

MODELING OF THREATS TO ENTERPRISE FINANCIAL SECURITY

Sergienko Olena, Tatar Maryna

*National Technical University «Kharkiv Polytechnic Institute»,
National Aerospace University «Kharkiv Aviation Institute», Kharkiv*

For systematically and adequately investigation of enterprise financial security level it is necessary to identify and classify the set of threats to external and internal environment that affect the security level. The model of a complex dynamic assessment of threats to enterprises financial security includes the following 5 steps:

1. Analysis of the indicative space and the formation of system of indicators of threats of external and internal environment, which affect the enterprise financial security level. 2. Assessment of the relevance and significance of the factors of threats of the external and internal environment that affect the financial security level. 3. Estimation of local and general integral indicators of threats of factors of external and internal environment based on integral rating estimation. 4. Classification and interpretation of threats of external and internal environment. 5. Forecasting integral indicators of threats to the factor space of external and internal environment for the recognition of future development trends.

Factors of the threats of internal environment are grouped into 5 aggregated groups: labor resources, means of production, capital, technologies, management. Factors of external threats are grouped into 7 groups: social and political, state strategic position, macroeconomic, market, banking, fiscal, stock [1]. For example, the general integral indicator of threats level of enterprise external environment is:

$$I_Z_ZSR_t = (\{I_Z_ZSR(SP)_{1_t}\}, \{I_Z_ZSR(SPD)_{2_t}\}, \{I_Z_ZSR(MACRO)_{3_t}\}, \\ \{I_Z_ZSR(RIN)_{4_t}\}, \{I_Z_ZSR(BANK)_{5_t}\}, \{I_Z_ZSR(FISC)_{6_t}\}, \{I_Z_ZSR(BIRG)_{7_t}\})$$

where X_{ij} – indicators of the first level of the system of estimation of local components of threats of the enterprise external environment; $I_Z_ZSR_{j_t}$ – local components of threats of the enterprise external environment in the appropriate period of time t ($t = 1 \div 5$); $I_Z_ZSR_t$ – complex general indicator of the state of threats of the enterprise external environment in the appropriate period of time t ($t = 1 \div 5$).

The implementation of the proposed tools for assessing, analyzing and forecasting of threats of external and internal environment in practice of enterprises makes possible to determine the set of safe states of the system as a whole and the individual local components taking into account the threats activity; to calculate the effective trajectory of enterprise behavior for the safe state of the system and to identify promising directions for a safe path of development; to calculate the efficiency of finding the system in the current state and the costs associated with the transition to a qualitatively new level of security and neutralization of threats.

Literature:

1. Sergienko O., Tatar M., Golofaieva I. Analytical and applied aspects of modeling internal and external threats to enterprise financial security // Информационная экономика: этапы развития, методы управления, модели / Под ред. докт. экон. наук, проф. В.С. Пономаренко, докт. экон. наук, проф. Т.С. Клебановой. – Харьков, ВШЭМ – ХНЭУ им. С. Кузнеця, 2018. – С 396-414.