

FINANCIAL SECURITY ASSESSMENT AS AN INSTRUMENT OF AN ENTERPRISE FINANCIAL STRATEGY FORMATION

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Abstract. *One of the most important issues of the research of the enterprise financial security is the problem of analysis and assessment of its level, which in its turn is the basis for the development and implementation of an adequate mechanism of the financial security management. The article considers the main approaches to assessing the financial security of an enterprise. The essence of the methods are analyzed, their advantages and disadvantages are defined. The personal system of the financial security assessment of an enterprise that includes the assessment of the financial situation of the enterprise, the level of functional components of the financial security and the financial risks assessment and that is the instrument of the enterprise financial strategy formation is propounded. The practical importance of the proposed system of the enterprise financial security assessment is in the developed comprehensive approach to define the financial security. It will allow to increase of financial solutions reasonableness, since it will help to diagnose a complex of external and internal risks and define specific actions to improve the enterprise financial security.*

Key words: *enterprise, financial security, analysis, methods of assessment, risks, financial situation.*

1. Introduction

At the present stage of the national economy development, worsening the political situation in the country, intensification globalization and transformation processes, the problem of financial security of enterprises is especially important, it is caused by the economic agents' tasks to ensure the stability of operation and achieve the goal of activities. One of the most important issues of the research of the enterprise financial security is the problem of analysis and assessment of its level, which in its turn is the basis for the development and implementation of an adequate mechanism of the financial security management. Therefore, the top priority task in the research of the enterprises financial security is a comprehensive analysis and synthesis of existing methodological approaches to assessing the level of the financial security; improvement of existing methods and development of new methodological approaches to the analysis of the enterprises financial security.

2. Materials and Methods

Analysis of professional literature has shown that there is no single point of view among scientists on the assessment of the enterprise financial security, and the most of the existing methodological approaches have several disadvantages and are unable to appraise the situation of the enterprise financial security comprehensively. The aim of the article is a synthesis of existing methodological tools of assessment of the enterprise financial security, identification the advantages and disadvantages of these methods, and development a comprehensive approach for assessment the financial security of enterprises that is an instrument of formation of the enterprise financial strategy.

Systems analysis methods, methods of comparison, expert judgements, economic and statistical methods were applied during the scientific research. In addition, we used critical analysis methods of scientific and methodical literature, practical experience, clustering and classification methods.

3. Results

Based on the analysis of professional economic literature, it is worth noting that in theory and practice, there are several methods the assessment of the financial security is realized by. In particular, I. O. Blank offers to analyze the financial security of the enterprise using the techniques of horizontal analysis, vertical analysis, comparative analysis, analysis of financial ratios and integral financial analysis (Blank, 2004).

T. B. Kuzenko, O. Y. Litovchenko offer to apply the following approaches to assessment of the financial security of the enterprise: the indicator approach, which includes, according to the authors, methods of integrated assessment of the financial security by analyzing the possibilities of bankruptcy (Altman's model, Lis's model, Depalyan's method, Taffler's model, Springate's model, Tereshchenko's model) and the method of points; the resource-functional approach (by components of the financial security); the assessment by the minimization of aggregate loss to safety criterion, the assessment by the criterion of the sufficiency of working capital for economic activity [1].

V. V. Orlova [2] identifies two main groups of methods and models for assessment of the financial security of the enterprise in her research: methods and models of the direct assessment of the financial security (the rating assessment model of the financial security, the rapid assessment model of the financial security, Depalyan's model of the assessment of the financial security, the model of the assessment of the financial security of the enterprise in the context of its economic security, the econometric model of the assessment of the financial security of the enterprise, program-targeted methods of management and development for the assessment of the financial security, the financial security analysis model based on the STEP-analysis, the model of analysis of the financial security based on the SPACE and SWOT analysis) and methods of assessment and analysis of the financial security based on methods of assessment of propensity of the enterprise to bankruptcy (Altman's five factors model, Springate's model, Fulmer's model, the matrix bankruptcy assessment method by means of fuzzy quantities).

K. S. Goryacheva [3] identified the following approaches to assessment of the financial security of the enterprise: the indicator, the resource-functional approach on the basis of the criterion of "minimum aggregate loss to security", the approach based on the assessment of sufficiency of working capital, and the approach based on the assessment of aggregate situation of the financial security of the enterprise (by calculating indicators of liquidity, solvency, financial stability, business activity and profitability).

G. O. Portnova and V. M. Antonenko [4] consider the indicator and rank method for assessing the financial security (the integral evaluation method of the financial security).

I. V. Zhuravlyova [5] offers to assess the situation of financial security of the enterprise by five methods: indicator, resource-functional, program-based, value and rank.

O. Y. Amosov [6] identifies three approaches to assess the level of the financial security, namely: indicator, programmed-purpose-oriented (integral assessment) and resource-functional.

M. O. Koknayeva [7] also distinguishes three methods of assessment of the financial security of the enterprise: the indicative method, the economic-mathematical method and the resource-functional method.

The analysis of the literature allowed to establish that the vast majority of scientists who investigated the problem of the assessment of the financial security of the enterprise, did not use the distribution of methods of assessment on groups and did not put into practice their classification on specific characteristics, distinguishing in their works only a set of techniques or approaches worth using, in their opinion, to assess the level of the financial security. In our opinion, it is appropriate to classify existing methods by specific characteristics that will facilitate their analysis and enable to assess the advantages and disadvantages of methods in each classification group and establish the expediency and effectiveness of their application for the analysis of the financial security of the enterprise.

Then, based on the analysis of the economic literature devoted to problems of the financial security, we have distinguished three main groups of methods of the assessment of the financial security of enterprises:

- integral assessment methods of financial security: resource-functional method of the assessment of the financial security [1; 3; 5; 6; 7]; programmed-purpose-oriented method of the

assessment of the financial security [5; 6]; scoring method of the assessment (points method or rank method) of the financial security by indicators of the financial situation [1; 4; 5];

– indicator methods of the assessment of the financial security: Comparative method of the assessment of the financial security [4; 6; 7; 8; 9]; method of the assessment of the financial security by the minimization of aggregate loss to safety criterion [1; 3; 10]; method of the assessment of the financial security by the criterion of the sufficiency of working capital for economic activity [11]; method of the assessment of the financial security of the enterprise by the criterion of value of the enterprise [5];

– methods of the assessment of the financial security of the enterprise based on the analysis of bankruptcy: foreign models (Altman's Z-model [12], Beaver's model [13], Springate's model [14], Taffler's–Tishou's model [15], Fulmer's model [16]); national models (Matviychuk's model [17], Sabluk's method [18], Tereshchenko's model [19]).

Integral assessment methods provide the formation of a single parameter in which the value of other partial indicators, which corrected according to their weight and other factors, is reproduced. The integral method simplifies the procedure of the assessment and helps comprehensively assess the level of the financial security of the enterprise, which depends on many components.

The indicator method of the assessment of the financial security is based on the calculation of a group of ratios (so-called indicators) or the selection of a specific criterion, which will help to assess condition of the financial security of the enterprise. This approach provides the accomplishment of the generalized assessment of the enterprise financial security by comparing actual indicators value with normative (planned) ones.

Methods of the assessment of the probability of bankruptcy are used by some authors [2] for the evaluation the situation of the financial security of the enterprise. These methods enable to detect the evidence of the financial enterprises insolvency timely, which is one of the indicators of the financial security.

Analysis of existing methods and models of the assessment of the financial security of the enterprise made it possible to identify the main advantages and disadvantages of each approach (Table 1).

Table 1
Comparative characteristic of existing methods of the assessment of the enterprise financial security

Advantages	Disadvantages
Methods of the integral assessment of the financial security	
<ul style="list-style-type: none"> - the possibility of integrating aggregate indexes which define the financial security, in one index; - application the flexible computing algorithm; - attraction professionals in the field of management. 	<ul style="list-style-type: none"> - significant degree of subjectivism; - averaged analysis results.
Indicator methods of the assessment of the financial security	
<ul style="list-style-type: none"> - the simplicity of methods' application; - comparison of the calculated ratios with normative (planned) values of indexes allows to check the implementation of these standards and track negative tendencies fast. 	<ul style="list-style-type: none"> - most indexes can be calculated only by an expert way; - some methods require additional accounting conducting; - are narrow, because all areas of financial activity of the enterprise are not taken into account.

Methods of the assessment of the financial security on the basis of the analysis of bankruptcy possibilities	
Foreign models:	
<ul style="list-style-type: none"> - simplicity of calculation; - availability of the research consistency; - high prognosis accuracy; - extensive indexes coverage. 	<ul style="list-style-type: none"> - not adapted to the national economy and do not take into account the specific character of Ukrainian enterprises, namely: particularities in the system of accounting and tax legislation, the effect of inflation on indexes of the enterprise activity forming, sectoral belonging of the enterprise and so on.
National models:	
<ul style="list-style-type: none"> - simplicity of calculation; - a high level of reliability and objectivity of the results; - developed on the basis of national statistical data; - up-dated international practice consideration. 	<ul style="list-style-type: none"> - the lack of extensive differentiation of the financial situation assessment and bankruptcy probability; - unadaptability for application to assess the financial enterprise security only to confirm the results of the analysis.

Source: made by the author

As a result of the research of methods and assessment models of financial security of enterprises it was determined that all existing approaches to the assessment of the financial security have a number of drawbacks. In particular, most of methods are accessible to subjectivity significantly, may give controversial results to each other, and are insufficiently informative because of a limited set of indexes used in the analysis. Furthermore, none of the methods of the financial security assessment does not take into consideration the level of the financial risk of the enterprise.

In our opinion, a comprehensive approach to the assessment of the financial enterprise security which will include the assessment of the financial situation of the enterprise, the assessment of the level of security of functional components of the financial security and the financial risk assessment (Fig. 1) is worth using, taking into consideration the complexity and multidimensional nature of the financial enterprise security, an increase of financial risks level of influence on the financial performance of the enterprise and on the whole on the results of the production and the economic activity that will cause an expansion threat of losing the financial stability and bankruptcy.

The suggested approach will allow a substantial assessment of the financial security; identify financial risks and threats which affect the activity of the enterprise that is the basis for an effective financial strategy and the financial security management system of the enterprise.

The system of indices to assess the financial security level is determined on the basis of enterprises reports, that secures on the one hand, the implementation of the most capacious and reliable analysis, and on the other hand – the ability to obtain the information for their payments quickly. It will help to increase the practical value of the proposed assessment system and simplify its application in the national enterprises activity.

The first phase of the comprehensive system of the assessment is the determination of financial indices that is the indicator of the financial enterprise security, and their level comparison with normative values of coefficients. This phase is the identification those directions of the enterprise activity, where points arise, and the investigation the reasons that caused to them.

To determine the financial situation of the enterprise we consider it is appropriate to use the following system of parameters:

- enterprise business activity indices (working capital ratio, convertibility of current assets, receivables, equity and payables);
- enterprise profitability indices (profitability of net working capital, loan capital, equity, total capital);
- enterprise financial stability indices (coefficient of independence, financial leverage, debt, agility, long-term raising funds, financial stability, long-term liabilities and current liabilities);
- enterprise liquidity and solvency indices (absolute liquidity coefficient, urgent liquidity,

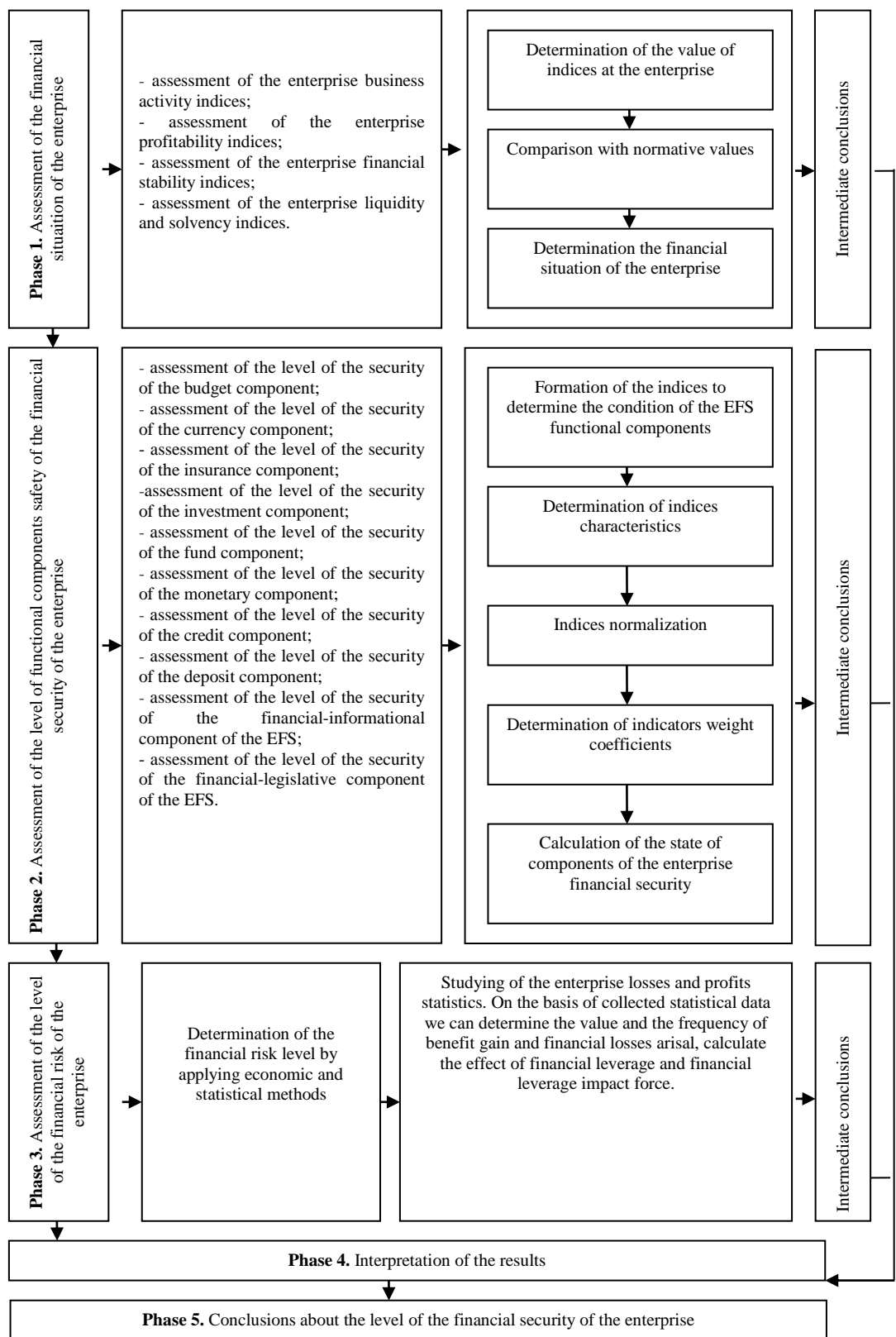


Fig. 1. Integrated assessment system of the financial security in the formation of the enterprise financial strategy

general liquidity, payables and receivables correlation).

The second phase is the determination of the level of the financial security of functional components. This phase is the formation of a system of indices to determine the condition of functional components of the financial enterprise security, which are based on accounting data and describe the situation and tendencies in the financial sector of the enterprise the most completely. The formation of indices set is performed by the principles of representativeness (inclusion the most essential indices that influence the level of financial security of the enterprise), reliability (adequately reflect the condition of safety component) and informational accessibility (official statistics and public expert assessment are used in the calculation).

To determine the security of the enterprise financial security functional components we consider it is appropriate to use the following system of parameters:

- assessment of the security level of the budget component (profit taxation coefficient, payment discipline coefficient, the proportion of deferred tax assets in the enterprise assets, redeployment of current assets into receivables according to the budget calculations, payables and receivables correlation according to the budget calculations, the share of taxables and dues commitments in the total liabilities of the enterprise);

- assessment of the security level of the currency component (the share of debt for currency credits and loans in the debts of the enterprise, the share of payables of external economic transactions in the total amount of payables, the share of receivables of external economic transactions in the total amount of receivables, the share of currency proceeds from the sale of goods, works and services in the total amount of revenue from sales, economic import efficiency, economic export efficiency, the impact coefficient of exchange rates changes on the balance of the enterprise funds);

- assessment of the security level of the insurance component (the share of payables according to the calculations of insurance in the total amount of current liabilities; the share of payables according to the calculations with extrabudgetary insurance payments in the total amount of current liabilities; the insurance of business coefficient);

- assessment of the security level of the investment component (the share of long-term financial investments in assets; the share of current financial investments in assets; the share of capital investments in the total amount of investments; the share of financial investments in the total amount of investments, efficiency of capital investments, efficiency of financial investments, the level of use of the available investment resource, the reinvestment coefficient);

- assessment of the security level of the fund component (earnings per share; book value of shares; the dividend payments coefficient; the dividends discharge coefficient, the share of payments on derivatives in the total expenses of the enterprise);

- assessment of the security level of the monetary component (duration of funds circulation, the cash flows adequacy coefficient, the cash flow liquidity coefficient, the cash flows efficiency coefficient);

- assessment of the security level of the credit component (days sales outstanding coefficient; the receivables repayment period; the share of disputable receivables in the total amount of debt; the period of payables payment; receivables and payables correlation coefficient; ratio interests cover coefficient; loan capital profitability coefficient; loan capital payback period);

- assessment of the security level of the deposit component (deposit transactions profitability, the proportion of funds, that placed in the form of deposits to the total amount of the enterprise funds);

- assessment of the security level of the financial and informational component (provision of enterprises with software for the accounting, analysis and assessment of financial activities, the number of attacks on the financial system of the enterprise, the carrying amount of software);

- assessment of the security level of the financial and legislative component (stability of legislation in the financial sector).

The next phase is to determine the lower and the upper limits of the indices used in the process of the level of financial security entry, and the normalization of their values. It is important to provide informational unidirectionality of indices while forming the set of indicators. Indices are divided into stimulators and disincentives for this purpose. Disincentives are converted into

stimulators by means of valuation. Indices valuation is accomplished with the help of the linear function so that the characteristic values of indices got into identical by magnitude intervals.

Calculation of the enterprise financial components security level is accomplished by means of weight coefficients which are determined by the expert assessment.

The third phase is the assessment of financial risks, that allows to determine the probability and the amount of losses and characterizes the value (or degree) of risk.

To assess the financial risk we propose to use approaches offered by M. V. Sulym, O. S. Pentsak [20] and V. V. Lukyanova [21].

According to the first approach the aggregate risk assessment of the enterprise activity is based on a comparison of financial coefficients normative values (the coefficient of absolute liquidity, urgent liquidity, general liquidity, debt, maneuverability, autonomy and financial stability) with their normative values. We determine a range (an interval) of deviations from normative values for each coefficient. The interval of the financial coefficients value corresponds to a particular risk zone. According to financial coefficients numerical values and their interval belonging, we determined risk zones and the rank of each index by the four-point scale accordingly: 1 – risk-free zone; 2 – minimal risk; 3 – critical risk; 4 – catastrophic risk. The integral index of the enterprise activity financial risk is the average the rank, calculated as the arithmetic mean of ranks and assigned to all indices.

To complement the analysis results and the formation of the financial risk degree generalized objective assessment, we consider it is appropriate to use the approach proposed by V. V. Lukyanova as well, which includes an assessment of the financial and credit (general financial) and financial and investment risks [21].

Financial and credit risks are assessed by calculating the effect of financial leverage and financial leverage impact forces. The higher the power of impact of financial leverage, the greater the financial risk associated with the enterprise.

Financial investment risk is assessed on the basis of the income index. Accordingly, the higher the index, the lower the risk of the financial investment activity of the enterprise can be considered.

In our opinion, the application of the following approaches will allow to assess comprehensively the financial risk degree, and thus the risk of decreasing of the enterprise financial security level.

The fourth phase is to systematize the received information and interpret results of research that is the basis for determination of the enterprise financial security level.

The proposed system of the enterprise financial security assessment has the following characteristics:

- a comprehensive nature (includes a system of the financial situation assessment as an indicator of the enterprise financial security, the functional security components assessment and financial risks assessment);
- simplicity of calculation (calculation of proposed indexes to assess the financial security do not require additional enterprise employees skills);
- applied nature (simplicity of calculation and application of indices to assess the enterprise financial security, the calculation that is based on the enterprise financial reporting);
- objectivity of the assessment (we offer to assess the financial security relative to normal indexes values and their changes monitoring in dynamics);
- integratedness into the general system of the enterprise activity assessment (financial security assessment is a component of the financial and economic enterprise activities assessment).

The practical importance of the proposed system of the enterprise financial security assessment is in the developed comprehensive approach to define the financial security. It will allow to increase of financial solutions reasonableness, since it will help to diagnose a complex of external and internal risks and define specific actions to improve the enterprise financial security.

4. Conclusions

Generalization and systematization of methodological tools for assessing the enterprises financial security revealed that all existing approaches to the assessment of the financial security

have a number of drawbacks. Considering this fact, we proposed to use the comprehensive approach to assessing of the financial enterprise security that includes the assessment of the financial situation of the enterprise, the assessment of the level of the security of the financial security functional components and the financial risks assessment. The suggested approach will allow the substantial assessment of the financial security; identify financial risks and threats which affect the activity of the enterprise that is the basis for the effective financial strategy and the development of modern management mechanism of the enterprise financial security.

References

- [1]. Kuzenko T. B., Martyusheva L. S., Hrachov O. V. and Lytovchenko O. Yu. (2010). «Finansova bezpeka pidpryyemstv», KhNEU, Kharkiv, 300 p.
- [2]. Orlova V. V. (2008). «Modelyuvannya mekhanizmiv upravlinnya finansovoyu bezpekoyu pidpryyemstva», dis. ... Phd, Prykarpatskyi natsionalnyi universytet im. V. Stefanyka, Ivano-Frankivsk, 200 p.
- [3]. Horyacheva K. S. (2006). «Mekhanizm upravlinnya finansovoyu bezpekoyu pidpryyemstva», avtoreferat dis. ... Phd, Kyivskyi natsionalnyi universytet tekhnolohii ta dyzaynu, Kyiv, 16 p.
- [4]. Portnova H. O. (2012). «Finansova bezpeka pidpryyemstv: suchasni pohlyady shchodo sutnosti ta otsinky», Zbirnyk naukovykh prats Natsionalnoho universytetu derzhavnoyi podatkovoyi sluzhby Ukrainy No. 1, pp. 345–355.
- [5]. Zhuravliova I. V. (2010). «Finansy pidpryyemstv: teoretyko-metodychne zabezpechennya formuvannya ta vidtvorennya: monohrafiya», In I. V. Zhuravl'ova, O. M. Yastrems'ka, L. O. Makarenkova, T. B. Kuzenko, S. V. Dobryn, N. V. Sablina, I. L. Latsysheva, O. Yu. Lytovchenko, A. B. Koreneva, V. S. Khvostenko, O. V. Slutskaya, KhNEU, Kharkiv, 428 p.
- [6]. Amosov O. Yu. (2012). «Formuvannya systemy otsinky finansovoyi bezpeky pidpryyemstva», Ekonomika predpriyatiya, No. 1, pp. 8–13.
- [7]. Koknayeva M. O. (2012). «Osoblyvosti formuvannya metodychnoho instrumentariyu doslidzhennya finansovo-ekonomichnoyi bezpeky torhovelnykh pidpryyemstv», Ekonomichnyy chasopys –XXI, No. 5–6, pp. 53–55.
- [8]. Blank I. A. (2004). «Upravlenie finansovoy bezopasnostyu predpriyatiya», Elha, Nika-Tsentr, Kyiv, 784 p.
- [9]. Homilko L. P. and Kosyanchuk T. F. (2006). «Otsinka finansovoyi bezpeky pidpryyemstva», Visnyk Khmelnytskoho natsionalnoho universytetu, No. 4, T. 2, pp. 46–49.
- [10]. Oleynikov E. A. (1997). «Osnovy ekonomicheskoy bezopasnosti (gosudarstvo, region, predpriyatie, lichnost)», ZAO «Biznes-shkola «IntelSintez», Moskov, 288 p.
- [11]. Ylyashenko S. N. (2001). «Otsenka sostavlyayushchikh ekonomicheskoy bezopasnosti predpriyatiya», Problemy obespecheniya ekonomicheskoy bezopasnosti: mezhdunar. nauch.-prakt. konf, Donetsk, pp. 175–177.
- [12]. E. Altman (1968). «Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy», Journal of Finance, Vol. 23, pp. 589–609.
- [13]. W. Beaver (1967). «Financial Ratios as Predictors of Failure», The Journal of Accounting Research, January, pp. 71–111.
- [14]. G. Springate (1978). «Predicting the Possibility of Failure in a Canadian Firm» (Unpublished Masters Thesis), Simon Fraser University.
- [15]. R. Taffler and H. Tishaw (1977). «Going, going, gone – four factors which predict», Accountancy, March, pp. 50–54.
- [16]. J. Fulmer, J. Moon, T. Gavin and M. Erwin (1984). «Bankruptcy Classification Model for Small Firms», The Journal of Commercial Bank Lending, July, Vol. 66, No. 11, pp. 25–37.
- [17]. Matviychuk A. V. (2010). «Modelyuvannya finansovoi stiykosti pidpryyemstv iz zastosuvannyam teorii nechitkoi lohiky, neyronnykh merezh i dyskryminantnoho analizu», Visnyk Natsionalnoi akademii nauk Ukrainy No. 9, pp. 24–46.
- [18]. Sabluk P. T. (1999). «Reformuvannya ta rozvytok pidpryyemstv ahropromyslovoho vyrobnytstva», IAE, Kyiv, 532 p.
- [19]. Tereshchenko O. O. (2000). «Finansova sanatsiya ta bankrutstvo pidpryyemstv»,

KNEU, Kyiv, 412 p.

[20]. Sulym M. V. and Pentsak O. S. (2011). «Obhruntuvannya hospodarskykh rishen ta otsinyuvannya ryzykiv», Novyy svit – 2000, Lviv, 330 p.

[21]. Lukyanova V. V. and Holovach T. V. (2007). «Ekonomichnyi ryzyk», Akademvydav, Kyiv, 462 p.

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