Zhongwen Liang

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Education

Ph.D. in Economics, Texas A&M University, (2007-present, expected May 2012)

M.S. in Mathematics, Wuhan University, June 2006

B.S. in Mathematics, Wuhan University, June 2004

Dissertation

Title: Limited Dependent Variable Correlated Random Coefficient Panel Data Models

Committee: Dr. Qi Li (chair), Dr. Dennis W. Jansen, Dr. Ke-Li Xu, Dr. Joel Zinn

Research Fields

Econometrics, Financial Econometrics, Applied Econometrics

Research Interests

Nonparametric Econometric Models, Panel Data Models, Diffusion Models, Nonstationary Time Series, Applied Econometrics

Publications

1. Functional Coefficient Regression Models with Time Trend, (with Qi Li), forthcoming in *Journal of Econometrics*.
2. Nonparametric Estimation of Multivariate CDF with Categorical and Continuous Data, (with Gaosheng Ju, Rui Li), *Advances in Econometrics* 25, 291-318, 2009.

Papers Under Review

1. Testing Cointegration Relationship in a Semiparametric Varying Coefficient Model, (with Jingping Gu), revised and resubmitted, *Journal of Econometrics*.
2. Local Linear Estimation and Testing with Nonstationary Data, (with Cheng Hsiao, Zhongjian Lin), submitted.

Working Papers

1. Binary Response Correlated Random Coefficient Panel Data Models (**Job Market Paper**)
2. Correlated Random Coefficient Panel Data Models, (with Cheng Hsiao, Qi Li, and Wei Xie)

Work in Progress

1. Testing and Estimating Structural Change in a Diffusion Process
2. Censored and Truncated Correlated Random Coefficient Panel Data Models
3. Monetary-Fiscal Policy Interactions and Stock Returns: The Sector and International Evidence, (with Jian Yang)
4. A Semiparametric Multinomial Choice Panel Data Model

Fellowships, Honors, and Awards

S. Charles Maurice Graduate Fellowship in Economics, Texas A&M University, 2011

Bradley Fellowship, PERC at Texas A&M University, Fall 2010-Summer 2011

M. H. Webber Scholarship, PERC at Texas A&M University, Summer 2009

Graduate Research Assistantship, Texas A&M University, 2007-present

Teaching Interests

Econometrics, Financial Econometrics, Applied Econometrics, Financial Economics, Microeconomics

Teaching Experience

Instructor, Principles of Microeconomics, Spring 2010

Teaching assistant for Professor Qi Li, Introduction to Statistics (Graduate), Summer 2008

Presentations

2011 Texas Camp Econometrics XVI, Cypress, February 2011

Fourth Year Ph.D. Students in Economics Presentation, Texas A&M University, May 2011

Econometrics Workshop, Texas A&M University, October 2011 (Scheduled)

Referee Experience

Journal of Econometrics, Econometric Reviews, Journal of Nonparametric Statistics

Professional Membership

Econometric Society

Citizenship

China (F-1 Visa)

Computer Skills

Programming in MATLAB, C, Stata, R, GAUSS

References

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Abstracts of Selected Papers

1. Binary Response Correlated Random Coefficient Panel Data Models (**Job Market Paper**)

   In this paper, we consider binary response correlated random coefficient (CRC) panel data models which are frequently used in the analysis of treatment effects and demand of products. We focus on the nonparametric identification and estimation of panel data models under unobserved heterogeneity which is captured by random coefficients and when these random coefficients are correlated with regressors. For the analysis of treatment effects, under some circumstances, the average treatment effect can be estimated via a linear CRC model. We give the identification conditions for the average slopes of a linear CRC model with a general nonparametric correlation between regressors and random coefficients. We construct a $\sqrt{n}$ consistent estimator for the average slopes via varying coefficient regression. The identification of binary response panel data models with unobserved heterogeneity is difficult. We base identification conditions and estimation on the framework of the model with a special regressor, which is a major approach proposed by Lewbel (1998, 2000) to solve the heterogeneity and endogeneity problem in the binary response models. With the help of the additional information on the special regressor, we can transfer a binary response CRC model to a linear moment relation. We also construct a semiparametric estimator for the average slopes and derive the $\sqrt{n}$-normality result. Simulations are given to show the finite sample advantage of our estimators.

2. Functional Coefficient Regression Models with Time Trend, (with Qi Li), forthcoming in *Journal of Econometrics*.

   We consider the problem of estimating a varying coefficient regression model when regressors include a time trend. We show that the commonly used local constant kernel estimation method leads to an inconsistent estimation result, while a local polynomial estimator yields a consistent estimation result. We establish the asymptotic normality result for the proposed estimator. We also provide asymptotic analysis of the data-driven (least squares cross validation) method of selecting the smoothing parameters. In addition, we consider a partially linear time trend model and establish the asymptotic distribution of our proposed estimator. Two test statistics are proposed to test the null hypotheses of linear and of partially linear time trend models. Simulations are reported to examine the finite sample performances of the proposed estimators and the test statistics.

3. Testing Cointegration Relationship in a Semiparametric Varying Coefficient Model, (with Jingping Gu), revised and resubmitted, *Journal of Econometrics*.

   In this paper, we develop two cointegration tests for two varying coefficient cointegration regression models, respectively. Our test statistics are residual based. We derive the asymptotic distributions of test statistics under the null hypothesis of cointegration and show that they are consistent against the alternative hypotheses. We also propose a subsampling scheme to rectify severe distortions found in simulations when the sample size is small. We apply the proposed test statistic to examine the purchasing power parity (PPP) hypothesis between the U.S. and Canada. In contrast to existing results from linear cointegration tests, our varying coefficient cointegration test suggests that PPP holds between the U.S. and Canada.