Digital management of financial condition of agricultural enterprises

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Abstract. The paper discusses the methodology of digital management of the financial condition of the enterprise and a set of engineering mechanisms that provide financial, managerial, strategic accounting, control and management of the reserve system of the institutional unit. The financial condition of the entities has been measured for more than 6,000 years, having gone from simple commensuration of property with obligations to the creation and use of digital systems for managing financial risk zones in real time.

1. Introduction

In the ancient Babylonian laws set forth in the Code of Hammurabi (2200 BC), the laws of Moses (1500 BC), the Code of Mu (10th century BC), in the Code of Justinian (6th century BC), in the Theodosian Code (4th century BC), property relations are widely represented, characterized by dozens of provisions.

Indicators of the financial condition of individuals and legal entities were constantly in the focus of attention of regulatory state bodies. So, for example, in accordance with the Charter of Russia (Bankruptcy Charter of 1740, Charter of Bankruptcies of 1800, Charter of Trade Insolvency of 1832), the concept of financial condition (financial insolvency) was based on non-payment, insufficiency of property to cover all debts.

2. Materials and methods

In the 18-19 centuries, the financial condition of individuals and legal entities was determined by two methods:

- based on the compilation of the liquidation balance sheet at market prices;
- based on an inventory of property and liabilities.

The determination of the real financial condition is required in many cases, the most important of which include: privatization; reorganization of legal entities; capital investment; listing of firms; venture financing; trust management of property, etc.

Numerous definitions of financial condition make the main emphasis on assessing the economic resources that a company has.

From our point of view, the financial condition of the organization can be defined as the state of assets, liabilities, capital, income, expenses and financial results that allows effective functioning and making relevant management decisions, taking into account the influence of factors of the internal and external environment with digital regulation of the financial risk zone (active, passive, neutral) in real time. When developing information support for digital monitoring of financial condition, creating
mechanisms for the engineering support of this process, it is necessary to be guided by the following provisions. Firstly, an efficiently functioning financial condition monitoring system ensures the rational use of financial resources of the state, commercial structures and the population based on the use of engineering hedged mega-balance operating in real time.

Secondly, in managing financial condition, it is advisable to use a system of digital engineering tools (zero, hedged, immunization, strategic and other digital mechanisms).

Under the financial condition, most authors understand the amount of economic resources controlled by the company, and the requirements for these resources at a certain point in time.

Thus, the company can be considered as economic resources and capital, while the requirements mean short-term and long-term payables.

In recent years, strategic activities have been the basis for organizing monitoring of financial condition.

3. Results
Ultimately, the used types of strategies allow solving three problems.

First, when developing strategic monitoring of the financial condition, it is necessary to link the set goal of strategic activity with the results of achieving this goal: increasing the value of the enterprise, profit margins, etc., which leads to the fact that the methodology should coordinate the relevant goals with the results, for example, the implementation of investment venture capital policy with the definition of a real valuation and determination of the use of venture financing.

Secondly, strategic management (development of a program, determination of potential, organizational planning, accounting) should outline and control the direction, scale and structure of enterprise development.

Thirdly, strategic monitoring of financial condition is aimed at achieving results, i.e. increase in enterprise valuation.

The types of strategies for monitoring financial condition are characterized in the developed and tested model in ten blocks:
- strategic orientation;
- fundamental principle;
- information base;
- initial operator;
- monitoring accounting reflection;
- monitoring tools for accounting engineering;
- state of financial stability;
- situational analysis;
- decisions made;
- control the use of competitive advantage.

The developed and tested standard for strategic monitoring of financial condition provides accounting, analysis and control of the implementation of key strategies taking into account the determining components (strategic orientations, fundamental principle, information base, initial operator, monitoring accounting reflection, monitoring tools for accounting engineering, achieved financial stability, situation analysis, decision making, and control over the use of competitive advantage) based on the use of the net assets and net liabilities in the balance sheet, market, fair and liquidation estimates for the effective use of strategic resources.

Nowadays, monitoring the financial condition of an enterprise is carried out mainly with the help of a system of financial ratios, which, according to generally accepted provisions, have two significant drawbacks:
- are determined according to the financial statements, which are based on historical estimates and are obtained with a very significant delay, when, based on the results of control, it becomes ineffective to make informed decisions;
such control is carried out at the enterprise level, and internal segments are outside the control zone (activities, responsibility centers, situations), as well as external segments (territorial and temporary fractals).

To organize an effective financial state management system, it is necessary to use models and tools of accounting engineering, and, first of all, a system of digital zero mega-balances. The organization of digital control of financial monitoring is based on the use of zero balances and includes three levels:

1st level: using the appropriate type of control:
- financial (avoidance of financial disasters);
- management (operational and tactical management);
- strategic (strategic crisis prevention).

2nd level: decision making, control of situations and results;

3rd level: management of zones of financial condition (active, neutral, passive)

The enterprise standard “Organization of financial monitoring control” is focused on the use of one of three types of control (financial, managerial, strategic) and is characterized by six sections.

The first section: the goal of monitoring the financial condition of an enterprise is to organize control of the resource potential of the enterprise and, first of all, its main indicator: the market and fair value of net assets and net liabilities.

As a result, the goal of control is reduced to three positions:
- financial control - preventing a financial crisis;
- management control - prevention of a tactical crisis;
- strategic control - prevention of a strategic crisis.

The second section of the standard defines the control indicators, which are currently reduced to the following groups:
- control of the coefficient system, which is currently losing ground to engineering methods and is carried out mainly by external users and shareholders (used mainly in the Anglo-Saxon accounting system);
- value added, which is typical mainly for the continental accounting system. Proponents of this approach believe that the leading indicator of assessing the financial and economic condition of an enterprise is not profit, but value added. Therefore, the analysis of financial stability is carried out at the stages of formation, distribution and use of value added;
- net assets and net liabilities are used in the conditions of functioning of accounting engineering tools and allow determining the real value of the enterprise;
- accounting engineering tools are built on ownership indicators (net assets, net liabilities, working capital, value added, etc.) and have the property of adaptability, because actions with them and with economic indicators of the same kind make it possible to determine the real value of the property of an enterprise as a property complex.

The third section of the standard focuses the user on the objects of control, which are:
- financial control: the enterprise as a whole;
- management control: internal segments, activities, centers of responsibility, economic situations, etc.;
- strategic control: external segments, territorial and temporary fractals, etc.

The fourth section of the standard for the organization of digital control of financial monitoring is presented by the control mechanism: zero balance, as one of the main tools of accounting engineering. Accounting engineering tools are accounting mechanisms that together represent four interconnected components:
a) a pattern as a methodology for substantiating and solving a specific management problem;
b) a computer program of a multivariate research area;
c) making decisions of an operational, tactical or strategic nature based on the results obtained;
d) a control system built on the basis of a hypothetic sale of assets and satisfaction of obligations in real prices (market, fair, collateral, etc.).

The digital control mechanism is organized based on the use of zero balance and includes an initial operator and four iterations:
- adjustment postings;
- adjusted balance;
- hypothetical postings;
- hypothetical balance.

Adjustment postings that affect the formation of the enterprise’s potential can be grouped into four main areas:
- research and development work;
- qualifications and experience of the personnel;
- micro level and its structural detail in order to determine the synergistic effect;
- use of own and borrowed capital.

The developed and tested standard of the organization “Organization of digital control of financial monitoring” is focused on the use of financial, managerial, strategic control, characterized by the corresponding goal, indicators, objects, control mechanisms based on zero balances that allow determining the zone of financial condition (active, passive, neutral) and making informed decisions on the use of the financial potential of the enterprise (net assets and net liabilities).

In accordance with the accounting model of information support for monitoring the financial condition of the enterprise, three types of monitoring are identified: financial, managerial, strategic.

The main possible tools for financial monitoring operate on the basis of financial mega-balance: financial, monitoring, situational, and gradual mega-balances.

To identify the most effective and relational financial monitoring tools, we took into account six defining provisions:
- the system of indicators used to organize monitoring;
- estimates used in determining the value of the enterprise (balance sheet, market, fair, collateral, liquidation);
- mechanisms used to manage the backup system of the enterprise;
- algorithm for organizing monitoring of financial condition;
- functioning in real time;
- decisions made based on the results of monitoring.

The organization of monitoring is connected not only with the determination of the financial condition, but also with the management of the reserve system of the enterprise. Management of the backup system of the enterprise is associated with the definition of:
1. The cost of the enterprise, taking into account the reserve system, based on the use of hedged mega-balance.
2. Definition and assessment of risk based on the use of mega-balance.
3. Definition of the results of using the backup system by comparing the backup system of the enterprise with the cost of integrated threats and the results obtained.

The use of the backup system management mechanism of the enterprise is possible based on the use of digital engineering mechanisms, i.e. in the conditions of using monitoring, situational, risk cost and other mega-balances.

The monitoring and related situations management algorithm is based on the use of the initial operator and a set of appropriate iterations.

According to the monitoring, financial and situational digital mega-balances, operational, tactical and strategic decisions are made, while traditional systems of models and coefficients can only ascertain the situation received with a great delay, and it is impossible to make relevant decisions on such a situation.
The layout of monitoring financial and situational mega-balances consists of an initial operator and seven iterations.

The initial operator is the source data, which can be represented by the following balances: accounting; consolidated; reorganization; predictive; separation; separate; allocated; preliminary, intermediate, liquidation, etc.

The standard is focused on the use of six types of strategies for monitoring financial condition, in the development of which we focused on solving four main problems:
1. The financial condition monitoring system is aimed at ensuring the implementation of the selected strategy of the corresponding direction of strategic activity, types of activities, on the implementation of prospects, etc.
2. Ensuring consistency in the implementation of the strategy.
3. The structure of the developed systems for strategic monitoring of the financial condition should be formed in such a way that opens space for innovations from below and equal opportunities for all employees.
4. Decisive importance in modern technologies of strategic management is given to a person, his place in the economic system, his desire to realize his creative potential, which is achieved by the development and implementation of decentralized and hierarchical management systems that transfer the right to make decisions to the lowest possible level that meets the potential of the employee.

The first iteration is formed by adjustment digital postings, which are compiled according to the results of checking the status of accounting and control.

The second iteration comes down to compiling the adjusted mega-balance.

Third iteration: registration of financial, monitoring and situational factors: inflationary factors; use of assets; risk situations; risk; political situation; economic situation; immunization of assets and liabilities in terms of size, maturity, interest rates and payment risks.

Fourth iteration: compilation of financial, monitoring and situational mega-balances.

Fifth iteration: reflection of processes for the hypothetical realization of assets and hypothetical satisfaction of obligations in a market or fair valuation.

Sixth iteration: drawing up a hypothetical financial, monitoring and situational mega-balances.

Seventh iteration: definition of the zone of financial condition; safety margins and synergies:
- active financial condition;
- passive financial condition;
- neutral financial condition.

4. Discussion and conclusion

The developed and tested standard for strategic monitoring of financial condition provides accounting, analysis and control of the implementation of key strategies taking into account the determining components (strategic orientations, fundamental principle, information base, initial operator, monitoring accounting reflection, monitoring tools for accounting engineering, achieved financial stability, situation analysis, decision making, and control over the use of competitive advantage) based on the use of the net assets and net liabilities in the balance sheet, market, fair and liquidation estimates for the effective use of strategic resources.

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