

# HWIKOOK CHOE

[www.linkedin.com/in/hwikook-choe](https://www.linkedin.com/in/hwikook-choe) / <https://github.com/hwikookchoe> / [hwikookchoe12@gmail.com](mailto:hwikookchoe12@gmail.com)

## PROFESSIONAL EXPERIENCE

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### Samsung Card

Aug. 2024 - Present

- Senior Professional in Credit Data Science Team (Mar. 2025 - Present)
- Professional in Credit Data Science Team (Aug. 2024 - Feb. 2025)

### Datacrunch Global

Feb. 2023 - May 2024

- Associate Data Scientist

## EDUCATION

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### University of Chicago

*Sep. 2017 - Jun. 2024*

Ph.D in Econometrics

Master's in Econometrics

### Korea University

*Mar. 2016 - Feb. 2017*

Attended Master's Program in Economics

### Korea University

*Mar. 2010 - Feb. 2016*

Bachelor of Economics and Bachelor Science in Mathematics (Double major)

## RESEARCH EXPERIENCE

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### University of Chicago: Ph.D in Econometrics

Sep. 2017 - Jun. 2024

- Transferable Skills
  - Econometric / statistical modeling
  - Machine learning
  - Data processing
  - Data visualization
- Working Paper
  - Quantity Surcharge (with Giovanni Compiani, Jean-Pierre Dube and Joonhwi Joo)

Abstract: We explored the prevalence and the reason of quantity surcharge (QS), a counterintuitive pricing phenomenon where larger quantities of a product are sold at a higher unit price than smaller quantities. By using retail scanner data from NielsenIQ, we documented the prevalence of QS over 9 product categories. Also, by combining retail scanner data with consumer panel data, we found indirect evidence that consumer inattention could be one of the sources of QS. We applied a novel approach, so called flexible logit, to structurally capture consumer inattention and estimate underlying demand parameters robust to consumer search model. We also conducted counterfactual simulations to assess the impact of quantity surcharges on consumer surplus and firm revenue, suggesting that eliminating quantity surcharges or more attentive consumer behavior towards pricing could lead to a small increase in consumer surplus but big decrease in firm's revenue. The findings have implications for decomposition for the different rationales of quantity surcharges.

- [Understanding Forward-Looking Behavior using Dynamic Discrete Choice and Rational Addiction Model: Application to California Cigarette Tax Increase](#)

**Abstract:** Consumer's forward-looking behavior may lead to changes in current purchasing and consumption in response to changes in future expected prices. In this study, we observed how consumer tobacco purchasing and consumption changed based on announcements and actual implementation of tobacco tax increases in California. Analyzing using the synthetic control method, we found that consumers increased their purchases just before the actual tax increase to stockpile and decreased their purchases immediately after the tax increase to deplete their stockpiles. Analyzing using a dynamic discrete choice model incorporating rational addiction and stockpiling, we confirmed that the timing between the announcement of the tax increase plan and the actual implementation affected consumers' long-term equilibrium differently. This suggests that not only the magnitude of policy changes but also the timing of announcements can influence long-term equilibrium in policy effects.

- Work in Progress
- Competition between First-party and Third-party Sellers on Online Platforms

**U.Chicago Booth School of Business: Graduate Research Assistant** Sep. 2018 - Jun. 2019

- Topic of Quantitative marketing.
- Data engineering, including scrapping raw data and connecting scrapped data to different relational data

**Korea University: Graduate Research Assistant**

Mar. 2016 - Feb. 2017

- Topic of Industrial organization.
- Modeling for merger analysis and simulation of hypothetical merger
- Research grant by Brain Korea 21 Plus, Government of Republic of Korea

## TECHNICAL STRENGTHS

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### Statistical Modeling and Data Processing

- Econometrics (Advanced)
  - regression based analysis (OLS, GLS, IV, A/B test, etc.)
  - structural equation modeling (softmax model, mixed logit, BLP, etc.)
- Machine Learning (Advanced)
  - decision tree, random forest, boosting
- Data processing (Advanced)
  - experience in various types of data (consumer panel survey data, online platform transaction data, product-level characteristics and UPC barcode data, US patent data, credit card fraud detection data, etc.)
- Data Engineering (Advanced)
  - experience building data pipeline from API to final report

### Programming

- Python (Advanced)
  - PyTorch, numpy, pandas, scipy, scikit-learn, statsmodels, seaborn, matplotlib
  - able to create custom statistical tools ([Synthetic Control](#), [Mixed logit with repeated choices](#))
- SQL (Advanced)
- R (intermediate)