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Abstract: The efficient development of the national economy largely depends on the level of support for its economic security (ES) because an independent external and internal policy that meets national interests can be pursued only in this context. The purpose of the study is to analyze the features of managing the ES of a business entity in the context of financial instability (FI). The relevance of solving the problem of ES for entrepreneurship as a factor of the state’s ES is revealed in the article; various theoretical approaches to understanding the essence of ES for entrepreneurship, as well as FI of a business entity as a threat to ES for entrepreneurship are analyzed. Expert opinions on priority models for assessing the financial condition of a business entity are generalized on the basis of an expert survey, and international experience in preventing bankruptcy of business entities is analyzed to compass the purpose.

Index Terms: bankruptcy, econometric model, economic security, entrepreneurship, financial instability.

I. INTRODUCTION

Shaping a favorable, transparent, and predictable legal and economic framework for citizens to realize their right to business is an integral component of the proper socioeconomic development of the state, a primary function of state bodies in the market economy, which is required for securing the well-being of citizens and the formation of a civilized competitive environment. As such, it is advisable to discuss the relationships among the support for free entrepreneurship, favorable economic and legal environment for business, socioeconomic growth of the state, and formation of a security system for the national economy [1].

The need to strengthen the ES for entrepreneurship (in particular, as a factor of the state ES) is relevant in the context of the market economic system, since it is a vital element for the efficient functioning of the socioeconomic system of society, the mechanism for managing it, and securing its protection and development. This, in turn, determines the basis for the mutual responsibility of business and state bodies for violating the principles of creating a safe economic environment [2].

The ES for entrepreneurship plays a decisive role in strengthening the security of the national economy and is a prerequisite for its stable development. There is an interdependence between the entrepreneurship development and the provision of such functional elements of the state security as financial, social, technological, food, foreign economic, demographic, power, and environmental ones [3]. Realization of the place of the ES for entrepreneurship in the security system of the national economy allows for more detailed approach to the justification of the content of this economic category and the specifics of its management in the context of FI.

II. LITERATURE REVIEW

S.G. Simonov (et al.) [4], S.E. Lelyukhin (et al.) [5], and Yu.A. Burtsev [6] define the ES for entrepreneurship as the state of protection of the entrepreneurs’ interests from the action of various sources of threats. At the same time, A.V. Rodionov and A.A. Krut focus their attention only on threats of the external environment, which constantly change in the market economy [7]. However, the ES for entrepreneurship is the ability of the economic system to ensure its sustainability in various conditions of both external and internal environment, including the adverse ones [8].

M.N. Dudin (et al.) [9], A.Yu. Pavlov, and V.N. Batova [10] support the approach according to which the ES for entrepreneurship refers to the ability to develop and reproduce, even despite various external and internal threats. At the same time, according to D. Schatz [11], the ES for entrepreneurship is determined by factors that reflect the independence, resistance to threats, and the possibility of improvement. The researchers (A.C. Bertay, D. Gong, M. Niemimaa, J. Järveläinen, S.R. Ronis, and others) believe that the ES for entrepreneurship should be understood as a set of controlled conditions of operation, under which a business entity is able to protect against internal and external threats, preserve and reproduce its financial, economic, industrial, human resource, scientific, and technical potential [12–14]. At the same time, the level of the ES for entrepreneurship depends on how the managers of the business entity and the responsible specialists are efficient, i.e., whether they can avoid or counter possible threats and efficiently eliminate the consequences of negative impacts of the external and internal environment [15]. FI of a business entity is one of such threats [16].
The financial stability at the macro level mainly refers to the state of equilibrium in the system operation, where the financial system efficiently performs its key economic functions, such as resource allocation, risk transfer, and making payments, and can do so in the event of shocks, stressful situations, and periods of profound structural changes [17]. The financial sustainability is primarily considered as a property of the financial system to return to equilibrium after cessation of the impact of certain negative factors [18]. According to V.N. Alferov, the financial stability of the company is the state and distribution of its financial resources, which ensure the company development, its solvency and investment attractiveness in terms of tolerable risk [19].

At the same time, T. Kovaleva equates these two concepts and explores them much broader, not reducing only to the state of the financial system. In particular, T. Kovaleva believes that the financial sustainability reflects the property of the entire economic system rather than the financial system in the narrow sense, and should be understood as the state of its operation, when a) it is in a dynamic state of financial equilibrium; or b) its deviation from equilibrium lies within the prescribed limits in case of exogenous or endogenous shocks, and it is able to return to financial equilibrium mode [20].

FI is primarily associated with a specific situation where "the economy operation potentially deteriorates with price fluctuations of financial assets or the inability of financial institutions to meet their contractual obligations" [21], when "prices of some key financial assets deviate sharply from their fundamentals, and the operation of credit markets is thrilled, due to which the aggregate expenditures deviate significantly from the normal level" [22]. As a result, the functioning of the key elements of the financial system is disrupted, and the latter is unable to withstand shocks and prevent their destructive impact on the real economy [23].

Kh. Minsky, whose opinion the authors also share, was one of the first to point out that the FI was in the very nature of the market economic relations. In particular, it is noted in his papers [24], [25] that the modern capitalist economy endogenously generates a financial structure, which is subject to FI by its nature. His "hypothesis" is based on the theory of debt deflation (I. Fisher) [26] and the mechanism of the investor behavior in the context of uncertainty (J.M. Keynes) [27].

Close attention to FI as an object of scientific interest at the micro level arose following the research aimed at analyzing individual economic entities [28]. Research in this area gradually approached the realities of business practice, which primarily contributed to the accumulation of statistical data and the improvement of information storage and transmission systems. Economists (A. Cesa-Bianchi, A. Rebucci, P. Aghion, P. Bacchetta, A. Banerjee, P.A. Ivanov, G.R. Sakhapova) focused their research on the nature and causes of crisis situations in the activities of economic entities [29]–[31]. As such, the idea of FI as a condition caused solely by external factors, such as competition and the cyclical nature of economic development, has gradually given way to more complex explanations.

According to Yu.S. Kalinina, an enterprise as a business entity in a stable financial condition is described by a high level of solvency, an absolute or slight dependence on borrowed funds and their rational use, and great performance of core activities [32]. In other words, the financial sustainability of an enterprise is conditions (prevailing at a certain point in time) under which there is not only support for the already existing level of operation, but also the presence of conditions for the enterprise to reach a quantitatively and qualitatively new level (increase in production capacity, entry to new markets, new technological level, increased investment activity, etc.). FI of the enterprise, according to the scientist, is primarily manifested in the deterioration of the conditions of its operation.

According to P.V. Trunin, the phenomenon of enterprise FI can be divided into two stages by its nature. The first stage, most often hidden, is the fall in the marginal efficiency of capital, company's performance, profitability, and profit volumes. The second stage of FI is unprofitable production. This problem is solved by means of strategic management and is implemented through voluntary restructuring of the enterprise. At the same time, it is proposed to expand the concept of FI of an enterprise and combine actual enterprise FI and the crisis state (which the author understands as regular defaults, overdue loans to banks, overdue debts to suppliers, and budget defaults) into one group and consider the failure of an economic entity as the last crisis point of FI [33].

The purpose of the study is to analyze the features of managing the ES of a business entity in the context of FI.

Hypotheses of research is as follows: FI requires timely diagnosis of the financial condition of an enterprise and the nature and depth of financial problems, which must necessarily include a forecast of the possible bankruptcy, in order to ensure the ES of a business entity.

According to the results of the research, it can be concluded that the purpose set in the research has been compassed.

III. METHODS

To compass the purpose, the online video survey of experts via Skype was used to determine the following main questions of the research:

- generalization of expert opinions on priority models for assessing the financial condition of a business entity;
- analysis of international practice in preventing bankruptcy of business entities.

Financial analysts from Kazakhstan (11 experts), the Russian Federation (9 experts), and the Federal Republic of Germany (5 experts) were involved in the expert survey – 25 experts in total.

During the expert survey, the experts were asked to indicate the most priority models for assessing the financial condition of a business entity, as well as to analyze international practice in preventing bankruptcy of business entities.
IV. RESULTS AND DISCUSSION

The experts believe that any economic conclusion should be supported by calculations. At the same time, the development of the crisis financial condition of a business entity under the negative impact of certain factors is predicted on the basis of developing special multifactor regression models and using the SWOT analysis and other fundamental analysis methods for this purpose.

They also believe that forecasting takes into account the factors that have the most significant negative impact on financial development and bankruptcy and generate the greatest threat to the business entity in the future.

According to the results of the expert survey, the following econometric models are the most common in world practice for assessing the financial condition of the business entity and its aptitude for bankruptcy (Table I).

Table I. Models for assessing the financial condition of the business entity and its aptitude for bankruptcy

<table>
<thead>
<tr>
<th>Legend</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altman five-factor Z-score</td>
<td>( Z = 1.20K_{1} + 1.40K_{2} + 3.30K_{3} + 0.60K_{4} + 0.99K_{5} )</td>
</tr>
<tr>
<td>( Z ) is the bankruptcy risk indicator; ( K_{1} ) is the share of equity capital in the total value of the property; ( K_{2} ) is the ratio of reserves of retained earnings to total assets; ( K_{3} ) is the return on assets; ( K_{4} ) is the ratio of financial leverage; and ( K_{5} ) is the asset turnover.</td>
<td></td>
</tr>
<tr>
<td>( Z \geq 1.80 ) – very high probability of bankruptcy; ( 1.81 &lt; Z &lt; 2.70 ) – high probability of bankruptcy; ( 2.71 &lt; Z &lt; 2.99 ) – possible bankruptcy; and ( Z \geq 3.00 ) – very low probability of bankruptcy.</td>
<td></td>
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</table>

| Springate model                 | \( Z = 1.03A + 3.07B + 0.66C + 0.4D \)                                      |
| \( Z \) is the bankruptcy risk indicator; \( A \) is the ratio of working capital to the total value of assets; \( B \) is the ratio of profit before taxes and interest to total assets; \( C \) is the ratio of profit before tax to short-term liabilities; and \( D \) is the asset turnover in the number of turns. |
| \( Z \geq 0.862 \) – the enterprise is a potential bankrupt; and \( Z > 0.862 \) – stable financial condition. |

| Taffler and Tisshaw model       | \( Z = 0.53K_{1} + 0.13K_{2} + 0.18K_{3} + 0.16K_{4} \)                     |
| \( Z \) is the bankruptcy risk indicator; \( K_{1} \) is the ratio of sales profits to short-term liabilities; \( K_{2} \) is the ratio of current assets to total liabilities; \( K_{3} \) is the ratio of current liabilities to total assets; \( K_{4} \) is the ratio of sales revenue to total assets. |
| \( Z > 0.3 \) – stable financial condition; \( 0.3 < Z < 0.02 \) – risk zone; and \( Z < 0.2 \) – unstable financial condition. |

| Lis model                       | \( Z = 0.063K_{1} + 0.092K_{2} + 0.057K_{3} + 0.001K_{4} \)                 |

\( Z \) is the bankruptcy risk indicator; \( K_{1} \) is the ratio of current assets to total assets; \( K_{2} \) is the ratio of profits from sales of products, goods, works, and services to total assets; \( K_{3} \) is the ratio of retained earnings to total assets; and \( K_{4} \) is the financial leverage ratio.

\( Z > 0.037 \) – stable financial condition; and \( Z < 0.037 \) – unstable financial condition.

\( R \) model of the bankruptcy development

\( R = 8.38K_{1} + 0.054K_{2} + 0.63K_{3} \)

\( K_{1} \) is the ratio of working capital to assets; \( K_{2} \) is the ratio of net profit to equity; \( K_{3} \) is the ratio of sales revenue to assets; and \( K_{4} \) is the ratio of net profit to integral (production) costs.

\( R < 0 \) – probability of bankruptcy is maximum (90 – 100 %); \( 0 < R < 0.18 \) – probability of bankruptcy is high (60 – 80 %); \( 0.18 < R < 0.32 \) – average (35 – 50 %); \( 0.32 < R < 0.42 \) – low (15 – 20 %); and \( R > 0.42 \) – minimal (up to 10 %).

Model of predicting the company financial crisis by R.S. Saifulin and G.G. Kadykov

\( R = 2K_{1} + 0.1K_{2} + 0.08K_{3} + 0.45K_{4} + K_{5} \)

\( K_{1} \) is the equity ratio; \( K_{2} \) is the current liquidity ratio; \( K_{3} \) is the asset turnover ratio; \( K_{4} \) is the profit margin; and \( K_{5} \) is the return on equity.

\( R < 1 \) – high probability of the enterprise bankruptcy; and \( R > 1 \) – probability of the enterprise bankruptcy.

Let us consider the possibility of using some of these models to predict the bankruptcy of a business entity. Most experts believe that the Altman analytical model is most often used to predict the probability of bankruptcy. This method was developed in 1968 by the US economist E. Altman. The analysis is carried out by finding \( Z \)-score, which allows distinguishing business entities into potential bankrupts and nonbankrupts in the first approximation. G. Springate and R. Lis developed other options of the discriminant model. They largely duplicate the Altman model by the number of indicators taken into account but have completely different weights. In the opinion of German experts, the four-factor forecasting model of the British economists R. Taffler and G. Tishou proposed by them in 1977 is of interest. According to the Russian experts, some attempts to develop similar models were made by Russian scientists.
The Russian experts believe that the most common among them is the four-factor model of the bankruptcy risk prediction (R model) developed by the scientists of the Irkutsk State Academy of Economics, according to which the probability of an enterprise bankruptcy depends on the value of the integral coefficient R, as well as a model of predicting the company financial crisis depending on the value of the complex indicator R (R.S. Safiullin, G.G. Kadykov).

As such, according to the results of an expert survey on the possibilities of diagnosing the bankruptcy probability on the basis of econometric models, it has been established that their use significantly improves the quality of analysis. However, the experts from Kazakhstan argue that most of the models presented are designed for economic conditions that differ from those in Kazakhstan. This reduces the objectivity of the conclusions obtained on their basis to a certain extent.

Differences in the rate of inflation, in the fund-, energy-, labor-intensive production, and a different tax climate necessitate the adjustment of the models, as well as using them for forecasting.

According to the experts, the bankruptcy of business entities is inevitable in any national economic system as a reflection of the objective processes of structural adjustment of the economy as a whole. Loss of solvency by a business entity does not always mean termination of its activity and liquidation – it may be a temporary phenomenon that can be overcome by various means of preventing bankruptcy [34].

It is advisable to consider foreign practice when exploring the specifics of the bankruptcy procedure in Kazakhstan. According to the experts, the evolution of world practice in bankruptcy legislation for business entities has two fundamentally different areas of development: the British and the US models. The experts point out that from the position of the British (procreditor) model, bankruptcy is considered as a means of repayment of debts to creditors, accompanied by the debtor liquidation. The purpose of the US (prodebtor) model is the rehabilitation of the enterprise and the restoration of its solvency.

However, there is a trend to combine both principles today in the legislation of developed countries [35]. According to the experts, the efficiency of the system of bankruptcy and liquidation of business entities has an important influence on the conduct of business. Therefore, it is advisable to continue to reform the regulatory policy for bankruptcy procedure, taking the practice of developed European countries into account, since they have a long record of legislation in bankruptcy regulation, in particular, and demonstrate a high level of economic development as well.

As such, the statistical data of Western European countries on the ease of conducting business and the number of bankrupt business entities are reviewed (Table II).

### Table II. Dynamics of bankruptcies and quality of the procedure for the liquidation of business entities in Western Europe for 2014 – 2016

<table>
<thead>
<tr>
<th>Countries</th>
<th>Number of corporate Bankruptcies</th>
<th>Growth rate, %</th>
<th>Country's Ranking in &quot;Doing Business 2018&quot; [36] by: ease of conducting business</th>
<th>Quality of enterprise liquidation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2014/2016</td>
<td>2014/2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austria</td>
<td>6,266</td>
<td>5,626</td>
<td>5,600</td>
<td>-10.63</td>
</tr>
<tr>
<td>Belgium</td>
<td>10,587</td>
<td>11,739</td>
<td>10,736</td>
<td>1.41</td>
</tr>
<tr>
<td>Great Britain</td>
<td>17,765</td>
<td>16,021</td>
<td>15,240</td>
<td>-14.21</td>
</tr>
<tr>
<td>Italy</td>
<td>12,311</td>
<td>14,272</td>
<td>16,101</td>
<td>30.79</td>
</tr>
<tr>
<td>Netherlands</td>
<td>7,373</td>
<td>8,375</td>
<td>6,645</td>
<td>-9.87</td>
</tr>
<tr>
<td>Germany</td>
<td>28,720</td>
<td>26,120</td>
<td>24,030</td>
<td>-16.33</td>
</tr>
<tr>
<td>Norway</td>
<td>3,814</td>
<td>4,564</td>
<td>4,803</td>
<td>25.93</td>
</tr>
<tr>
<td>Portugal</td>
<td>7,763</td>
<td>8,131</td>
<td>7,200</td>
<td>-7.25</td>
</tr>
<tr>
<td>France</td>
<td>59,556</td>
<td>60,980</td>
<td>60,548</td>
<td>1.67</td>
</tr>
<tr>
<td>Switzerland</td>
<td>6,841</td>
<td>6,495</td>
<td>5,867</td>
<td>-14.24</td>
</tr>
</tbody>
</table>

When analyzing the expert opinions and the practice of preventing bankruptcy in various countries, it is advisable to single out elements of bankruptcy prevention associated with various forms of state support for business entities.

For example, according to the experts, the direct method of support is for the state to purchase stocks of business entities that are at the stage of the financial crisis. The fundamental principle for the implementation of this approach is the temporary ownership of corporate rights and the implementation of the owner's functions by the state in compliance with the laws of a market economy, i.e., the experts argue that the public package of corporate rights should be managed under the same conditions as for hypothetical private investors.

The experts believe that the conclusion of settlement agreements is also common in many countries. However, the conclusion of the settlement agreement differs by the form and procedure for its implementation among countries. There are two main forms of assignment of creditors, which may provide a settlement agreement: a moratorium (prolongation, debt restructuring) and writing off part of the debt. As a rule, settlement agreements provide for a combination of the two above forms. Concessions from lenders are common in the USA. However, as a rule, when such assignments are made, the creditor requires the enterprise to include its representative in the board of directors of this debtor company – in particular, for taking the financial flows of the enterprise under control.
According to the experts, prolongation of the terms of debt payment by abandoning the existing financial requirements for a certain time or by providing additional loans is another form of the settlement agreement and a common tool for preventing bankruptcy in the practice of European enterprises.

As the experts point out, the method of preventing the bankruptcy of a business entity through the provision of state guarantees and budget loans has become widespread recently. Budget loans are fairly common at the regional level, while state support in the form of the state guarantees has dominated at the national level for a long time, in particular when resident enterprises raised foreign loans.

The provision of state guarantees is another way to support business entities. However, the experts point out that the state shifts the main functions of providing state guarantees and their execution in case of the occurrence of guarantee cases to specially established organizations with the state participation. Such organizations consider applications submitted by business entities with their business plans, select enterprises by the criteria of importance for the development of the state economy and the likelihood of the enterprise survival, provide state guarantees to selected business entities, and, most importantly, monitor the targeted use of funds that the company received from the creditor.

According to the experts, state subsidies is one of the important ways to prevent bankruptcy of business entities. As for the structure of subsidies, experts indicate that about 45 % of the total amount are allocated for the development, organization, and expansion of production of individual business entities, 17 % – for the replenishment of the working capital, 12 % – for the acquisition of fixed assets and technical re-equipment, 5.5 % – for the creation of jobs and the payment of wages to relieve social tension, and only 0.4 % – for scientific research. According to the experts, it is also common practice at the local level to support individual business entities in the form of establishing preferential rent for the use of premises, land, and other material resources.

The experts point out that cross-subsidization or indirect subsidizing of producers is a form of state subsidies, when some sectors of the economy are supported in order to encourage the activities of other sectors. This type of subsidies can be used because there are certain limitations of direct subsidizing of industries or enterprises in a crisis situation or in need. For example, the state stimulates the development of the engineering industry by providing subsidies to processing enterprises for the renewal of fixed assets – in particular, machinery and equipment. At the same time, the experts believe that cross-subsidization has some advantages from the standpoint of the competitive development of the state's economy. In particular, direct subsidization reduces competition and does not stimulate innovation-driven growth. Direct subsidization is also often carried out on the basis of lobbying for corporate interests, without taking the real financial and economic performance of business entities into account. On the contrary, the consumer or supplier can choose partners in cross-subsidization and thereby stimulate a growth in the level of competition and innovation-driven growth.

V. CONCLUSION

Lack of attention to the problems of the ES for entrepreneurial activity, even with high profitability, may make a business entity extremely vulnerable to various types of risks, which may entail its bankruptcy in the future. However, business growth causes a significant dependence on external sources of funding, which may entail a gradual loss of independence in making managerial decisions and affect its financial stability. Crisis situations in the operation of business entities occur due to miscalculations in financial management, in allocation of resources and efforts to use them, and in plans. In other words, potentially profitable enterprises can go bankrupt only because they are unable to determine the onset of a crisis on time and have no clear plan of action in the event of crisis situations.

The key task for each business entity, both in the short, medium, and long term, is to achieve a certain steady state that would secure the development of the business entity, as well as balance among the main components of its activities. The results of the study indicate that it is necessary to timely diagnose the financial condition of the company and the nature and depth of financial problems, which must necessarily include a diagnosis of the financial condition of the company and the likelihood of bankruptcy.

It is impossible to form the very essence of the strategy of financial recovery for a business entity and determine the composition and sequence of measures for its implementation without determining the causes of financial unrest. Deep understanding of the sources of the existing problems allows to clearly understand the nature of a specific crisis phenomenon and outline possible steps to overcome it.

In general, it must be noted that the foreign practice has many ways to prevent the bankruptcy of business entities. However, the strategic groups and primarily the state and the enterprise owners must be interested in the successful implementation of all the approaches discussed above. There is a need for a detailed study of the bankruptcy prevention methods and the development of practical tools for their improvement, as well as the formation of new approaches to the development of bankruptcy prevention systems in enterprises, taking into account the domestic specifics of conducting business and national economic and legal conditions.

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