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INNOVATIVE APPROACH TO PROVIDING ECONOMIC SECURITY

The article considers the existing approaches to providing economic security, emphasizing economic security at micro- and macrolevels, defining the structure of innovative potential, discovering the influence of environment on economic security of socioeconomic systems and internal threats to economic security. As a perspective innovative approach to providing economic security the authors suggest a methodology of the system's economic security evaluation, which includes three stages.

Keywords: economic security; socioeconomic system; stability; crisis.

Олена Г. Попкова, Галина А. Хмельова, Владислав І. Островський ИННОВАЦІЙНИЙ ПІДХІД ДО ЗАБЕЗПЕЧЕННЯ ЕКОНОМІЧНОЇ БЕЗПЕКИ

У статті розглянуто існуючі підходи до забезпечення економічної безпеки, виділено економічну безпеку на мікро- та макrorівнях, визначено структуру інноваційного потенціалу. Виявлено вплив зовнішнього середовища на економічну безпеку соціально-економічної системи, а також внутрішні загрози економічній безпеці. Як перспективний інноваційний підхід до забезпечення економічної безпеки запропоновано методіку оцінювання стану економічної безпеки системи, що включає три етапи.

Ключові слова: економічна безпека; соціально-економічна система; стабільність; криза.

Рис. 1. Табл. 1. Літ. 10.

Елена Г. Попкова, Галина А. Хмелева, Владислав И. Островский ИННОВАЦИОННЫЙ ПОДХОД К ОБЕСПЕЧЕНИЮ ЭКОНОМИЧЕСКОЙ БЕЗОПАСНОСТИ

В статье рассмотрены существующие подходы к обеспечению экономической безопасности, выделена экономическая безопасность на микро- и макроуровне, определена структура инновационного потенциала. Выявлены воздействия внешней среды на экономическую безопасность социально-экономической системы и внутренние угрозы экономической безопасности. В качестве перспективного инновационного подхода к обеспечению экономической безопасности предложена методика оценки состояния экономической безопасности системы, включающая три этапа.

Ключевые слова: экономическая безопасность; социально-экономическая система; стабильность; кризис.

Introduction. The main goal of economic policy under the condition of instability of the world economy is the creation of the effective system of economic security, capable of providing sustainability of the national economic system functioning and neutralizing external threats, as well as generating the process of innovative development. However, the issues of economic security arise for each system not only during crisis, but also in the process of functioning in a stable economic environment.

Economic theory and practice have developed various approaches and solutions to this problem, but increase of bankruptcy level of different enterprises proves the insufficient effectiveness of the existing methods. External and internal threats and reasons for crisis development create a specific individual situation at an enterprise;

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it is rather difficult to choose necessary measures from the great variety of mechanisms providing economic security. Thus, the necessity rises to search for innovational universal approach providing economic security.

Latest research and publication analysis. Theoretical basis for this research has been formed by the works of A. Aja et. al. (2013), W. Darity and D. Hamilton (2012), D. Hamilton and W. Darity (2010), that have been studying the innovative aspect of researching economic security, and by the works of B.H. Casey (2014), J. Clasen and A. Goerne (2011), M. Cichon (2013) and OECD (2013), that study the basic principles of providing economic security.

The research object is contemporary socioeconomic systems and the approaches to their economic security.

The goal of the article is to consider the existing approaches to providing economic security and develop the authors' innovational approach which combines the advantages of the existing approaches and minimizes their disadvantages.

Research methods. The existing approaches to providing economic security are based on the determination of enterprises' financial condition according to the objective factors and security indicators. Monitoring the chosen security indicators based on the accounting reports of an enterprise for a certain period (at the beginning and at the end), it is possible to identify the financial condition of an enterprise. Forming the model for enterprise's financial condition identification allows evaluating the enterprise's condition and offering the methods of anti-crisis management. The existing methods of providing economic security are shown in Table 1.

Table 1. The existing methods of providing economic security
(Darity and Hamilton, 2012)

Indicators	Symptoms of enterprise's financial conditions		
	normal	pre-crisis	crisis
1. Current liquidity ratio CLR > 1–2	Current values of all security indicators are above their thresholds and have positive or stable dynamics for the covered and similar previous periods. CLR1 > CLR0 > 1–2 DOCA1 > DOCA0 > 1 ROA1 > DOCA2 > 0 RCT1 > RCT0	Current values of a part or of all security indicators are above their thresholds. All or a part of security indicators have negative dynamics for the covered and similar previous periods.	Current values of part or of all security indicators are below their thresholds and have negative dynamics for the covered and similar previous periods. CLR1 < CLR0 < 1–2 DOCA1 < DOCA0 < 1 ROA1 < DOCA2 < 0 RCT1 < RCT0
2. Share of own circulating assets in coverage DOCA > 1			
3. Return on assets ROA > 0			
4. Ratio of capital turnover RCT1 > RCT0			

Note: 1 – index at the end of the covered period; 0 – index at the beginning of the covered period (or similar previous period).

Key research findings. As the system is a unity of interconnected elements, each influencing the characteristics of the whole unity, the maximum efficiency of the socioeconomic system functioning may be reached only in the result of maximization of each structural element's effects. It is advised not to omit the fact that any socioeconomic system may be simultaneously represented as an element of the system of higher level.

Economic security is here viewed at the macrolevel as a qualitative characteristic of national economy, reflecting the system's ability to sustain high standards of life and development, provide resources, necessary for national economy development, implement interests of the state, and resist the influence of internal and external threats. At that, economic security is not an abstract category: national interests protection is ensured by the readiness and the ability of government institutions to create mechanisms for realization and protection of innovative development and support socio-political stability. Therefore, the essence of economic security is defined as the condition of economy and governmental institutions, which ensures the guaranteed protection of national interests, socially oriented development of the country as the whole, and necessary defensive potential even with unfavorable internal and external processes.

At the macrolevel, the three main components of internal structure of economic security are: economic independence, stability and sustainability of national economy, and capability for self-development and progress. That is, economic security is a part of national security, based on independence, efficiency, and economy competitiveness. The condition of economic security of the system at the meso- and microlevels is the protectability of the innovative potential from active (direct) or passive (indirect) economic threats and the capability for its reproduction.

As the innovation element is rather important for providing economic security, economic security of the system may be viewed from the position of the system approach as, on the one hand, a complex of measures aimed at the protection of the system's interests, which have the regulatory influence and oppose the threats, provide the protection of innovational potential, form the protectability from the crises' influence, increase competitiveness, and, on the other hand, is an established structure of system's elements, which allows implementing these measures.

The structure of innovative potential is the function of environment variables, and the function of internal transformations which take place in the system, aimed at the optimization of its potential.

Environment can either create favorable conditions for economic security or, on the contrary, generate unpredictable threats and dangers. At that, environment influences the innovative potential of the socioeconomic system:

- directly through resources (their quantitative and qualitative structure), thus creating possibilities for expansion and update of innovational potential by means of external sources for purchasing of materials, equipment, hiring personnel, or, on the contrary, distributing excessive resources in the external environment;
- indirectly – through system's reaction to business activity results, thus actualizing the external environment's consumption and, as the result, ensuring its potential growth.

One of the main goals of management activities is the prevention of internal and external threats to the system's economic security. Management of socioeconomic system is directed at forecasting, analysis, and evaluation of the results of all its structural elements cooperation and their combination which would help the system effectively reach the desired goals.

Internal threats to economic security include the inability for self-preservation and self-development, weakness of innovative potential, inefficiency of public regu-

lation, inability to establish the rational balance of interests while overcoming contradictions and social conflicts, aimed at determining the most effective ways of the society's development.

External threats to economic security are caused by changes in world prices and external trade, excessive of capital outflow from the economic system, substantial fluctuations in the exchange rate, huge external national debt, dependence on import, domination of raw products in exports etc.

All these threats and the duration of their effect lead to country's under development in terms of economy's growth rate, decrease of competitiveness and of the population wellbeing level. It is obvious that socioeconomic system should be focused on the development of its most profitable businesses and increasing its competitive advantages with regard to specifics of consumer markets.

The threat of new rivals appearance may be decreased by increasing own share of the market and developing the brand of the socioeconomic system, which requires more attention to marketing and sufficient financing. Comparison of strong and weak sides of the system with possibilities and threats by means help of SWOT-analysis allows forecasting the development of business activity, determining strategic guidelines, and creating effective mechanisms for strategy's implementation and subsequent control.

It should be noted that system approach gives the possibility to manage economic security with regard to the influence from the systems of higher levels, forecast the consequences of such influence on the systems of lower level, and change the direction of efforts application. Objects providing economic security may be integrated into the systems of several countries, branches (sectors) of economy, regions, municipal institutions, business entities and even persons.

Hence, innovation security supposes keeping the innovative potential at the level, necessary for providing innovative development and opposing internal and external threats. System approach should be the basis for conceptual and mathematical models and methodical tools, which facilitate planning and controlling in providing economic security.

As a perspective innovative approach to providing economic security in this research, a methodology for evaluation of system's economic security condition is offered. It includes three stages (Figure 1).

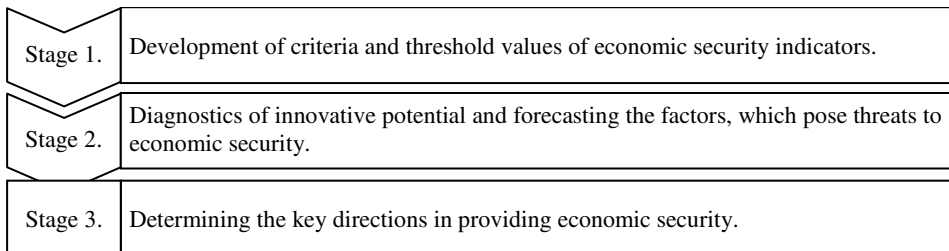


Figure 1. Stages in realization of the methodology for evaluation of system's economic security condition, authors'

Stage 1. Development of criteria and threshold values of economic security indicators. Criterion is not just a guideline to follow, it requires a complex approach to its

substantiation and correction according to changes in innovative potential, emergence of new economic mechanisms and management structures.

Threshold value of indicator (a) is the maximum amount of indicator (in), the exceeding of which slows the development of the system and leads to destructive tendencies. The range of values of the system's economic security indicators is: $0 < ai < 1$.

The interval scale of indicators' values allows ascribing most of the features of the existing number systems to the numbers received on the basis of subjective evaluations. As a sample of the scale, a threshold value of economic security indicator is used (a). Features of interval scale are determined by introduction of the function metrics, defining the distance between the elements an and bn of the multitude A .

The numerical function of distance $R(a,b)$ fulfills the conditions: $R(a,b) > 0$, at that, $R(a,b) = 0$ if and only if $a = b$, that is $R(a,a) = 0$.

Components of economic security of the socioeconomic system: $R(a,b) = R(b,a)$; $R(a,b) + R(b,c) > R(a,c)$ (rule of triangle of vectors compositions).

The interval scale shall feature the following indicator values:

- $in = 0$ (critical);
- $0 < in < aj$ (crisis);
- $in = a$ (threshold pre-crisis);
- $af < in < 1$ (normal);
- $in = 1$ (ideal).

Indicators' threshold values are supposed to determine the oncoming critical condition of economic security and the necessity for strategy change. A variety of indicators, serving as a basis for threshold values, form the system of economic security indicators.

In view of the specifics of socioeconomic system, the actual and the regulatory values of the indicators, the values of their deviations from threshold values, the condition of each system may be determined as:

- normal: indicators of the innovative potential use are within the limits of threshold values of economic security;
- pre-crisis: at least, one of the variety of indicators crosses the threshold value, or several indicators tend to their threshold values;
- crisis: main indicators exceed threshold values, and there are signs of partial loss of innovative potential due to depletion of local potentials;
- critical: indicator value tends to zero, showing partial (full) loss of innovative potential.

Stage 2. Diagnostics of innovative potential and forecasting the factors, which pose threats to economic security. The role of innovative potential diagnostics grows substantially with the transformation of economic system. The main goals of the diagnostics include:

- the analysis of the dynamics of system development;
- revealing destructive tendencies in the development of innovative potential;
- determining reasons, sources, nature, and intensity of influence of the unfavorable factors on innovative potential;
- forecasting the consequences of unfavorable factors influence;
- evaluation of the current situation and development trends, formulation of the measures on threats prevention.

Diagnostics of innovative potential on the basis of constant observation of the socioeconomic system condition in the view of the actual condition of innovative potential and its development trends, and of the general condition of the economy, political and socio-cultural situation etc. allows studying in detail the variety of factors threatening economic security, also analyzing the consequences of change in the internal and external environment, and therefore grounding the related managerial decisions.

Stage 3. Determining the key directions in providing economic security. Revealing the deviations of actual or expected parameters of the system functioning from the threshold values allows moving to development and realization of measures preventing threats and making managerial decisions as to leaving the dangerous zone. Prevention or minimization of negative influence on the elements of innovative potential is the most important function of economic security.

Conclusions. Thus, the authors show the perspectives of innovational systemic approach to providing economic security. In this regard, it is advisable to look for the issues of effective provision of economic security not only within the external environment, but in business organization. It should be noted that one of the common reasons for failures in providing business security with regard to the systems theory, is the lack of information flows.

Adding or restoring information may be a strong method of influence on business; what is more, very often it is easier and cheaper to do this, than to interfere in business infrastructure. In order to provide effective business security, it is important to ensure responsibility for decision-making, which can be reached through organizing feedback within the system. At last, rules used in the system influence it as well. By changing them, it is possible to find the root causes of the system failures.

It should be noted that there is no universal solution in providing economic security; it is different for each enterprise, as well as organization of business itself is different. Providing economic security is a complex systemic task. However, the existence of business is a task of higher hierarchic level. That's why, it is advisable to incorporate the system of providing economic security into the general business system.

Global experience shows that the security system will be effective only when organized as a part of complex management. This system is required for organization of practical activities, effective management, and minimization of threats and risks of any kind.

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