عنوان مقاله:

Stochastic Optimal Control Methodology for Portfolio Selection Problem

محل انتشار:

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خلاصه مقاله:

Market mechanism and fluctuations trend of financial assets usually could be expressed by stochastic models better than deterministic models. Linear and nonlinear programming models generally as deterministic models could not be efficient in modeling of optimization problems, thus stochastic optimization methods are utilized to this end. In this paper, optimization of financial portfolio which is known as portfolio selection problem is discussed. Portfolio selection is a key problem in financial studies and this topic always has been attended by the researchers of financial areas. A portfolio contains financial assets such as, stock, bond, derivatives and etc. which the owner has invested in them. Since, financial assets in a portfolio could be considered as control variables; so in this paper, stochastic optimal control approach is applied to solve the portfolio selection problem. In this regard, a procedure based on dynamic programming and HJB equation is used to solve the optimization problem.

کلمات کلیدی:

Stochastic optimal control, Utility function, Portfolio Selection, Stochastic differential equations, Dynamic programming, HJB equation