Paul Sungwook Koh

Department of Economics
Columbia University
New York, NY 10027

Phone: (646) 689 0116
Email: psk2138@columbia.edu
Website: www.pskoh.com

Placement Chair: Donald Davis, drdavis@columbia.edu
Placement Chair: Suresh Naidu, sn2430@columbia.edu
Placement Assistant: Amy Devine, aed2152@columbia.edu, (212) 854 6881

Fields of Interest

Econometrics, Microeconomic Theory, Empirical Industrial Organization

Education

Ph.D. Economics, Columbia University, 2022 (Expected)

M.Phil. Economics, Columbia University, 2019

M.A. Economics, Columbia University, 2018

B.A. Economics, Yonsei University, 2015

Job Market Paper

"Stable Outcomes and Information in Games: An Empirical Framework"

Abstract: Empirically, many strategic settings are characterized by stable outcomes in which players' decisions are publicly observed, yet no player takes the opportunity to deviate. To analyze such situations in the presence of incomplete information, we build an empirical framework by introducing a novel solution concept that we call *Bayes stable equilibrium.* Our framework allows the researcher to be agnostic about players' information and the equilibrium selection rule. The Bayes stable equilibrium identified set collapses to the complete information pure strategy Nash equilibrium identified set under strong assumptions on players' information. Furthermore, all else equal, it is weakly tighter than the Bayes correlated equilibrium identified set. We also propose computationally tractable approaches for estimation and inference. In an application, we study the strategic entry decisions of McDonald's and Burger King in the US. Our results highlight the identifying power of informational assumptions and show that the Bayes stable equilibrium identified set can be substantially tighter than the Bayes correlated equilibrium identified set. In a counterfactual experiment, we examine the impact of increasing access to healthy food on the market structures in Mississippi food deserts.

Working Papers

"Estimating Discrete Games of Complete Information: Bringing Logit Back in the Game"

Abstract: This paper proposes an extremely fast and simple approach to estimating

static discrete games of complete information under pure strategy Nash equilibrium and no assumptions on the equilibrium selection rule. We characterize an identified set of parameters using a set of inequalities that are expressed in terms of closed-form multinomial logit probabilities. The key simplifications arise from using a subset of all identifying restrictions that are particularly easy to handle. Under standard assumptions, the identified set is convex and its projections can be obtained via convex programs. Numerical examples show that the identified set is tight. When applied to the entry game between Walmart and Kmart using a real-world dataset, the projections of the identified set can be obtained in less than ten seconds.

Works in Progress

"Estimating Dynamic Games with Unknown Information Structure"

Abstract: This paper studies identification and estimation of a class of dynamic games when the underlying information structure is unknown to the researcher. We introduce *Markov correlated equilibrium*, a dynamic analog of Bayes correlated equilibrium studied in Bergemann and Morris (2016), and show that the set of Markov correlated equilibria coincides with the set of Markov perfect equilibria that can arise when the players might observe more information than assumed by the analyst. We leverage the informational robustness property of Markov correlated equilibria and propose an econometric approach for estimating dynamic games with weak assumptions on players' information. We also propose multiple computational strategies to deal with the non-convexities that arise in dynamic environment. As an empirical application, we apply the framework to study the dynamic entry competition by major coffee chains in the US.

Publications (Pre-doctoral)

"Court-appointed Experts and Accuracy in Adversarial Litigation" (with Chulyoung Kim), *International Journal of Economic Theory*, vol. 16, no. 3, September 2020

"Minimum Asset and Liability Insurance Requirements on Judgment-Proof Individuals When Harm is Endogenous" (with Chulyoung Kim), *Hitotsubashi Journal of Economics*, vol. 60, no. 2, December 2019

Honors and Awards

The Dhrymes Econometrics Award, Department of Economics, Columbia University, 2020

Wueller Teaching Award for Ph.D. Courses (Runner-up), Department of Economics, Columbia University, 2018, 2020

Best TA in First-Year Graduate Courses (Runner-up), Association of Graduate Economics Students, Columbia University, 2019

Summer Research Fellow Grant, Program for Economic Research, Columbia University, 2018, 2019

Summer Research Grant, Microeconomic Theory Initiative, Columbia University, 2019

Dean's Fellowship, Graduate School of Arts and Sciences, Columbia University, 2016–2022

Outstanding Research Award, The 7th Korea Health Panel Conference, 2015

National Humanities Academic Scholarship (merit-based), Korea Student Aid Foundation, 2013-2014

Teaching Experience

Instructor

Math Camp (for first-year economics PhD students), Summer 2018 & Summer 2019

Recitation Instructor for PhD-level Courses

Math Methods for Economists, Fall 2018 & Fall 2019;

Introduction to Econometrics II, Spring 2018

Recitation Instructor for Undergraduate-level Courses

Advanced Microeconomics, Spring 2020 & Spring 2021;

Introduction to Econometrics, Fall 2020;

Intermediate Microeconomics, Fall 2017 & Spring 2019

Tutor

Graduate-level econometrics and math methods

Departmental/University Service

Student organizer for Microeconomics Colloquium, Econometrics Colloquium

Skills

Languages: English (fluent), Korean (native), Japanese (beginner)

Software: R, Matlab, Julia, Python, Stata

Miscellaneous

Military service, Republic of Korea Army 3rd Artillery Brigade, Jan 2010–Nov 2011

Citizenship: US, Republic of Korea

References

Sokbae (Simon) Lee	Bernard Salanié	Qingmin Liu
Professor of Economics	Professor of Economics	Professor of Economics
Columbia University	Columbia University	Columbia University
sl3841@columbia.edu	bs2237@columbia.edu	qingmin.liu@columbia.edu
(212) 851 9416		(212) 854 2512