

APPLIED MATHEMATICS COLLOQUIUM



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ESTIMATION ERROR AND PORTFOLIO OPTIMIZATION: A RESAMPLING SOLUTION¹

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ABSTRACT:

Markowitz (1959) mean-variance (MV) portfolio optimization has been the practical standard for asset allocation and equity portfolio management for almost fifty years. However, it is known to be overly sensitive to estimation error in risk-return estimates and have poor out-of-sample performance characteristics. The Resampled Efficiency™ (RE) techniques presented in Michaud (1998) introduce Monte Carlo methods to properly represent investment information uncertainty in computing MV portfolio optimality and in defining trading and monitoring rules. This presentation reviews and updates the literature on estimation error and RE portfolio optimization and rebalancing. We resolve several open issues and misunderstandings that have emerged since Michaud (1998). In particular, we show RE optimization to be a Bayesian-based generalization and enhancement of Markowitz's solution.

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MONDAY, OCTOBER 29, 2007

4:30 PM

Building 4, Room 270

*Reception at 4:00 PM in Building 4, Room 174
(Math Majors Lounge)*

Applied Math Colloquium: <http://www-math.mit.edu/amc/fall07>

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