JÖRN BOEHNKE

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POSITIONS

2015 - Present Postdoctoral Research Fellow, Center of Mathematical Sciences and Applications
HARVARD UNIVERSITY

2017 - Present Research Fellow, Labor and Worklife Program
HARVARD LAW SCHOOL

EDUCATION

2015 UNIVERSITY OF CHICAGO
Ph.D. Economics

2012 UNIVERSITY OF CHICAGO
M.A. Economics

2008 LEIPZIG UNIVERSITY
Dipl. ≈ M.Sc. Mathematics (summa cum laude)

2008 LEIPZIG UNIVERSITY
Dipl. ≈ M.Sc. Physics (summa cum laude)

RESEARCH INTERESTS

Quantitative Marketing, Economics of Digitization, Empirical Industrial Organization, Labor Economics

RESEARCH PAPERS

- *Using Machine Learning to Predict Price Dispersion* (with A. Bodoh-Creed and B. R. Hickman)
  R&R at Management Science
- *How Efficient are Decentralized Auction Platforms?* (with A. Bodoh-Creed and B. R. Hickman)
  R&R at Review of Economic Studies
- *Amazon's Price and Sales-Rank Data* (with B. Mendel)
  Under Review at Marketing Science
- *The Missing Men: World War I and Female Labor Participation* (with V. Gay)
  Under Review at The Economic Journal
- *Design and Implementation of a Privacy Preserving Electronic Health Record Linkage Tool in Chicago* (with A. N. Kho et al.)
  Published in Journal of the American Medical Informatics Association, 2015

WORK IN PROGRESS (SELECTED)

- *Main Street versus Cyberspace: Consumers' Substitution Between Online and Offline Retailers*
- *Pricing Strategies, Competition, and Consumer Welfare: Evidence from the German and Austrian Retail Gasoline Market*
- *Quantifying the Welfare Effects in Network Markets* (with J. D. Donna, D. Masterov, and G. Veramendi)
- *Innovation in the Market for Cell Phones in USA and China* (with M. Cheng and R. B. Freeman)
- *Recovery from Bidding Fever: Why pay more than 102% to buy a Gift Card?*

TEACHING

LECTURER (SELECTED)

2017	Economic Research Experience for Undergraduates (BA) BECKER FRIEDMAN INSTITUTE, UNIVERSITY OF CHICAGO
2016	New Tools for Acquisition / Analysis of Internet Data (PhD) HARVARD UNIVERSITY, NBER
2015	Practical Computing for Economists (PhD) UNIVERSITY OF CHICAGO
2014	Introduction to Data Acquisition and Data Management for Economic Research (PhD) UCLA ANDERSON
2014	Introduction to Computational Methods in Economics (PhD) UNIVERSITY OF CHICAGO
2013	Principles of Microeconomics, Economic Analysis 1 (BA) UNIVERSITY OF CHICAGO

TEACHING ASSISTANT (SELECTED)

2015	Microeconomics (*TA* for M. Gibbs; Executive MBA) BOOTH SCHOOL OF BUSINESS in CHICAGO, LONDON, and HONG KONG
2015	Big Data (*TA* for M. Taddy; PhD) BOOTH SCHOOL OF BUSINESS
2014	Microeconomics (*TA* for L. Stole; Executive MBA) BOOTH SCHOOL OF BUSINESS in CHICAGO, LONDON, and HONG KONG
2013	Microeconomics (*TA* for M. Gibbs; Executive MBA) BOOTH SCHOOL OF BUSINESS in CHICAGO, LONDON, and SINGAPORE

HONORS, SCHOLARSHIPS, & FELLOWSHIPS

2016	**Outstanding Teaching Assistant Award** Executive MBA Program Asia, BOOTH SCHOOL OF BUSINESS
2016	**Outstanding Teaching Assistant Award** Executive MBA Program Europe, BOOTH SCHOOL OF BUSINESS
2010 - 2015	Division of the Social Sciences Fellowship, UNIVERSITY OF CHICAGO
2013	NET Institute Research Grant

2013	Division of the Social Sciences Research Grant, UNIVERSITY OF CHICAGO
2009 - 2010	Haniel-Stipendium für ein wirtschaftsbezogenes Studium im Ausland Haniel Foundation and German National Academic Foundation
2003 - 2010	General Scholarship, German National Academic Foundation
2008	Lindau Laureate Meetings Scholarship, Wilhelm und Else Heraeus Foundation
2005 - 2006	Foreign Exchange Scholarship German Academic Exchange Service (DAAD) and the Chinese Scholarship Council

SERVICES

- Consulting Researcher:

  eBay Research Labs, 2015 - Present

- Referee:

  Management Science
  Journal of Political Economy
  Review of Economic Studies
  Operations Research
  European Journal of Operational Research
  International Journal of Industrial Organization
  Labour Economics
  Games

- Program Committee Member:

  ACM Conference on Economics and Computation (EC), 2015
  Auctions, Market Mechanisms and Their Applications (AMMA), 2015

RECENT CONFERENCE PRESENTATIONS

2018	AEA Annual Meeting (ASSA)
2017	North American Summer Meeting of the Econometric Society
2017	15th International Industrial Organization Conference

SKILLS

- Java
- SQL
- MongoDB
- R
- Stata
- C++
- Python
- JavaScript

- German (mother tongue)
- English (fluent)
- Korean (fluent)
- Chinese (advanced)
- Latin (basic)

PAPER ABSTRACTS (SELECTED)

Using Machine Learning to Predict Price Dispersion (with A. L. Bodoh-Creed and B. R. Hickman)
R&R at Management Science

Abstract: 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 high degree of dispersion we observe. Using a basic set of controls and empirical techniques in line with the previous literature, we can explain only 13% of variation in posted prices, which is also in keeping with previous research. However, we can explain 42% of the dispersion by applying machine learning to a richer set of variables, which we extract from raw downloaded HTML pages. We interpret this number as a bound on the role of market frictions in driving price dispersion. Variables describing the amount of information in the listings, the style of the listings, and the content of the listings' text are effective price predictors independently of one another. Our analysis suggests that the content of the listings' text plays a primal role in generating the predictions of the machine learning estimator. We repeat our analysis on a cross-section of products across a variety of categories on eBay, including household products, sporting goods, and other consumer electronics, and we find a comparable degree of price predictability across all of the products.

How Efficient are Decentralized Auction Platforms? (with A. L. Bodoh-Creed and B. R. Hickman)
R&R at Review of Economic Studies

Abstract: 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 redesign. We also prove 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.

Amazon's Price and Sales-Rank Data (with B. Mendel)
Under Review at Marketing Science

Abstract: Database Submission – This data set contains weekly price and sales-rank information for more than 400,000 products from a broad selection of product categories on Amazon.com. The data set ranges from 2010 to 2016 and includes, for each product, product title and product category. Additionally, most products have been successfully matched to their Universal Product Codes (UPC) and International Article Numbers (EAN) which allows researchers to link these data across different data platforms.

Main Street versus Cyberspace: Consumers' Substitution Between Online and Offline Retail

Abstract: While online sales accounted for half of retail sales growth in 2017, they still make up only 10% of total retail sales in the United States. This stands in contrast to initial predictions that suggested that consumers would migrate online and turn away from traditional retail. Using a unique dataset covering both online and offline purchases, I estimate a flexible demand system where consumers have the option to purchase goods online and offline to explore the factors driving the transitions (or lack thereof) to online retailers. I match product-level data from AC Nielsen and eBay with consumer and product characteristics to create a dataset containing millions of transactions at the 3-digit ZIP code level. I find that customers in the electronic market are two to four times more price sensitive than customers in traditional markets, which makes sense given the low cost of price searches online. I also find that urban shoppers are more price sensitive than rural shoppers when shopping online, but the reverse holds when shopping offline. One potential explanation is that urban consumers are more experienced comparing prices online, while convenience might be more important for urban consumers when shopping offline. I then use the estimated price elasticities for each market to predict the total welfare gained from the availability of electronic retail, and I find a welfare gain of roughly 25%-40% of total market revenue.

REFERENCES

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Ralph and Mary Otis Isham Professor of Economics
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