Sophie Q. Wang

CONTACT INFORMATION

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EDUCATION

Harvard University, Cambridge, MA

Ph.D. Candidate, Economics — 2014 - Present

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

Princeton University, Princeton, NJ

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

CURRENT RESEARCH IN PROGRESS

Diversity in Innovation: A Survey, joint with Lauren Cohen and Paul Gompers

The "Missing Women" in the Valley, joint with Lauren Cohen and Paul Gompers

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

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.

Central Clearing is No Panacea: Price of Anarchy in Matching Markets

This paper models a labor market subject to unraveling where the inefficiencies are due to noisy assessment of candidate quality, rather than late revelation of the quality, and thus bounding the price of anarchy. Due to this difference in the market structure, the policy implication for welfare improvements differs from that of a central clearing system, but points toward elimination of extreme forms of exploding offers.

PAPERS IN PREPARATION

A. Hamel, S. Wang: *The Utility Maximization Problem in Frictional Markets: A Set-Valued Approach.* Working paper. Planned Submission to *Optimization Letters*

PROFESSIONAL EXPERIENCE

Goldman Sachs, Investment Banking Division, New York, NY

Analyst at the Financial Institutions Group — **2011 - 2014**

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

Google, New York, NY

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, matching and machine learning algorithms

Teaching and Research Experience

Research assistant for Prof. Lauren Cohen (Harvard Business School): Using natural language data to understand firm strategic behavior

Research assistant for Prof. Ariel Pakes (Harvard University): Using moment inequality estimators to identify individual heterogeneity v.s. state dependence, with an application to estimating the health plan switching costs

Teaching assistant for Prof. Ben Golub (Harvard Ec980O): Research Topics in Network Economics
Awarded Bok Center Certificate of Teaching Excellence

Teaching assistant for Prof. Adrian Banner (Princeton MAT 202): Linear Algebra

Coursework

Graduate-Level: Industrial Organizations, Asset Pricing, Corporate Finance, Mechanism Design, Machine Learning, Econometrics, Time Series, Statistical Inference, Game Theory, Convex Analysis and Optimization

Undergraduate-Level: Financial Economics, International Trade, Stochastic Calculus and Probability, Abstract Algebra, Discrete Mathematics, Algorithms, Computer Systems, Computer Networks

Honors and Awards

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

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

Computer Skills

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