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Placement Directors: Professor Ufuk Akcigit, uakcigit@uchicago.edu, (773) 702 0433
Professor Alessandra Voena, avoena@uchicago.edu, (773) 702 9127
Graduate Student Coordinator: Robert Herbst, fherbst@uchicago.edu, (773) 834 1972

Personal Information: Male, Republic of Korea (South)

Education

The University of Chicago, 2014 to present
Ph.D. Candidate in Economics
Thesis Title: "Identification and estimation of average effects in dynamic random coefficient models"
Expected Completion Date: June 2020

M.Sc., Statistics, The University of British Columbia, 2014
B.S., Economics, Korea University, 2012

References:

Professor Stéphane Bonhomme (Primary Advisor)
University of Chicago
sbonhomme@uchicago.edu, (773) 834 6831

Professor Alexander Torgovitsky
University of Chicago
torgovitsky@uchicago.edu, (773) 702 1569

Professor Guillaume Pouliot
University of Chicago
guillaume.pouliot@gmail.com, (773) 834 0628

Teaching and Research Fields:

Primary fields: Econometrics
Secondary fields: Applied Microeconomics

Teaching Experience:

Spring, 2018	Topics in Econometrics (graduate), University of Chicago, Teaching Assistant for Stéphane Bonhomme
Winter, 2018	Topics in Microeconometrics (undergraduate), University of Chicago, Teaching Assistant for Thibaut Lamadon

Autumn, 2017	Topics in Microeconometrics (undergraduate), University of Chicago, Teaching Assistant for Thibaut Lamadon
Spring, 2017	Applied Microeconometrics (undergraduate), University of Chicago, Teaching Assistant for Juanna Schrøter Joensen
Winter, 2017	Topics in Microeconometrics (undergraduate), University of Chicago, Teaching Assistant for Thibaut Lamadon
Autumn, 2016	Topics in Econometrics (graduate), University of Chicago, Teaching Assistant for Stéphane Bonhomme
2012 to 2014	Elementary Statistics (undergraduate), University of British Columbia, Teaching Assistant for Eugenia Yu

Research Experience and Other Employment:

Summer, 2014	University of British Columbia, Research Assistant for Nancy Heckman

Honors, Scholarships, and Fellowships:

2019 to 2020	Reid Economics Fellowship
2014 to 2019	Social Sciences Fellowship
2012 to 2014	International Partial Tuition Scholarship

Professional Activities:

Conference and Seminar Presentations:

2019	Optimization-Conscious Econometrics Conference

Language and Computer Skills:

Computer Skills:
R, C++, Matlab, Stata

Languages:
English (Fluent), Korean (native)

Publications:

Lee, W., Greenwood, P. E., Heckman, N., & Wefelmeyer, W. (2017). Pre-averaged kernel estimators for the drift function of a diffusion process in the presence of microstructure noise. Statistical Inference for Stochastic Processes, 20(2), 237-252.

Research Papers:

"Identification and estimation of average effects in dynamic random coefficient models" (Job Market Paper)

This paper studies dynamic linear fixed effect models that allow for unobserved heterogeneity in individual responses and dynamics in a short panel setting. The model allows both the coefficients and the intercept to be individual-specific. I show that the model is not point-identified and yet partially identified, and I characterize the sharp identified sets of mean, variance and the distribution itself of the partial effect distribution. The characterization applies to both discrete and continuous data. A computationally feasible estimation and inference procedure is proposed, which is based on a fast and exact global polynomial optimization algorithm. The method is applied to study life-cycle earnings and consumption dynamics of U.S. households in the Panel Study of Income Dynamics (PSID) dataset. The estimation results suggest that there is large heterogeneity in earnings persistence and earnings elasticity of consumption and that there is a strong correlation between the two. Calibration of a life-cycle model suggests that heterogeneity in the asset-related

factors such as heterogeneity in interest rates or discount rates is required to accurately describe real-world consumption and savings behavior.

Work in Progress:

"Global optimization algorithm for interactive fixed effect models"

This paper proposes a novel estimation algorithm for interactive fixed effect models, namely linear fixed effect models in which individual and time fixed effects appear multiplicatively. A serious computational challenge faced by interactive fixed effect models is that the least squares estimator requires a researcher to globally minimize a non-convex objective function. This challenge requires the researcher to minimize the least squares criterion with multiple starting values, and yet the researcher is not convinced of its global optimality. This paper proposes an estimation algorithm that globally minimize the least squares criterion. The algorithm does not depend on the starting value and, more importantly, provides certificate of global optimality for the least squares estimator.

"Identification and estimation of binary choice models with heterogeneous state dependence and partial effects"

This paper studies panel data binary choice models that allow for unobserved heterogeneity in state dependence and partial effect of regressors. Existing literature on panel data binary choice models allow the levels of the linear index to be heterogeneous. This paper studies binary choice models that also allow for heterogeneity in the coefficients on lagged outcomes and regressors, hence allowing for heterogeneity in state dependence and partial effects. I characterize the sharp identified sets of causal parameters such as average marginal effects, where the characterization allows the regressors to be discrete or continuous. An estimation method for the identified sets are proposed.