDP growth rate (%)								
	2007	2008	2009	2010	2011	2012	2013	2014
Region	3.4	9.2	-3.1	-0.5	3.6	1.8	3	3.7
TR	9.8	7.3	-6.1	0	1.9	0.6	2.5	3.3
GDP / Resident (euro)								
	2007	2008	2009	2010	2011	2012	2013	2014
Region	4,722	5,335	4,700	5,011	5,605	5,697	6,148	6,648
TR	3,479	3,860	3,324	3,585	3,976	4,022	4,353	4,735
Average employed population growth rate (%)								
	2007	2008	2009	2010	2011	2012	2013	2014
Region	2.5	-0.1	-2.4	-1.5	2.3	0.1	0.2	0.3
TR	0.4	-0.5	-5.1	-5.1	0.5	-0.1	0.1	0.1
Average number of employees growth rate (%)								
	2007	2008	2009	2010	2011	2012	2013	2014
Region	5.4	0.6	-4.3	-9.7	0.2	0.3	0.7	0.8
TR	4.2	1.6	-7.1	-6.2	0	0.4	0.6	0.7
The unemployment rate -%								
	2007	2008	2009	2010	2011	2012	2013	2014
Region	5.1	5.2	9.5	8.5	6.2	5.5	5.3	5.1
TR	7.3	8	11.9	11	9	8.3	8	7.9
Average net earnings per month ( RON / employee)								
	2007	2008	2009	2010	2011	2012	2013	2014
Region	974	1,220	1,294	1,303	1,386	1,474	1,560	1,623
TR	841	1,100	1,122	1,124	1,192	1,272	1,351	1,410
Average net earnings per month growth rate (%)								
	2007	2008	2009	2010	2011	2012	2013	2014
Region	16.7	25.2	6.1	0.7	6.3	6.4	5.8	4
TR	10.7	30.8	2	0.2	6	6.7	6.2	4.4

Source: National Institute of Statistics [2]

The same indicators are nicely and graphically illustrated for Teleorman County in Fig.1.

Also, the evolution of main socio – economical indicators of Southern – Muntenia Region are graphically presented in Fig.2.

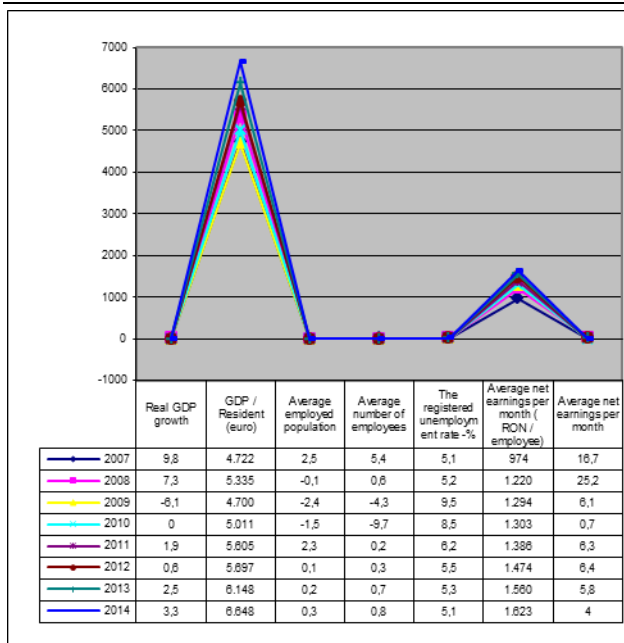


Fig. 1. Evolution of main socio – economical indicators of Teleorman county  
 Source: own calculus and design.

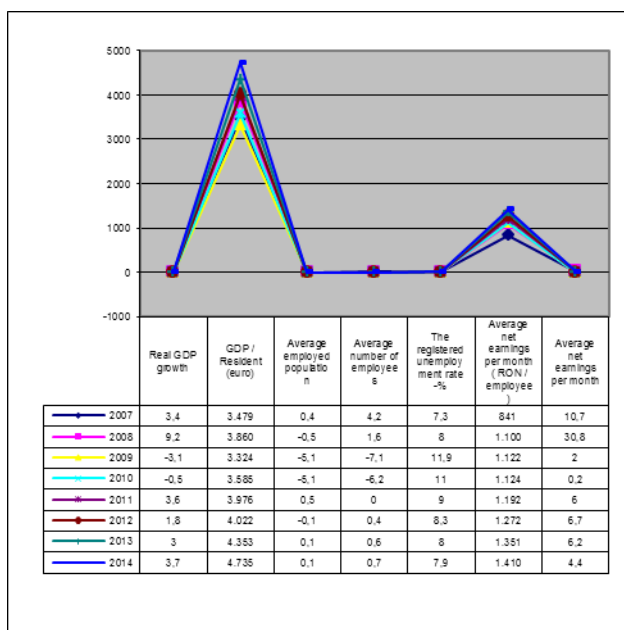


Fig. 2. Evolution of main socio – economical indicators of southern – Muntenia region  
 Source: own calculus and design.

After a downward trend of GDP until 2010, it is followed by an increase in 2011, a decline in 2012 and a growth until 2014 (Table 2, Fig.3).

The growth of the real GDP is due to nominal GDP growth.

This increase's value is expressed in the current prices of a given period of time. The decrease of the real GDP is caused by the increase of general price index.

Table 2. Real GDP growth rate in Teleorman county for 2007-2014 (%)

Real GDP growth rate (%)							
2007	2008	2009	2010	2011	2012	2013	2014
9.8	7.3	-6.1	0	1.9	0.6	2.5	3.3

Source: National Institute of Statistics [2]

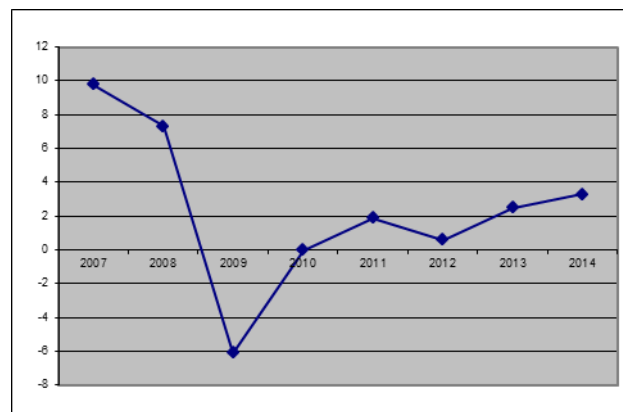


Fig. 3. Real GDP growth in Teleorman county  
 Source: own calculus and design.

Table 3. Real GDP growth rate in Southern – Muntenia region (%)

Real GDP growth rate (%)							
2007	2008	2009	2010	2011	2012	2013	2014
3.4	9.2	-3.1	-0.5	3.6	1.8	3	3.7

Source: National Institute of Statistics [2]

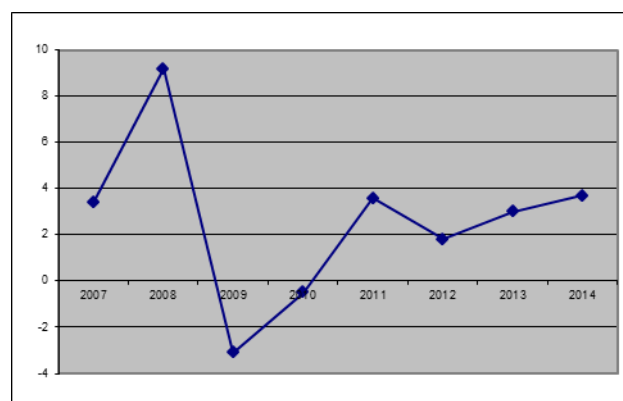


Fig. 4. Real GDP growth in Southern – Muntenia region  
 Source: own calculus and design.

In the South Muntenia region, an increased GDP occurred by the end of year 2008, followed by a drastic drop until 2009 and 2010, and then it followed a slight ascent by the end of the year 2014 (Tabel 3, Fig.4).

The real GDP / resident increases when it is about a positive economic growth, due to the volume growth of production and services in the analyzed period, and decreases when we have negative economic evolution, i.e. real

GDP grows more slowly than population growth.

In Teleorman county, the GDP/resident increased by 36 % from 3,479 Euro/capita in 2007 to 4,735 Euro/capita in 2014.

The only decline was recorded in the year 2009, by 4.5 % less than in the year 2007 (Table 4, Fig.5).

Table 4. GDP/resident (euro) in Teleorman county

GDP / Resident (euro)							
2007	2008	2009	2010	2011	2012	2013	2014
3,479	3,860	3,324	3,585	3,976	4,022	4,353	4,735

Source: National Institute of Statistics [2]

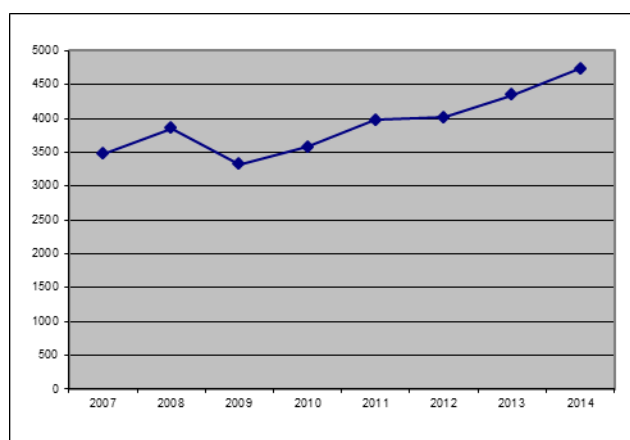


Fig. 5. GDP/resident (euro) in Teleorman county

Source: own calculation and design.

At the Southern Muntenia region, GDP/resident recorded a similar evolution. In general, the trend line was an ascending one, with the only inflexion in 2009.

The GDP/resident at the region level increased by 40.7 % from 4,722 Euro/capita in 2007 to 6,649 Euro/capita in 2014 (Table 5).

Table 5. GDP / resident (euro) in Southern – Muntenia region

GDP / Resident (euro)							
2007	2008	2009	2010	2011	2012	2013	2014
4,722	5,335	4,700	5,011	5,605	5,697	6,148	6,648

Source: National Institute of Statistics [2]

The increase of GDP / Resident in the Southern – Muntenia region is characterized by an ascending slope until year 2008. The decrease in the year 2009 had no a great impact, because of the fact that starting from 2010 we can observe a constant raise until year 2014 (Table 5, Fig.6).

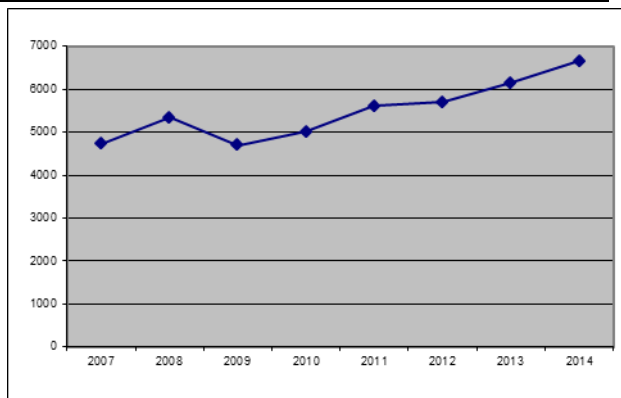


Fig. 6. GDP/resident (euro) in Southern – Muntenia region

Source: own calculus and design.

Workforce is represented by employed population and can grow by establishing new businesses, offering jobs, by the development of public activity and decreasing unemployment rate.

The growth rate of the average civil occupied population in Teleorman County varied between 0.5, the maximum level recorded in 2011 and -5.1 % registered in 2009, reflecting the deep impact of the economic crisis, when people could not find jobs and many of them were hired ( Table 6, Fig.7).

Table 6. Average civil occupied population growth rate in Teleorman county (%)

Average employed population growth rate (%)							
2007	2008	2009	2010	2011	2012	2013	2014
0.4	-0.5	-5.1	-5.1	0.5	-0.1	0.1	0.1

Source: National Institute of Statistics [2]

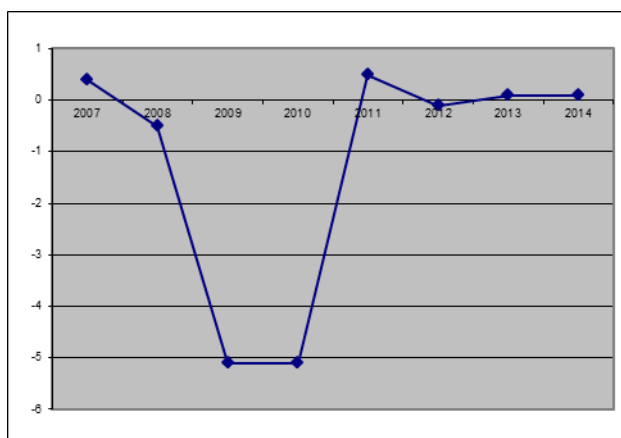


Fig. 7. Average civil occupied population in Teleorman county

Source: own calculus and design.

At the Southern Muntenia region level, the growth rate of the average civil occupied

population was smaller than in case of Teleorman county.

Its level ranged between -2.4 % in 2009, the minimum level, and +2.5 % in the year 2007, before the economic crisis to begin. But, starting from the year 2010, the situation has become better and better till 2011, and in 2012 the growth rate deeply declined to 0.1 % and recorded just a slight increase till 2014. (Table 7, Fig.8).

Table 7. Average civil occupied population growth rate in Southern – Muntenia region (%)

Average employed population growth rate (%)							
2007	2008	2009	2010	2011	2012	2013	2014
2.5	-0.1	-2.4	-1.5	2.3	0.1	0.2	0.3

Source: National Institute of Statistics [2]

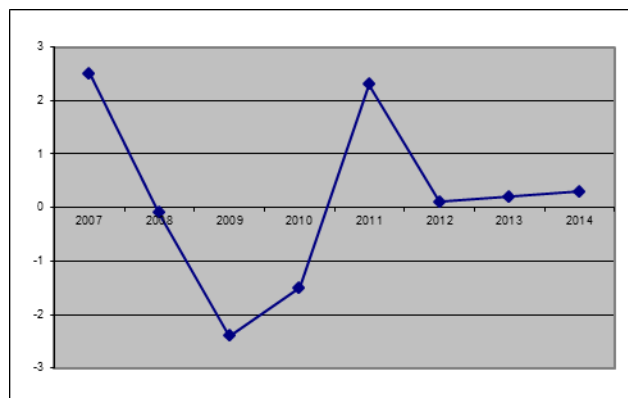


Fig. 8. Average civil occupied population in Southern – Muntenia region

Source: own calculus and design.

The value of the civil occupied population in Southern – Muntenia region dropped in the first 2 years until it reached a low level in 2009. It is followed by a comeback to the initial value in 2011, so that in the end, after a slight increase, it maintained a constant rate.

The average number of employees in Teleorman County has decreased until 2009, and then it is followed by a continuous increase until 2014.

The growth of average number of employees occurs when the number of enterprises increases, i.e. economic activity is developing in all areas, and it if the number of enterprises declines.

The growth rate of the average number of employees in Teleorman county declined from 4.2 % in the year 2007 to zero in the year 2011, the critical moment for this

economic indicator. Then, it started to improve year by year till the year 2014, reaching 0.4 % in the last year of the analysis. The deepest decline of this indicator was noticed in the years 2009 and 2010, -7.1 % and, respectively - 6.2 %, the years of the beginning of the economic crisis (Table 8, Fig.9).

Table 8. Average number of employees growth rate in Teleorman county (%)

Average number of employees growth rate (%)							
2007	2008	2009	2010	2011	2012	2013	2014
4.2	1.6	-7.1	-6.2	0	0.4	0.6	0.7

Source: National Institute of Statistics [2]

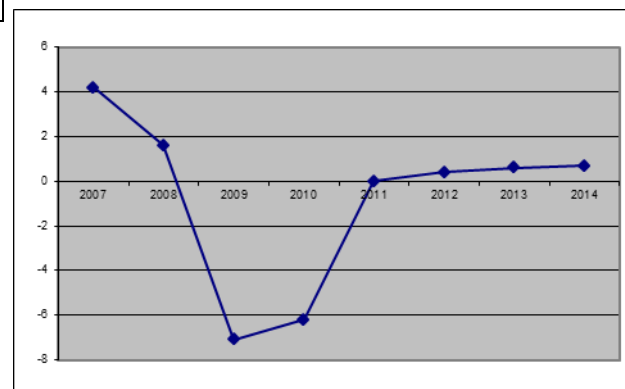


Fig. 9. Average number of employees in Teleorman county

Source: own calculus and design.

The study case over the average number of employees in the Southern – Muntenie region showed negative values by the end of the year 2010.

During the period 2010 – 2014, the average number of employees failed mainly in 2010, and then it recovered year by year but it remained almost constant at an average value between the initial value and the reached low peak of 0.8 % until the year 2014 (Table 9, Fig.10).

Table 9. Average number of employees growth rate in Southern – Muntenia region (%)

Average number of employees growth rate (%)							
2007	2008	2009	2010	2011	2012	2013	2014
5.4	0.6	-4.3	-9.7	0.2	0.3	0.7	0.8

Source: National Institute of Statistics [2]

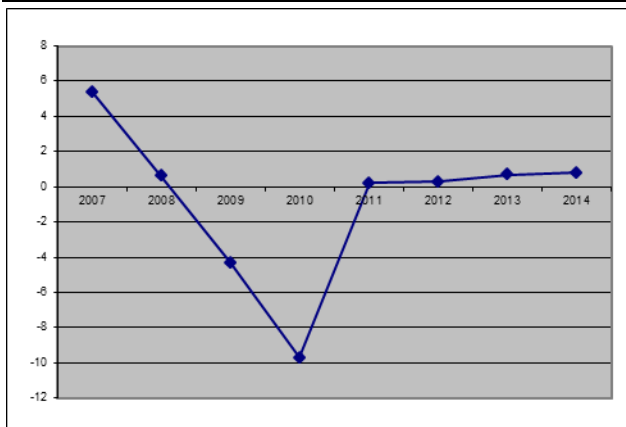


Fig. 10. Average number of employees in Southern – Muntenia region

Source: own calculus and design.

Evolution of unemployment rate in Teleorman County decreased until 2009, and then it followed a slight increase until 2014. . Unemployment rate increases when the number of unemployed people increases and the employed population decreases because the supply is greater than demand and falls when demand exceeds the offer, thus increasing the number of employees.

The unemployment rate ranged between 7.3 %, the minimum level in the year 2007, and 11.9 % recorded in the year 2009, when the crisis started.

From that moment, the unemployment rate has continuously declined reflecting an improved situation of jobs (Table 10, Fig.11).

Table 10. Rate of unemployment in Teleorman county (%)

The unemployment rate (%)							
2007	2008	2009	2010	2011	2012	2013	2014
7.3	8	11.9	11	9	8.3	8	7.9

Source: National Institute of Statistics [2]

The rate of unemployment in Southern – Muntenia region highlighted a high peak in 2009, accounting for 9.5 %, followed by a slow decrease until 2014, when it reached 5.1 %, the same level like in the year 2007 (Table 11, Fig.12).

In Teleorman county, the average net monthly earnings (RON/employee) had recorded a continuous increasing trend in the period 2007- 2014.

Thus, in 2014, it reached 1,410 RON/employee, being by 67.6 % higher than

in the year 2007, when it accounted for 841 RON/employee (Table 12, Fig.13).

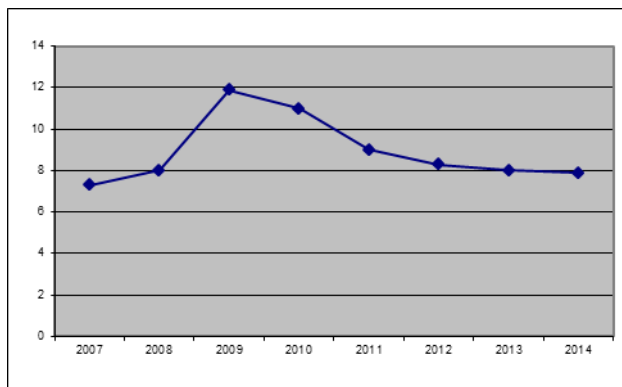


Fig. 11. Rate of unemployment (%) in Teleorman county

Source: own calculus and design.

Table 11. Rate of unemployment (%) in Southern – Muntenia region

The unemployment rate -%							
2007	2008	2009	2010	2011	2012	2013	2014
5.1	5.2	9.5	8.5	6.2	5.5	5.3	5.1

Source: National Institute of Statistics [2]

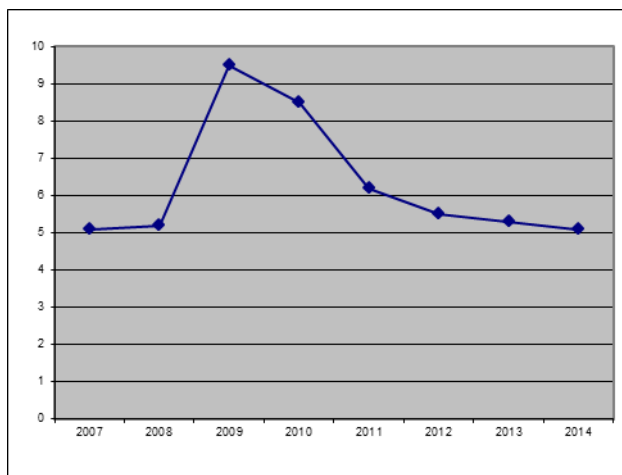


Fig. 12. Rate of unemployment (%) in Southern – Muntenia region

Source: own calculus and design.

In general, average net monthly earnings (RON/employee) increases when the amount of services and goods grows.

Table 12. Average net earnings per month (RON/employee) in Teleorman county

Average net earnings per month ( RON / employee)							
2007	2008	2009	2010	2011	2012	2013	2014
841	1,100	1,122	1,124	1,192	1,272	1,351	1,410

Source: National Institute of Statistics [2]

At the Southern Muntenia region level, the average net monthly earnings (RON/employee) had higher values compared to the average net monthly earnings (RON/employee) in Teleorman county, reflecting that in other counties job offers were more attractive.

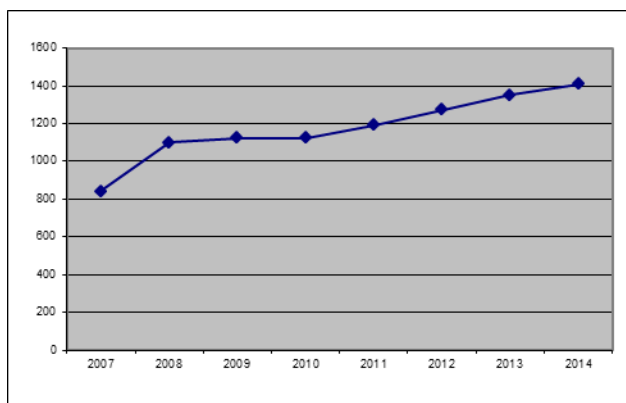


Fig. 13. Average net earnings per month (RON/employee) in Teleorman county  
 Source: own calculus and design.

In the Southern Muntenia region, the average net earnings per month increased by 66.6 % in the analyzed period, from 974 Ron/employee in 2007 to 1,623 Ron/employee in 2014 (Table 13, Fig.14).

Table 13. Average net earnings per month (RON/employee) in Southern – Muntenia region

Average net earnings per month ( RON / employee)							
2007	2008	2009	2010	2011	2012	2013	2014
974	1,220	1,294	1,303	1,386	1,474	1,560	1,623

Source: National Institute of Statistics [2]

The characteristic of the average net earnings per month per employee is the continuous increase during the entire analyzed period from 2007 until 2014.

Average net monthly earnings had a sinusoidal trend during 2007-2014.

This indicator level increases when the number of economic agents increases and decreases when their number decreases.

In Teleorman county, the growth rate of the average net earnings per month recorded the highest values in 2007 and mainly in 2008, when it accounted for 30.8 %. In 2009, it declined to 2 % and then to 0.2 % in 2010. In 2011, it recovered reaching 6 % and in 2012 6.7 %. Since 2013 it declined again so that in 2014, it was just 4.4 % (Table 14, Fig.15).

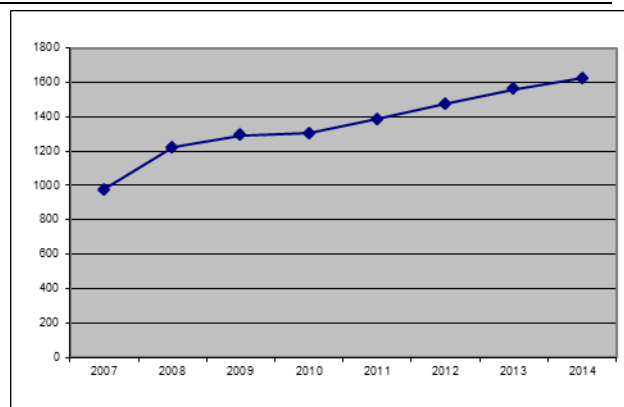


Fig. 14. Average net earnings per month (RON/employee) in southern – Muntenia region  
 Source: own calculus and design.

Table 14. Growth rate of Average net earnings per month in Teleorman county (%)

The growth rate of average net earnings per month (%)							
2007	2008	2009	2010	2011	2012	2013	2014
10.7	30.8	2	0.2	6	6.7	6.2	4.4

Source: National Institute of Statistics [2]

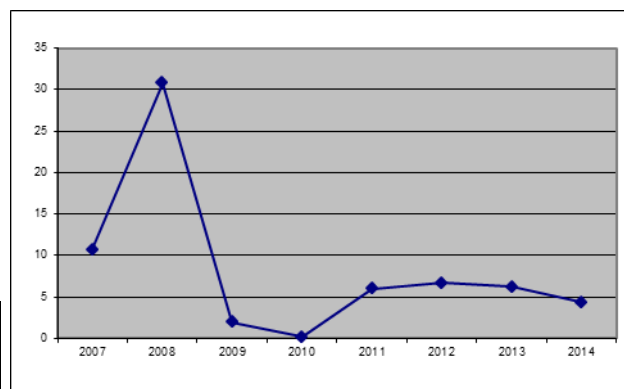


Fig. 15. Average net earnings per month in Teleorman county  
 Source: own calculus and design.

At the Southern Muntenia region, the growth rate of average net earnings per month had also a sinusoidal evolution in the analyzed period.

After an increase of the average net earnings per month from the year 2007 to 2008, then it suffered a major descend to 6.1 % and the lowest level was recorded in 2009, 0.7 %. Starting with the year 2011, the average net earnings per month strive to grow, from 6.3 % to 6.4 % in 2012, but then it declined to 5.8 % in 2013 and to 4 % in 2014. Since 2009, this indicator has never recorded the level achieved in the years 2007 and 2008 (Table 15, Fig.16).

Table 15. Growth rate of average net earnings per month in Southern – Muntenia region (%)

Growth rate of average net earnings per month (%)							
2007	2008	2009	2010	2011	2012	2013	2014
16.7	25.2	6.1	0.7	6.3	6.4	5.8	4

Source: National Institute of Statistics [2]

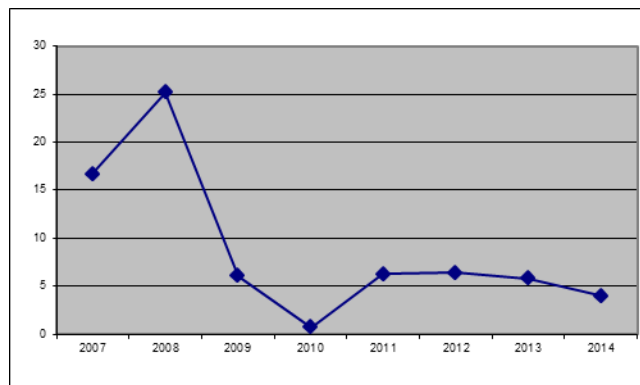


Fig. 16. Average net earnings per month in Southern – Muntenia region

Source: own calculus and design.

Teleorman is a county which has tradition in industry and agriculture. It is about the factory of chemical fertilizers situated in Turnu Magurele City, the factory producing bearings in Alexandria and wagons overhaul industry in Rosiori de Vede. Also, its fertile land represents one of the major assets playing an important role in the county’s development.

Tabel 16. SWOT analysis regarding the economic dynamic – industry and agriculture [12]

Strong points	Weaknesses
<ul style="list-style-type: none"> <li>-The existence of one of the most important chemical plants in the country;</li> <li>- A significant number of companies in the textile and clothing industry;</li> <li>-One of the most important companies producing bearings in the country;</li> <li>-Skilled labor available after repeated dismissals;</li> <li>-Strategic position for international trade through the acces at Danube in Turnu Magurele and Zimnicea;</li> <li>-High quality agricultural land;</li> <li>- Favorable conditions for the practice of fish farming - Danube port.</li> <li>-The active involvement of public authorities, competent in carrying out the process of informing the</li> </ul>	<ul style="list-style-type: none"> <li>Lack of manpower with higher education for industrial activities;</li> <li>-Lack of raw materials in Romania, thus further import costs;</li> <li>-Absorption of a low percentage of production on the market in Romania (approx. 25%);</li> <li>-Low level of research and lack of development applicability in private companies;</li> <li>-Old technologies - high production costs;</li> <li>- High pollution;</li> <li>-The high degree of fragmentation of land;</li> <li>-High level of use of agricultural machinery fleet;</li> <li>- Poor irrigation system;</li> <li>-Insufficient storage space for agricultural products;</li> </ul>

<ul style="list-style-type: none"> <li>population in the agricultural sector;</li> <li>-The existence of a suitable food livestock base for animal sector development;</li> <li>-Forest regeneration programs;</li> <li>- Proximity to Bucharest;</li> <li>-Presence of foreign investors in the county.</li> </ul>	<ul style="list-style-type: none"> <li>- The aging population;</li> <li>-Low number of employees in agriculture;</li> <li>-Increased reluctance for combinations of farms;</li> <li>-The average level of agricultural production.</li> </ul>
<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>Developing an active trade route to the Orient and Eastern Europe using the Danube River;</li> <li>-Diversification of existing industrial areas;</li> <li>-Attracting new investments in the agro-industrial sector;</li> <li>- Association of producers in agriculture;</li> <li>- Active labor exploitation by ensuring a continuous process of information and professional development;</li> <li>-Use of funding opportunities for rural development;</li> <li>-Border collaboration to attract investment;</li> <li>-Development of organic farming..</li> </ul>	<ul style="list-style-type: none"> <li>Increasing the number of employees made redundant as a result of automatization of the production process;</li> <li>-Exposure to global markets;</li> <li>-Migration of young people;</li> <li>-Increased competition from imported products;</li> <li>-Lack of recovery and promoting products traditional agricultural;</li> <li>-Legislative and administrative gaps on farmers association;</li> <li>- Climate change;</li> <li>-Labor shortages employed in agriculture.</li> </ul>

Source: Sustainable Development Strategy 2010-2020 Teleorman County - APPENDIX to the Resolution no. 120 of 29 October 2010 [6, 7]

## CONCLUSIONS

The goal of this study case was to highlight the evolution ratio between Teleorman county and Southern – Muntenia region that is belongs to. The topics intended to focus are presented as follows, together with a conclusion that will explain the ratio:

- Regarding the real GDP growth, while in the study of Teleorman county it was noticed a drastic decrease of GDP until the year 2009, a failure in coming back to the initial value and in the end the inability to stabilize to an average level, in the Southern – Muntenia region there were 2 peaks, high and low, followed by a return to the initial value.
- Concerning GDP/resident, in the both cases of Teleorman county and Southern – Muntenia region, there was a slight and constant increase of GDP value starting from 2009, the only difference being the value of GDP itself.



-Regarding the average employed population, the most important thing to mention in the ratio between Teleorman county and Southern – Muntenia region when it comes to average employed population, is the huge difference between the lowest point reached in year 2008. Beside this, both their evolutions are alike.

-Concerning the average number of employees, meanwhile in the Southern – Muntenia region it was noticed a radical decrease of the average number of employees until the year 2010, Teleorman county had a slow decrease, followed by a comeback to a constant value until year 2014.

-Regarding the unemployment rate, Teleorman county has differentiated by its slight increase in value, while Southern – Muntenia region has not followed these steps: it reaches a peak in the year 2009.

-Concerning the average net earnings per employee, the both compared areas showed a similar rate of progress, the only difference consisting in the final value reached in year 2014.

-Regarding the average net earnings per month, in Teleorman county there were found repeated variations of the value of average net earnings per month, while in Southern – Muntenia region it was achieved a constant evolution over 2007-2014 period.

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