

Stochastic Hereditary Differential Equations and Portfolio Optimization Problem

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Abstract:

We present the portfolio optimization problem in a market that consists of one savings account and one stock account. It is assumed that the savings account compounds continuously with a constant interest rate $r > 0$ and the unit stock price follows a nonlinear stochastic hereditary differential equation. The investor is to seek an optimal consumption-trading strategy in order to maximize the expected utility from the total discounted consumption.