

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 Regulation, Economics of Digitization

RESEARCH PAPERS

- **“When Manufacturers Become Resellers: An Examination of the Strategic Interplay Between New and Used Car Pricing,” (Job Market Paper)**
 - *Best Research Papers in Industrial Organization by Young Researchers from the Centre for Competition Economics*
 - *Abstract:* Manufacturers of durable goods have an incentive to weaken secondary markets to reduce substitution away from their new products. The resale value offered in the secondary market, however, can benefit primary market firms by lowering the net cost of new products. This paper documents how manufacturers’ strategic intervention in the secondary market can enhance the perceived value of their primary products. I exploit an exogenous policy shift in South Korea’s automobile industry that removed the ban on used car sales by manufacturers. Using vehicle identification number (VIN)-level administrative microdata on new and used vehicle registrations, 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 independent 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. This strategy allows manufacturers to charge higher prices for new cars, exclusively for models where they offer premium trade-in prices in the secondary market.
- **“Competitive Effects of Joint Ventures in the U.S. International Airline Industry,”** with Jaehak Lee, Jeffrey Prince, and Daniel Simon, November 2024.
 - *Abstract:* This paper studies 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 consequential impact on market outcomes. We construct a structural model designed to disentangle the collusive effect of cooperative firm arrangements from cost impacts. Using an expansive international airline dataset, we estimate our model to determine the level of joint profit consideration among firms in an antitrust immunity arrangement (ATI) and joint venture (JV) partnership and compare both to competition and merger. We find for a JV a net price decline of about 1.6%, which we decompose into a price increase of 1.9% due to increased collusion and a price decrease of 3.5% due to cost savings. Perhaps surprisingly, we didn’t find any evidence of joint profit maximization among antitrust immunity arrangements (ATI) partners. We discuss applications, including as a method to establish a lower bound on cost efficiencies needed to expect of price decrease from a JV.
- **“Smartphone Impacts on Online Content Consumption Patterns,”** with Shane Greenstein and Jeffrey Prince, November 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 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 predictions concerning the differences across mobile devices and home computers in the variety of online consumption and the distribution of session lengths across devices. We test these predictions using data on home computer usage in 2008 and 2019, along with data on mobile usage 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 reduced variety compared to desktop 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.

- **“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 models that predict the marginal private benefit of signaling is highest when prior information on quality is weakest.

- **“Persistence of Tacit Collusion During Cartel Periods: An Empirical Approach,”** with Jungmin Kim, November 2024.

► *Abstract:* Despite firms involved in collusion often claiming that procurement bids during the cartel period in unrelated market were conducted competitively, they could tacitly coordinate their behavior across these ostensibly competitive markets, a phenomenon called During-Cartel Tacit Collusion (DCTC). This study investigates DCTC in the context of public procurement in South Korea, focusing on two types of markets: those with confirmed collusion and those where collusion is ostensibly absent, but same players participated in both markets. Using a difference-in-difference approach, we evaluate whether bids classified as competitive in unrelated market exhibit a significant decline in bidding prices after cartel collapses, compared to confirmed collusion bids in cartel market. Our analysis is based on administrative data provided by Korean General Services Administration (GSA) covering all public procurement projects in South Korea from 2000 to 2024, including detailed information on all participating firms and their bidding prices. The findings suggest that antitrust litigation may underestimate cartel overcharges if the additional markups generated by DCTC are not properly accounted for, underscoring the need for refined methodologies in evaluating the economic damage of collusion.

- **“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 :

Business, Government, and Society (59 students, 6.21/7.00)

Summer 2023

Business, Government, and Society (51 students, 6.50/7.00)
Business, Government, and Society (48 students, 6.46/7.00)

Summer 2022
Summer 2021

Teaching assistant :

Econometrics (Prof. Minsoo Park)
Microeconomics Theory (Prof. Chamna Yoon)
Introduction to Microeconomics (Prof. Heejoon Kang)

Spring 2018, Fall 2017
Spring 2017
Fall 2016

CONFERENCE & SEMINAR PRESENTATIONS

2025 (including scheduled): International Industrial Organization Conference (IIOC) Annual Conference (Philadelphia, PA), Midwest Economics Association (MEA) Annual Conference (Kansas City, MO), Centre for Competition Economics Conference (Paris, France)
2024: Southern Economic Association (SEA) Annual Meeting (Washington, DC), IU Kelley (Bloomington, IN), IU BEPP Brown Bag (Bloomington, IN)
2023: Southern Economic Association (SEA) Annual Meeting (New Orleans, LA), IU BEPP Brown Bag (Bloomington, IN)
2019-2022: 4× IU BEPP Brown Bag (Bloomington, IN), Korean Allied Economic Association (Seoul, Korea)

HONORS & AWARDS

Best Paper Award in I.O. by Young Researchers, <i>the Centre for Competition Economics, Paris, France</i>	2025
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, Seoul, Korea</i>	2017 - 2018
Class Aid Scholarship, <i>Sungkyunkwan University, Seoul, Korea</i>	2016 - 2017
Graduate School Fellowship, <i>Sungkyunkwan University, Seoul, Korea</i>	2016 - 2018
Best Undergraduate Paper Award, <i>Market Economic Research Institute (MERI), Seoul, Korea</i>	2014
Samsung Electronics Co. (SEC) Full Scholarship, <i>Samsung Foundation</i>	2010 - 2016

PERSONAL

Software & Programming: Python, Stata, Matlab, R, \LaTeX
Languages: Korean (native), English (fluent)
Citizenship: South Korea

REFERENCES

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