

EDUCATION

- **Kelley School of Business, Indiana University** Bloomington, IN
Ph.D. in Business Economics and Public Policy; Minor in Statistics May 2025 (Expected)
 - Thesis: “When Manufacturers Become Resellers: An Examination of the Strategic Interplay Between New and Used Car Pricing” (Committee: Jeffrey T. Prince (chair), R. Andrew Butters, Michael R. Baye, Boyoung Seo, Ruli Xiao)
- **Sungkyunkwan University** Seoul, South Korea
M.A. in Economics February 2019
 - Thesis: “The Incumbents’ Quality Response to Entry by Low-Cost Carriers: Evidence from Airline Industry” (Committee: Minsoo Park (chair), Hyunchul Kim, Jaesung Choi)
- **Sungkyunkwan University** Seoul, South Korea
B.A. with Highest Honors in Global Economics August 2016

RESEARCH INTERESTS

Industrial Organization, Applied Microeconomics, Antitrust Economics, Economics of Digitization

RESEARCH PAPERS

- **“When Manufacturers Become Resellers: An Examination of the Strategic Interplay Between New and Used Car Pricing,” (Job Market Paper)**
 - *Abstract:* Manufacturers of durable goods have an incentive to weaken secondary markets to reduce the substitution away from their new products. The resale value offered in the secondary market, however, can benefit primary firms by lowering the net cost of new products. I document novel evidence that manufacturers can strategically engage in the secondary market as buyers to enhance the resale value of their products. I exploit a natural experiment induced by a recent policy change in South Korea that lifted the prohibition on used car sales by manufacturers, using vehicle identification number (VIN) level administrative microdata covering the universe of new and used vehicles registered from 2017-2024. I find that for products where primary and secondary markets are sufficiently segmented—goods with high depreciation—primary firms offer higher trade-in prices than sellers in the secondary market. In contrast, when used goods retain their value—goods with low depreciation—this value is already reflected in the initial prices of new goods, leaving firms with no incentive to pay premiums. I show that this strategic intervention enables manufacturers to appropriate higher prices for new cars, exclusively for vehicle models where they offered higher prices in the secondary market.
- **“From Cold-Start to Warm Reception: Knowledge Contribution as a Signaling Mechanism,”** with Rick Harbaugh and Minsoo Park, October 2024.
 - *Abstract:* Reputation systems increase sales for well-established firms with a proven track record, but they pose a “cold-start problem” for entrants who lack a pre-existing reputation. Using a legal platform’s administrative data, this paper examines how attorneys in the online legal services market can strategically signal their inherent quality by publicly answering legal questions posed by potential clients on the platform. Such knowledge contribution benefits customers while reducing the time needed for the contributing attorneys to transact with an initial customer and start establishing a reputation. This benefit is exclusive to attorneys who lack public indicators of quality such as prestigious degrees and office locations, but who are high-quality as revealed by their long-run reputation scores. The observed signaling behavior is consistent with models that highlight the potential public good benefits of signaling, and with models that predict the marginal private benefit of signaling is highest when prior information on quality is weakest.
- **“Smartphone Impacts on Online Content Consumption Patterns,”** with Shane Greenstein and Jeffrey Prince, October 2024.

- **Abstract:** Smartphones have become the leading medium for online content consumption globally. Despite this major change in how content is consumed, little is known about whether and how the switch from home computers to mobile devices has impacted on the way content is consumed. In this paper, we build a simple theory model that captures heterogeneity in opportunity costs across individuals and search costs across mediums. The model generates several predictions concerning the concentration of online consumption and the distribution of session lengths across devices, which we test using data on home computer consumption in 2008 and 2019, along with data on mobile consumption from 2019. Our empirical analysis shows that mobile platforms are associated with shorter, more frequent sessions and more concentrated consumption patterns compared to home devices. As users spend more time online via mobile, they tend to focus on a limited set of high-utility apps or websites, leading to a reduced variety than desktops and laptops. The reduced variety in mobile consumption suggests a shift toward a more concentrated set of online content suppliers, leading to reduced content diversity.
- **“Competitive Effects of Joint Ventures in the U.S. International Airline Industry,”** with Jaehak Lee, Jeffrey Prince, and Daniel Simon, June 2024.
 - **Abstract:** This paper examines the competitive effects of joint ventures and antitrust immunity (ATI) in the U.S. international airline market. We quantify the extent to which joint ventures and ATI facilitate partial collusion among participating airlines and the consequent impact on market outcomes. Our structural model captures the changes in prices, capacities, and consumer welfare resulting from these partnerships. Our counterfactual analysis highlights that while joint ventures, while providing efficiencies similar to mergers, enable substantial coordinated behavior that can lead to higher prices and reduced competition. However, we didn’t find anti-competitive effects caused from ATI agreement. The unique dataset which covers multiple joint venture agreements and market conditions in the international transatlantic market offers robust empirical evidence on the dual nature of joint ventures as both collaborative and collusive entities.
- **“Persistence of Tacit Collusion During Cartel Periods: An Empirical Approach,”** with Jungmin Kim, March 2024.
 - **Abstract:** Despite firms involved in collusion claiming that some procurement bids during the cartel period were conducted competitively, it is possible that they implicitly learn each other’s behavior through explicit conspiracy, enabling tacit collusion in allegedly competitive bids. We examine the phenomenon of this “During-Cartel Tacit Collusion (DCTC)” in the context of government public procurement in South Korea. Using a difference-in-difference method, we evaluate whether there is a significant drop in bids allegedly made in a competitive environment when cartel collapses, compared to confirmed collusion cases. Our analysis is based on comprehensive administrative bidding data from 2000 to 2024. The findings suggest that cartel overcharges might be underestimated if the subnormal markup created by DCTC is not properly accounted for in antitrust litigation.
- **“Estimating the Economic Value of the Online Marketplace for Legal Services,”** with Minsoo Park and Jungmin Kim, *KDI Journal of Economic Policy*, Vol. 45(3), 49-73, 2023.
 - **Abstract:** This study examines the usage status of legal services provided by lawyers targeting domestic consumers and investigates empirically how much online platforms that facilitate lawyer search and consultation can increase consumers’ utility, and how much the lawyer legal service market will expand through this. To this end, this study applies a discrete choice demand model to the data collected through a conjoint survey to estimate the value of the lawyer search and consultation platform perceived by consumers, and estimates the effectiveness of the platform in expanding the market for lawyer legal services through a simulation method. As a result of the analysis, the relative value that consumers place on finding and consulting a lawyer using the online platform instead of being introduced to a lawyer by an acquaintance or searching for a lawyer offline is estimated to be about 70,414 won. It was found that the existence of lawyer search and consultation platforms could increase the market size of legal services by as little as 18.9% to as much as 70.2%. In particular, the platforms are expected to increase the accessibility of legal services to vulnerable groups.

TEACHING

Independent lecturer :

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| Business, Government, and Society (59 students, 6.21/7.00) | Summer 2023 |
| Business, Government, and Society (51 students, 6.50/7.00) | Summer 2022 |
| Business, Government, and Society (48 students, 6.46/7.00) | Summer 2021 |

Teaching assistant :

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| Econometrics (Prof. Minsoo Park) | Spring 2018, Fall 2017 |
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CONFERENCE & SEMINAR PRESENTATIONS

23rd International Industrial Organization Conference (Philadelphia, 2025, scheduled), 89th Midwest Economics Association (Kansas City, 2025, scheduled), ASSA Annual Meeting (San Francisco, 2025, scheduled), 7th Asia-Pacific Industrial Organization Conference (Seoul, 2024, scheduled), 94th Southern Economic Association (Washington, D.C., 2024, scheduled), IU Kelley (Bloomington, 2024), 93rd Southern Economic Association (New Orleans, 2023), Korean Allied Economic Association (Seoul, 2019).

HONORS & AWARDS

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| Harry Kelsey, Jr. Doctoral Fellowship, <i>Indiana University Bloomington</i> | 2024 |
| Robert James Waller Doctoral Bicentennial Fellowship, <i>Indiana University Bloomington</i> | 2024 |
| Kelley School of Business Research Data Funding, <i>Indiana University Bloomington</i> | 2024 |
| Doctoral Office Travel Grant, <i>Indiana University Bloomington</i> | 2023 |
| CIBER Research Grant, <i>Indiana University Bloomington</i> | 2023 |
| School of International Services (SIS) Fellowship, <i>Indiana University Bloomington</i> | 2022 |
| Dean's Fellowship, <i>Indiana University Bloomington</i> | 2019 - 2020 |
| Doctoral Fellowship, <i>Indiana University Bloomington</i> | 2019 - 2024 |
| Simsan Scholarship, <i>Sungkyunkwan University</i> , Seoul, Korea | 2017 - 2018 |
| Class Aid Scholarship, <i>Sungkyunkwan University</i> , Seoul, Korea | 2016 - 2017 |
| Graduate School Fellowship, <i>Sungkyunkwan University</i> , Seoul, Korea | 2016 - 2018 |
| Best Undergraduate Paper Award, <i>Market Economic Research Institute (MERI)</i> , Seoul, Korea | 2014 |
| Samsung Electronics Co. (SEC) Full Scholarship, <i>Samsung Foundation</i> | 2010 - 2016 |

PERSONAL

Software & Programming: Python, Stata, Matlab, R, L^AT_EX
Languages: Korean (native), English (fluent)
Citizenship: South Korea

REFERENCES

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