

Anishchenko O., Sablina N., Kuzenko T. Financial engineering as a factor of strengthening the financial security of an enterprise. Eastern-European Journal of Enterprise Technologies. 2025. №4/13 (136). P. 26-37.

Keywords:

financial engineering, financial security of business, assessment, efficiency, risks, tools, management, liquidity

Abstract

This study's object is the financial security management system of an enterprise as a set of management mechanisms that enable the stability of its functioning under conditions of economic instability. The task addressed is the lack of effectiveness in conventional approaches to financial security management, which do not take into account the challenges of digitalization, the growth of external and internal risks, and do not enable proper adaptability of the enterprise's financial policy.

During the study, correlation-regression models were constructed, which confirmed four hypotheses regarding the influence of financial indicators on the profitability of enterprises and the level of their financial security. In particular, an inverse effect of the absolute liquidity ratio on the return on assets ($\beta = -3,52$) and a direct effect of the solvency ratio ($\beta = +1,79$) were found. The value of coefficient of determination for the best model is $R^2 = 0,183$, which indicates that the model explains 18,3% of the variation in profitability. Among external factors, a significant impact was confirmed only for the exchange rate ($\beta = -1,04$).

The results justify the need to introduce financial engineering instruments as elements of adaptive financial policy capable of ensuring a rapid response to changes in the financial environment. The main advantage of the proposed approach is its integrative nature, which combines an analytical assessment of financial condition with the ability to devise new financial solutions adapted to the digital transformation of the economy. This is explained by a systematic approach to the selection of management tools, their quantitative justification and assessment of effectiveness.

The results of the study could be used at enterprises in the process of modernizing the enterprise's financial security management system, especially under conditions of high volatility of the external environment, in order to increase financial stability and adaptability to the risks of the external and internal environment