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Abstract

The object of research is the processes of ensuring the security of the agro-industrial complex of Ukraine in a competitive environment. The paper addresses the problem of insufficient development of the mechanism of the relationship between production potential, the level of competition and the financial stability of the industry. In addition, attention is focused on the lack of a quantitative assessment of the impact of production factors on the level of financial vulnerability of the agro-industrial complex. The research was aimed at providing a theoretical substantiate the conceptual foundations of a comprehensive model of ensuring the security of the agro-industrial complex and to quantitatively determine the impact of indicators of production capabilities on the share of unprofitable enterprises in the industry during 2016–2023. The results show that the average financial vulnerability of the industry was 23.75%, with a maximum value of 35.9% in 2022, which indicates high instability of financial results. The regression analysis revealed an inverse relationship between investment activity and the share of unprofitable enterprises, which was reflected in the coefficients at the logarithm of investments ($\ln(\text{Inv})$) – 50.64 for the base model and – 32.64 for the lag model). This confirms the fundamental economic laws regarding the stabilizing effect of the development of production potential. At the same time, the presence of a positive coefficient (1.63 and 2.10) in connection with yield indicators reveals a disparity between the level of physical productivity and financial stability of business entities. The defining characteristic of the results is the integration of a systemic conceptual model of ensuring the security of the agro-industrial complex with its empirical verification based on national statistical data and using multifactor regression analysis. The scope of practical application of the results covers the formation of investment policy, the development of mechanisms for modernization of production and instruments for strengthening the financial stability of the agro-industrial complex in conditions of heightened competition and potential geopolitical risks.