Carol Hengheng Lu

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Education

Stanford University, Department of Economics, CA, USA

Ph.D., Economics, 2017 - present

Research Interests

Field: Industrial Organization, Quantitative Marketing and Applied Econometrics
Topics: I am interested in empirical questions on online platform design and digital goods pricing strategy.

Selected Phd coursework

Course	Instructors
Core Microeconomics 1	B. Bernheim, Ilya Segal
Core Microeconomics 2	Paul Milgrom
Core Microeconomics 3	Matthew Jackson, Fuhito Kojima
Core Econometrics 1	Han Hong
Core Econometrics 2	Thomas MaCurdy, Frank Wolak
Core Econometrics 3	Guido Imbens
Industrial Organization 1	Brad Larsen, Paulo Somaini
Industrial Organization 2	Liran Einav, Matt Gentzkow, Ali Yurukoglu
Industrial Organization 3	Liran Einav
Game Theory and Economic Applications	Gabriel Carroll
Theory and Practice of Auction Market Design	Paul Milgrom, Michael Ostrovsky
Behavioral and Experimental Economics 1 & 2	B. Bernheim, Muriel Niederle, Alvin Roth
Quantitative Methods for Empirical Research	Guido Imbens
Machine Learning and Causal Inference	Susan Athey, Stefan Wager
Advanced Empirical Methods	Wesley Hartmann
Empirical Analysis of Dynamic Decision Contexts	Harikesh Nair
Machine Learning	Tengyu Ma, Andrew Ng, Chris Re
Deep Learning	Andrew Ng, Kian Katanforoosh

Work in Progress

Optimal Design of Subscription for Digital Goods and its Welfare Implication: the Case of Video Games (with Jacob LaRiviere)

Abstract: In digital entertainment goods industries, nonlinear pricing schemes are often used and subscription business model is becoming a prevalent one. It grants consumers access to a bundle of constantly changing products for a fixed monthly price, different from the traditional à la carte selling mechanism. In this paper, we utilize the introduction of subscription service on Xbox platform to analyze the optimal design and welfare effects of offering subscription service. Empirical results cannot be shown yet due to the confidentiality of the propriety data we use.

Mediation in Bargaining: Evidence from Large-Scale Field Data on Business-to-Business Negotiations (with Brad Larsen and Anthony Lee Zhang)

Abstract: We analyze a dataset containing hundreds of thousands of full alternating-offer, business-to-business negotiations in the wholesale used-car market, with each negotiation mediated (over the phone) by a third-party company. The data shows the identity of the employee mediating the negotiations, and these mediators are quasi-randomly assigned to the bargaining pair. We find mediator's identities matter: high-performing mediators are 23.23% more likely to close a deal than low-performers. Experience is correlated with better mediator performance. Male and female mediators perform equally well, but mediate differently: female mediators close deals faster and at prices more favorable to buyers. Good mediators appear to respond to long-term company incentives rather than short-term incentives to close a given deal and they can do even better at reaching agreement for threads with ex-ante lower probability of trade. We provide a new decomposition of mediator effectiveness, demonstrating that effective mediators improve bargaining outcomes by causing buyers and sellers to come to agreements faster, not by causing buyers and sellers to be more persistent. We also show that better mediators appear less reliant on exploiting certain types of behavioral biases.

Consumer search, market thickness and competition

Abstract: I study the effects of consumer search and market thickness on competition among sellers on a food ordering platform. As sellers on this platform are freelancers instead of restaurants that constantly provide services, there is a big variation in the amount of supply from day to day. Using this variation, I find that sellers' positive externality among each other dominates competition (i.e., interact as complementaries) when the market is thin, while have the opposite result (i.e., interact as substitutes) when the market is thick. I provide a micro-founded framework of consumer search to rationalize this pattern. Using a dynamic structural model where consumers first decide whether to start searching on this platform and then choose between products after search, I estimate the effect of choice set size on consumers' purchasing decision and the related search cost. The counterfactual analysis could provide suggestions on how much platform can benefit from maintaining a stable and properly sized supply pool.

PUBLICATION **Unbounded Risk and the Possibility of Credit Rationing in the Stiglitz-Weiss Model** (with Kang Rong), *Journal of Mathematical Economics* 75, 2018

Abstract: Arnold and Riley (2009) find that in the credit rationing model of Stiglitz and Weiss (1981), the expected revenue of a lender as a function of the loan rate cannot be globally hump-shaped, and thus credit rationing is hard to explain using the Stiglitz-Weiss model. However, Arnold and Riley base their analysis on the assumption that there is an upper bound of the returns of borrowers' projects. We find that if unbounded returns of borrowers' projects are allowed, then a lender's expected revenue in the Stiglitz-Weiss model can in fact be globally hump-shaped. This also implies that credit rationing (with one equilibrium loan rate) can only arise in markets where the returns from investment are highly volatile.