The University of Chicago

Department of Statistics

Seminar Series

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"No-Arbitrage Semi-Martingale Restrictions for Continuous-Time Volatility Models Subject to Leverage Effects and Jumps: Theory and Testable Distributional Implications"

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MONDAY, November 21, 2005 at 4:00 PM
133 Eckhart Hall, 5734 S. University Avenue

Refreshments following the seminar in Eckhart 110.

ABSTRACT

We shed light on the characteristics of high-frequency asset return and volatility processes and their implications for daily return distributions. We document that the standard jump-diffusion setting readily accommodates the main features of equity index returns, including stochastic volatility, outlier behavior and a strong asymmetry between return and volatility innovations. We also informally test, and confirm, that the underlying high-frequency returns are consistent with the general semi-martingale restriction by recovering almost exact Gaussianity of the "daily" returns sampled in "financial time" through a dynamic correction for jumps and an "event-time" sampling scheme. Each step of the procedure provides insights into the corresponding aspect of the data: jumps, stochastic volatility and the asymmetry or "leverage effect".

Please send email to Mathias Drton (drton@galton.uchicago.edu) for further information. Information about building access for persons with disabilities may be obtained in advance by calling the department office at (773) 702-8333.