

## GUANGYI MA

Department of Economics  
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### EDUCATION:

Ph.D. in Economics, Texas A&M University, 2007-present (expected May 2012)  
M.A. in Economics, Seoul National University, August 2005  
B.A. in International Economics and Trade, Harbin Institute of Technology, August 2002

### RESEARCH FIELDS:

Primary: Econometrics, Financial Econometrics, Applied Econometrics  
Secondary: Financial Economics, Macroeconomics

### RESEARCH INTERESTS:

Nonparametric Econometric Models, Time Series Models, Continuous-time Econometric Models

### DISSERTATION:

Title: "Estimation and Test of Nonparametric Models Subject to Economic Constraints"  
Committee: Dr. Ke-Li Xu (chair), Dr. Qi Li, Dr. Dennis W. Jansen, Dr. Hwagyun (Hagen) Kim

JOB MARKET PAPER: "Empirical Likelihood Based Constrained Nonparametric Regression: With an Application to Option Price and State Price Density Estimation"

*Abstract:* Economic models often imply that the proposed functional relationship between economic variables must satisfy certain shape restrictions. This paper develops a constrained nonparametric regression method to estimate a function and its derivatives subject to such restrictions. We construct a set of constrained local quadratic (CLQ) estimators based on empirical likelihood. Under standard regularity conditions, the proposed CLQ estimators are shown to be weakly consistent and have the same first order asymptotic distribution as the conventional unconstrained estimators. The CLQ estimators are guaranteed to be within the inequality constraints imposed by economic theory, and display similar smoothness as the unconstrained estimators. At a location where the unconstrained estimator for a curve (e.g., the second derivative) violates a restriction, the corresponding CLQ estimator is adjusted towards to the true function. Interestingly, such bias reduction can also be achieved when the binding effect is from a restriction on another curve (e.g., the first derivative). This finite sample gain is achieved through joint estimation of the functions, using the same empirical likelihood weights. We apply this procedure to estimate the day-to-day option pricing function and the corresponding state-price density function with respect to different strike prices.

WORKING PAPERS AND WORK IN PROGRESS:

“Functional-Coefficient Cointegration Test of Purchasing Power Parity”

*Abstract:* We test the absolute version of Purchasing Power Parity (PPP) hypothesis in a functional-coefficient cointegration model. The adoption of this general cointegration framework is backed by equilibrium models of exchange rate determination with the presence of transactions costs in international trade. We find supporting evidence of PPP in the recent float exchange rate era. The cointegration relationship of nominal exchange rate and price levels differs conditioning on the real exchange rate (RER) volatility. The cointegration coefficients are more stable and numerically near the value implied by PPP theory when the RER volatility is low.

“Modified CUSUM Test Robust to Non-stationary Volatility”, with Ke-Li Xu

RESEARCH EXPERIENCE:

Research Assistant to Prof. Ke-Li Xu, Texas A&M University, Fall 2011

Research Assistant to Prof. Haeshin Hwang, Texas A&M University, Fall 2008

Research Assistant to Prof. Yoon-Jae Whang, Seoul National University, Fall 2006-Spring 2007

Research Assistant at Center for Corporate Competitiveness, Seoul National University, 2005-2007

Research Assistant to Prof. In Ho Lee and Prof. Xiaozu Wang, Seoul National University, 2004

TEACHING INTERESTS:

Graduate level: Econometrics, Time Series Econometrics, Financial Econometrics

Undergraduate level: Introductory Econometrics, Statistics for Business and Economics, Financial Economics, Intermediate Macroeconomics, Principles of Economics (Micro and Macro)

TEACHING EXPERIENCE:

Primary Instructor of

Ecmt 475 “Economic Forecasting”, Spring 2011 (Senior undergraduate)

Econ 202 “Principles of Economics: Microeconomics”, Fall 2010 (Junior undergraduate)

Econ 410 “Macroeconomic Theory”, Summer 2011, Spring 2010 (Senior undergraduate)

Teaching Assistant to

Professor Ke-Li Xu, “Econometrics V: Time Series”, Fall 2011 (Graduate)

Professor Haeshin Hwang, “Introduction to Econometrics”, Fall 2009, Fall 2008 (Senior undergraduate)

“Econometrics I”, Spring 2009 (Graduate)

PRESENTATIONS:

Southwestern Economics Association Annual Meeting, Houston, March 2010

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

Econometrics Workshop, Texas A&M University, October 2011

FELLOWSHIPS, HONORS, AND AWARDS:

S. Charles Maurice Graduate Fellowship in Economics, Texas A&M University, 2011  
Private Enterprise Research Center Summer Fellowship, Texas A&M University, 2009  
Graduate Assistantship, Texas A&M University, Fall 2008-present  
Chinese Economics Alumni Merit Scholarship, Texas A&M University, Fall 2007-Spring 2008  
Graduate Fellowship, Seoul National University, Fall 2005-Fall 2006  
Special Scholarship for Students from Abroad, Korea Scholarship Foundation, May 2004  
Tuition Scholarship, Seoul National University, Spring 2003-Spring 2004

OTHER ACTIVITIES:

President of the Economics Graduate Student Association, Texas A&M University, 2010  
Hosting support of the Conference of Economic Issues Affecting Hispanic American Communities,  
September 25, 2010

COMPUTER SKILLS:

Proficient programming skills in MATLAB, GAUSS, R, Stata

CITIZENSHIP:

China (F-1 Visa)

LANGUAGES:

Chinese (native), English (fluent), and Korean (fluent)

REFERENCES:

Professor Qi Li  
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