LIXIONG LI

Contact Information

Department of Economics
Pennsylvania State University
University Park, US, 16802

Email: lixiong.li@psu.edu
Phone: +1 814-777-4676
Website: http://lixiongli.com
Citizenship: China

Education

Ph.D. in Economics, The Pennsylvania State University 2013-
Expected Completion Date: August 2019

Thesis Title: Essays on Partial Identification in Structural Models

M.A. in Economics, School of Economics and Management, Tsinghua University 2010-2013

B.A. in Economics, School of Economics, Fudan University 2006-2010

Research Interests

Econometrics; Industrial Organization

Research Experience

Aug. 2017 – Dec. 2017	Research Assistant, Prof. Marc Henry
May 2014 – June 2014	Research Assistant, Prof. Patrik Guggenberger

Teaching Experience

Fall 2015	Teaching Assistant, Introduction to Mathematical Economics (Graduate)

Honors and Awards

Spring 2017	Bates & White, Pennsylvania State University
Spring 2017	Lipson Graduate Research Fund, Pennsylvania State University

Presentation

2018	Cornell University (Econometrics Seminar)
2018	Cornell-PSU Macro Conference
2018	University of Toronto (Econometrics Seminar)
2017	Washington University in St. Louis (12th Economics Graduate Students' Conference)

Skills

Computer: C++, CUDA GPGPU, R (data processing and visualization), Matlab
Languages: Chinese (native), English (fluent)

References

Professor Marc Henry (advisor)	Professor Joris Pinkse	Professor Keisuke Hirano
Pennsylvania State University	Pennsylvania State University	Pennsylvania State University
marc.henry@psu.edu	joris@psu.edu	hirano@psu.edu

Working Papers

Identification of Structural and Counterfactual Parameters in a Large Class of Structural Econometric Models (Job Market Paper)

Abstract: Structural econometric models usually involve parametric distributional assumptions for unobserved heterogeneity. Although these assumptions are typically not informed by economic theory, and undermine the robustness of empirical results, they are generally thought to be necessary to simulate counterfactual predictions. In partially identified and incomplete structural models, counterfactual analysis is also hampered by the multiplicity of admissible structural parameter values and the multiplicity of counterfactual predictions for each structural parameter value. This paper shows how to construct identification conditions for both structural and counterfactual parameters in a large class of structural econometric models, including partially identified and incomplete ones, without imposing parametric distributional assumptions for unobserved variables. The identified set is characterized by moment inequalities, so that existing inferential methods can be applied, including subvector inference when only counterfactual parameters are of interest. The novelty and computational tractability of the methodology is illustrated on a class of discrete choice models and a class of entry models.

Identification in Matching Models with Search Friction

Abstract: I investigate a model of one-to-one matching with transferable utilities, where the matching process is subject to time-consuming search frictions. I assume agents have unobserved (to economists) characteristics, which affect the matching surplus along with matching specific random shocks under a separability assumption. I show the matching surplus can be non-parametrically identified with data on matching patterns and distributions on unmatched durations across agents, given any known distribution on unobserved characteristics. In contrast with existing literature, my identification strategy does not hinge on data on payoffs and panel data with long time series. As in frictionless matching models, I show any interior matching patterns can be rationalized by the model under some parameters. For one type of corner solution, only set identification is attained and a sharp bound has been derived.

A General Method for Demand Inversion

Abstract: This paper describes a numerical method to solve for mean product qualities which equates the real market share to the market share predicted by a discrete choice model. The method covers a general class of discrete choice model, including the pure characteristics model in Berry and Pakes(2007) and the random coefficient logit model in Berry et al.(1995) (hereafter BLP). The method transforms the original market share inversion problem to an unconstrained convex minimization problem, so that any convex programming algorithm can be used to solve the inversion. Moreover, such results also imply that the computational complexity of inverting a demand model should be no more than that of a convex programming problem. In simulation examples, I show the method outperforms the contraction mapping algorithm in BLP. I also find the method remains robust in pure characteristics models with near-zero market shares.

Bounding Heterogeneous Treatment Effects Under Moment Restrictions (joint with Désiré Kédagni and Ismael Mourifié)

Abstract: In the last 20 years the bounding approach on average treatment effect (ATE) has been developed on the theoretical side, however, empirical work has lagged far behind theory in this area. One main reason is that, in practice, traditional bounding methods fall into two extreme cases: (i) On the one hand, the bounds are too wide to be informative and this happens, in general, when the IV has little variation; (ii) while on the other hand, the bounds cross, in which case the researcher learns nothing about the parameter of interest other than that the instrumental variable (IV) restrictions are rejected. This usually happens when the IV has a rich support and the IV restriction imposed in the model --- full, quantile or mean independence--- is too stringent as illustrated in Ginther (2000). In this paper we provide sharp bounds on the ATE using only a finite set of unconditional moment restrictions which is a weaker version of mean independence. We revisit the return to schooling literature using our bounding approach and derive informative bounds on the yearly average return to school in US.