WOOYONG LEE
https://wooyong.github.io/
wooyong@uchicago.edu

Office Contact Information
1126 E. 59th Street – Saieh Hall for Economics
Chicago, IL 60637
(773) 364 0570

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 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 dynamic random coefficient models" (Job Market Paper)
This paper studies dynamic panel data linear models that allow multiplicative and additive heterogeneity in a short panel context by allowing both the coefficients and 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 the mean, variance, and distribution of the partial effect distribution. The characterization applies to both discrete and continuous data. A computationally feasible estimation and inference procedure is proposed, based on a fast and exact global polynomial optimization algorithm. The method is applied to study lifecycle earnings and consumption dynamics in U.S. households in the Panel Study of Income Dynamics (PSID) dataset. Results suggest large heterogeneity in earnings persistence and earnings elasticity of consumption, and a strong correlation between the two. Calibration of the lifecycle model suggests that heterogeneity in asset-related factors, such as interest or discount rates, is required to describe real-world consumption and savings behaviors accurately.

Work in Progress:

"Global optimization algorithm for interactive fixed effect models"

This paper proposes a simple and yet a very effective estimation algorithm for interactive fixed effect models, namely linear fixed effect models in which individual and time fixed effects appear multiplicatively. An important computational issue faced by interactive fixed effect models is that the least squares estimator requires a researcher to globally minimize a non-convex objective function, which requires the researcher to minimize the function with multiple starting values and yet the researcher is not convinced of the solution's global optimality. This paper proposes a global estimation algorithm that does not depend on the starting value and, more importantly, provides certificate of global optimality for the solution.

"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 level of linear index to be individual-specific. This paper studies binary choice models that also allow the coefficients on lagged outcomes and regressors to be individual-specific, 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 applies to both discrete and continuous regressors. A computationally feasible estimation and inference method for the identified set is proposed.