自动化学报　2003 29 (05): 673-680　ISSN: 0254-4156　CN: 11-2109/TP

论文与报告

一类国际证券投资组合和消费选择的最优控制问题

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收稿日期 2002-6-25　修回日期　网络版发布日期　接受日期

摘要
首先运用经典动态规划方法, 研究股票付息下国际证券市场中一类最优证券投资组合和消费选择问题, 并利用投资学理论对投资者只投资两种证券情形的最优组合给出经济分析和解释. 然后, 运用非常简单和直接的方法对两种典型的效用函数给出最优解的显式形式, 求解的技巧来自解决线性二次最优控制问题的配平方法. 最后, 给出一些数值计算例子来展示各模型参数对最优选择的影响.

关键词　消费/投资优化　动态规划原理　随机分析和控制

分类号　O232　F224.7

One Kind of Optimal International Security Investment Portfolio and Consumption Choice Problem

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Abstract
One kind of optimal security investment portfolio and consumption choice problem in international securities markets when the securities pay dividends is studied by using classical dynamic programming method. The economical analysis to the optimal choice of the investor is given through the investment theory when the investor invests two kinds of securities in different countries. The explicit optimal solution is presented using very simple and direct method for two kinds of typical utility cases, the idea comes from the technique which is used for solving the celebrated LQ problem in optimal control theory. At last, some simulation results are given to illustrate the influence of the parameters on optimal choice.

Key words　Consumption/investment optimization　dynamic programming principle　stochastic analysis and control

DOI:

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