

# CHIARA FARRONATO

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## **EDUCATION**

Ph.D. in Economics, Stanford University, 2009-Present,  
Expected Completion: June 2015  
DISSERTATION: “*The Internet and Peer-to-peer Markets*”

M.Sc. in Economics, Joint Degree, Bocconi University and Catholic University of Louvain,  
2006-2008 (Summa cum Laude).

B.A. in Management of Public Administration and International Institutions, Bocconi University,  
2003-2006 (Summa cum Laude).

## **DISSERTATION COMMITTEE**

Prof. Jonathan Levin (Primary)  
Economics Department, Stanford University  
(650) 723-5962  
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Prof. Susan Athey  
Graduate School of Business, Stanford University  
(650) 725-1813  
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Prof. Liran Einav  
Economics Department, Stanford University  
(650) 723-3704  
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## **RESEARCH AND TEACHING FIELDS**

Primary field: Industrial Organization.  
Secondary fields: Economics of Technology, Microeconomic Theory.

## **TEACHING EXPERIENCE**

- 2012-14 Teaching Assistant for Prof. Jonathan Levin, Stanford University, Econ 136 (Market Design), Fall 2012 and Spring 2014.
- 2008-09 Teaching Assistant, Catholic University of Louvain (full-time position), for Prof. Henri Sneessens (Advanced Macroeconomics I), Prof. Raouf Boucekkine (Advanced Macroeconomics II), Prof. Pierre Dehez (Interdependencies and Strategic Behavior), Prof. Paul Henrard (Advanced Mathematics).

## RELEVANT POSITIONS

- 2010-14 Research Assistant for Profs. Liran Einav and Jonathan Levin, Stanford University.  
2012 Summer Associate, Cornerstone Research, San Francisco.  
2007 Intern, Research and Statistics Branch, UNIDO, Vienna.  
2006 Intern, Directorate General for Research, European Commission, Brussels.

## SCHOLARSHIPS, HONORS AND AWARDS

- 2014-15 Haley-Shaw Fellowship for Economics (SIEPR).  
2013-14 Outstanding Teaching Assistant Award (Stanford Economics).  
2012-13 Shultz Graduate Student Fellowship in Economic Policy (SIEPR).  
2010-12 Bonaldo Stringher Fellowship (Bank of Italy).  
2007-08 Erasmus Fellowship (European Union).

## PROFESSIONAL ACTIVITIES

- Referee for: *Games and Economic Behavior*, *Management Science*, *RAND Journal of Economics*,  
*Journal of Economic Theory*.  
Conference Presentations: AEA Annual Meeting, Philadelphia, 2014,  
Workshop on Information Systems and Economics, Milan, 2013.  
Services for Stanford Economics: Student member of the Ph.D. recruiting committee (2012-14),  
Social Chair (2010-11)

## RESEARCH PAPERS

*Outsourcing Tasks Online: Matching Supply and Demand on Peer-to-Peer Internet Platforms*  
(with Zoë Cullen) [**Job Market Paper**]

We study a central economic problem for peer-to-peer online marketplaces: how to create successful matches when demand and supply are highly variable. To do this, we develop a simple static model of a frictional matching market for services, which lets us derive the elasticity of labor demand and supply, the split of surplus between buyers and sellers, and the efficiency with which requests and offers for services are successfully matched. We estimate the model using data from TaskRabbit, a rapidly expanding platform for domestic tasks, and report three main findings. First, supply is highly elastic: seller effort adjusts to short-term fluctuations in demand to equilibrate the market. Prices do not increase much when sellers are scarce, nor does the probability of tasks being matched fall. Second, we estimate average gains from each trade to be \$37. Given the modest value generated from a match, efficient matching is important for the market to function well. The elastic labor supply facilitates this efficient matching by creating 15 percent more matches than alternative equilibrating mechanisms. Third, we estimate how market efficiency changes as more users join, and across different cities. We find a limited degree of scale economies, but efficiency varies greatly across cities. The cities that grow fast in the number of users are also those where market thickness, as measured by geographic density and task standardization, promotes efficient matching.

*Sales Mechanisms in Online Markets: What Happened to Internet Auctions?* (joint with Liran Einav, Jonathan Levin, and Neel Sundaresan), revise and resubmit, *Journal of Political Economy*, NBER Working Paper No. 19021

Consumer auctions were very popular in the early days of internet commerce, but today online sellers mostly use posted prices. Data from eBay shows that compositional shifts in the items being sold, or the sellers offering these items, cannot account for this evolution. Instead, the returns to sellers using auctions have diminished. We develop a model to distinguish two hypotheses: a shift in buyer demand away from auctions, and general narrowing of seller margins that favors posted prices. Our estimates suggest that the former is more important. We also provide evidence on where auctions still are used, and on why some sellers may continue to use both auctions and posted prices.

*Patent Economic Value and Citations: Evidence from University Patents*

Technological innovation is arguably the most important driver of growth. Given its economic importance, a large economic literature has tried to find adequate measures of inventive output. Because of their standard classification and electronic availability, patents have become one of the core measures of research output. The distribution of the economic value of patents, and more in general of innovation, is however highly skewed, with typically a large number of low-value patents, and a few big successes. Economists have often relied on patent citations to proxy for the value of patents, however very little evidence exist on the relationship between citations and patent value. This paper exploits detailed data on licensing revenue generated within a major university patent pool to validate the use of patent citations as a measure of patent value. Results show a strong correlation between patent citations and income generated by university inventions, and attempts to generalize the relationship beyond the specific case are carried out.

## **RESEARCH IN PROGRESS**

*Peer-to-Peer Markets* (with Liran Einav and Jonathan Levin), in preparation for the *Annual Review of Economics*.

*Market Structure with the Entry of Peer-to-Peer Platforms: the Case of Hotels and Airbnb* (with Andrey Fradkin).

Online marketplaces have reduced entry costs across a variety of industries. These marketplaces allow small and part-time service providers (peers) to participate in economic exchange. For example, Airbnb allows anyone to become a hotelier and Uber allows anyone to become a cab driver. The entry of peer-to-peer competitors has two effects: market expansion and business stealing. The first effect occurs when the peer-to-peer sector supplies price sensitive or niche consumers who were previously underserved. The second effect occurs when the peer-to-peer sector attracts consumers away from conventional suppliers. We study these two effects using data from the hotel industry and Airbnb. We show that the market expansion and business stealing effects differ by location, and attribute this heterogeneity to supply constraints - legal and geographic - relative to the level of demand. We then derive a simple model of competition between a peer-to-peer marketplace and hotels to explain these findings. In the model, hotels and peer-to-peer suppliers differ in their fixed (higher for hotels) and marginal costs (higher for peer-to-peer suppliers). The model allows us to study how the efficient market structure depends on the level and variability of demand, and to quantify the welfare gains from peer-to-peer entry in the accommodation industry.