Investment management of small business in the agro-industrial complex

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Abstract. Investing in agriculture is characterized by a long payback period and therefore requires a competent investment management to control resources attracted to small agribusiness sector. The purpose of the research is to develop an investment management mechanism of small agribusiness and substantiate practical proposals for attracting investments in the development of the farming sector based on assessing competitiveness. The object of the research is small-scale farming households. The subject of the research is investment activity of regional agribusinesses. The article clarifies the theoretical understanding of ‘investment management’ in relation to small agribusiness, and defines the economic tools for attracting investment in the agricultural sector. The authors have developed a phased investment management mechanism, taking into account the factor characteristics of agricultural production. Based on the method of cluster analysis, regional strategic interests and assessment of small agribusiness competitiveness in the agricultural market, the authors have proposed a certain strategy to select peasant farms for the provision of state support. The article has shown the main aspects of investing in small agribusiness and demonstrated the role of state support for peasant farms in ensuring effective manufacturing of agricultural products. The results of the work can be used by regional authorities for the development of management impact on the investment activity of small agribusinesses.

1. Introduction

The development of agribusiness currently requires direct state support for small-scale farming households in the agro-industrial complex (AIC). Nowadays, small agribusiness is undergoing structural changes. Private, public, and credit financial resources directed at the agricultural sector are mainly focused on large and medium-sized businesses. Modern facilities, financial working capital, wide market for sales of products, and positive credit history are the main factors for this situation. However, in recent years, circumstances have changed, and a part of financial aid, in the form of subsidies, has been redistributed in favour of small agribusiness for starting and development of a peasant (farm) economy under the State Program for Agricultural Development and Regulation of Agricultural Products, Commodities and Food Markets for 2013–2020. There was a need to develop a mechanism for concessional lending to small-scale farming households.

The attracted financial resources were directed to the implementation of investment business projects in the AIC. Since the investment activity of agricultural production is characterized by a long payback
period related to the sectoral characteristics of agriculture, there is a need for a well-thought-out policy on the use of resources attracted to agribusiness.

2. Material and methods
During the research, the following types of analysis were conducted: economic, mathematical, statistical, monographic, computational, constructive, graphic, systemic, and comparative.

3. Results and discussion
3.1. Main elements of investment management
According to Khobta, investment resource management should be considered as a component of a general enterprise management system, taking into account its integration with the general management system [1]. Mayorov and Peresada indicate the need of investments oriented to the final results of the financial activities of the enterprise, which should be considered as a set of steps for managerial decision-making processes [2]. Grineva believes that investment resource management is a source of ensuring a high level of management dynamics in the field of formation and implementation of investments, a variety of approaches to managerial decision-making on investment resources of an enterprise and a focus on their strategic development [3].

The process of financial investment management should be carried out according to a set goal, certain tasks and specific principles for the use of investment resources (figure 1).

The study of the main components of investment management allows formulating the concept of ‘investment management of small businesses’ as a set of management decisions to determine the source of investment, optimize their composition and purpose of use, with the subsequent accumulation of financial resources whilst reducing production costs. To improve the efficiency of investment management, it is necessary to ensure high efficiency of business investments while reducing their payback period and maximizing profits.

Investment management mechanism of small agribusiness should include certain components and phases:

Phase I – Determining factors for attracting investments. This stage includes the study of the positions of federal and regional authorities towards attracting investments in specific areas of economy; identification and consideration of characteristics of agricultural production.

Phase II – Determining investment sources and its structure. The main source of financing of small agribusiness is its own funds. Budgetary investment resources or budget funds of various levels (subsidies or grants) are given for free though taking into account the high budgetary efficiency of the project. Concessional lending is becoming one of the available sources of investment. Business lines (products, works, services, technical solutions) and enterprise as a whole (new or operating on the market) can be objects of investment.

Phase III – Developing a business plan for investment project and investment implementation.

Phase IV – Return of investment flow through the commercial activity of the agribusiness entity. The payback rule assumes that income received from project outputs is equal to funds invested in it. In the case of attracting borrowed resources, the return of funds is carried out by paying principal plus interest. In the situation when households invest its own funds, the refund covers previously incurred costs and profits. If the state or regional authorities acting as an investor provide subsidies or grants, funds return assumes receipt of taxes and fees collected from an entity. Individual investors outline the scheme of funds return in agreements and other legal documents.

3.2. Investment management mechanism of small agribusiness
The use of the investment management mechanism and regular monitoring of investment implementation, at each stage, will ensure the efficiency of investment management at agribusiness entities.
3.3. Study the level of small agribusiness development

In recent years, the prospects for development of small agribusiness are not unambiguous. The development of peasant farms and individual enterprises is characterized by a dynamic increase in production volumes in the structure of agricultural products in Russia and the Orel region. As for subsidiary plots, there is a tendency towards a decrease in production volumes relative to other types of farms (table 1). As a result of the implementation of the national State aid program ‘The State Program for Agricultural Development and Regulation of Agricultural Products, Commodities and Food Markets for 2013–2020’, since 2012, an increase in production volumes has been observed of peasant farms and individual enterprises in the Orel region [4], [5], [6].
Table 1. Composition of agricultural products and types of farms in the Russian Federation and the Orel region (*calculated by the authors in accordance with Rosstat data [7], [8]).

| Types of farms                        | Years                | Average annual growth (decline) rate, % to 2005 |
|---------------------------------------|----------------------|-----------------------------------------------|
|                                       | 1990                  |                                               |
| Farms of all types, including         | 100                   |                                               |
| Agricultural enterprises              | 73.7                  |                                               |
| Subsidiary plots Peasant farms and individual enterprises | 26.3 |                                               |
|                                       | 1.1                   |                                               |
|                                       | 1992                  |                                               |
| Farms of all types, including         | 100                   |                                               |
| Agricultural enterprises              | 67.1                  |                                               |
| Subsidiary plots Peasant farms and individual enterprises | 31.8 |                                               |
|                                       | 1.9                   |                                               |
|                                       | 2000                  |                                               |
| Farms of all types, including         | 100                   |                                               |
| Agricultural enterprises              | 50.2                  |                                               |
| Subsidiary plots Peasant farms and individual enterprises | 47.9 |                                               |
|                                       | 3.2                   |                                               |
|                                       | 2005                  |                                               |
| Farms of all types, including         | 100                   |                                               |
| Agricultural enterprises              | 54.2                  |                                               |
| Subsidiary plots Peasant farms and individual enterprises | 49.3 |                                               |
|                                       | 6.1                   |                                               |
| Orel region                           |                       |                                               |
|                                       | 2005                  |                                               |
| Farms of all types, including         | 100                   |                                               |
| Agricultural enterprises              | 58.0                  |                                               |
| Subsidiary plots Peasant farms and individual enterprises | 53.0 |                                               |
|                                       | 9.4                   |                                               |
|                                       | 2006                  |                                               |
| Farms of all types, including         | 100                   |                                               |
| Agricultural enterprises              | 56.8                  |                                               |
| Subsidiary plots Peasant farms and individual enterprises | 58.0 |                                               |
|                                       | 9.0                   |                                               |
|                                       | 2007                  |                                               |
| Farms of all types, including         | 100                   |                                               |
| Agricultural enterprises              | 54.6                  |                                               |
| Subsidiary plots Peasant farms and individual enterprises | 39.9 |                                               |
|                                       | 7.2                   |                                               |
|                                       | 2008                  |                                               |
| Farms of all types, including         | 100                   |                                               |
| Agricultural enterprises              | 56.2                  |                                               |
| Subsidiary plots Peasant farms and individual enterprises | 37.7 |                                               |
|                                       | 5.7                   |                                               |
|                                       | 2009                  |                                               |
| Farms of all types, including         | 100                   |                                               |
| Agricultural enterprises              | 64.4                  |                                               |
| Subsidiary plots Peasant farms and individual enterprises | 27.8 |                                               |
|                                       | 6.6                   |                                               |
|                                       | 2010                  |                                               |
| Farms of all types, including         | 100                   |                                               |
| Agricultural enterprises              | 71.0                  |                                               |
| Subsidiary plots Peasant farms and individual enterprises | 19.3 |                                               |
|                                       | 7.8                   |                                               |
|                                       | 2011                  |                                               |
| Farms of all types, including         | 100                   |                                               |
| Agricultural enterprises              | 73.5                  |                                               |
| Subsidiary plots Peasant farms and individual enterprises | 15.7 |                                               |
|                                       | 9.7                   |                                               |
|                                       | 2012                  |                                               |
| Farms of all types, including         | 100                   |                                               |
| Agricultural enterprises              | 75.1                  |                                               |
| Subsidiary plots Peasant farms and individual enterprises | 13.8 |                                               |
|                                       | 10.8                  |                                               |
|                                       | 2013                  |                                               |
| Farms of all types, including         | 100                   |                                               |
| Agricultural enterprises              | 75.2                  |                                               |
| Subsidiary plots Peasant farms and individual enterprises | 12.3 |                                               |
|                                       | 11.1                  |                                               |
|                                       | 2014                  |                                               |
| Farms of all types, including         | 100                   |                                               |
| Agricultural enterprises              | 156.7                 |                                               |
| Subsidiary plots Peasant farms and individual enterprises | 27.4 |                                               |
|                                       | 716.1                 |                                               |

According to the data from the Ministry of Agriculture of the Russian Federation, the total amount of subsidies to support small business is increasing unevenly over the years (table 2); on average it doubled by 2018 (from 5.8 billion rubles to 10.4 billion rubles). Within the analysed period there was a constant growth of financial support for development of farms and consumer cooperatives by 1.4 and 3.5 times, respectively.

Table 2. Funds to support farmers and rural cooperation, RUB (thousands).

| Directions of support/ years | Refund partial land registry fees of peasant farms, including IE | Development of family livestock farming | Support of beginning farmers | Grant support of agricultural consumer co-operatives for the development of technical facilities | Total |
|-----------------------------|---------------------------------------------------------------|----------------------------------------|-----------------------------|--------------------------------------------------------|-------|
| 2012                        | 90 774                                                       | 2 804 449                             | 2 904 433                   | -                                                       | 5 799 656.00 |
| 2013                        | 105 416                                                      | 3 023 529                             | 3 034 017                   | -                                                       | 6 162 962.00 |
During the implementation of the Federal support program, ‘Creation of support system for farmers and development of rural cooperation’, as a part of the national project, ‘Small and medium sized businesses and support of individual entrepreneurial initiatives’, developed in accordance with Decree No. 204, the subsidies were reduced more than twofold. According to statistics, despite the reduction of subsidies for the development of business entities in the agro-industrial complex, there showed a steady increase in production volumes. Thus, peasant farms and individual enterprises of the Orel region dynamically increased production volumes in value terms (figure 2). This suggests a long-term multiplier effect of investment in farm production.

![Figure 2. Dynamics of manufacturing value in relation to amount of State aid for peasant farms in the Orel region, 2008-2019 [8].](image)

Changes in approaches to the implementation of state support for farming sector under the Federal support program require careful and reasonable selection of participants and recipients of grants based on an assessment of their competitiveness in the agricultural market.

3.4. Model to assess peasant farms as grant recipients based on assessment of their competitiveness

According to the results of the study [9], based on the method of classifying multidimensional observations in order to determine the similarity or proximity between objects, there were established indicators characterizing the financial and economic activities of peasant farms in municipal districts of
the Oryol region: the level of state support (RUB, in thousands) per unit area of agricultural land (ha) and per unit of manufactured products (c), the level of marketability of manufactured products (%), market share of own products sold in the region (%), income growth rate, crop yield (c/ha), the number of people employed in peasant farms (ppl.).

The authors have used a cluster analysis of farms in the Oryol region without taking into account their territorial affiliation (district) and determined the interrelated indicators of competitiveness for the development of farms (table 3).

**Table 3. Effective clustering indicators of peasant farms.**

| Peasant farms by agricultural areas | Cluster number |
|------------------------------------|----------------|
| Amount of peasant farms in a cluster, unit. | 1 | 2 | 3 | 4 |
| Average area of agricultural land of peasant farms, ha | 150 - 350 | 180 - 900 | 160 - 700 | 75 - 300 |
| Number of people employed in peasant farms, people per unit | 2 - 5 ppl. | 5 – 8 ppl. | 3 - 5 ppl. | 2-5 |

Average value of the effective cluster indicator

| State support for 100 hectares of agricultural land, RUB, in thousands | 104.15 | 168.53 | 47.25 | 52.71 |
| Crop yield, c/ha | 30.17 | 26.45 | 22.45 | 21.9 |
| Market share, % | 9.9 | 3.8 | 2.4 | 8 |
| Marketability, % | 90 | 80 | 72 | 55 |
| Income growth rate | 1.62 | 1.38 | 1.33 | 0.9 |

Cluster analysis has identified the relationship among the performance indicators of peasant farms. At the same time, the possibility of a subjective approach to the distribution of business entities is excluded. The statistical method was carried out using the STATISTICA 10.0 software package (APP) [10]. Four clusters of performance indicators were identified. Those peasant farms, which were grouped in three prospective clusters in terms of financial and economic development indicators, should be included in the list for participation in the competitive selection for the provision of state support. The fourth cluster includes farms that require reorganization of their activities and have no prospects for economic development, and newly created farms that have not yet reached the required level of development.

The results of cluster analysis make it possible to include data in a procedure model for selecting peasant farms to participate in a competition for subsidies and grants (table 3). Implementing this model, it is necessary to study the indicators of production (economic) efficiency and competitiveness of peasant farms. These indicators are presented in interval data for the obtained group.

**Table 4. Model of selection of peasant farms to receive state support in priority areas in the region.**

| State Support of Small Business | The State Agricultural Development Program | The Regional Small Business Support Program |
|--------------------------------|------------------------------------------|------------------------------------------|
| Cluster 1                      | Cluster 2                                | Cluster 3                                |
| Not lower than:               | Not lower than:                         | Not lower than:                         |
| income growth rate – 1.6      | income growth rate – 1.4                 | income growth rate – 1.3                 |
| yield – 30 c/ha               | yield – 26 c/ha                         | yield –21 c/ha                          |
| marketability – 90%           | marketability – 80%                     | marketability – 70%                     |
| market share – 10%            | market share – 4%                       | market share – 2.5%                     |
Determining the priority directions for small business development

| Providing State Support of Small Business | Identifying growth reserves | Development of recommendations to improve competitiveness | Development of recommendations to improve production efficiency |
|------------------------------------------|-----------------------------|----------------------------------------------------------|---------------------------------------------------------------|

(*developed by the authors).

The next step is to determine the directions of attracting investments to agribusiness enterprises within the framework of the target small business support program of the Ministry of Agriculture. It should be noted that the adoption of a managerial decision by the competitive selection commission on investing in a business project directly depends on external macro- and microeconomic factors and regional development priorities.

4. Conclusion

Nowadays, there are a number of assisted areas within the agribusiness sector that can be eligible for state support. Being a small form of organizing business in the countryside, peasant farms belong to one of the most prospective investment areas. In order to ensure the effective use of financial resources attracted to the agricultural sector, it is necessary to improve the investment management mechanism of small business development at both regional and state levels.

The modern agrarian economy gives small business economic freedom in their activities. This makes it necessary to develop a policy that will allow peasant farms to become full-fledged, economically stable subjects of a multi-structured agrarian economy.

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