

SHUANG WANG

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EDUCATION

Ph.D., Economics, Boston University, Boston MA, May 2021 (expected)
Dissertation Title: *Essays on Discrete Choice Model Estimation*
Dissertation Committee: Marc Rysman, Hiroaki Kaido and Jihye Jeon

M.A., Economics, Duke University, Durham NC, 2015

B.S., Economics and B.A., English Literature (with Honors), Zhejiang University, Hangzhou, Zhejiang, China, 2013

FIELDS OF INTEREST

Industrial Organization, Applied Microeconometrics

PUBLICATION

Bin Xu, Shuang Wang, and Zhijian Wang (2014) "Periodic Frequencies of the Cycles in 2×2 Games: Evidence from Experimental Economics," *European Physics Journal B*, 87.2, 46.

WORKING PAPERS

"Price Competition with Endogenous Entry: The Effects of Marriott & Starwood's Merger in Texas," (Job Market Paper), September 2020.

"Payment Instrument Choice with Scanner Data: An MM algorithm for Fixed Effects in Non-linear Models," (with Mingli Chen, Marc Rysman and Krzysztof Wozniak), September 2020.

"Spatial Competition and Missing Data: An Application to Cloud Computing," (with Jacob LaRiviere and Aadharsh Kannan), August 2020.

WORK IN PROGRESS

"The Impact of the Zero Emissions Vehicle Mandates on the California Automobile Market" (joint with David Rapson and Marc Rysman).

PRESENTATIONS

The 7th Lindau Nobel Laureate Meeting on Economic Sciences, July 2020
NBER Economics of Digitization (presented by co-author), Stanford CA, March 2019
North American Economic Science Association Conference, Tucson AZ, November 2012
Asia-Pacific Economic Science Association Conference, Xiamen, Fujian, China, November 2011

PROFESSIONAL EXPERIENCES

Research Intern, Office of Chief Economist, Microsoft, Redmond WA, Summer 2017,
Summer 2020

Economist Intern, Device Economics Team, Amazon.com, Seattle WA, Summer 2019

RESEARCH ASSISTANT EXPERIENCE

Research Assistant for Prof. Marc Rysman, Department of Economics, Boston University,
Fall 2018 – present

Research Assistant for Prof. Francesco Decoralis, Department of Economics, Boston
University, Fall 2017 – Spring 2018

TEACHING EXPERIENCE

Teaching Fellow, Statistics for Economists (MA level), Department of Economics, Boston
University, Fall 2016, Spring 2017

Teaching Assistant, Applied Econometrics in Microeconomics (MA level), Department of
Economics, Duke University, Spring 2015

FELLOWSHIPS AND AWARDS

Deans' Fellowship, Boston University, 2015-2020

Summer Stipend, Boston University, 2016-2019

Merit-based Tuition Waiver (40%), Duke University, 2013-2015

First-Class Scholarship (Top 5%), Zhejiang University, 2010-2011

REFeree EXPERIENCE

The RAND Journal of Economics, Transactions on Economics and Computation

LANGUAGES

English (fluent), Chinese (native)

COMPUTER SKILLS: Proficient in R, SQL, MATLAB, STATA, LaTeX and Basics in Python

CITIZENSHIP/VISA STATUS: China/F1

REFERENCES

Professor Marc Rysman

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Jacob LaRiviere, Ph.D.

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Price Competition with Endogenous Entry: The Effects of Marriott & Starwood's Merger in Texas (Job Market Paper)

This paper evaluates the merger that created the world's largest hotel company, Marriott's acquisition of Starwood. By endogenizing firms' entry decisions into a price competition model, I address the selection bias issue in estimation and allow firms to optimally enter or exit in merger simulation. To avoid any arbitrary assumption on the equilibrium selection mechanism, I use moment inequality estimation, and propose a novel lower probability bound that makes it computationally feasible to have many players. Comparing the simulated pre- and post-merger equilibrium market outcomes, I find that the consumer benefit from cost synergy outweighs the consumer harm from increased market power. The merger increases consumer surplus by 17.14%-24.03% in the served market, and the merged firm will enter 6%-24% of the potential markets after the merger. Moreover, I show that evaluation overlooking the entry stage would find the merger to be harmful due to the estimation bias and the neglect of entry into new markets.

Payment Instrument Choice with Scanner Data: An MM algorithm for Fixed Effects in Non-linear Models

(with Mingli Chen, Marc Rysman and Krzysztof Wozniak)

Over the past several decades, the US payments system has shifted from paper payment instruments, namely cash and check, to digital instruments, such as debit cards and credit cards. This paper studies the determinants of this payment choice transition over short and long horizons. Using transaction level panel data, we estimate a multinomial logit discrete choice model with household-choice-quarter fixed effects. We develop a new method based on the Minorization-Maximization (MM) algorithm to address the prohibitive computational challenge of estimating over 1 million fixed effects in a nonlinear model. Results show that over a short horizon (within a quarter), the probability of using card increases with transaction sizes. While over long horizon (five-year period of the data), the aggregate value-weighted card usage increases by 9.73 percentage points. With the estimated household-choice-quarter fixed effects, we decompose such an increase into different channels and find that only a third of it is due to the changes in household preferences.

Spatial Competition and Missing Data: an Application to Cloud Computing

(with Jacob LaRiviere and, Aadharsh Kannan)

The internet was hypothesized to be the “death of distance”. We investigate this hypothesis with a novel anonymized customer level dataset on demand for cloud computing accounting for both spatial and price competition among public cloud providers. We introduce a mixed logit demand model of spatial competition estimable with detailed data of a single firm but only aggregate sales data of a second. We leverage the EM algorithm to tackle the customer level missing data problem of the second firm. Estimation results and counterfactuals show that standard spatial competition economics hold even when distances for cloud latency is trivial.