PERFORMANCE ANALYSIS OF AGRICULTURAL ACTIVITIES IN ROMANIA IN THE REGISTER OF SUSTAINABLE DEVELOPMENT

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ABSTRACT:
Agriculture is one of the oldest occupations of the people and his continue improvement is one of the essential factors of generalized progress. Thus, it developed a range of specific branches of this field, where activate the highly specialized scientists (biologists, biochemists, biophysicists, geneticists, etc.) whose only concern is to improve productivity and methods for growing plants and animals, the use of existing resources.

Romania has an agricultural area of 6,000 sqm/inhabitant, the highest in the European Union, followed by Spain with 5,000 sqm/inhabitant, France with 4,300 sqm/inhabitant and Poland with 4,000 sqm/inhabitant, but at the same time, has the most fragmented land in Europe, given that 53% of arable land is worked on farms of less than ten hectares. In addition to this major problem, there are many others that will be caught on across studies and in this context it seeks investment opportunity in Romanian agriculture, on the two main branches - crop and livestock. Based on the assumption that one of the two main branches of agriculture is more profitable, purpose of research is to identify it. To achieve the research objectives, the study proposed to analyze a series of specific indicators of performance, calculated based on data reported at national level toward National Institute of Statistics.

KEYWORDS: performance, agriculture, investment, crop, livestock

JEL CLASSIFICATION: M49, Q56

1. Introduction
Agriculture is now a global challenge in terms of doubling the population of the planet in the last half of century and continues its growth forecasts. In this context, agricultural activity will be carried out by maintaining the right environment for the development of natural flora and fauna, using efficiently the natural resources. One of the specialists problems will be if the futures’ agriculture should be seen as an adaptation of the existing one or is required a radical change in the whole concept.

With an agricultural area of 6,000 sqm/capita, the highest in the European Union, Romania has the most fragmented land in Europe, given that 53% of arable land is worked on farms of less than ten hectares. Thus, it can be said that farming still awaits investors. According to Accace experts, a leading business consulting company in Central and Eastern Europe, in 2014, agriculture, IT and outsourcing will be the main areas of attraction for foreign investors in Romania. "The main argument for the agriculture is the major interest of foreign investment funds to purchase land and farms, but also for the cultivation and their operation. The land of Romania presents major advantages for investors, due to the fact that there are large areas of land that can be included in the bio culture, which raises the price of the final product."(Radu, 2013)

The survey results indicate the most attractive branch for investors in agriculture - crop or livestock, according to specific performance indicators calculated based on data reported at national level toward National Institute of Statistics by the companies present on Romanian agricultural market.

2. Research methodology
We study all the companies in the agriculture, on the two branches - crop and livestock, which have reported the results of work undertaken toward the National Institute of Statistics of Romania.

The research objectives are to ”radiography" the agricultural activity from Romania through descriptive and comparative analysis of specific performance indicators and identifying the investment opportunities in agriculture, on the two main branches - crop and livestock, based on specific performance indicators.

To achieve the research objectives, in the study are proposed for analysis the following indicators: the production of main agricultural products per capita, calculated as ratio between total production and total population.
and the value of production on agricultural branch, as value expression of the volume of all agricultural products vegetable and animal in their natural form (without loss) earned in a calendar year and the expenses with tree plantations and vineyards up to started to produce.


3. Performance in Romanian agriculture

The term agriculture comes from Latin words agri - field and culture - working in the sense of processing soil for plants cultivation. Generally, agriculture designate sciences and distinct occupations, such as: aquaculture (growing plants and animals which living in the water, especially in the seas and oceans), agrophytotechnical (field crop, forage and industrial crops), beekeeping (bees growing), poultry (poultry breeding), horticulture (growing vegetables, fruit trees, vineyard, trees and decorative shrubs, flowers, ornamental plants, tropical plants and greenhouse plants), the mollusks growing, pisciculture (fish farming), sericulture (silkworm rearing), forestry (study, growth, exploitation and protection of forest trees, control and protection of flora and fauna of the forests), livestock (farm animals).

About half of the world population working in agriculture, but its role in economic and social life of every country differs in function of its stage of development. Thus, in emerging countries the majority population work the land (for example, in Nepal about 90%), in contrast to strong industrialized countries, where the percentage is very small (for example, the United States or the United Kingdom of Great Britain about 2%). However, the United States is the biggest exporter of agricultural products due to the high performance achieved through the application of advanced scientific techniques.

3.1. The evolution of agriculture in Romania

In the period 1949 – 1989, in Romania has occurred an extensive economic development. This phenomenon was more pronounced in the years 1970-1980, which sought quantity, less quality, forced by a strong expansion of production capacity across the economy, achieving the change of the branch character of the economy, from agrarian-industrial in industrial-agrarian. In December 1989, around 58% of national income was realized in the industry, 15% in agriculture and the rest in trade and services. (Paradovschi, 2010)

After 1989, the transition from centrally planned economy to those of functional market proved to be a very complicated and complex process, with profound restructuring in the activity of all branches of the economy. Thus, the agriculture suffered, his proportion in PIB decreased continuously from about 11% in 2003 to 6.6% in 2008 and 5.3% in 2012. Nevertheless, with an agricultural area of about 14.7 million hectares, of which 9.4 million hectares of arable land (63.9%), 3.3 million hectares of grassland (22.4%), 1.5 million hectares of hayfields (10.2%), 218,000 hectares of vineyard (1.5%) and 206,000 hectares of orchards and tree nurseries (1.4%), Romania is, after Poland, the second largest producer of agricultural products from Central and Eastern Europe.

3.2. Performance of agricultural activity in Romania

The status of economic and financial performance of the company can be considered a key element for any potential or real creditor and the maintaining of performance or even improve it should be a key concern for enterprise management so that continuing the business activity must to be realized in terms of profitability and liquidity (Georgescu, 1999).

In the specialized literature does not exist a unitary vision of the performance concept, which is why we find many definitions such as (Siminică, 2008):

- M. Porter believes that the company’s performance depends on its ability to create value for customers;
- A. Bourguignon points out that the performance reflects the organizational objectives achievements;
- Elie Cohen assimilated performance with efficiency, the obtained results by the company being pursued in relation to the resources used;
- Philippe Lorino believes that the performance for the enterprise is what helps to improve the torque value-cost and not just that what contributes at cost decrease or value increase;
- C. Marmuse presents the idea that performance is capable of maintaining a distance, on long term, compared to competitors, through a strong motivating of organization members.

A noteworthy vision is to occur that performance is a result of evolution of unstable equilibrium obtained from the concepts of efficiency and effectiveness (Niculescu & Lavalette, 1999). It can be said about the company activity that is efficient and effective (when it reached the desired goal with minimal effort) and effective (when meet external requirements) at the same time.
The value of agricultural production in Romania was 66.9 billion lei in 2008, 59.9 billion lei in 2009 and 64.4 billion lei in 2010. In 2009, Romania exported food products of 2.1 billion euro and imported goods of 3.4 billion euro. In 2010, Romania had an external deficit of over 700 million euro at the imports and exports of agricultural products. In 2011, Romania exported food products of 2.9 billion euro and imported goods of 3.7 billion euro.

According to data from the National Institute of Statistics, in 2013, crop production in Romania registered increases for all crops compared with 2012. Thus, the surface cultivated with corn of 2.58 million hectares (47.1% of the area cultivated with cereals), has placed our country on first place in the European Union. However, the production of 11.373 million tons of maize obtained under doubling the yield per hectare compared to 2012 situated our country on second place, after France, which obtained about 15 million tons of maize from a cultivated area of 1. 85 million hectares, due to a higher net yield.

Also on first place was Romania at sunflower culture, both in terms of cultivated area (1.068 million hectares) and of obtained production (2.135 million tons).

Regarding the area cultivated with wheat (about 2.135 million hectares, respectively 39% of the area cultivated with cereals), Romania was situated on fourth place after France, Germany and Poland, and on the products obtained (7.428 million tons), on sixth place, after France, Germany, United Kingdom, Poland and Spain.

Increases were registered in 2013, also in livestock. Thus, increased both the number of animals owned (for example, with 33,000 cows, 412,000 sheep, 43,000 pigs) and meat and milk production (106,900 tons of meat and 564,200 hl of milk). (Oprea, 2014)

4. Results and discussion

The Romania's agricultural potential is good, but not enough for agriculture to become efficient. Romania is on the last places at many chapters regarding the agricultural performance from European Union. This major minus of Romanian agriculture will not be removed except trough major investments in technical and material base (tractors, combines and other agricultural machinery), irrigation, land improvements (drainage works, works of improvement and soil erosion control etc.) fertilizers and, not least, research in the field consistent with public health requirements. (Oancea, 2012)

Another important aspect is that the agricultural area of Romania decreased year by year (according to National Institute of Statistics of Romania, the cultivated area was 8,081,613 hectares in 2011 and 8,058,329 hectares in 2012).

To determine the performance of agricultural activity on the two main branches studied, we used reported data on national level between 2010 and 2012. Thus, it was intended to illustrate the quantitative production and his value during the analyzed period and based on collected data were calculated dynamic indices, which reflects the fluctuations registered by the analyzed indicators.

The quantitative production of main agricultural products from Romania, per capita, as well as the fluctuations in the relative value of this indicator is summarized in table no.1:

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Grains</td>
<td>Kilograms</td>
<td>825.5</td>
<td>1034.5</td>
<td>638.1</td>
<td>25.32</td>
<td>-38.32</td>
</tr>
<tr>
<td>2.</td>
<td>Wheat</td>
<td>Kilograms</td>
<td>287</td>
<td>354</td>
<td>263.6</td>
<td>23.34</td>
<td>-25.54</td>
</tr>
<tr>
<td>3.</td>
<td>Rye</td>
<td>Kilograms</td>
<td>1.7</td>
<td>1.6</td>
<td>0.9</td>
<td>-5.88</td>
<td>-43.75</td>
</tr>
<tr>
<td>4.</td>
<td>Corn</td>
<td>Kilograms</td>
<td>446.6</td>
<td>581.6</td>
<td>296.2</td>
<td>30.23</td>
<td>-49.07</td>
</tr>
<tr>
<td>5.</td>
<td>Sunflower</td>
<td>Kilograms</td>
<td>62.4</td>
<td>88.8</td>
<td>69.6</td>
<td>42.31</td>
<td>-21.62</td>
</tr>
<tr>
<td>6.</td>
<td>Sugar beet</td>
<td>Kilograms</td>
<td>41.4</td>
<td>32.8</td>
<td>35.8</td>
<td>-20.77</td>
<td>9.15</td>
</tr>
<tr>
<td>7.</td>
<td>Potatoes</td>
<td>Kilograms</td>
<td>162.2</td>
<td>202.3</td>
<td>122.7</td>
<td>24.72</td>
<td>-39.35</td>
</tr>
<tr>
<td>8.</td>
<td>Vegetables</td>
<td>Kilograms</td>
<td>190.8</td>
<td>207.3</td>
<td>175.9</td>
<td>8.65</td>
<td>-15.15</td>
</tr>
<tr>
<td>9.</td>
<td>Fruits</td>
<td>Kilograms</td>
<td>70.1</td>
<td>73.5</td>
<td>56.2</td>
<td>4.85</td>
<td>-23.54</td>
</tr>
<tr>
<td>10.</td>
<td>Meat</td>
<td>Kilograms</td>
<td>64.5</td>
<td>67.4</td>
<td>66.3</td>
<td>4.50</td>
<td>-1.63</td>
</tr>
<tr>
<td>11.</td>
<td>Milk</td>
<td>Liters</td>
<td>242.7</td>
<td>248.5</td>
<td>240.5</td>
<td>2.39</td>
<td>-3.22</td>
</tr>
<tr>
<td>12.</td>
<td>Wool</td>
<td>Kilograms</td>
<td>1.0</td>
<td>0.9</td>
<td>1.0</td>
<td>-10.00</td>
<td>11.11</td>
</tr>
<tr>
<td>13.</td>
<td>Eggs</td>
<td>Units</td>
<td>306.0</td>
<td>314.0</td>
<td>318.0</td>
<td>2.61</td>
<td>1.27</td>
</tr>
</tbody>
</table>

Source: own processing after data from the National Institute of Statistics, available online at: https://statistici.insse.ro/shop/index.jsp?page=tempo3&lang=ro&ind=AGR200A

From the table data it can be seen that the plant crop farming has fluctuated higher than that of livestock. Furthermore, it identifies a more pronounced downward trend of production in plant culture branch, in the analyzed period. Thus, the cereal production per capita increased in 2011 compared to 2010 with 25.32%, but in 2012 compared...
to 2011 decreased with 38.32%; wheat production per capita has increased with 23.34% in 2010-2011, but decreased with 25.54% in 2011-2012. The same growth in 2010-2011 and in 2011-2012 it keeps decreasing also at other products obtained from land cultivation (corn, sunflowers, potatoes, vegetables, fruits), the exception being at the production of rye, which records a continuous decrease (with 5.88% in 2011 compared to 2010 and with 43.75% in 2012 compared to 2011) and also at sugar beet production per capita which declined in 2010-2011 with 20.77% and increased in 2011-2012 with 9.15%.

Livestock branch is proving to be more constant in terms of output per capita. Thus, at the meat and milk production is registered increase in 2010-2011 (with 4.5% at meat and 2.39% at milk) and decreases in 2011-2012 (with 1.63% at meat and 3.22% at milk), at wool production drops with 10% in 2010-2011 and increase with 11.11% in 2011-2012, while the egg production recorded a continuous growth (with 2.61% in 2011 compared to 2010 and with 1.27% in 2012 compared to 2011).

Schematically, the evolution of main agricultural products production per capita on the two main branches of agriculture is shown in figures no. 1 and no. 2.

Figure no. 1 - Evolution of the main agricultural products per capita in crop branch

Figure no. 2 - Evolution of the main agricultural products per capita on livestock branch

And, in terms of value, the livestock sector is more stable than crop plants. This can be seen in table no. 2:
Table 2 - Production value of agricultural branch

<table>
<thead>
<tr>
<th>Agricultural branch</th>
<th>Unit of measure</th>
<th>Year</th>
<th>Relative deviations (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant cultivation</td>
<td>thousand lei</td>
<td>43,488,480</td>
<td>54,179,772</td>
</tr>
<tr>
<td>Livestock</td>
<td>thousand lei</td>
<td>20,406,840</td>
<td>21,784,104</td>
</tr>
</tbody>
</table>

Based on the table data, it can see the production value from the plant crop sector grew with 24.58% during 2010-2011, but declined in 2011-2012 with 25.86%; instead, the output value of the livestock sector, although approximately half of the other, has registered a constant trend in the analyzed period (with 6.75% in 2011 compared to 2010 and with 8.13% in 2012 to year 2011).

5. Conclusions

The agricultural area of Romania decreased year by year due to the transfer of land to forestry and constructions and among the major problems of Romanian agriculture can be identified: land fragmentation into small family subsistence farms after improper restitution of agricultural land to former owners, lack of investment in large farms, private or agricultural associations which allow mechanized land work, failure to adopt modern techniques, difficulty in accessing EU grants etc.

In agriculture we can talk about potential, but less of performance, while the agriculture is still made with plow pulled by oxen and does not exist a strong middle class of farmers which working with modern means on compact surfaces of land and which have good business strategy. To change the paradigm "if it rains we will do performance in agriculture, if not, we talk about disaster" is absolutely necessary to attract major investments in this area of the economy that is supported by appropriate government programs.

After the study performed on the two main branches of agriculture and without regarding to other factors, but only the values of analyzed indicators – the production of main agricultural products per capita and the production value of agricultural branch, it can be concluded that livestock branch would be more attractive for investors in detriment of plant cultivation. But it must be pointed out that most farms merge the activities related to the two main branches of agriculture and very few are highly specialized only on one activity. In addition to this, should take account of other factors that modify the intention of investments in agriculture. The great problem of the Romanian agriculture is the excessive bureaucracy and lack of fiscal predictability. However, Romania’s advantages in terms of investment in agriculture towards countries from the region remain low price of land, cheap labor and low operational costs.

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7. References: