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DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

Seminar

Professor Wolfgang Karl Härdle

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C.A.S.E. Centre for Applied Statistics and Economics
School of Business and Economics
Humboldt-Universität zu Berlin
Germany
http://lvb.wiwi.hu-berlin.de/

will give a talk

entitled

LOCALISING TEMPERATURE RISK

Abstract

On the temperature derivative market, modeling temperature volatility is an important issue for pricing and hedging. In order to apply pricing tools of financial mathematics, one needs to isolate a Gaussian risk factor. A conventional model for temperature dynamics is a stochastic model with seasonality and inter temporal autocorrelation. Empirical work based on seasonality and autocorrelation correction reveals that the obtained residuals are heteroscedastic with a periodic pattern. The object of this research is to estimate this heteroscedastic function so that after scale normalisation a pure standardised Gaussian variable appears. Earlier work investigated this temperature risk in different locations and showed that neither parametric component functions nor a local linear smoother with constant smoothing parameter are flexible enough to generally describe the volatility process well. Therefore, we consider a local adaptive modeling approach to find at each time point, an optimal smoothing parameter to locally estimate the seasonality and volatility. Our approach provides a more flexible and accurate fitting procedure of localised temperature risk process by achieving excellent normal risk factors.

on

Monday, September 12, 2011

2:00 p.m. – 3:00 p.m.

at

Room 524, Meng Wah Complex
(behind the Chong Yuet Ming Amenities Centre)

Visitors Please Note that the University has limited parking space. If you are driving please call the Department at 2859 2466 for parking arrangement.

All interested are welcome