KYUNGHO LEE

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Education

Yale University
- Ph.D. Economics in Progress — 2027 (Expected)
- M.Phil. Economics — 2025

Seoul National University
- M.A. Economics — 2021
- B.A. Economics with *Summa Cum Laude* — 2019

Research Interests

Applied Microeconomics, Industrial Organization, Unstructured Data, Econometrics and Machine Learning

Teaching Experiences

Yale University, Teaching Fellow — 2023 - 2025
- Introduction to Probability and Statistics, Math Camp: Programming (PhD level), Introduction to Microeconomics, Econometrics I (PhD level), Econometrics II (PhD level)

Seoul National University, Teaching Assistant — 2020 - 2021
- Basic Computing, Studies in Econometrics (PhD level)

Research Experiences

Research Assistant to Prof. Katja Seim — 2025
Research Assistant to Prof. Yoon-Jae Whang — 2019 - 2021
Research Assistant to Prof. Sukjin Han — 2018 - 2020

Honors, Awards and Fellowships

Arvid Anderson Prize Fellowship, Yale University — 2025 - 2026
Nathan Hale Fellowship, Yale University — 2024
Distinction, Econometrics Qualifying Examination, Yale University — 2023
Young Economist, 7th Lindau Nobel Laureate Meeting on Economic Sciences — 2022
SBS Scholarship (Full Oversea PhD Funding), SBS Foundation — 2021 - 2027
Cowles Foundation Fellowship, Yale University — 2021 - 2027
Highest Honor Undergraduate Thesis, Seoul National University — 2019
Presidential Eminence Scholarship (Merit-Based Full Scholarship), Seoul National University — 2018

Professional Activities and Others

Referee	*American Economic Review*
Service	Yale IO Tea Organizer
Software	Python, Stata, MATLAB, R
Languages	English (Fluent), Korean (Native), Mandarin Chinese (Good)
Citizenship	Republic of Korea (F-1 Visa)

Working Papers

"Copyright and Competition: Estimating Supply and Demand with Unstructured Data"
2025, arXiv:2501.16120 (with Sukjin Han)

We study the competitive and welfare effects of copyright in creative industries in the face of cost-reducing technologies such as generative artificial intelligence. Creative products often feature *unstructured* attributes (e.g., images and text) that are complex and high-dimensional. To address this challenge, we study a stylized design product – fonts – using data from the world's largest font marketplace. We construct neural network embeddings to quantify unstructured attributes and measure visual similarity in a manner consistent with human perception. Spatial regression and event-study analyses demonstrate that competition is local in the visual characteristics space. Building on this evidence, we develop a structural model of supply and demand that incorporates embeddings and captures product positioning under copyright-based similarity constraints. Our estimates reveal consumers' heterogeneous design preferences and producers' cost-effective mimicry advantages. Counterfactual analyses show that copyright protection can raise consumer welfare by encouraging product relocation, and that the optimal policy depends on the interaction between copyright and cost-reducing technologies.

Presented at *APIOC 2024, AI at Yale 2025, ACM EC 2025, MLESC 2025, World Congress 2025*

"PySDTest: a Python/Stata Package for Stochastic Dominance Tests"
2024, arXiv:2307.10694 (with Yoon-Jae Whang)

We introduce PySDTest, a Python/Stata package for statistical tests of stochastic dominance. PySDTest implements various testing procedures such as Barrett and Donald (2003), Linton et al. (2005), Linton et al. (2010), and Donald and Hsu (2016), along with their extensions. Users can flexibly combine several resampling methods and test statistics, including the numerical delta method (Dümbgen, 1993; Hong and Li, 2018; Fang and Santos, 2019). The package allows for testing advanced hypotheses on stochastic dominance relations, such as stochastic maximality among multiple prospects. We first provide an overview of the concepts of stochastic dominance and testing methods. Then, we offer practical guidance for using the package and the Stata command pysdtest. We apply PySDTest to investigate the portfolio choice problem between the daily returns of Bitcoin and the S&P 500 index as an empirical illustration. Our findings indicate that the S&P 500 index returns second-order stochastically dominate the Bitcoin returns.

Publications

"Minimum Wage, Social Insurance Mandates, and Work Hours"
2023, Journal of Public Economics, 225, 104951. (with Ji Hwan Kim, Jungmin Lee)

Raising the minimum wage may have unintended negative consequences for workers. In South Korea, employers are required to contribute towards their employees' social insurance, with the amount proportional to earnings. However, workers employed for less than 60 h per month are exempt from this contribution requirement. Using administrative payroll records from 2011 to 2019, we find that raising the minimum wage results in a higher share of the exempt workers. Our results remain robust when focusing on unanticipated hikes in the minimum wage in 2018 and 2019.

- Top 50 Outstanding Research, Ministry of Education of the Republic of Korea 2024
- Korean Economy Research Award: Best Paper in Microeconomics, Korean Economic Association 2023

"Testing for Time Stochastic Dominance"
2023, Journal of Econometrics, 235(2), 352-371. (with Oliver Linton, Yoon-Jae Whang)

We propose nonparametric tests for the null hypothesis of time stochastic dominance. Time stochastic dominance makes a partial order of different prospects over time based on the net present value criteria for general utility and time discount function classes. For example, time stochastic dominance can be used for ranking investment strategies or environmental policies based on the expected net present value of the future benefits. We consider an L_p-type test statistic and derive its large sample distribution under standard panel data sampling scheme with fixed time dimension. We suggest a path-wise (or cluster) bootstrap procedure that allows individual time series dependence over the time horizon. We describe two approaches, the contact-set approach and the numerical delta method, that may lead to enhanced power compared to the conventional least-favorable-case based approach. We prove the asymptotic validity of our testing procedures. We investigate the finite sample performance of the tests in simulation studies. As an illustration, we apply the proposed tests to evaluate the Million Baht Village Fund Program in Thailand and carbon emission trading scheme in China.

- Best Student Paper Prize, Korean Economic Association 2020