

Sophie Calder-Wang

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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

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.

Diversity in Innovation: A Survey, NBER Working Paper, joint with Paul Gompers (2017)

In this paper we document the patterns of labor market participation by women and ethnic minorities in venture capital firms and as founders of venture capital-backed startups. We show that from 1990-2016 women have been less than 10% of the entrepreneurial and venture capital labor pool, Hispanics have been around 2%, and African Americans have been less than 1%. This is despite the fact that all three groups have much higher representation in education programs that lead to careers in these sectors as well as having higher representation in other highly-compensated professions. Asians, on the other hand, have much higher representation in the venture capital and entrepreneurial sector than their overall percentages in the labor force. We explore potential supply side explanations including both education attainment as well as relevant prior job experience. We also explore the correlation between diversity and state-level variations. Finally, we discuss how these patterns are consistent with homophily-based hiring and homophily-induced information flows about career choices. We end the paper by discussing areas for future research.

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	<p><i>A Set Optimization Approach to Utility Maximization under Transaction Costs</i>, joint with Andreas Hamel, <i>Decisions in Economics and Finance</i> (2007)</p> <p>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.</p>
TEACHING AND RESEARCH EXPERIENCE	<p>Research assistant for Prof. Ariel Pakes (Harvard University): Using moment inequality estimators to estimate switching costs with individual-choice fixed effects</p> <p>Research assistant for Prof. Lauren Cohen (Harvard Business School): Using conference transcripts to understand firm strategic behavior</p> <p>Teaching assistant for Prof. Ben Golub (Harvard Ec9800): Research Topics in Network Economics</p>
HONORS AND AWARDS	<p>Harvard University</p> <ul style="list-style-type: none"> 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 <p>Springer Book Prize for the Best Young Researcher Presentation: International Conference on Set-Valued Variational Analysis and Optimization, Lutherstadt Wittenberg, Germany, 2012</p> <p>Princeton University</p> <ul style="list-style-type: none"> 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	<p>Weiss Asset Management, Boston, MA</p> <p><i>Research and Investment Intern</i> Summer 2015</p> <ul style="list-style-type: none"> • Researched and implemented various arbitrage strategies in emerging markets <p>Goldman Sachs, Investment Banking Division, New York, NY</p> <p><i>Analyst at the Financial Institutions Group</i> 2011 - 2014</p> <ul style="list-style-type: none"> • Built predictive models for resident mortgage, commercial mortgage and commercial loan credit loss models • Equity and rate derivative structuring for insurance companies <p>Google, New York, NY</p> <p><i>Research Summer Intern</i> Summer 2009</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Languages: Python, Java, C++, C, Slang, Pascal, Unix and Chinese • Statistical packages: Matlab, R, Stata
COURSEWORK	<p><i>Graduate-Level:</i> Econometrics, Statistical Inference, Industrial Organizations, Corporate Finance,</p>

Empirical Methods for Corporate Finance, Asset Pricing, Public Finance, Mechanism Design, Microeconomics, Macroeconomics, Time Series, Convex Analysis and Optimization

Undergraduate-Level: Machine Learning, Algorithms, Stochastic Calculus and Probability, Abstract Algebra, Discrete Mathematics, Topology, Computer Systems, Computer Networks

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