

IMPROVING THE METHODOLOGY FOR MANAGING CURRENT ASSETS OF AGRICULTURAL ENTERPRISES

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Abstract

Economic freedom of business entities, unpredictability of external environment, imbalance of managerial powers between the business itself and government agencies require a significant improvement in terms of quality of decisions. This task can be solved only on the basis of systematic analysis of financial statements both at the level of enterprises themselves and at the level of government bodies. This paper particularly focuses on improving the quality of working capital management, which calls for updating the role and requirements for analysis tools as basis for development and adoption of decisions along the entire vertical management chain of economic processes. Authors are considering various options regarding the improvement of economic analysis methodology for the use of current assets as the most important tool for the administration of agricultural enterprises financial condition. As a result, this paper presents a methodology for improving this tool and for managing the financial condition of agricultural enterprises as well as for developing advance measures to prevent its deterioration.

Keywords: *analysis of financial statements, current assets, financial cycle, financial stability, industrial property real value coefficient, sources of working capital, liquidity ratio*

1. Introduction

The market economy radically changes the attitude of economic entities towards cost accounting with its basic principles - self-sufficiency and self-financing. A significant difference of its role under market economy, compared to centralized state control of the economy, is the exclusive responsibility of its owner for the financial condition of economic entity. This means that if a business entity cannot ensure self-sufficiency and self-financing of its activity then it no longer exist. Hence, the main task for any business entity management is to ensure a sufficient level of self-sufficiency and self-financing. The same task is faced by state authorities, since there cannot be a self-sufficient state with a low-level of management of economic processes. Carrying out this task both by state, municipal authorities and by business itself requires improvement of the system of social and economic development management along the entire vertical chain already in new conditions of a society. Currently, there is no such system. The general task-setting process and individual national projects are

not sufficiently balanced, and, accordingly, cannot ensure overall growth of social and economic development.

To this should be added the negative influence of internal and external factors. It can be mentioned here, first of all, a weak implementation of tasks and projects, which in turn is a consequence of officials' low level of responsibility, lack of control and of an effective system for evaluating their performance. At the same time, more in-depth scientific research is required by issues related to the organization of enterprises operating within the agro-industrial complex (AIC) both at regional level and in the country as a whole such as, namely, the management of current assets both as consistent and adaptive tools that affect the financial condition of agricultural entities in new economic conditions. Effective asset management is one of the most important sources of funding for an organization. Its relevance lies in the fact that unlike other sources of funding it does not bear direct costs and financial risks. [6, p. 413]. Experience shows that there always exists an opportunity to improve the efficiency of the use of assets, and, as a consequence, to reduce additional funds that can be attracted from external financing sources.

However, this requires improvement of the methodology for managing the financial condition of agricultural enterprises having complete economic self-sufficiency.

2. The degree of investigation of the problem at the present moment, purpose of research

It is known that the main functions of management are: planning, organization, accounting, control, and evaluation of results. All are extremely important and correlated. If there is no planning system, but, instead, there is a formulation of individual tasks or, as it is now fashionable to say: "development of road maps", then it is really difficult to expect a positive result.

The planning system, even if it is purely indicative, provides for a balance of goals with resource support for their achievement. Implementation of this condition is possible based on full knowledge of the state of social and economic development and its management. To this end, it is necessary to really work with current accounting information as well as with the official information in the financial statements, both by legal entities themselves and by the state and municipal governing authorities.

A comprehensive economic analysis regarding the operation of enterprises should be carried out systematically with the subsequent use of its results for the development and use of economic levers that stimulate social and economic development of economic entities, individual regions and of the state as a whole.

When assessing the activities of economic entities, the priority indicators, in our opinion, should be: net cost, profit, profitability, return on assets, turnover of working capital, liquidity, and also productivity of land for agricultural enterprises, efficiency of land use based on scientifically-based crop rotation, use of new technologies, etc.

Many well-known scientists focused their work on the problem of developing methodological techniques and methods (I.A. Blank [3]; Yu.M. Bakhrarov and V.V. Glukhov [6]; A.A.

Volodin [4]; V.D. Gerasimova [1]; N.N. Selezneva [5] and others). However, the economic independence of agricultural enterprises and unpredictability of external factors affecting their operation have not been sufficiently approached methodologically in certain areas of analysis by these authors, in our opinion.

The purpose of this research paper regarding the problem of improving the management of current assets is to study and recommend certain methodological techniques and methods of analysis that are characteristic to particular agricultural enterprises within a separate region of the Left Bank of the Republic of Moldova and, on this basis, make reliable, balanced and operational management decisions.

3. Materials and methods of research

The management of working capital, i.e. the management of asset turnover has an important role in the management of financial condition of the enterprise.

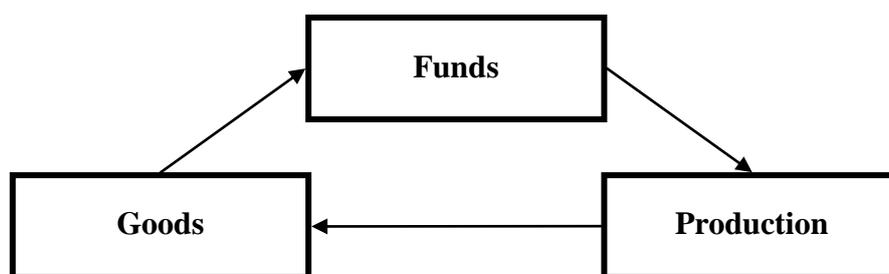


Figure 1. Working capital management system

The continuity of the production process requires available working capital at all three stages of the circuit at any time, and their management implies compliance with the following conditions:

- Sufficient availability of own current assets;
- Formation of working capital from own and borrowed sources;
- Use of own working capital for the formation of inventories and other assets;
- Planning the need for working capital, determined according to economically justified standards;
- Calculations and management of the financial cycle should be carried out on the basis of working capital turnover indicators.

The analysis of the financial condition of the enterprise is based on the comparison method and the balance method.

The main source of information for analyzing the state of the enterprise on the use of current assets is the balance sheet and other financial statements regarding total income status. For a comparative analysis, materials of the statistical office of Rybnitsa region for 2018 and 2019 were used. (see Table 1) [7].

Table 1. Key performance indicators of agricultural enterprises of Rybnitsa region (thousand rubles)

Indicator	2018	2019	Deviation 2019 /2018	Ratio, %
Sales revenue (revenue)	180 987	210 661	29 674	116,40%
Cost of sales	116 841	144 468	27 627	123,64%
Gross profit (loss)	64 146	66 193	2 047	103,19%
Net income (loss)	19 796	42 885	23 089	216,63%
Balance asset total	269 874	316 697	46 823	117,35%
Long-term (non-current) assets	159 631	177 134	17 503	110,96%
Short-term (current) assets	110 243	139 563	29 320	126,60%
Stocks	88 635	101 724	13 089	114,77%
Cash and cash equivalents	1 005	6 665	5 660	663,18%
Capital and reserves	163 045	187 752	24 707	115,15%
Short-term trade and other receivables	16 298	25 673	9 375	157,52%

Source: Developed by authors based on statistical reporting data [7]

To study the structural content of current assets and their sources of formation, the following information in the accounting and reporting data for 2018 and 2019 was used (see Table 2) [7].

Table 2. Structure of sources for the formation of working capital of agricultural enterprises of Rybnitsa region

	Sources of formation	2018		2019		Optimal structure, %
		thousand rubles	% to total	thousand rubles	% to total	
1.	Own capital	163 045	51,48%	187 752	58,21%	40-50
	incl. current assets	110 243	34,81%	139 563	43,27%	
2.	Loans and credits	30 284,30	9,56%	25 783,90	7,99%	20-30
	incl. short-term obligations	28 697,9	9,06%	20 356,0	6,31%	
3.	Accounts payable	123 407,40	38,96%	109 027,90	33,80%	20-25
	incl. direct loans	28 697,90	6,39%	20 356,00	4,67%	
	promissory notes payable	64 546,70	14,37%	60 913,90	13,98%	
	advances received	24211,1	5,39%	17 537,30	4,03%	
4.	Attracted funds	15 012	3,34%	14 276	3,28%	5-10
5.	Net working capital (page 4 – page 5)	32111,90		30974,0		

Source: Developed by authors based on statistical reporting data [7]

Methods of statistical observation and analysis on the use of working capital allows us to conclude that the dynamics of financial statements of agricultural organizations in Rybnitsa region indicates a decrease of net working capital (NWC) by 3.5%. At the same time, an analysis of its structure indicates a 15% increase of own sources and reaches the optimal level. Significant changes in the structure of borrowed sources can be noted: loans and credits

have significantly decreased (5.92%, optimal value 20-30%), at the same time, accounts payable remain at the maximum level (25.03%, with an optimal value of 20-25%), although compared to 2018 it decreased (27.47 in 2018 and 25.03 in 2019).

Analysis of sources on the formation of working capital allows us to make the following conclusions:

- Firstly, on the positive side, the share of own sources increased from 36.30% in 2018 to 43.10% in 2019, which is the result of increase in sales revenues by 16.40% and of net profit by 116.63 %.
- Secondly, the absolute decrease of net current assets is a consequence of borrowed sources reduction due to their high cost.

Data calculated under the analysis at regional level allow making proposals to the Central Bank on the need to revise the credit policy by reducing the interest rate for loans. This is especially true for the agricultural sector, which has an extreme need for modern technical and technological equipment.

4. Obtained results and discussions

To ensure the liquidity of enterprises, it is important to optimize the placement of current assets. The most known method for modeling the placement of current assets is the Baumol and Miller-Orr model [4, p. 93]. To estimate this process of asset management, the coefficient of industrial property real value (C_{vip}) is used, which is calculated by the formula:

$$C_{vip} = \frac{C_{basic.} + A_{p.a.}}{A} \quad (1)$$

Where:

$C_{basic.}$ – fixed assets;

$A_{p.a.}$ – current production assets.

A – total asset value.

The minimal value of this coefficient is 0.5. At the analyzed enterprises this ratio was 0.92 in 2018 and 0.88 in 2019. This indicates a decrease in the real value of property used in the production by agricultural organizations from Rybnitsa region.

The value of financial cycle (FC) is important for the management of financial condition of business entities, and, accordingly, of social and economic development in general; this value is calculated according to the formula:

$$FC = T_{s.c.} + T_{r.c.} - T_{a.p.c.} \quad (2)$$

Where:

FC – financial cycle period, days;

$T_{s.c.}$ – inventories turnover time

$T_{r.c.}$ – time of circulation of receivables;

$T_{a.p.c.}$ – time of circulation of accounts payable.

As can be seen from the above formula, the financial cycle includes time spent by working capital in the production stage and in the commodity stage.

Financial cycle management is the most important task of managing the finances of business entities.

It is customary to distinguish four types of financial condition of the enterprise: absolute financial stability, normal, unstable and crisis financial condition.

Businesses with strong financial position can administrate the financial cycle of accounts payable, which allows:

- using a cheap source of funding compared to own funds and credit;
- accelerating the turnover of working capital by reducing the financial cycle.

At the same time, this is possible provided that the share of accounts payable in the working capital falls within the normal range (20-25%) or its increase does not exceed 10%.

Failure to comply with these conditions leads to disturbance of the structure of the working capital, emergence of financial difficulties as well as to deterioration of the image of an economic entity in the eyes of banks, resource providers, etc.

Having an unstable financial position it is possible to manage the financial cycle by optimizing the turnaround time of inventories and receivables. Regulating working capital by means of accounts payable should not be a normal thing. Its increase will be justified only in cases of extreme necessity and the decrease should be consistent with decrease in receivables. In any case, it is necessary to aim at providing the enterprise with the required amount of own funds. This can be solved by:

- Reducing net profit deductions to the consumption fund, i.e. changing the ratio between the consumption fund and the development fund in favor of the latter.
- Sales of receivables.
- Sales of surplus material, technical resources, finished products.
- Refusal to manufacture unprofitable products.

Table 3 shows a calculation of financial stability for agricultural enterprises from Rybnitsa region.

**Table 3. Calculation of financial stability
for agricultural enterprises of Rybnitsa region (thousand rubles)**

Balance asset	2018	2019
1. Fixed assets	159 631	177 134
2. Current assets	110 243	139 563
3. incl. inventories	88 635	101 724
Balance liability		
4. Capital and reserves	163 045	187 752
5. Long-term liabilities	28 697,90	20 356,00
6. Short-term liabilities	123 407,40	109 027,90
7. including short-term loans	4 664,00	2 038,50
8. Availability of own funds allocated to current assets (page 4 - page 1)	3 414	10 618

9. Availability of own working capital (page 4 + page 5 – page 1)	32 111,90	30 974,00
10. Availability of shared sources (page 9 + page 7)	36 776	33 013
11. Surplus (shortage) of own funds (page 8 - page 3)	-85 221,00	-91 106,00
of own funds, taking into account long-term loan (page 9 - page 3)	-56 523,10	-70 750,00
shared sources (page 10 - page 3)	-51 859,10	-68 711,50
12. Type of financial condition	Crisis	Crisis

Source: Developed by authors based on statistical reporting data [7]

As can be seen from the above data, agricultural enterprises in the Rybnitsa region are in a state of crisis, resulting from the availability of own funds, including taking into account the long-term loan and general sources:

$$S (\text{Short.})_{o.f.} < 0 \quad (3)$$

$$S (\text{Short.})_{it.l.} < 0 \quad (4)$$

$$S (\text{Short.})_{s.s.} < 0 \quad (5)$$

Where:

S (Short.)_{o.f.} – surplus (shortage) of own funds;

S (Short.)_{it.l.} – surplus (shortage) of own funds taking into account long-term loan;

S (Short.)_{s.s.} – surplus (shortage) of own funds taking into account shared sources.

According to data presented in Table 4, the size of financial cycle was 75 days in 2018 and 26 days in 2019, which indicates a sharp drop by 49 days (75-26).

Table 4. Calculation of financial cycle value for agricultural organizations of Rybnitsa region

№	Indicators	Calculation method	Actual value	
			2018	2019
1.	Stock circulation time (S c.t) days	$S\ c.t. = \frac{\text{Stock} \times \text{days}}{Sp}$	276,8	257
2.	Receivables circulation time (T r.s.) days	$T\ r.s. = \frac{Dt \times D}{tiime}$	32,86	44,48
3.	Accounts payable circulation time (T a.c.c.) days	$T\ a.c.c. = \frac{C2 \times D}{Sp}$	385,51	275,46
4.	Revenue from sales of products (B)	-	180 987	210 661
5.	Net cost of goods sold	-	116 841	144 468
6.	Duration of the financial cycle	$FC = T_{s.c.} + T_{r.c.} - T_{a.p.c.}$	-75,85	26,02

Source: Developed by authors based on statistical reporting data

When speaking about the management of social and economic development, it is also important to analyze the liquidity of economic entities balance sheet, characterized by the structure of assets and liabilities. The results of this analysis are of exceptional importance not only for the enterprises themselves but also for government agencies, since it allows enterprises to take the necessary measures to prevent their bankruptcy, which is important not only for economic agents but also for social and economic development of the region and of the state as a whole. For this purpose, the liquidity of assets should be monitored using the liquidity ratio (R_l) - absolute liquidity ratio ($R_{a.l.}$) and current liquidity ratio ($R_{c.l.}$).

The liquidity ratio indicates company's solvency and is calculated by the formula:

$$R_l = \frac{A_{i.c.}}{L_{s.t.}} \quad (6)$$

Where:

$A_{i.c.}$ – intangible current assets (accounts receivable, short-term financial investments, cash);

$L_{s.t.}$ – short-term liabilities.

The minimal allowed value of this indicator – 0,8-1.

The absolute liquidity ratio characterizes the company's ability to cover the most urgent liabilities (accounts payable) and is calculated by the formula:

$$R_{a.l.} = \frac{\text{Short-term financial investments + cash}}{\text{Short-term liabilities}} \quad (7)$$

The minimal allowed value of this indicator: 0,2-0,25 (recommended).

The current liquidity ratio provides the identification of a satisfactory or unsatisfactory state of the balance sheet structure, and whether the company is solvent or insolvent. The value of this coefficient is calculated by the formula:

$$R_{c.l.} = \frac{\text{Current assets}}{\text{Loans and credits + payables}} \quad (8)$$

The standard value of the current liquidity ratio depends on industry peculiarities. For agriculture this indicator should vary from 1.5 to 2. For enterprises from Rybnitsa region the liquidity ratios are presented in Table 5.

Table 5. Calculation of liquidity indicators for agricultural enterprises from Rybnitsa region

Indicators	Calculation method	Actual value		Normative value
		2018	2019	
Total liquidity ratio	$\frac{A_{i.c.}}{L_{s.t.}}$	0,140	0,296	0,8-1
Absolute liquidity ratio	$\frac{\text{cash} + L_{s.t.f}}{L_{s.t.}}$	0,0081	0,061	0,2-0,25

Current liquidity ratio	$\frac{\text{Current assets}}{\text{Loans and credits + payables}}$	0,72	1,08	1,5-2
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Source: Developed by authors based on statistical reporting data

Negative deviations of actual values of liquidity ratios from normative values indicate the need to use significant reserves depending on the situation of circulating assets and on their placement at the regional enterprises.

5. Conclusions

Thus, the financial condition of agricultural enterprises of Rybnitsa region can be characterized as crisis in the period 2018-2019. The main lever of financial management in this situation is the time of inventories- and receivables circulation. Increase of accounts payable, as a source of working capital, should be done when there is an absolute necessity and economic feasibility of its repayment. Decrease of accounts payable is carried out in parallel with decrease of accounts receivable.

Main attention should be paid to providing the enterprise with the necessary amount of own funds through:

- improvement of forms and methods of management (specialization, concentration, combination, cooperation);
- diversification of production;
- marketing improvement;
- increasing the efficiency of exports;
- rational use of available resources;
- reducing the net cost of production and sales of products, etc.

Taking into account the peculiarities of agricultural enterprise, first of all, their significant dependence on natural and climatic conditions, disparity in prices for consumed resources and manufactured products, and also based on the importance of this industry for ensuring the food security of the region, appropriate measures of its financial support should be developed at the state level.

The proposed analysis method allows providing:

- systematic management of circulating assets of business entities at all levels of executive bodies based on official financial statements;
- efficiency of analysis, i.e. timeliness of its execution and bringing the results of the analysis to managers for decision-making;
- quantitative and qualitative certainty of analytical conclusions;
- objectivity of analysis.

The analysis of current assets management carried out in this paper indicates the need for its use in managing the financial condition, both at the level of enterprises and at the level of government bodies, which will improve the quality of decisions made both by business entities themselves and by government agencies.

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Rezumat

Libertatea economică a agenților economici, imprevizibilitatea mediului extern, dezechilibrul înputernicirilor manageriale între business și structurile guvernamentale necesită o îmbunătățire semnificativă a calității deciziilor manageriale. Această sarcină poate fi soluționată doar în baza unei analize sistematice a situațiilor financiare, atât la nivelul entităților, cât și la nivelul organelor manageriale de stat. În lucrarea dată o atenție deosebită se acordă îmbunătățirii calității managementului fondului de rulment, prin care se prevede actualizarea rolului și cerințelor aferente instrumentelor de analiză, ca bază pentru dezvoltarea și adoptarea deciziilor pe întreaga verticală a managementului proceselor economice. Autorii examinează diferite opțiuni pentru îmbunătățirea metodologiei analizei economice a utilizării activelor circulante ca important instrument al managementului stării financiare a entităților agricole. În rezultatul cercetărilor efectuate se recomandă metodica modernizării acesteia și a managementului stării financiare a entităților agricole, elaborarea măsurilor preventive inadmisibile agravării situației.

Cuvinte-cheie: *analiza situațiilor financiare, active circulante, ciclul financiar, stabilitate financiară, coeficient al valorii reale a patrimoniului cu destinație de producție, fond de rulment, coeficient de lichiditate*

Аннотация

Экономическая свобода хозяйствующих субъектов, непредсказуемость внешней среды, несбалансированность управленческих полномочий между непосредственно бизнесом и государственными структурами требуют существенного повышения качества принимаемых решений. Данная задача может быть решена только на базе систематического анализа финансовой отчетности, как на уровне самих предприятий, так и на уровне государственных органов управления. В этой работе особое внимание уделяется повышению качества управления оборотными средствами, что предусматривает актуализацию роли и требований к инструментам анализа, как основы для разработки и принятия решений по всей вертикали управления экономическими процессами. Авторами рассматриваются различные варианты совершенствования методики экономического анализа использования оборотных активов, как важнейшего инструментария управления финансовым состоянием сельскохозяйственных организаций. В результате исследования предлагается методика его совершенствования и управления финансовым состоянием сельскохозяйственных организаций, разработки превентивных мер по недопущению его ухудшения.

Ключевые слова: *анализ финансовой отчетности, оборотные активы, финансовый цикл, финансовая устойчивость, коэффициент реальной стоимости имущества производственного назначения, источники формирования оборотных средств, коэффициент ликвидности*

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