FORMATION OF THE OPTIMAL STRUCTURE OF THE INVESTMENT PORTFOLIO UNDER THE RISK CONDITIONS

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Investment is the main engine of economic growth. An important issue for investors is where to invest. The unstable situation of the Ukrainian economy aggravates the problem of optimal distribution of investments, since the investor's desire to receive the greatest profit contradicts the possibility of reducing risks. Now financial and information technologies are developing.

The instability of the economic situation in Ukraine, as well as the constant change and expansion of the securities market, necessitates the frequent solution of the optimal investment problem, which determines the urgency of the problem. It is necessary to have a special approach to solve the problem of optimal formation of the investment portfolio (IP) in conditions of uncertainty, which will take into account both profitability and risks.

The object of this work is securities and their characteristics, which are essential for the investor in the formation of the structure of the investment portfolio. Thus, the main objective of the work is to determine the optimal structure of IP in risk conditions for the subject of investment activity – a commercial bank. Where the risk conditions mean the randomness of certain parameters of securities that must be selected for inclusion in the IP by using special mathematical models.

In the work the object of study is described and the problem statement is formulated. The authors conducted a critical analysis of Ukrainian and foreign publications. It is established that the existing approaches to solving the problem of forming the optimal structure of IP have a number of disadvantages, on the basis of which the models for solving the problem, namely the Markowitz model, and the Sharpe model were chose. Tasks using these models relate to conditional extremum, for the solution of which the authors proposed to use the Lagrange method and the penalty function method.

Thus, the developed mathematical apparatus allows the formation of the optimal structure of the investment portfolio in conditions of risk.

The results obtained allow the investor accurately and quickly identify the investment instruments for investing, which will bring the most profit with minimal risk.

This will increase the financial condition of the investor and satisfy his goals.