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IMPROVING THE SYSTEM FOR ASSESSING THE EFFECTIVENESS OF THE FINANCIAL MANAGEMENT OF AGRICULTURAL ORGANIZATIONS

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Abstract

The article discusses cost models for assessing the effectiveness of financial management based on the MVA method of market value added, the EVA method, the SVA method of equity value added. The authors assessed the elements of the financial management of an agricultural organization for 2015-2019, including an evaluation of the state of fixed assets, inventories, accounts receivable, analysis of cash flows, sources of financing assets, liquidity of the balance sheet, financial stability, business profitability and business indicators of activity. For a comprehensive assessment of the effectiveness of the financial management of an agricultural organization, it was used a methodology based on the relationship of indicators, in which the indicator of economic value added acts as a criterion for the level of efficiency of financial management. A scale for quantitative and qualitative assessment of the level of financial management efficiency has been developed.

Key words**:** *financial management, efficiency, agricultural organizations, added value, assessment methodology*

INTRODUCTION

Evaluation of the effectiveness of financial management exists to varying degrees in each enterprise. Most often, the final results of the activity are the priority of efficiency. Without the use of theories and methods of financial management, this assessment could not be complete.

The evaluation of financial management effectiveness makes it possible to compare the final company results and the costs required for this. Based on the results of these indicators, the most appropriate way to increase its efficiency should be chosen.

To analyze the effectiveness of financial management, the "classical model" is most often used, based on the interpretation of profitability and financial stability of an enterprise, and the cost model (the concept of Value Based Management), which takes into account such criteria as added value (market, capital, monetary, economic, intellectual and etc.) [12]. At the same time, it is necessary to develop appropriate analysis tools, which should be based on aggregate indicators that would characterize the actual changes in the structure of strategic targets and take into account the possible interaction between them [10]. The proposed structural-dynamic tools are based on the methodology of modeling the structural dynamics of [11], further expanded by many authors [7]. This methodology is based on modeling in ordinal scales, which makes it possible to identify discrepancies between the normative and actual dynamics (structure) of the ratios between the growth rates of the analyzed indicators.

When using the methodology of forecasting structural dynamics, the emphasis is made on the analysis of the enterprise as an entire financial and economic system. This approach makes it possible to take into account its emergent properties, which, first of all, reflect the results of managerial influences on the processes that took place within the enterprise, and are a consequence of the interaction of components at the system level.

The MVA (Market Value Added) method considers value creation as capitalization (market value of shares multiplied by the number of shares outstanding) and book value of the company. Consider and as a discounted

flow of EVA and reflects the creation of value for shareholders in the long term [9].

The EVA (Economic value added) method allows you to evaluate the increase in the value of an enterprise over a certain period of time [5]. This method is quite simple, so it is widely used in practice. Its calculation boils down to subtracting the cost of capital from operating income.

The SVA (Shareholder Value Added) method evaluates equity capital gains and is based on investment. This indicator is calculated as the difference between the shareholder value of capital formed by future investments and the shareholder value of capital formed by previous investments. The calculation is based on discounting cash flows [10].

The shareholder value of the company is influenced by the following factors: the growth rate of revenue, profit from operating activities, the growth of investments in fixed and working capital, the tax rate, the cost of capital [8].

To obtain an objective result of the effectiveness of financial management, it is often not enough to use only classical approaches. This is explained by the desire of the owners to study not only quantitative, but also qualitative results of management [10].

The aim of the current research is to develop a methodology for assessing the effectiveness of the financial management in agricultural organizations using quantitative and qualitative indicators, where economic value added acts as an efficiency criterion.

MATERIALS AND METHODS

The empirical basis of the study was the data of the annual accounting (financial) statements of Petrovsky bread JSC.

JSC "Petrovsky bread" is an agricultural organization specializing in the production of crop products.

The method of comparative analysis, coefficient method, tabular and graphical methods were chosen as research methods. In the process of comparative analysis, the data available at the reporting date are compared with similar data for the past period, in our case the previous two years.

Financial ratios are relative indicators that are calculated on the basis of the organization's reporting. Many of them have normative values.

Tabular and graphical methods are used for presentation and greater clarity of the results.

The method of regression analysis was used to assess the factors influencing the economic value added. For its implementation, data of the organization for 10 years were used. This method allowed us to identify the factors that have the greatest impact on the level of efficiency of the financial management of an agricultural organization.

To assess the qualitative indicators of the effectiveness of financial management, a survey of the company's specialists was used.

RESULTS AND DISCUSSIONS

The problem of assessing financial management is inherent in all business entities, including agricultural ones.

Joint stock company (JSC) “Petrovsky bread” is a medium-sized agricultural organization. The specialized branch is the plant growing branch. The largest share in this industry is occupied by grain - an average of 69%. The share of whole milk decreases over the years and averages 9%. In the study period, there was a multidirectional change in revenue; the value of this indicator varied from 292,175 thousand rubles up to 404,593 thousand rubles. During the analyzed period, the change in the financial result from sales amounted to 48,385 thousand rubles. In general, over the past 5 years, the organization has been making a profit from the sale of agricultural products, however, the amount of profit in dynamics allows us to conclude that there has been some reduction in the activities of JSC “Petrovsky bread” [4].

The data of the analysis testify to the prevailing share of current assets in the structure of the property of the organization. Average for 2015-2019 the share of current assets accounts for 70.5% of all assets, therefore, non-current assets - 29.5%.

The organization's own funds occupy a significant share during the study period - more than 50% and are mainly represented by

retained earnings. The composition of borrowed sources of financing is dominated by short-term funds, the share of which varies from 20.63% in 2019 to 38.95% in 2016. The company's accounts payable have a fairly low share and by the end of 2019 amounted to 14,226 thousand rubles or 2.91%.

On average, for the period under study, the following structure of assets has developed: fixed assets - 29%, inventories - 40.4%, accounts receivable - 15.9%, financial investments - 7.4%, cash - 4.4%. In the structure of liabilities for 2015-2019 retained earnings accounted for an average of 43%, accounts payable - 15.2%, borrowed short-term funds - 13.1%, long-term - 2.6%.

The authors assessed the elements of financial management in nine sections for 2015-2019 and within the sections for each indicator, the best year is selected to be adopted as a measure of performance (Table 1).

Table 1. Evaluation of financial policy indicators

Indicator	2015	2016	2017	2018	2019
Valuation of fixed assets					
Wear factor	0.46	0.34	0.52	0.58	0.64
Refresh rate	0.11	0.17	0.09	0.05	0.10
Retirement rate	0.07	0.39	0.05	0.02	0.07
Assessment of the state of stocks of inventory items					
Raw material inventory turnover ratio	27.44	23.65	31.74	5.98	21.75
Work in progress turnover ratio	4.57	6.09	5.36	3.34	3.25
Finished goods turnover ratio	3.96	1.53	4.00	2.52	2.28
Assessment of the state of receivables (structure in percent)					
Current accounts receivable	48	43	54	51	34
Overdue over 45 days	12	16	10	14	20
Cash flow analysis					
Operating net cash flow, RUB thousand	34,221	-120,941	109,810	-34,901	32,032
Financial net cash flow, thousand rubles	-9,122	188,577	-113,217	92,803	-75,971
Investment net cash flow, thousand rubles	-19,355	-60,677	-673	3,328	-10,182
Analysis of asset financing sources					
Autonomy coefficient	0.62	0.50	0.69	0.64	0.71
Sustainable finance ratio	0.24	0.39	0.22	0.32	0.21
Balance liquidity analysis					
Current liquidity ratio	2.36	1.92	3.05	2.35	3.63
Quick liquidity ratio	0.95	0.75	1.14	0.96	1.41
Absolute liquidity ratio	0.26	0.44	0.37	0.51	0.44
Financial stability analysis					
Working capital ratio	0.58	0.48	0.67	0.57	0.72
Equity maneuverability ratio	0.54	0.72	0.66	0.68	0.76
Analysis of business profitability, in percent					
Profitability of sales	26.53	28.70	9.11	11.88	14.42
Return on equity	22.19	24.82	6.93	5.83	2.93
Analysis of business activity indicators					
Asset turnover period in days	496.85	501.66	511.59	631.16	621.15
Inventory turnover period in days	209.18	266.20	236.36	304.02	318.29
Duration of the financial cycle in days	169.87	153.28	162.47	335.44	402.60
Economic effect from the acceleration of the turnover of current assets, thousand rubles.		100,475.4	33,173.8	70,126.4	9,592.6

Source: Compiled by the authors on the basis of accounting data and financial statements of JSC "Petrovsky bread".

Section I characterizes the state of fixed assets in the organization. At the end of 2019, depreciation of fixed assets is 64%, and the value of this indicator has a growth trend. The maximum values of disposal and

commissioning of fixed assets were observed in 2016.

Section II - Assessment of the state of stocks of inventory items.

For almost all types of stocks, there is an increase in the duration of turnover, which is considered as a negative fact. The best results in terms of inventory turnover were achieved by the organization in 2017.

Section III - Assessment of the state of receivables. The data of the analysis testify to unsatisfactory work with debtors. Along with the positive moment - the absence of long-term receivables, in the structure of short-term debt, the share with a delay of more than 45 days accounts for 20% in 2019. In general, 58% of buyers are late with payment.

Section IV - Cash flow analysis. The maximum result was achieved in 2018, however, this was due to a positive balance in financial activities, while the current activity of the organization was negative. This may also indicate difficulties in working with debtors - shipped products are not paid on time. In our opinion, 2017 can be recognized as the best result, when operating activities brought 109,810 thousand rubles. net income, while in 2019 it was only 32,032 thousand rubles. or 70.8% less. A significant amount of payments for financial activities in 2019, despite receiving a loan in the amount of 170,525 thousand rubles, led to a final negative balance for the organization. Receipts from all types of activities in 2019 amounted to 91% of payments.

Section V - Analysis of sources of financing assets. In general, the structure of asset financing sources is optimal - more than half of all assets are financed from their own funds, and by 2019 this figure has increased to 71%. Current assets are formed at the expense of short-term liabilities by an average of 40%, the rest is accounted for by the organization's own funds.

Section VI - Analysis of balance sheet liquidity. At the end of the analyzed period, the current liquidity ratio was 3.63, which exceeds its normative value. The quick liquidity ratio amounted to 1.41, exceeding the standard value by 0.61 points, which indicates that the organization has liquid assets that can be used to repay the most urgent obligations. For the entire period under study, the absolute liquidity ratio increased by 0.18 points.

Section VII - Analysis of financial stability. The ratio of own working capital has a growth dynamics and at the end of 2019 amounted to 0.72, providing an increase of 0.14 points over 5 years. The coefficient of capital maneuverability during the study period is significantly higher than the normal value for this industry. Its value varied in the range of 0.54-0.76. In almost all periods, borrowed funds were less than own funds, only in 2016 their values were approximately equal. The values of the calculated indicators indicate the stable financial stability of the organization under study.

Section VIII - Analysis of business profitability. Return on sales for the last year amounted to 14.42%. That is, each ruble of the proceeds of JSC “Petrovsky bread” contained 14 kopecks profit from sales. Over the past year, each ruble of the organization's own capital has brought 2.93 rubles. net profit. The decrease in return on equity for the entire period under review amounted to 19.26 percentage points. Over the past year, the value of return on equity can be considered unsatisfactory.

Section IX - Analysis of indicators of business activity. The turnover of the organization's assets is quite low, which is confirmed by the duration of their turnover of 533 days. Expenses for ordinary activities amounted to the average annual inventory balance for 264 days. The duration of the financial cycle increases, which is associated with a slowdown in turnover inventories and receivables. The positive value of the economic effect indicates an additional attraction of current assets into circulation as a result of a decrease in the intensity of their use.

The methodology for assessing the elements of financial management of JSC “Petrovsky bread” allowed to identify its shortcomings and develop areas for improvement.

The following should be noted as shortcomings in the financial management of JSC “Petrovsky bread”:

-The fixed assets of the organization need to be updated, the source of financing of which can be both own funds and additionally attracted long-term sources of financing;
-Current asset management policy needs to be adjusted in order to optimize inventories, as well as receivables by revising the organization's credit policy in relation to buyers;
-The funds available on the current account of the organization must generate income, and therefore it is advisable to invest them in an amount in excess of the optimal amount in highly liquid securities or purchase fixed assets;
-The main effective indicators of the organization's activities (revenue, costs, profit) have a negative trend, and the rate of decline in revenue exceeds the rate of cost reduction, and therefore it is necessary to control the expenditure of the organization's funds and find ways to optimize them.

For a comprehensive assessment of the effectiveness of the financial management of an agricultural organization, we have proposed a methodology based on the relationship of indicators.

The indicator of economic value added (EVA) was used as an indicator of the level of financial management efficiency (Figure 1).

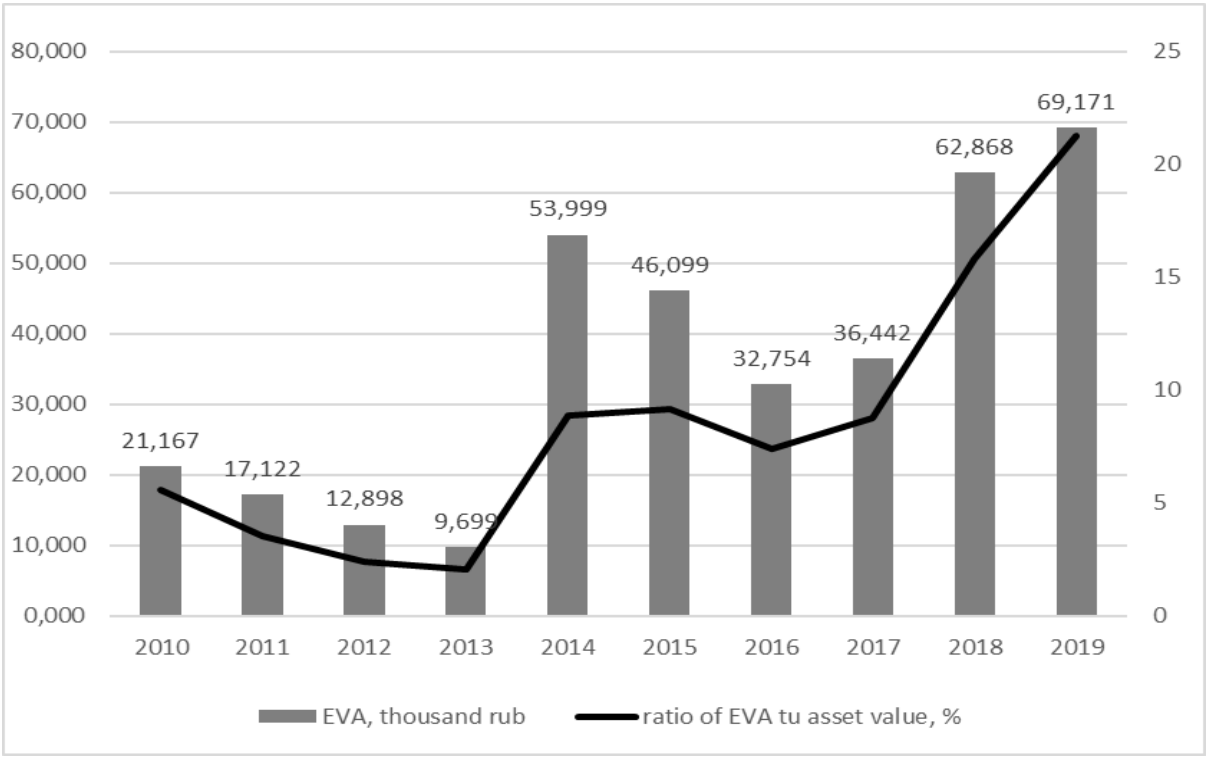

Fig. 1. Dynamics of the indicator of economic value added
Source: Compiled by the authors on the basis of accounting data and financial statements of JSC “Petrovsky bread”

Positive values of the EVA indicator deal with an increase in the value of the company.

The undoubted advantage of this method is the ability to assess the effectiveness of financial management based on the analysis of financial and tangible assets, as well as the intellectual capital of the organization. In addition, using this method, you can evaluate each business unit of the organization.

To develop a scale for assessing the level of financial management efficiency, we used the indicator of the ratio of economic value added to the value of the organization's assets (Table 2).

Table 2. Financial management efficiency scale

The range of the value of the return on advanced capital	Level of financial management efficiency
Less than 4.8%	extremely low
4.8%< E<9.6%	low
9.6%< E<14.4%	average
Over 14.4%	high

Source: Compiled by the authors on the basis of accounting data and financial statements of an agricultural organization.

In order to determine which factors, have the greatest impact on the effectiveness of financial management, the method of regression analysis was used.

The main indicators characterizing the areas of financial management were used as variables.

As a result, we got the following regression equation:

$$Y=34.2+22.66x_1+0.32x_2-21.71x_3+39.42x_4+9.68x_5+3.97x_6+0.003x_7,$$

where:

y - the ratio of EVA to the value of assets;

x_1 - coefficient of renewal of fixed assets;

x_2 - turnover ratio of stocks of raw materials;

x_3 - share of current receivables;

x_4 - ratio of inflows and outflows;

x_5 - coefficient of autonomy;

x_6 - current liquidity ratio;

x_7 - turnover period of current assets.

For our analysis, the determination index equal to 0.97 indicates that these seven factors have the greatest impact on the level of financial management of the organization. The most significant factors were the fixed asset renewal ratio, the level of receivables and the ratio of cash inflows and outflows. In addition, the coefficient of autonomy and current liquidity have a positive effect on the effectiveness of financial management.

Calculations showed that the actual value of the level of financial management differs from the predicted indicators by no more than 2.05% per year.

Recently, the owners of the company are more often concerned about the qualitative indicators of the effectiveness of financial management. Considering it important to evaluate these indicators, we are faced with the problem of their choice and evaluation methods. We came to the conclusion that a certain integrated indicator is needed, which includes various qualitative aspects of financial management [3].

This stage includes determining the values of private financial management coefficients. Based on the expert assessment, the value of each of the presented private indicators is calculated. The assessment range is from 0 to 3 points.

The proposed scale for the qualitative assessment of financial management:

-High level of financial management - 13-18 points;

-Average level of financial management - 7-12 points;

-Low level of financial management - 0-6 points. The enterprise under consideration can be classified as having an average level of financial management.

A company can achieve maximum efficiency in its work only if competent management of the formation and management of assets, control of financial results, business value, competitiveness of goods and services and business activity is carried out. Each of these components is very important (Table 3).

Table 3. Calculation of partial coefficients of financial management

The name of the private coefficient of financial management quality	Points
Philosophical aspect The company has long-term and short-term financial planning.	2
Information aspect The information base on all elements of production and financial activities (debtors, creditors, suppliers, consumers, competitors, etc.) is constantly updated	2
Aspect of the operating principle Systematic analysis of the financial position of the company, comparison with standard indicators and competitors, identification of the causes of deviations	2
Aspect of differentiation The company is developing new market instruments	1
Organizational aspect Number of investment projects for the reporting period with a positive economic effect	1
Personnel management aspect The presence of a financial service, the level of qualification of specialists involved in financial management	2
Total	10

Source: Compiled by the authors on the basis of accounting data and financial statements of an agricultural organization.

In order to determine the optimal size of stocks of raw materials and supplies, a standard was determined for each type of agricultural product. Optimum availability of working capital in stocks of seeds 7,519 thousand rubles. The standard for work in progress would include costs for next year's harvest, namely for winter wheat, and will amount to 4,870 thousand rubles.

The paper determines the optimal amount of cash using the Baumol-Tobin model [1]. It would amount to 659 thousand rubles. We propose to use part of the funds that exceeds their optimal balance for the acquisition of fixed assets, namely 15,568 thousand rubles.

To form the material and technical base, we propose the creation of an accumulation fund.

In the coming year, we plan to distribute profits as follows: - between the founders (25%); - reinvestment (65%); - accumulation fund (10%).

As a result of changes in some areas of financial management, the performance indicators of JSC "Petrovsky bread" could increase (Table 4).

Table 4. Results of adjusting the areas of financial management of JSC "Petrovsky bread"

Indicator	2019	Forecast 2022
Investment and depreciation policy		
Refresh rate	0.10	0.14
Retirement rate	0.07	0.07
Ratio of renewal and retirement rates	1.48	2.0
Inventory management policy		
Stock of raw materials in days	16.78	29.07
Work in progress in days	112.47	7.30
Current asset management policy		
Turnover period of current assets in days	467.13	363.43
Inventory turnover period in days	318.29	218.05
Profit management policy		
Return on costs, %	16.85	17.03
Return on sales, %	14.42	14.55

Source: Compiled by the authors on the basis of accounting data and financial statements of an agricultural organization.

An increase in the fixed asset renewal ratio of only 0.04 points will improve the efficiency of financial management by 1 percentage point or would give an additional increase in the value of the company by 2,955 thousand rubles.

CONCLUSIONS

Thus, the assessment of the effectiveness of the financial management of an economic entity allows you to see problem areas in the organization's activities and develop directions for its adjustment.

The development and implementation of a current asset management policy involves the choice of a policy for the formation of current assets [2]. At the current stage of development in JSC "Petrovsky bread" moderately conservative policy of financing current assets. At this stage of development, it is possible to recommend the use of an aggressively moderate policy for managing the formation and financing of assets for JSC "Petrovsky bread", which will increase the profitability of operations by attracting long-term sources of financing without losing the required level of liquidity and financial stability [6].

The company should rationally deal with the formation of current assets, in correlation with them it would be possible to recommend the use of rationing for the main types of crop products.

The creation of a consumption fund would allow the organization to update fixed assets

in a timely manner without engaging borrowed sources of financing.

In addition, the organization should improve the quality indicators that influence on the effectiveness of financial statement and management. Moreover, it is necessary to introduce innovative techniques into their activities and master new market instruments.

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