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DIAGNOSIS OF THE FINANCIAL CRISIS AT THE ENTERPRISE

ABSTRACT
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GENERAL CHARACTERISTICS OF THE WORK

The research work is connected with the investigation of the enterprises engaged in production of alcoholic beverages. The sphere is quite important for the national economy, because according to World's Top Exports, in 2018, Ukraine is among the top 15 in terms of vodka exports. In the ranking of the largest exporters, Ukraine takes 12th place, which equals to 56,4 million $.

Based on data from the State Register, the producers of alcoholic beverages, ethanol and cognac alcohol for 2018 paid a $ 500 million excise tax to the State Budget of Ukraine, which is a significant part of all revenues. However, as in all other fields, out of the existing 80 factories, only half are actually operating, while others have either gone bankrupt or are getting closer to this stage. In addition, more than half of the Ukrainian alcohol market is in the shadows. Therefore, it is planned to cancel the state monopoly on alcohol production in the neares future.

That is why, the need to study the factors, reasons and methods of financial crisis diagnostics is extremely important for the selected industry.

Assessment of financial state is a complex and complicated process. But if the steps are implemented on time, it can ensure financial sustainability. It allows to identify opportunities for development and the availability of economic potential, provided the most optimal use of funds.

The level of negative impact of crisis phenomena on company should be determined early in order to prevent financial losses and bankruptcy. In the prevention of crises the key role is played by timely diagnostics of financial state and determination the probability crises occurrence. Today, there are many methods and models, which are used in enterprises, but none of them are universal.

The theoretical, methodological and practical aspects of financial crisis diagnostics are devoted to the works of such authors as E. Altman, J. Darling, M. Keddik, J. Mitrof, J. Olson, B. Patterson, P. Robertson, G. Springgate, and G. Tishow. The formation of diagnostics mechanisms and further development have been disclosed in the works of

Ukrainian scientists, among them O.Y. Amosova, V.P. Babich, I.O. Blanc, T.C. Klebanov, O.V Manoilenko, O.I. Pushkar, S.K. Ramazanova, O.O. Tereshchenko.

This suggests that the prediction of bankruptcy is relevant to a fairly wide range of researchers and business entities. The analysis and study of the published scientific works made it possible to conclude that there is no single approach to the diagnosis of the financial crisis at the enterprises.

Today, the most popular method of diagnosis is to build a discriminant model. The most famous of these are the two-factor and five-factor Altman models, the Tafler model, the Forest model, the Irkutsk State Economic Academy model, the Creditmen model, the Zaitseva model, the Saifulin and Kadikov models, etc. The main advantage of this method is the simplicity of the calculations and the uniqueness of the results. But one of the disadvantages is the fact that the normative values are developed on the basis of a certain sample of enterprises. Therefore, they don't take into account the specific and regional features of the activity and give a false result.

The thesis of diploma work is that taking into account such features of enterprises as scale of activity, type of activity, industry specificity, it is possible to create a qualitative and statistically reliable model that will allow to diagnose financial condition and to predict in time the beginning of financial crisis.

The object of the master's work is the financial state of enterprises, which are operating in the field of alcoholic beverages production.

The subject of the research are theoretical and methodological foundations and practical aspects of financial crisis diagnostics at the enterprises in the alcoholic beverage industry.

The purpose of this work is to substantiate the theoretical approach to the diagnosis of the financial crisis at the enterprises in the alcoholic beverage industry and to determine the directions and ways of improving their financial condition. The work is aimed at developing its own discriminatory model, which will allow to diagnose and prevent deterioration of the financial condition at enterprises, which are operating in the

sphere of alcoholic beverages. An important point is the development of recommendations for improving existing approaches to the diagnosis of the crisis, taking into account industry specificities.

Based on the stated purpose, the following tasks should be solved:

− to reveal the essence of the concept «financial crisis at the enterprises»;

− to systematize the factors of the financial crisis at the enterprise;

− to carry out a comparative analysis of bankruptcy forecasting models at the enterprise;

− to substantiate the theoretical approach to the prediction of the bankruptcy at the investigated enterprises;

− to analyze the financial condition of the distillery enterprises;

− to evaluate and model the probability of bankruptcy at the enterprises, which produce alcoholic beverages;

− to substantiate recommendations for improving the financial condition at investigated enterprises.

The information base was the financial statements of the enterprises of JSC «Odessa Cognac Factory», JSC «Kyiv Champagne Factory», PJSC «Koblevo», PJSC «Lviv Liquor Factory», JSC «Cognac House «Tavria», PJSC «Chernihiv distillery plant «Chernihiv vodka», PJSC «Zhytomyr distillery», PJSC «Artwinery», PJSC «Odesavinprom», PJSC «Pivdenna distillery», PJSC «Odessa champagne factory», PJSC «Bolgrad Winery», methodical works and articles of domestic and foreign researchers in the sphere of bankruptcy theory.

The study was performed using the following methods: method of generalization (to define the concept of financial crisis), statistical (for calculation of indicators and their dynamics), tabular and graphical method (for interpretation of research results), synthesis method (for establishing relation between factors of the model), method of economic-mathematical modeling and econometric analysis (for formation of own model, developed on the basis of financial statements of the investigated enterprises),

induction and deduction method (for development of recommendations), analytical and comparative method (for evaluating existing bankruptcy models and their comparison), method of structural analysis (when assessing the financial status of enterprises and forecasting).

The initial information and the results of the analysis are systematized in tables, displayed in graphs, all these types of analytical information processing couldn't be performed without the involvement of mathematical methods and techniques. The practical importance of the work is that implementation of offered recommendations for diagnosis crisis state at the enterprise are aimed not only at strengthening the financial condition at the enterprises, but also will improve the overall efficiency of financial activities.

Scientific novelty lies in the development of theoretical approach to the diagnosis financial crisis, which takes into account the peculiarities of financial activity at the enterprises of the alcoholic beverage industry. Thus, the following results were obtained:

improved:

– existing models of financial diagnostics and bankruptcy forecasting by adding indicators that have the greatest impact on the financial state at the enterprises, which produce alcoholic beverages.

developed:

– the definition of the concept «financial crisis», which emphasizes that it's a phase of unbalanced activity at the enterprise, which arose from the contradiction between the actual state of its financial potential and the required volume of financial needs and may cause the bankruptcy or build a successful new strategy for its development;

– systematization of theories about crisis impact on the enterprise by dividing them into 2 groups: those that focus on the destructive power of the crisis and theories that consider the crisis as a phenomenon, focused on breaking the old and developing the new;

– modeling of bankruptcy probability at the enterprises in the alcoholic beverage industry, which allow to estimate their financial state and to predict the period of bankruptcy

– recommendations for improving the methods of crisis management at the enterprise, taking into account the industry characteristics and groups into which the studied enterprises were divided as a result of calculating the value of the developed model.

The first chapter «Theoretical basis of investigating financial crisis at the enterprise» presents the theoretical foundations of the concept «financial crisis» and reveals the views of scientists who have explored the issue. The basic parameters characterizing the financial crisis in the enterprise were also analyzed, which would serve as a basis for incorporating factors, included into own developed model.

The second chapter «Research methodology» discusses in detail domestic and international models and methods of financial crisis diagnostics and generates theoretical foundations of the developed discriminatory model, taking into account industry peculiarities and methods of its testing.

The third chapter «Diagnosis of the bankruptcy probability at the enterprises, which produce alcoholic beverages» describes the objects of the study. The financial state of the studied enterprises is analyzed, as well as diagnostics of the bankruptcy probability, using the methods described. Based on the calculations, own model was created and its statistical significance was proved. Own model allows to divide enterprises into groups according to their financial status and on that basis to develop recommendations for optimization of their activity.

The fourth chapter «Results of the research and recommendations on improvement the financial state at enterprises in sphere of producing alcoholic beverages» contains ways to improve the existing bankruptcy forecasting models, taking into account industry specificities, as well as the problems and directions for optimizing the financial condition of the analyzed enterprises.

The results of the master's study were published in two articles: «Diagnosis of the financial crisis at the enterprise», «Factors of the emergence and consequences of the financial crisis at the enterprise».

In general, the thesis consists of an introduction, four sections, conclusions, a list of references used and applications. The total amount of work is 84 pages, 21 tables and 8 figures.

MAIN CONTENTS OF THE MASTER'S DIPLOMA WORK

The introduction substantiates the relevance of the research topic, defines the purpose, task, subject and object of the research, its methods and information base, reveals the scientific novelty and practical significance of the obtained results.

In the first chapter «Theoretical basis of investigating financial crisis at the enterprise» the concept of «financial crisis» is analyzed and it can be concluded that it is a turning point in the activity of the enterprise. According to research, there are many types of crises that may arise, including social, organizational, psychological, technological. However, given the volatility of the financial market, the financial crises that are most dangerous for businesses.

The works, devoted to crisis theory at the enterprise level should be divided into two groups: theories that focus on the destructive function of the crisis and theories that consider the crisis as a phenomenon focused on breaking the old and developing the new. The scientists, who investigated these theories are shown on Figure 1.
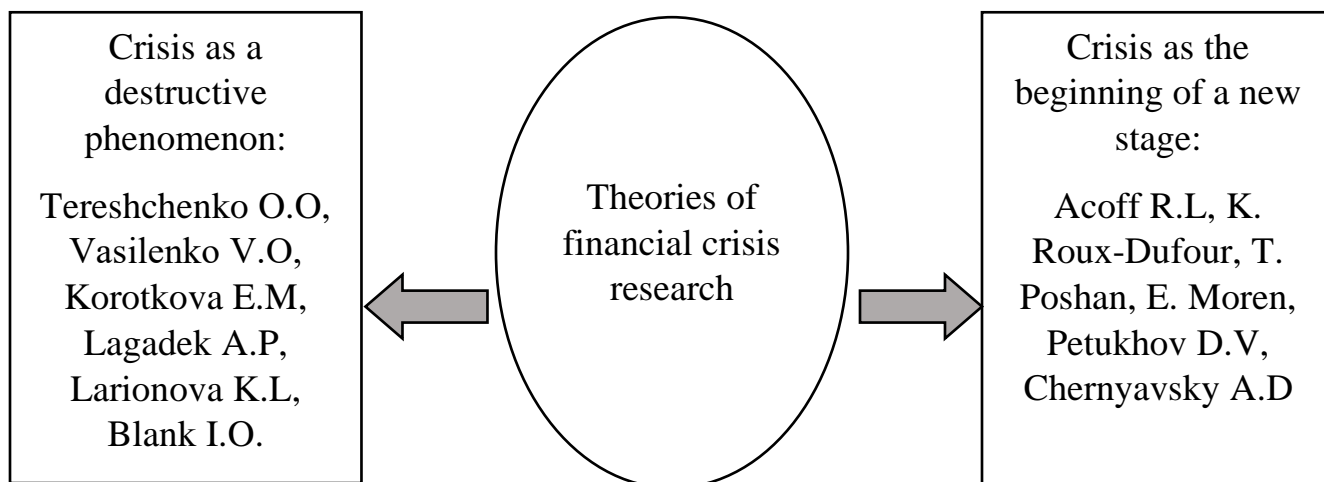

Figure 1. Theoretical views on the study of the financial crisis

Proponents of the destructive force of the crisis suggest that it be seen as a situation that is a serious threat to the existence of the enterprise. In this case, the company must immediately overcome and localize its effects through the methods of crisis management. This is necessary to preserve, the material basis for the continuation of economic activity in case of acute shortage of working capital.

In contrast, there are a number of researchers who have viewed the crisis positively and according to their opinion, main function of crisis is restructuring the system to meet the new conditions.

However, despite having different views, all researchers agree that timely diagnosis and implementation of anti-crisis policy can prevent the worst consequences and give the formulation of goals, the consistent achievement of which will allow the company to move in the desired direction.

It was investigated, that the deep causes of the crisis are many factors. These factors can be divided into two main groups: external (don't depend on the enterprise) and internal (which are directly related to the activity of the enterprise). It is difficult to determine what factors are priorities for domestic enterprises. Therefore, the economic mechanism of the crisis is a chain of consistent interconnected phenomena.

The second chapter «Research methodology» was devoted to the analysis of existing methods of financial crisis diagnostics. In general, depending on the goals and methods of implementation, methods of diagnostics can be divided into two main groups: express diagnostics and diagnostics on the basis of complex models.

Express analysis is an assessment of the proximity to bankruptcy on the basis of regular calculations from the balance sheet data. The purpose of such analysis is to quickly determine whether the crisis is developing, which may lead to bankruptcy in the future, and whether there is at least chance of avoiding this situation.

The most appropriate usage of this method is at the first signs of crisis, when it is necessary to assess the financial failure of the enterprise, promptly react and take measures to neutralize the impact of negative factors.

The system of fundamental diagnostics of bankruptcy characterizes estimation the parameters of the financial condition at the enterprise, which is carried out on the factor analysis basis and forecasting. Bankruptcy diagnostics and bankruptcy forecasting are typically made by using discriminant analysis, which is a statistical multifactorial forecasting method with a set of economic indicators.

Among the most well-known models of enterprise bankruptcy assessment using discriminant analysis are the Altman models, Beaver coefficient, Tuffler model, Springgate model and Tereshchenko model, which were taken as a basis for analysis and developing own model.

Analyzing the existing approaches, the general mechanism for creating bankruptcy forecasting models of the company is consolidated. First of all, the model must take into account actual indicators, which are calculated uniquely and easily, used in real business and in most enterprises. Secondly, it is necessary to keep in mind the industry scale and size of the company, since most enterprises in Ukraine are not listed on stock exchanges. Third, a properly constructed model, should take into account current data and economic instability and be able to dramatically change the quality of financial forecasting, and thus create safer and more comfortable conditions for businesses in their chosen field. The mechanism of developing the model is presented on Figure 2.
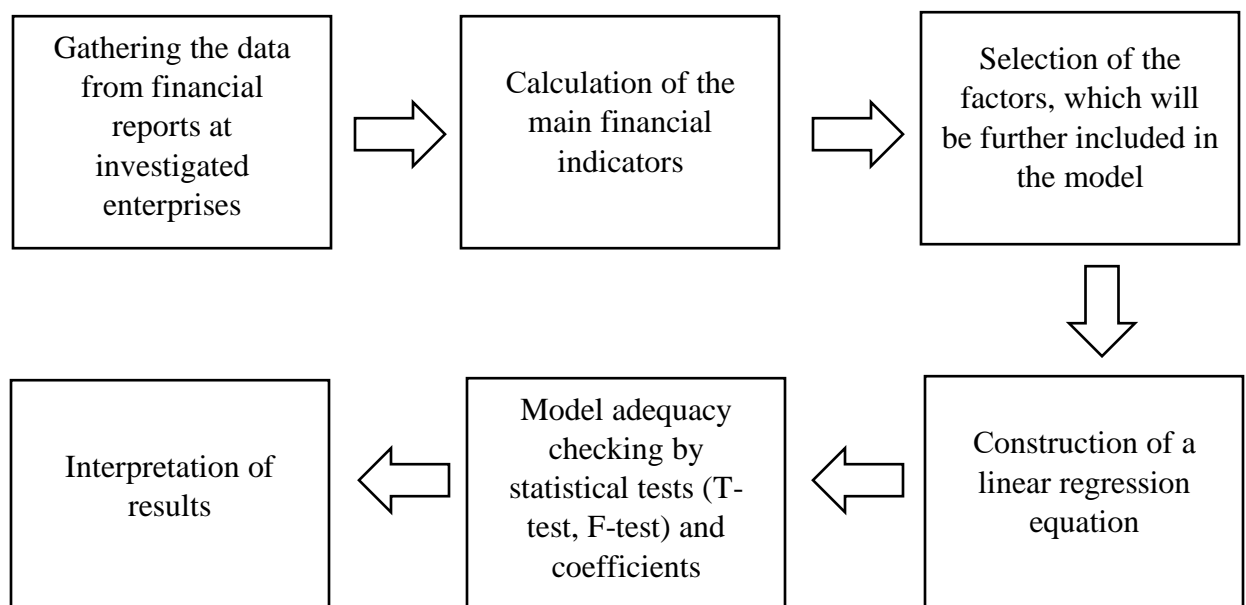

Figure 2. Mechanism for constructing a discriminant model

The Beaver coefficient occupies the leading position in the model and the Ministry of Economy recommends using it to identify trends in the unsatisfactory balance sheet structure, by comparing it with the empirically constructed threshold of the studied trend of financial indicators. That is why, it would be advisable to use it when constructing a theoretical model.

For the selection of factors to be included in the model, insolvency was defined as the main sign of bankruptcy, according to the methodological recommendations of the Ministry of Economy. They state that the signs of bankruptcy are the presence of the actions, due to which the debtor was unable to fully satisfy the creditors' claims or to pay the obligatory payments.

Thus, among the analyzed indicators were selected three factors X_1 (Cash ratio), X_2 (Equity-capital ratio), X_3 (Return on assets), which allow to assess the financial condition of enterprises, the level of own resources sufficient to meet short-term liabilities, the level of profitability at the enterprise and financial stability.

Since these indicators depend on certain factors, a linear regression method was chosen to construct the econometric model. To build the model, financial statements (Form 1,2) of twelve businesses in 2017 and 2018 were analyzed. Enterprises have been selected to be differentiated by geographical location, assets and financial sustainability, which will allow for a more detailed analysis of the industry and identify features.

To test the adequacy of the multiple regression model, an F-test was performed. The statistical significance of the obtained coefficient is estimated using the Student's t-test. Also, to prove statistical significance, calculations were made for the absence of multicollinearity. The importance of this indicator is that in its presence it becomes difficult or impossible to separate the influence of the factors on the variable, and the coefficients lose the economic meaning. All calculations were performed using Microsoft Excel Office.

Third chapter «Diagnosis of the bankruptcy probability at the enterprises, which produce alcoholic beverages» presents calculations, the results of which derived the own

linear regression equation, which allows to estimate the probability of bankruptcy at the enterprises of the alcoholic beverage industry. Also, the specifications of chosen industry were discovered and according to it, there are number of problems in the selected industry in Ukraine. One of the main ones is the shadowing of the business as the share of shadow turnover of alcohol is about 50-55%, and the consumption of illegal alcohol is around 35-40%, which in terms of value causes the loss of budget revenues in the amount of 10-12 billion UAH per year. The significant increase in excise taxes stimulates the development of shadow producers.

It is also worth noting that the industry is overburdened by non-working enterprises with bloated staff. The depreciation of fixed assets at these enterprises, on average, 68%, with an average utilization of less than 20%.

For understanding deeper the selected industry, were calculated the basic indicators that allow to diagnose the financial status of enterprises and to analyze the wealth, liquidity, financial stability and profitability. The results are shown in Table 1.

Table 1

Analysis of financial state at the enterprises in alcoholic beverages production sphere

	Deterioration ratio	Capital-asset ratio	Quick ratio	Cash ratio	NWC	Autonomy ratio	Equity capital ratio	Return on assets	Profitability ratio	Product profitability
PJSC «Odessa Cognac Factory»										
2014	66,918	2,979	1,624	0,004	390827	0,214	2,591	-3,651	-0,999	-15,19
2015	75,432	2,455	1,419	0,004	385946	0,185	2,753	-1,554	-0,026	-4,24
2016	76,167	2,262	1,322	0,0007	386614	0,177	2,734	0,142	0,002	0,437
2017	79,517	1,686	1,102	0,001	391922	0,128	0,374	0,519	0,949	1,61
2018	82,797	1,716	0,921	0,0001	355740	0,149	2,572	0,459	0,802	1,158
PJSC «Kyiv Champagne Factory»										

Continuing of Table 1

Analysis of financial state at the enterprises in alcoholic beverages production sphere

2014	49,581	2,006	1,416	0,125	91234	0,583	0,721	3,783	3,729	5,654
2015	53,776	1,635	0,95	0,066	104411	0,459	0,746	4,36	4,455	6,602
2016	55,965	1,554	1,004	0,053	101661	0,428	0,74	-0,774	-0,853	-1,124
2017	62,153	1,176	0,828	0,283	42161	0,237	0,568	-20,17	-37,32	-47,47
2018	64,917	0,99	0,784	0,02	-2571	0,102	-0,085	-14,84	-17,29	-24,17
JSC «Koblevo»										
2014	52,706	0,964	0,376	0,002	-6553	0,361	-0,063	5,579	6,063	7,803
2015	50,657	1,144	0,285	0,002	29362	0,408	0,209	10,52	10,07	12,059
2016	56,989	1,719	0,374	0,001	111015	0,575	0,532	18,75	15,23	19,612
2017	60,656	1,542	0,361	0,001	112103	0,455	0,592	6,173	5,849	6,801
2018	63,638	1,102	0,169	0,003	34363	0,274	0,27	3,911	3,681	4,251
JSC «Lviv Liquor Factory»										
2014	71,571	3,105	2,217	0,037	105109	0,755	0,596	7,967	6,715	8,12
2015	73,113	3,517	2,395	0,044	122715	0,778	0,639	6,287	5,823	7,19
2016	74,351	3,415	1,692	0,041	125223	0,768	0,653	0,02	0,026	0,028
2017	76,388	2,398	0,827	0,06	74069	0,761	0,388	-0,498	-0,52	-0,56
2018	78,018	2,569	1,277	0,024	101440	0,734	0,526	0,781	0,993	1,128
JSC «Cognac House «Tavria»										
2014	51,013	1,667	0,533	0,003	303825	0,325	0,934	-5,266	-11,60	-21,97
2015	56,282	1,257	0,658	0,002	285083	0,246	0,619	10,36	26,93	34,77
2016	58,843	1,512	0,858	0,0003	529026	0,254	0,995	3,423	10,17	12,599
2017	56,821	1,4	0,691	0,018	471780	0,243	0,848	1,356	4,024	4,7
2018	63,113	3,127	1,078	0,01	556308	0,11	5,114	-12,31	-18,51	-25,48

Having analyzed five enterprises, it can be concluded that the problem of high value of the deterioration ratio is common for all, which indicates the obsolescence of fixed assets and the necessity for their modernization. Also, the cash ratio is low among all, but this is explained by the fact that investing in short-term financial investments is

not a common occurrence among Ukrainian enterprises and that saving cash is not rational. That is why the value of the indicator is lower than normal.

The next step is to calculate the probability of bankruptcy on the basis of existing methods, which were presented in the research methodology section. The analysis of the results show, that they all have different results and this proves once again there is a need to develop own model, which would take into account the peculiarities of the selected industry and make it possible to assess the financial sustainability of enterprises

This model includes three factors to evaluate profitability, maneuverability and liquidity and such equation was derived, shown in formula 1:

$$Y = 0{,}02819 + 0{,}04907 \times X_1 - 0{,}01437 \times X_2 + 0{,}01132 \times X_3 \qquad (1)$$

The adequacy of this model is verified using Fisher F-statistics and Student's t-test. Multicollinearity analysis based on a matrix of correlation coefficients shows that all paired correlation coefficients $|r| < 0{,}7$, indicating that there are no multicollinearity factors. Statistical test of Spearman rank correlation was conducted to check heteroscedasticity. According to the Student's test, an indicator of t was found to be equal to 2,074. The actual value of $T_{kp} = 0{,}44$ and since $2{,}074 > 0{,}44$, the hypothesis of absence heteroscedasticity is accepted.

According to the results of the calculations, four groups were identified, to which the companies may belong:

If $Y \geq 0{,}15524$, then bankruptcy does not threaten and the financial situation is stable

If $0{,}15524 > Y \geq 0{,}074506$, then financial stability of the enterprise is damaged

If $0{,}074506 > Y \geq -0{,}00623$, bankruptcy is likely in the nearest future

If $-0{,}00623 < Y$, then the business is almost bankrupt.

Considering that the model is statistically reliable and adequate, value for the selected 12 enterprises in 2018 can be calculated, dividing them into groups according to the result, showing is shown in Table 2.

Table 2

Interpretation of model values for 2018

Groups	Name of the enterprise	Y	Average value of Y
First group	PJSC «Artwinery»	0,15524	0,15524
Second group	JSC «Koblevo»	0,10729	0,09565
	PJSC «Odessa champagne factory»	0,10590	
	PJSC «Zhytomyr distillery»	0,0867	
	PJSC «Odessa Cognac Factory»	0,08274	
Third group	PJSC «Odesavinprom»	0,06	0,03416
	JSC «Pivdenna distillery»,	0,05510	
	PJSC «Chernihiv distillery plant «Chernihiv vodka»	0,06526	
	PJSC «Bolgrad Winery»	-0,08624	
	JSC «Lviv Liquor Factory»	0,05754	
	JSC «Cognac House «Tavria»	0,05332	
Fourth group	PJSC «Kyiv Champagne Factory»	-0,16771	-0,16771

Thus, the results of the model developed show that seven out of twelve enterprises are likely to go bankrupt. To see how different values are from existing approaches, let's compare their values. To do this, we calculate the probability of bankruptcy for twelve businesses for 2018 using the models of Altman, Springgate, Tuffler, Saifulin and Kadikov and Tereshchenko and reflect the results in Table 2, where «1» means that the enterprise has a bankruptcy risk, and «0» means there is bankruptcy risk according to the model. The results are reflected in Table 3.

Table 3

The results of bankruptcy probability assessment of the studied enterprises

	1	2	3	4	5	6	7	8	9	10	11	12
Altman	1	1	1	0	1	0	1	0	0	0	0	1
Springgate	1	1	1	1	1	1	1	0	0	1	1	1
Tuffler	0	0	0	0	1	0	0	0	0	0	0	0
Saifulin and Kadikov	1	1	1	0	1	0	1	1	0	1	1	1
Tereshchenko	0	1	0	1	1	1	1	1	0	1	1	0
Beaver Coeficcient	1	0	1	0	1	1	1	1	0	1	1	0
Developed model	0	1	0	1	1	1	1	0	0	1	1	1
$\sum$	4	5	4	3	7	4	6	3	0	5	5	4

It can be seen that mostly developed model correlates with the Beaver coefficient and Tereshchenko's model, since their calculations are likely to have bankruptcy of 8 enterprises out of 12. Their relation can be explained by the fact that both models include factors such as assets and liabilities. net profit, as well as indicators that characterize the maneuverability of equity.

The fourth chapter «Results of the research and recommendations on improvement the financial state at enterprises in sphere of producing alcoholic beverages» was devoted to the development of recommendations that will improve the financial situation at the enterprises, which produce alcohol beverages.

As the first group demonstrates a stable financial position, the recommendations should be aimed at maintaining overall stability in the company and good management. First of all, modernization of production and fixed assets must be done, which will allow to optimize costs and increase the profitability index. This can be achieved through the

use of resource-saving and low-waste technology, more efficient use of production equipment, reducing the cost of maintaining fixed assets through the implementation and elimination of unnecessary fixed assets and unused ones.

In addition, the enterprises of this group are characterized by the fact that the absolute liquidity ratio is below the normative value. The value of the absolute liquidity ratio will increase when the company's operations are effective, part of the profit is reinvested in short-term financial instruments.

With regard to the second group, the financial sustainability of the studied enterprises was impaired. It should be noted that at this stage there are problems with the equity-capital ratio, the value of which is below the normative 50%. The main ways to improve the financial stability of the company are:

– Improving the efficiency of using fixed assets at the enterprise;

– increasing the intensity of using current assets at the enterprise by creating a more efficient management system, improving the quality of services provided, increasing the share own funds sources in current assets;

– further increasing the volume of services realization through carefully planned work in the field of marketing;

– attraction of investments;

– optimization of payments with debtors and creditors.

With regard to the third and fourth groups, it is proposed to combine the recommendations, as belonging to both groups characterize the difficult financial situation and the high probability of bankruptcy in the nearest future. Two of the three surveyed enterprises show that gross profit is generated, but the operating profit is negative because of high administrative, sales and other operating expenses.

Among the most popular ways to manage administrative costs are: reducing the cost of servicing machines on the balance sheet of the enterprise; monitoring office supplies prices and selection of favorable suppliers in terms of prices, terms of delivery

and warranty; control of water and energy consumption, transition to energy saving lighting and equipment is required to reduce utility bills of office space.

Sales costs are directly related to advertising and product sales. So, first of all, it's necessary to pay attention to the cost of loading and transporting products. Their optimization can be achieved by improving the coordination of the enterprise with suppliers and consumers, by introducing a system of discounts. This reduces the cost of inventory management, storage, warehousing, shipping and, if necessary, reduction of manpower or outsourcing.

All solutions taking into account the industry specificities and problems outlined in the previous chapter. This increases the effectiveness of the recommendations and makes them more personalized. On this basis, a forecast was made for the enterprises that showed the worst values during the survey. The obtained results allow to conclude that the described ways are effective, since they allow to increase the value of the profitability indicator by 2 times, which, in combination with other methods of anti-crisis policy, stabilizes the activity of enterprises.

CONCLUSIONS

The study made it possible to obtain the following results and draw the following conclusions:

1. The essence of the concept «financial crisis» should be considered in the terms of two approaches to the development of crises, because on the one hand it may be unplanned and threaten the functioning of the enterprise, and on the other it may become the basis for the beginning of a qualitatively new stage in its development.

2. Awareness of the bankruptcy factors will allow business entities to organize the management of available industrial, financial, human, intellectual resources so as to ensure stable development and prevent bankruptcy. The study revealed two major groups of factors: internal and external. The ability to identify the prerequisites, factors and causes of crises in a timely manner gives the opportunity to take precautionary

measures on time, to develop anti-crisis policy and to minimize the negative consequences of the financial crisis in case of its occurrence.

3. Taking into account difficult economic conditions in our country caused by, in addition to internal factors, the negative impact of the global financial crisis, many domestic companies have problems with solvency, some of them are on the verge of bankruptcy, and many have gone bankrupt.

4. Having conducted a comparative analysis of bankruptcy forecasting models, it can concluded, that their spectrum is wide enough. The main are theoretical models, artificial intelligence models and models of discriminant analysis. Traditionally, the problem of choosing a model arises, given the conditions of operation in a particular company and it is impossible to choose the best one. A number of criteria need to be taken into account when deciding, such as: industry characteristics, company performance indicators (degree of competition, availability of resources), research goals (rapid diagnostics or in-depth analysis), the professionalism of the analytics team.

5. The main advantage of using discriminatory models is the simplicity of calculations, interpretation of results and the ability to divide enterprises into the categories of «bankrupt» and «financially stable». In addition, they provide bankruptcy forecasting with high accuracy, especially in the short-term period.

6. As a result of econometric modeling, a three-factor model of financial crisis diagnostics has been developed. Thus, the model includes: the cash ratio, which characterizes the ability of the company to maintain solvency, the equity-capital ratio, which evaluates the financial soundness and return on assets, which shows how profitable the selected activity is. According to the results of the calculations, four groups were identified, to which the companies may belong: with stable financial condition, with impaired stability, with the probability of bankruptcy in the nearest future and those that have already gone bankrupt.

7. As a result of the research, it was found that only PJSC «Artweinery» has a stable financial position and belongs to the first group. This indicates that there is a need

for timely analysis and identification of potential threats in the enterprises of the alcoholic beverage industry, which will avoid the development of the financial crisis and will not lead to bankruptcy. Four of the studied enterprises, including PJSC «Koblevo», JSC «Odessa Champagne Wine Factory», JSC «Zhytomyr Distillery», PJSC «Odessa Cognac Factory» have problems with financial sustainability as Y value is in the range $0,15524 > Y \geq 0,074506$. Thus, most of the enterprises belong to the third and fourth group, which requires the adoption of immediate anti-crisis policy methods aimed at stabilizing their financial condition.

8. Based on the results, the recommendations have been developed that will allow businesses to improve their financial position and prevent crisis development in a timely manner. The recommendations are based on the profitability index of enterprises as it is the most influential and has the closest correlation with the value of the final indicator Y. For the enterprises of the first group it is most appropriate to carry out modernization of production and fixed assets, which will allow to optimize costs and increase the profitability index while maintaining the level of financial stability. With regard to the second group, particular attention should be paid to the coefficient of financial autonomy, the value of which should be greater than 50% and to the absolute liquidity ratio. For the third and fourth groups of companies, it is recommended to optimize administrative, sales and other operating expenses.

9. It should be noted that anti-crisis measures should be implemented systematically not only when the crisis is already destroying the business, but also for prevention. The enterprise should be guided in its activity by a strategic plan, have developed business plans for each line of business, equipment modernization, a schedule of marketing activities. That is, choosing the right and effective anti-crisis management strategy, adhering to all the rules and stages of crisis management guarantees the long-term success of the enterprise.

ANNOTATION

Zhuravska S. Diagnosis of the Financial Crisis at the Enterprise. – Manuscript.

The thesis for the Master degree in Specialty 072 «Finance, Banking and Insurance»; – Petro Mohyla Black Sea National University, Mykolaiv, 2020.

The work is devoted to the phenomena of financial crisis at the enterprises, which produce alcohol beverages. The prerequisites, factors and causes of crises were investigated analyzing of which can help to take preventative measures in time, to develop anti-crisis policy and to minimize the negative consequences of the financial crisis in case it occurs. On the basis of existing discriminatory models was created new model, which takes into account not only general factors, but also those, which are specific to the chosen sphere. As a result of calculations, four groups were identified into which enterprises can be divided as a result of their financial condition assessment. The anti-crisis steps, which should be applied to each of four investigated groups were explored.

Key words: financial crisis, bankruptcy forecasting, Altman Model, Tuffler Model, Tereshchenko Model, Beaver model, Springgate model, express analysis of financial state at the enterprise, anti-crisis measures.

АНОТАЦІЯ

Журавська С. «Діагностика фінансової кризи на підприємстві». – Рукопис.

Дипломна робота на здобуття ступеня вищої освіти магістр спеціальності 072 «Фінанси, банківська справа та страхування». Чорноморський національний університет імені Петра Могили, Миколаїв, 2020.

Робота присвячена дослідженню фінансової кризи на підприємствах лікеро-горілчаної промисловості. Визначено передумови, фактори та причини фінансової кризи, аналіз яких може допомогти вчасно вжити заходів, розробити антикризову політику та мінімізувати негативні наслідки фінансової кризи у разі її виникнення.

На основі існуючих дискримінаційних моделей була створена нова модель, яка враховує не лише загальні фактори, але й ті, які є специфічними для обраної сфери. В результаті розрахунків було визначено чотири групи, на які можна поділити підприємства за рахунок оцінки їх фінансового стану. Досліджено антикризові методі, які слід застосувати до кожної з чотирьох досліджуваних груп.

Ключові слова: фінансова криза, прогнозування банкрутства, модель Альтмана, модель Таффлера, модель Терещенка, модель Бівера, модель Спрінгейта, експрес-аналіз фінансового стану підприємства, антикризові заходи.