

# Optimal portfolios of interest-rate securities

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## **Abstract**

We presents an application of stochastic control methods to fixed income management. We consider the portfolio problem for interest-rate securities where the interest rate is governed by the CIR model. This problem is reduced to a multidimensional Bellman equation and it has been shown that for a large class of utility functions the equation possesses a continuous solution. We than prove that under some additional assumptons the Hamilton-Jacobi-Bellman equation has a sufficiently smooth solution. This solution guaranties the existence of well defined investment strategy. Numerical calculations of the investment strategies will be also shown.