Department of Information and Systems Management
School of Business and Management
Hong Kong University of Science and Technology

Seminar Announcement

On the Significance of Statistical Models for the Drift Function in Continuous Time Interest Rate Models

by

Mr Myung Suk KIM
Texas A&M University

19 January 2005 (Wed)
11:00am – 12:00pm
Conference Room 4379 (lift 17-18)

All interested are welcome

Abstract

We investigate the significance of statistical models for the drift function in continuous time interest rate models using the weekly observed 3-month U.S. Treasury Bill yields data from January 8, 1958 to December 31, 2003. Parametric linear and nonlinear regression models are applied to the estimation of the drift function based on Stanton (1997)'s approach. The correctness of the assumed parametric drift models is examined using the consistent nonparametric model specification test method introduced by Li (1994) and Zheng (1996) and the generalized likelihood ratio test proposed by Fan, Zhang, and Zhang (2001). Both tests indicate that there is no strong statistical evidence against the assumed drift models. Furthermore, the zero drift model is not rejected by either of tests. These results imply that the statistical models for the drift function in continuous time interest rate models are insignificant. Documentation of less than 1% in the coefficient of multiple determination for the assumed drift models confirms our results.

Key words: Coefficient of Multiple Determination; Drift Function; Generalized Likelihood Ratio Test; Local Constant Kernel Estimator; Local Linear Kernel Estimator; Nonparametric Model Specification Test; Wild Bootstrap Method.

Biography

Mr Myung Suk Kim received magna cum laude in business administration from Sogang University, Seoul, Korea, in 1997 and the M.S. degree in statistics at Texas A&M University, College Station, Texas, USA, in 2002. Currently, he is a PhD candidate in statistics at Texas A&M University under the direction of Professor Suojin Wang. His research interests include financial time series, nonparametric model specification, and bootstrap method.