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ORDERING OF THREATS OF REGIONAL ECONOMIC SAFETY BY MEANS OF EXPERT SYSTEM

Introduction. It is necessary to make quickly identify and solve problems, improve the course of economic reforms and ensure economic security at all levels in the current economic conditions. Implementation of these tasks involves finding an efficient design of the regional economy, identifying internal and external threats. The primary task of the state administration is to monitor and assess the level of threat to national interests, as well as prediction of the situation related to the implementation of a national interest and take action on prediction and prevention of threats. Question identify threats and establish their connection with the priority national interest is debatable. In conditions of modern economy, the issue of regionalization systematization threats to economic security at the regional level is important and requires further research.

Statement of the problem. The aim of the article is to summarize the existing classifications of

threats to economic security and development of the hierarchical structure of the economic security of the region.

Results. According to the Law of Ukraine «On National Security of Ukraine» [1], national security is defined in terms of matching the real and potential threats to national interests. Therefore, in the state of safety management is to identify critical threats to national and regional interests, they are potential or real. At present, the classification of threats to economic security dedicated work of many scientists. New types of threats distinguishes author with the release of new components of economic security.

The scientific work of many authors identified the following threats to economic security for different classification criteria. For processed scientific work summarizes the classification of threats to economic security at all hierarchical levels (table 1).

Table 1

Generalized classification of threats to economic security for various classification features *

Classification features	Types of threats
According to the source, scope or direction of origin	External (exogenous) and internal (endogenous) [2]
As the degree of likelihood of the threat	Explicit and implicit [3], the real and unlikely [4, 15], is improbable, unlikely, probable and highly probable [2]
With the ability to predict	Predictable and unpredictable [6]
According to the severity of the consequences arising out of consequences	Threats fall into very dangerous, hazardous and low-risk [7] or acceptable and unacceptable [7]
Depending on the type or size of losses	Threats, implementation of which has direct damage and threats, the implementation of which results in lost benefits [10] or extremely unprofitable, damages and without prejudice threat [7]
By type of loss	Material, moral, psychological, social, legal and others [7]
The degree of threat	At the stage of emergence, expansion, stabilization and elimination [2]
The degree to overcome the effects of the activities of the object economy	Renewable and irreparable threat [7]
Depending on the object of attacks	informational, financial, personnel and business reputation of the company [3] or threatened labor, material, financial and information resources [40, 5]
For the scope of threats	financial, industrial, technological, social, information [58]
In the sphere of their occurrence	economic, social, legal, organizational, informational, environmental, technical, criminal [2]
By nature of origin	political, economic, technological, legal, criminal, environmental, competitive and counter agent [6]
In substance (content) threats	economic, social, psychological, physical, technological, environmental, legal, administrative, information [7]
On the basis of systematic manifestations	systematic and non-systematic [8]
The effect on the stage entrepreneurial activity	threats fall into development stage company and its functioning; threats to the stage of the firm divided into threats that arise in the preparatory, production and final stages [5]
For the duration of the threats	permanent and temporary [10] or long-term, medium-term and short-term [7, 8, 9]
The nature of subjects	threat as a result of the implementation are to persons who commit, can be applied the rules of civil and criminal liability [5]
On the possibility of preventing threats	force majeure and not the threat of force majeure [6]
The nature of the impact	direct and indirect [7]
Depending on the functional orientation	distinguishes the threat of financial, economic, intellectual, human, institutional, legal, informational, technical, technological and economic security force component [7]

* Source: compiled by the author.

Identify threats to economic security at the regional level, their identification and classification allows to develop measures to neutralize their action. Typically, the development of such events is complex process that requires the work of many professionals. A necessary condition for the correct choice of measures to neutralize threats is to analyze the current situation. Depending on the nature of the causes of the threat, and the analysis of possible adverse effects and volume loss are determined by the main actors (state or regional public authorities, institutions or other entities) that are responsible for the elimination of the threat.

Reducing investment and innovation in the enterprises of regions, the destruction of scientific and technical potential is a serious threat to the economic security of the country. Economic crisis manifested primarily in a significant reduction of investment and innovation activity. No changes in the administrative and legal framework for regional and large-scale investments in strategic areas of management, economic recovery impossible Ukraine.

Determining the sources of threats is based on a careful assessment of the level of economic security functional components. The appraisal process is a complex multifactor task that comes to pass scorecard, their grouping and integration, identify major deviations from the standard values of. Given the large amount of information to evaluate the level of economic security and obtain prediction of possible changes developed expert system « software» Universal expert « (certificate of registration of copyright in a work number 41023) with database Safe Line (certificate of registration of copyright in a work number 41025).

The expert system «Software «Universal expert» with the database Safe Line significantly improves the speed and quality of information processing that has both quantitative and qualitative dimension and provides an opinion on the level of economic security and potential threats, which are used by experts to make strategic or operational decisions. The expert system incorporates an open knowledge base that allows you to constantly adjust and add data to evaluate the economic safety of the economy.

Expert system indicated certain advantages to the people-experts. It dominates human capabilities in solving problems, where the decision is necessary to analyze large amounts of information. Expert system as opposed to the human expert has no preconceived notions. It provides an interactive mode with the user. It can handle data that are both quantitative and qualitative terms. Do not make hasty conclusions and makes an informed decision.

Algorithm of expert system «Software «Universal expert» with the database Safe Line next. Expert input information through the module fills a database with necessary information to determine the level of economic security of any object economy. An expert system is designed so that the expert can enrich or correct the database if changing factors or factors that influence the level of economic security. Continuous monitoring of the environment in order to identify existing and potential threats allows to track changes in factors that affect the economic security of the region and update the database of the expert system.

The user interface of the expert system user enters data about your company, association or other organizational structure (responding to the questionnaire, previously incorporated expert). All answers and information about an economy subsequently stored and accumulated in the database. Then the user selects or confirms the strategic direction of development for business and fill established system of indicators to measure the level of economic security that already exists in the expert

knowledge base. Than expert system analyzes the results and provides the user response to the current level of economic security and assessment of possible threats. Critical values of parameters, which are incorporated in the system of assessing the level of economic security is quantitative parameters characterizing the boundary between safe and unsafe zones in different areas of the company or region. Assessing the level of economic security for a system of indicators, where appropriate, should also take into account the specific features of the plant branch or other object economy, and performance thresholds should be determined based on the state of the economy. The highest degree of economic security is achieved provided the location parameters within acceptable values, and the value of one indicator reached not to the detriment of others. Deviations of the permissible limits are a sign that the company or other object may lose the ability of the economy to the sustainable development of a competitive dynamic that is becoming vulnerable. To form a complete picture of the economic security of any object economy it is advisable to measure at several contiguous periods will identify existing trend. It is carried out a study of economic security facility Economics and formed recommendations for its maintenance and support at the appropriate level based on the results. The study of economic security is made by selected major subsystems, to determine not only its general meaning, but also isolate problematic components of economic security and the factors that give rise to threats to business enterprises. If the user enters additional information about the financial position of the company is an expert system evaluates the possibility of implementing the chosen strategic direction of the object economy and provides recommendations for the desired application development. Expert system allows to predict the expected risk level of economic security.

Conclusions. The problem of necessity to neutralize the threats of economic security regions causes necessitates rethinking the implementation of state regulation and implementation of active real impact by improving the efficiency of government industrial policy.

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