Mathematics Department-University of Kansas

Ellis B. Stouffer Colloquium

Stock Trading: How Mathematics Can Help

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Trading a stock involves a sequence of decisions to buy and sell the security over time. Traditional trading strategies include: buy and hold; buy high and sell higher; buy on dips and sell on rallies; buy low and sell high. These trading strategies can be put into two categories: Momentum (trend following) trading and mean reversion trading. In this talk, I will focus on momentum trading. The objective is to buy and sell the asset sequentially in order to maximize a discounted payoff. Mathematically, this amounts to determining a sequence of stopping times. We consider a trend following (Geometric Brownian motions with regime switching) model, establish the associated dynamic programming equations, and provide sufficient optimality conditions. Numerical examples including Monte Carlo simulations and market back tests will also be presented.

Monday, April 8, 2013 4:00 pm 306 Snow Hall Aronszajn Seminar Room

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