

JÖRN BOEHNKE

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312-985-6376

POSITIONS Postdoctoral Research Fellow, Harvard University since 2017
Labor and Worklife Program at Harvard Law School
Postdoctoral Research Fellow, Harvard University since 2015
Center of Mathematical Sciences and Applications
eBay Research Fellow since 2015

EDUCATION *PhD*, Economics, University of Chicago 2015
MA, Economics, University of Chicago 2012
International economic relations and Korean language, Seoul Nat'l University 2010
Dipl \approx *MSc*, Mathematics (summa cum laude), Leipzig University 2008
Dipl \approx *MSc*, Physics (summa cum laude), Leipzig University 2008
Chinese language studies, Nanjing University 2006

REFERENCES Prof. Richard B. Freeman 857-327-1711 rbfreem@fas.harvard.edu
Prof. Brent R. Hickman 613-305-4290 hickman@econ.queensu.ca
Prof. Scott D. Kominers 301-529-4162 kominers@fas.harvard.edu

FIELDS Industrial Organization
Computational Economics
Applied Microeconomics
Big Data

TEACHING EXPERIENCE *Lecturer*
Economic R.E.U. (BA), Becker Friedman Institute, University of Chicago 2017
New Tools for Acquisition / Analysis of Internet Data (PhD), Harvard, NBER 2016
Economic R.E.U. (BA), Becker Friedman Institute, University of Chicago 2016
Practical Computing for Economists (PhD), University of Chicago 2015
Economic R.E.U. (BA), Becker Friedman Institute, University of Chicago 2015
Data Acquisition and Data Management (PhD), UCLA Anderson 2014
Computational Methods in Economics (PhD), University of Chicago 2014
Practical Computing for Economists (PhD), University of Chicago 2014
Economic R.E.U. (BA), Becker Friedman Institute, University of Chicago 2014
Economic Analysis 1, Microeconomics (BA), University of Chicago 2013
Computational Methods in Economics (PhD), University of Chicago 2013
Economic R.E.U. (BA), Becker Friedman Institute, University of Chicago 2013
Economic Analysis 1, Microeconomics (BA), University of Chicago 2012
Economic R.E.U. (BA), Becker Friedman Institute, University of Chicago 2012

Teaching Assistant

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|---|-----------|
| Executive MBA, Microeconomics (Gibbs; MBA), Chicago Booth | 2015 |
| Big Data (Taddy; PhD), Chicago Booth | 2015 |
| Executive MBA, Microeconomics (Gibbs; MBA), Chicago Booth | 2014 |
| Executive MBA, Microeconomics (Stole; MBA), Chicago Booth | 2014 |
| Evolutionary Game Theory (Szentes; PhD), University of Chicago | 2014 |
| Theory-Based Empirical Methods (Hickman; PhD), University of Chicago | 2014 |
| Executive MBA, Microeconomics (Gibbs; MBA), Chicago Booth | 2013 |
| Topics in Matching and Market Design (Kominers; PhD), University of Chicago | 2013 |
| Evolutionary Game Theory (Szentes; PhD), University of Chicago | 2013 |
| Theory-Based Empirical Methods (Hickman; PhD), University of Chicago | 2013 |
| Economic Analysis 1, Microecon. - Honors (Lima; BA), University of Chicago | 2012 |
| Economic Analysis 4, Macroeconomics (Santamaria; BA), University of Chicago | 2011 |
| Quantum Mechanics I and II (Rudolph; DiplPhys), Leipzig University | 2007-2008 |
| Calculus I (Freisthler; DiplMath), Leipzig University | 2004-2005 |

RESEARCH PAPERS

“How Efficient are Decentralized Auction Platforms?” (with Aaron Bodoh-Creed and Brent R. Hickman)

R&R at Review of Economic Studies

We provide a model of a decentralized, dynamic auction market platform (e.g., eBay) in which a continuum of buyers and sellers participate in simultaneous, single-unit auctions each period. Our model accounts for the endogenous entry of agents and the impact of intertemporal optimization on bids. We estimate the structural primitives of our model using Kindle sales on eBay. We find that just over one third of Kindle auctions on eBay result in an inefficient allocation with deadweight loss amounting to 14% of total possible market surplus. We also find that partial centralization - for example, running half as many 2-unit, uniform price auctions each day - would eliminate a large fraction of the inefficiency, but yield slightly lower seller revenues. Our results also highlight the importance of understanding platform composition effects - selection of agents into the market - in assessing the implications of market design. We close by proving that the equilibrium of our model with a continuum of buyers and sellers is an approximate equilibrium of the analogous model with a finite number of agents.

“Using Machine Learning to Explain Violations of the ‘Law of One Price’” (with Aaron Bodoh-Creed and Brent R. Hickman)

Theory suggests two sources of price dispersion amongst homogenous goods: market frictions or product heterogeneity. We collected posted-price listings for Kindle Fire tablets from eBay to determine if listing heterogeneity can explain the dispersion we observe. We can explain 42% of the dispersion by applying machine learning to our rich set of variables, which we interpret as a bound on the effect of market frictions. Variables describing the amount of information in and the style of the listings are effective price predictors. We also find significant heterogeneity of the marginal effects of our regressors, and the patterns of heterogeneity conform to economic intuition.

“The Missing Men: World War I and Female Labor Participation” (with Victor Gay)

We explore the effect of a sharp distortion in sex ratio on female labor participation by studying the impact of military fatalities from World War I in France. We build a unique dataset containing individual level information for all 1.3 million fallen soldiers, and find that the tightness of the marriage market along with negative income shocks generated by the scarcity of men induced many young single women and older

widows to enter the labor force permanently after the war. These findings are robust to alternative empirical strategies, including an instrumental variables strategy based on idiosyncrasies generated by the recruitment process of the army.

“Recovery from Bidding Fever: Why pay more than 102% to buy a Gift Card?”

On eBay, gift certificates often sell for more than their face values. About 51.6% of Amazon gift certificates sold on eBay, for example, sell for prices that are ‘too high’ – on average 104.1% of face value. People often attribute this apparent overpayment to bidding fever or pseudo-endowment effects. However, using a novel dataset of eBay transactions, I show that about half of all Amazon gift card overpayment occurs in fact in Buy-it-now sales, and thus does not involve bidding, much less bidding fever. My data reveals that overpayment is not random; rather, it is highly cyclic. In fact, overpayments appear to be rationalized by institutional features such as eBay reward programs and special offers. These features affect bidding and buying behavior in meaningful ways and should thus be taken into consideration in future research using eBay data.

“Pricing Strategies, Competition, and Consumer Welfare: Evidence from the German and Austrian Retail Gasoline Market”

This paper uses spatial and temporal fluctuations in retail gasoline prices to study the effect of competition on pricing behavior and how government-mandated price restrictions impact consumers. I use hourly price data for more than 16,500 gas stations in Austria and Germany (more than 90% of the market), collected since April 2012. This data is supplemented with manually recorded demand data for selected gas stations as well as traffic data for all German highways, and is wholly unique. I analyze nation-wide price fluctuations, cross-network price patterns, and price competition between adjacent gas stations that directly compete for motorists. Price elasticity estimates for different consumer groups show that the pricing behavior observed in the Austrian and German market cannot be explained as pure demand shocks. The data suggest that gas stations temporally price discriminate: in Germany, gas stations set high prices for price-inelastic business / morning consumers and low prices for the highly elastic leisure / evening consumers. In Austria, governmental regulation prevents gas stations from replicating the patterns in Germany, and might lead to unintended consequences: consumers face a less volatile price with higher daily minima in Austria, forcing price-sensitive consumers to refill at higher average prices.

“Design and Implementation of a Privacy Preserving Electronic Health Record Linkage Tool in Chicago” (with Abel N. Kho, John P. Cashy, Kathryn L. Jackson, Adam R. Pah, Satyender Goel, John Eric Humphries, Scott D. Kominers, Bala N. Hota, Shannon A. Sims, Brad A. Malin, Dustin D. French, Theresa L. Walunas, David Meltzer, Erin Kaleba, Roderick Jones, William L. Galanter)

Journal of the American Medical Informatics Association, 2015

The Chicago HealthLNK is a shared data resource for researchers and public health officials that deidentifies and links patient data across seven institutions within the city of Chicago. We developed a computer application to perform standardized data cleaning, pre-processing, and hashing of patient identifiers to remove all protected health information using the HIPAA compliant SHA-512 algorithm. Our matching algorithm generated a 92-99% match rate compared with an operational master patient index. Currently the Chicago Health Atlas includes clinical data (diagnoses, medications, laboratory tests, and vital signs) on over 5.6 million records in the Chicago region, and over 1.2 million patients within the city of Chicago (606xx zip codes) for the years 2006 to 2012. A limited set of aggregated clinical data on chronic conditions are made publicly available through a Health Atlas community website.

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| HONORS AND AWARDS | Outstanding Teaching Assistant Award, Executive MBA Asia, Chicago Booth | 2016 |
| | Outstanding Teaching Assistant Award, Executive MBA Europe, Chicago Booth | 2016 |
| | Division of the Social Sciences Fellowship, University of Chicago | 2010-2015 |
| | NET Institute Research Grant | 2013 |
| | Division of the Social Sciences Research Grant, University of Chicago | 2013 |
| | Haniel-Stipendium für ein wirtschaftsbezogenes Studium im Ausland, Haniel Foundation and German National Academic Foundation | 2009-2010 |
| | General Scholarship, German National Academic Foundation | 2003-2010 |
| | Lindau Laureate Meetings Scholarship, Wilhelm und Else Heraeus Foundation | 2008 |
| | Foreign exchange scholarship, German Academic Exchange Service (DAAD) and Chinese Scholarship Council | 2005-2006 |

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| PROFESSIONAL ACTIVITIES | <i>Visiting Scholar / Internships</i> | |
| | eBay Inc., eBay Research Fellow | since 2015 |
| | Exploring incentives of buyers and sellers, and its potential for marketplace frictions | |
| | ThyssenKrupp Elevator (Korea) Ltd., South Korea | 2010 |
| | Programming the velocity functions of new high speed elevators | |
| | Leibniz Institute of Surface Modification | 2006 |
| | Scientific work to “modification and characterization of surfaces” | |
| | PC-Ware Information Technologies Ltd. | 2003 |
| | PC-Ware Information Technologies AG | 2003 |
| | Programming / implementation of interactive database supported search algorithms | |
| Philips Semiconductors GmbH | 2002 | |

Academic Activities

Member, NSF-sponsored *Urban Sciences Research Coordination Network for Data-Driven Urban Design and Analysis*

Presenter, *American Economic Association Annual Meeting (ASSA)*, *International Industrial Organization Conference (IIOC)*, *North American Summer Meeting of the Econometric Society*

Program Committee Member, *ACM Conference on Economics and Computation (EC)*, *Auctions, Market Mechanisms and Their Applications (AMMA)*

Referee, *European Journal of Operational Research*, *Games*, *International Journal of Industrial Organization*, *Journal of Political Economy*, *Management Science*, *Operations Research*, *Review of Economic Studies*

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| SKILLS | Java | German (mother tongue) |
| | SQL | English (fluent) |
| | MongoDB | Korean (fluent) |
| | R | Chinese (advanced) |
| | Stata | Latin (basic) |
| | C++ | |
| | Python | |
| | JavaScript | |
| | HTML / CSS | |
| | Delphi / Pascal | |