Andrey Fradkin

Contact Information

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Education

Stanford University, Stanford, California — September, 2008 - present
Ph.D. Candidate, Department of Economics; expected graduation date June, 2014

Duke University, Durham, North Carolina — August, 2004 - May, 2008
B.S. with High Distinction in Economics and Mathematics w/ minor in Political Science

Dissertation Committee

Prof. Jon Levin (Primary Advisor)
Prof. Liran Einav
Prof. Caroline Hoxby
Prof. Luigi Pistaferri

Research and Teaching Fields

Primary fields: Industrial Organization, Labor Economics
Secondary field: Public Economics

Relevant Positions

2012 - ongoing: Data Scientist, Airbnb Inc.
2009 - 2011: Research Assistant for Douglas Bernheim, Stanford University
2009: Research Assistant for Matthew Harding and Giacamo DeGiorgi, Stanford University

Teaching Experience

Stanford University:
2011 - 2012: Advanced Topics in Econometrics (Prof. DeGiorgi), Introduction to Econometrics (Prof. Harding and Prof. Mahajan), Market Design (Prof. Levin).
Duke University:
2007 - 2008: Intermediate Microeconomics (Prof. Yildirim and Prof. Taylor), Financial Markets and Investment (Prof. Eraker), Junior Honors Thesis Seminar (Prof. Tauchen and Prof. Bollerslev).

Scholarships, Honors and Awards

Scholarships: NET Institute Fellowship, Shultz Fellowship Award, George P. Shultz Scholar, Haley-Shaw Fellowship Scholar
Awards: Allen Starling Johnson, Jr. Best Undergraduate Thesis in Economics Prize

Working Papers

Search Frictions and the Design of Online Marketplaces (Job Market Paper).

I show how to use data on searches and transactions in an online marketplace to study market efficiency and policy. The setting of this paper is Airbnb, a prominent online marketplace for short-term housing rentals. Search on Airbnb occurs when potential guests browse the website and send inquiries to hosts about rooms to stay in. Despite the substantial reduction in search costs due to the marketplace, only 48% of searchers who send inquiries for a potential trip eventually match. I build a model with directed search, heterogeneous agents, and multiple search frictions to explain the match rate and other market outcomes. The search frictions in the model combine to reduce transaction probabilities by 21% and host revenue by $62 per searcher. I study a set of policies aimed at reducing the impact of search frictions. Of these policies, better ranking algorithms lead to the biggest improvement, matching an additional 2% of searchers. Finally, I show that the A/B search experiments favored by internet platforms overstate these improvements by more than 90%.

The Welfare Economics of Default Options in 401(k) Plans (with Douglas Bernheim and Igor Popov)

Default contribution rates for 401(k) pension plans powerfully influence workers choices. Potential causes include opt-out costs, procrastination, inattention, and psychological anchoring. We examine the welfare implications of defaults under each theory using the framework for behavioral welfare economics developed by Bernheim and Rangel (2009). We show how the optimal default, the magnitude of the welfare effects, and the degree of normative ambiguity depend on the behavioral model, the scope of the choice domain deemed welfare-relevant, the use of penalties for passive choice, and other 401(k) plan features. In some settings, non-participation emerges as the optimal default, contrary to common wisdom.

The Impact of Unemployment Insurance on Job Search: Evidence from Google Search Data (with Scott Baker)

We use Google search data to construct the first high-frequency, location-specific index of job search activity (JSI). We demonstrate the JSIs validity and study the effect of increased unemployment insurance (UI) on job search activity. We show that individuals on UI search less than individuals who are unemployed and who are not receiving UI. We also find that individuals with 0 to 10 weeks of UI remaining search over two times more than those with more than 10 weeks remaining. We document that the JSI temporarily decreases by up to 4.3% in the 4 weeks after expansions in UI policy. While expansions in unemployment insurance do drive temporary changes in job search, the immediate effects of expansions are unlikely to result in large changes to unemployment rates.

Research In Progress

What is the Consumer Surplus From a New and Growing Marketplace? Evidence from Airbnb

The Effect of Family Insurance on Early Career Outcomes (with Frederic Panier and Ilan Tojerow)

Invited Presentations

Fradkin, A. "What is the Consumer Surplus From a New and Growing Marketplace? Evidence from Airbnb". NET Institute Conference, Berkeley, CA. 2013.

Baker, S. and A. Fradkin. "How Responsive is Job Search to Unemployment Insurance?". Econometric Society Meetings, San Diego, CA. 2013.

Baker, S. and A. Fradkin. "What Drives Job Search? Evidence from Google Search Data". Google Economics Group, Mountain View, CA. 2011.

Data Science Work

Search Algorithm Design:
Co-designed a proprietary algorithm that uses discrete choice models to rank the listings displayed to Airbnb searchers. The algorithm creates an ordering according to a listing's perceived quality and probability of converting to a booking after communication.
Search Experimentation Framework:
Co-designed a system that tracks the actions of searchers across the site and over time. The system then aggregates those actions according to the searchers' experimental treatment. The framework is used to evaluate search experiments on the site.
Operations Exeriments:
Designed experiments to evaluate the effectiveness of customer support, platform pricing, and a variety of search policies.
Media:
Co-created the Airbnb Hospitality Index and the Airbnb Global Citizenship Index. This work was covered in Le Monde, El Pais, the Telegraph, and many other media outlets.