

JÖRN BOEHNKE

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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	
EDUCATION	<i>PhD</i> , Economics, University of Chicago	2015
	<i>MA</i> , Economics, University of Chicago	2012
	International economic relations and Korean language, Seoul Nat'l University	2010
	<i>Dipl</i> \approx <i>MSc</i> , Mathematics (summa cum laude), Leipzig University	2008
	<i>Dipl</i> \approx <i>MSc</i> , Physics (summa cum laude), Leipzig University	2008
	Chinese language studies, Nanjing University	2006
FIELDS	Industrial Organization	
	Computational Economics	
	Applied Microeconomics	
	Experimental Economics	
TEACHING EXPERIENCE	<i>Lecturer</i>	
	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
	<i>Teaching Assistant</i>	
	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

“Evaluating How Much Heterogeneity Can Explain Violations of the ‘Law of One Price’” (with Aaron Bodoh-Creed and Brent R. Hickman)

We use a unique dataset consisting of posted price sales of new Kindle Fire tablets from the eBay “Buy It Now” market platform to assess the degree to which heterogeneity can explain the pricing of seemingly homogeneous products. By combining a rich set of data about each listing with machine learning techniques, we find that we can explain almost 42% of the price variation. An analysis using more traditional data and OLS techniques explains less than 13% of the observed price variation. We conclude that heterogeneity amongst seemingly homogenous products can play a significant role in explaining price variation even in markets for seemingly homogeneous products.

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

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.

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

We explore the effect of military fatalities from World War I on female labor participation in postwar 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, especially in the industrial sector. 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.

“The Costratified Hilbert Space Structure of an $SU(3)$ Lattice Gauge Model”

The weak and strong interactions are modelled by non-abelian gauge field theory. Perturbation methods are the usual approach in dealing with the corresponding gauge fields. For some fundamental phenomena of gauge theory, however, only non-perturbative methods are applicable. In this work, we analyse a toy model of classical $SU(3)$ lattice gauge theory on a single plaquette. At first, we give an introduction of the mathematical foundations and the model is analysed. In order to reduce the gauge symmetry, we subsequently apply the singular Marsden-Weinstein reduction to the phase space of our system, a Hamiltonian G -manifold. This procedure yields the reduced phase space, a symplectic stratified space. The reduced phase space is a singular object which is composed of seven different connected components: three zero-dimensional strata, three two-dimensional strata and one four-dimensional stratum.

tum. The physical Hilbert space of our system arises by geometric quantisation. We characterise and analyse the Hilbert spaces associated with the singular strata of the $SU(3)$ toy model. The set of these single Hilbert spaces amounts to the structure of a costratified Hilbert space. The results obtained may be regarded as a contribution to non-perturbative quantisation procedures in lattice gauge theory.

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

PROFESSIONAL ACTIVITIES	<i>Visiting Scholar / Internships</i>	
	eBay Inc., eBay Economics Team	since 2015
	Conducting research analysis projects with eBay's transaction and behavior data	
	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 data base supported search algorithms	
Philips Semiconductors GmbH	2002	

Academic Activities

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

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*

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