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Statistical Testing for Independence in a Large Panel of Time Series

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Date : **22 September 2009 (Tuesday)**
Time : **4 pm – 5 pm**
Venue: **SPMS-Executive Classroom 1, MAS-03-06**
School of Physical and Mathematical Sciences

In this paper, we propose a new diagnostic test for residual cross- section independence in a nonparametric panel data model. The proposed nonparametric cross-section dependence (CD) test is a nonparametric counterpart of an existing parametric CD test proposed in Pesaren (2004) for the parametric case. We establish an asymptotic distribution of the proposed test statistic under the null hypothesis. As in the parametric case, the proposed test has an asymptotically normal distribution. We then analyze the power function of the proposed test under an alternative hypothesis that involves a nonlinear multi-factor model. We also provide several numerical examples. The small sample studies show that the nonparametric CD test associated with an asymptotic critical value works well numerically in each individual case. An empirical analysis of a set of CPI data in Australian capital cities is given to examine the applicability of the proposed nonparametric CD test.

Speaker Biography

Prof. Jiti Gao has been Professor of Economics (with Chair in Econometrics) at The University of Adelaide since January 2008. Prior to that, he was Professorial Fellow (12/2004-12/2007), Senior Lecturer (05/2002-11/2004) and Lecturer (01/2000-04/2002) at The University of Western Australia. Prof. Gao has a PhD degree in Economics (specialized in Econometrics) from Monash University, Doctoral and Master degrees in Science (specialized in Probability Theory and Mathematical Statistics) from The University of Science and Technology of China, and a Bachelor degree in Science (specialized in Applied Mathematics) from The University of Anhui, China. His research interests lie in Econometric Theory, Financial Econometrics, Nonparametric and Semiparametric Econometrics, Panel Data and Time Series Econometrics.

Host: Prof. Pan Guangming, Division of Mathematical Sciences, School of Physical and Mathematical Sciences

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