

KAI LIAO

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RESEARCH FIELDS

Industrial Organization, Empirical Auction, Applied Econometrics

EDUCATION

Ph.D., Economics, Rice University	2021-2026 (expected)
<i>Awards: Best First-Year Performance in Courses, Rice Graduate Fellowship</i>	
M.A., Economics, Duke University	2019-2021
B.S., Finance, Sun Yat-sen University	2015-2019

WORKING PAPERS

"Market Congestion and Efficiency of Decentralized Markets: Evidence from Salvage Car Auctions"
(Job Market Paper)

Abstract: In decentralized online marketplaces, platforms often employ non-price mechanisms to reduce market congestion, enhance revenue, and improve efficiency. This study explores how the choice of trading mechanisms affects the dynamics of supply and demand. We develop a dynamic auction model incorporating endogenous entry, product heterogeneity, and bargaining to analyze the U.S. salvage car market. We characterize a static equilibrium where the demand and supply are shaped both by arriving agents and the existing agents. Using a novel dataset obtained through web scraping, we estimate the demand system of incoming buyers and investigate how their entry and bidding decisions shape the product space at equilibrium. In the counterfactual study, our findings suggest that transitioning from the current mixed selling method—consisting of *Pure Sale* (a no-reserve auction) and *Reserve Sale* (a reserve auction followed by contingent negotiation)—to exclusively *Pure Sale* reduces the demand-side market thickness by 53% and supply-side market thickness by 23%, resulting a drop in the aggregate buyer-to-seller ratio from 3.39 to 2.24. Despite these reductions, the change would increase overall welfare by 5% due to less congestion and information friction.

"Estimating Matching Games with Profit and Price Data", with Jeremy Fox and Xun Tang

WORK IN PROGRESS

"Real-World Frenzies and Crashes: Evidence from Japanese Flower Auctions", with Shosuke Noguchi

POLICY PAPERS

"The Theoretical and Empirical Relationship Between Spectrum Concentration and Downstream Service Quality", with Yongjoon Peak, Preetul Sen, Coleman Bazelon, and Paroma Sanyal, forthcoming *Journal of Information Policy*

TEACHING AND RESEARCH EXPERIENCE

Teaching Assistant: Applied Econometrics (UG), Econometrics I&II (G), Financial Economics (G), Macroeconomics (G), Rice University, 2021-2025; Econometrics (UG), Duke Kunshan University, 2020

Research Assistant: Professor Rafael Dix-Carneiro (2020, Duke University), Professor Alon Brav (2020, Duke University)

WORK EXPERIENCE

Summer Associate, The Brattle Group	Summer 2024
Web Developer, Jones Graduate School of Business	Summer 2022
Intern, Deloitte	Winter 2018

CONFERENCES AND SEMINARS

Texas Camp Econometrics (2025), TPRC52 (2024), Rice Third Year Conference (2024)

ACADEMIC SERVICE

Rice Brown Bag Seminar (*Permanent Organizer*, 2023-2024)

SKILLS

Programming: Python, SQL, Julia, FORTRAN, C

Toolkits: STATA, \LaTeX , Git, Github

REFERENCES

Professor Xun Tang (*Advisor*)
Rice University
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Professor Isabelle Perrigne
Rice University
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Professor Jeremy Fox
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