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 Krystof 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 Research, 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, 2010-2012

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

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SHUANG WANG

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

This paper quantifies the social welfare effects of Marriott's acquisition of Starwood in Texas. Using a price competition model with endogenous entry, I simulate pre- and post-merger equilibrium market outcomes. I use moment inequality estimation to avoid any arbitrary equilibrium selection mechanism, and propose a novel dominant strategy equilibrium lower bound to reduce the intimidating computation burden from having many players. Results imply a fairly competitive industry, where the price elasticity is between [-15.12, -11.21]. Comparing the pre- and post-merger scenarios, I show that the merger is beneficial for consumers. In markets that are currently being served, the merger increases consumer surplus by 17.14%-24.03%; while in potential markets, 6%-24% of them will have either Marriott or Starwood entered after the merger. Notably, I find that when the entry stage is overlooked, the biases in cost synergy effect and the neglect of entry into new markets would oppositely determine a harmful merger.

Payment Instrument Choice with Scanner Data: An MM algorithm for Fixed Effects in Non-linear Models
(with Mingli Chen, Marc Rysman and Krystof 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), aggregate value-weighted card usage increases by 9.73 percentage points. With the estimated quarterly household-choice 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.

September 2020