

The calculation of the financial solvency of economic entities in terms of economic sanctions

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Abstract. The article is devoted to the critical rethinking of the applied methodology of determining the probability of bankruptcy (consistency) of economic entities under economic sanctions against the Russian Federation. The author concluded discrepancy currently in methods and techniques in their application in the Russian Federation and was offered his own method of determining the viability of domestic companies (companies and organizations).

Keywords: Probability of bankruptcy, solvency, liquidity of the company, financial stability, solvency.

INTRODUCTION

Currently in Russia today, the economic crisis caused by the use of international economic sanctions in the country continue to apply methods for determining the consistency of economic entities, developed by Western scholars - economists. According to the author of the above mentioned methods do not meet the realities of the currently prevailing in the economic environment of the country. After analyzing the methodology for determining the solvency (bankruptcy) of enterprises developed by domestic and foreign experts, we propose a new model for determining the probability of bankruptcy businesses. This model includes both classical component, as amended, with respect to current conditions, and a new block coefficient taking into account the impact of external and internal factors on the result of the evaluation of the entity and the likelihood of bankruptcy in the medium term.

The proposed model for the evaluation is as follows:

$$ZR = 7K1R + 7K2R + 12K3R + 8K4R + 4K5R + 4K6R + 7K7R \pm 7K8R + 4K9R + 7K10R + 7K11R + 9K12R + 8K13R + 9K14R^1 \quad (1)$$

where:

- K1R - share of net working capital in assets;
- K2R - the ratio of accumulated profit to assets;
- K3R - economic return on assets;
- K4R - the ratio of the value of shares issued to the borrowings of the enterprise;
- K5R - business activity (asset turnover);
- K6R - current ratio;
- K7R - own funds ratio;
- K8R - financial profitability ratio (coefficient changes sign, in the case of negative values of the numerator and denominator);
- K9R - coefficient commercial margin;
- K10R - factor of social stability;
- K11R - the coefficient of stability of the national currency;
- K12R - a promotional rate of development of the national economy;
- K13R - stock index state of the national economy;
- K14R - the coefficient of stability of the tax component.

¹Kaledin S.V. Disadvantages techniques E. Altman and the author's method of determining the probability of bankruptcy of economic entities

in the Russian Federation. Disadvantages techniques E. Altman and authoring method of determining the probability of bankruptcy of economic entities in the Russian Federation. Italian Science Review. 2013; 14 (2). Available at URL: <http://www.ias-journal.org/archive/2014/april/Hammil.pdf>, p.113

Criteria for assessing the probability of bankruptcy of the proposed method

Subject to the criterion estimates the classic indicators of the probability of bankruptcy, maintaining stability in the national, sectoral economics, business economics ZR ratio will be equal to 100 units (or 100%), that is, score of 100% is a kind of Rubicon between security and the probability of bankruptcy. It is possible to conjecture about the "zone of relative probability of bankruptcy" by increasing or decreasing the figure of 100% by 20%. Thereby it is assumed logical to consider the probability of bankruptcy of the company, subject to the following inequality:

$$80\% > ZR > 120\%^2 \quad (2)$$

Here and below a critical rethinking of modern techniques in determining the solvency (bankruptcy) for the sake of simplicity, the problem the author will apply with respect to "the five-factor model to estimate the probability of bankruptcy E. Altmana."

It seems appropriate to comment on how "work" factors included in the ZR, in the Russian economy (Avetisyan et al., 2010).

So, if you look at the first factor affecting the value of the resulting coefficient ZR - K1R - share of net working capital in assets, it is impossible not to notice that K1R the more, the greater the str.1200 f.1 (balance sheet). Also, you can increase K1R reducing the denominator, but that would mean a decrease of scale, which, of course not acceptable. If you critically evaluate the value of p. 1200 (current assets), the following should be noted: The composition of this line consists including:

Finished products are in stock: This begs the question, and whether such products are not in demand and the company has to work "for warehouse"? When building this indicator can create the illusion of increasing working capital, which in fact is "dead capital" in the economic turnover is not involved. Requires additional analysis of products, market research, demand for its products, additional marketing research (influenced by subjective human factor, which is not provided by the formula) that may "pull" for a change in pricing policy, the additional capital investment, and as a result, significant impact on the final results of financial and economic activity of an economic entity.

Goods shipped but not paid: Here, too, is appropriate to put a number of questions. Will there be a charge? If so, when? A fetus is not whether we have the potential receivables? Should work on a prepaid basis, according

to preliminary applications and contracts? May require an urgent change in accounting policy? But this, including eventually lead us to the final results, the tax base, the replenishment of the state budget. And in this case the value of the index K1R affect subjective human factor formula E. Altmana as the most and are known and used in economic practice does not take into account not taken into account this factor and traditional techniques.

VAT on acquired assets: Very moving line in the balance sheet depends on the legislator. For the business entity is an objective, external factors and formula E. Altmana as other techniques, this fact is not considered.

Raw materials: Minimum balance and an increase in raw materials in warehouses in simple reproduction suggests building illiquid assets in warehouses with all the ensuing consequences - just adjust that amount by the amount of the refinancing rate of the Central Bank of the Russian Federation and we will get the amount of lost profits from the diversion of financial resources in inventory and costs. At this rate is influenced by both objective (external, political) and subjective (human) factors that are not included Altman method.

Availability of accounts: receivable especially with payments more than 12 months after the balance sheet date or obtained from single consumer has a significant impact on the value of the actual working capital because, in fact, these funds in real economic turnover is not involved. Moreover, businesses are real financial loss as a direct (from the retirement) and loss of profits by diverting funds in accounts receivable. The magnitude of the presence of receivables have a subjective, human factors (work of the legal department or service, marketing agencies and others Units), as well as the work of public authorities - legislative, judicial, and others (objective factor), which account Altman method is not provided.

Therefore, the "purity" of calculations offered amount f.1 line 1200 is reduced by the presence of a rolling balance of accounts receivable and inventory of inventories and the amount of carry-over balance of having long-term receivables.

On the coefficient K1R, no doubt, have a volume of short-term loans, short-term payables (str.1520 + str.1510 f.1). Here, it seems logical to suggest the need to adjust the calculations on this line indices of growth / decrease inflation component and the CBR refinancing rate.

It seems appropriate and adjustment of assets (str.1200 f.1) on the rate of inflation during the period under review. Thus, taking into account the arguments stated above, the proposed rate K1R (share of net working capital) is calculated as:

² Kaledin S.V., Motorina M.S. Disadvantages E. Altman method and the author's method of determining the probability of bankruptcy of economic entities in the Russian Federation Stredoevropsky Vestnik pro Vedu a Vyzkum. 2015. T. 64. p.14.

$$K_{1R} = \frac{[(F.1 \text{ Str.1200} - \text{str.1210 Shot. F.1} - \text{p. 1220 Shot. F1} - \text{p. 1230 Shot. F1}) - (+ \text{str.1520 str.1510 f.1})] \times j^1 \times j^2}{\text{Str.1600} \times j^1} \quad (3)$$

where:

j1 - the index of growth / decline in inflation in the country;

$$j1 = \frac{\% \text{ Inflation, end of period}}{\% \text{ Inflation at the beginning of the period}}$$

j2 - the index of growth / decline rate of the Central Bank of the Russian Federation

$$j2 = \frac{\% \text{ refinancing rate at end of period}}{\% \text{ refinancing rate at beginning of period}}$$

The logic of such a proposal is as follows: the numerator is reduced by the amount of assets actually involved in circulation at any given time, but it can be restored or even increased due to objective circumstances:

a) lowering the refinancing rate and reduce inflation in the country, b) reducing the denominator for the same reasons.

Based on the considerations presented above, it would be logical to make an adjustment and other factors, which form the final size of the coefficient Z, which gives the basis for the final evaluation of the probability of bankruptcy of business entities in the Russian Federation.

Coefficients K2R and K3R reflect a clean and overall profitability of the enterprise. Their value depends on subjective factors (work management, workforce, financial and economic policies of shareholders and founders, the accounting policies for the enterprise) as well as the objective factor, especially for natural monopolies, since profits of such industries is a derivative of the revenue from sales of products and services which mainly depends on the price of their products and services (oil and gas industry, electric power, transportation, communications, and others). Here the role of the state in shaping domestic prices cannot be overestimated. Naturally, too, that the prices of the products of natural monopolies have such objective factors as price pressures for their products and services from the global markets.

As shown by practical analytical calculations, due to the fact that the majority of Russian companies continue to hide their income, thereby significantly understating this income on a reported basis to reduce income taxes, by applying the formula Altman directly in the analysis of financial and economic activity is not difficult to trace that these factors on the size of the resulting coefficient Z does not impact. It is therefore proposed to "balance" this formula index of growth / decline in prices for the products of these companies or similar products on world markets (will be shown in the proposed final formula).

Factor K2R (ratio of accumulated profit to assets) in our opinion should be adjusted to the average daily rate of CBR refinancing multiplied by the number of days during

which the retained earnings was the current account of the enterprise rather than the deposit. The percentage that the company receives from finding funds in the current account in a credit institution can be neglected due to the fact that the interest on bank deposits from their offset - for excess interest on them over the refinancing rate. Thus, the ratio calculation K2R offered by the formula:

$$K_{2R} = \frac{\text{Str.2300 form 2} - \text{str.2410 f.2}}{\text{Str.1600 f.1} \times j1} \times (1 + \text{Sts.b.dn.} \times \text{OD}) \quad (4)$$

where:

Sts.b.dn. - Average daily rate of the Central Bank of Russia;

OD - the number of days during which the retained earnings was no traffic on the company's current account; j1 - the index of growth / decline in inflation in the country.

Calculation formula coefficient K3R (ratio of book profit before tax to total assets), it seems logical to adjust to the inflationary component in conjunction with a universal index of growth / decline of major taxes (taxes on property, income, land, unified social tax - UST). Based on these considerations, it is proposed K3R calculated as:

$$K_{3R} = \frac{\text{Str.2300 form 2}}{\text{Str.1600 f.1} \times j1} \times j3 \quad (5)$$

where:

j1 - the index of inflation in the country over the analyzed period;

j3 - universal index increase / decrease in interest rates on the main types of taxes, which is calculated as the sum of the numerator interest rates on property taxes, income, land, UST, end of period, in the denominator - to the same rate at the beginning of the period.

Very complex and highly problematic is the inclusion of the basic formula Altman coefficient K4 in relation to Russian companies. Firstly E. Altman assumes in its calculations used in the calculation of the numerator is not carrying amount of issued shares, as is done in Russia, and their market value. Agree, this is not the same thing.³

³ Kaledin S.V. Disadvantages techniques E. Altman and the author's method of determining the probability of bankruptcy of economic entities in the Russian Federation. Disadvantages techniques E. Altman and authoring method of determining the probability of bankruptcy of economic entities in the Russian Federation. Italian Science Review. 2013; 14 (2). Available at URL: <http://www.ias-journal.org/archive/2014/april/Hammil.pdf>, p.116

Therefore, it seems logical to introduce accounting pronouncements opportunity to reflect the book value of issued shares at the balance sheet date of the identity of their market value at that date. This, of course, in the period mezhotchetny balance and reporting dates may vary. In trading on the stock exchanges of internal global stock markets the securities of the very few Russian companies, while the rest simply securities are not quoted, and therefore the market price. Analyzing the state railway undertakings on the eve of the creation of RAO "RZD" we are faced with the fact that the company's balance sheet value of fixed assets amounts were identical amounts of additional and authorized capital was less than the additional tens of thousands of times. During this period, more about any promotions speech was not conducted - they were not in the nature. Naturally no shares - not their book value and the market - even more so. There is a distortion of the financial statements, misleading the tax authorities, suppliers, creditors, potential partners and investors; and such a position in the industry.

At the moment the majority of enterprises are no shares of "hands on" not, or they do not have a stock exchange listing and, therefore, not about any additional capital of speech should not be carried out because the decision on the revaluation of its shares are taken at general meetings of shareholders for the fiscal year that is very rare. In general meetings of shareholders to make investment decisions, the decision on payment of dividends and the additional issue of shares at the "old" faces value. Anticipated objections of opponents in this period, is a preparation for the real, not imaginary corporatization. Therefore, once again attention must be drawn to the fact that the amounts shown on line 1350 balance sheet must be reversed and recorded in line 1310 balance sheet.⁴ Making corrective entries in the financial statements, ratio E. Altmana apply in the form in which it exists for companies with state participation - especially in defense enterprises - does not make sense, because the string form №1 1350 turns zero, and hence the coefficient K4 will be zero. This may not apply to individual enterprises - "Gazprom", "Rosneft" and others. It is very problematic to use this factor for companies in other sectors of the economy. Even if the shares of these companies have exchange listing and quotes in the stock market, in order to use K4 as provided, Altman method must make changes to the Accounting Regulations, that is, provide business entities the right to at least quarterly revaluation of assets and accounts of accounting "additional capital", bringing them in line with stock quotes. Until that time, we offer that the numerator of this ratio be calculated as the sum of lines 1310 and 1350 balance sheet - "authorized capital" and "additional

capital", adjusted for the index of growth / decline in the market value of the shares of the company, the inflationary component and change the discount rate of the Central Bank of the Russian Federation. The lower the discount rate, the greater the additional resources the company can attract to your business in a simple and expanded reproduction.

Thus, our proposed design formula coefficient K4R will look as follows:

$$K_{4R} = \frac{\text{Str.1310 f.1} + \text{Str. 1350 f.1}}{(\text{Str.1300 f.1} + \text{Str. 1400 f.1}) \times j1 \times j5} \times j4 \quad (6)$$

where:

- j1 - the index of inflation in the country over the analyzed period;
- j4 - the index of growth / decline the stock during the analyzed period;
- j5 - growth index / reduce refinancing rate of the Central Bank of Russia.⁵

The fifth factor, or factors that E. Altman included for analysis in its methodology - the ratio of sales (revenues from sales) to the assets of the company, business entity. Here too, it seems, cannot be treated with a single template for all economic entities in the Russian Federation. Due to the fact that in Russia continue to operate natural monopolies, set the tone in the formation of all the pricing policy of the state through the often unreasonable increase in prices for their products and services (without increasing the volumetric and qualitative indicators), namely, sometimes only a rise in prices is a basic indicates an increase in sales revenue, offered two options for calculating this indicator:

1. The version of the calculation for natural monopolies;
2. The version of the calculation for companies not included in the structure of natural monopolies.

This is done for the following reasons. If the rise in prices on the market for the production of "ordinary" companies, that is, companies are not included in the structure of natural monopolies only means that their products are in demand, competitive and this is a positive factor that should be encouraged by adjusting coefficient K5 in the direction of increasing the mathematical expression in the growth index of prices for products, goods and services of these manufacturers. What to natural monopolies should take the opposite position - Altman formula should be adjusted downward by placing the index in the denominator. Thus, the estimated coefficient will be "limiting" factor in increasing revenue at the expense of

⁴ Avetisyan M.V., Ashalyan L.N. Kolosov G.M., Zhenzhebir V.N. Filatov V.V. Technique of formation of system of monitoring and control of the market value of the business. Questions of Economic Sciences. 2010. № 6., p.26

⁵ Kaledin S.V. Actual problems of evaluation of investment and economic entities in modern Russia: Monograph - Chelyabinsk Chelyabinsk Printing House. 2004, p.71

unjustified price increases. In case of increase in prices of goods and services - the denominator of the mathematical expression will increase - reducing the value of the coefficient as a whole, by decreasing the denominator prices will decrease, increasing the expression as a whole. Based on the proposed reasoning, calculation formula K5R coefficient for natural monopolies becomes:

$$K5R = \frac{\text{Str.2110 f.1}}{\text{Str.1600 f.1} \times j6 \times j1} \quad (7)$$

where:

j1 - index decrease / increase the level of inflation in the country;

j6 - the index of increase/decrease of prices for products and services of natural monopolies.

The formula for calculating the coefficient K5 for companies not included in the structure of natural monopolies:

$$K5R = \frac{\text{Str.2110 form 2} \times j6}{\text{Str.1600 f.1} \times j1} \quad (8)$$

where:

j1 - index decrease / increase the level of inflation in the country;

j6 - index increase / decrease in the price of products and services, not part of the natural monopolies.⁶

In assessing the probability of bankruptcy of Russian companies, business entities, it seems appropriate to supplement formula E. Altmana nine coefficients (factors) that provide the most complete characterization of the company's financial condition and have not been expressed in this methodology, namely:

1. The current ratio (the ratio of current assets to current liabilities) - K6R;
2. The own funds ratio (the ratio of own sources of financing to the balance sheet) - K7R;
3. The financial profitability (the ratio of net income to equity) - K8R;
4. The ratio of commercial margin (ratio of net income to sales of products, services) - K9R;
5. The ratio of social stability (the ratio of turnover in % at the end of the period to the beginning of the period) - K10R;
6. The coefficient of stability of the national currency (the ratio of the average value of the total rate of the ruble / USD and RUB / EUR at the beginning of the period for

this indicator at end of period) - K11R;

7. The promotional rate of development of national industry - K12R;

8. Universal stock index state of the national economy - K13R;

9. Stability coefficient tax component - K14R.

The aforementioned factors are suggested to calculate as follows:

1. The current liquidity ratio

The ratio of current assets through long-term borrowed funds, adjusted for inflation in the country (in the case of reducing inflation in the country - the denominator is reduced, thereby increasing the overall value of the coefficient). The increase in the index indicates improvement in its solvency, improving the reliability and attractiveness for partners in the joint business to potential lenders and investors - in case of doubt in their decisions about the possibility of credit and loans.

$$K6R = 0.1 \times \frac{\text{Str.1200 form 1}}{\text{Str.1500 f.1} \times j1} \quad (9)$$

where:

j1 - index decrease / increase the level of inflation in the country;

2. Equity ratio

Equity ratio - calculated as the ratio of equity to total assets (balance sheet), adjusted for inflation. This reflects the share in the total volume of business of their own sources of funding. Increasing the ratio will mean an increase in the level of independence of business from outside sources of funding, while improving the financial independence of the company.

$$K7R = 2 \times \frac{\text{Str.1300 form 1}}{\text{Str.1600 f.1} \times j1} \quad (10)$$

where:

j1 - index decrease / increase the level of inflation in the country;

3. The financial profitability - is determined by the ratio of net income to private sources of financing or business, adjusted for inflationary component. This shows the effectiveness of an equity investment in this type of business.

$$K8R = \frac{\text{Str.2400 form 2}}{\text{Str.1300 f.1} \times j1} \quad (11)$$

⁶ Kaledin S.V., Motorina M.S. Disadvantages E. Altman method and the author's method of determining the probability of bankruptcy of economic entities in the Russian Federation *Stredoevropsky Vestnik pro Vedu a Vyzkum*. 2015. T. 64. p. 14.

where:

j1 - index decrease / increase the level of inflation in the country;

4. Coefficient of commercial margin

The coefficient of commercial margin - calculated as the ratio of net profit to gross revenues from sales of products (services), adjusted for inflation indices and prices of their own products or services. Since gross revenues reflect both volume and value indicators of the company, this ratio reflects the financial and economic efficiency of enterprises.

a) For the companies belonging to the natural monopolies

$$K9R = 0.5 \times \frac{\text{Str.2400 form 2}}{\text{Str.2110 form 2} \times j1 \times j6} \quad (12)$$

where:

j1 - index decrease / increase the level of inflation in the country;

j6 - the index of increase / decrease of prices for products and services of natural monopolies.

b) For companies not included in the structure of natural monopolies:

$$K9R' = \frac{\text{Str.2400 form 2} \times j'6}{\text{Str.2110 form 2} \times j1} \quad (13)$$

where:

j1 - index decrease / increase the level of inflation in the country;

j'6 - index increase / decrease in the price of products and services, not part of the natural monopolies.

When placing the index j'6 in the denominator (in the case of natural monopolies) - it performs a moderating role of growth of monopoly prices. When placing j'6 in the numerator - the coefficient performs a catalytic role, and reflects the demand for the products and services of this business. Here, of course, will be essential tax component (str.2410 form 2), but since the tax component factor is comprehensive, objective, in relation to the company, the nature, the index characterizes the general picture of fiscal policies in the state, will be presented later in as a single coefficient.

5. Ratio of social stability

$$K10R = \frac{\% \text{ Staff turnover at the beginning of the period}}{\% \text{ Staff turnover at the end of the period}} \times j \text{ kach.sost} \quad (14)$$

where:

j kach.sost. - An index of the quality of staff
j kach.sost. = 1 +% of employees with higher education and experience of more than 5 years.

6. The coefficient stability of the national currency

$$K11R = \frac{\text{Course RUB / USD early.} + \text{Course RUB / EUR early}}{\text{Course RUB / USD con.} + \text{Course RUB / EUR con.}} \quad (15)$$

7. The promotional rate of development of the national economy

$$K12R = 1.2 * (A / B) \quad (16)$$

where:

A - share of revenue from the supply of products to the world markets .

B - the proportion of the cost of purchasing imported products from the world markets .

Comment on this factor. Consider the possible scenarios. This factor does its catalytic role in case of excess of exports over imports, the more the excess, the more he himself factor and the resulting factor Z. In contrast, in the case of excess of imports over exports - this coefficient is negative and generally reduces the resulting coefficient. These two circumstances: Orientation supplies its products abroad and the domestic market, lower costs for the purchase of products of goods and services abroad will focus on domestic producers of world and domestic markets in reasonable proportions and ultimately lead to improved product quality, competitiveness, replenishment of foreign exchange reserves and reserves of the state, the stabilization of the national currency, additional jobs for domestic producers, reduce social tensions in the country.

8. Stock index state of the national economy - K13R

$$K13R = 1.1 \times \frac{J'7 \text{ con.}}{J'7 \text{ early.}} \quad (17)$$

where:

j'7 con . - RTS or MICEX at the end of the period;

j'7 early. - RTS or MICEX at the beginning of the period.

The significance of this factor is obvious: if the national economy is on the rise, the market value of shares of enterprises and companies has a stable positive dynamics, internal component is not rocking the internal and external capital markets, it is natural, and increases the level of confidence in the country, its business entity created favorable conditions for investment, obtaining

favorable long-term loans, creating favorable conditions for the growth of the national economy. The stability of the value of shares in global stock markets or increasing their market conditions offered to encourage the raising factor equal 1.1. Opisanie index will be made below.

9. Stability coefficient tax component - K14R.

Introduction of this ratio is evident. Firstly, and most importantly, the state tax policy significantly affects the performance of any business entity, depends ultimately augmentable budget, the successful development of the national economy as a whole. It is proposed to calculate the ratio of the sum over interest rates on major types of taxes at the beginning of the period in the numerator to the same interest rates at the end of the period. Stability or reduce the tax burden for businesses are invited to encourage the use of increasing the coefficient of 1.1.

$$K_{14R} = 1.1 \times \frac{\text{Sprib.nach.} + \text{Simusch.nach.} + \text{Szeml.nach.} + \text{SESN.nach.}}{\text{Sprib.kon.} + \text{Simusch.kon.} + \text{Szeml.kon.} + \text{SESN.kon.}} \quad (18)$$

where:

Sprib.nach - income tax rate at the beginning of the period;

Sprib.kon - income tax rate at the end of the period;

Simusch.nach - property tax rate at the beginning of the period;

Simusch.kon - Property tax rate at the end of the period;

Szeml.nach - the rate of tax on the ground at the beginning of the period;

Szeml.kon - the rate of tax on the ground at the end of the period;

SESN.nach - the rate of the unified social tax at the beginning of the period;

SESN.kon - the rate of the unified social tax at the end of the period.

Resume

1. Used to date traditional methods of determining the probability of bankruptcy of domestic companies have ceased to meet the requirements of modern Russian economy in terms of reality and the adequacy of the evaluation.

2. Requires inclusion of traditional calculations (according to accounting), taking into account their adjustments, additional calculations, based on information on the laws, regulations, local regulations, information about the CBR refinancing rate, information on the extent of inflation on quotes domestic and global stock markets, the data

Goskomstat of Russia.

3. The proposed method allows you to:

- i) Take into account the requirements listed in paragraph 2, makes it possible to adequately assess the real and only approximately a remote possibility of bankruptcy;
- ii) Indicate the direction of management decision-making to significantly improve the financial situation of economic entities;

4. Real and adequate assessment of the probability of bankruptcy of domestic enterprises provide domestic companies more opportunities to attract additional sources of financing (investment) in economic activities, and through tax revenues - in the state's economy.⁷

Research objective

The objective of study in this paper is the financial and economic activity of the entity, the subject - the adequacy of the probability of bankruptcy diagnostics using classical techniques and impact evaluations on investment flows.

METHODOLOGY

Theoretical and methodological basis for the study were: 1) system approach to the test subject; 2) the key provisions works domestic and foreign authors on state regulation of the economy and its individual sectors through the evaluation of business entities and investment policies; 3) conceptual approaches implemented in legislative and regulations of the Russian Federation, methodical documents of government. A distinctive feature of the work is that it used an interdisciplinary approach to the study of the stated theme.

Degree of the problem

In this study, the author draws on the results of scientific research of domestic and foreign scholars. Among the scientists who have made significant contributions to the development of this direction, it is possible to name: Abryutinoy M.S., Bakaeva A.S., Valdaytseva S.V., Dontsovoy L.V. Efimovoy O.V. Kovaleva V.V., Kreykina M.N., Nikiforovoy N.A., Sheremeta A.D., Altman E., Lisa R., et al .

⁷ Kaledin S.V. Disadvantages techniques E. Altman and the author's method of determining the probability of bankruptcy of economic entities in the Russian Federation. Disadvantages techniques E. Altman and authoring method of determining the probability of bankruptcy of economic entities in the Russian Federation. Italian Science Review. 2013; 14 (2). Available at URL: <http://www.ias-journal.org/archive/2014/april/Hammil.pdf>, p.120

Factual and statistical basis of research

This was made from official materials of the Ministry of Finance, the Central Bank and the State Statistics Committee of Russia; informational, analytical and methodical documents of the Ministry of Economic Development, Ministry of Transport of Russia, Ministry Antimonopoly Policy of the Russian Federation, and other federal and state government agencies regional, stock quotes for foreign and domestic stock exchanges, information on the issues stated in the topic of dissertation research on the Internet, analytical development of the author, periodical press materials, the reporting of business entities of the Russian Federation.

In the period from 1994 to 2004, the analysis and evaluation of financial and economic activity in the classic techniques of more than 250 domestic enterprises in different regions of the Russian Federation, including:

Moscow, St. Petersburg and Leningrad region, Nizhny Novgorod and Nizhny Novgorod, Rostov -on-Don, Rostov region, Stavropol and Krasnodar, Ekaterinburg and Sverdlovsk region, Chelyabinsk and Chelyabinsk region, Chita, Chita Region, Buryat Buryat - Agin autonomous District, Amur Oblast - Enterprise East Siberian Railway, and consolidated billing and payment balances of the Office of the East -Siberian railway, in the city of Khabarovsk, Vladivostok, Khabarovsk and Primorye edges - the enterprise Far Eastern Railway, the consolidated balance of payments and the Office of the Far Eastern Railway, Vanino, Komsomolsk - on - Amur, Nakhodka, Vladivostok.⁸

Scientific novelty of this study

This lies in the fact that the author proposed a new ideology in the approaches to the question of estimating the probability of bankruptcy businesses. This allowed conceptually, with the objective position to approach the development of a new methodology and methods of estimating the probability of bankruptcy of enterprises, based on the account of three groups of indicators (financial, economic, political / social and external / internal) rather than on one (technical / financial) group of indicators as previously in traditional valuation techniques. Proposals have been made to change the structure of the balance calculations of financial stability, liquidity, solvency, business activity, the profitability of enterprises to meet the requirements of a modern economy.⁹

In this case:

1. Given a negative assessment of the existing methods for determining the probability of bankruptcy and evaluation of domestic enterprises with a single source of

information - the balance sheet of the enterprise, as it does not reflect the real and complete picture of the financial and economic condition of economic entities does not allow them to more accurately forecast, plan, develop a strategy for development.

2. Reasoned and worded conclusion: hitherto known variants of analysis of financial condition, operating systems accounting and reporting of domestic enterprises rely on the articles and sections of the balance sheet that contains data only at the beginning and at the end of the reporting period, and are, therefore, static characteristic of the company. This means that the analysis process (turns) in conventional methods is always absent. Income generation, its implementation, and then use it completely drops out of sight. Meanwhile, it is obvious that a certain state of the enterprise at the end of the reporting period is determined not only by the fact that it was the beginning of this period, but also all the activities during this period, all of the processes involved. At the same time the necessity of the transition to accounting system to track the turnover of financial resources of economic entities, more accurately and fully assess the impact of their activities.

3. The author developed and tested method of estimating the probability of bankruptcy organization; wherein the selection and use of the additional sources of information that allows a realistic assessment of the financial position of economic entities, their development strategy, improve its investment attractiveness.

4. Developed and implemented into business practices two software products that allow using them embedded in the design of the algorithm, automatically produce a significant amount of processing of the original analytical material; assess the activities of the business entity, simulate, analyze the state of the economy and finance business entity; monitor the dynamics of changes in the economic and financial indicators.

Practical significance of the study

The practical significance of the work lies in the fact that, using the methodology proposed by the author manages to get close to the real evaluation of the economic entities, the opportunity for greater investment attractiveness of Russian enterprises to domestic and foreign investors, and as a consequence, increase investment flows to our country. It appears that the proposed method approaching the real and adequate assessment of the financial condition of Russian companies will help them to attract additional investments in the Russian economy, and, as a consequence, will give a positive impetus to accelerate its development to meet the economic and social problems in modern conditions.¹⁰

⁸ Kaledin S.V. Methodology and methods of integrated assessment of the financial and economic activities of businesses. ABSTRACT dissertation for the degree of Doctor of Economics. Moscow, 2007, p.5

⁹ There, p.6

¹⁰ Kaledin S., Zemlyakova K. Prospects for economic development of the chelyabinsk region and its investment attractiveness in the context of economic sanctions.

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Developed and implemented as an educational and practical material are two software products that allows in automatic mode, using the algorithm calculations pledged to spend a significant amount of processing of the primary (original) material. This, in turn, allows performing of calculations and evaluation of business entities, to build, monitor, predict, and simulate the dynamics of the factors included in the final grade of economic entities with the ability to automatically transfer the entire process of the English language in online mode.

Testing results of the study

Developed, tested, implemented, and is recommended for use in business practice used by the author proposed a new method of evaluation of the probability of bankruptcy and on the aforementioned companies.

Usage of results

The results of scientific research are used as an educational and practical material for lectures, seminars and workshops in the learning process in the disciplines: "finance companies", "analysis of financial and economic activity of enterprises", "Banking", "analysis of the activities of commercial banks", "securities market" at the International Institute of Economics and Law (Moscow), Academy of Labor and Social Relations (Moscow), teaching and research center training of the Russian State Academy of Oil and Gas, IM Gubkin (Moscow), Ural Socio-Economic Institute (Chelyabinsk), University of the Russian Academy of Education (Chelyabinsk branch), Chelyabinsk Institute of Economics and Law M.V Ladoshina, Institute of industries and markets sectors of the economy, business and administration, Chelyabinsk State University.¹¹

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¹¹ Kaledin S., Zemlyakova K. Prospects for economic development of the Chelyabinsk region and its investment attractiveness in the context of economic sanctions.

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