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ACCOUNTING, FINANCIAL, AND ECONOMIC SUPPORT FOR SUSTAINABLE DEVELOPMENT OF THE AGRICULTURAL SECTOR: THEORETICAL FOUNDATIONS AND PRACTICAL RECOMMENDATIONS

COLLECTIVE MONOGRAPH

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The monograph is intended for policymakers and stakeholders in agriculture, accountants, banking and finance specialists, agricultural managers, farmers, researchers and postgraduate students in agricultural economics.

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CONTENT

1.3. SOLVENCY MANAGEMENT IN THE SYSTEM OF ENSURING THE FINANCIAL AND ECONOMIC SECURITY OF AN AGRICULTURAL ENTERPRISE

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In the modern Ukrainian economy, many enterprises are facing the problem of replenishing the shortage of their own working capital. This has led to widespread disruptions in the synchronization of cash flows, a lack of funds to repay urgent debts, and a decline in enterprises' solvency indicators.

Entrepreneurial activity in some sectors of the Ukrainian economy is accompanied by a high risk of insolvency. This risk is especially acute in the agricultural sector after the full-scale invasion. As a result, up to 70% of agricultural enterprises are unprofitable and insolvent. At the same time, the peculiarities of market relations in Ukrainian agriculture give rise to overdue debts even among profitable producers. Therefore, the issue of overcoming insolvency is particularly relevant today.

Under current challenging economic conditions, where enterprises face various risks on a daily basis, it is crucial to establish the appropriate solvency level, as the loss of solvency threatens a company with bankruptcy. It is worth noting that, for a company, solvency is the ability of an economic entity to fulfill its obligations to creditors, suppliers, personnel, and the government – in the required amounts and within set deadlines. This indicator is a strategic measure of a company's financial stability, reflecting its creditworthiness and the effectiveness of its financial resource management.

Solvency reflects the ability of an economic entity to cover its financial obligations. Based on this, a company’s solvency can be assessed by subtracting liabilities from assets, which constitutes the shareholder capital. There are also other solvency indicators that highlight various aspects of solvency for more detailed analysis. A significant number of enterprises have negative shareholder capital, which indicates insolvency. Negative shareholder capital signifies the absence of the company’s balance sheet value and points to losses for business owners. Essentially, if a company were required to be liquidated immediately, it would need to sell all of its assets and use the proceeds to settle liabilities, leaving only the shareholder capital as the remainder of its value. Let us consider various academic perspectives on the essence of a company's solvency.

Iorgacheva M.I., Kotsyurubenko G.M., Kovaleva O.M. emphasize that the solvency of an economic entity is determined by its financial stability, which is indicated by the amount of current assets financed through long-term sources. The state of current solvency or insolvency reflects whether the current assets are adequately supported by long-term financing sources. The critical nature of solvency underlines the fact that any business entity seeks to increase its level of solvency and thus develops methods for strengthening

and improving it (Iorgacheva et al., 2023).

Snitkina I.A. states that a company's solvency at the microeconomic level should be understood as its ability to meet financial obligations using its own or borrowed resources. This includes making payments to satisfy all counterparties, fulfilling obligations to employees, and meeting obligations to the state. This definition highlights the importance of financial settlements both within the enterprise and with external partners (Snitkina, 2019).

We agree with the viewpoint of Kharchenko O.S., who notes that solvency is a key element that ensures a company's stability and competitiveness both in the short term and in the future, enabling it to quickly respond and adapt to internal and external factors in a modern market environment (Kharchenko, 2015).

Stasyuk L.emphasizes that there are two types of solvency: current (short-term) and prospective. Current solvency reflects the company's ability to settle payments at a given moment and is assessed based on its financial flows: cash inflows must be sufficient to cover current liabilities. It also shows the company's ability to meet its short-term obligations on time. Prospective solvency, on the other hand, assesses the company's ability to fulfill financial obligations in the medium and long term (Stasyuk, 2019).

It should be noted that solvency is interdependent with the balance between available funds, the volume of liquid assets, and the company's financial liabilities. The key components of solvency are grouped and presented in Fig. 1.3.1.

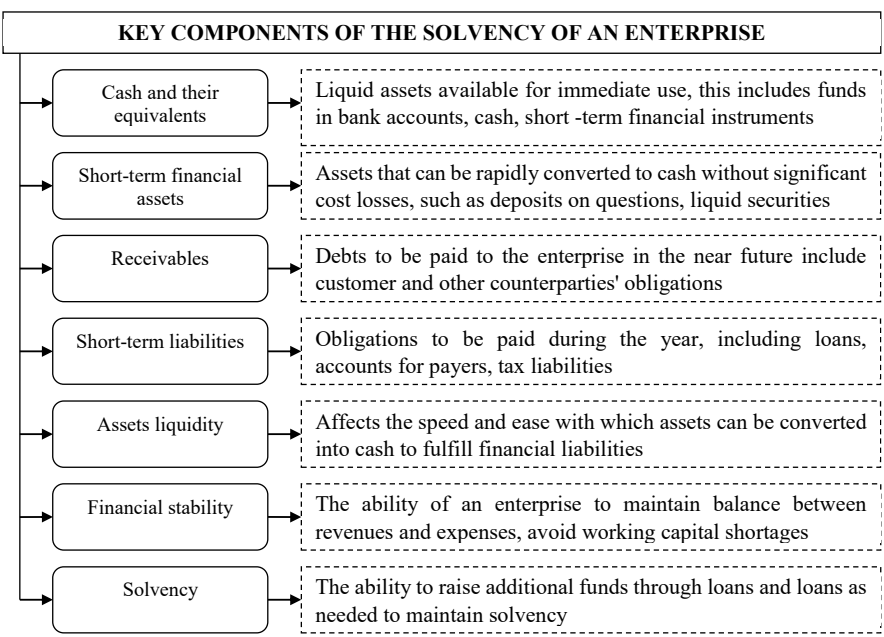


Fig. 1.3.1. The key components of the solvency of agrarian enterprise

We share the viewpoint of Tomchuk O.F., who states that the operations of domestic enterprises are significantly complicated by a prolonged non-payment crisis, an increase in accounts receivable and payable, unfavorable tax legislation, and an acute shortage of financial resources. In order to maintain their position under such conditions, enterprises must constantly monitor and improve their financial indicators. The ability of economic entities to make scheduled payments on time and in full, settle urgent liabilities, and maintain a stable pace of activity is a crucial factor in competitiveness and financial stability. Solvency and liquidity ensure stable financing of operational activities, which is manifested in the availability of financial resources and the reliability of relationships with other economic entities. Therefore, there is an urgent need to analyze and develop new approaches to effective solvency management for enterprises (Tomchuk, 2023).

It is appropriate to mention the statement by Olesenko I.S., who emphasizes that financial stability and solvency provide a company with competitive advantages in attracting investments, obtaining loans, choosing suppliers, and recruiting highly qualified personnel. Moreover, such a company avoids conflicts with the state and society, as it meets its obligations to the budget in a timely manner, pays contributions to social funds, wages to employees, dividends to shareholders, and repays loans with interest to banks (Olesenko, 2022).

It should be noted that solvency serves as the foundation for ensuring the stability of business operations, effective financial management, and maintaining a strong reputation with partners, investors, and creditors. In today's reality, the solvency of domestic enterprises is decreasing due to the lack of payment discipline, a constant increase in receivables and payables, reduced production capacity, and a worsening shortage of financial resources.

It is important to note that the following key indicators are used to analyze a company's solvency:the current liquidity ratio, which shows the enterprise's ability to cover its short-term obligations with current assets; the quick liquidity ratio, which evaluates the ability to settle debts using the most liquid assets; the absolute liquidity ratio, which indicates the portion of obligations the company can immediately repay.

Thus, it should be emphasized that solvency is the foundation of a company's financial stability and viability. It enables the company to maintain competitiveness, achieve strategic goals, and sustain effective interactions with market participants. Solvency management is a core principle of financial management, requiring a systematic approach, prompt monitoring, and continuous improvement of managerial decisions.

The management of enterprise solvency and financial-economic security requires a systematic approach that incorporates various methodologies and tools. We share the view of Rogatina L.P., who states that managing an enterprise's solvency and financial-economic security is aimed at reducing the risks that accompany its operations. For each enterprise, a key task is to forecast its financial and economic condition, assess risks in light of its functional operations, and implement measures to protect against the influence of various internal and external factors. Financial-economic security is ensured through the implementation of a comprehensive, coherent, balanced,

and coordinated system of actions that respond to existing threats. Without such an integrated system, it is impossible to overcome crisis phenomena, stabilize the economic situation, or establish effective mechanisms for social protection (Rogatina, 2020).

The continuous assurance of financial and economic security for every business entity is a necessary condition for maintaining operational stability and achieving key objectives. The level of economic security of an enterprise depends on the efficiency of its management and specialists, who must be able to anticipate potential threats in a timely manner and mitigate their negative consequences.

The opinion of Preobrazhenskaya O.S.is also appropriate here, asserting that the main goal of managing an enterprise's financial-economic security is effective risk management, threat minimization, and the neutralization of external destructive factors beyond the enterprise's control. In order to adapt to changes in the external environment, financial and economic security management must focus on improving resource utilization efficiency, expanding market access, establishing effective interaction with external stakeholders, and ensuring enterprise competitiveness in the short term (Preobrazhenskaya, 2020).

It should be noted that the implementation of such methodological approaches to managing solvency and financial-economic security enables enterprises to ensure stability, minimize risks, and create the conditions necessary for long-term development amid economic instability.

An interesting perspective is offered by Bondarchuk N.V., Pedko A.S., who emphasize that financial and economic security plays a crucial role in the operations of any enterprise, especially in times of instability, and is ensured through the implementation of the following measures: achieving the company's set goals and fulfilling its tasks; ensuring access to resources and markets; maintaining an adequate level of financial and economic performance; creating conditions for sustainable development; and protecting against internal and external threats and risks (Bondarchuk et al., 2023).

Kovalchuk A.M. also highlights – and we agree with his view – that the level of financial and economic security is influenced by various external and internal factors. Among the external factors are the state's economic policy, regulatory frameworks, market conditions, the country's strategic development, tax and interest rates, investment activity, the state of the consumer market, and the advancement of digital technologies. Internal factors include the technological specifics of production, the level of innovation, human resource potential, management processes, and the enterprise's own investment activity (Kovalchuk, 2020).

Therefore, considering the above, it is essential to underline the importance of monitoring and effectively managing the level of an enterprise's financial and economic security. In the context of managing enterprise solvency, it should be noted that solvency management is the process of ensuring that the company can fulfill its obligations to creditors, suppliers, employees, and the state within established deadlines. Solvency is a key indicator of financial stability and the overall effectiveness of the enterprise's

operations. The methodology for managing enterprise solvency is illustrated in Fig. 1.3.2.

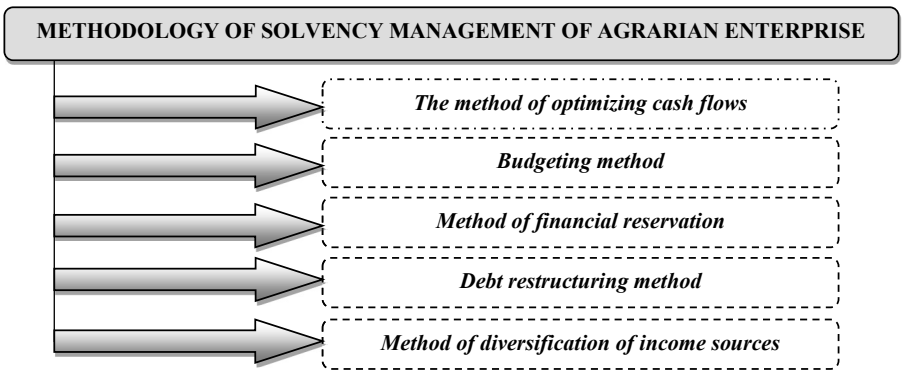


Fig. 1.3.2. Methodology for agrarian solvency management

In analyzing Fig. 1.3.2, it is crucial to emphasize the importance of implementing tools for cash flow forecasting and management, developing cash budgets for each business unit, creating a contingency fund for unforeseen expenses, expanding the product range, and entering new markets.

One of the key conditions for ensuring the financial and economic security of the agricultural enterprise FG "Vpered-Agro" is its solvency. An enterprise is considered solvent if it can meet its debt repayment schedule with counterparties on time and without violating contractual terms. The solvency level of enterprises is largely determined by their industry-specific characteristics. Table 1.3.1 presents the solvency indicators of FG "Vpered-Agro", which operates in the agricultural sector.

Table 1.3.1

Solvency assessment indicators FG "Vpered-Agro"

Показник	2020р.	2021р.	2022р.	2023р.	2024р.	Ratio in % (deviation,+;-) 2024 to 2020.
Absolute liquidity ratio	3,74	3,08	0,04	0,03	0,01	0,27
Quick ratio	12,30	12,87	0,10	0,09	0,11	0,91
Current ratio (total liquidity)	145,14	39,40	2,07	1,95	2,56	1,76
General solvency ratio	162,68	43,56	3,61	3,20	3,70	2,28

The analysis of liquidity and solvency indicators indicates a decline in the company's financial stability from 2020 to 2024.

The absolute liquidity ratio dropped sharply from 3.74 in 2020 to 0.01 in 2024, indicating a serious deterioration in the company's ability to quickly cover its short-term liabilities. This reflects a 27% change compared to 2020.

The quick ratio also decreased significantly from 12.30 in 2020 to 0.11 in 2024,

pointing to weakened ability to cover current liabilities with moderately liquid assets. The deviation in 2024 is 91% of the 2020 value.

The current ratio (total liquidity) also dropped drastically, although it remained at 2.56 in 2024. This still indicates a substantial decline from 145.14 in 2020, with a final deviation of 1.76% of the 2020 level.

The general solvency ratio also declined, although it increased slightly to 3.70 in 2024 compared to 3.20 in 2023. However, the drop compared to 2020 remains significant.

Overall, the company is facing serious liquidity and solvency issues that must be addressed to restore financial stability.

The analysis of liquidity and liability indicators over the 2020–2024 period reveals major changes in the structure of the company's assets and liabilities, which require close attention. Highly liquid assets dropped from UAH 21,000 in 2020 to UAH 9,000 in 2024, a decline of 42.72% from 2020, indicating a significant decrease in assets that can be quickly converted to cash. Moderately liquid assets increased substantially from UAH 657,000 in 2020 to UAH 1,771,000 in 2024, representing a 169.75% growth, highlighting greater reliance on less immediately available resources. Low-liquid assets grew from UAH 150,000 in 2020 to UAH 542,000 in 2024, a 262.81% increase, indicating an undesirable trend of accumulating less liquid assets.

Most urgent liabilities rose sharply from UAH 6,000 in 2020 to UAH 316,000 in 2024 – an increase by a factor of 52.6 – signaling significant short-term repayment pressure. Short-term liabilities increased from zero in 2020 to UAH 591,000 in 2024, indicating rising obligations due within a year, which also heightens financial risk. Long-term liabilities are not specified for the entire period, which may indicate either their absence or an unsatisfactory level – this can be both a positive or negative factor, depending on the enterprise's capital structure.

Comparing the liquidity rates listed in Table 1.3.1, it should be noted that the liquidity of the FG "Vpered-Agro" balance differs from the absolute, since the first inequality (A1≥P1) is performed in only four years (2020-2023), two other inequalities are performed (A2≥ tic2; A2; A3≥).

During the period from 2020 to 2024, FG "Vpered-Agro" survived significant changes in asset management and liabilities. The main problem is a sharp increase in fixed and short -term liabilities, as well as reducing highly liquid assets. This may indicate increasing financial pressure, which requires immediate attention to ensure the solvency and stability of the enterprise in the future.

The dynamics of assessment of current assets in FG "Vpered-Agro" for the study period is given in Table 1.3.2. An analysis of the financial indicators FG "Vpered-Agro" from 2020 to 2024 reveals positive changes in the efficiency of current asset utilization and increased operational scale.

Net revenue from sales increased from UAH 1,041 thousand in 2020 to UAH 4,583 thousand in 2024, indicating significant growth in sales volume and overall business expansion. This reflects the successful implementation of a growth strategy and revenue improvement.

The average annual value of current assets grew from UAH 868 thousand in 2020 to UAH 2,100 thousand in 2024, indicating increased investment in current assets to support

the growing scale of operations and to maintain liquidity.

Table 1.3.2

Assessment of current asset turnover FG “Vpered-Agro”, UAH thousand

Indicator	2020p.	2021p.	2022p.	2023p.	2024p.	Ratio in % (deviation,+;-) 2024 to 2020.
Net income from sales of products (goods, works, services)	1041,0	2425,0	2215,0	3212,0	4583,0	440,24
The average annual value of current assets	868,0	1127,0	1385,0	1611,0	2100,0	241,87
Rotation ratio of current assets	1,20	2,15	1,60	1,99	2,18	182,02
The load ratio of current assets	0,83	0,46	0,63	0,50	0,46	54,94
The duration of one turnover of current assets, days	300,0	167,0	225,0	181,0	165,0	55,0

The current asset turnover ratio improved from 1.20 in 2020 to 2.18 in 2024. This indicates a substantial increase in the efficiency of current asset utilization: the enterprise became more effective at generating revenue per unit of current assets, which is a positive signal for its financial condition.

The current asset load ratio decreased from 0.83 in 2020 to 0.46 in 2024, indicating improved efficiency in current asset utilization. The lower this ratio, the more productively the enterprise is using its resources with less financial strain.

The duration of one turnover cycle for current assets dropped from 300 days in 2020 to 165 days in 2024. This means a significantly shorter time is now required to convert current assets into cash, improving the company’s liquidity and operational efficiency.

Overall, from 2020 to 2024, the enterprise has demonstrated positive trends in revenue growth and improved current asset utilization efficiency. The increase in asset turnover ratios and reduction in turnover cycle duration highlight enhanced operational effectiveness, allowing FG “Vpered-Agro” to generate income more rapidly and use its resources more efficiently.

To ensure the financial and economic security FG “Vpered-Agro”, it is considered appropriate to calculate the probability of bankruptcy. We will assess the likelihood of the enterprise's bankruptcy using four models: Tereshchenko O.O., Savytska H.V., Sabluk P.T., and Chupis A.V. (see Table 1.3.3).

Tereshchenko Model: From 2020 to 2022, the Z-score remained above 1.0, indicating financial stability. However, in 2023 the score dropped to 0.98, and further declined to 0.78 in 2024, signaling emerging financial distress and a risk of bankruptcy.

Savytska Model: The enterprise maintained a Z-score above 8 from 2020 to 2022, signifying a low risk of bankruptcy. In 2024, however, the score decreased to 7.64, reflecting a notable decline in financial stability.

Sabluk Model: The enterprise showed no risk of financial difficulties until 2023. In 2024, the evaluation changed to “at risk,” indicating increasing vulnerability.

Table 1.3.3

Bankruptcy Probability Models

Model	Author	Set of indicators to diagnose bankruptcy probability
Bankruptcy diagnostics (conducting an express analysis of the financial condition)	Sabluk P.T.	Beaver's coefficient; return on assets (6-8% indicates a healthy state); the ratio of liabilities to assets (healthy state is assessed if this indicator is < 37%); the ratio of the amount of equity and non-current assets to the amount of assets (healthy state is assessed at 0.4); the ratio of current assets to short-term liabilities (favorable state, when the indicator is greater than 1).
Bankruptcy risk prediction model for agricultural enterprises	Chupis A.V.	COC – ratio of working capital to total assets; D/E – ratio of borrowed to equity capital.
Z = –1.3496 – 0.6183COC + 0.6867D/E		
Financial crisis diagnostic model	Tereshchenko O.O.	where X1 – the ratio of cash receipts to liabilities; X2 – the ratio of balance sheet currency to liabilities; X3 – the ratio of net profit to the average annual amount of assets; X4 – the ratio of profit to revenue; X5 – the ratio of inventories to revenue; X6 – the ratio of revenue to fixed capital. Z > 2 – there is no threat of bankruptcy, 1 < Z < 2 – financial stability is violated, 0 < Z < 1 – there is a threat of bankruptcy.
Z = 1.5 X1 + 0.08 X2 + 10 X3 + 5 X4 + 0.3 X5 + 0.1 X6		
Model for diagnosing the risk of bankruptcy of agricultural enterprises	Savytska H.V.	X1 – share of own working capital in the formation of working assets, coefficient; X2 – ratio of working and fixed capital; X3 – turnover ratio of total capital (ratio of net revenue to total capital); X4 – profitability of enterprise assets; X5 – coefficient of financial independence (specific weight of own capital in the total balance sheet currency). Z > 8 – probability of bankruptcy is low or absent; from 5 to 7.99 low; from 3 to 4.99 medium; below 3 high; – below 1 100%
Z = 0,111 X1+13,239 X2 +1,676 X3 + 0,515 X4 + 3.8 X5		

The calculation of the probability of bankruptcy FG “Vpered-Agro” financial group is given in Table 1.3.4.

Table 1.3.4

Bankruptcy probability dynamics FG “Vpered-Agro”

Years	Savytska H.V.	Chupis A.V.	Tereshchenko O.O.	Sabluk P.T.
	Normative value			
	Z > 8,0	Z < 1,0	Z > 1,0	
2020	11,41	0,18	3,16	“not threatening”
2021	8,89	0,34	2,37	“not threatening”
2022	10,70	0,61	3,02	“not threatening”
2023	8,05	1,05	0,98	“threatens”
2024	7,64	1,69	0,78	“threatens”

Chupis Model: Z-scores were below the 1.0 threshold from 2020 to 2022, pointing to financial strain. In 2023 and 2024, scores rose to 1.05 and 1.69 respectively, suggesting some improvement and relative financial stability, though potential risks remain.

Between 2020 and 2024, FG “Vpered-Agro” experienced a gradual decline in financial health, particularly in 2023 and 2024, as shown across all models. Liquidity and solvency ratios decreased, and bankruptcy risk indicators moved into the critical zone. The enterprise must take urgent measures to stabilize its finances and restore long-term solvency.

Analysis of the results of calculations of the probability of bankruptcy of an enterprise for the period from 2020 to 2024 shows changes in the level of financial stability according to various assessment models.

Tereshchenko O.O. model in 2020-2022, the Z values remained at the level, indicating the financial stability of the enterprise ($Z > 1.0$). In 2023, the Z value dropped to 0.98, which is on the verge of danger, and in 2024 it dropped again to 0.78, indicating the potential financial malaise of the enterprise. This indicates a deterioration in the financial condition in recent years.

The indicators of the Savitskaya model indicate that the enterprise was not under threat of financial difficulties throughout the entire period from 2020 to 2023 ($Z > 8.0$). However, in 2024, there is a significant improvement in the reduction of Z to 7.64, which indicates a significant deterioration in the financial stability of the enterprise.

According to the model of Sabluk P.T. FG “Vpered-Agro” throughout the entire period was not threatened with financial difficulties, which is confirmed by the assessment of “not threatened” until 2023. However, in 2024, there is a threat of financial instability decreasing to “threatened”.

According to the model of Chupis A.V. in 2023 and 2024, the Z indicators of 1.05 and 1.69 exceeded the normative value of 1.0, which indicates a relatively stable financial situation, although with a slight risk of financial insolvency. This may indicate a slight tension in the financial flows of the enterprise. In previous years (2020-2022), the Z indicators are less than the normative value of 1.0, which indicates an increase in the financial stability of the enterprise.

During the period from 2020 to 2024, FG “Vpered-Agro” experienced certain financial difficulties, in particular, in 2023–2024, liquidity indicators decreased according to all models. Solvency management in the system of ensuring financial and economic security of FG “Vpered-Agro” is a complex, multifaceted concept, which is influenced by many internal and external factors. It is possible to ensure a proper level of financial security if an enterprise develops and implements an interconnected management process of its solvency.

Solvency depends on the effectiveness of liabilities, enterprise assets and risks. In the conditions of world and domestic financial crises, there is an urgent need to form the optimal structure of the enterprise's capital, assessing its impact on the financial condition of the enterprise, which leads to management decisions, capable of violating its solvency, financial stability and threatening financial security. Ensuring the proper level of financial security of the enterprise is not only a basic factor in its effective functioning and strategy of medium -term development, but also the key to the safe functioning of the country as a whole. The analysis of scientific achievements on the management of solvency management in the financial security system of the enterprise determines the logic and structural concept, the purpose of which is to increase the level of financial security of the

enterprise and improve its solvency.

Financial security is one of the main components of economic security at both macro and micro levels. The absence or low level of financial security of enterprises makes it impossible to achieve and maintain the proper level of financial security of the state.Solvency is an important characteristic of the enterprise and is the ability to maintain the equilibrium, competitive condition today and in the future, constantly responding and adapting to exogenous and endogenous factors in the market environment.

Improving the management of solvency in the system of ensuring financial and economic security of FG "Vpered-Agro" is an important task that requires the introduction of comprehensive decisions. Prospective directions of improvement of solvency management in the system of ensuring financial and economic security of FG "Vpered-Agro" are grouped in Fig. 1.3.3.

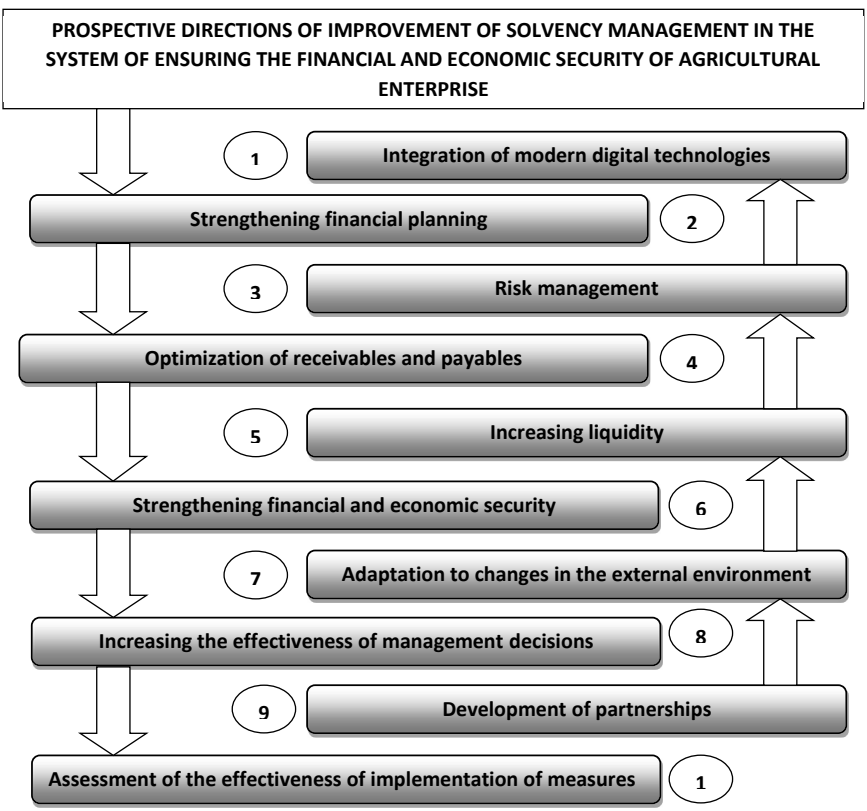


Fig. 1.3.3. Prospective directions of improvement of solvency management in the system of ensuring financial and economic security of FG "Vpered-Agro"

Exploring Fig. 1.3.3, it should be noted that in order to effectively manage the FG "Vpered-Agro" solvency management, it is necessary to use automated financial management systems (ERP, CRM) to monitor real-time financial flows, to implement large data analytics (Big Data) tools for solvency forecasting. It is important to create flexible budgets that can be quickly adapted to changes in the environment. Risk management system should also use hedging tools to protect against currency, interest and other financial risks. In the context of increasing liquidity, it is advisable to provide sufficient liquid assets to perform short -term liabilities. It is also recommended that you develop a comprehensive system of measures to prevent threats that may affect solvency. It is mandatory to use financial ratios to monitor the current state and prospective development, as well as monitor macroeconomic trends and prompt adaptation to changes.

The introduction of these areas will allow FG "Vpered-Agro" not only to improve solvency, but also to strengthen financial and economic security, which is the key to its stability and competitiveness in modern conditions.

It should be noted that we did not pay much attention to the analysis of the strengths and weaknesses of the methods under study. This was done for several reasons. First, some of the techniques are inherent in the same disadvantages. Secondly, most importantly, we needed to compare the current techniques with each other from one position: their compliance with the goals of solvency analysis. There are currently no parameters of such a comparison. In this regard, we have developed a special system for evaluating the methods of diagnostics of solvency, the main content of which is presented in Table 1.3.5. The binary SWOT analysis of SWOT-analysis of methods of diagnostics of solvency (insolvency) of FG "Vpered-Agro", by analogy with SWOT analysis, but for the purpose of diagnostics.

Table 1.3.5

The binary SWOT analysis system is offered by the methods of solvency (insolvency) of the enterprise

№	Question	The serial number of the respective group of techniques					
		1	2	3	4	5	6
1	Is the specificity of enterprises taken into account?	0	0	1	0	0	0
2	Are the final ratings?	1	1	1	0	0	0
3	Are there any weight values?	1	1	1	0	0	0
4	Known methodology for determining the weight values of indicators?	1	0	1	0	0	0
5	Are there standards?	1	1	1	0	0	1
6	Are standards for domestic enterprises justified?	0	0	1	0	0	1
7	In addition to the balance sheet use data of other forms of reporting	0	0	0	1	1	1
8	Are the liquidity rates involved in the calculation?	1	1	1	1	0	1
9	Is it possible to determine the effect of the time factor?	0	0	0	0	1	0
10	Are you simple calculations?	0	1	1	1	1	1
11	Is analytical accounting data possible?	0	0	0	0	0	1
12	Is the technique applicable for the period less than the quarter?	0	0	0	0	1	1
13	The calculation is carried out in accordance with the concept of cash flows?	0	0	0	1	0	1
14	Does the method of cash flow take into account?	0	0	0	1	0	1
15	Final Sum of Points	5	5	8	5	4	9

Column numbers correspond to the sequence numbers of groups of models presented above.

It is appropriate for us to appreciate the binary SWOT analysis system from the standpoint of its advantages and disadvantages. Disadvantages: 1. The high proportion of subjectivism during the selection of questions for analysis; 2. It is possible to ask the question so that any technique for diagnosing insolvency to determine as poor quality.

Benefits:

1. Due to the use of unambiguous answers “so-no”, which are assigned, respectively, the value and subjectivity of quantitative assessment is reduced to zero. In proof we will give the following analogy. The binary system is the basis of modern electronics, cybernetics and computer science and fully justifies itself. The answer “yes–no” is unambiguous and implies the prevention of side interpretations, respectively, and the number of points is quite objective;

2. The system is open. This means that it is important, there is no rigidly determined set of questions. New issues may be implemented in connection with users' needs;

3. The assessment of insolvency diagnostics is carried out on a qualitative side;

4. The second disadvantage also contains the dignity of the proposed system, which is as follows. The user, based on his status, nationality, purpose of analysis, can come from the opposite, that is not immediately analyzing the techniques. First, you can develop a system of questions that are interested in the relevant techniques. Then test. But from techniques that will score the maximum number of points and will be most suitable for use. There is also a different option. You can pre -specify the required amount of points that the user wants to receive and draw conclusions according to this amount;

5. Multicularity, which is the flexibility of the system based on the needs of the user. The analysis of techniques can be carried out by several vectors. Two use of “yes-no” answers: with assignment respectively scores 1 and 0.The amount makes it possible to compare the techniques with each other; Comparison of the number of positive answers with the number of negative one technique. This makes it possible to evaluate the feasibility of using the chosen technique based on the goals of the analysis. If the amount of positive answers exceeds the amount of negative ones, then the method should be applied. If not, then it is not worth it; Analysis, based on a predetermined amount of points.

According to the proposed binary SWOT analysis system, we have tested the analyzed techniques for the diagnosis of solvency of FG “Vpered-Agro”. We set the required amount of points in the amount of 10. The results of practical testing showed that none of the current techniques provides a set of a given amount. In this regard, the question arises of the need to develop a new method of diagnosis of solvency.

Improvement of the modern system of solvency analysis of FG “Vpered-Agro” requires a thoughtful approach to the development of a new method of analysis, free from previously identified shortcomings of existing techniques:

- identification of the liquidity of the enterprise and its solvency;
- use as an information base of analysis only data;
- not inclusion in the system of diagnostics of financial status of cash flow analysis, etc.

In this case, the new technique should take into account the possibility of using not

only reporting data, but also analytical accounting data. For external users, this state of affairs is a limiting factor because such information is a commercial secret of FG "Vpered-Agro". However, we believe that the elimination of insolvency is the prerogative of managers in the process of crisis management of enterprise finances, so they will act as priority users. This does not exclude the possibility of using the new technique by external users, but the degree of accuracy of determining insolvency and its causes in this case will be lower.

The initial stage of developing a new technique we propose to consider a quantitative assessment of the effect of the time factor as one of the criteria for solvency evaluation. Almost all existing techniques are based on the use of quantitative and cost. Data on the past state of FG "Vpered-Agro" trends are concluded that the enterprise in the future or for this purpose is extrapolation of these trends for the future. Some of the techniques may also use accounting forecasts and income and loss report.This approach allows you to determine the level of financial stability and liquidity in the future, but does not answer the question: will the enterprise pay its debts at the future specific time?

The analytical studies have led us to the conclusion that the availability of sufficient funds in the enterprise (financial stability, liquidity and profitability) does not guarantee the payment of obligations within the period and in full. Supporting payment resources is necessary, but still insufficient factor in repayment of debts. Important stabilizing solvency here is the synchronicity of cash flows, due not only to sufficient saturation of the flow of payment funds, but also, above all, quality management of cash flows, we believe that to ensure the solvency which have already come. The effect of the time factor, in our opinion, is ensured:

1) the ability of managers of FG "Vpered-Agro" in the absence of funds to attract the necessary payment resources in time and in sufficient volumes;

2) higher accuracy of determining the need for cash at a certain date for current payments;

3) sufficient quality of financial management at all other facilities of the Organization of Finance.

The set of proposed characteristics is heterogeneous in their interpretation. The above characteristics highlight the effect of the time factor on the qualitative side.For the use of quality systems, quantitative calculations we propose to use SWOT analysis (table 1.3.6).

To this end, we propose to divide all the characteristics used in this table into two classes. It is advisable to include different aspects of planning, because we believe that it is, first and foremost, that determines the effect of a factor of time.

At the same time, according to the concept of SWOT analysis, they are strengths and weaknesses, as well as characterize the capabilities and threats to solvency. Planning of sales, schedule of receipts, net cash flows and cash balances, as well as the need for short -term credit determine the possibility of receipt of payment funds to ensure solvency. Planning the schedule of costs and payments allows you to determine the threat of exceeding the cost of funds over their receipt. Drawing up estimates in one or three variants, as well as the lower time border of planning of the year and quarter are weaknesses of financial work to ensure the solvency of FG "Vpered-Agro". At the same

time, multi -metricant monthly planning, in our opinion, is a strong side of budgeting to ensure solvency. It is advisable to note that on the basis of SWOT analysis, qualitative characteristics are considered in this context; solvency, and not all the economic state of FG “Vpered-Agro”.

Table 1.3.6

Transfer of qualitative characteristics of the time factor to quantitative assessment using SWOT analysis

Characteristics	Maximum number of points
First grade	
1. Palia planning, in particular:	
1.1. sales volume (capabilities)	3
1.2. Graphics of sales revenues (opportunities)	3
1.3. Cost graphics (threats)	3
1.4. Graphics of payments (threats)	3
1.5. clean cash flows and balances (opportunities)	3
1.6. the need for short -term credit (capabilities)	3
2. Drawing up estimates in several scenarios:	
2.1. one option (weakness)	1
2.2. three options (real, optimistic, pessimistic) (weakness)	2
2.3. More than three options (force)	3
3. Lower temporary planning border:	
3.1. year (weakness)	1
3.2. quarter (weakness)	2
3.3. month (force)	3
Together: Maximum number of points	30
Second class	
4. Higher economic education with the financial bid specialists of the planning division (A)	1
5. Lack of family ties between planning department employees and specialists of other units of the enterprise (B)	1
6. Proficiency of specialists of the planning department in Microsoft Excel (C)	1

We believe that the degree of solvency of the enterprise will be determined by the quality of all financial work.To determine it, we propose to use a tribal assessment, as well as the introduction of corrective characteristics of second -class indicators: availability of higher economic education with the financial slope of specialists of the planning department; lack of family ties between the staff of the planning department and specialists of other units of the enterprise; Ownership of Microsoft Excel staff. For them, we consider it the appropriate use of the zero-single assessment system, due to the fact that these indicators are either not. For first class characteristics, we offer a tribal rating (zero-one-twin-three). Such an assessment is intended to determine not only the presence or absence (assessment of “zero”) of a separate property, but also to evaluate the latter of its quality.

The characteristics of the second class we propose to use to assess the quality of

characteristics of the first class the technique of the corresponding assessment is presented in Table 1.3.7.

Table 1.3.7

Factor of time when assessing the quality of first-class characteristics in a modified binary system SWOT analysis

Influence	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
	A+B+C	A+B	B+C	A+C	A	B	C
1. Availability of planning, including:	3,0	3,0	2,0	2,0	2,0	2,0	1,0
1.1. sales volume	3,0	3,0	2,0	2,0	2,0	2,0	1,0
1.2. sale revenue graphics	3,0	3,0	2,0	2,0	2,0	2,0	1,0
1.3. cost graphics	3,0	3,0	2,0	2,0	2,0	2,0	1,0
1.4. payments graphics	3,0	3,0	2,0	2,0	2,0	2,0	1,0
1.5. net cash flows and cash balances	3,0	3,0	2,0	2,0	2,0	2,0	1,0
1.6. short -term loan needs	3,0	3,0	2,0	2,0	2,0	2,0	1,0
2. Assembly of estimates for several scenarios							
2.1. one option	1,0	1,0	1,0	1,0	1,0	1,0	1,0
2.2. three options (real, optimistic, pessimistic)	2,0	2,0	0,0	2,0	2,0	0,0	0,0
2.3. More than three options	3,0	0,0	0,0	3,0	0,0	0,0	0,0
3. Lower temporary planning border							
3.1. year	1,0	1,0	1,0	1,0	1,0	1,0	1,0
3.2. quarter	2,0	2,0	2,0	2,0	2,0	2,0	2,0
3.3. month	3,0	0,0	0,0	3,0	0,0	0,0	0,0
Maximum score	33,0	27,0	18,0	26,0	20,0	18,0	11,0

Here we offer seven possible combinations of the characteristics of the second class, called ABC, respectively. In the first embodiment, there are all the characteristics of the second class, so we consider it advisable to assign the quality of the first characteristic “availability of planning” of the maximum assessment of three points in all sections. Microsoft Excel is easy to calculate the estimate, taking into account any changes in any operational plan. In this regard, the number of possible planning scenarios (second characteristics) is not limited. Therefore, he is also given three points in the option. The qualification, as well as the ownership of the software, makes it possible to make a financier without great labor costs and attract additional staff to make monthly budgets (third characteristics). This state of affairs is determined by three points in the proposed methodology. According to the first variant, the maximum quantitative assessment of the characteristics of the first class will be 33 points.

According to the second variant with the high qualification of a specialist, but the lack of skills to work with the table editor, that is, in the manual method of drafting the estimates, the number of scenarios of the latter will not exceed three (estimate of two

points), and the planning limit - a quarter (estimation of two points). This is due to the multiplicity of labor costs in the absence of computer skills. In this regard, the second option will be 27 points.

Insufficient qualification, in terms of, determines the possibility of drawing up estimates in only one version, which corresponds to a score of one point. Operational budgets, which determines the lower temporary border in one quarter, with a assessment of two points.In general, the third variant of the maximum quantitative evaluation of the first class indicators will be 18 points.

The fourth variant is determined by the presence of family ties between employees of all units of FG "Vpered-Agro". This state of affairs, in our view, first, significantly increases the likelihood of abuse; Secondly, it determines the possibility of emerging personnel in the financial staff of persons not for professional suitability, but by affinity, which reduces the quality of planned work in this regard, the budgeting assessment is proposed by maximum one unit and will be two points. At the same time, we consider it possible to prepare multivariate monthly budgets with a valuation of three points. Thus, the fourth variant of the maximum quantitative assessment will be 33 points.

The sum of points on the fifth, sixth and seventh variants is determined by the combination of the results of the second, third and fourth variants and is, respectively, 20, 18 and 11 points. The simultaneous imposition of the influence of the characteristics of the second class A and B determines the quality of planning by one point.

We consider the maximum values to be grouped at four intervals: 1) less than eleven points; 2) from eleven to 18 points; 3) from 19 to 26 points; 4) from 27 to 33 points. characterizes a certain degree of quality of planned work. We have determined that it characterizes the effect of the time factor.

So, we believe that this figure can have four gradations depending on the quality of the planned work. The interval range is regressive in nature: for the first interval of nine points, for the second - six points, for the third - five and for the fourth - four points.The narrowing of the ranges is determined by the increase in the set of conditions, the fulfillment of which provides the corresponding level of the factor of time.

To determine the range of repayment of obligations within the period corresponding to each interval, we have developed the following algorithm. Since the score range of points for each interval is regressive, the range of oscillations of degrees should have a similar tendency. For this purpose, 33 points we received for 100 percent of the degree of repayment of obligations within the period. Therefore, one point will be approximately equal to 4.17 percent, so we received a "unit of degree", which is one point. Its multiplication by the number of points allows us to determine the range of degree for each interval. As a result, we get four intervals: 1) less than 37.53 percent, 2) from 37.53 inclusive to 62.55 percent; 3) from 62.55 inclusive to 83.4 percent; 4) from 83.4 inclusive to 100 percent.

It seems to us that for convenience it is necessary to round the obtained numbers to whole. The maximum measure of repayment of obligations is determined by the lower, and before the index - the upper limit of the interval. The visual interpretation of the results

is presented in Table 1.3.8. The use of square and round brackets is conditioned by the rules of mathematics and shows the ownership of the values of the corresponding interval.

Table 1.3.8

The effect of the time factor for four intervals of the degree of repayment of obligations within the period and its interpretation

Interval, points	Interval, %	Interpretation	
		Maximum degree of repayment of obligations in time, %	The maximum cost of leveling liabilities within a deadline, %
1.[0;11]	1. [0;38]	менше 38,0	100,0
2.[11;18]	2. [38;63]	63,0	62,0
3. [18;27]	3. [63;83]	83,0	37,0
4. [27;33]	4. [83;100]	100,0	17,0

From the standpoint of FG "Vpered-Agro" the model is proposed in terms of, reflects the following facts:

1) The degree of repayment of obligations allows to estimate the amount of debt, which will not be repaid by multiplying the degree of obligations. This, on the one hand, is a prerequisite for the creation of payment reserve to prevent insolvency, on the other - allows you to determine in advance the amount of sanctions in the event of the fact of insolvency.

2) the ratio of the volume of reserve payment to the debt under which they are reserved is a direct analogue of the coefficient of absolute liquidity, the normative value of which is from 0.2 to 0.5. For the fourth interval in Table 3.3, the maximum degree of obligations within the term is 17 percent. This state of affairs determines the need to create funds of up to 17 percent of the amount of debt or 0.17 in units. Thus, we determined the degree of insolvency of enterprises depending on the quality of planning, that is, the influence of internal factors.

3) After that, it is advisable to pay attention to the factor that is external to the enterprise. This is his receivables. The lack of the latter in time and in full can lead to an unplanned break in payment.

4) Considering the research of American scientists, as well as the above results of our study, we can draw the following conclusion. The imposition on the solvency of the influence of negative factors of both external and internal nature gives the basis of calculation of their complex influence.Having made the degree of leveling of obligations due to the quality of planning the likelihood of delayed receivables with a term of up to 30 days we get a final degree of 22 percent or in a unitic terms 0.22. This value practically corresponds to the normative interval of the absolute liquidity ratio (0.2-0.25). It should be noted that we have taken the maximum degree of indebted obligations for the fourth interval. Depending on the number of points proposed in the SWOT analysis system, this value may decrease. So, we have determined the maximum border value of the degree of leveling for the best interval.

The reason for the choice of minimum parameters (the degree of indemnification of obligations within 17 percent and a period of 30 days) was the essential identity of the value of the effect of the time factor and the absolute liquidity factor. The economic interpretation of the latter is, on the one hand, the possibility of repaying current liabilities only the account.

5) The consequence of the analysis of the proposed methodology is the approval that the lower the value of the effect of the time factor, the greater the need for reserve funds. In this it is advisable to note that the cost of reserving large amounts of cash (lost benefit and loss of purchasing value from inflation) in the future will exceed the costs associated with the quality of financial work for the enterprise. Therefore, from this position, FG "Vpered-Agro" is more profitable to organize the work of the planning department so that the sum of points by the effect of the time factor ranges from 27 to 33.

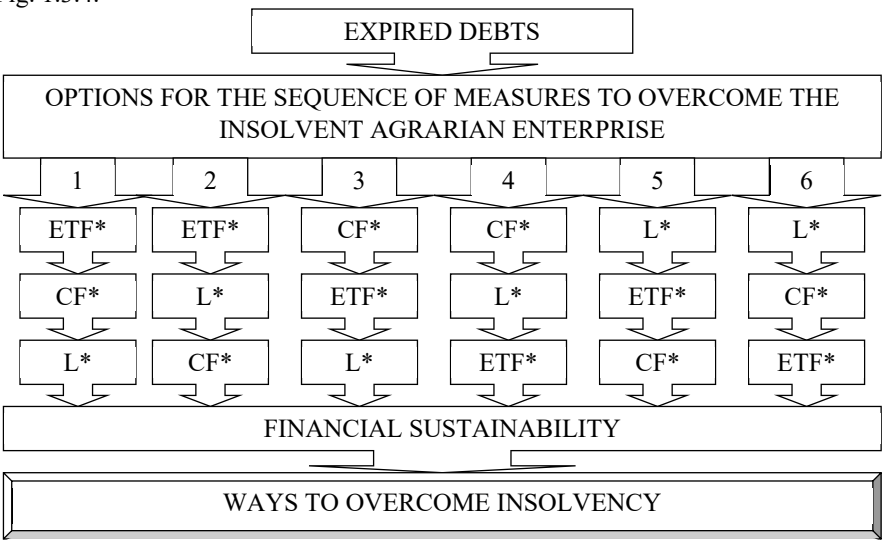
6) We can use the proposed methodology for the classification of enterprises by the effect of the factor of time. A limiting factor in the case is the problem of access to information because of its confidential nature. The classification of this kind will be useful to the enterprise for ranking debtors by the effect of the factor of time. At the same time, this situation will determine the degree of timeliness and sufficiency of receipt of funds for payments with their creditors, which will significantly reduce the level of non - payment of obligations.

We believe that the effect of the time factor is of particular importance for FG "Vpered-Agro". This is due to the specifics of the agricultural sector: slow cycle of funds, availability of significant domestic turnover, significant dependence on weather conditions (high production risks), seasonality of production, etc. This state of affairs determines the increased need for FG "Vpered-Agro" in quality planning. The latter, in turn, according to the proposed concept, is a qualitative characteristic of cash flow management. Planning quality is reflected in the effect of the time factor. Thus, the most important role of planning in the management of finances of FG "Vpered-Agro" determines the important role of the effect of the time factor for the goals of management of cash flows of the entity of the agrarian sector and, therefore, its financial recovery.

The proposed methodology does not contradict the concept of cash flows, according to which the model of FG "Vpered-Agro" is presented as a set of tributaries and outflows of funds. Moreover, it seems to us that the method of calculating the effect of the time factor harmoniously fits into this concept. This is due to the basic purpose, based on which this technique was developed. The purpose is to synchronize cash flows. Thus, the method of calculating the effect of the time factor is used in relation to cash flows that are part of the relevant concept.

The main role of analysis of insolvency in the process of ensuring the financial and economic security of the enterprise is the possibility of developing the consistency and algorithm of overcoming it on the basis of the identified nature of insolvency. The nature of insolvency, in turn, depends on four groups of indicators: the effect of the factor of time, cash flows, liquidity and financial stability. The degree of their impact on insolvency may be different. Depending on this, the procedure of actions of the enterprise for the purpose of financial recovery will also be different. Within the framework of the system of systematic analysis of insolvency, we have investigated the possible variants of

combining the main characteristics of insolvency. The nature of the combination of the effect of the factor of time, cash flows, liquidity and financial stability is represented by Fig. 1.3.4.



*ETF – the effect of the time factor; CF – cash flows; L – liquidity

Fig. 1.3.4. Scheme of options for sequence overcoming insolvency

The sequence of overcoming insolvency is represented by six options. Specific reasons for insolvency - arising from the effect of the time factor (ETF), cash flows (CF), liquidity (L) and financial stability cause fluctuations in the force of influence of these categories on insolvency. This state of affairs causes the different share of these categories in influencing insolvency. The structure of influence causes the ability to rank the effect of the factor of time, cash flows, liquidity and financial stability for the purposes of determining the sequence of leveling their negative impact on solvency. The logic of using the system of systematic analysis of insolvency in the process of financial recovery is presented to us in this form.

The presence of overdue debts is determined as a sign of insolvency. This situation allows you to identify the fact of insolvency. After that it is necessary to determine the nature of insolvency. Based on the methodology of systematic analysis of insolvency, the share of four basic indicators in the impact on insolvency is determined. This allows you to determine the structure of their impact on insolvency. The structure of the effect of the effect of the factor of time, cash flows, liquidity and financial stability makes it possible to rank them from the standpoint of force on insolvency. The nature of insolvency is largely determined by the cause, the degree of influence on it is maximum, that is, the dominant indicator in the ranking series.In the first pair of options presented in Fig. 1.3.4., overcoming insolvency dominates

the level of the effect of the factor of time. Therefore, according to the methodology of systematic analysis of insolvency, the nature of the latter can be interpreted as temporary, in the third and fourth variants - as monetary -current, and in the fifth and sixth - as liquid. We believe that insolvency can be temporary, monetary or liquid in the case of finding the enterprise at the stage of financial stability (when, judging by research, the impact of financial stability in quantitative assessment of the nature of insolvency is determined by one point). If the enterprise is in the stage of hidden bankruptcy, financial instability or explicit bankruptcy, insolvency is financial and current.

The second set of measures is determined by the direction of synchronization of cash flows in order to eliminate monetary insolvency. The measures in this direction seem appropriate to consider from two positions. First, measures contribute to increasing funds. In agriculture, it is advisable to develop industries that provide high frequency of receipt (meat and dairy cattle breeding, about vegetables of closed soil, poultry) and directly provide an increase in the saturation of cash flow by payment. This is also facilitated by the creation of agricultural products at the enterprise, such as mills, bakeries and sausage shops.

The third set of measures is intended to increase liquidity (elimination of liquid insolvency). It is advisable to divide the measures into three groups: inventory management, accounts receivable and extension (savings) of monetary revenue. The optimal list of inventory management measures is presented in the following form: reasonable minimization by quantity and standards, normalization of working capital. Measures to manage receivables, debt include: financing for the assignment of monetary claim, transfer of debt, assignment, investment tax credit, innovation of debt, exchange of claims of creditors for shares and share of participation, restructuring of overdue debts, state subsidies.

The fourth set of measures is aimed at eliminating financial and current insolvency that it is advisable to divide the measures of this direction into two - groups: independent of external factors and dependent on them, the first group can include: increase in authorized capital, for example, by the issue of shares, updating of non -current assets on the basis of financial lease). It is advisable to include in the second group of measures: increase in the state of purchase prices for agricultural products, reorganization of the business entity with the formation on the basis of its property complex of new enterprises, merger with large agro-industrial holdings, etc.Thus, the use of the results of systematic analysis of insolvency in the plan of financial recovery allows to determine the specific composition and sequence of implementation of measures to eliminate insolvency to ensure financial and economic security of FG “Vpered-Agro”.

The difference between our approach to drawing up a financial recovery plan and the existing one is as follows. Now the main emphasis in the plan of recovery is on the need to increase profits. To this end, certain investment projects are being developed and substantiated. To implement them to enterprises that are in a difficult financial position, additional financial resources are needed, which are difficult to find, in conditions of chronic insolvency and low investment attractiveness of such a plan is problematic. In addition, not every enterprise in need of financial recovery requires a lot of investment projects. Sometimes it is enough to order cash, placement of available financial resources and financial planning. We propose, by finding the nature of insolvency, to determine the

structure and sequence of measures for financial recovery:

– if the nature of the insolvency of the temporary one, then it is sufficient to draw up the payment schedule and the desire of the guidance to fulfill their payment obligations;

– if the nature of monetary flow, then sometimes to synchronize cash flows is sufficient to draw up a cash flow plan and quality planning of short-term credit;

– if the nature is liquid, it is advisable to change the structure of current assets by improving production-commercial planning, marketing, the use of specific tools for managing accounts receivable;

– if the nature of insolvency is financial and current, then there is a need to increase profit (including through the implementation of investment projects).

Let us illustrate the method of using the results of financial analysis of insolvency, as well as show its relationship with other sections of the enterprise health plan.

To this end, we will give an example of FG "Vpered-Agro", since this enterprise is the most typical for the studied set of enterprises, as evidenced by our research. The basis of financial recovery is a systematic analysis of insolvency (section of four plans of financial recovery), the preliminary results of which are presented in Table 1.3.9.

Table 1.3.9

The results of the previous analysis of FG "Vpered-Agro"

Parameters	2020 p.	2021 p.	2022 p.	2023 p.	2024 p.
1. The degree of non -payment of liabilities within a period, %	1,0	2,0	28,0	31,0	27,0
2. The nature of the combination of cash flows, ((+) - the inflow, (-) outflow), including					
- from current activity	(+)	(+)	(+)	(+)	(+)
- from investment activity	(-)	(-)	(-)	(-)	(-)
- from financial activity	(-)	(-)	(-)	(-)	(-)
3. The current liquidity ratio is	12,30	12,87	0,10	0,09	0,11
4, compliance with the parameters of financial stability, ((+) - conformity, (-) - discrepancy), including: a) The value of the autonomy coefficient is greater than 0,6	0,99 (+)	0,98 (+)	0,72 (+)	0,69 (+)	0,73 (+)
b) the value of the coefficient of maneuverability is greater than 0.4	0,02 (-)	0,07 (-)	0,01 (-)	0,01 (-)	0,01 (-)
c) inventories ≤ (equity+long -term capital) - non - current assets	(+)	(+)	(+)	(+)	(+)
d) non -current assets ≤ (equity+long -term capital) - inventories	(+)	(+)	(+)	(+)	(+)

The values of non-payment of obligations within the term were calculated in accordance with the method of determining the effect of the time factor in the binary SWOT analysis system. For FG "Vpered-Agro" the effect of the time factor is characterized by the second option (Table 1.3.10) due to the inability of the staff to work in Microsoft Excel. This provides an estimate of 27 points. The lack of sales revenue

causes a decrease in this grade by three points. The final estimate for FG "Vpered-Agro" is determined by the amount of 24 points. This situation is characterized by the degree of insolvency in the form of 27 percent in 2024. To evaluate in Table 1.3.10 data from the standpoint of the system of systematic analysis of solvency, it is advisable to identify the nature of insolvency of FG "Vpered-Agro".

Table 1.3.10

Determination of the nature of insolvency of FG "Vpered-Agro" according to the methodology of systematic analysis of insolvency

Parameters	Balls	Interest
1. The time factor effect is	8,0	40,0
2. Cash flows	5,0	25,0
3. Liquidity	4,0	20,0
4. Financial sustainability of	3,0	15,0
The amount of score of	20,0	100,0

These tables indicate that insolvency for FG "Vpered-Agro" is financial and current (assessment of financial stability of more than one point). The point assessment in Table 1.3.10 allows for a reasonable conclusion that the procedure for overcoming insolvency is determined by the number one sequence in Fig. 1.3.4. Since the greatest impact on insolvency influenced the effect of the factor of time, it is advisable to first improve the qualification of the specialists of the planning department in FG "Vpered-Agro" in the work with the software, as well as to carry out planning in all registered sections.

Studies allow you to make a number of generalized conclusions and proposals:

1. In order to effectively manage the solvency of FG "Vpered-Agro" it is necessary to use automated financial management systems (ERP, CRM) to monitor financial flows in real time, the introduction of tools of analytics of large data (Big DATA) to forecast solvency. It is important to create flexible budgets that can be quickly adapted to changes in the environment.

2. According to the proposed binary SWOT analysis system, we have tested the analyzed methods of diagnosis of solvency of FG "Vpered-Agro". We set the required amount of points in the amount of 10. The results of practical testing showed that none of the current techniques provides a set of a given amount. In this regard, the question arises of the need to develop a new method of diagnosis of solvency.

3. The study of factors that influence insolvency showed the need to revise the existing methods of its diagnosis from the standpoint of their adequacy goals for the analysis of the insolvency of the enterprise. We have been identified and substantiated as sufficient three criteria for compliance with these goals: the effect of time factor, cash flows and liquidity. The use in combination with them of the proposed binary SWOT analysis system revealed the shortcomings of existing algorithms for determining insolvency.

4. The selection of the effect of the time factor as the most important characteristic of insolvency has determined the need to algorithmize its calculation. To this end, we have modified the binary SWOT analysis system. The proposed methodology of its implementation allows to determine the degree of insolvency depending on the quality of financial work for the enterprise.