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EDUCATION

Ph.D. (Economics): University of Pittsburgh, Pittsburgh, PA, USA, 2001 – June 2007 (expected)
M.A. (Economics): McGill University, Montreal, Canada, 2001
Bc./BSc. (Economics and Bus. Admin.): University of Economics, Prague, Czech Rep., 2000
and Uppsala University, Uppsala, Sweden, 1999 (joint)

RESEARCH SPECIALIZATION

Primary: Econometrics (theoretical and applied)
Secondary: Applied Microeconometrics, Executive Compensation

DISSERTATION TITLE: “Essays in Semiparametric Econometrics and Panel Data Analysis”

Expected Date of Completion: May 2007
Principal Advisor: Mehmet Caner (dissertation co-chair)
Other References: Jean-François Richard (dissertation co-chair), Nese Yildiz

JOB MARKET PAPER

[“Sieve-based Empirical Likelihood under Semiparametric Conditional Moment Restrictions”](#)

In this paper we propose a new Sieve-based Locally Weighted Conditional Empirical Likelihood (SLWCEL) estimator for models of conditional moment restrictions containing finite-dimensional unknown parameters θ and infinite-dimensional unknown functions h . The SLWCEL is a one-step information-theoretic alternative to the GMM-type sieve minimum distance estimators proposed by Ai and Chen (2003). We approximate h with a sieve and estimate both θ and h simultaneously conditional on exogenous regressors. Thus, the estimator permits dependence of h on endogenous regressors and θ . We establish consistency and convergence rates for the estimator and asymptotic normality for its parametric component of θ . The SLWCEL generalizes in two ways the Conditional Empirical Likelihood (CEL) of Kitamura, Tripathi and Ahn (2004) designed to supplant the classical GMM in parametric conditional moment restrictions models. First, we construct the CEL's dual MD-objective function with a new weighting scheme that adapts to local inhomogeneities in the data. Second, we extend the resulting new estimator into the semiparametric environment defined by the presence of h . We show that the corresponding estimator of θ exhibits better finite-sample properties than found in the previous literature.

PUBLICATIONS

[“Integration of the Chinese Aluminum Market into the Global Economy: Empirical Case Study,”](#)

with Vera Achvarina, in *Proceedings of the Third International Conference ‘An Enterprise Odyssey: Integration or Disintegration,’* University of Zagreb, Croatia, June 2006. ISBN: 953-6025-17-5

China's market-oriented reforms and entry into WTO have resulted in a deeper integration of Chinese economy into the global system. Has economic integration also facilitated market integration for individual commodities? This paper focuses on the Chinese aluminum market and analyzes the dynamics of its integration into the global economy between 1995 and 2005. We employ two complementary techniques: the Johansen cointegration test applied to subperiods between structural breaks identified in the data and the time-varying parameter model coefficient estimates obtained using the Kalman filter. Our results do not reveal any clear trend towards deeper market integration. Rather, the convergence dynamics has been volatile with periods of deeper integration countered by periods of reversal.

WORKING PAPERS

“Classical and Bayesian Analysis of a Probit Panel Data Model with Unobserved Heterogeneity and Autocorrelated Errors,” with Roman Liesenfeld and Jean-François Richard

In this paper, we perform both classical and Bayesian analysis of a panel probit model with unobserved individual heterogeneity and serially correlated errors. In the classical part, we use Efficient Importance Sampling (EIS) in evaluating a sequentially factorized simulated maximum likelihood function. In the Bayesian part, we utilize the Markov Chain Monte Carlo (MCMC) sampling scheme, augmenting the data with latent variables. We sample the unobserved individual heterogeneity component as one Gibbs block drawing from a piece-wise linear approximation to the marginal posterior density. The time effects are simulated as another Gibbs block with a parametric EIS proposal density for an Acceptance-Rejection Metropolis-Hastings step. We apply our methods to the product innovation activity of a panel of German manufacturing firms in response to imports, foreign direct investment and other control variables. This dataset was analyzed by Bertschek and Lechner (1998) and Greene (2004) under more restrictive assumptions that we use as a benchmark for our analysis. Compared to these authors, our coefficient estimates of the key variables are somewhat smaller, which can be explained by the exclusion of three far outliers from our estimation and also by our flexible model assumptions. Nonetheless, our results confirm the positive effect of imports and FDI on firms' innovation activity found in the previous literature. Moreover, unobserved firm heterogeneity is shown to play a far more significant role in the application than time effects.

RESEARCH IN PROGRESS

“Promotion, Turnover and Compensation: An Empirical Analysis of the Market for Top Executives,” with Robert A. Miller, George-Levi Gayle and Limor Golan

This paper analyzes the promotion and compensation structure of executives. Firm executives are recruited from outside the firm or promoted from the lower ranks; they are promoted within a hierarchical structure that represents the organizational management structure and ultimately leave to retire or join other firms. A transition matrix determines entry, promotion and exit in this market. We compute the cost minimization problem that a typical firm faces in seeking to motivate and retain its managers. This yields an equation determining executive compensation as a function of the abnormal returns to firms, the experience profiles of the managers, and other controls such as the rank of the manager and the firm sector. We also analyze the optimal rule for hiring new executives from outside the firm, but treat promotions within the firm as an (optimally determined) exogenous process.

“Wavelet-based Sieve Estimation in Nonlinear Ill-posed Inverse Problems”

In this paper we analyze functional estimation of several special cases of the model $y=H(x,u)$ that give rise to nonlinear ill-posed inverse problems. Our analysis is conducted using a class of wavelet-based sieve estimators under conditions that are weaker than considered in existing literature. The estimator is constructed using a nonlinear n -term approximation via series expansion in orthonormal wavelet basis.

PRESENTATIONS

- 16th Annual Meeting of the Midwest Econometrics Group, Cincinnati, OH, October 2006
- University of Pittsburgh, Pittsburgh, PA, October 2006
(both “Sieve-based Empirical Likelihood under Semiparametric Moment Restrictions”)
- 3rd International Conference ‘An Enterprise Odyssey: Integration or Disintegration,’ University of Zagreb, Croatia, June 2006 (“Integration of the Chinese Aluminum Market into the Global Economy: Empirical Case Study”)

RESEARCH EXPERIENCE

- RA to Jean-François Richard, University of Pittsburgh, 2005 – 2006
- RA to Robert A. Miller and George-Levi Gayle, Tepper School of Business, Carnegie Mellon University, Pittsburgh, empirical work on the paper “Has Moral Hazard Become a More Important Factor in Managerial Compensation?”, May 2004 – August 2004
- RA to Victoria Zinde-Walsh, McGill University, Montreal, May 2001 – August 2001

TEACHING EXPERIENCE

INSTRUCTOR

University of Pittsburgh, Pittsburgh, PA

- Undergraduate Applied Econometrics I (ECON 1150), Spring 2004

Richard S. Thorn Excellence in Teaching Award, 2004

TEACHING ASSISTANT

University of Pittsburgh, Pittsburgh, PA

- Graduate Econometrics of Panel Data, computer work, instructor: Mehmet Caner, Spring 2004
- Graduate Introduction to Econometric Theory (ECON 2020), instructor: Mehmet Caner, Fall 2004
- Graduate General Econometrics (ECON 2150), instructor: Mehmet Caner, Spring 2005

McGill University, Montreal, Canada

- Introduction to Macroeconomics, instructor: Christopher Ragan, Fall 2000
- Introductory Microeconomics, instructor: William Watson, Spring 2001

AWARDS AND FELLOWSHIPS

- Andrew W. Mellon Research Fellowship, University of Pittsburgh, 2006 – 2007
- Richard S. Thorn Excellence in Teaching Award, University of Pittsburgh, 2004
- Faculty of Arts & Sciences Research Fellowship, University of Pittsburgh, 2001
- Departmental Scholarship, McGill University, 2000
- Faculty of Graduate Studies and Research Fellowship, McGill University, 2000
- European Union Academic Scholarship ERASMUS, Uppsala University, 1998 – 1999
- University Scholarship, University of Economics, Prague, 1997
- Academic Scholarship, Clifton College, A-levels, 1994 – 1996

COMPUTER SKILLS

Fortran 90/95, Stata 9, Matlab R14, Gauss 6.0, Unix (ssh, Solaris, Absoft)

LANGUAGES

Czech (native), English (fluent), German (advanced), Swedish (advanced), Russian (intermediate)

OTHER INFORMATION

Prague International Marathon 1997, Bristol half-Marathon 1994

REFERENCES

- Mehmet Caner
(principal advisor) Department of Economics, University of Pittsburgh, Posvar Hall
4509, Pittsburgh, PA 15260, caner@pitt.edu, (412) 648-1762
- Jean-François Richard Department of Economics, University of Pittsburgh, Posvar Hall
4917, Pittsburgh, PA 15260, fantin@pitt.edu, (412) 648-1750
- Nese Yildiz Department of Economics, Harkness Hall, University of Rochester
Rochester, NY 14627, (after 1/1/07), (585) 275-5252

Additional references (George-Levi Gayle, Roman Liesenfeld, Robert A. Miller) available upon request.

Teaching reference

- Shirley Cassing Department of Economics, University of Pittsburgh, Posvar Hall
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