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METHODS OF ASSESSMENT OF FINANCIAL RISKS IN CORPORATE STRUCTURES

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Keywords: financial risk, investment attractiveness, stock, Value at Risk, average return, standard deviation, quantile.

Abstract

In the article important aspects of financial risk assessment for corporate structures and specific features of risk assessment methods were presented, as well as risks were assessed on shares of corporate structures and scientific conclusions were formed on them.

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INTRODUCTION

In today's fierce competition, it is important for enterprises to increase or strengthen their investment potential. Because the investment attractiveness of the enterprises makes it possible for them, on the one hand, to attract quick and relatively cheaper financial resources, and on the other hand, to increase the economic well-being of investors. A number of factors have an effect on increasing the investment attractiveness of enterprises, namely, the introduction of an effective management system, the existence of effective contractual relations, the presence of highly qualified personnel, having effective investment projects, being located in an economically and geographically favorable place, increasing the number of consumers of their products, financial we can cite such as economic security. We believe that the correct implementation of these factors will have an impact on the future development of enterprises.

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Based on this, it is appropriate to pay special attention to the issue of financial security in their composition.

As one of the main goals of corporate structures is profit maximization, there are always various risks and the possibility of financial losses. Because it is known from the concepts of corporate finance that sufficient profitability cannot be achieved without facing risk. In other words, where there is return, there is necessarily a degree of risk. Therefore, assessing financial risks that may occur in the activities of corporate structures, reducing the level of risk, as well as reducing the amount of financial losses that may occur as a result of risk, will directly serve to increase the investment attractiveness of corporate structures in the future. Based on this, below we will focus on the methods of assessing financial risks in the activities of enterprises and their reduction.

LITERATURE REVIEW

O. Hamdamov, who conducted scientific research on ways to effectively organize the financial management system in enterprises, pays special attention to the effective organization of risk management, specific features of risk management in insurance companies, international experiences in risk management, as well as statistical models of risk assessment in insurance companies [1] .

Sh.Z. Tursunkhodzhaeva, who conducts scientific research within the framework of financial risk management, is interested in financial risk management in real sector enterprises, financial risk management methods, methods of determining financial risks, the use of digital technologies in reducing financial risks, as well as the prospects of using the "Gartner magic square" quotes his conclusions [2].

I.T. Jumaniyozov, who conducts research in the framework of effective use of sovereign fund funds and financial security in this process, ensures financial security of enterprises, makes financial decisions by assessing financial risks, as well as financial risk assessment mechanisms, empirical, variation and optimal amounts of financial risk assessment cited his scientific views [3].

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B. Tashmuradova, who conducted researches on optimization of tax relations, focused on specific features of tax risks threatening the financial system of our country, identification of tax risks, ways to reduce tax risks, as well as issues of tax risk management [4].

In our research conducted together with S.E. Elmirzaev, scientific conclusions are presented about tax risks at the state and corporate level, zones where risks may occur, and ways to reduce tax risks [5].

RESEARCH METHODOLOGY

Scientific abstraction, analysis and synthesis, comparison, induction and deduction, as well as monte-carlo and Value at Risk (VAR) methods of risk assessment were used in the implementation of this study on the assessment of financial risks in increasing the investment attractiveness of corporate structures.

ANALYSIS AND RESULTS

In the financial management of corporate structures, identification of risks, assessment of their impact, and reduction of financial risk levels play an important role. Sometimes it is not possible to reduce financial risks, but timely assessment of their impact is important. Because being able to predict where, when and how the impact of financial risks will manifest can provide an opportunity to avoid financial losses. In this, the information supply bases serving in the determination of financial risks play an important role.

With the use of accurate information, it is possible to estimate possible future financial risks or financial losses within a certain probability. Until now, economists have developed a number of methods for assessing financial risks in enterprises, each of which has its own characteristics. These methods _ conditionally ikkita to the group our separation can :

1) Risks statistical methods of assessment : standard deviation of profitability (s)? Value at Risk method ;CVaR method .

2) Risks expert methods of assessment : rating methods ; score methods ; Delphi method .

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corporate structures today . Managers assessing financial risks can choose methods convenient for them and use them in assessing financial risks. In this case, we believe that it is important to make financial decisions based on the nature of the method used. Because the levels of financial risk determined on the basis of the methods used today can come out in different values. However, in most cases these values are close to each other. The standard deviation method, which is a part of statistical methods, also allows to assess financial risks through changes in profitability. However, this method cannot give a 100% result in financial decision-making even in making a complete conclusion. Because the validity of this method is accepted with a certain level of probability. The standard deviation method is also used as part of the Value at Risk method of financial risk assessment and serves to provide important information for making financial decisions . This, in turn, has the effect of further increasing the content and significance of the Value at Risk method.

The Value at Risk method is one of the widely used methods for assessing financial risks today, and in some literature this method is also referred to as the Monte Carlo method. This method is widely used by corporate structures and investors participating in the stock market. This method assesses the maximum value of securities in the future period, taking into account changes in the market price of a certain period. That is, on the basis of this method, it is possible to determine by how much the market price of the stock you want to buy today can decrease in the next few days.

The level of risk determined on the basis of the Value at Risk method is not without errors like other methods. It is very important that these errors are few and that the identified risk level is close to the truth, the accuracy and quantity of the information supply base is very important. For this reason, in order to determine the level of financial risk based on the value at risk method, it is required to have data on the daily market value of at least one year. Or, at least 250 days worth of data, unless the stock market is closed on Saturdays and Sundays. Otherwise, we believe that the level of financial risk determined on the basis of little information may not be close to reality, and the financial decisions taken may not be effective.

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In the case of JSC "KVARTs", JSC "UzRTSB" and AITB "Ipotekabank", which used the Value at Risk method, we present our analytical data regarding the assessment of financial risks related to the trading of shares in circulation at RFB "Tashkent" and their investment attractiveness based on this (Table 1). .

Table 1

Financial risks associated with changes in market values of shares of corporate entities[1]

The date	JSC "KVARTs"			JSC "UzRTSB"			AITB "Ipotekabank"		
	Market price	Daily change	Daily profitability	Market price	Daily change	Daily profitability	Market price	Daily change	Daily profitability
05.01.2022	4,200.00	▲ 29		28,500	▲ 3000		1.2	▼ 0.22	
31.01.2022	4,050.00	▼ 50	-1.22%	28,800	▲ 1 300	4.73%	1	▲ 0.01	1.01%
28.02.2022	3,950.00	▼ 161	-3.92%	26,400	▼ 1 051	-3.83%	0.98	▼ 0.02	-2.00%
31.03.2022	3,900.00	▼ 49	-1.24%	24,000	▼ 700	-2.83%	0.99	0	0.00%
29.04.2022	3,900.00	▲ 50	1.30%	25,000	0	0.00%	0.9	0	0.00%
31.05.2022	3,600.00	▼ 149	-3.97%	22,800	▼ 200	-0.87%	0.87	▼ 0.01	-1.14%
30.06.2022	3,290.00	▲ 109	3.43%	21,930	▲ 30	0.14%	0.81	0	0.00%
29.07.2022	3 149.99	▼ 50.01	-1.56%	22 200	▲ 3 199	16.84%	0.83	▲ 0.01	1.22%
31.08.2022	3,050.00	▼ 50	-1.61%	20 450	▲ 450	2.25%	0.8	▼ 0.03	-3.61%
30.09.2022	3 001.00	▲ 40.99	1.38%	18,999	▲ 1 509	8.63%	0.78	▼ 0.02	-2.50%
31.10.2022	3,099.00	▲ 4	0.13%	20 350	▲ 853	4.38%	0.79	▲ 0.01	1.28%
30.11.2022	3,400.00	▲ 100	3.03%	19,400	▼ 399	-2.02%	0.79	▲ 0.03	2.60%
30.12.2022	3 488.97	▲ 154.97	4.65%	20,800	▲ 398.99	1.96%	0.88	▲ 0.01	1.15%
31.01.2023	3 450.00	▲ 40	1.17%	23 299	▲ 898	4.01%	0.9	▲ 0.02	2.27%
28.02.2023	3 192.71	▲ 147.71	4.85%	22,010	▼ 490	-2.18%	0.9	0	0.00%
31.03.2023	2,950.00	▲ 199.5	7.25%	20 499	▲ 499	2.50%	0.87	▼ 0.02	-2.25%
28.04.2023	3,000.00	0.00	0.00%	21,950	▲ 600.01	2.81%	0.92	▲ 0.03	-2.13%
31.05.2023	2,800.00	0.00	0.00%	20,900	▲ 199	0.96%	0.9	▼ 0.08	-8.16%
What is the maximum loss that an investor who bought a stock on May 31, 2013 can lose with this stock in the next 1 day and 5 days . This directly affects the investment attractiveness of companies.									
The maximum price that the stock market will fall in the next few days		Average return	Standard deviation	Average return		Standard deviation	Average return		Standard deviation
		-0.08%	±2.59%	-0.05%		±2.86%	0.01%		±4.30%
Quantile	Q	1.0 %	-0.0612	1.0 %		-0.0670	1.0 %		-0.1000
1 day forecast	2 628.78	6.12%		19,499.14	6.70%		0.81	10.00%	
5 day forecast	2 417.13	13.67%		17,767.59	14.99%		0.70	22.37%	

[1]It was prepared by the author using information from the official website of the Tashkent RFB https://uzse.uz/

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The data in Table 1 above was formed on the basis of the market values of the shares of three corporate structures in circulation at the Tashkent RFB from January 5, 2022 to May 31, 2023, that is, on 350 bank business days. As we mentioned above, the data of this table is data formed on days that are more than 250 days, so we think that our conclusions can be more reliable. According to the table, we can see that the value of "Kvarts" joint-stock company on 05.01.2022 decreased from 4200 soums to 2800 soums.We can see that the shares of "UzRTSB" joint-stock company decreased from 28,500 soums to 20,900 soums during this period. The share of AITB "Ipotekabank" decreased from 1.2 soums to 0.9 soums during this period. Although the market value of shares in all three corporate structures has generally decreased, there have been increases and decreases in market values between periods. It is important for investors who want to buy shares of these companies on May 31, 2023 to determine in advance how much they can lose in the near future. We were able to determine this based on the Value at Risk method, as we mentioned above. According to the method, first of all, the daily profitability of the previous period is determined, and the average daily profitability of the studied period is determined. When this indicator was determined for JSC "Quartz" and JSC "UzRTSB", it was found to be -0.08% and -0.05%, respectively. This indicator alone reflects that there is a problem with the stock market value of this corporate structure. We can note that the average profitability of AITB "Ipotekabank" is 0.01%, which is relatively positive compared to the results of the other two companies. The standard deviation indicator for the above companies was found to be ±2.59%, ±2.86% and ±4.30%, respectively. The conclusion based on the standard deviation method differs from the conclusion based on the average return, that is, we can see that the highest risk for the shares of these corporate structures is AITB "Ipotekabank".

The Value at Risk method is a quantile indicator, and this indicator provides a basis for risk assessment, taking into account the available errors in the average return and standard deviation indicators. That is, the quantile reflects the level of risk. In other words, a quantile is an indicator of the mean of the return and the standard deviation of the return is assumed to be correct with 99% probability and 1% probability of error. Taking this error into account in the risk assessment will help the level of risk to be close to reality. This indicator can be easily and quickly determined using Microsoft Excel by entering =NORMOBR(1%; average return amount; standard deviation amount) into the table cell. The quantile indicator was found to be q= -0.0612,

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-0.0670, -0.1000, respectively, when evaluating the securities of the above corporate structures. It can be seen that among these corporate structures, AITB "Ipotekabank" has the highest risk and "Kvarts" JSC has the lowest risk. Using quantile data, it is possible to predict the lowest value of market prices of corporate structures in future periods based on the following formulas.

$$P_{t+1} = P_t \times (q + 1)$$

$$P_{t+k} = P_t \times (q \times \sqrt{k} + 1)$$

Here, q is the quantile, P_t is the value of the security in period t, that is, in our example, the market value on 05/31/2023;

P_{t+1} is the lowest value that can be expected taking into account the quantile of the security in period t+1, that is, in our example, the lowest value forecast for 01.06.2023;

P_{t+k} is the lowest value that can be expected taking into account the quantile of the security in the period t+k, that is, in our example, k=5, the lowest value forecast for 06/05/2023;

So, according to the above table, if an investor buys JSC "KVARTs" shares for 2800 soums on 31.05.2023, after 1 day its market value can decrease to 2628.78 soums, and in 5 days to 2417.13 soums, i.e. the risk for 1 day is 6.12%. , and for 5 days we can see that it is 13.67%.

CONCLUSION

In general, based on the above, the following conclusions can be made about the assessment of financial risks based on the market value of shares:

- it is desirable to form a reliable and at least 250-day database so that the level of financial risk is close to reality when assessing financial risks;
- timely and correct assessment of financial risks and making financial decisions based on this will serve to increase the investment attractiveness of corporate structures;
- The Value at Risk method is more reliable than other statistical methods, and we think that the use of these methods in the activities of corporate structures in our country will affect

the development of corporate structures on the one hand, and on the other hand, it will serve the development of the stock market and increase the economic well-being of investors.

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