THE INVESTMENT PROJECTS AT ACTIVE ALTERNATIVE

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One of the important and rather complex problems of the investment analysis is the choice of the rate of discount, on which such characteristics of the investment projects, as Net Present Value, Payback Time, Profitability Index is necessary to calculate. It is usually supposed, that alternative to financing the project is nesting resources in bank under fixed interest rate or generally under the predicted dynamics of the interest rate. Thereby, the alternative to financing the project is supposed passive. The attempt of application to the analysis of the investments of the Marcovits-Tobin portfolio theory in a combination with the optional technique used in stochastic financial mathematics is undertaken in the report. It means that active usage of free resources alternatively to investment project is supposed.

The offered approach is based on construction of a scenario tree, where in each node the optimal portfolio of the shares and bonds for some utility function is formed. Then it is supposed, that the free resources under the project in every node of a scenario tree are arranged according to the structure of an appropriate optimal portfolio.

As a rule for revaluation of probabilities we can use the following: if the vector of conditional probabilities of transitions from a certain node is $(p_1, p_2,\ldots, p_s)$ and the transition with probability p_i, $(i=1, 2,\ldots, s)$ is realized, then in appropriate node - successor the vector of conditional probabilities is accepted equal to $(tp_1, tp_2,\ldots, (1-t)+ tp_i,\ldots, tp_s)$, where t is a parameter from an interval [0,1]. The choice of the greater value of t corresponds to weaker account of influence of last transition. So, at $t = 1$ the stationary tree is realized, at $t = 0$ the previous history is completely ignored (this case have not meaning in our consideration).

The construction allows to define the characteristics of the project with the help of matching outcomes under the project with "the «zero" project. In particular the VaR and CVaR approaches can be applied.