

KOHEI HAYASHIDA

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University of California San Diego, Rady School of Management

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EDUCATION

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|---|---|
| University of California, San Diego Rady School of Management (Track: Quantitative Marketing) | <i>Fall 2020 - Spring 2026 (expected)</i> |
| Keio University Graduate School of Economics, PhD student (transferred) | <i>April 2019 - August 2020</i> |
| M.S. University of Tokyo Graduate School of Agriculture and Life Sciences (with distinction) | <i>April 2017 - March 2019</i> |
| B.A. Kyoto University Food and Environmental Economics, Department of Agriculture Exchange Program in Leiden University, Netherlands | <i>April 2012 - March 2017</i> <i>September 2015 - June 2016</i> |

RESEARCH INTEREST

Quantitative Marketing, Pricing, Sustainability, Structural Modeling, Field Experiment

WORK IN PROGRESS

- **An Empirical Analysis of Dynamic Pricing in Supermarkets (JOB MARKET PAPER)**
Abstract: Supermarkets face significant challenges in pricing perishable goods to achieve higher profit and lower waste. Despite the potential benefits, many retailers do not fully utilize dynamic pricing strategies for perishables, missing opportunities to optimize revenue and reduce food waste. In this study, I conduct an empirical analysis of dynamic pricing strategies for perishable products, utilizing a novel dataset of vintage-level transaction data from a Japanese grocery chain. Exploiting the quasi-experimental variations in the chain's dynamic pricing policy, I identify and estimate consumer heterogeneity in freshness preferences. I use the model estimates to quantify the welfare effects of perishable dynamic pricing and its impact on food waste. Finally, I design the optimal perishable dynamic pricing policy and validate this with the field experiment. These insights will offer valuable guidance for retailers on implementing effective dynamic pricing strategies that account for consumer differences in freshness preferences.

WORKING PAPERS

- **Reducing Food Waste through Local Demand Learning** with Kanishka Misra and Robbert Evan Sanders
Abstract: Perishable food waste is a significant concern for retail firms, impacting both profitability and the environment. This study provides novel evidence from Japanese supermarket transactions and comprehensive waste records (2014-2020) across 112 newly opened stores, showing waste rate declined over time after the store opening (67% reduction over 5 year period). These patterns, which include waste rate reductions even during periods of stable demand uncertainty and absent price/cost changes, challenge the conventional newsvendor model commonly used in marketing and operations research. We suggest that these trends align more closely with the stores' increasing experience and learning, leading to reduced econometric uncertainty in managing perishables. Our counterfactual simulations focus on quantifying the potential reduction in food waste achievable through enhanced data integration, leveraging past experiences of similar stores.

- **Competing Multi-Product Firms Using Single-Product Pricing Algorithms**, with Kanishka Misra, Karsten Hansen, Mallesh Pai
Abstract: We revisit the nascent literature on algorithmic collusion (Calvano et al (2020), Hansen et al (2021)) which considers settings where single-product firms compete by setting prices via algorithm, and establishes that supra-competitive prices may arise in such settings. Our key point of departure is that we consider multi-product firms. We show evidence that despite selling multiple products, in practice, firms often price each item via independent algorithms to mitigate the curse of dimensionality. In other words, the algorithms in use optimize each product individually rather than jointly optimizing over the entire product assortment. We show that in such settings, the risk of supra-competitive outcomes is reduced and can even result in sub-competitive prices. Conversely, we show that if firms were able to solve the dimensionality and use algorithms that priced jointly, this may increase the mechanisms by which collusive prices are reached, including multi-market contact.
- **Addiction and Alcohol Taxation: Evidence from Japanese Beer Industry**, with Masakazu Ishihara, Makoto Mizuno, Kosuke Uetake
Abstract: This paper studies the effects of taxation and regulation on addictive alcohol consumption. Exploiting the changes in tax policies and sales regulation in the Japanese beer market, we first show some descriptive evidence that consumers (i) are addicted to alcohol, (ii) are forward-looking and stockpile, but potentially present-biased, and (iii) substitute across categories in response to policy changes. To quantify the impacts of policy changes, we then estimate a dynamic structural model of alcohol purchase and consumption where consumers can be present-biased. A series of counterfactual simulations show that the current Japanese alcohol tax system is suboptimal in that alternative policies can increase tax revenues while keeping alcohol addiction lower. Finally, we derive the optimal alcohol tax policy, taking both externalities and internalities into account.

CONFERENCE/SEMINAR PRESENTATIONS

- **2025**
 - June, INFORMS Marketing Science, Washington DC
 - May, POMS Annual Conference, Atlanta
 - February, Japan FTC CPRC Seminar (online)
- **2024** Waseda University, Hitotsubashi University, Japan Empirical Industrial Organization Workshop (JEMIOW) at Osaka University, Japanese Institute of Marketing Science at Hosei University, Meiji University, University of Tokyo (online), California Quantitative Marketing Ph.D. Student Conference at University of South California.
- **2023** Symposium Frontiers of Marketing Science at Institute of Business Research, Chuo University.
- **2019** EARIE at Barcelona GSE, Japanese Institute of Marketing Science Conference at Fukuoka University, Theoretical Economics and Agriculture at University of Tokyo, Industrial Organization Conference at University of Tokyo.
- **2018** International Association of Agricultural Economics Triennial Conference at Vancouver, Summer Workshop on Economic Theory at Otaru.

CONSORTIUM

- ISMS Doctoral Consortium Fellow, 2023, 2025
- Econometric Society Summer School in Dynamic Structural Econometrics 2024 : Policy Evaluation and Heterogeneity Measurement

ACADEMIC AWARD AND FELLOWSHIPS

- 2020- Rady Academic Year Fellowship, UCSD
- 2020- Rady Summer Research Fellowship, UCSD
- 2020-2025 Nakajima Foundation
- 2019-2020 Research Fellowship for Young Scientists at Research Japan Society for the Promotion of Science
- 2018-2019 Japan Milk Academic Alliance (with Takahiro Hoshino)
- 2018 The T.Schultz Award for the Best Contributed Paper, Honorable Mention

TEACHING EXPERIENCE

- *Teaching Assistant* at University of California San Diego
 - MGTA451: Business Analytics in Marketing, Finance, and Ops (MSBA, instructed by Kenneth C. Wilbur), 2024 Summer.
 - MGTA452: Collecting and Analyzing Large Data (MSBA, instructed by Karsten Hansen), 2022 Fall, 2023 Fall.
 - MGTA456: Supply Chain Analytics (MSBA, instructed by Hyoduk Shin), 2021 Winter, 2022 Winter, 2023 Winter, 2024 Spring.
 - MGTA458: Experiments in Firms (MSBA, instructed by Anya Samek), 2024 Winter.
 - MGTA458: Experiments in Firms (MSBA, instructed by Sally Sadoff), 2021 Fall, 2022 Spring, 2023 Spring.
 - Business Intelligence (MSBA, instructed by Balac Natasha), 2021 Spring.
 - MGTA453: Business Analytics (MSBA, instructed by Terrence August), 2020 Fall.
- *Teaching Assistant* at the University of Tokyo
 - Industrial Organization, (Undergraduate, instructed by Hiroshi Ohashi), 2018.
 - Agricultural Development and Producers Organization (Undergraduate, omnibus), Spring 2017.

SERVICES

- **Ad Hoc Reviewer**
Marketing Letters

WORK EXPERIENCES

Institute of Physical and Chemical Research (RIKEN) *September 2018 - September 2020*
Research Assistant, Innovation Intelligent Integration Research Center, Economic Management Information Integrated Analysis Team

Ministry of Foreign Affairs, Japan
Summer Internship, Economic Security Division, Food Security Group *July 2014 - August 2014*

DISSERTATION COMMITTEE

Kanishka Misra (Chair)

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