



FINANCIAL RISKS MANAGEMENT AND ECONOMIC GROWTH PROCESSES RATIO ANALYSIS

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Abstract

This article examines in detail the important aspects, peculiarities and role and importance of financial risk in financial operations in the activities of corporate structures. In addition, the stages of organization and implementation of the practice of issuing securities, are presented, and conclusions and recommendations on the use of financial instruments in our country have been developed by studying the practice of foreign countries.

Keywords:

*financial
instruments, big-
data, financial
risk,
securitization*

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INTRODUCTION

Financial risks management efficiency increase the most important from the factors is one Especially present of the day big capacity data during from information right used without risks manage current is one of the issues. Main from goals one as to say maybe there is big capacity information of artifacts analysis solutions done increase problems complete the list collect and present to achieve Problems financial services in the field of experts lack of with can also be explained . to these problems quantitative measures appointment important for Financial services in the field interested parties benefit BDA to maximize against main barriers as their observation lists on top of it catch as high as necessary problems to determine puts

MAIN DISCUSSIONS

In the conditions of modernization of the economy, it is important to apply the world experience of reducing the risks that arise in the economic activity of enterprises in practice. As we mentioned earlier, one of the issues that should be given the main attention in the activities of enterprises is risk management. Today, the risk management process includes the following main steps:

- of the enterprise strategy and the goal mark
- Risk to determine
- Risk evaluation .
- Risk to manage measures , methods choose and current to do
- Implemented things efficiency control to do

long as risk management is carried out in enterprises , this management is carried out in a specified sequence, in stages. In the figure below, we can see the stages of financial risk management (Figure 1) .

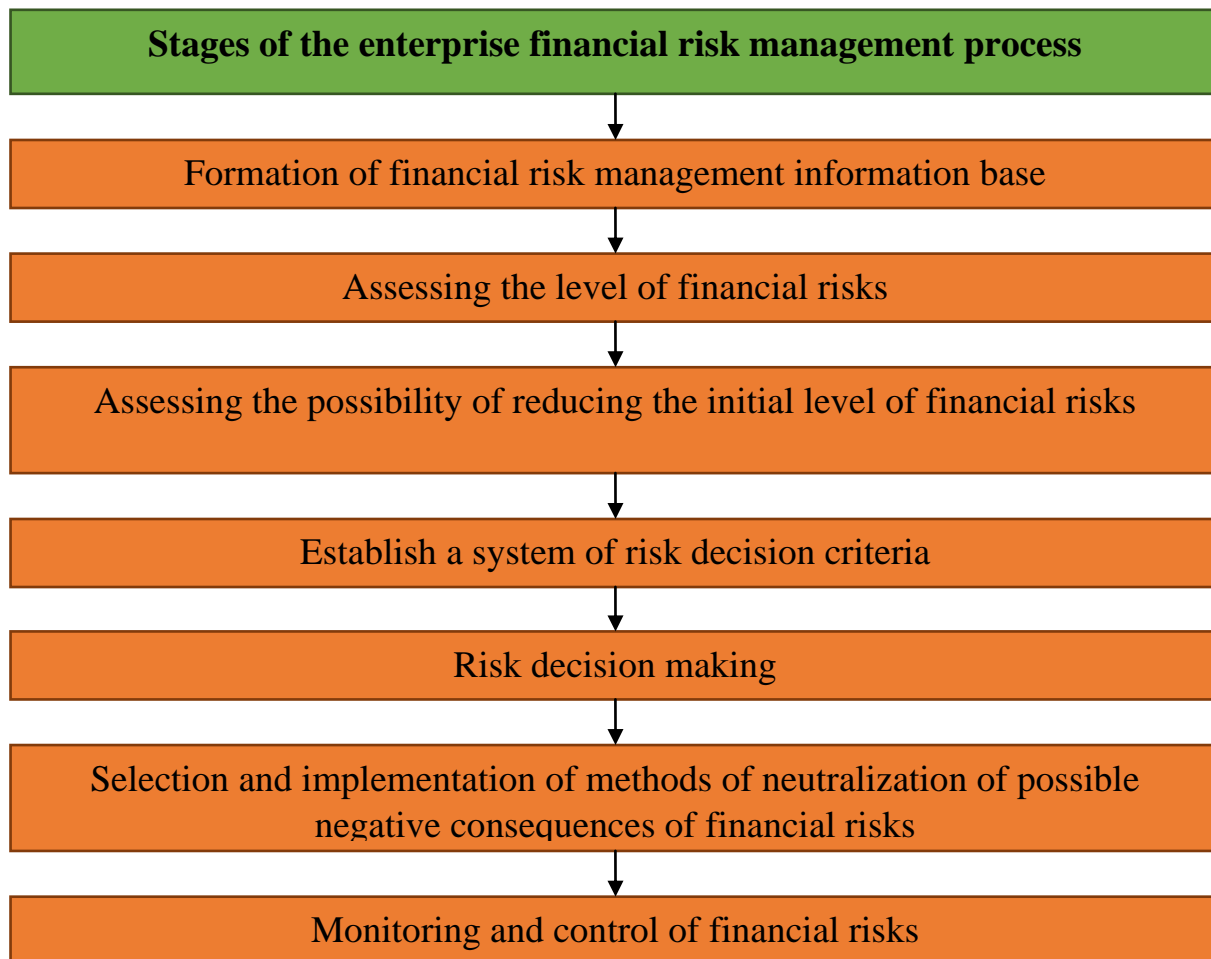


Figure 1. The process of managing financial risks of the enterprisestages¹

The image above shows the stages of financial risk management. In accordance with this picture, when organizing risk management in enterprises, first of all, an information base is collected. The information base provides information on the state of risks in the enterprise's activity and its impact on the enterprise's financial situation. Internal and external sources of information are collected and summarized for the enterprise. The larger the information base in the enterprise, the more opportunities there are to study the level of financial risk. At the next stage, financial risks in

¹Blank I.A. Osnovi fininsovogo menendzhmenta (komplekt iz 2 knig)/Moscow: Mashinostroenie, 2014 . 264 c.

enterprises are evaluated. That is, based on the information learned at the previous stage, risks are studied, assessed, and risk levels are determined. This, in turn, provides many benefits to enterprises in the efficient use of their financial resources.

In general, the purpose of financial risk management in enterprises is to ensure the financial security of the enterprise in the process of the development of the enterprise and the prevention of a possible decrease in the market value. Certain tasks are performed to achieve this goal, which is independent of financial risk management . The main part of these tasks can be seen in the picture below (Figure2).

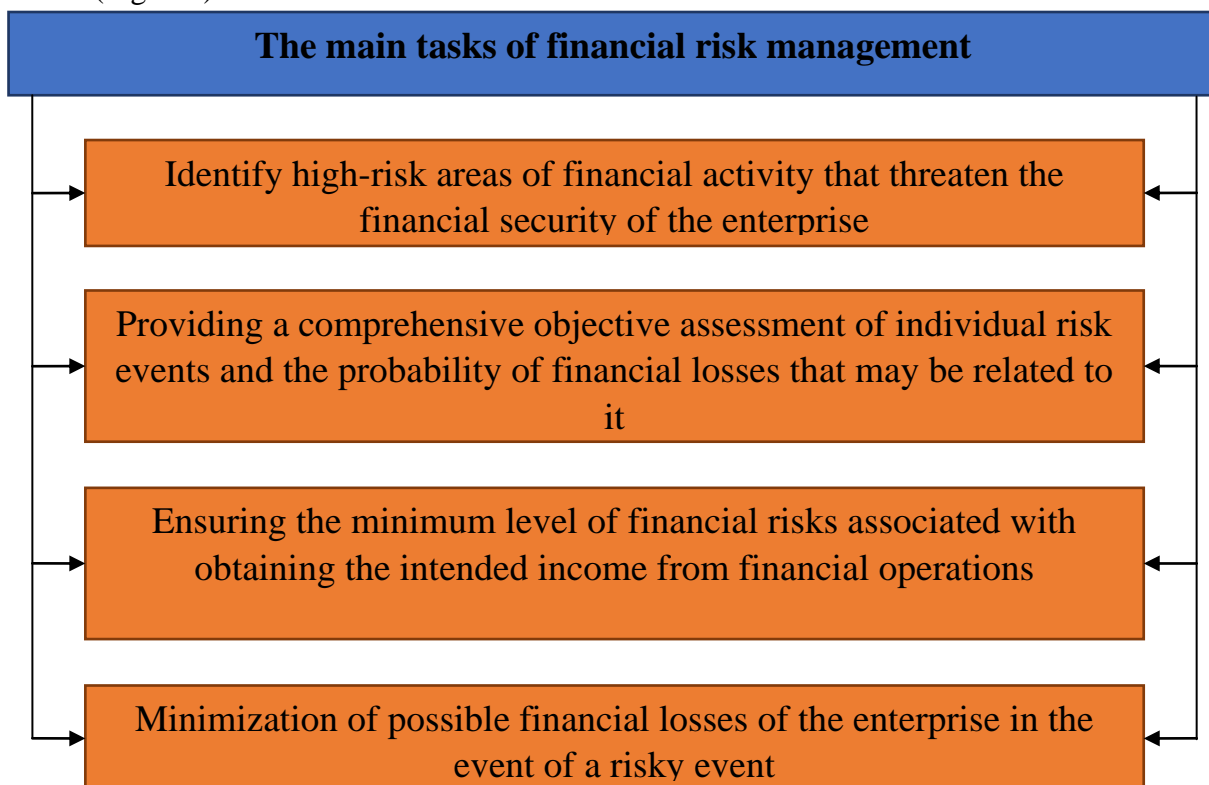


Figure 2. The main tasks of financial risk management ².

Figure 2 shows that one of the main tasks performed in the organization of risk management in enterprises is the identification of high-risk areas of financial activity that threaten the financial security of the enterprise. This, in turn, gives the company the opportunity to avoid high-risk areas and minimize risks. This will keep the company financially stable.

The next main task is to provide a comprehensive objective assessment of individual risk events and the probability of financial losses that may be related to it. This will determine how much the enterprise will be able to allocate its financial resources to different areas, how much profit it will receive and how much it will incur minimal losses . On the one hand, it ensures the financial security of the enterprise, and on the other hand, it ensures the financial stability of the enterprise.

²Blank I.A. Osnovi fininsovogo menendzhmenta (komplekt iz 2 knig)/Moscow: Mashinostroenie, 2014 . 264 c.



It is known that the level of risk is proportional to the level of income. That is, the risk of loss of income of a project with a lot of income will be correspondingly large. This situation is always taken into account when organizing enterprise risk management. The next main task is to ensure the minimum level of financial risks associated with obtaining the intended income from financial operations. The full implementation of this task will reduce financial losses in enterprises, and how much financial loss will be caused will be determined in advance, and target financial reserves will be formed accordingly. This also leads to stabilization of the company's financial situation. The next task of risk management is to minimize possible financial losses of the enterprise in the event of a risky event. This gives businesses the least amount of damage possible in the event of a financial loss. It is desirable to fully implement these tasks in enterprises.

Risk and profitability managed in the activities of enterprises are closely related management objects. Determining the future values of these two indicators is a key issue. It is known that the level of profitability and risk in the future activities of enterprises cannot be known 100% in advance. However, with the use of accurate data, it is possible to estimate the possible future results within a certain probability. Based on this, many methods of risk assessment in enterprises have been developed and scientifically substantiated by economists today. This methods the following two to the group our separation can :

- Risks of assessment statistics methods profitability standard deviation (s); Value at Risk method ; CVaR method .
- Risks of assessment an expert methods : rating methods ; score methods ; Delphi method .

In practice enterprises above risks of assessment methods desired from one use can Each method based on determined level of financial risk difference if it comes out, but in quantity to each other near comes out Profitability standard exclusion method in practice risks of assessment a lot occurring methods one to be is considered But this one method risks Value at Risk method of assessment is also used in the composition . So the "Value at Risk" method wider and relatively risks in assessment precision level high will be Because of this of the Value at Risk method below to himself special features about stopping let's go Value at Risk method some Monte Carlo cases It is also called method . This method essence full to open for the following from the table we use In the table conditional respectively valuable 11 days of paper cost and 10 days profitability level obtained (Table 2.2). This method based on risks of assessment essence it is Today's in the day valuable the paper known one amount buy when taken , one or one how many from the day after this valuable of paper market value the most a lot with how much to the amount cheaper leaving possible , in this enterprise this valuable paper for how much amount of risk possible represents

"Value at Risk" method based on level of risk to be determined to the truth How near to be , of information How a lot to be depends Scientists according to valuable paper level of risk determination for passed periods that's it valuable paper according to at least 250 days from the data use to the goal is appropriate .

Table 1



Precious paper buy get according to the risk evaluation³

| No | The date | Precious of paper market price (UZS) | Profitability (%) | Risk evaluation |
|----|----------------------------------|--------------------------------------|-----------------------------------|-----------------|
| | A | B | C | D |
| 1 | 24.12.2022 | 200 | - | - |
| 2 | 31.12.2022 | 210 | 5.00% | - |
| 3 | 07.01.2023 | 215 | 2.38% | - |
| 4 | 14.01.2023 | 200 | -6.98% | - |
| 5 | 21.01.2023 | 210 | 5.00% | - |
| 6 | 28.01.2023 | 220 | 4.76% | - |
| 7 | 04.02.2023 | 215 | -2.27% | - |
| 8 | 11.02.2023 | 225 | 4.65% | - |
| 9 | 18.02.2023 | 230 | 2.22% | - |
| 10 | 25.02.2023 | 220 | -4.35% | - |
| 11 | 03.03.2023 | 230 | 4.55% | - |
| 12 | Average profitability | | | 1.50% |
| 13 | Profitability standard exclusion | | | ±4.42% |
| 14 | Quantile (quantile) | | | -0.08789 |
| 15 | 04.03.2023 | P_{t+1} = 210 | Risk_{1 day} = 20 | 8.8% |
| 16 | 09.03.2023 | P_{t+5} = 185 | Risk_{5 days} = 45 | 19.7% |

Table 1 information analysis to do based on the following conclusion as we bring can :

- valuable papers according to average yield is equal to 1.5% was
- valuable papers according to average of profitability standard exclusion amount by ± 4.42%

equal to That is of this content valuable papers profitability next in periods by an average of ± 4.42% differentiation can

This amount risks of assessment standard exclusion method appropriate risk level the amount means This amount indicator in Microsoft Excel cell into or above table in cell D13 into STANDOTCLON (S2:S11) . input through determination can Quantile amount - 0.08789 ha equal to That is , quantile this level of risk means Otherwise by doing in other words , the quantile is this of profitability average quantity and of profitability standard exclusion amount is 99% probability with true , 1% chance with accepted as a mistake when done surface coming financial losses level is understood . This amount in Microsoft Excel cell into or above table in cell D14 into =NORMOBR (1 %;D 12;D13) . input through determination can

Enterprise buy received valuable of papers one from the day after expected possible the minimum value of quantile through as follows is determined .

$$P_{t+1} = (q + 1) \times P_t (1.1)$$

Here , P_t is valuable of paper in period t value ; P_{t+1} is valuable of paper in period t+ 1 the quantile account received without expected possible the minimum value of which is ;

³J. Kurbanov Methods of assessing financial risks in enterprises. Modern methods of corporate finance management: issues of application and development. Collection of materials of the republican scientific-practical conference. Tashkent, March 3, 2016.



Enterprise buy received valuable from k days of papers after expected possible the minimum value of quantile through as follows defined as :

$$P_{t+k} = (q\sqrt{k} + 1) \times P_t (1.2)$$

Here , k is defined risk period (short term period is obtained), P_{t+k} is valuable of paper t+k period the quantile account received without expected possible the minimum value of which is ;

Above table information according to if the company's finances on 03.03.2016 from the market valuable paper for 230 soums buy if , this valuable of paper one from the day then on 04.03.2016 in the market price the most a lot for 210 soums down leaving , the risk is 20 soums or 8.8% from 5 days and then on 09.02.2016 this valuable of paper in the market price the most a lot for 185 soums down leaving , the risk is 45 soums or 19.7 % can

Risk level determination enterprises financial in management important importance occupation is enough Financial risks right evaluation with risk for depends information more collect it is necessary Such data How a lot to be risk level in determining big help gives Other from the side while to everyone it is known risks of reduction main methods one information to be is considered In enterprises financial manager level of financial risk learned without financial risks reduction , financial risks as a result surface coming possible was financial losses reduce and in general when financial resources distribution according to efficient decisions acceptance to do such as done to increase can Because of this today's in the day enterprises in the activity surface coming possible was financial risks evaluation enterprises financial stability and competitiveness in providing important service we think it will .

Enterprises in practice risks in assessment , risk and profitability between mutual dependence analysis do it get important importance occupation is enough International in practice risks risk in assessment and profitability concept and his practical aspects separately research will be done . That's why for this paragraph risk through and profitability of the concept practical aspects analysis by doing we go out

Risk and profitability are considered one of the main concepts of financial management, and the theoretical basis of this concept was first studied in 1921 by the American economist Frank Knight (Frank H. Knight) in the work "Risk, Uncertainty and Profit" ("Risk, Uncertainty and Profit")⁴. Next is the concept of the relationship between risk and return was improved by other scientists. The essence of the concept is that there is a correct proportionality between the volume of any income received from the business and the level of risk that occurs at the same time, that is, the greater the volume of expected income, the higher the level of risk, or vice versa. Many financial asset valuation models (financial instruments of investment) and investment analysis methodology in the portfolio theory system are based on this concept.

- In the concept of risk and profitability, the concepts of "risk" and "profitability" are interpreted in their own way, and there are some similarities with the rates given to these concepts by other economic sciences.

⁴Kovolev V.V. Financial management: theory and practice. - 2nd ed., pererab. i dop., - Moscow: Prospekt, 2011. p. 252



- American economists James Van Horne (Jamec C. Van Horne) and John M. Vachowicz (John M. Vachowicz), authors of many literatures devoted to the theoretical foundations and practical aspects of financial management, interpret the concepts of risk and profitability as follows.

- The return on investment for a certain period (for example, one year) is determined by adding the change in the market price of the investment object to the income obtained as a result of the realization of the right to own the investment object, and dividing it by the initial price of this object ⁵. Tariffs are presented by economists, departing from theoretical approaches to rate the concepts of risk and profitability, and mainly approaching calculation methods in the practice of companies.

bought a stock worth 100 soums , this investment object will bring us income in the form of a dividend of 7 soums, and after a year its price will change to 106 soums. In this situation, the yield is $(7s+6s)/100s=13\%$. In this case, the investor has two sources of income: the income paid on the security and the income from the increase (or decrease) in its price.

Based on the above, profitability in financial management means the income received from an investment in a certain object and the change in its market price, and this indicator is usually expressed as a percentage of the initial price of the investment object. For ordinary shares, the return on ownership over a certain period (period t) is defined as:

$$R = \frac{D_t + (P_t - P_{t-1})}{P_{t-1}} \quad (1.3)$$

Here: R- expected (actual) profitability, D_t – dividends to be paid at the end of the period t, P_t – share price at the end of the ownership period, P_{t-1} – share price at the beginning of the t-1 period.

It should be noted that this formula allows not only to determine the real profitability of a share in a certain period, but also to calculate this indicator for the next period (based on the determination of the share price and the amount of paid dividends). The part (elements) of the formula given in parentheses means the increase or decrease of financial resources during this period. From the point of view of achieving the goal set before the financial management, risk is explained as the deviation of the expected results (income) from the investment in a certain field from the actual results . If an investment's return follows a normal distribution, then risk can be represented by its standard deviation. We can express this process by a mathematical formula as follows ⁶:

⁵Jamec C. Van Horne, John M. Vachowicz JR. Fundamentals of financial management. Eleventh edition. Prentice Hall, Inc., 2001 p. 141

⁶ON Hamdamov. Some aspects of the concept of risk and profitability in financial management." Economy and innovative technologies " scientific electron magazine . No. 5, September-October , 2016

$$Risk = \sqrt{\frac{1}{T-1} \sum_{t=1}^T (R_t - \bar{R})^2} \quad (1.4)$$

R_t - return of investment during t period (from 1 to T);

\bar{R} - average return on investment.

To better understand the content of this formula, we use the following conditional example. There is an investment project based on the following indicators, and we will answer the question of what the risk of this investment will be (example 2.1).

| Years | 1 | 2 | 3 | 4 | 5 |
|----------------------|----|----|---|---|---|
| Profitability (in %) | 10 | -2 | 0 | 5 | 7 |

on investment for the last five years is 4%, i.e. ($T=5$, $R(1)=10\%$, $R(2)=-2\%$, $R(3)=0\%$, $R(4)=5\%$, $R(5)=7\%$). So, we take the basic rate of return as 4% and determine the answer to the problem as follows.

$$Risk = \sqrt{\frac{1}{5-1}(10-4)^2 + \frac{1}{5-1}(-2-4)^2 + \frac{1}{5-1}(0-4)^2 + \frac{1}{5-1}(5-4)^2 + \frac{1}{5-1}(7-4)^2} = \sqrt{24.5} = 4.95$$

Based on the above calculation, although the total annual return of this investment is 4% on average, no real return in the past period has shown the expected result. We can see that the rate of return in years 1, 4 and 5 is higher than expected (positive risk) and, conversely, the real rate of return in years 2 and 3 is lower (negative risk). Such fluctuations, that is, deviations from the average amount (from the expected result), reflect the essence of risk in financial management. Based on the definitions provided by economists, in our opinion, financial risk is the probability of negative consequences such as loss of income and financial resources in the implementation of economic and financial activities by enterprises in the conditions of uncertainty of the external environment. If the return on an investment follows a normal distribution and the investor has no preference for higher or lower risks, then the standard deviation is a true measure of risk in such a process.

- We can reflect our example given above in the form of a table as follows (Table 2). This table is prepared by the author based on the conditional example given above.

- *standard deviation* as a measure of risk in financial management is that it allows to study the statistical properties of the investment. This, in turn, provides an opportunity to estimate the probability of profit at the specified rate. To better understand the content of the above sentences, let's give the following example (example 2.2). Question 1: In Example 1 above, what is the probability that the investor will have a 10% return on his investment ?

Question 2: What is the probability that the investor will not lose his investment?

Table 2

Analysis of investment profitability and risk level⁷

| Year | Profitability (%) | Deviation = (Return - Mean Return) | Square deviation |
|---------------------------|-------------------|------------------------------------|------------------|
| 1 | 10 | 6 | 36 |
| 2 | - 2 | - 6 | 36 |
| 3 | 0 | -4 | 16 |
| 4 | 5 | 1 | 1 |
| 5 | 7 | 3 | 9 |
| Total | 20 | | 98 |
| Average | 4 | | 24 , 5 |
| Standard Deviation | | | 4 , 95 |

Question 1 in the example can be answered as follows. The formula for determining the probability of the expected result (income) can be expressed as follows ⁸:

$$\text{Prob}(x) = \frac{1}{\sqrt{2\pi\sigma^2}} e^{-\frac{(x-\mu)^2}{2\sigma^2}} \quad (1.5)$$

Here: m - average profitability; s - standard deviation; is the result of x-function;

Based on the condition of the problem, m =4%; x=10%; s = 4.95. Based on the formula (2), we can determine the following.

$$\text{Prob}(x) = \frac{1}{\sqrt{2\pi\sigma^2}} e^{-\frac{(x-\mu)^2}{2\sigma^2}} = \frac{1}{\sqrt{2 \times 3,1416 \times 24,5}} \times e^{-\frac{(10-4)^2}{2 \times 24,5}} = \frac{1}{153,9384} \times 2,71^{-0,734} = 0,038$$

b based on the conditions presented in example 1 , the probability of the investor getting a 10% profit in this situation is equal to 0.038.

Regarding question 2 of the example, the probability of no loss for the investor is equal to the probability that the return on the investment is 0% or higher. Taking into account that the normal distribution curve is symmetrical about the mean, we can say that the probability of return on the investment is 4%, and the probability of it being higher can be 50%. So what is the

⁷ON Hamdamov. Some aspects of the concept of risk and profitability in financial management." Economy and innovative technologies " scientific electron magazine . No. 5, September-October , 2016

⁸ON Hamdamov. Some aspects of the concept of risk and profitability in financial management. Scientific electronic magazine "Economy and innovative technologies". No. 5, September-October, 2016



probability of an investment return between 0 and 4%? To answer this question, we can determine the value of z as follows:

$$z = \left| \frac{\chi - \mu}{\sigma} \right| (1.6)$$

In our example $z = (0 - 4) / 4,95 = 0,808$

Using the Standardized Normal Distribution table, we can determine that the probability of an investment return between 0% and 4% is 0.291. Therefore, we consider the probability that investors will not suffer from losses in this situation equal to 0.791 (0.5+0.291).

CONCLUSION

To sum up, it is an objective phenomenon that companies face risk in their activities, which can be caused by changes in consumer wishes and demand for the company's products, changes in commodity prices, the entry of new competitors into the market, and several other factors. Company and corporation managers tend to take risks in pursuit of higher returns and accept them as the price of doing business. However, like any other cost, these risks must be managed and properly evaluated to reduce the impact on the company's value. Recently, a number of insurance companies in our country offer business entities insurance for financial risks arising in their activities.

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