

# Methodological Aspects of Assessing the Financial Security of Construction Enterprises

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**Abstract.** The article studied the literature devoted to the methodological aspects of assessing the financial security of enterprises. The innovativeness of the studied methodology lies in the ability of the resulting integral index to assess the financial security of an industrial enterprise not only at a certain moment, but also over a long period of time to adjust the business development strategy. Another distinguishing feature of the proposed methodology is its complexity, i.e. inclusions in the assessment of the influence of not only quantitative factors, but also qualitative ones - threats to the external environment and possible risks of activity.

**Keywords:** Threats, external environment, possible risks, risks activity, factors.

## 1. INTRODUCTION – ACTUALITY OF PROBLEM

The effectiveness of the functioning of the system is assessed by establishing the achievement of its goals and the rationality of this process. The main goal of the financial security system at an industrial enterprise is to create stable conditions for the sufficiency and rhythm of financial resources, both in operational activities and in the context of a development strategy. Accordingly, the assessment of the level of financial security of an enterprise should be carried out in two directions: current and long-term.

The creation of a financial security system in the long term involves the creation of stable operating conditions by leveling the influence of negative factors and threats. An assessment of the level of financial security of an enterprise for a certain period can be carried out on the basis of a comparison of the main indicators of the financial and property condition and profitability of the enterprise in dynamics, as well as adjusting their planned and forecast values. [4]

But it will be more appropriate to establish the level of financial security at a specific point in time and to identify the dynamics of such a nominal indicator. [5] That is, if over a certain period of time the main performance indicators of an industrial enterprise, despite the impact of external or internal threats, improve, then the level of financial security can, in general, be considered satisfactory. If, over time, some threats can be discarded, then this level of financial security, in our opinion, can be considered sufficient. Assessment of the state of financial security in the long term is an element of ongoing analytical work, activity planning and development. In the process of such a general analytical assessment, the development strategy of the system for ensuring the financial security of the enterprise and its individual elements is adjusted. Therefore, this direction should be considered strategic.[6]

The strategy for building an effective financial security system is implemented by drawing up a set of tactical steps, each of which is designed to solve a block of separate tasks united by a single goal. Accordingly, the current level of financial security of an industrial enterprise can be assessed as a set of indicators of the effectiveness of operational management decisions.[7]

## 2. LITERATURE REVIEW

Representatives of the Western and Asian scientific community rarely consider financial security indicators, focusing, to a greater extent, on the assessment of its individual components: activity risks [9, 17, 18, 20]; the level of information security [1, 21]; reliability of funding sources [5, 7]; indicators of financial autonomy [11, 13, 19]. We can summarize some of the most significant, in our opinion, elements of existing methods for assessing the financial security of enterprises in Table 1.

A common feature of such studies is the concentration on a separate enterprise and, in our opinion, insufficient involvement in assessing the degree of influence of external factors in the functioning of the business. In addition, it is worth noting the focus of research on individual components of financial security, and not its complex perception.[8]

Table 1: Elements of existing methods for assessing the level of financial security of enterprises and its components

№	Author of the methodology	Features of the technique	Advantages of the technique
1	Ahmad S., Ng Ch., McManusc L. [9]	Focused on risk assessment as an element of ensuring financial security with risk management tools	Based on the analysis of a large array of empirical data
2	Brunner M., Sauerwein C, Felderer M., Breu R. [10]	Aimed at identifying, assessing and countering risks in the information environment of doing business	Based on the innovative ISO 27005. Has practical recommendations for countering financial security threats
3	Cao Yu, Chen X. [11]	The methodology is based on modeling enterprise development scenarios under the influence of financial security threats	High precision and demonstrativeness of the technique, ease of use
4	Delas V., Nosova E., Yafinovich O. [12]	It is aimed at identifying threats without their digital assessment, it has tools to eliminate such threats, basically. Cash flow management methods	High level of theoretical validity
5	Li W., Wang X. [13]	It involves the development of financial risk management tools mainly through safe trading of securities	Based on a large array of practical digital data, but aimed exclusively at the financial market
6	Mayadunne S., Park S. [14]	It is aimed at assessing the safety of investments in the conditions of realization of activity risks	Based on classical economic models
7	Schatz D., Bashroush R. [15]	The assessment methodology is the basis for further safety prediction	Precise mathematical apparatus, high objectivity and reliability
8	Yang B. [16]	A technique for modeling the impact of possible security threats and risks without identifying their assessment	Focus on identifying the consequences of the impact of threats
9	Zeng W., Koutny M. [17]	Methodology for modeling the financial consequences of insufficient information security	Ease of use, adaptability to many areas
10	Zhang W., Jiang H. [18]	A specific mathematical model for assessing risks and threats is considered	High level of theoretical validity; concretization of methodology tools

Систематизировано автором

The assessment of the level of financial security should be made taking into account the influence of the external environment of the functioning of the enterprise. For these purposes, it is worth identifying the main threats to business processes that are not directly influenced by management personnel, but require adaptive solutions. In our opinion, such threats should be divided into the following groups:

- political factors: stability of state policy, features of the economic development strategy of the state, political and economic image of the country in the international arena, etc.;

- economic factors: the tax system of the country, freedom of the market and entrepreneurship, the level of competition and competitiveness of economic sectors and individual products, the export orientation of the market, the reliability of the national currency, the level of industrialization, etc.[10]

### **3. ANALYSIS AND RESULTS**

Let us consider external factors and threats to the financial security of industrial enterprises of the Republic of Uzbekistan in more detail from the standpoint of their assessment as a component of a general methodology for each individual enterprise, paying special attention to the conditions for the development of the textile industry. For several years, a full-scale liberalization of all spheres of society has been going on in the Republic: conditions are being created to support and develop freedom of speech, honor and dignity of a person, freedom of thought, religion, beliefs and entrepreneurship. The country has set a clear course for the industrialization of the economy, the renovation of living conditions and the modernization of society. As a result, over the past 4 years, the level of GDP growth has reached almost 6% per year, which indicates an improvement in the political and economic situation in the market and the formation of a stable development trend.

International indices help to assess the level of political stability in the country. Thus, the World Bank annually publishes the Governance Quality Index (WGI), which covers 200 countries and is based on six sub-indices: political stability and absence of violence, quality of regulation, rule of law, accountability of power to the people, government efficiency, control of corruption. According to the World Bank, over the past decade, the Republic of Uzbekistan has been in the group of outsider countries. However, given the current reforms and renovations in the country, we believe that the level of political stability is building to be considered satisfactory with the prospect of improvement [20].

A more comprehensive approach to assessing the impact of external factors on the financial security of enterprises in the country can be implemented using the capabilities of analyzing large data arrays and neural networks. So, for example, Cloud BigData Mail.ru Group services have a wide range of functionality and a number of custom packages that enable managers to create an individual and industry spectrum of analysis at minimal financial costs (or even without them).

The level of influence of external factors on the state of financial security of an individual enterprise depends not only on the general state of the country's economy, but also on regional and sectoral features of development, which should also be taken into account. That is, based on the analyzed state of the political and economic components of the level of financial security directly in the Republic of Uzbekistan, the general environment for the activity of industrial enterprises can, in our opinion, be considered satisfactory, since the country is characterized by political stability and positive dynamics of economic indicators.

Most of the existing and described in the specialized literature methods for assessing the financial security of industrial enterprises involve the formation of a final integral index, however, the methods for calculating it are very diverse. In order to form your own vision of such a technique, it is worth grouping the existing algorithms and methods as follows:

- 1) methods using general economic standards and criteria;
- 2) methods based on the analysis of financial ratios and indicators;
- 3) methods based on the assessment of entrepreneurial risks and specific indicators of business development (mainly value-oriented management);
- 4) methods of economic and mathematical modeling;
- 5) methods of expert assessments.

So, most of the existing methods are based on the analysis of a complex of specialized economic or financial indicators. At the same time, the methodology of economic and mathematical modeling also uses specific indicators of the level of financial security and its components. All indicators of the financial security of an industrial enterprise, in our opinion, should be divided into three main groups:

- indicators of financial independence: the criteria and threshold estimates of these coefficients are controversial, since supporters of autonomous development believe that the level of funds attracted from outside should be minimal, and the company should avoid debt obligations, interest on them and the cost of servicing them. On the other hand, there is a point of view that it is worth risking not only your own money, but also other people's. In addition, the presence of external sources of financing indicates the investment attractiveness of the business and the additional potential for the development of the enterprise. Taking into account the peculiarities of the historical heritage of the textile enterprises of Uzbekistan and the urgent need for financing investment development, we believe that the ratio of attracted and equity capital at the level of 50/50 will be an acceptable indicator of financial autonomy;

- indicators of financial stability: for such indicators, their constant positive dynamics is important. Regarding the specific values of the coefficients, they are individual, however, in general, textile industry enterprises are characterized by low profitability and profit. Therefore, we believe that the profitability of activities at the level of 10% and the return on assets (including current assets) over 1% can be taken as indicators of a positive assessment of the level of financial security of the enterprise;

- financial security against risks: indicators reflecting the level of financial security based on additional, non-financial data. The main financial risks are credit risk, reinvestment risk, interest rate risk, currency risk, liquidity risk, inflation risk. In addition, the company is exposed to individual non-financial, macroeconomic, production and other risks. Their assessment is carried out within the framework of risk management and often consists in identifying their presence and the degree of possible negative impact on the development of the enterprise, however, some financial ratios can also characterize the level of safety from risks, in particular, these are liquidity ratios, indicators of asset quality, development of personnel and others.

It should be noted that the block of indicators for assessing the risks of an industrial enterprise is more qualitative than quantitative in nature, since it is quite difficult to bring them to any specific digital indicators. Their role in the methodology for assessing the level of financial security, in our opinion, is to create a subjective impression and possible adjustment of the final indicator towards its increase (if there is an effective risk management system at the enterprise) or decrease (if the business is recognized as high risk).

The analysis of the scientific literature showed that the existing approaches to diagnosing the financial security of an industrial enterprise have a number of shortcomings, namely:

- unreasonable choice of indicators-representatives in the calculation of integral indicators of financial security will not allow to adequately reflect the state of financial security;

- the use of an expert method for selecting indicators characterizing the state of financial security of an industrial enterprise can lead to biased results when deriving an integral indicator. The methodology for diagnosing financial security requires the use of precise methods for grouping and selecting indicators;

- assessment of the financial security of an industrial enterprise based on the analysis of the dynamics of a certain set of initial indicators is ineffective, since it is not possible to determine the integral indicator of financial security. When constructing a methodology for diagnosing financial security, attention should be paid to the use of integral estimates obtained on the basis of the use of multivariate statistical methods;

- scientists, when analyzing and assessing the level of security of the object under study, do not divide into classes of financial security, in which the influence of destabilizing factors is identified, which leads to inaccuracies in determining the real state of financial security of a financial institution [3].

So, summarizing the analyzed methods, we can single out the following main tasks for assessing the financial security of an industrial enterprise:

- analysis of the internal and external environment of the enterprise;

- definitions of the crisis environment and allocation of critical risks;

- assessment of risks and the possibility of a crisis;

- identification of problem areas in the work, based on the data of the analysis;

- assessment of the effectiveness of the enterprise;

- formation of general conclusions about the level of financial security of the enterprise [1].

The innovativeness of the methodology lies in the ability of the resulting integral index to assess the financial security of an industrial enterprise not only at a certain moment, but also over a long period of time to adjust the business development strategy. Another distinguishing feature of the proposed methodology is its complexity, i.e. inclusions in the assessment of the influence of not only quantitative factors, but also qualitative ones - threats to the external environment and possible risks of activity.

A possible disadvantage of the proposed methodology may be the presence of a subjective component - the opinion of a top manager when establishing the impact of external threats and risks. However, the methodology proposes an appropriate scoring scale and an algorithm for the corresponding calculations.

#### **4. CONCLUSIONS**

Any assessment made will be useful if it can be predicted. This will allow us to assess the prospects for financial security, as well as to identify exactly those indicators of the activity of an industrial enterprise that require immediate adjustment, i.e. become the center of attention of management personnel. Such forecasting can be performed on the basis of linear trends or other, more complex and reliable methods of economic and mathematical modeling.

To ensure financial security, enterprises need a certain system that allows them to constantly carry out diagnostic and preventive actions aimed at maintaining an appropriate level of financial security. As a result of the assessment according to the proposed methodology, it becomes possible to form a single integrated index of the level of financial security of an enterprise, based on an analysis of the main indicators of its activities, financial condition and assessment of environmental factors. The proposed methodology is characterized by complexity,

consistency, validity and ease of implementation.

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