

Название публикации:

Risk indicators and risk management models for an integrated group of enterprises

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Аннотация:

The study is aimed at analyzing and developing a set of economic and mathematical models and methods for assessing the risk of market activity of structural divisions of a holding, their clustering in terms of risk level and selection of the optimal production and investment strategy of the holding with regard to risk factors. As part of the analyzed indicators, it is suggested to take into account those characterizing the risks in the main areas of the market activity of the structural divisions of a holding company: operational, financial and investment areas. In the paper, financial coefficients – risk indicators of the holding structural divisions in these areas were selected and justified for effective use of the regulatory approach to risk assessment, and numerical algorithms for their calculation were proposed. A numerical method for clustering the holding subdivisions according to the level of risk is presented. The economic-mathematical models and numerical methods for selecting the optimal investment strategy of the holding company were developed and verified, based on the Cost-Benefit Analysis (CBA) approach. The originality of the work lies in the proposed “end-to-end” procedure for assessing and managing the risks of an integrated production structure.

Ключевые слова:

Clustering and grouping methods, Cost-Benefit Analysis, Discrete optimization, Integrated group of enterprises, Mathematical programming problems, Optimization model, Risk