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Enterprise's economic protectability diagnostics under the impact of unsettled business conflicts

Abstract. *Introduction.* The author deals with the problem of the need to construct an adjusted mechanism of enterprise's economic protectability diagnostics considering the impact of unsettled business conflicts' negative consequences which allows maximally precisely and at early stages diagnosing the fall in the current level of economic protection of the enterprise, eliminating troubles and promptly taking the necessary measures to improve its financial-economic condition.

Purpose. Formation of a scientific approach towards economic protectability on the basis of the author's method of structural and functional diagnostics on the grounds of the proposed indices-indicators which fix the impact of threats from internal and external environments with additional consideration for negative consequences of unsettled business conflicts through the estimation of the profits loss risk magnitude.

Methods. The method of generalization and grouping, analytical method, structural and logical method, economic and mathematical methods and the method of probability theory were used.

Results. The performed researches allowed us to generalize the main causes of the most business conflicts emergence and to identify their main signs, which in case if the conflict situations are not settled, develop into their prolonged negative consequences and worsen integrated condition of economic protectability of the enterprise. The method of structural and functional diagnostics, which was supplemented with adjustment coefficient, calculated on the basis of the coefficient of variation and corresponding to the profits loss risk by economic entity, is more suitable for applied use concerning the adjustment of economic protectability diagnostics' accuracy concerning the impact of unsettled business conflicts.

Conclusion. It was established that the constructed adjusted mechanism of diagnostics will contain an additional element of diagnostics – that is an estimation of the profits loss risk magnitude in entrepreneurial activity as a result of the negative consequences of unsettled conflicts, which makes adjustments to the method of structural and functional diagnostics that is based on selective indices-indicators and total value of the destabilizing factors fixation. If there are any signs of «shadow» activity, it worsens condition of the enterprise's economic protectability. In particular, adjusted mechanism of diagnostics allows controlling further dynamics of economic protectability of an enterprise with maximum precision on the basis of quantitative economic and mathematical methods and the method of probability theory.

Keywords: Structural and Functional Diagnostics; Economic Protectability; Enterprise; Business Conflicts; Profits Loss Risk

JEL Classification: C51; C63; D74; D81; M21

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Діагностика економічної захищеності підприємства в умовах впливу нерегульованих бізнес-конфліктів

Анотація. У статті досліджено науковий підхід до побудови апарату діагностики економічної захищеності підприємства. За основу взято авторський метод структурно-функціональної діагностики, який доповнено методикою оцінки негативного впливу наслідків нерегульованих бізнес-конфліктів на інтегрований стан економічного захисту господарюючого суб'єкта через додаткове врахування величини ризику втрати прибутків. Упровадження запропонованого підходу дасть змогу максимально точно встановити поточний рівень економічної захищеності підприємства.

Ключові слова: структурно-функціональна діагностика; економічна захищеність; підприємство; бізнес-конфлікти; ризик втрати прибутків.

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Диагностика экономической защищенности предприятия в условиях влияния нерегулированных бизнес-конфликтов

Аннотация. В статье исследован научный подход относительно построения аппарата диагностики экономической защищенности предприятия. За основу взят авторский метод структурно-функциональной диагностики, который дополнен методикой оценки негативного влияния последствий нерегулированных бизнес-конфликтов на интегрированное состояние экономической защиты хозяйствующего субъекта через дополнительный учет величины риска потери прибыли. Внедрение предложенного подхода даст возможность максимально точно установить текущий уровень экономической защищенности предприятия.

Ключевые слова: структурно-функциональная диагностика; экономическая защищенность; предприятие; бизнес-конфликты; риск потери прибыли.

Problem statement. Unfavorable conditions of management, prevailing at some domestic enterprises, continue to focus the attention on the search and implementation at them of diagnostic methods of assessment and control of protective functions in order to make at these business entities effective decisions concerning stabilization of financial and economic situation. The general condition of economic protectability of an enterprise is also destabilized by unsettled business conflicts, which, having multifaceted nature of origin, negative consequences and individual character of influence on the develop-

ment of a separate economic entity, are founded on aggravated divergence of the interests of business partners. This divergence of interests may arise either immediately or after a certain period of time from the beginning of the conclusion of business agreements and will be characterized by their partial or complete loss of economic trust between them, that can lead to serious economic problems, in particular to the fall in the level of economic protectability of an enterprise below permissible value due to additional economic losses. That is why there arises the problem of constructing an adjusted mechanism of

diagnostics of economic protectability of an enterprise considering the impact of negative consequences of unsettled business conflicts, that will allow maximally precisely and at early stages diagnosing possible fall of quantitative measurement of the current level of economic protection of an enterprise, eliminating troubles and promptly taking necessary measures to improve its financial and economic condition.

Analysis of recent researches and publications.

Domestic and foreign experience shows that the problem of protection arises before every enterprise of any form of ownership, especially if it aspires to continue to function with acceptable financial and economic results in the crisis or post-crisis period, when the level of market uncertainty is maximum due to the imposition and prolongation for indefinite period of the greatest number of different identified risks that comprehensively burden the whole entrepreneurial activities.

Complex system of economic protection of enterprise in this situation is always based on the minimization of external and internal threats that affect the financial and economic stability of business entity [1, p. 26], that remains under any conditions the main indicator of its activities.

In scientific publications of such national scientists as I. O. Blank [1], T. H. Vasylytsiv [2], V. I. Kyrylenko [3], H. V. Kozachenko [4], as well as of many foreign scientists, namely: M. Albert (1995), H. Bierman (1992), S. J. Goerner (2009), E. A. Helfert (1994), F. Khedoury (1995), B. Lietaer (2009), M. Meskon (1995), S. Smidt (1993), R. E. Ulanowicz (2009) [5-8], the economic protection of enterprise was considered comprehensively, first of all, with the help of the mechanism of its financial and economic activities management and evaluation of the results, namely through results of cash flows optimization, investment activity and efficiency of investments, financial risks, management of financial innovations, management of enterprise's financial stability, through financial profitability and formation of financial resources etcetera. Most of them are connected with the main task of business entities reforming which is necessity of their potential activating strengthening, simultaneously overcoming just randomness of internal state and external activities, predictability of their functioning increase through the mechanism of potential protection ensuring. It means that a significant number of scientists did not give the preference to economic protectability of enterprise, not separating it from their understanding of economic security in the spectrum. It happened, firstly, because of the narrowed number of its components for strict economic protection: innovative, financial and credit and investment; and, secondly, the scholars did not take into account the element of the distribution's impact fixation simulation threats from internal and external environments on its current state that allows simulating control over its further dynamics in the complex system of protection accurately with the participation of beforehand proposed optimum number of parameters-indicators in terms of inputted components of economic protectability of business entity, in particular concerning the impact of negative consequences of unsettled business conflicts.

The purpose of the article is formation of scientific approach concerning the construction of adjusted mechanism of enterprise's economic protectability diagnostics on the basis of the structural and functional diagnostics method considering the estimation of the unsettled business-conflicts impact through the determination of additional profits loss risk magnitude.

Results. Analysis of scientific sources showed that in the countries with developed market economy and with stable political and economic systems the decline of the level of economic protectability and full bankruptcy of enterprises only by 1/3 are caused by external factors and by 2/3 – by internal ones. The distribution of these factors in the countries with a deficit of state budget, Ukraine belongs to, can be significantly distorted and be vice versa – 60% and 40%, respectively, since country and production structures that belong to enterprises of most strategic sectors of economy, maintain numerous financial and economic relations with external environment in order to solve financial problems at the expense of foreign investments, purchase of import raw material, spare parts, that is equally typical

for any branch of industry for example for both the production of machinery products and light industry products.

All negative consequences of business conflicts are the result of the threats influence from both internal and external environment. Therefore, we should review their influence integrally already on diagnosed level of economic protectability of the enterprise by proposed a priori method of diagnostics, however, with adjusted coefficient which would fix separate consequences of unsettled business conflicts, in particular the profits loss risk on the basis of recommended calculation methods.

The conducted researches allowed generalizing the main causes of the emergence of most business conflicts, namely: violation of communications in entrepreneurial activities; inability to prevent conflicts or their incorrect forecast; impaired balance between the parties of business agreements when developing managerial decisions; underestimation of the business partners' qualities; late discovery of the zone of contradictions between the subjects of establishing business relations; violation of agreements at different stages of concluding business agreements; initial violation of business strategy etc.

All business conflicts are dynamic with their inherent different features at each moment of time, but they are united by the presence of potential simultaneous impact on the level of the risk of loss of expected profits of an enterprise.

The notion «economic protectability» closely corresponds with the need for its diagnosing in the structure of financial and economic analysis of economic activity of a modern enterprise in the system of general economic diagnostics. This allows us to give the following definition of diagnostics of economic protectability of an enterprise. Diagnostics of economic protectability of an enterprise – is the process of detection and qualitative and quantitative evaluation of the value of confrontation to an impact of negative phenomena on financial and economic results of entrepreneurial activity owing to the developed control systems. They are based on system-comprehensive and structural and functional methods of recognition of compliance with the criteria (principles) of economic protection of an enterprise or deviation of profile indices-indicators from the allowed range of normative values in a complex system of differentiated components of an integrated economic protection in the structure of the course of both legal and illegal kinds of entrepreneurial activity. Significant deviations of financial and economic indicators from normative values can initially cause ordinary economic damage and gradual decrease of the level of economic protectability and later a complete loss of the integrated economic protection if the measures of neutralization of an impact of negative factors on the financial and economic activity of an enterprise are ineffective.

The method of structural and functional diagnostics of economic protectability of an enterprise is more suitable for applied use in terms of precision. Its essence lies in the following moments [9]: 1. The use of functional dependence of the form:

$$R_{\varepsilon_3} = \sqrt[3]{R_{in} \times R_{fc} \times R_{inv}} \pm \Delta \tag{1}$$

with the determination of allowable error Δ ;

2. Calculation of the levels of the components of economic protectability of an enterprise:

$$L_{in} = L_r^V - \sum_{j=1}^k \frac{|\Delta_j^m|}{N_j^m} - \varepsilon_1; L_{fc} = L_r^V - \sum_{j=1}^l \frac{|\Delta_j^c|}{N_j^c} - \varepsilon_2; L_{inv} = L_r^V - \sum_{j=1}^m \frac{|\Delta_j^{inv}|}{N_j^{inv}} \tag{2}$$

where L_{in} – the level of innovation protectability; L_{fc} – the level of financial and credit protectability; L_{inv} – the level of investment protectability; L_r^V – local r -dimensional scale for measuring the levels of constituents and the general level of economic protectability of an enterprise, taking into account the relative value of total destabilizing impact of factors ($L_r^V=10$); $\varepsilon_1, \varepsilon_2, \varepsilon_3$ – the value of additional destabilizing impact which arises when there are the signs of «shadow» activities at enterprise; $|\Delta_j^m|, |\Delta_j^c|, |\Delta_j^{inv}|$ – deviation of profile indicators in the sphere of innovation, financial and credit, investment types of enter-

prise's activity; $N_j^{in}, N_j^{fc}, N_j^{inv}$ – normative values of indices-indicators of j -th quantity involved in the process of diagnostics of the enterprise's economic protectability components level.

To achieve economic efficiency of the economic protection system functioning for a separately taken business entity, not only rational applied method of diagnostics of the level of its economic protectability is needed, but also the preceding an effective apparatus to it. Parameters-indicators that fix the quality of the flow of innovative, financial and credit and investment spheres of the business entity's activities with maximum precision, control further dynamics of its economic protectability in order to prevent its downward trend. This instrument (Figure) is a part of structural and functional method of economic pro-

tectability of an enterprise diagnosing. All the names of parameters-indicators for components of economic protectability of the enterprise are presented in Table 1.

In general the factors that form the appropriate level of economic protectability of enterprise are the indicators of assessment of simultaneous impact and counteracting of the threats from both internal and external environments.

According to Figure, the total number of indices-indicators by the components of economic protectability that fix the impact of the threats from internal and external environments corresponds to the specific gravity of consequences of the threats at the ratio of 40% and 60%, which may come from these very environments with an error no greater than 1% due to the fact

Tab. 1: The inputted parameters-indicators as the components of the economic protectability of an enterprise

Components of economic protectability	Parameter-indicator
Innovative protectability	$k_{i_{off}}$ - coefficient of innovative offer; P_{sip}^p - parameter of profitability of sold innovative products by net profit; e_{it}^i - value of useful efficiency from introduction of innovations; $k_{\sum C}^{ip}$ - coverage ratio of the total costs of innovation project; R - total risk of innovation project; I_{ia} - level of inventive activities; I_{ia}^{fc} - level of financing and crediting of innovative activities; I_{ia}^e - integral parameter of efficiency of innovative activity; P_{ipr} - indicator of profitability of innovation project owing to investments.
Financial and credit protectability	k_{gl} - coefficient of general liquidity (coverage ratio current); k_{ql} - coefficient of quick liquidity; k_{al} - coefficient of absolute liquidity (immediate solvency); k_{RIP}^{sh} - coefficient of ratio of short-term accounts receivable and short-term accounts payable; k_a - coefficient of autonomy (financial independence); k_{fs} - coefficient of financial stability; k_{moc} - coefficient of maneuvering of own capital; k_{fin} - coefficient of financing; k_{fd} - coefficient of financial dependence; k_{eof} - coefficient of ensuring of current assets at the expense by own funds; k_{dc}^c - coefficient of concentration of debt capital; k_{rbof} - coefficient of ratio of borrowed and own funds; P_{oc} - profitability of own capital; P_a - profitability of total assets by net profit; P_p - profitability of sold products by net profit.
Investment protectability	k_{in}^{pr} - integrated coefficient of probability of preservation of investment attractiveness of enterprise; k_{fi}^R - coverage ratio of risk from financial and investment activities of enterprise; $k_{\sum I}^{fc}(t)$ - coefficient of ratio of financial expenses to total amount of investments received by enterprise for the reporting period; K_p^C - coefficient of ratio of obtained credits to the amount of sold products at enterprise; k_s^{BPA} - coefficient of suitability of state of basic production assets, that do not need immediate additional investments for updating; k_{inv} - coefficient of investing; k_{ESF}^{fd} - coefficient of financial dependence on external sources of financing; k_{s-p}^{li} - coefficient of special-purpose designation of long-term investments with the participation of investments; k_a - coefficient of autonomy (financial independence); k_{fl} - coefficient of financial leverage; $I_{pr}(I_{if}^i)$ - profitability index (income per unit of invested funds); R_{cm}^c - rate of return on capital investments; R_{ar} - accounting rate of return; k_{fi}^e - coefficient of effectiveness of financial and investment activities; k_{RCF} - coefficient of reinvestment of cash flows; k_p^{CFIA} - coefficient of profitability of the cash flow by investment activities; $k_{\Delta FI}$ - coefficient of relative rate of change of current financial investments; $k_{\Delta a}^{\Delta FI}$ - relative rate of change of the coefficient of absolute liquidity with the participation of current financial investments; k_{FI}^w - specific weight of current financial investments of enterprise in the total amount of investments at the reporting date; $k_{P_s}^{FI}$ - coefficient of relation of financial investments to volume of sold products for the reporting period.

Source: The Author's grouping

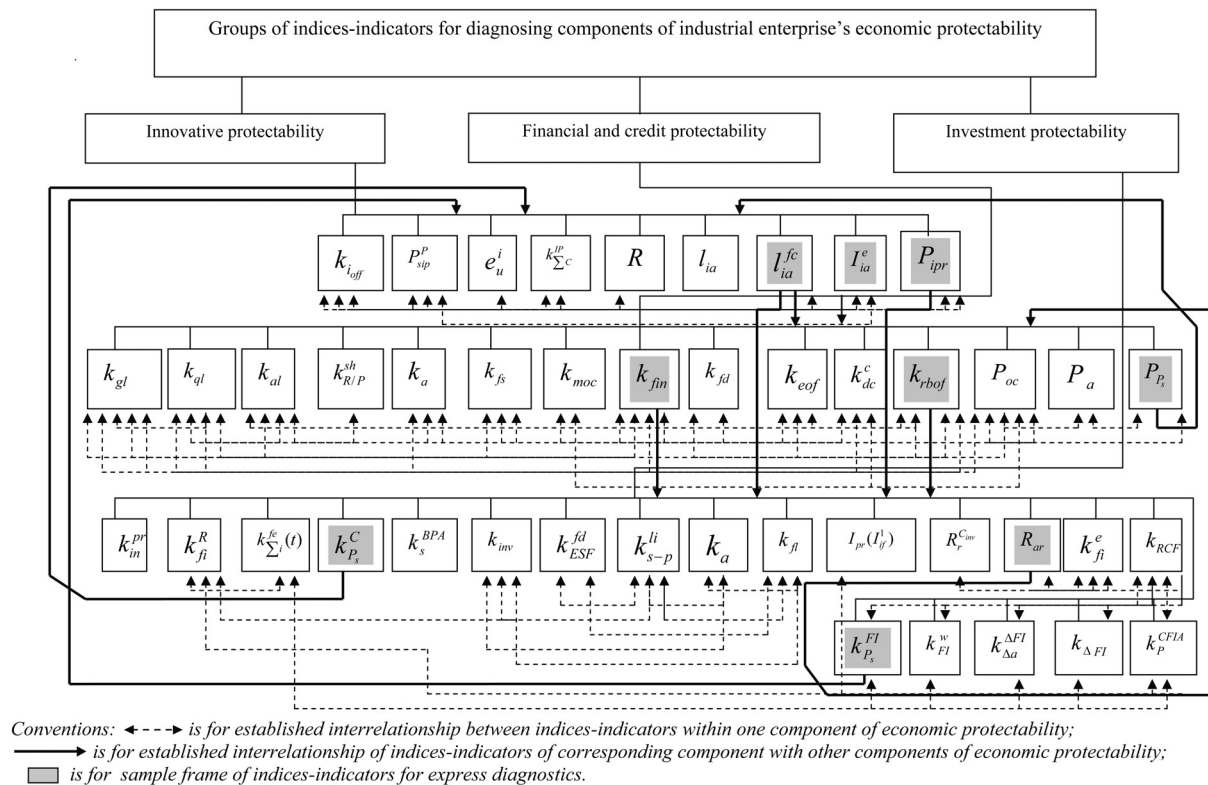


Figure: Sample frame of indices-indicators for structural and functional diagnostics of enterprise's economic protectability
 Source: The Authors' development from [9]

that the coefficient of autonomy (financial independence) (k_a) is used as a part of financial-credit and investment protectability.

Due to the fact that all business conflicts are dynamic with their inherent different features at each moment of time, they are united by the presence of potential simultaneous impact on current level of economic protectability of an enterprise.

Any economic conflict should be considered as the generated conflict from the moment the conditions of business agreement are violated or are not met purposefully. The origination of business conflicts is preceded by unpredictable and uncontrollable events. However, their course is subject to the rules of rationality, having the beginning and the end, moreover the end stage must be maximally in line with the estimation of economic results of an enterprise, which are absolutely not immune from additional economic losses, which is also one of the identifiers of quantitative measurement of the level of economic protectability of an enterprise, changed under the influence of business conflicts.

Let us assume that a particular economic entity during the reporting year concludes a series of business agreements with a constant number of partners, who enter into economic relationships with each other, moreover we have advance knowledge concerning the probability of occurrence of some conflict situations, which cannot be omitted by business activity as well as the well-known distribution of expected profits on the various options of current business, but that the company could lose business considering the impact of unsettled business conflicts (Table 2).

Management of an enterprise handles several variants concerning obtaining profit upon concluded business agreements. Each of these variants is effective and due to the emergence of unsettled business conflicts requires a precise estimation of magnitude of the risk of loss of expected profits.

Quantitative evaluation of the risk is an attempt to overcome the uncertainty, characterizing any random variable by corresponding single index. More often as this index there goes the profitability or unprofitability of an enterprise, that correlates to

	1 quarter	2 quarter	3 quarter	4 quarter
Business-agreement 1				
Profit 1	0,2 150 000 \$	0,3 260 000 \$	0,5 370 000 \$	0 110 000 \$
Business-agreement 2				
Profit 2	0,5 180 000 \$	0 140 000 \$	0,1 120 000 \$	0,4 350 000 \$
Business-agreement 3				
Profit 3	0,3 100 000 \$	0,6 240 000 \$	0 290 000 \$	0,1 300 000 \$

Source: The Author's grouping on the basis of [10]

the magnitude of the risk of loss of profits, and reflects the condition of current protectability of an enterprise or protectability of investigated economic entity. In general the estimation of the risks of an enterprise is to be carried out so that as early as early stages (due to systematic checks) by purposefully introduced functional components it is possible to detect and as soon as possible to eliminate the negative impact of different types of destructive factors and to prevent their harmful influence and causing economic losses to an enterprise as a whole.

Let us apply the elements of the method of probability theory. The deviation can be assessed both in absolute units – on the example of dispersion and by the coefficient of variation in relative units or percentage terms that shows deviation extent, that is the risk of the magnitude of loss of profits of economic entity.

If it is known that during calendar year there was not settled only one business conflict according to the third variant of concluded commercial agreement, it means that adjusting coefficient, which will influence the adjustment of diagnosed level of economic protectability of an enterprise by the method of structural and functional diagnostics must be taken as the coefficient of variation 0,34 (this value is calculated by the third variant signed commercial agreement according to Table. 2 and by the method that presented in [10]), which we amount to adjusted coefficient β . This allows us to state the fact that in this situa-

tion the level of economic protectability of an enterprise in the presence of adjusting coefficient, can be presented with the help of dependency:

$$L_{EP} = \sqrt{\prod_{i=1}^n \left(L_r^i - \sum_{j=1}^z \frac{|\Delta_j^i|}{N_j^i} - \varepsilon_i \right)} \pm \Delta - \beta = \sqrt{\prod_{i=1}^n \left(L_r^i - \sum_{j=1}^z \frac{|\Delta_j^i|}{N_j^i} - \varepsilon_i \right)} \pm \Delta - 0,34 \quad (3)$$

Conclusions. Thus, it was established that the constructed adjusted mechanism of diagnostics will contain an additional element of diagnostics – that is an estimation of the profits loss risk magnitude in entrepreneurial activity as a result of the negative consequences of unsettled conflicts, which makes adjustments to the method of structural and functional diagnostics that is based on selective indices-indicators and total value of the destabilizing factors fixation. If there are any signs of «shadow» activity, it worsens condition of the enterprise's economic protectability. In particular, adjusted mechanism of diagnostics allows controlling further dynamics of economic protectability of an enterprise with maximum precision on the basis of quantitative economic and mathematical methods and the method of probability theory.

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