

THE CHINESE UNIVERSITY OF HONG KONG

Department of Statistics

will present a seminar entitled

Estimating fractional cointegration at the tick level with tapered DFTs

by

Professor Alexander Aue
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on

Tuesday, 17 November 2009
2:00pm – 3:00pm

in

Lady Shaw Building G36
The Chinese University of Hong Kong

Abstract:

We consider pure-jump transaction-level models for asset prices in continuous time, driven by point processes. In a bivariate model that admits cointegration, we allow for time deformations to account for such effects as intraday seasonal patterns in volatility, and non-trading periods that may be different for the two assets. Most assumptions are stated directly on the point process, though we provide sufficient conditions on the corresponding inter-trade durations for these assumptions to hold. We obtain the asymptotic distribution of the log-price process. We also obtain the asymptotic distribution of the ordinary least-squares estimator of the cointegrating parameter based on data sampled from an equally-spaced discretization of calendar time, in the case of weak fractional cointegration. Finally, we discuss an alternative estimation method based on tapered differences of discrete Fourier transformations (DFTs) which work under a weaker set of assumptions.

This is based on joint work with Cliff Hurvich (NYU) and Philippe Soulier (Paris X).

All are Welcome