

Daniel Björkegren

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Academic Employment

2023- Assistant Professor of International and Public Affairs, Columbia University
2014-2023 Assistant Professor of Economics, Brown University
2019-2020 Visiting Researcher, Microsoft Research New England
2017-2018 W. Glenn Campbell and Rita Ricardo-Campbell National Fellow,
Stanford University

Education

2014 Ph.D. Economics Harvard University
Advisors: Michael Kremer, Greg Lewis, and Ariel Pakes
2011 M.A. Economics Stanford University
2009 M. Public Policy Harvard Kennedy School
2005 B.S. Physics University of Washington

Research

Economics Publications

Competition in Network Industries: Evidence from the Rwandan Mobile Phone Network.
RAND Journal of Economics, 2022.

Network Adoption Subsidies: A Digital Evaluation of a Rural Mobile Phone Program in Rwanda (with Burak Ceyhun Karaca) Journal of Development Economics, 2021.

Behavior Revealed in Mobile Phone Usage Predicts Credit Repayment.
(with Darrell Grissen) World Bank Economic Review, 2020.

The Adoption of Network Goods: Evidence from the Spread of Mobile Phones in Rwanda.
Review of Economic Studies, 2019.

Computer Science Publications (Conference and Workshop Proceedings)

Are LLMs Useful in the Poorest Schools? theTeacherAI in Sierra Leone
Jun Ho Choi, Oliver Garrod, Paul Atherton, Andrew Joyce-Gibbons, Miriam Mason-Sesay, and Daniel Björkegren. Neural Information Processing Systems (NeurIPS) Workshop on Generative AI for Education, 2023.

Credit Scores that Prioritize Customer Welfare: Theory and Evidence from Nigeria
Simón Ramirez Amaya, Daniel Björkegren, Joshua Blumenstock, and Suraj Nair. International Conference on Learning Representations (ICLR) Workshop on Practical Machine Learning for Developing Countries, 2023.

Assessing Bias in Smartphone Mobility Estimates in Low Income Countries. Sveta Milusheva, Daniel Björkegren, and Leonardo Viotti. ACM Conference on Computing and Sustainable Societies (COMPASS), 2021.

Balancing Competing Objectives with Noisy Data: Score-Based Classifiers for Welfare-Aware Machine Learning. Esther Rolf, Max Simchowitz, Sarah Dean, Lydia Liu, Daniel Björkegren, Moritz Hardt, and Joshua Blumenstock. International Conference on Machine Learning (ICML), 2020.

*Workshop: **Balancing Competing Objectives for Welfare-Aware Machine Learning with Imperfect Data.*** Esther Rolf, Max Simchowitz, Sarah Dean, Lydia Liu, Daniel Björkegren, Moritz Hardt, and Joshua Blumenstock. Neural Information Processing Systems (NeurIPS) Joint Workshop on AI for Social Good, 2019. **Best Paper Award**

Measuring Informal Work with Digital Traces: Mobile Payphone Operators in Rwanda. Daniel Björkegren. International Conference on Information and Communication Technologies and Development (ICTD), 2020.

Working Papers

What Do Policies Value? (with Samsun Knight and Joshua Blumenstock).
Revision requested, Review of Economic Studies
Conference version published at ACM EAAMO, 2021 (nonarchival).

Manipulation Proof Prediction (with Joshua Blumenstock and Samsun Knight)
Rejected with an invitation to resubmit, American Economic Review

Causal Inference from Hypothetical Evaluations (with B. Douglas Bernheim, Jeffrey Naecker, and Michael Pollmann)

Welfare Impacts of Digital Credit: A Randomized Evaluation in Nigeria (with Joshua Blumenstock, Jacqueline Mauro, and Suraj Nair)

Nonparametric Causal Estimators for Multivariate Missing Data: An Application to Estimate Treatment Effects from Digital Trace Data (with Jacqueline Mauro and Joshua Blumenstock)

Nostalgic Demand

Other Writing

Artificial Intelligence for the Poor
Foreign Affairs, 2023. *Website*

Tech for Development (with Joshua Blumenstock)
IMF Finance and Development Magazine, 2023.

To Regulate Network-Based Platforms, Look at Their Data (with Chiara Farronato)
Harvard Business Review, 2021. *Website*

The Potential of Digital Credit to Bank the Poor. (with Darrell Grissen)
American Economic Association Papers and Proceedings, 2018.

Research in Progress

Public and Private Transit: Evidence from Lagos (with Alice Duhaut, Geetika Nagpal, and Nick Tsivanidis)

Efficiency of Informal Transit Networks (with Alice Duhaut, Geetika Nagpal, and Nick Tsivanidis)

Welfare Sensitive Credit Scoring (with Joshua Blumenstock)

How Do Individuals Learn: Evidence from Rwanda (with Aislinn Bohren and Patrick Vu)

Presentations (including scheduled)

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| 2024 | Princeton University (IO) Federal Reserve Bank of Philadelphia World Bank MeasureDev (Keynote) | |
| 2023 | Cardozo Law Review Symposium: AI and Discrimination in Credit Markets Microsoft Research New England UC Santa Barbara Mind and Machine Intelligence Summit Virtual Digital Economy Seminar United Nations Behavioural Science Week: AI | Harvard Business School Workshop on the Future of AI and Economics UChicago BFI Industrial Organization+ Microsoft Research AI, Cognition, and the Economy Workshop Swedish International Development Cooperation Agency (SIDA) AI, Democracy, and Development (Keynote) CESifo Economics of Digitization (Keynote) |
| 2022 | Next Generation of Antitrust, Data Privacy, and Data Protection Scholars Conference (NYU/American Bar Association) Washington University St. Louis NYU Columbia University (Development) World Bank/CEGA MeasureDev Harvard/MIT (Development) Bravo Center Workshop on Economics of Algorithms, Brown University | ETH Zürich Workshop on AI+Economics (Keynote) Northeastern University Columbia University (SIPA) NEUDC University of Chicago Booth George Washington University (Computer Science: Trustworthy AI Seminar) |
| 2021 | AEA Annual Meeting Brown University Data Science 'Fair February' (Keynote) NBER Industrial Organization NBER Digitization (Discussant) UC Santa Barbara Private Sector Development Research Network: Firm Data Workshop MIT (Applied Micro) UC Riverside | World Bank: World Development Report Data Infrastructure (Panelist) ZEW ICT Conference Temple University MIT Conference on Digital Experimentation Southern Economic Association Annual Meeting NeurIPS Workshop on Human and Machine Decisions (Panelist) |
| 2020 | AEA Annual Meeting World Bank | ETH Zürich Microsoft Research NYC |

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| | Princeton University (IO) Bill and Melinda Gates Foundation EconTwitter Econ/Finance Conference Microsoft Research New England University of Oxford (Econometrics) BREAD preconference BREAD Berlin Center for Consumer Policies: 'The Future of AI for Policymaking' | Penn State (Development) NBER Artificial Intelligence (Discussant) NeurIPS Machine Learning for Economic Policy (Panelist) |
| | | <i>Canceled/Postponed due to COVID-19: Chinese University of Hong Kong Hong Kong Baptist University</i> |
| 2019 | NBER Industrial Organization RAND Corporation International Industrial Organization Conference Boston College NSF Network Science in Economics Microsoft Research New England Federal Trade Commission (FTC) Workshop on Firms in Emerging Economies (Jinan University, China) | Joint Statistical Meetings (JSM) Yale University NBER Artificial Intelligence Imperial College Business School (Finance/Economics) MIT Conference on Digital Experimentation Tufts University Harvard (Computer Science: EconCS) World Bank Infra4Dev (Toulouse) |
| 2018 | AEA Annual Meeting University of Washington Stanford University UC Berkeley Artificial Intelligence for Economic Development (CEGA/World Bank) Federal Communications Commission (FCC) | PacDev NBER Digitization (Winter) NBER Digitization (Summer poster) NBER Development preconference NBER Development World Bank ABCA |
| 2017 | Dartmouth Winter IO Conference J-PAL Conference Dominican Republic Penn State Conference on Data Driven Development in Africa | NetMob UC San Diego Berkeley-Stanford IO Fest University College London |
| 2016 | AEA Annual Meeting Microsoft Research Economics Conference | NBER Digitization World Bank ABCDE |
| 2015 | Georgetown University of Houston NEUDC NBER Development NBER Industrial Organization NetMob | Stockholm School of Economics Stockholm University Summer Institute in Competitive Strategy (UC Berkeley) UC Davis (ARE) Yale University |
| 2014 | Boston University Brown University Michigan State University | Northwestern (Kellogg MEDS) Stanford GSB University of Cambridge (INET) |
| 2013 | NEUDC | |
| 2012 | Nagoya University Conference on Risk, Food and Trade | |

Honors

- 2013-2014 Oppenheimer Graduate Fellowship Fund Harvard University
- 2011-2013 Graduate Fellowship Harvard Economics
- 2010 George Shultz Fellowship Stanford Institute for Economic Policy Research
- 2009 Graduate Fellowship Stanford Economics
- 2003 Jerre Noe Scholarship University of Washington Computer Science
- 2002 Freshman Medal University of Washington

Teaching

Columbia University

- 2023- Applying Machine Learning (Master's)

Brown University

- 2014-2023 Big Data (Undergraduate)
- Causal Inference (Undergraduate)
- Development Economics (Ph.D.)

Teach for America

- 2005-2007 High School Math and Science Weslaco, Texas

Minicourses and Workshops

- 2022 University of Chicago Machine Learning in Economics Summer Institute
- 2021 NBER Digitization PhD Tutorial: Digitization and Developing Societies
- 2018 UC San Diego: Machine Learning

Professional Activities

- Affiliations Bureau for Research and Economic Analysis of Development (BREAD)
- Jameel Poverty Action Lab (J-PAL)
- Columbia University Institute for Global Politics (IGP)
- Munich Society for the Promotion of Economic Research (CESifo)
- Stanford Golub Capital Social Impact Lab
- Toulouse Financial Inclusion through Interoperability Initiative

- Reviewer American Economic Review, Demography, Development Engineering, Econometrica, Harvard University Press, Journal of Development Economics, Journal of Political Economy, Marketing Science, National Science Foundation, Nature Human Behavior, Quarterly Journal of Economics, RAND Journal of Economics, Review of Economics and Statistics, Science, USAID, World Development, and others

Conference

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| ACM COMPASS | Program Committee | 2022, 2023 |
| | Track Chair: Development, Economics, and Policy | 2021 |
| ICLR PML4LRS | Reviewer | 2024 |

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| ACM EC | Program Committee | 2021 |
| ACM CSCW | Reviewer | 2017 |
| ACM DEV | Program Committee | 2016 |
| Bravo Center Workshop on Economics of Algorithms, Co-organizer | | 2022 |

Service

2022- Scientific Steering Committee, Retail Finance Distribution Research Initiative, University of Ghana

Grants

2022 *“Efficiency of Informal Transit Networks” with Nick Tsivanidis, Alice Duhaut, and Geetika Nagpal:*
Weiss Fund, \$62,530

2021 *“Welfare Scoring for Digital Credit” with Joshua Blumenstock:*
Innovations for Poverty Action, \$144,711

“Efficiency of Informal Transit Networks” with Nick Tsivanidis, Alice Duhaut, and Geetika Nagpal:
World Bank, \$198,000
CEPR STEG, £98,968
J-PAL King Climate Action Initiative, \$177,015
Brown Seed Funding, \$50,000

2020 NBER Social Learning Initiative, \$30,972

“Efficiency of Informal Transit Networks” with Nick Tsivanidis, Alice Duhaut, and Geetika Nagpal:
International Growth Centre, £107,279

2019 *“Efficiency of Informal Transit Networks” with Nick Tsivanidis, Alice Duhaut, and Geetika Nagpal:*
World Bank, \$75,000

“Impact Credit Scoring for Women’s Empowerment” with Joshua Blumenstock:
Bill and Melinda Gates Foundation, \$49,892

“Welfare Sensitive Machine Learning” with Joshua Blumenstock and Moritz Hardt:
Amazon.com, \$20,000 compute credits

2018 *“Digital Credit Scoring” with Joshua Blumenstock:*
Bill and Melinda Gates Foundation, \$420,000
Brown Seed Funding, \$49,954

2017 *“Competition in Network Industries”:*
NET Institute, \$3,000

2015 *“Precision Agriculture for Development” with Michael Kremer, Shawn Cole, and Heiner Baumann:*
Unorthodox Philanthropy: \$1,193,500
Anonymous Donor: \$2,241,100

2010 *“Big Data for Development”:*
Stanford Institute for Economic Policy Research, George Shultz Fellowship: \$3,000

Student Advising

PhD (with initial placement; *primary advisor)

- 2023 Shunsuke Tsuda, University of Essex
- 2022 Samsun Knight*, University of Toronto + Northeastern Postdoc
- 2020 Sagar Wadhwa, Amazon
- 2018 Will Violette, Federal Trade Commission
- 2017 Margarita Gafaro Gonzalez, Banco de la Republica Colombia
Sveta Milusheva, World Bank Research Group
Aurora Ramirez Alvarez, Colegio de México
- 2016 Morgan Hardy, NYU Abu Dhabi

Undergraduate

- 2022 Jolie Wei

External Reviewer

- 2022 Vatsala Shreeti, reviewer for Toulouse School of Economics

Other Employment

- 2016-2020 Precision Agriculture for Development Co-founder and Board Member
- 2008-2009 Abdul Latif Jameel Poverty Action Lab (J-PAL) Consultant
- 2000-2001 Microsoft Mobile Device Division High School Intern
Coded the photo app for Microsoft's first smartphone.

Language English, Swedish

Updated February 2024