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随机参数和随机资金流环境下基于二次效用函数的投资组合优化

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Portfolio Optimization with Random Parameters and Stochastic Cash Flow for Quadratic Utility Maximization

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摘要 研究完全市场下基于二次效用最大化的带有随机资金流的动态投资组合选择问题, 其中假设无风险利率、股票收益率和波动率矩阵都是一致有界随机过程. 通过应用线性二次控制方法和向后随机微分方程理论得到了最优投资组合的解析表达式.

关键词： 随机参数   随机资金流   二次效用最大化   向后随机微分方程   线性二次控制   最优投资组合

Abstract： This paper is concerned with a dynamic portfolio selection problem with stochastic cash flow in a complete financial market for quadratic utility maximization, in which interest rate, appreciation rates and volatility coefficients are allowed to be uniformly bounded stochastic processes. The optimal portfolio in the explicit forms is constructed via linear quadratic control technique and results from backward stochastic differential equations (BSDEs) theory.

Key words： random parameters   stochastic cash flow   quadratic utility maximization   backward stochastic differential equations   linear quadratic control   optimal portfolio

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[1]   Markowitz H M. Portfolio Selection. Journal of Finance, 1952, 7(1): 77-91

[2]   Merton R C. Optimum Consumption and Portfolio Rules in a Continuous-time Model. Journal of Economic Theory, 1971, 3(4): 373-

[3]   Cvitanic J, Karatzas I. Hedging and Portfolio Optimization under Transaction Costs: a Martingale Approach. Mathematical Finance, 1996, 6(2): 133-165

[4]   Shreve S E, Soner H M. Optimal Investment and Consumption with Transaction Costs. The Annals of Applied Probability, 1994, 4(609-692

[5]   Li D, Ng L. Optimal Dynamic Portfolio Selection: Multi-period Mean-variance Formulation. Mathematical Finance, 2000, 10(3): 387

[6] Zhou X Y, Li D. Continuous-time Mean-variance Portfolio Selection: a Stochastic LQ Framework. Applied Mathematics and Optimization, 2000, 42(1): 19-33 cross ref

[7] Li X, Zhou X Y, Lim A E B. Dynamic Mean-variance Portfolio Selection with No-shorting Constraints. SIAM Journal on Control and Optimization, 2002, 40(5): 1540-1555 cross ref

[8] Fu C P, Lari-Lavassani A, Li X. Dynamic Mean-variance Portfolio Selection with Borrowing Con- straint. European Journal of Operational Research, 2010, 200(1): 312-319 cross ref

[9] Lim A E B, Zhou X Y. Mean-variance Portfolio Selection with Random Parameters in a Complete Market. Mathematics of Operation Research, 2002, 27(1): 101-120 cross ref

[10] Lim A E B. Quadratic Hedging and Mean-variance Portfolio Selection with Random Parameters in an Incomplete Market. Mathemat of Operations Research, 2004, 29(1): 132-161 cross ref

[11] Ferland R, Watier F. FBSDE Approach to Utility Portfolio Selection in a Market with Random Parameters. Statistics & Probability Letters, 2008, 78(4): 426-434 cross ref

[12] Yong J, Zhou X Y. Stochastic Controls: Hamiltonian Systems and HJB Equations. New York: Springer-Verlag, 1999

[13] Ma J and Yong J. Forward-backward Stochastic Differential and their Applications. Lecture Notes in Mathematics, Vol. 1702, Springer-Verlag, New York, 1999

[14] Sharpe W F, Tint L G. Liabilities-a New Approach. Journal of Portfolio Management, 1990, 16(2): 5-10

[15] Leippold M, Trojani F, Vanini P. A Geometric Approach to Multi-period Mean-variance Optimization of Assets and Liabilities. Journa Economics Dynamics and Control, 2004, 28(6): 1079-1113 cross ref

[16] Chiu M C, Li D. Asset and Liability Management under a Continuous-time Mean-variance Optimiza- tion Framework. Insurance: Mathematics and Economics, 2006, 39(3): 330-355 cross ref

[17] Xie S X, Li Z F, Wang S Y. Continuous-time Portfolio Selection with Liability: Mean-variance Model and Stochastic LQ Approach. Insurance: Mathematics and Economics, 2008, 42(3): 943-953 cross ref

[18] Chen P, Yang H, Yin G. Markowitz's Mean-variance Asset-liability Management with Regime Switch- ing: a Continuous-time Mod Insurance: Mathematics and Economics, 2008, 43(3): 456-465 cross ref

[19] Browne S. Optimal Investment Policies for a Firm with Random Risk Process: Exponential Utility and Minimizing the Probability of R Mathematics of Operations Research, 1995, 20(4): 937-958 cross ref

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