

Research Journal of Pharmaceutical, Biological and Chemical Sciences

Improving The Tools Of Spatial Economic Research: Methodological Approaches And Practical Results Of Investment Activity Evaluation.

**Alexey Nikolaevich Gerasimov*, Yevgeny Ivanovich Gromov,
Yuri Sergeevich Skripnichenko, Elena Ivanovna Kapustina, and
Oksana Petrovna Grigorieva.**

Stavropol State Agrarian University, Zootekhnicheskiiy lane, 12, Stavropol 355017, Russia.

ABSTRACT

At present, there is an objective need for a wider application of forecasting methods and tools for investment activity. Regional planning and forecasting is a separate form of economic work aimed at achieving a specific goal. The relevance of the research topic is confirmed by the need to study the development of the main areas of agriculture in the region in order to develop special tools and timely recommendations for adjusting the investment activity of organizations in the Stavropol Region taking into account alternative situational scenarios. The aim of the study is to develop scientific and methodological guidelines and practical recommendations for the development of agriculture in the Stavropol Region, taking into account various scenarios of long-term forecasts of changes in the investment activity of agribusiness entities.

Keywords: agriculture, investment, investment activity, rating, Stavropol Region.

**Corresponding author*

INTRODUCTION

Priority areas for attracting investments in agriculture in the region can be determined based on the current level of investment activity of agricultural producers in the Stavropol Region [1]. Currently, the study of the priority areas of investment activity of enterprises of the agro-industrial complex of the Stavropol Region involves the use of a differentiated approach [2, 11]. The study of the development of the industry will determine the potential of investment development of the territories of the region and identify priority areas for attracting investment in agriculture with the identification of local points of potential development [4, 12]. Where investment decisions can become the most effective [5, 13].

The use of scientifically grounded methods of timely impact on the development of territories oriented towards the production of agricultural products [6, 14] allows overcoming the tendencies of a decrease in the rates of economic growth, increasing the possibilities of stimulating investment development [7, 15]. In this regard, there is an urgent need to develop special tools for the implementation of the economic assessment of the parameters of sustainable development of agrarian-oriented areas [8, 16].

MATERIALS AND METHODS

We propose such a technique, presented in Figure 1, a distinctive feature of which is the block structure, which allows to uniquely identify the level of investment activity of agricultural organizations in the Stavropol Region [9, 17]

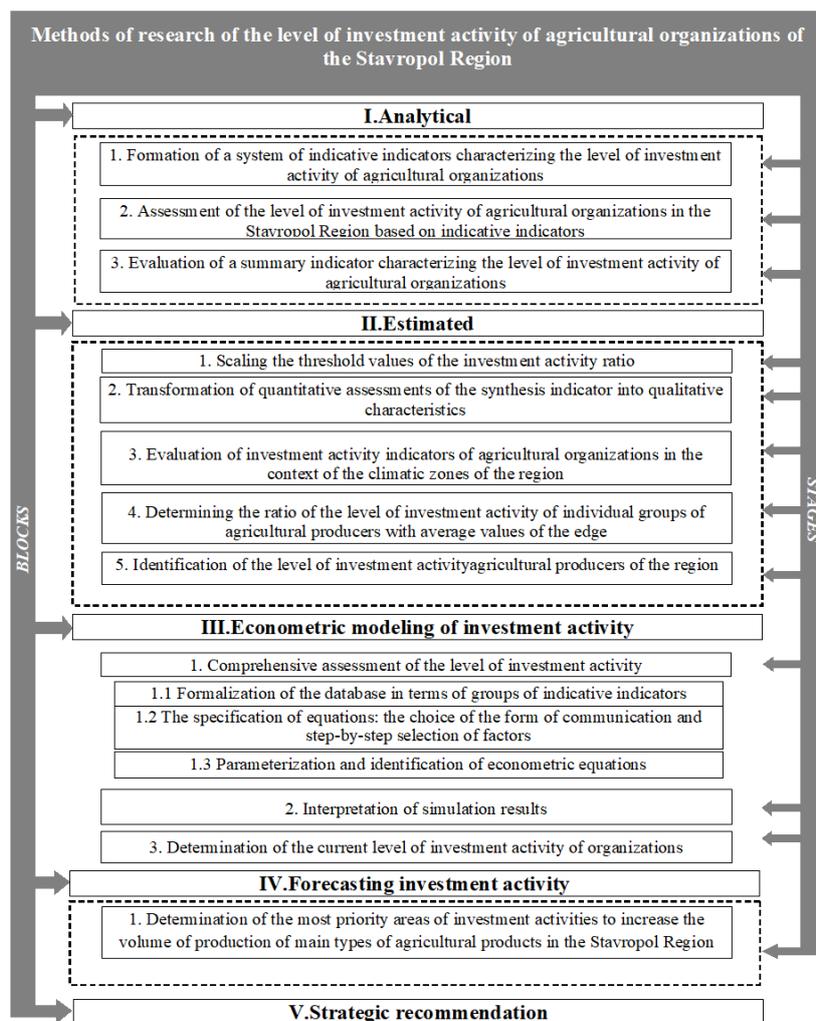


Figure 1: Methods of studying the investment activity level of agricultural organizations into Stavropol Region

In accordance with the first stage of the analytical block of the methodology for studying the investment activity of agricultural organizations in the Stavropol Region, the following system of indicative indicators was formed:

- X₁ - Revenues per 1 employee, thousand rubles;
- X₂ - Profit per employee, thousand rubles;
- X₃ - Revenue for 1 rub. investment;
- X₄ - Sales profitability, %;
- X₅ - capital productivity;
- X₆ - capital-labor ratio;
- X₇ - Average monthly wage, thousand rubles;
- X₈ - Subsidies for 1 rub. net profit;
- X₉ - Subsidies for 1 rub. investment;
- X₁₀ - Taxes on 1 rub. net profit.

The presented methodology for assessing the level of investment activity in the field of agriculture in the Stavropol Region is based on the formation of a multi-criteria summary indicator, the algorithm for obtaining which is schematically shown in Figure 2.

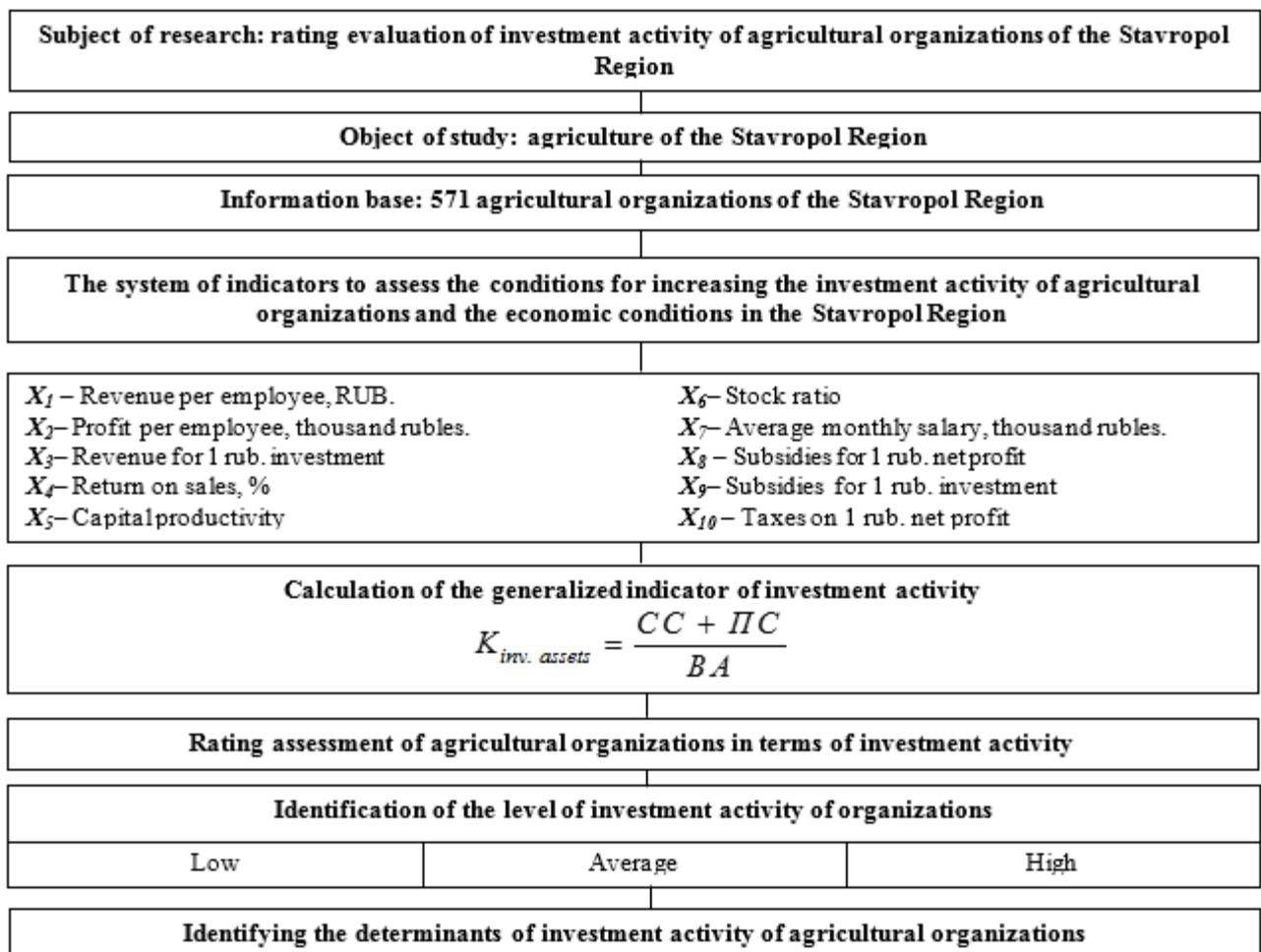


Figure 2: Algorithm for rating the investment activity of agricultural organizations in the Stavropol Region

RESULTS

When calculating revenue figures per employee, the average value of the edge was 2090.40 thousand rubles; net profit per employee - 457.10 thousand rubles; revenue 1 rub. investment - 2.40; return on sales -

30%; capital productivity - 1.60; capital-labor ratio - 1333.20; subsidies for 1 rub. net profit - 0.20; subsidies for 1 rub. investment 0.10; taxes on 1 rub. net profit - 0.40 (Table 1).

Table 1: Assessment of the prerequisites for increasing the investment activity of certain groups of agricultural organizations in the Stavropol Region

Indicators	1st decile	Average around the edge	10th decile
Revenue per employee, RUB thousand	1777,80	2090,40	2444,40
Net profit per employee, RUB thousand	358,10	457,10	615,40
Revenue for 1 rub. investment	30,90	2,40	1,20
Return on sales, %	30	30	40
Capital productivity	0,90	1,60	3,00
Stock ratio	1935,60	1333,20	816,60
Average monthly salary, thousand rubles	23,10	21,26	23,35
Subsidies for 1 rub. net profit	0,20	0,20	0,10
Subsidies for 1 rub. investment	1,00	0,10	0,00
Taxes on 1 rub. net profit	0,40	0,40	0,50

The share of fixed assets in the first decile is 8.99% of the total margin; revenue - 5.27%; cost price 5.20%; net profit - 4.85%; own and borrowed funds 0.45% and 0.35%, respectively; construction in progress and incomplete operations for the acquisition and modernization - 0.96%; subsidies - 3.74%; taxes, fees and obligatory payments - 5.25% (Figure 3).

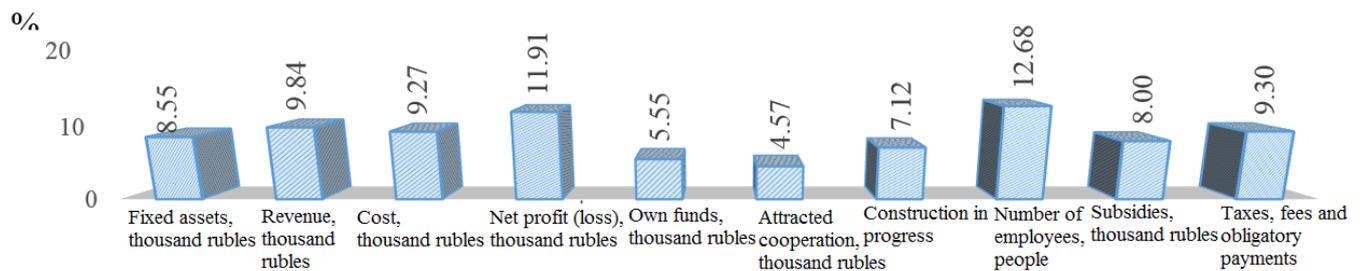


Figure 3: The share of indicators characterizing the conditions for increasing the investment activity of agricultural organizations in the first decile

The results of the study summarizing the rating indicators for the first decile of the Stavropol Region showed that when calculating the revenue per employee in the first decile, the indicator was 1,770.80 thousand rubles, which is 312.60 thousand rubles less than the average value on the edge; profit per employee - 358.10 thousand rubles, revenue per 1 ruble. investments in the first decile amount to 30.90 thousand rubles, which is more than 12 times higher than the average, this trend is associated with a low level of own and borrowed funds (Table 1).

The profitability of sales is equal to the average value in the region and is 30%. The capital productivity of agricultural enterprises of the first decile in 2015 was 0.90, which is 56.25% of the average value of the region, the capital ratio is 1935.60, which is 602.40 more than the average, which can be explained by the fact that rather high value of revenue. Subsidies and taxes on 1 rub. profits are 0.20 and 0.40 respectively, subsidies for 1 rub. investment - 1.00, which is 10 times higher than the average value in the region.

The proportion of fixed assets in the tenth decile is 6.18% of the total margin; revenue - 11.81%; cost price 10.77%; net profit - 13.59%; own and borrowed funds 27.54% and 14.98% respectively; construction in progress and incomplete acquisition and modernization operations - 16.19%; subsidies - 9.60%; taxes, fees and obligatory payments - 17.44%.

When calculating the revenue per employee in the tenth decile, the indicator amounted to 2,444.40 thousand rubles, which is 354.00 thousand rubles. above average over the edge; profit per employee - 615.40 thousand rubles, the value of this indicator is more than 30% higher than the average, which indicates the efficiency of the use of labor resources of agro-industrial enterprises of the tenth decile.

Revenue for 1 rub. investment is 1.20, which is 2 times lower than the average, it can be argued by a rather low level of funds raised in organizations of the tenth decile. The profitability of sales shows that 40% of the money received from the sale of goods (works, services) is the profit of the enterprise. The capital productivity of agricultural enterprises of the fifth decile in 2015 was 3.00, almost 2 times higher than the average in the region, thus, investments in fixed assets are profitable; capital-labor ratio - 816.60, which is 516.60 below the average.

As a separate indicator of investment activity, the values of the coefficient of investment activity were calculated:

$$K_{inv. assets} = \frac{CC + PC}{BA}$$

- CC – own funds to finance investments;
- PC – funds raised to finance investments;
- BA – non-current assets (total I section balance).

A qualitative assessment of the value of the coefficient of investment activity is carried out in accordance with the scale proposed by the authors, which has three levels of activity (Table 2).

Table 2: The threshold values of the coefficient of investment activity of agricultural producers in the region

Group	Borders of an interval of an indicator	Level of investment activity
1	$I \geq 1,0$	high
2	$0,50 < I \leq 1,00$	medium
3	$0,00 < I \leq 0,50$	poor

The average value of the coefficient of investment activity in the region in 2015 was 0.48. In the tenth decile, the average value of the investment activity ratio was 2.05.

The results of the rating evaluation of investment activity of agricultural organizations in the first natural-climatic zone of the Stavropol Region allow us to conclude that the following types of livestock products are the priority areas for attracting investment: cattle meat, mutton meat, wool.

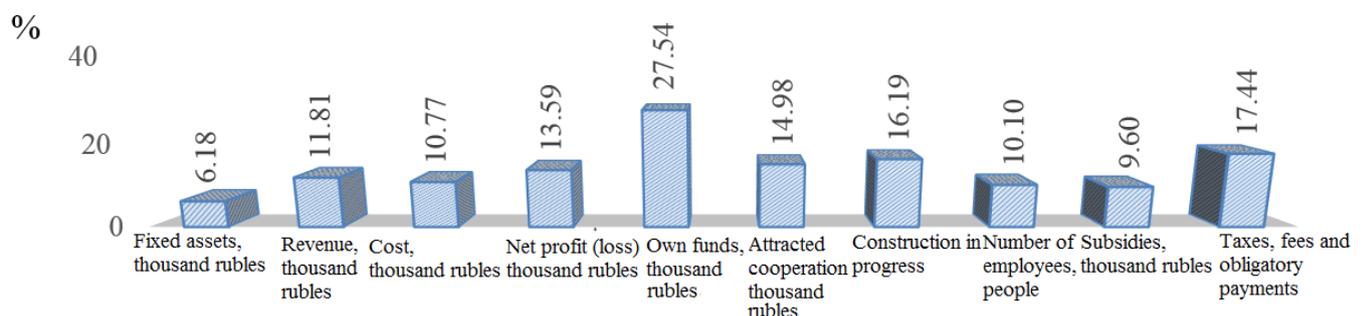


Figure 4: The share of indicators characterizing the conditions for increasing the investment activity of agricultural organizations in the tenth decile

The results of the rating evaluation of investment activity of agricultural organizations in the II natural-climatic zone of the Stavropol Region allow us to conclude that the production of pork meat is a priority direction of production.

The results of the rating evaluation of investment activities of agricultural organizations in the III climatic zone of the Stavropol Region allow us to conclude that the priority areas of production are: the production of grain crops, sunflower, sugar beet, vegetables of open ground, potatoes, poultry and milk.

The results of the rating evaluation of investment activities of agricultural organizations in the IV climatic zone of the Stavropol Region allow us to conclude that the priority directions of production are: the production of greenhouse vegetables and eggs [10, 18].

DISCUSSION

As a result of the generalization of the rating of investment activity of agricultural organizations of the Stavropol Region, 11 of the most promising areas of specialization of the agricultural sector of the region were identified (Figure 5).

Thus, the practical application of the methodology for rating the investment activity of agricultural organizations in the Stavropol Region made it possible to identify 11 of the most priority areas for attracting investment in agriculture:

- plant products: sunflower, sugar beet, potatoes, and vegetables;
- livestock products: beef, lamb, pork, poultry, milk, eggs, wool.

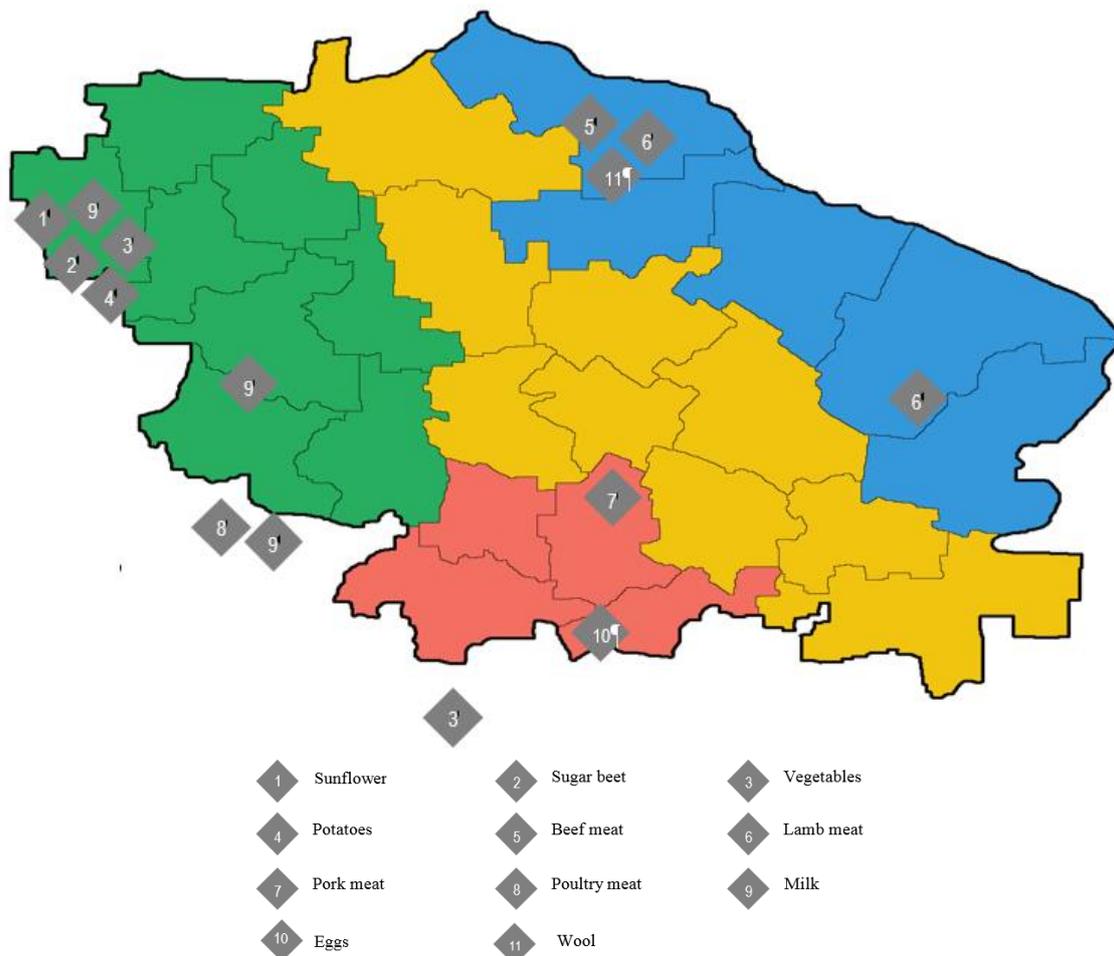


Figure 5: Cartogram of investment activity of agricultural organizations of the Stavropol Region

CONCLUSION

Using the methodology of multi-criteria rating assessment of the level of investment development of agriculture in the Stavropol Region, it was possible to identify 11 priority areas for attracting investment in agriculture: crop production: sunflower, sugar beet, potatoes and vegetables; livestock products: beef, lamb, pork, poultry, milk, eggs, wool.

The scientific novelty consists in substantiating a set of theoretical and methodological provisions and practical recommendations aimed at achieving national priorities through improving the system of strategic modeling and forecasting the investment activity of agricultural entities in the Stavropol Region [10, 19].

Practical application of the proposed method allowed us to identify not only the directions of stimulating the development of agriculture in the region but also geographically localize the points of the most effective use of measures aimed at increasing the investment activity of agricultural producers in the Stavropol Region.

ACKNOWLEDGMENTS

The authors express deep gratitude to the rector of Stavropol State Agrarian University, Professor Vladimir Ivanovich Trukhachev for the opportunity to conduct research in the innovative laboratories of the educational institution.

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