

Development of Methods of Evaluating Companies Taking Into Account Regional Risk Factors

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Abstract — A variety of goals, participants, objectives of an evaluation activity determines the ongoing development of methods and approaches to business valuation. At the same time, there are specific advantages and disadvantages for each method and approach to valuation activity. The disadvantage of the income approach is the subjectivity of the quantitative evaluation of qualitative components of the cumulative discount rate, which significantly affects the possibility of scientific substantiation of the results. In addition, it was revealed that due to the differentiation of the level of economic development and investment attractiveness of regions of the Russian Federation, it is necessary to consider not only internal factors (related to the results of financial and economic activities of the enterprise), but also external ones (related to regional business conditions). The authors developed a quantitative model of determining qualitative indicators of risks inherent in the enterprise in order to improve the methodology for assessing rates of return, which form a cumulative discount rate and meet the requirements of conducting valuation activities, such as the need for quantitative calculation of all characteristics, regardless of the fact how easily they can be accurately measured. As a result of the establishment of a correlation dependence of the indicators of financial and economic activity of a business, regional risks and relevant rates of return, the authors proposed a method that allows to obtain a scientifically-based conclusion about the current value of an enterprise operating in a specific region and not having shares listed on the stock exchange. The developed methodology for estimating the value of regional companies will make it possible to single out the most significant factors adversely affecting the dynamics of business value and the formation of the region's investment attractiveness.

Keywords — *enterprise value management, risk valuation, investment attractiveness of the region, regional risk, cumulative discount rate*

I. INTRODUCTION

The actual economic situation, associated with a high degree of fluctuations of market conditions, provides an increase in the need to assess the business with numerous complex options for realizing the value of property rights. Growth of the market value of an enterprise is a strategic goal not only for a commercial business, but also for the development of the regional economy and the Russian Federation as a whole. That is why trends in the market value of a business should be constantly diagnosed in order to establish and neutralize negative factors affecting both the impossibility of achieving the long-term strategic goals of the organization and the deterioration of the investment climate in the region.

The investigation of literature on the theme of business valuation written by such authors as A.G. Gryaznova [1], L.S. Vasiliev [2], A. Damodaran [3], M.R. Dzagoeva [4], O.S. Zvyagintsev [5], D. R. Hitchner [6], D. Roch [7] suggests that the income approach, based on evaluation of a future cash flow, is the most widely used algorithm for determining of the value of a business. This method is applicable to almost any type of an enterprise, focused on determining the possible dynamics of the business value and payback period of investments.

It should be noted that the main disadvantage of the method of determining the discount rate based on the Capital Asset Pricing Model (CAPM), based on the analysis of stock market information about changes in the yield of freely tradable shares, is the fact that it was investigated under a number of assumptions [1]. The main ones are: the assumption of the availability of an efficient capital market, perfect competition of investors, high liquidity of company shares. In the current Russian conditions, the CAPM model is not applicable for assessing the majority of regional companies whose shares are not freely tradable ones and for which it is difficult to select comparable enterprises among those listed on the stock exchange. The foregoing necessitates the use of a

cumulative method of determination of the discount rate for regional enterprises.

At the same time, the existing algorithm for calculating the cumulative discount rate is based on an expert method for quantitative evaluating of qualitative components, which implies a high proportion of subjectivity in making the necessary conclusions. This factor makes a determined quantitative value of the discount rate controversial due to the lack of an objective scientific substantiation of a rate of return of a business, which should cover the cost of risks inherent in an enterprise. Risk is «the probability of occurrence of conditions that will lead to negative economic consequences. Negative consequences can be the loss of a part of resources, lost revenue, the appearance of additional expenses, losses, and the closure of investment projects». [8]

The postulate [1] put forward by authoritative practitioners in the field of financial management D. Norton and R. Kaplan lies at the heart of risk and value management of a company, that only what can be quantified can be managed. Thus, the problem that is relevant for valuation activity is an objective determination of the quantitative determination of the risks inherent in a business. The existing problem determines the purpose of this study: improving the methodology for determining the quantitative determination of qualitative indicators of the cumulative discount rate.

To achieve this goal, the following tasks were solved: to investigate existing methodologies for assessing financial and non-financial risks, to identify their advantages and disadvantages; to investigate the factors which are typical for enterprises risks; to determine the qualitative correlation of risks and key indicators of the enterprise activity; to explore the impact of the investment climate of the region on the activities of business entities; to develop a mathematical model for quantifying the inherent risks of an organization.

II. MATERIALS AND METHODS (MODEL)

According to the research in the field of business valuation by A.G. Gryaznova [1], the discount rate determined by the cumulative construction method is the sum of such factors as a risk-free rate, quality of company management, a factor of financial structure, a factor of commodity-territorial and production diversification, a factor of consumer diversification, a profit quality factor, other risks. All factors, with the exception of the risk-free rate, are determined by an expert method (in scores from one to five). The sum of these factors is the value of the discount rate.

This methodology does not involve consideration of such financial risks as the risk of financial stability, a liquidity risk, which are the main criteria of an investment project. A valuation of profit quality risk is an analysis of the results of financial and economic activities and involves the determination of deviations in profitability indicators of an enterprise relative to market average values. These risks are internal to the studied investment project, since they characterize the efficiency of the financial structure used and the quality of the company's management in ensuring a high and stable rate of return for shareholders.

The result of investing is influenced by many different factors, therefore, in order to make a decision, an investor first needs to conduct a comprehensive evaluation of not only the internal risks of the investee, but also the development of a market infrastructure that promotes regional product exchange, which implies lower transaction costs, thereby ensuring a higher rate of return. Market infrastructure is a complex of elements, institutions and types of activity that create organizational and economic conditions for the functioning of the market. The key indicator characterizing the ability of the market infrastructure to ensure effective relationships between producers of goods and their direct consumers is the region's investment climate, which can be quantified by its investment risk [5]. Thus, the regional investment risk, which characterizes the commodity-territorial and consumer diversification of the conditions for doing business, is the most important factor in determining the effectiveness of investment activity in each specific region.

The conducted study allows to conclude that there is a qualitative correlation between the indicators of financial and economic activity, market infrastructure and risks inherent in the activities of a business. The above implies the use of a model for determining the qualitative and quantitative interrelationships between the financial analysis indicators, business conditions of the region and the relevant rates of return required to cover the risks inherent in the investee.

Thus, the method of determining the cumulative discount rate, which characterizes the degree of influence of the main financial and market risks, will take the following form.

$$i = R_{rf} + R_{inv} + R_{fs} + R_{pq} + R_{liq} \quad (1)$$

Where, i – a discount rate, R_{rf} (risk-free) – a risk-free rate, R_{fs} (financial stability) – a financial sustainability risk premium, R_{pq} (profit quality) – a premium for risk of deviation of profitability from average market indicators, R_{liq} (liquidity) – a liquidity risk premium and financial structure of the subject property, R_{inv} (investment) – a premium for investment risks of doing business in the conditions of the region.

A. *Risks inherent in the financial and economic activities of the enterprise (internal risks)*

Evaluation of the financial risks of the business activity implies an analysis of the possible stability of the organization's position in changing market conditions, which is the ability to ensure all the commitments made. This evaluation involves the analysis of solvency and financial stability of the object under study. [8]

The risk of loss of liquidity, which is manifested in the inability of the enterprise to repay its debts to creditors on time, is also called the solvency of the enterprise. In contrast to solvency, payment ability also takes into account the possibility of repaying the debt not only from cash and fast liquid assets, but also from medium-liquid and illiquid assets. [9]

TABLE I. DEGREE OF RISK OF LIQUIDITY RELATING TO THE TYPE OF LIQUIDITY OF BALANCE

Type of Liquidity	Degree of Risk
Absolute liquidity (optimal)	Minimum risk
Normal liquidity (allowable)	Risk tolerance
Broken liquidity (insufficient)	Critical risk
Crisis (invalid)	Maximum risk

Source: compiled by the authors [9].

The analysis of relative liquidity ratios characterizes the ability of an enterprise to repay its debts with the help of various types of assets: quick, medium and low liquidity.

TABLE II. CRITERIA FOR DETERMINING THE DEGREE OF RISK OF LIQUIDITY

Relative Indicator	Range	
	Minimum	Maximum
Absolute liquidity ratio (K_{al})	0,5 and above	0,2 and below
Quick liquidity ratio (K_{ql})	1,0 and above	0,7 and below
Current liquidity ratio (K_{cl})	3,0 and above	2,0 and below

Source: compiled by the authors [10].

To value the liquidity risk, it is necessary to evaluate and compare with standard values of basic liquidity ratios: current liquidity ratio, absolute liquidity ratio and quick liquidity ratio. [10]

The risk of profit quality characterizes the ability of an enterprise to generate stable results. The most attractive for an investor are companies whose profits correspond to the industry average value. It is advisable to value the quality of the profit of the enterprise using the method of average industry profitability of assets and capital. Key indicators ROA (Return on Assets) and ROE (Return on Equity) contain all the risks inherent in the industry of the estimated company and are used for evaluation of profit risks [9].

The methodology of the quantitative evaluation of internal risks, based on the quantitative expression of risk in the form of a score proposed by the expert in the field of business valuation A.G. Gryaznova [1], and the revealed correlation dependence of the indicators of the rate of return and factors for the implementation of the enterprise's activity, will be presented as follows.

TABLE III. THE METHODOLOGY OF THE QUANTITATIVE EVALUATION OF INTERNAL RISKS

Factors	Quantitative Evaluation (scores)	Type of Risk	Method of Quantitative Evaluation of Indicators
Profit quality factor	From 1 to 5	Profit quality risk	Analysis of deviations of profitability indicators of the studied business from industry average indicators
Quality of company management; financial structure factor	From 1 to 5	Financial stability risk	Analysis of deviations of financial stability indicators of the business being studied from recommended values
		Liquidity risk	Analysis of deviations of liquidity indicators of the studied business from the recommended values

Source: compiled by authors based on [1].

Score of quantitative expression of liquidity risk (R_{liq}) will be determined by the following equation:

$$R_{liq} = (R_1 + R_2) / 2 \tag{2}$$

R_1 – a coefficient characterizing absolute liquidity ratios, R_2 – a coefficient characterizing relative liquidity indicators.

$$R_1 = \begin{cases} 1; \text{at optimal type of liquidity} \\ 2,3; \text{in the permissible level of liquidity} \\ 3,7; \text{in case of insufficient type of liquidity} \\ 5; \text{in an unacceptable type of liquidity} \end{cases} \tag{3}$$

$$R_1 = \begin{cases} 1; \text{when } K_{al} (\geq 0,5), K_{ql} (\geq 1,0), K_{cl} (\geq 3,0) \\ 5; \text{when } K_{al} (\leq 0,2), K_{ql} (\leq 0,7), K_{cl} (\leq 2,0) \\ \text{from 1 to 5} = \frac{f(K_{al}) + f(K_{ql}) + f(K_{cl})}{3} \end{cases} \tag{4}$$

$$f(K_{al}) = 5 - \frac{K_{al} - K_{al_{min}}}{(K_{al_{max}} - K_{al_{min}}) / 4} \tag{5}$$

$$f(K_{ql}) = 5 - \frac{K_{ql} - K_{ql_{min}}}{(K_{ql_{max}} - K_{ql_{min}}) / 4} \tag{6}$$

$$f(K_{cl}) = 5 - \frac{K_{cl} - K_{cl_{min}}}{(K_{cl_{max}} - K_{cl_{min}}) / 4} \tag{7}$$

Where, K – a liquidity ratio resulting from financial valuation, K_{max} – a coefficient characterizing minimal liquidity risk, K_{min} – a coefficient characterizing the maximum liquidity risk.

Score quantification of a profit quality risk (R_{pq}) will be determined by the following equation:

$$R_{pq} = (f(ROA) + f(ROE)) / 2 \tag{8}$$

$$f(ROA) = \begin{cases} 1; \text{when } ROA \geq ROA_{average} \\ 5; \text{when } ROA \leq 0 \\ \text{from 1 to 5} = 5 \times \frac{|ROA - ROA_{average}|}{ROA_{average}} \end{cases} \tag{9}$$

$$f(ROE) = \begin{cases} 1; & \text{when } ROE \geq ROE_{\text{average}} \\ 5; & \text{when } ROE \leq 5 \\ \text{from 1 to 5} = 5 \times \frac{|ROE - ROE_{\text{average}}|}{ROE_{\text{average}}} & \end{cases} \quad (10)$$

Where, ROA, ROE – profitability indicators of the evaluated company, ROA_{average} , ROE_{average} – average profitability indicators of the studied industry.

The risk of negative change of financial stability of the enterprise characterizes the violation of accordance between the possibilities of financing sources and the required material assets for doing business. Risk assessment of the financial stability of an enterprise based on absolute indicators is carried out by forming a three-component vector characterizing the type of financial situation. [11]

$$S(F) = (S(\pm F_o); S(\pm F_{ol}); S(\pm F)) \quad (11)$$

Where, F_o – the excess of sources of own current assets, F_{ol} – the excess of sources of own funds and long-term borrowed sources, F - the excess of the total value of all sources for the formation of reserves and costs. The values of the components are determined on the base of the indicators of the excess: $S(\pm F) = 1$, when $F > 0$; 0, when $F < 0$.

TABLE IV. CRITERIA FOR DETERMINING THE DEGREE OF RISK OF FINANCIAL STABILITY

The Excess:	Financial Stability			
	Absolute	Acceptable	Intermittent	Crisis
F_o	1	0	0	0
F_{ol}	1	1	0	0
F	1	1	1	0

Source: compiled by authors based on [11].

The score of the quantitative expression of the risk of financial stability (R_{fs}) will be evaluated by the following system of equations:

$$R_{fs} = \begin{cases} 1, & \text{when } F_o(1); F_{ol}(1); F(1) \\ 2,3, & \text{when } F_o(0); F_{ol}(1); F(1) \\ 3,7, & \text{when } F_o(0); F_{ol}(0); F(1) \\ 5, & \text{when } F_o(0); F_{ol}(0); F(0) \end{cases} \quad (12)$$

B. Regional investment risk (external risks)

A typical investor, despite the desire for high returns, also expects the stability of investments to the maximum extent possible. Thus, it is advisable to raise the question about the relationship between risk and return on investment. In practice, various measures of risk are used, but the most common indicator of risk is the standard deviation of return.

American economist G. Markowitz in the early 1950s. developed a scientific model of investment diversification based on a completely new approach to the concept of «market risk». As a measure of risk, G. Markowitz proposed

using the standard deviation of return from the average value determined over a given period of time. [12] Economically, this means that the concept of risk includes not only possible losses from a change in the price of an investment project in comparison with its projected level, but also possible additional income.

It should be noted that when assessing the investment risks of a region, it is necessary to take into account not only the change in the volume of investments involved in its economy, but also the economic effect they bring to development [5]. This indicator is expressed by the ratio of the Gross Regional Product (GRP) to the volume of investments, and it is a measure of profitability in assessing the investment risk of a region. Thus, the evaluation of the investment attractiveness of the region should be carried out from two positions: the level of investment returns and investment risk. It is possible to take adequate decisions regarding the investment attractiveness of the region only when evaluating these indicators in a relationship.

$$r_{\text{reg}} = \frac{GRP_{\text{reg}}}{I_{\text{reg}}} \quad (13)$$

Where, r_{reg} – return on investment of the studied region, GRP_{reg} – regional Gross Regional Product indicator, I_{reg} – volume of investments in the region.

The standard deviation of return, as a measure of investment risk, will be determined by the following formula. [5]

$$\sigma = \frac{\sum_{i=1}^N (r_{\text{reg}_i} - \bar{r})^2}{N-1} \quad (14)$$

Where, σ – standard deviation, N – the number of years of

the analyzed period.

Based on the score of risk evaluation proposed by A.G. Gryaznova [1] and the revealed dependence of the components of the cumulative discount rate and risk factors, the methodology for assessing the regional investment risk (R_{inv}) will be presented as follows.

TABLE V. METHOD OF QUANTITATIVE DETERMINATION OF THE EXTERNAL RISKS OF THE ENTERPRISE

Factor	Quantitative Evaluation (scores)	Type of Risk	Quantitative Evaluation (scores)
The factor of commodity-territorial diversification	From 1 to 5	Regional investment risk	From 1 to 15
Production diversification factor	From 1 to 5		
Consumer diversification factor	From 1 to 5		

Source: compiled by authors based on [1].

The score of the quantitative risk evaluation will be determined by the following equation:

$$R_{inv} = \frac{f(r_{reg}) + f(\sigma)}{2} \quad (15)$$

$$f(r_{reg}) = 15 \times \left| r_{reg} - r_{reg_{max}} \right| / r_{reg_{max}} \quad (16)$$

$$f(\sigma) = 15 - (15 \times \left| \sigma - \sigma_{max} \right| / \sigma_{max}) \quad (17)$$

Where, σ – standard deviation of the studied region, σ_{max} – maximum standard deviation of return among regions, r_{reg} – rate of return-investment of the studied region, $r_{reg_{max}}$ – maximum rate of return-investment among the regions under consideration.

C. Risk-free rate of return

The risk-free rate of return is the rate of return of a hypothetical investment project without the risk of financial loss over a certain period of time. Since the risk-free interest rate can be acquired without any risk, the rate of return from any other investment must be higher in order to attract the investor. In practice, to find a risk-free interest rate, a risk-free bond is selected, that is, a bond issued by a government or an authority whose risks of non-payment ability are too low to be significant. [2] Thus, the proposed method of determining the value of the cumulative discount rate meets the requirements for conducting valuation activities, such as the need for a quantitative calculation of all characteristics, no matter how simply they are amenable to accurate measurement. The algorithm for determining qualitative risk indicators in quantitative terms is an economically sound approach, involving the establishment of a correlation between representative indicators of the financial activities of an organization, the existing market infrastructure and the risks typical for these conditions.

III. RESULTS AND DISCUSSION

The presented methodology for assessing the risks inherent in an enterprise was tested in determining the value of an enterprise that is a manufacturer of oil-loading equipment. The estimated business is located in the Volgograd region.

A. Internal risk assessment

TABLE VI. VALUES OF INDICATORS OF FINANCIAL ASSESSMENT OF THE ENTERPRISE ON DECEMBER 31, 2017

Indicator	Value
Three-component model for assessing financial stability	0 (F _o); 0 (F _{ol}); 0 (F)
Balance ratios of liquidity of assets and liabilities	A1 < P1; A2 < P2; A3 > P3; A4 < P4
Relative liquidity ratios	K _{al} = 0,025; K _{ql} = 0,317; K _{cl} = 1,074
Profitability ratios	ROA = 2,23%; ROE = 15,38%

Source: calculated by the authors based on [13].

It can be concluded that there is a high degree of liquidity risk corresponding to a rate of return of 4,35% and a high risk of financial sustainability corresponding to a rate of return of

5% on the basis of relative and absolute indicators of liquidity and financial stability of an enterprise.

TABLE VII. DETERMINATION OF THE INTERNAL RISKS OF THE ENTERPRISE ON DECEMBER 31, 2017

Risk Indicator	Quantitative Risk Evaluation
R _{fs}	R _{fs} = 5, т.к. F _o = 0; F _{ol} = 0; F = 0
R _{liq}	R _{liq} = (R ₁ + R ₂) / 2 = (3,7 + 5) / 2 = 4,35 R ₁ = 3,7 (lack of liquidity); R ₂ = 5 (when K _{al} ≤ 0,2; K _{ql} ≤ 0,7; K _{cl} ≤ 2,0)

Source: calculated by the authors.

We have defined the risk of the quality of profit of the enterprise based on a comparative analysis of the profitability of total assets and return on equity with similar indicators of the main competitors.

TABLE VIII. DEVIATION OF THE PROFITABILITY INDICATORS OF THE ENTERPRISE FROM THE AVERAGE MARKET VALUE ON DECEMBER 31, 2017

Indicator	Evaluated Enterprise	Competitor's Indicators	Deviation
ROA	2,23%	7,88% 35,29%	-12,9%
ROE	15,38%	12,83% 9,96%	2,7%

Source: compiled by authors based on [13].

Thus, the risk of profit quality will be defined as follows.

TABLE IX. DETERMINATION OF INTERNAL RISKS OF THE ENTERPRISE ON DECEMBER 31, 2017

Risk Indicator	Quantitative Risk Evaluation
R _{pq}	R _{pq} = (f(ROA) + f(ROE)) / 2 = (4,26 + 1) / 2 = 2,63 f(ROE) = 1, because ROE ≥ ROE _{average} R _{inv} = 5 × 2,23 - 35,29 / 15,13 = 4,26

Source: calculated by the authors.

B. External risk evaluation

The evaluated company and its main competitors are located in the regions of the Southern Federal District (hereinafter referred to as the SFD). In this connection, it is advisable to assess the investment risk of comparable regions, based on the rates of return on investments and their deviations from the average values for the regions of the Southern Federal District for the period 2014-2017. [5]

TABLE X. REGIONAL INVESTMENT RISK FOR THE REGIONS OF THE SFD FOR THE PERIOD 2015-2017

Name of the Region	The Average Value of Investment Returns for the Period, mln. rub. (R _{reg})	Standard Deviation, mln. rub. (σ)
Republic of Adygea	4,87	0,39
Astrakhan region	2,77	0,16
Krasnodar region	3,60	0,98
Republic of Crimea	4,65	2,35
Rostov region	4,23	0,53
Republic of Kalmykia	3,66	1,74
Volgograd region	4,48	1,20

Source: calculated by the authors based on [14].

By analyzing the data obtained, it can be noted that the greatest investment risk is characteristic of the Republic of Crimea, the lowest investment risk is characterized by the investment climate of the Astrakhan region. At the same time,

for the Republic of Crimea and the Astrakhan region, the highest and lowest rates of return on investments are the characteristic.

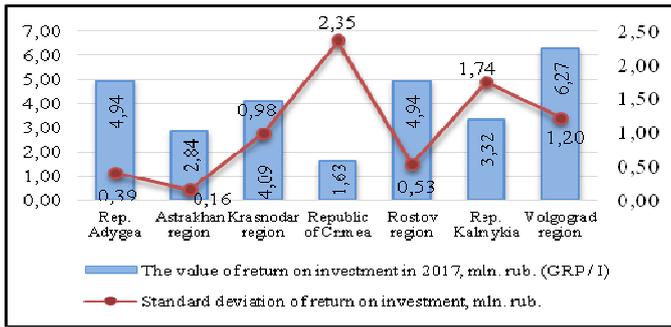


Fig. 1. Investment risk and return on investment of the regions of the Southern Federal District for the period 2014-2017

The quantitative evaluation of investment risk for the Volgograd region will be defined as follows.

TABLE XI. DETERMINATION OF THE EXTERNAL RISKS OF THE ENTERPRISE ON DECEMBER 31, 2017

Risk Indicator	Quantitative Risk Expression
R_{inv}	$R_{inv} = \frac{f(r_{reg}) + f(\sigma)}{2} = \frac{1,2 + 7,65}{2} = 4,43$
	$f(r_{reg}) = 15 \times (4,48 \times 4,48 - 4,87 / 4,87 = 1,2)$
	$f(\sigma) = 15 - (15 \times 1,20 - 2,35 / 2,35 = 7,65)$

Source: calculated by the authors.

The cumulative discount rate, defined as the sum of the rates of return required to cover the internal and external risks inherent to the enterprise, will be 24.84%. At the same time, the greatest share in the formation of the discount rate of the studied company consists of indicators of financial stability risk (20%) and liquidity risk (18%).

TABLE XII. REGIONAL INVESTMENT RISK BY THE RETURN INDICATOR FOR LAF REGIONS FOR THE PERIOD 2015-2017

Risk Rate	Return Rate
Risk-free rate of return ^a	8,43
Regional investment risk (R_{inv})	4,43
Profit quality risk (R_{pq})	2,63
Financial stability risk (R_f)	5,00
Liquidity risk (R_{liq})	4,35
Total:	24,84

Source: compiled by the authors.

^a As an effective rate of return of Federal loan bonds-PK 29011

Obtained results allow us to conclude that in order to increase the value of the business, the enterprise's management needs to address the problems associated with a significant excess of the liabilities of the company over the value of the assets used. In addition, it is advisable to make an inventory of the sources of capital formation of the enterprise in order to reduce costs and improve the financial sustainability of the business in the future. The proposed activities will allow the company to increase the value of the business.

In addition, it was investigated that, despite the high rates of return on investment of the Volgograd region, the region also has a high standard deviation of return associated with the disproportionate dynamics of investment and GRP growth. Due to the fact that this risk is external to the object being assessed, the impact on it by the organization is largely not possible.

IV. CONCLUSION

The study revealed that the existing methodology for evaluation of a business is highly subjective. This subjectivity is associated with difficulties in establishing a quantitative evaluation of the qualitative characteristics of the risks used in determining the magnitude of the required rate of return. To improve the methodology for determining the market value of a business, it was proposed to assess the internal (associated with the results of financial and economic activities of the organization) and external (related to the operation of an enterprise in a particular region) risks characteristic of the business being studied, based on the establishment of a qualitative correlation of indicators of the financial condition of the enterprise, business conditions in the region and the associated risks. Based on the presented correlation of the external and internal risks of the organization, we get a fairly simple numerical basis for assessing the rate of return on business.

Due to the fact that the proposed methodology is based on an evaluation of uniquely identifiable indicators, its use can significantly improve the validity and objectivity of the results obtained. In addition, for effective management of business value, it is possible to diversify risks to manageable (internal) and not amenable to significant impact (external), further detailed analysis of the contribution level of each controlled component of the discount rate with the aim of making appropriate management decisions aimed at minimizing their negative impact on the cost of regional companies.

It should be noted that despite an objective approach to determining the value of a business, this model has the disadvantage of taking into account the specific nature of the activities of each enterprise. The method of determining the value of a business proposed by A.G. Gryaznova [1] assumes that such risks are accounted for in the form of the «other» category. Similarly, the model proposed by the authors for qualitative determination of the magnitude of risks inherent in a business can be supplemented with additional business-specific rates of return. Thus, in order to further development of the model, it is necessary to continue research and development of a quantitative risk evaluation model and establish a business value, taking into account the industry specifics of each enterprise.

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