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Seminar

Speaker: **Dr. Wolfgang K. Hardle**
Department of Economics and Business Administration
Humboldt-University zu Berlin

Title: **Local Adaptive Multiplicative Error Models for High-Frequency Forecasts**

Time: **3:20 – 4:20pm, Wednesday, February 27, 2013**

Place: **552 Hill Center**

Abstract

We propose a local adaptive multiplicative error model (MEM) accommodating time varying parameters. MEM parameters are adaptively estimated based on a sequential testing procedure. A data-driven optimal length of local windows is selected, yielding adaptive forecasts at each point in time. Analyzing one-minute cumulative trading volumes of five large NASDAQ stocks in 2008, we show that local windows of approximately 3 to 4 hours are reasonable to capture parameter variations while balancing modeling bias and estimation (in)efficiency. In forecasting, the proposed adaptive approach significantly outperforms a MEM where local estimation windows are fixed on an ad hoc basis.

JEL classification: C41, C51, C53, G12, G17

Keywords: multiplicative error model, local adaptive modeling, high-frequency processes, trading volume, forecasting

**** Refreshments will be served at @2:50pm in Room 502 Hill Center ****