

Mechanisms of Management of Social and Economic Security of The State on the Basis of Data Formalization (Case of Ukraine)

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Abstract

The aim of the work is to systematize methods and approaches to identification, assessment of threats in the economic sphere of the state. The effectiveness of the formalized approach and the method of expert assessments for structuring terrorist threats in the economic sphere, which provide an assessment of significant factors, has been determined. Methods of statistical analysis, which can be interpreted with the help of mathematical apparatus, are a tool for quantitative evaluation of indicators of economic threats. Partial indicators of economic security provide an assessment of the integral indicator taking into account their importance. In this context, the need to use a formalized approach to leveling the subjectivity of expert assessments is actualized. It is proposed to create a register of economic threats in Ukraine.

Keywords: Management, Formalized, Economic.

One of the most important directions, in our opinion, is the optimization of anti-terrorist security in Ukraine through the development and implementation of new algorithms for monitoring, analysis and forecasting based on the formalized approach of threat detection and assessment. To continue the research, it is necessary to clarify such issues as the definition of priorities in the field of protection

against terrorist threats (one of the components of which is the economic sphere), the dependence of the growth of the level of terrorist threats on the possible reaction of society to state policy. The formalized approach for assessing threats in the economic sphere is reflected in the research of such scientists as: Lenkov S. V., Vynyarskyi Ya. Ya., Dergilev O. V. (2012), Yaremko I. I. (2013), Sukhodolya, O. M. and Bogdanovych V. Yu. (2017), Steblianko I. and Doroshkevych V. (2017), Sviderske T. (2014), Tubaro P., Qin D. (1989), Yermalovich, P., & Mejri, M. (2018), Rudakova T. A., Sannikova I. N., & Rudakova O. Y. (2018) and that of other scientists.

Thus, it is quite expedient to refer to formalized methods, i.e. to assess the significance of factors, phenomena, forecasts by applying the method of expert assessments with the help of qualified specialists. To achieve our goal, it is possible to apply sociological methods (polls, questionnaires) — to study the opinions of qualified specialists about identifying and preventing threats of a terrorist nature by means of creating an appropriate model for improving the system of fighting against terrorism during the monitoring, analysis and forecasting and on their basis the development of preventive measures and rules of anti-terrorist security, prioritizing terrorist threats, as well as developing models of links between these threats and the reaction of society to their influences.

Despite the fairly clear formalization of the problem of assessing the socio-economic security of business entities, the existence of certain boundaries of fluctuations in indicators, the possibility of comparing the estimates of different periods, there are some shortcomings caused by this approach, for example, the absence of a fixed list of indicators for optimal characteristics of socio-economic security of business entities (Lienkov S. V. etc., 2013)

When developing tools for monitoring and diagnosing the level of economic security of modern socio-economic systems, researchers adhere to different concepts, applying multifunctional methods and quantitative approaches to the evaluation and analytical process: from the construction of architectonics of development strategies for ensuring economic security to the applied utilization of indicator, resource-functional, program-target, coefficient methods, method of extrapolation and maximum plausibility of the theory of pattern and tables — maps recognition (Yaremko I. I., 2012).

The first step in this way may be the development of a register of economic threats, and test attempts to use it have proved the possibility of timely detection of sources of external influence on the state of social tension, which allows to carry out appropriate compensatory influence primarily in the information environment. However, further improvement of such a tool and corresponding compensation effects after completion of a number of experimental applications reached the bifurcation point and requires additional adjustments. The results of a deep analysis of the current situation showed a number of interrelated problems and the need for their division into main and secondary, general and separate (see table 1).

Table 1: Structure of the Register of Economic Threats

№	Types of threats	Structure
1	Economic	Market changes;
2	Political	change of power, introduction of embargo;
3	Legislative	legislative regulation of activity, licensing;
4	Industrial	accidents and disasters;
5	Environmental	depletion of resources, climatic changes;

At the legislative level, the obligation of the subjects of primary financial monitoring (SPFM) to apply the risk-oriented approach to risk assessment are approved (Article 7. Application of risk-oriented approach of the Draft Law on prevention and counteraction to legalization (laundering) of income) (ProektZakonu, 2019).

Conclusions

Consequently, synthesized and comprehensive generalization of dangers and threats is a determining condition for assessing and analyzing the level of economic security of the socio-economic system of a certain hierarchical level. Improvement of evaluation and analytical tools should focus on greater specification of dangers and threats, higher level of formalization of context of interests and threats, reduction of subjectivism in their determination while investigating individual economic processes.

References

1. Lienkov S. V., Vyniars'kyj Ya. Ya., Derhyl'ova O. V. (2013) *Formalizatsiia slabostrukturovanykh zadach pry vyrishenni praktychnykh zadach zabezpechennia natsional'noi bezpeky derzhavy*. [Formalization of poorly structured problem solving practical problems of ensuring the national security of the state] *Informatsijna bezpeka*.
2. Qin, D. (1989). *Formalization of identification theory*. *Oxford Economic Papers*, 41(1), 73–93. doi:10.1093/oxfordjournals.oep.a041923
3. *Proekt Zakonu pro zapobihannia ta pro tydiulehalizatsii (vidmyvanniu) dokhodiv, oderzhanykh zlochynnym shliakhom, finansuvanniu teroryzmu ta finansuvanniu rozpovsiudzhennia zbroi masovoho znyschennia*. [Draft Law on Prevention and Counteraction to the Legalization (Laundering) of Proceeds of Crime, Financing Terrorism and Financing the Proliferation of Weapons of Mass Destruction] VRU. http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=66949 (Accessed 05 November 2019)
4. Steblianko, I., & Doroshkevych, V. (2017). *Innovation-investment mechanisms of regulation of economic security of the state*. *European Journal of Management Issues*, [25(3-4)]. <https://doi.org/10.15421/191719>
5. Sukhodolia, O. M., & Bohdanovych, V. Yu. (2017). *Formalizatsiia vplyvu enerhetychnykh zahroz na zabezpechennia oborozdatnosti derzhavy*. [Formalization of the impact of energy threats on the defense of the state] *Systemy Obrobky Informatsii*, 1(147), 168–173. doi:10.30748/soi.2017.147.31
6. Sviderske, T. (2014). *Country Risk Assessment in Economic Security and Sustainability Context*. doi:10.20334/2308-m
7. Tubaro, P. *Formalization and mathematical modelling*. *Hand book on the History of Economic Analysis Volume III*, 208–221. doi:10.4337/9781785365065.00022
8. Rudakova, T. A., Sannikova, I. N., & Rudakova, O. Y. (2018). *Regional economic security: Substance, factors, monitoring tools*. *National Interests: Priorities and Security*, 14(6), 1072–1091. doi:10.24891/ni.14.6.1072
9. Yermalovich, P., & Mejri, M. (2018). Formalization of Attack Prediction Problem. 2018 IEEE International Conference “Quality Management, Transport and Information Security, Information Technologies” (IT&QM&IS). doi:10.1109/itmqs.2018.8525128
10. Yaremko I. I. (2012) *Formalizatsiia otsinky ekonomichnoi bezpeky sotsial'no-ekonomichnykh system: kontseptual'ni zasady i pidkhody*. [Formalizing the assessment of economic security of socio-economic systems: conceptual framework and approaches] *Visnyk Natsional'noho universytetu "L'vivs'ka politehnika"*. Menedzhment ta pidpriemnytstvo v Ukraini: etap ystanovlennia i problemy rozvytku.