

Model Development to Ensuring the Enterprise Financial Security



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Abstract: *In modern economic conditions, it is necessary for each organization to create a model of ensuring financial security that would be resistant to financial risks and actively stimulate the socio-economic development of an economic entity. The financial security of an enterprise is a complex, multifaceted concept that depends on many factors that arise both within the enterprise and beyond. That is why the financial security of enterprises is of great importance in ensuring the stability of the national economy and the need for an integrated method to financial security management, taking into account current business trends.*

The systematization and improvement of methodological to assess the financial security of commercial organizations is relevant and necessary.

The article explores ways to assess the financial security of an organization and presents an innovative method that allows, based on the integrated indicator, to monitor changes in the level of financial security in dynamics.

Keywords: *Financial security, commercial organization, evaluation, modern approach.*

I. INTRODUCTION

In modern economic conditions, it is necessary for each organization to create a model of ensuring financial security that would be resistant to financial risks and actively stimulate the socio-economic development of an economic entity. The financial security of an enterprise is a complex, multifaceted concept that depends on many factors that arise both within the enterprise and beyond.

Ensuring the financial security of the enterprise is not only

a fundamental factor in the effective functioning of the enterprises themselves, but also a strategy for their medium-term development, a guarantee of the safe functioning of municipalities, regions and the state as a whole.

That is why the financial security of enterprises is of great importance in ensuring the stability of the national economy and the need for an integrated approach to financial security management, taking into account current business trends.

The purpose of the study is to systematize and improve methodological approaches to assessing the financial security of commercial organizations.

II. MATERIALS AND METHODS

The degree of validity of scientific and applied provisions, conclusions and recommendations presented in this article is confirmed by the use of domestic and foreign scientists, reference materials and electronic media, financial statements of a commercial organization of the Voronezh region for a number of years in the process of research (Ryaba LLC) The reliability of the research results is ensured by the application of general scientific and special methods of scientific knowledge.

III. RESULT AND DISCUSSION

The ability to ensure continuous growth of an organization depends on the state of its financial security system, which forms a "defense" against threats of an internal and external nature. In the works of I.A. Form [2] financial security of an enterprise is interpreted as a quantitatively and qualitatively determined level of its financial condition, which ensures stable protection of its priority balanced financial interests from identified real and potential threats of an external and internal nature, the parameters of which are determined on the basis of its financial philosophy and create the necessary prerequisites for financial supporting its sustainable growth in the current and future period.

The essence of the financial security of the enterprise, from the point of view of O.N. Sorokina [7], is determined by the quantitative and qualitatively determined level of his financial condition, ensuring the protection of his priority financial interests from certain real and potential threats of an external and internal nature, while creating conditions for a stable, reliable functioning of the enterprise, capable of planned development, while maintaining financial balance, solvency and liquidity in the short and long term. According to I.G. Yandulova [8],

Manuscript published on November 30, 2019.

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the financial security of an enterprise is a comprehensive concept that reflects the financial condition in which the enterprise is able to develop stably, to confront external and internal threats, the occurrence of which can cause financial damage, it is undesirable to change the capital structure, or forcefully liquidate the enterprise.

Based on existing modern developments in the field of conceptual apparatus, we proposed the following definition of the financial security of an enterprise - as stable protection of production and financial activities from real and potential external and internal threats in order to ensure its sustainable development in the current period and in the future.

Improving methods for assessing the financial security of an enterprise is important not only to the managers of the enterprise, its owners, but also to investors and creditors. The question of choosing methods for assessing the financial security of an enterprise is debatable. First of all, this concerns the choice of not only criteria for assessing the financial security of the enterprise, the system of indicators (indicators) that characterize it, but also the methodological approaches to determining the level of financial security [4]. Among modern approaches to assessing the level of financial security, enterprises distinguish:

1. qualitative: a method for determining the probability of bankruptcy; discriminant analysis; based on financial data; risk classification and management method.

2. quantitative: enterprise security resources; indicator approach; resource-functional approach; financial sustainability approach; point assessment method; method of assessing monetary approaches.

The most important initial prerequisite for selecting indicators of financial security of an enterprise is the identification of the main threats of its loss according to the scheme: for each threat - a certain indicator, the so-called checkpoint.

A threat to financial security is a real or potential possibility of a destructive effect of various factors on the financial development of an enterprise, leading to a certain economic damage. The system of indicators for assessing the financial security of an enterprise according to the methodology of L.A. Zaporozhtseva [4] includes indicators that assess the presence or absence of threats to financial security:

1. The threat of loss of liquidity of the enterprise can be monitored using the current liquidity ratio.

2. The threat of loss of financial independence of the enterprise can be reflected using the coefficient of autonomy and leverage of financial leverage.

3. The threat of a decrease in the efficiency of an enterprise must be scanned using an indicator of return on assets and return on equity.

4. Tracking the threat of aging of fixed assets is possible by the level of depreciation investment.

5. Monitoring the threat of unsustainable development of the enterprise is possible by comparing the relationship of growth in profits, revenue and assets.

6. The threat of increasing debt can be detected by the indicator of receivables turnover.

7. The threat of using an ineffective credit policy can be identified using the ratio of the turnover of accounts payable and receivable.

8. The threat of insolvency of the enterprise can be identified using the indicator of cash sufficiency.

9. The threat of a reduction in the profitability and market value of an enterprise can be monitored by determining the weighted average cost of capital in comparison with the return on assets of the enterprise;

10. The threat of destruction of the value of the enterprise can be tracked on the basis of the indicator of economic value added (EVA).

In assessing financial security, it is not so much the indicators themselves that are important that their threshold values (limit values, non-observance of which leads to the formation of negative, destructive trends - financial "danger"). In this regard, for each indicator there is a safe and dangerous value, which are presented in table 1. The system of indicators allows you to pre-signal a threatening danger and take measures to prevent it. The highest degree of security is achieved provided that the entire set of indicators is within the acceptable boundaries of their threshold values, and the threshold values of one indicator are achieved without prejudice to others.

As a result of the study, we identified the following threats to the financial security of Ryaba LLC: threats of loss of financial independence, insolvency, increased debt, use of an ineffective credit policy, reduction of the company's profitability (market value) and the destruction of its value.

Thus, Ryaba LLC is characterized by a low level of financial security. In order to eliminate the identified danger and prevent it from spreading to the remaining control points, it is necessary to develop directions for improving financial security for Ryaba LLC.

The choice of a method for assessing the level of financial security is of great practical importance, because based on the results of its application it is necessary to make managerial decisions. Due to the fact that the above methods do not reduce the system of indicators to a single assessment criterion that allows us to unambiguously assess the degree of danger, we propose a special modern methodology for assessing the level of financial security of an organization based on the following steps.

1) *The selection of a system of indicators underlying the methodology. For this purpose, indicators of assessing the financial condition, which are generally accepted, are proposed, and their calculation is based on the use of official financial statements of a commercial organization. According to the calculations, the dynamics of indicators of Ryaba LLC for 2014-2017 following (see Table 1).*

Table – I: Stochastic dependence matrix formation of LLC "Ryaba" financial security indicators

Indicators	Normative value	The value of the indicator as of December 31				Matrix of stochastic dependence of indicators			
		2014	2015	2016	2017	2014	2015	2016	2017
Liquidity ratios									
Absolute liquidity ratio	≥ 0,2	0,01	0,001	0,01	0,001	H	H	H	H
Interim liquidity ratio	≥ 0,7	0,34	0,18	0,27	0,22	H	H	H	H
Current ratio	≥ 2	1,00	1,12	0,93	0,94	H	H	H	H
Financial stability indicators									
Financial stability ratio	≥ 0,5	0,57	0,59	0,46	0,40	C	C	H	H
Leverage ratio	≤ 1,0	2,80	2,05	2,35	2,26	H	H	H	H
The ratio of own working capital	> 0,1	-0,70	-0,48	-0,40	-0,23	H	H	H	H
Business Assessment									
Profit growth rate	≥ TB	1,69	1,72	0,90	0,18	C	C	H	H
Revenue growth rate	≥ TA	1,26	1,43	1,20	0,87	C	C	C	H
Asset Growth Rate	≥ 1,0	1,02	1,05	1,14	0,99	C	C	C	H
Accounts receivable turnover ratio	≥ 6	5,12	7,32	8,77	7,66	H	C	C	C
Accounts payable turnover ratio	≥ 6	3,39	4,60	5,95	6,08	H	H	H	C
Performance indicator									
Return on total capital	≥ Rate of inflation	0,05	0,08	0,01	0,01	H	H	H	H
Return on equity	≤ The growth rate of borrowed capital	0,20	0,27	0,04	0,02	H	C	H	C

2) Determination of the tightness of the relationship between the actual values of the indicators and their standards by the nonparametric method for assessing stochastic dependence. For this, it is proposed to use the Spearman coefficient:

$$K_c = \frac{C - H}{C + H} \quad (1)$$

K_s - the Spearman coefficient;

C - the number of matches of actual values of indicators to regulatory levels;

H - the number of discrepancies in the actual values of indicators to regulatory levels.

According to the estimates, the dynamics of the Spearman coefficient has the form: 2014 - 0.38; 2015 - 0.08; 2016 - 0.54, 2017 - 0.54.

3) Interpretation of the level of financial security according to the Spearman coefficient. Given that the coefficient values can vary from -1 to +1, (see Table II), the following scale is proposed for assessing the level of financial security of a commercial organization [5].

Table – II: The scale of assessing the level of financial security of the organization

Spearman coefficient value	Financial Security Assessment
from -1 to 0.2	crisis
0.2-0.4	pre-crisis
0.4-0.6	unstable
0.6-0.8	normal
0.8-1.0	tall

Based on the results obtained, for the study period from 2014 to 2017. the level of financial security of the organization is assessed as crisis.

The proposed methodology has a number of positive characteristics: based on the use of accessible and official information that reflects the performance of the organization; uses the generally accepted system of indicators for assessing the financial condition, the calculation of the Spearman coefficient does not require complex mathematical actions; an integral assessment of the level of financial security is given; the ability to supplement the methodology with other indicators [6]. The technique allows you to compare the level of financial security not only in dynamics over several periods, but also across several organizations. Next, we will calculate the variance, standard deviation and coefficient of variation [3].

Table – III: Indicators calculation of dispersion, standard deviation and variation coefficient

Indicators	Calculation Method	Payment
The indicator of average gross profit (thousand rubles)	$X = \frac{(X_1 + X_2 + \dots + X_n)}{n}$	66523
Dispersion (thousand rubles)	$\sigma^2(X) = \frac{[(X_1 - X) \times 2 + (X_2 - X) \times 2 + (X_n - X) \times 2]}{n}$	42
Standard deviation –SKO (thousand rubles)	$\sigma = \sqrt{\sigma^2 + (X)}$	6,5
Coefficient of variation (size of the relative risk of non-profit), (%)	$V = \frac{\sigma \times 100\%}{X}$	1%

Obtained in Table III, the value of the coefficient of variation indicates a low fluctuation of indicators, that is, a low risk of not receiving a profit of 1%. As a result, it was established that the level of financial security of the organization under study is crisis, but the risk of under-receipt of profit is rather small. Security threats are hidden and not related to the profitability of the organization.

IV. CONCLUSION

Thus, the success of an activity is largely determined by the speed and correctness of the organization's response to emerging threats, where the key factor determining the effectiveness of entrepreneurial activity is the creation of a system to ensure its financial security. The application of quantitative criteria for the main threats to the financial security of the organization will help to respond to them in time and take appropriate measures to level them or eliminate them. At the same time, we consider it necessary not to neglect the use of various approaches to assessing financial security, since a comprehensive assessment allows us to make an unmistakable decision and ensure the development of the organization.

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