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Curriculum Vitae, November 2009

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Vanderbilt University
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Graduate Education

Vanderbilt University, Department of Economics
Ph.D. Candidate in Economics
Expected completion date: May 2010

Dissertation Title: Three Essays on Nonlinear Time Series Econometrics

Thesis Committee and References

Professor Mototsugu Shintani (Primary Advisor): mototsugu.shintani@vanderbilt.edu, 615-322-2196
Professor Yanqin Fan: yanqin.fan@vanderbilt.edu, 615-322-3796
Professor Tong Li: tong.li@vanderbilt.edu, 615-322-3582
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M.A., Economics, Vanderbilt University, 2007
Jilin University, China
M.A., Economics, 2003

Undergraduate Education

Jilin University, China
B.A., Economics, 2000

Research and Teaching Fields

Primary: Time series econometrics
Secondary: Macroeconomics and Finance

Honors and Fellowships

The Noel Dissertation Fellowship, Vanderbilt University Department of Economics, 2009
Kirk Dornbush Summer Research Grant, Vanderbilt University Department of Economics, 2008
Kirk Dornbush Research Assistantship, Vanderbilt University Department of Economics, 2006
Graduate Teaching Assistantship, Vanderbilt University, 2005-present
Graduate Tuition Fellowship, Vanderbilt University, 2004-present

Teaching Experience

Vanderbilt University, Teaching Assistant
Time Series Analysis (Ph.D.): 2007, 2009
Emerging Markets Finance: 2007
Development Economics: 2007
Development Economics and Policy Issues in Development Economics (graduate): 2007

Intermediate Macroeconomic Theory (graduate): 2008
Statistical Analysis (graduate):2008
Econometrics (Ph.D.):2009

Research Papers

“Consistent cotrending rank selection when both stochastic and nonlinear deterministic trends are present,” with Mototsugu Shintani [[Job Market Paper](#)]

This paper proposes a model-free cotrending rank selection procedure based on the eigenstructure of a multivariate version of the von Neumann ratio, in the presence of both stochastic and nonlinear deterministic trends. Our selection criteria are easily implemented and the consistency of the rank estimator is established under very general conditions. Simulation results suggest good finite sample properties of the new rank selection criteria. The proposed method is also applied to the analysis of Japanese money demand function allowing for the cotrending relationship among money, income and interest rates.

“Nonparametric lag selection for nonlinear additive autoregressive models,” with Mototsugu Shintani (under review)

This paper investigates the finite and asymptotic properties of lag selection procedure based on the final prediction error (FPE) when the additive structure is a priori known in the nonparametric regression. The conditions required for the consistency of the lag selection designed for the additive nonparametric regression are provided, followed by the simulation results showing a significant improvement in the finite sample performance over the case of the unrestricted estimation.

“An asymmetric smooth transition GARCH model”

This paper develops a smooth transition GARCH model with an asymmetric transition function, which allows for an asymmetric response of volatility to the size and sign of shocks, and an asymmetric transition dynamics for positive and negative shocks. Two procedures are presented for testing asymmetries; one is a LM type test that replaces the transition function with a suitable linear approximation; and the other is a supremum LM test with unidentified parameters under the null. We make use of the bootstrapping method by Hansen (1996) to obtain the distribution of the supremum LM test under the null. A Monte Carlo simulation is conducted to examine the finite sample performance of the two test statistics and we find that the power properties of the supremum LM test are superior to that of the LM type. Furthermore, we apply our model to a long time series of financial data: the NASDAQ index and on individual stock's daily return (IBM). The empirical evidence shows that our model outperforms many existing GARCH specifications.

“Self-selection models and endogeneity issues in accounting research,” with Paul Chaney and Debra Jeter

Controlling for endogenous variables is a troublesome issue that arises in accounting research in a wide variety of contexts. For example, prior research has examined audit pricing for both unlisted and publicly held firms and provided mixed evidence regarding the existence of a Big 8 (6 or 5) premium in pricing. Early research investigated the existence of a Big or specialist fee premium without acknowledging that clients must first make a choice to employ a large or small auditor, and a specialist or nonspecialist. Among the first attempts to control for this endogeneity were studies employing a treatment effects Heckman two-step model (e.g. Ireland and Lennox, 2002). These models assume that only intercept differences exist with regard to auditor pricing. A switching regression (Heckman two-step model) was then estimated to examine the issue of auditor premiums (Chaney, Jeter and Shivakumar, 2004). This research has also been criticized because the same variables used to predict auditor choice are often the same variables used to estimate auditor fees. Thus the concern of endogeneity remains largely unresolved. In this paper, we provide a comprehensive examination of

selection models used to control for endogenous variables. We examine OLS, various Heckman models, and a semiparametric approach to identify when each model is appropriate and we identify tests to examine the assumptions underlying each model.

Work in Progress

“A semiparametric approach to audit fee analyses” with Paul Chaney and Debra Jeter

Other Research Experience and Employment

Research Assistant to Professor Mara Faccio, Summer 2006

Research Assistant to Professor Paul Chaney, Summer 2007, Summer 2008, Summer 2009

Research Assistant to Professor Ronald W. Masulis, Summer 2007

Software Knowledge:

Matlab, Gauss, SAS, Stata, R