Shunto Jerry Kobayashi

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Education

Ph.D. Social Science (Economics), Caltech   2024 (expected)

   Committee: Matthew Shum, Thomas Palfrey, Yi Xin, Gabriel Lopez-Moctezuma

M.S. Social Science (Economics), Caltech   2019

B.S. Economics and Mathematics, *Valedictorian*, California State Polytechnic University, Pomona   2018

Research & Teaching Interests

Research: Industrial Organization, Applied Microeconomics, Digital Markets, Econometrics

Teaching: Industrial Organization, Econometrics, Microeconomics, Game Theory, Statistics

Job-Market Paper

"Dynamic Auctions with Budget-Constrained Bidders: Evidence from the Online Advertising Market"
with Miguel Alcobendas (Yahoo)

Abstract: When price discovery is necessary for time-sensitive goods, a common practice is to conduct an auction for each item sequentially, but dynamic incentives can lead to behavior distinct from static settings. We provide a novel empirical analysis of a large-scale sequential market that employs auctions to allocate objects to firms with budget constraints, leveraging a unique proprietary dataset of the online advertising market. In this market, because of their short-run budget constraints, participants face a tradeoff between winning auctions immediately or holding out for later opportunities. This dynamic incentive prompts them to adjust their entry rates and bidding strategies accordingly. We develop and estimate a finite-horizon dynamic game between bidders with heterogeneous budgets facing a sequence of simultaneous auctions to quantify this incentive and analyze its implication in competition and auction design. We find that a substantial markdown occurs due to the dynamic incentives arising from budget constraints, and this markdown varies significantly among bidders with different budgets. Using the estimated structural model, we provide a counterfactual simulation comparing the first-price and second-price formats. Unlike the standard environment, we find that dynamics and heterogeneous budgets lead to a significant disparity in the welfare distributions under them. This highlights that that even a seemingly simple mechanism choice can have competitive implications in such a dynamic environment.

Working Papers

1. "The Impact of Privacy Protection on Online Advertising Markets" with Miguel Alcobendas (Yahoo), Ke Shi (Caltech), and Matthew Shum (Caltech)

   Accepted for presentation/extended-abstract at EC'23

2. "Robust Estimation of Risk Preferences" with Aldo Lucia (Caltech)

Conference Presentations

2023 North American Summer Meeting of the Econometric Society (Los Angeles, presenter)

2022 International Industrial Organization Conference (Boston, presenter and discussant)

Fellowships & Awards

Linde Institute Graduate Research Grant ($5000 award) with Aldo Lucia (Caltech)	2022-2023
Linde Institute Graduate Fellowship	2020-2021
Linde Institute Graduate Research Grant ($5000 award)	2020-2021

Teaching Experience (Caltech)

Introduction to Finance, TA for Jean-Laurent Rosenthal	Winter 2023
Investment, TA for Richard Roll	Spring 2022
Introduction to Probability and Statistics, TA for Jaksa Cvitanic	Winter 2022
Graduate Mentor for Caltech's Summer Undergraduate Research Fellowship (SURF)	Summer 2021
TA Representative for first-year Ph.D. core courses	2020-2021
Microeconomic Theory, Game Theory, Econometrics, Political Theory	
Introduction to Accounting, TA for Michael Ewens	Spring 2020
Options, TA for Jaksa Cvitanic	Fall 2019

Additional Information

Languages: English (fluent), Japanese (fluent)

Programming: Julia, R, Python, Matlab, LaTeX

Citizenship: US, Japan

References

Matthew Shum (mshum@caltech.edu)	William D. Hacker Professor of Economics
Thomas Palfrey (trp@hss.caltech.edu)	Flintridge Foundation Prof. of Economics and Political Science
Yi Xin (yixin@caltech.edu)	Assistant Professor of Economics
Gabriel Lopez-Moctezuma (glmoctezuma@caltech.edu)	Assistant Professor of Political Science