Sophie Q. Calder-Wang

CONTACT INFORMATION

Department of Economics
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EDUCATION

Harvard University, Cambridge, MA

Ph.D. Candidate, Economics — 2014 - Present

- Primary fields: Industrial Organization
- Secondary field: Econometrics, Financial Economics

Princeton University, Princeton, NJ

B.A., Mathematics, *summa cum laude*, Phi Beta Kappa — 2007 - 2011
Certificates: Applications of Computing, Finance

GRADUATE COURSEWORK

Industrial Organizations (I & II), Econometrics, Time Series, Statistical Inference
Corporate Finance, Asset Pricing, Public Finance
Mechanism Design, Game Theory, Convex Analysis, Machine Learning

RESEARCH STATEMENT

I am generally interested in understanding how technological innovations have changed the ways firms are organized, financed and compete. In particular, I am examining how the process of data accumulation amounts to a form of market power and the subsequent role of the platform as a regulator.

WORK IN PROGRESS

Data as Market Power: The Case of Consumer Demand for Reviews on a Platform

Could data become a source of market power? In many platforms, product and seller reviews are crucial reputation mechanisms for the market to function. Buyers not only demand higher review ratings but also higher quantities of reviews for better precision. However, such review data is often endogenously generated by previously completed sales, leading to a case where high-quality products may not be explored by myopic, risk-averse buyers. Moreover, products with more reviews could command higher mark-ups and such data becomes a new form of barriers to entry.

In this paper, I estimate a model that uses the price, quantity and review information from Airbnb to empirically evaluate the extent to which endogenously generated data becomes a form of market power and sellers' best dynamic pricing responses. Understanding such anti-competitive forces is particularly relevant for platform designers who serves the role of the regulator in these two-sided markets.

Faculty advisor: Ariel Pakes, Robin Lee

WORKING PAPERS

And the Children Shall Lead: Gender Diversity and Performance in Venture Capital

NBER Working Paper, joint with Paul Gompers (2017)

With an overall lack of gender and ethnic diversity in the innovation sector documented in Gompers and Wang (2017), we ask the natural next question: Does increased diversity lead to better firm performances? In this paper, we attempt to answer this question using a unique dataset of the gender of venture capital partners children. First, we find strong evidence that parenting more daughters leads to an increased propensity to hire female partners by venture capital firms. Second, using an instrumental variable set-up, we also show that improved gender diversity, induced by parenting more daughters, improves deal and fund performances. These effects concentrate overwhelmingly on the daughters of senior partners than junior partners. Taken together, our findings have profound implications on how the capital markets could function better with improved diversity.

Featured in The Economist, The New York Times, Fortune, and The Washington Post.

The Value of Information: Why You Should Add the Second Order Conditions (2016)

When conducting estimation based on agent optimization, we show that one can improve the performance of the estimator when information such as the second order condition is appropriately incorporated as moment inequality restrictions, especially when there are weak instruments. We run a simulation study to demonstrate the effectiveness of this approach in both continuous and discrete choice problems, and illustrate to empirical researchers on how to include the additional moment inequalities in practice.

Published Research

A Set Optimization Approach to Utility Maximization under Transaction Costs

Joint with Andreas Hamel, *Decisions in Economics and Finance* 40(1), 257-275 (2017)

A set optimization approach to multi-utility maximization is presented, and duality results are obtained for discrete market models with proportional transaction costs. The novel approach admits to obtain results for non-complete preferences, where the formulas derived closely resemble but generalize the scalar case.

Honors and Awards

Harvard University

Joint Center for Housing Studies - John Meyers Housing Fellowship

Bok Center - Certificate of Teaching Excellence

Harvard Economics Department - Winter Research Award

Graduate School of Arts and Sciences Fellowship

Springer Book Prize for the Best Young Researcher Presentation: International Conference on Set-Valued Variational Analysis and Optimization, Lutherstadt Wittenberg, Germany, 2012

Princeton University

Mathematics Departmental Prize - Peter A. Greenberg 77 Prize

Birch Family Prize for the best performing student in the Finance Certificate program

Shapiro Prize for Academic Excellence (twice) for top 2% of the class

Freshman First Honor Prize for the best GPA of the class

Professional Experience

Goldman Sachs, Investment Banking Division, New York, NY

Analyst at the Financial Institutions Group 2011 - 2014

- Built predictive models for resident mortgage, commercial mortgage and commercial loan credit loss models
- Equity and rate derivative structuring for insurance companies

Google, New York, NY

Research Summer Intern Summer 2009

- Conducted computer vision research, with goals to serve Google Maps
- Prototyped a novel technique for image stitching based on feature detection using EM-type machine learning algorithms

Other Skills

- Languages: Python, Java, C++, C, Slang, Pascal, Unix and Chinese
- Statistical packages: Matlab, R, Stata

More Information

http://scholar.harvard.edu/sophie-qingzhen-wang