

Analysis of the Financial State and Efficiency of Activities of Organic Producers in Russia

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Abstract: - Is denoted to the analysis of the financial condition and efficiency of organic producers to assess the potential for the development of organic agriculture in Russia. Methods of comparative and coefficient analysis, estimation of trends in time series, statistical groupings, and studies of the general properties of the sample were used. The source of information was the data of the accounting (financial) statements of organic producers for 2019-2021 from the State Information Resource for Accounting (Financial) Statements of the Russian Federation. Based on the results of the analysis, it was concluded that organic crop production prevails in Russia, although this industry is inferior in terms of financial potential to other areas of agribusiness. The most financially stable and solvent can be called the production of organic livestock products, processing, and canning of organic products. The noted trend is more characteristic of the level of large agricultural enterprises. It should also be taken into account that, in general, only a small part of the enterprises in the analyzed population has reached the standard level of financial stability and performance indicators, which may generally indicate the low financial potential of organic producers in Russia and the need to attract available financial resources from external sources. The novelty of the study lies in the comparative assessment of production efficiency at enterprises of various scales of activity and different specializations in the production of organic products. The practical significance of the study lies in the development of sound proposals of organizational and financial orientation to ensure a realistically achievable increase in the efficiency of organic production in Russia, taking into account the identified resource potential.

Key-Words: - Organic agriculture, financial sustainability, business activity, financial condition, crop production. animal husbandry, processing and canning, production development, organic market.

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1 Introduction

Organic agriculture is a system of agricultural production that minimizes or eliminates the use of artificial mineral fertilizers, pesticides, various types of growth regulators, and GMOs. Enterprises implementing a production strategy for obtaining organic products adhere to the principles of sustainable development, the rational use of organic production waste as fertilizers, for soil mulching, and also send them to feed livestock. The prerequisites for the development of organic production at the global level are: a sustainable process of global warming, the objective need to

introduce climate finance to reduce greenhouse gas emissions, the real need for the careful use of natural potential, and the preservation of the environment, as well as the growing trend of promoting (popularizing) healthy lifestyle.

Organic food products are products that are produced without the use of chemical pesticides and fertilizers and do not contain synthetic hormones. Organic food products, in accordance with the legislation of many countries, have a certificate of conformity, the logo and address of the certification body are properly indicated on the packaging, [1].

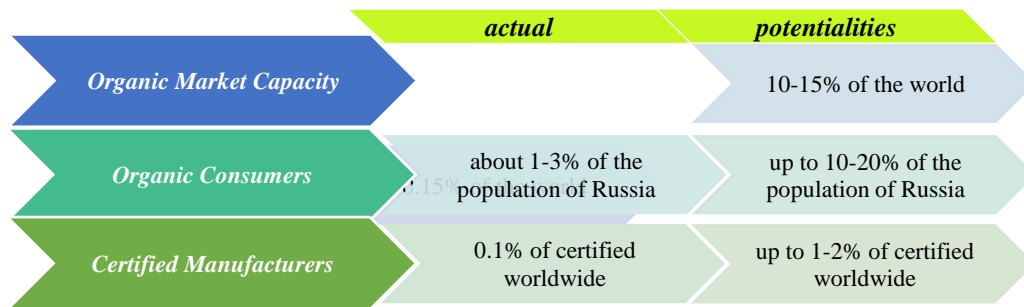


Fig. 1: The growth potential of the organic products market in Russia in 2023. Source: [5], [6].

The availability of organic agricultural products for consumers depends on the institutional environment, the formation and pace of development of markets for eco-products, the efficiency of activities, and the financial capabilities of organic producers. At the same time, we share the point of view of authors, [2], [3], who believe that in Russia there are a number of reasons hindering the development of the organic market:

- 1) Weak institutional environment and insufficiently developed a legislative framework for regulating the organic products market. So, for example, according to the provisions of Federal Law No. 280-FZ of August 3, 2018, natural agriculture is recognized as organic agriculture, which does not use chemicals in the form of fertilizers, pesticides, a number of veterinary drugs, genetically modified elements, irradiation, and other methods, [4]. However, this provision does not guarantee the receipt of environmentally friendly products;
- 2) Low and unstable level of well-being of the population;
- 3) Lack of specialists in the field of organic farming;
- 4) The complexity of passing certification procedures, etc.

The noted factors hinder the growth and development of the organic products market. In this regard, there is a need for a deeper study of the resource potential and efficiency of individual groups of organic producers and the identification of the most promising development segment.

2 Literature Review

According to the Research Institute for Organic Farming in Switzerland, the market for organic products is one of the high-margin, fast-growing segments of the global food market. Over the past 15 years, it has grown almost five times and, according to forecasts, until 2025 it will continue

its growth to the level of 10-12% per year (2022), [5]. According to the estimates of the National Organic Union, the volume of organic production in the Russian Federation is currently about 160 million dollars, or only 0.15% of the world's organic production (Figure 1), [6]. Organic farming can be more cost-effective than conventional farming. So, for example, according to E.L. Hanson, 20% of Minnesota farmers compared the results of organic and conventional production as equivalent in terms of profitability, and 73% of farmers recognized organic as more cost-effective, [7]. At the same time, only 3% of the farmers who participated in the study recognized organic production as less profitable, [7]. However, it should be noted that the authors of the study did not consider the relationship between the efficiency of organic production and the existing methods of state support and pricing methods for the final product.

In the study, [8], the authors found that the yield and profitability of potato production grown using traditional technologies are significantly higher than that of potatoes produced using organic technology. The average yield of conventional and organic potatoes was 19.22 and 7.48 t/ha, respectively, and the benefit-cost ratio was 1.27 and 0.40, respectively, [8]. In this regard, there is a need to study the causes and factors that negatively affect the performance of organic production and the efficiency of enterprises of various specializations in the production of organic products, [8].

In, [9], a study of the competitiveness of organic agriculture at the global level is presented. This study referred to the financial performance of producers not only of organic products but also of economic entities producing goods using traditional technologies. As a result, the authors concluded the low level of the ratio of profits and costs of organic agriculture (7-8%), in contrast to traditional agribusiness (23-27%) in the absence of organic premiums. With the use of premiums, the

profitability of organic production increases significantly to the level of 22-35%. Thus, the results of the study, [9], say that organic production has a great potential for growth in the context of additional financial support.

In, [10], the authors evaluated and compared the economic efficiency of organic and conventional dairy farms in the United States. The authors grouped and compared traditional and organic dairy farms in terms of the scale of activity. Organic dairy farms have in most cases shown higher profitability than conventional dairy farms of similar size. Small farms, on average, did not cover the total cost of production and were low-margin. Thus, the problem of increasing the efficiency of organic production is directly related to the possibilities of expanding pastures and increasing the scale of activities.

In Russia, [11], conducted a comparative analysis of the production of triticale, oats, and rapeseed using traditional and organic technologies. According to her predictive calculations, the use of organic crop production technologies provides a positive economic effect. The study took into account the decrease in crop yields, but even under such conditions, "... the profit of organic production remains, as a rule, higher than traditional, due to the presence of an organic premium and the absence of costs for mineral fertilizers and chemical protection agents", [11].

In, [12], the authors compared the economic indicators of growing products in organic farming (the use of organic fertilizers and biological products) with the results of traditional farming for three years. As a result, they concluded that organic farming is less efficient and competitive than traditional farming. For example, producers of organic products in Russia, to reach the level of profitability of traditional technologies, need to increase the selling price of finished products by an average of 40-90%. In European countries, prices for organic products are only 30-40% higher than for traditional ones, [12].

Thus, the problem of increasing the efficiency of organic agriculture requires an in-depth study of financial indicators and factors in the context of individual activities, taking into account the size of organizations. Most of the literature is a study of theoretical problems of the efficiency of organic agricultural production, but not all of them are supported by the results of experimental and practical studies or predictive calculations of efficiency. Also, the development of the Russian accounting and analytical system of agricultural

units allows for a comprehensive analysis of the financial condition and financial performance of organic producers, [13].

In addition, among the works aimed at a comparative analysis of traditional and organic production, there are few studies on the comparison of production efficiency in enterprises of different sizes; studies on the production of livestock products are rare, and in the field of processing and canning, they are completely absent.

It is also worth noting that, according to the results of the analysis of the literature on organic production, there were no comprehensive studies that would compare the branches of agriculture with each other, which determines the relevance of the work.

3 Materials and Methods

The purpose of the study is to analyze the financial condition and performance of organic producers to assess the potential for the development of organic agriculture in Russia.

Achieving the goal of scientific research involved solving the following tasks:

- Analysis of financial results and business activity of organic producers;
- Analysis of the financial state and assessment of the financial potential of organic producers.

We carried out a comparative analysis of the activities of producers of organic products differentiated by size and sectors of agriculture: crop production, animal husbandry, processing, and canning for 2019-2021.

The following methods were used in the study: comparative and coefficient analysis, estimation of trends in time series, statistical groupings, studying the general properties of a sample population, and a graphical method.

To analyze the financial state and performance efficiency, available (open) sources of information were used - the State Information Resource for Accounting (Financial) Statements of the Russian Federation, [14]. Analytical study period: 2019 – 2021.

The analyzed population included 70 certified producers of organic products in Russia in the Central, Southern, Volga, and Siberian Federal Districts. The choice of enterprises was influenced by the following factors: the availability of publicly available financial statements for the last 3 years (according to the state information resource of accounting (financial) statements, [14]), organizations operating at the time of the study (the

absence of liquidated or in the process of liquidation and reorganization).

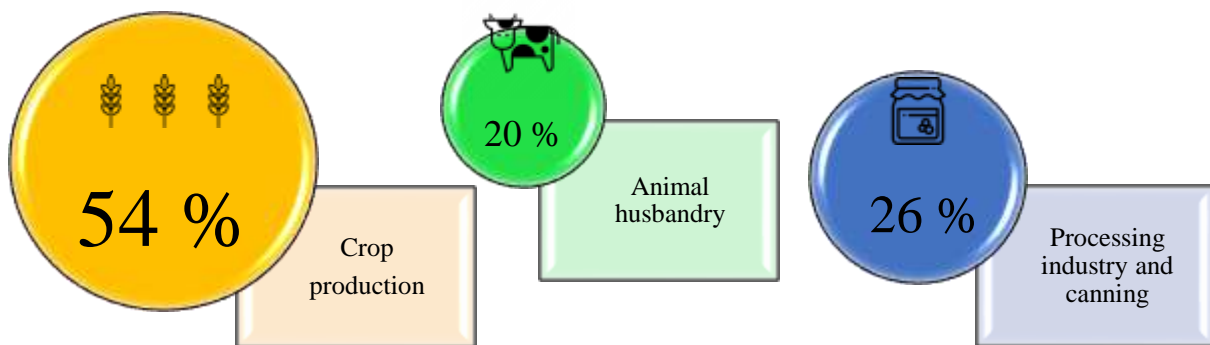


Fig. 2.: The structure of the analyzed population of certified producers of organic products in Russia, %.
Source: compiled by the authors according to the data of the National Organic Union of the Russian Federation, [6]

The analyzed population did not include enterprises producing alcohol-containing products and manufacturers of biological products approved for use in organic agriculture. The main criteria for selecting organizations for the study were identified: the type of economic activity according to OKVED codes, and the scale of activity, characterized by the volume of production and sales of products. All enterprises included in the database for analysis were assigned to three selected sectors of production: crop production, animal husbandry, processing production, and canning.

To identify patterns of development and assess the effectiveness of the activities of organic producers, the study used the methodological approach of classifying enterprises as large, medium, and small, proposed by, [15]. For the analysis, the differentiation of organic producers is carried out based on the revenue criterion as follows:

1. Small organizations - the average annual revenue is less than 500 million rubles.
2. Medium organizations - average annual revenue from 500 million rubles. up to 1 billion rubles
3. Large organizations - the average annual revenue is more than 1 billion rubles.

For the analysis, financial ratios were calculated for each organization: profitability, business activity, financial stability, and liquidity. The general statistical population was tested for normal distribution, and the average values of the indicators were calculated in each typical group.

4 Results

Producers of organic crop production predominate in the general population of the sample by sectoral focus. Of all the analyzed certified enterprises, 54% belong to the production of organic crop products (Figure 2).

The result of the study was an assessment of the financial potential of producers of organic products in Russia. The efficiency of enterprises with different scales of activity within individual industries and the industries themselves was compared. To assess the efficiency of activities and the financial potential for the development of producers of organic products, a comparative analysis of indicators of the financial state and financial results for individual sectors of agricultural production was carried out. According to the analysis, a conclusion was made about the low efficiency of organic production compared to traditional production in terms of profitability, financial stability, and solvency. The operating activities of organic production are not efficient enough due to the fact that revenues do not cover or cover expenses not in full due to price disparity and high inflationary pressure on the domestic economy. Therefore, we believe it is objectively necessary to expand sales markets or significantly reduce costs (due to economies of scale, cooperation, or the organization of closed-loop production) based on enhanced state support for agriculture. Taking into account the limitations laid down in the study, the worst results were shown by producers of organic crop products, which is

objectively explained by a longer production cycle due to natural and climatic factors.

4.1 Analysis of Financial Results and Business Activity of Organic Producers

The analysis of performance results is necessary to understand how efficiently an enterprise uses its assets, and to what extent the sources of their formation are balanced. With the help of the analysis, it is possible to assess the stability and rationality of the formation of the structure of the company's property and the sources of its formation.

The financial results of the enterprise are characterized by the amount of profit received and the level of profitability. The greater the amount of profit and business activity, the more efficiently the enterprise operates, the more stable its financial condition, and the higher the level of profitability.

First of all, we carried out a comparative analysis of revenue, profit from sales, and net profit between commodity producers of differentiated groups by industry. In $\frac{1}{3}$ of enterprises, the net profit exceeds the profit from sales, which is primarily due to low operating efficiency and the formation of income from other activities on a large scale. The sales and net profit indicators for all enterprises do not reach even $\frac{1}{5}$ of the revenue values, which is associated not only with the high cost of production but also with significant commercial and administrative expenses, which average 10-15% of revenue.

For the group of small enterprises, the following signs were noted: for all the studied industries, producers are operating at a loss; the presence of manufacturers whose net profit significantly exceeds the value of profit from sales (i.e. organizations generate financial results through other activities).

At the level of large and medium-sized enterprises, the following signs were noted: there are more unprofitable organizations in the livestock and crop production sectors than in the processing industry and canning. When comparing industries with each other, it is worth noting that the share of unprofitable producers in the crop industry is 20%, in livestock - 50%, among enterprises in the processing industry - only 11%. In the livestock and processing industries, net profit is at the level of profit from sales; In the horticulture industry, there are producers with high operating efficiency, whose profit from sales is much higher than the net profit (more than 50% of producers).

The financial condition and financial results depend on the scale of activity, which is associated with such an economic phenomenon as economies of scale - when the consolidation of production (i.e., with an increase in output), the cost per unit of production decreases. However, it should be borne in mind that this effect can be not only positive but also negative.

All three sectors in general demonstrate the so-called positive economies of scale - indicators of financial results improve with the increase in the size of the activities of producers (Table 1).

Table 1. Comparative analysis of the average values of the profitability indicators of organic producers, differentiated by the scale of activity and industries, for 2021, %.

| Enterprise groups | Return on Equity (ROE) | Return on Assets (ROA) | Return on Sales (ROS) | Return on Investment in Fixed Assets (ROI) | Return on Fixed Assets (ROFA) |
|--|------------------------|------------------------------------|---|--|-------------------------------|
| Norm | 10-12% | > 5% - admissible, > 20% - optimal | Exceeds inflation rate, > 5-15% - optimal | Industry averages 35-50% | Industry averages 20-30% |
| Crop production | | | | | |
| Small enterprises | 5.88 | 0.38 | 1.00 | 41.02 | 13.73 |
| Medium enterprises | 22.45 | 3.48 | 7.03 | 33.44 | 41.76 |
| Large enterprises | 43.33 | 2.66 | 7.88 | 44.69 | 6.20 |
| Animal husbandry | | | | | |
| Small enterprises | 19.90 | -2.42 | -31.09 | -7.83 | -3.17 |
| Medium enterprises | 15.53 | 3.07 | -15.91 | 19.32 | 16.07 |
| Large enterprises | 30.22 | 24.81 | 20.13 | 35.64 | 58.82 |
| Processing industry and canning | | | | | |
| Small enterprises | 9.46 | 3.41 | 2.72 | 40.29 | 39.75 |
| Medium enterprises | 8.85 | 4.73 | 4.60 | 21.27 | 9.05 |
| Large enterprises | 9.35 | 3.30 | 3.02 | 17.82 | 62.69 |

Source: compiled by the authors based on the analysis of data from the State Information Resource for Accounting (Financial) Statements of the Russian Federation, [14].

In general, in the crop production industry, taking into account the increase in the scale of production, the performance indicators of organizations are increasing, with the exception of such indicators as the return on assets and the return on fixed assets (for small enterprises: ROE 5.88%, ROS 1.00%, ROI 41.02%; for medium enterprises: ROE 22.45%, ROS 7.03%, ROI 33.44%; for large enterprises: ROE 43.33%, ROS 7.88%, ROI 44.69%). The low rate of profitability of fixed assets in large organizations indicates the capital intensity of the production of organic crop products (for large enterprises ROFA is 6.02%).

In the livestock industry, medium-sized enterprises are significantly inferior in terms of return on equity not only to large enterprises but also to small organizations (for small enterprises: ROE 19.90%, for medium enterprises ROE 15.53%, for large enterprises ROE 30.22%). According to Table 1, it can be seen that efficiency indicators increase with an increase in the scale of production and the value of indicators of enterprises of large sizes, and also comply with the standards.

In the processing industry, small enterprises stand out slightly in terms of return on fixed assets (39.75%) and return on investment in core activities (40.29%), which indicates a low total cost of fixed assets and the cost of processed products. It should be noted that for the rest of the indicators presented in the table, the efficiency of the processing and canning industry is generally worse

than in the crop and livestock industries. Indicators of Return on Equity (ROE), Return on Assets (ROA), and Return on Sales (ROS) for all groups of enterprises are below normal values and do not exceed 3-10% on average.

It can be seen that, in general, producers of organic livestock products conduct business more efficiently exclusively at the level of large organizations. In the horticulture industry, medium and large-sized organic producers show the same level of economic efficiency. The worst results in terms of performance efficiency are shown by the industry of processing production and canning of organic products.

Figure 3 presents a comparative analysis of the efficiency of organic production sectors by business scale.

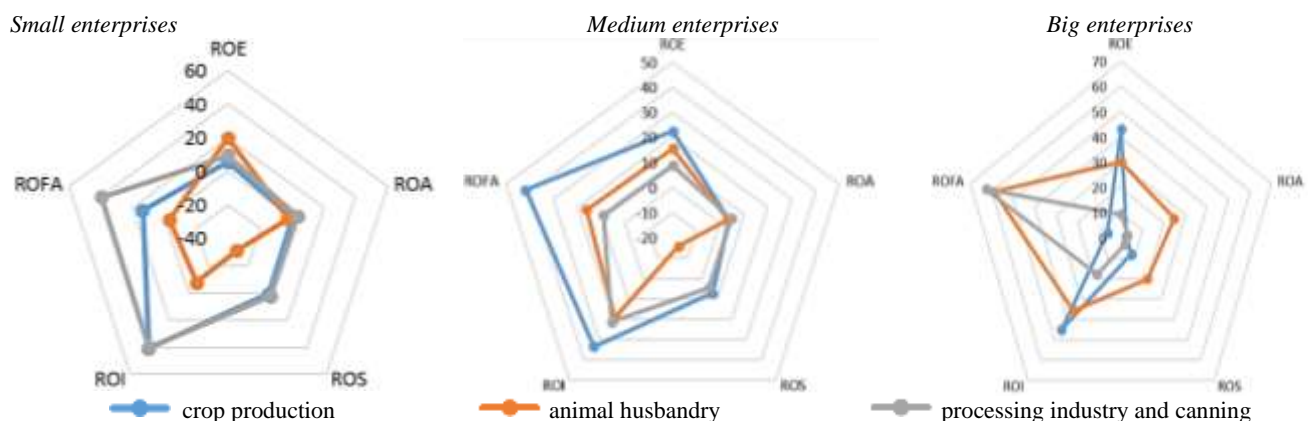


Fig. 3: Comparative analysis of the efficiency of organic production in Russia, for 2021, %. Source: compiled by the authors based on the analysis of data from the State Information Resource for Accounting (Financial) Statements of the Russian Federation, [14].

Table 2. Comparative analysis of average values of indicators of business activity of organic producers, differentiated by the scale of activity and industries, for 2021.

| Enterprise groups | Asset turnover ratio | Accounts receivable turnover period, days | Accounts receivable turnover ratio | Accounts payable turnover period, days | Accounts payable turnover ratio |
|--|----------------------|---|------------------------------------|--|---------------------------------|
| Crop production | | | | | |
| Small enterprises | 0.88 | 132.89 | 2.76 | 303.06 | 1.47 |
| Medium enterprises | 1.62 | 67.93 | 5.48 | 140.69 | 2.64 |
| Large enterprises | 0.57 | 98.69 | 3.68 | 285.57 | 1.37 |
| Animal husbandry | | | | | |
| Small enterprises | 0.36 | 225.44 | 1.62 | 325.42 | 1.12 |
| Medium enterprises | 1.22 | 405.11 | 0.91 | 69.15 | 5.27 |
| Large enterprises | 1.42 | 33.27 | 10.97 | 19.54 | 18.68 |
| Processing industry and canning | | | | | |
| Small enterprises | 1.11 | 115.61 | 3.15 | 169.74 | 2.43 |
| Medium enterprises | 1.80 | 109.07 | 3.38 | 74.38 | 4.9 |
| Large enterprises | 2.27 | 71.66 | 5.14 | 65.80 | 5.55 |

Source: compiled by the authors based on the analysis of data from the State Information Resource for Accounting (Financial) Statements of the Russian Federation, [14].

As you can see, enterprises in terms of the efficiency of production of organic livestock products are significantly inferior to other areas of production of organic products, not taking into account return on equity, as well as return on assets. processing industry and canning. In the field of crop production in this differentiated group, the best performance indicators are observed.

Analysis of business activity allows us to evaluate the effectiveness of the use of the means of production by the enterprise, as well as to characterize the effectiveness of current activities. For the analysis of business activity, turnover indicators were selected, which reflect the efficiency of using all the resources of the enterprise, and measure the rate of repayment of receivables and payables (Table 2).

According to Table 2, it can be seen that with an increase in the scale of production, the period of turnover of assets, receivables, and payables decreases for producers of organic crops and livestock products. In crop production for small enterprises: asset turnover ratio 0.88, accounts receivable turnover ratio 2.76, accounts payable turnover ratio 1.47; for medium enterprises asset turnover ratio 1.62, accounts receivable turnover ratio 5.48, accounts payable turnover ratio 2.64. In animal husbandry for small enterprises: asset turnover ratio 0.36, accounts receivable turnover ratio 1.62, accounts payable turnover ratio 1.12; for

large enterprises: asset turnover ratio 1.42, accounts receivable turnover ratio 10.97, accounts payable turnover ratio 18.68. However, the turnover rates of accounts payable in all groups are much worse than those of accounts receivable, which indicates an excess of outflows over inflows and a shortage of financial resources (for example, accounts receivable turnover period in small enterprises of crop production is 132.89 days, in medium - 67.93 days, in large enterprises - 98.69 days; accounts payable turnover period in small enterprises is 303.06 days, in medium - 140.69 days, in large enterprises - 285.57 days).

In the group of processing production and canning of organic products, with an increase in the scale of production, the period of turnover of assets, receivables, and payables decreases (for example, in the processing industry and canning asset turnover ratio for small enterprises is 1.11, for medium enterprises - 1.80, for large enterprises - 2.27), which indicates that at the level of large organizations, there is a shorter operating cycle and fewer risks of insolvency of organizations.

In addition, with the increase in the scale of activities of producers of organic livestock products and processing production, conservation of organic products accounts payable turn around faster than accounts receivable, which is associated with an excess of accounts receivable over accounts payable. This confirms the earlier conclusion about

the excess of outflows over inflows and the deficit of financial resources.

4.2 Analysis of the Financial State of Organic Producers

To assess the efficiency of activities and the resource potential of the development of producers of organic products, a comparative analysis of financial indicators for individual groups of organizations was carried out.

Based on financial analysis data, it is possible to assess economic opportunities and the potential for further business development. An analysis of the financial condition reveals the ability of the organization to repay its obligations, the ability to maintain solvency, as well as the ability the enterprise to remain market stable in cases of turbulence in the economic system and instability of counterparties (Table 3 and Table 4).

At the level of small producers of organic crop products, the indicators of medium-term and long-term solvency are higher than those of other producers in the same industry. At the same time, the excess of the upper threshold of the current liquidity value by more than 3 times indicates the inefficient use of current assets or the irrational capital structure of the enterprises of the noted group.

For the group of producers of organic livestock products, there is a low level of absolute liquidity indicators for all types of enterprises (for example, worst indicators in animal husbandry: small enterprises - 0.08, medium enterprises - 0.01, large enterprises - 0.05) this indicates their low solvency in relation to short-term obligations. An unbalanced structure of assets and capital is noted among

medium-sized producers of organic livestock products.

For the group processing production of organic products, it is noticeable that the value of the quick liquidity ratio decreases with an increase in the size of producers, which is associated with an increase in the share of borrowed funds in liabilities. The situation with the indicators of current liquidity is reversed - there is an increase in the values of the current liquidity ratio with the growth of business scale (current ratio: small enterprises – 1.88, medium enterprises – 3.24, large enterprises – 3.89), which is explained by a significant amount of reserves in the asset structure.

It can be noted that in general, all industries are insolvent in the short term, while this phenomenon does not depend on the scale of production and can be assessed as a low financial potential of organic producers. Liquidity indicators for the group of producers of organic livestock products (excluding the absolute liquidity ratio) are higher than for other industries. Paying attention to the dynamics and value of the current liquidity ratio, it can be seen that the value of this indicator increases with the increase in the scale of production. However, a significant excess of the upper threshold of the normative values of the current liquidity ratio may indicate an inefficient use of current assets or an irrational capital structure.

Table 3. Comparative analysis of the average values of the liquidity indicators of producers of organic crop products, differentiated by the scale of activity and industries, for 2021.

| Enterprise groups | Cash Ratio | Quick Ratio | Current Ratio |
|--|------------|-------------|---------------|
| Norm | 0.2 – 0.5 | 0.7 – 1.0 | 1.5 – 2.5 |
| Crop production | | | |
| Small enterprises | 0.13 | 5.15 | 7.90 |
| Medium enterprises | 0.25 | 0.83 | 1.43 |
| Large enterprises | 0.02 | 1.18 | 1.99 |
| Animal husbandry | | | |
| Small enterprises | 0.08 | 1.48 | 3.78 |
| Medium enterprises | 0.01 | 3.98 | 4.28 |
| Large enterprises | 0.05 | 1.96 | 5.90 |
| Processing industry and canning | | | |
| Small enterprises | 0.74 | 3.31 | 1.88 |
| Medium enterprises | 0.07 | 3.60 | 3.24 |
| Large enterprises | 0.05 | 1.30 | 3.89 |

Source: compiled by the authors based on the analysis of data from the State Information Resource for Accounting (Financial) Statements of the Russian Federation, [14].

Table 4. Comparative analysis of average values of indicators of financial stability of producers of organic crop products, differentiated by the scale of activity and industries, for 2021.

| Enterprise groups | The ratio of current assets to own working capital | Financial stability ratio | Financial independence ratio | Debt to EBITDA ratio |
|--|--|---------------------------|------------------------------|----------------------|
| Norm | > 0.1 | > 0.75 – 0.8 | > 0.5 | < 3 |
| Crop production | | | | |
| Small enterprises | -1.55 | 0.22 | -0.09 | 7.97 |
| Medium enterprises | -0.66 | 0.43 | 0.25 | 5.85 |
| Large enterprises | -3.41 | 0.59 | 0.29 | 3.56 |
| Animal husbandry | | | | |
| Small enterprises | -2.07 | 0.71 | 0.20 | 2.46 |
| Medium enterprises | 0.03 | 0.85 | 0.44 | -10.98 |
| Large enterprises | 0.76 | 0.88 | 0.82 | 0.72 |
| Processing industry and canning | | | | |
| Small enterprises | -0.82 | 0.62 | 0.32 | 13.72 |
| Medium enterprises | 0.26 | 0.82 | 0.52 | 16.15 |
| Large enterprises | 0.32 | 0.57 | 0.60 | 19.53 |

Source: compiled by the authors based on the analysis of data from the State Information Resource for Accounting (Financial) Statements of the Russian Federation, [14].

According to Table 4, producers of organic crop products are not financially stable for all differentiated groups (all indicators are below standard values). There is insufficient provision of own working capital, negative values of the indicator indicate the excess of non-current assets over equity capital. Despite the fact that the ratio of net debt to profit before tax for large organizations also exceeds the normative value, a positive trend can be seen - this indicator decreases with an increase in the scale of production (debt to EBITDA ratio: small enterprises – 7.97, medium enterprises – 5.85, large enterprises – 3.56), which means an increase in the possibility of increasing the financial potential of large businesses.

In the sector of organic production of livestock products, small and medium-sized enterprises are equally financially stable, as evidenced by the indicators of the coefficients of working capital and financial independence that do not reach the threshold values. Large enterprises, despite exceeding the normative value of the ratio of debt to profit before tax, are the most financially stable. The negative value of the net debt to profit before tax ratio (-10.98) for medium-sized enterprises is the result of the unprofitability of organizations in this group.

In the group processing production of organic products, problems with financial stability indicators are observed in a group of small organizations, as evidenced by indicators of

financial stability that do not reach threshold values. Apart from the ratio of debt to EBITDA, medium and large enterprises are financially stable. A significant deviation from the general trend of the value of this indicator in all typical groups of organizations indicates an overestimated debt burden, and its growth with an increase in the scale of activity of commodity producers is due to the possibility of increasing external capital.

An analysis of financial stability indicators confirms the conclusion that with an increase in the scale of activities, the financial condition improves and the financial potential of organic producers strengthens.

According to the results of the analysis of indicators in Table 4, the largest financial potential is observed in large producers of organic livestock products, as the most financially stable. The indicators of this group of enterprises not only meet all the standards but also have a certain growth reserve. A group of medium and large processing enterprises also has a high financial potential. According to the majority of indicators of financial stability, this group of producers reaches the normative values. Producers of organic crop products are noticeably inferior to the other two industries and have low indicators of financial stability, which is confirmed by the lower values of the indicators: the ratio of current assets to own working capital, financial stability ratio, financial independence ratio, current ratio, quick ratio.

5 Conclusion

Based on the results of the analysis, we concluded that the activity of organic production as a whole is not effective enough - income does not compensate for expenses or does not cover them in full. In this case, it is necessary to expand sales markets or significantly reduce costs due to economies of scale, cooperation, or the organization of closed-loop production. Data were obtained on the unprofitability of enterprises implementing organic technologies in the crop industry. According to the analysed aggregate, about 20% of such commodity producers received a loss from sales. While in the livestock sector, this figure is about 50%, in the processing industry - 11%. In addition, according to Federal State Statistical Services, the profitability of production using traditional crop and livestock technologies for 2021 averages 11.8%, [16]. At the same time, the profitability of organic production in these industries, according to the results of the study for the analysed period, amounted to only 5.5%.

Financial analysis using a grouping by the scale of activity of commodity producers made it possible to determine that the production of organic products is effective mainly at large enterprises with an annual revenue of more than 1 billion rubles. Similar conclusions that small farms, on average, did not cover the total production costs and were low-margin were obtained by R.F. Nehring, D. Gillespie, K. Green, and D. Low. Therefore, it is advisable to develop the production of organic products in large agricultural organizations. It is proposed to diversify their activities and gradually replace traditional production technologies with organic ones. Medium and small enterprises show the worst indicators of economic efficiency, which is associated with high production costs and significant non-production costs.

When analysing the financial potential in the context of groupings by type of activity, producers of organic livestock products show high-performance indicators. The livestock sector is characterized by the best economic parameters of activity due to the presence of enterprises with a closed production cycle and a wide variety of livestock products. Crop production is less efficient and has lower values of indicators of financial stability and solvency due to a long production

cycle. The processing industry cannot exist without a raw material base, and therefore it is also less efficient in terms of the studied population. Thus, in order to increase the financial potential, vertically integrated structures with a closed production cycle should be created.

It should also be taken into account that only a small part of the enterprises in the analysed sample showed a sufficient level of financial stability, while the ratio of net debt to profit before tax also significantly exceeds the normative values.

In addition, organic production also has a number of disadvantages that reduce the attractiveness of organic production in Russia:

1. Organic production uses crop areas less efficiently and requires their increase;
2. Organic production is less competitive than traditional agriculture;
3. The price of organic products is higher compared to products produced using traditional technologies. In a stable economy, this fact is not a disadvantage, but in times of crisis, consumers will tend to cheaper traditional products.

Due to the universality of the statistical methods used, financial ratios, and typical groupings, the results of the study can be used to determine the performance efficiency and investment attractiveness of organic producers not only in Russia but also in world practice.

Thus, the study analysed the financial state and performance of organic producers. It was concluded that in Russia the production of organic crop products prevails, although this industry is inferior in terms of financial potential to other branches of agriculture. The most financially stable and solvent can be called the production of organic livestock products, processing, and canning of organic products. This trend is most noticeable at the level of large enterprises. It should also be taken into account that, in general, only a small part of the enterprises in the analysed population has reached the standard level of financial stability indicators, which may indicate, in general, the low financial potential of organic producers in Russia and the need to attract financial resources from external sources.

We agree with the conclusions obtained by S.A. Dobrokhotov and A.I. Anisimov that organic agriculture in Russia is less efficient than traditional one. The results of our study are similar to the opinion of D.U. Crowder and D.P. Riganold that the formation of an economically efficient level of organic production at the stage of

development of the industry is impossible without state support and external financing.

The practical significance of the study lies in the development of proposals for improving the efficiency of organic production.

Further research will be aimed at assessing the impact of various state support mechanisms and green financing programs on the efficiency of organic producers.

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The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

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Conflict of Interest

The authors have no conflict of interest to declare.

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