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Assessment and ways to increase the rate of return in the Russian medium-sized agricultural enterprises

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Abstract. The rate of return (profitability) is the category that allows evaluation of financial, production and other costs of the enterprise. The detailed analysis of return ratios enables to regulate the enterprise financial system and has a positive effect on its financial performance. The article considers the method of the rate of return assessment and suggests the ways to increase it. The case of the medium-sized agro-industrial company was used. Based on the financial performance of the enterprise, the range of the rate of return indicators was calculated, such as fixed assets, rate of return on current assets and on equity capital, gross profit margin, operating and net profit margin. Based on the calculations, the authors show that the rate of return of the enterprise increased, and a high efficiency of operations was observed. However, at the same time, there are tasks to be solved. One of them is to introduce a payment schedule. The analysis of the financial effect of the payment schedule introduction showed that it increased the current rate of return of the enterprise by 10%.

Key words: rate of return, enterprise, return ratios, costs, financial system, rate of return assessment

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The agro-industrial complex is the most important sphere of the state economy, which includes a range of industrial branches of the national economy united by the production, processing, storage and distribution of food raw materials and products (Kuderinova et al., 2021; Plotnikov et al., 2021; Sarkar et al., 2021; Sychinov et al., 2021). The main social-economic purposes of the agro-industrial complex are sustainable food security (Fedotova et al., 2018; Mindlin et al., 2022; Plotnikov et al., 2021; Shagaida, Trotsuk, 2022; Zhilyakov et al., 2020) and nutritional safety of the country (Finardi et al., 2021; Khayrullin et al.,

2021; Sidra-Tul-Muntaha et al., 2020; Zinina et al., 2020; Zykova et al., 2019); provision of raw materials for non-food industries; development of rural areas (Doll, 2022); introduction of high technologies in agriculture and food supply chains (Anichkina et al., 2019; Bakharev et al., 2020; Doguchaeva et al., 2022; Fedotova et al., 2018; Malenkov et al., 2021; Poleshchuk, 2021; Sokolov et al., 2021; Stelmashonok, Stelmashonok, 2021); creating a competitive market environment for agricultural raw materials and products (including various forms of cooperation of stakeholders of agricultural value chains (Gruvaeus, Dahlin, 2021; Kotliarov, 2022; Ménard, 2018; Salladarré et al., 2018)).

Agriculture is particularly important for Russia in the current geopolitical situation (Prihodko, 2022) as ensuring national food security by providing the Russian economy and population with food products (Plotnikov et al., 2021). Any threat to food security would cause a heavy damage to Russia and undermine its ability to survive under international sanctions (Gurvich, Prilepskiy, 2015). As the history of sanctions against Russia shows, the USA may impose food sanctions on Russia in order to reach its geopolitical goals (Prihodko, 2022; Tarrant, 1981). It means that Russia should not count on international food supplies and has to ensure its food sovereignty (Glinskiy et al., 2018; Malle, 2016).

The food sovereignty depends on the local agricultural companies' ability to provide stable food supplies. This ability is based on the agricultural companies' economic efficiency since inefficient companies cannot ensure stable food provision (Bobkova et al., 2022; Zhilyakov et al., 2021) and require the state support for their operations (state support may lead to nationalization which means huge expenses for the state budget) (Plotnikov et al., 2021). Thus, the analysis of the economic efficiency of the Russian agricultural companies is important for the Russian food security

Today the Russian agro-industrial sector is growing partially due to the food embargo introduced in 2014 (Liefert et al., 2019; Shagaida, Uzun, 2016). The embargo stopped imports of many agricultural products from the countries that imposed sanctions on Russia after 2014 (Běln, Hanousek, 2021; Gurvich, Prilepskiy, 2015; Hinz, Monastyrenko, 2022; Kaštaová et al., 2018; Nguyen, Do, 2021; Smutka, Abrhám, 2022; Venkuvienė, Masteikiene, 2015). In this context, the economic performance of each enterprise and the entire sphere requires an evaluation. Objective estimates of technical and economic performance together with qualitative and quantitative assessments play a crucial role for agro-industrial enterprises and contribute to their market strengthening (Abylkassimova, 2021; Anichkina et al., 2018; Anichkina et al., 2021; Anichkina et al., 2019). This information is also important for the state as it can be used for developing national strategy in agriculture and food security.

The paper aims at assessing the economic efficiency of an average Russian agricultural company and at providing recommendations

to increase its efficiency. The evaluation of efficiency is based on the rate of return. The research makes two important contributions to the research of the performance of agricultural companies in Russia. First, the results contribute to the general picture of the present level of the Russian agricultural companies' efficiency and to their problems' understanding. Second, the results can be used to find ways to increase efficiency of the Russian agricultural companies in the current economic situation.

Efficiency of agricultural organizations: Issues of measurement

The question of measuring the efficiency of agricultural organization has a long history. According to A. V. Chayanov (2006), the measurement of efficiency depends on the type of agricultural organizations. While capitalist organizations are mostly interested in profit, traditional peasant households focus on family subsistence.

Evolution of agricultural organizations, changes in relationships of companies and stakeholders, transformation of society lead to the development of new measures of efficiency which were to provide a more precise approach to the financial efficiency (Komnienic et al., 2010; Syruček et al., 2022), to take into account the needs of all company's stakeholders (as different groups of stakeholders are interested in different results), and to add to the complex picture of company's efficiency the non-financial indicators of its activity (especially important for non-market organizations in food supplies) (Valizadeh, Hayati, 2021). For example, the company's market value and economic sustainability are paramount for company's owners (Anichkina et al., 2018; Coppola et al., 2022; Pongpanich et al., 2017). The society is interested in the stable supply of food at affordable prices (Hinz, Monastyrenko, 2022) and in the compliance of company's business with social values. These factors of efficiency can be defined as the company's ability to ensure food security. It should be noted that today the concept of food security exceeds the simple food supply to the market — the food should meet customers' expectations, for instance, ecological values (Pang et al., 2016; Poleshchuk, 2021; Sokolov et al., 2021). Companies do not only strive to reach a high level of efficiency for their owners (according to the traditional approach to efficiency) — they are also interested in meeting requirements of other groups of stakeholders, for example, by adopting eco-friendly business models (Arbelo-Pérez et al., 2022; Bakharev et al., 2020).

Thus, indicators of efficiency can be divided into various groups: indicators for market-oriented (capitalist agricultural organizations) and non-market-oriented companies (traditional peasant households); financial and non-financial; indicators for different groups of stakeholders; indicators for the whole company and for separate

projects, and so on (Anichkina et al., 2021). Obviously, the company management and stakeholders use different indicators in different situations.

However, while the market (company's value) and non-financial (ecological, etc.) indicators of efficiency are important they are not universal and are hardly primary. First, not all companies have market value (as they are not public). Second, if an agricultural company has no profit, it will not meet its stakeholders' expectations (as having no resources to run its business), i.e., profit (and secondary indicators based on profit) can be considered a basic indicator of efficiency for all market-oriented companies with any type of ownership (Bobkova et al., 2022; Tong, Saladrigues, 2022; Vreja, 2022).

The research of agricultural companies' efficiency can be divided into two directions: the traditional one uses corporate accounting data to calculate the rate of return (Bobkova et al., 2022); the approach based on econometric methods considers external and internal factors that may have an impact on the rate of return (Čechura et al., 2022; Chou et al., 2022; Coppola et al., 2022; Grzelak, 2022; Komnienic et al., 2010; Tong, Saladrigues, 2022). The paper uses the first approach as the information is available for one company only. The case is a medium-sized non-public company, which is why the profit rate can be used to measure its efficiency. Calculations are based on the company's accounting data.

Data and method

The indicators used are calculated by the following formulas (Bobkova et al., 2022):

Sales revenue:

$$R = V \times P \quad (1)$$

V — volume of manufactured products

P — price per piece of produce

Prime cost of sales (PCs):

$$PC_s = C_{tot} + CE + RP_{beg} - RP_{end} \quad (2)$$

C_{tot} — total prime cost of manufactured products

CE — commercial expenses

RP_{beg} and RP_{end} — remains of unsold goods at the beginning and the end of the period

Revenue from sales (R_s):

$$R_s = P_g - CE - AE \quad (3)$$

P_g — gross profit

CE — commercial expenses

AE — administrative expenses

Profit before tax (Pbt):

$$P_{bt} = P_s + I_r - I_p + OI - OE \quad (4)$$

P_{bt} — profit before tax

P_s — profit from sales

I_p — incomes from participation in other companies

I_r — interest receivable

I_p — interest payable

OI and OE — other incomes and expenses.

Net profit (Np):

$$N_p = R - PC_s - AE - SE + OI - OE - TP \quad (5)$$

R — revenue

PC_s — prime cost of sales

AE and CE — administrative and commercial expenses

OI and OE — other incomes and expenses

TP — tax on profits

Return on assets (Ra):

$$R_a = \frac{R_{rep}}{A_{end}} \times 100\% \quad (6)$$

R_a — return on assets, %

R_{rep} — profit for the period, thousand rubles

A_{end} — assets by the end of the period, thousand rubles

Return on of the basic production funds:

$$R_{bpf} = \frac{P_{rep}}{BPF} \times 100\%$$

R_{BPF} — return on the basic production funds, %

P_{rep} — profit for the period, thousand rubles

BPF — basic production funds, thousand rubles

Return on circulating assets:

$$Ret_{ca} = \frac{P_{rep}}{CA} \times 100\%$$

Ret_{ca} — return on circulating assets, %

P_{rep} — profit for the period, thousand rubles

CA — circulating assets, thousand rubles

Return on equity capital:

$$Ret_{ec} = \frac{P_{rep}}{Ec} \times 100\%$$

Ret_{ec} — return on equity capital, %

P_{rep} — profit for the period, thousand rubles

E_c — equity capital, thousand rubles

Gross profit margin:

$$GP_{\text{mar}} = \frac{G_{\text{prof}}}{R} \times 100\%$$

GP_{mar} — gross profit margin, %

G_{prof} — gross profit, thousand rubles

R — revenue, thousand rubles

Operating income margin:

$$OI_{\text{mar}} = \frac{I_{\text{sales}}}{R} \times 100\%$$

OI_{mar} — operating income margin, %

I_{sales} — income from sales, thousand rubles

R — revenue, thousand rubles

Net profit margin:

$$N_{\text{pm}} = \frac{N_{\text{pr}}}{R} \times 100\%$$

N_{pm} — net profit margin, %

N_{pr} — net profit, thousand rubles

R — revenue, thousand rubles

The case is a medium-sized non-public agricultural company located in the Moscow Region. The name of the company is not disclosed for confidentiality reasons. The key specialization of the company is production of pork. Despite the fact that the company is located near Moscow, it does not sell its products on the Moscow market due to the high competition. It supplies its products to small meat processing factories located in different towns of the Moscow Region and neighboring areas.

This medium-sized company was chosen, because the Russian agricultural industry is dominated by big vertically integrated holdings, which makes the structure of the Russian agriculture unbalanced and may lead to the food security threats (if a big company goes bankrupt a huge part of food supply will disappear). Thus, more attention should be paid to medium and small-sized agricultural companies (Lerman, Nikulin, 2022) and to their favorable environment.

Results and discussion

The data for the analysis of the enterprise's performance was its financial results. The Table 1 presents the main indicators of the fi-

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nancial performance in 2018–2020. These indicators reflect the current financial state of the enterprise and determine its quantitative and qualitative characteristics.

Table 1. Technical and economic indicators of the enterprise operation

Index	2018	2019	2020	deviation, thousand rubles		Growth rate, %	
				2019	2020	2019	2020
				2018	2019	2018	2019
Revenue, thousand rubles	201,312	278,315	390,415	77,003	112,100	138	140
Average number of employees, people	20	25	38	5	13	125	152
Average annual output of one employee, thousand rubles	8,912	9,879	10,312	967	433	110	104
Wages fund, thousand rubles	1,989,351	2,891,891	3,569,888	902,540	677,997	145	123
Average annual cost of BPF (basic production funds), thousand rubles	89,315	98,111	123,415	8,795	25,305	109	125
Average annual cost of working capital, thousand rubles	215,891	358,450	389,411	142,559	30,961	166	108

Based on the data in Table 1, we can conclude that the revenue increased by 77,003 thousand rubles in 2018–2019, i.e., by 138.3%. In 2019–2020, the revenue increased by 112,100 thousand rubles, i.e., by 140.3%, which generally means the sustainable growth of the business operation. There is also an increase in the prime cost in 2019 by 4,144 thousand rubles, and in 2020 — by 5,856, which is directly related to an increase in sales revenue. There is an increase in the wages fund, in particular in the piece-rate pay. One can also note an increase in prices for raw materials as caused by annual inflation.

The positive dynamics of revenue growth allowed to increase gross profit in 2019 and 2020 by 72,859 and 106,244 thousand rubles accordingly.

The selling expenses increased by 5,354 thousand rubles in 2019 and by 4,386 — in 2020. This indicator was influenced by the costs of goods shipment and sales, including the costs of transportation and packaging.

The data on the enterprise rate of return is presented in Table 2: the sales increase in 2020 allowed to increase the return on assets by 23.5%, and the decrease in the return on assets in 2019 was determined by the decrease in competitiveness.

Table 2. Indicators of the enterprise rate of return

Index	2018	2019	2020	Deviation	
				2019 2018	2020 2019
Return on assets	116.1	114.5	138	-1.6	23.5
BPF rate of return	127.8	184.9	229.6	57.1	44.7
Rate of return on working capital	52.7	50.8	72.7	-1.9	21.9
Return on equity	26.5	36.9	56.4	10.4	19.5
Gross margin	64.1	72.5	65.9	8.4	-6.6
Operating margin	56.8	65.5	72.6	8.7	7.1
Net profit margin	58	63	66.1	5	3.1

There is an increase in efficiency of the enterprise production according to the increase in the BPF (basic production funds) rate of return by 57.1% in 2019 and 44.7% in 2020.

The increase in the rate of return of equity capital by 10.4% and 19.5% for the periods under study proved the efficient use of the equity capital. It is necessary to underline an increase in the rate of return of assets, which can be associated with a decrease in the capital-output ratio, an increase in the fixing ratio of working capital, and an increase in the sales rate of return.

At the same time, the enterprise needs a clear system for collecting payments from counterparties, and a fine for late payment can be the most effective tool. Payment discipline of the company's customers is low, which decreases its efficiency. According to the experts from the consulting company, the recommended average rate of fine for late payment should be 7%, which can create sufficient incentives for customers to pay in time. If the customer is not able to pay in time, the fine would cover company's losses due to late payments. The fine as a financial tool will ensure the control over the raising funds and a payment schedule. The scheme of the payment schedule is shown in Figure 1.

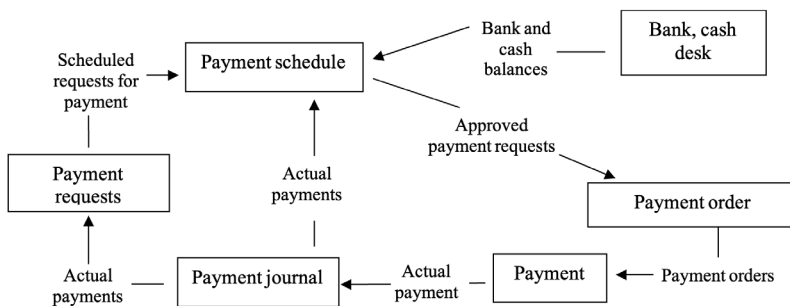


Figure 1. Payment schedule

Let us assess the impact of introducing the payment schedule for company's performance based on the assumption that company's partners would accept the fine for late payments in their contracts. All assessments are based on the data provided by the company's experts. We cannot disclose the algorithm for calculating the economic effect of the proposed measures. The payment schedule will lead to an increase in wages funds for administrative and managerial personnel — to 57.6 thousand rubles per month, to an increase in labor productivity and, accordingly, to a decrease in time losses in other areas of financial activity (19.2 thousand rubles). Thus, the increase in the wages fund due to the introduction of the payment schedule will account for 38.4 thousand rubles (Table 3). As a result of measures taken, the rate of return increased from 0.59 to 0.65%, i.e., by 0.06%.

Table 3. Dynamics of business operation indicators with the payment schedule

Index	In fact, in 2020	With the operations	Rates of growth, %	Deviations (+, -)
Income, thousand rubles	439,408	629,948	1.43	190,540
General expenses, thousand rubles	117,054	115,620	0.99	-1,434
Operating profit, thousand rubles	322,354	514,328	1.6	191,974
Income tax	64,459	102,866	1.6	-1,396
Net profit	257,835	411,462	1.6	193,370
Return on sales, %	0.59	0.65	1.11	0.3

Unfortunately, it is difficult to implement this measure in the current economic situation. The company does not have a sufficient bargaining power to convince its partners to accept the fine for late payments. The retail market in Russia is dominated by big retail chains which can impose terms of cooperation on their suppliers (favorable terms for retail chains). These suppliers (meat processing companies), in their turn, have to impose similar terms on their partners (including producers of meat, such as our case). As the bargaining power of retail chains and meat processing companies is much higher than of meat producers, it is much easier for meat processing companies to change a supplier than to accept a fine for late payments. This problem is typical for the Russian medium-sized agricultural companies.

Thus, the economic efficiency of agricultural companies is artificially limited by the low payment discipline of their customers. Technically it means that agricultural companies are a source of free finance for their customers, which undermines the financial stability of the medium-sized agricultural companies — they can either go bank-

rupt or be bought by big agricultural corporations, which makes the structure of the Russian agricultural production unbalanced.

Conclusion

The accounting data proves that company's level of efficiency is high enough: its revenue from the main types of operations increased in 2018–2020. The sustainable and steady growth of incomes proves an efficiency of the enterprise management system. The enterprise's development can be called intensive; the increase in rate of return is based on the improving quality indicators. The measures for increasing rate of return allow to increase the control over finances and rate of return.

The study shows that the company's efficiency can be increased not only by improving internal business processes but also by managing relations with partners (in the company under study the key measure was to create incentives for customers to pay in time). Our recommendation for the Russian medium-sized agricultural companies is to focus on the cooperation within their value chains, which would help them to benefit from their participation in these chains.

Unfortunately, implementation of such measures is impossible due to the low bargaining power of the medium-sized agricultural companies, which decreases their economic efficiency and leads to their replacement by agroholdings (Ostapchuk et al., 2021). Although agroholdings have sufficient resources to invest in the agricultural development in order to ensure food sovereignty, their domination on the market makes the structure of the food industry unbalanced. Russia becomes dependent on a limited number of big producers, and a bankruptcy of any of them can cause a great damage for the national food security. For the Russian medium-sized agricultural companies it means a contradiction between the current economic efficiency (as income is steadily growing) and the long-term financial stability (as profits from participation in value chains cannot be maximized).

The low bargaining power of the Russian medium-sized agricultural companies creates on the micro-level risks for their long-term financial stability, and on the macro-level — preferences for agroholdings, which may lead for long-term risks for the structure of the Russian agricultural industry and food security.

Russian medium-sized agricultural companies need to increase their bargaining power in order to benefit from their value chains. This can be achieved by horizontal cooperation of medium-sized companies in the form of an alliance that would be provide a typical contract with a fine for late payments. Another way is a vertical integration with processing companies, which would increase economic efficiency of both parties and make the final product more competitive on the market.

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Оценка и способы увеличения нормы прибыли российских сельскохозяйственных предприятий среднего размера

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Аннотация. Норма прибыли (рентабельность) — категория, позволяющая оценивать финансовые, производственные и другие затраты предприятия. Детальный анализ коэффициентов доходности призван регулировать финансовую систему предприятия и положительно влияет на его финансовые показатели. В статье рассмотрен метод оценки нормы прибыли и способы ее повышения на примере среднего по размерам агропромышленного предприятия. На основе финансовых результатов его деятельности был рассчитан ряд показателей рентабельности, таких как основные средства, норма рентабельности оборотных средств и акционерного капитала, маржа валовой прибыли, маржа операционной и чистой прибыли. Эти расчеты позволили авторам сделать вывод, что рентабельность предприятия увеличилась, и о высокой эффективности его деятельности. Однако обозначены и задачи, которые необходимо решить, в частности, введение графика платежей. Анализ финансового эффекта от введения графика платежей показал, что он увеличит норму рентабельности предприятия на 10%.

Ключевые слова: норма прибыли, предприятие, коэффициенты доходности, затраты, финансовая система, оценка рентабельности

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ways to increase
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