Dongyang He

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Profile

- Ph.D. Candidate of Economics at Penn State University, adept at applied econometrics and machine learning.
- Five-year hands-on experience with demand estimation and causal inference in R, Python, and Stata
- Proficient skills in working with large-scale administration data and survey data

Education

Pennsylvania State University | Ph.D. Candidate in Economics (STEM) 2024 (expected)
- Fields: Spatial Economics, Applied Econometrics, Applied Microeconomics

Pennsylvania State University | M.A. in Economics, B.S. in Mathematics (Honors) 2019

Skills

Economics
- Structural Estimation: Discrete Choice Model, Dynamic Demand, BLP, Spatial Model
- Causal Inference: Diff-in-Diff, A/B Testing, Regression Discontinuity, Instrumental Variable
- Machine Learning: Regularized Regression, Clustering, Random Forests, Synthetic Control

Programming
- Modeling: R, Python, Stata, Matlab, SQL, Shell, ArcGIS, SQL

Work Experience

Research Assistant for Prof. Michael Gechter 2022
- Estimated the effects of cash transfer on school enrollments using a dynamic education demand model.
- Utilized high-performance computing infrastructure, ArcGIS, Git, R, and Python.

Short-Term Consultant at European Bank for Reconstruction and Development 2019
- Compiled, cleaned, visualized, and analyzed maps and census data from Mumbai, India.
- Coordinated regularly with three other researchers to deliver timely results.

Research Experience

Distributional Impacts of Exclusionary Zoning Policies 2023
- Investigated the differential impacts of density and height regulations across income groups in the greater Boston area, using large-scale parcel-level housing data covering 1 million residential properties.
- Conducted spatial discontinuity design to examine the impact of zoning restrictions on housing supply and demographic composition.
- Developed a theoretical housing production model to rationalize the impacts and interactions of density and height regulations on housing supply.
- Developed a discrete choice model to estimate preferences of heterogenous households over locations and housing.

Migration and Proximity Preference in Fertility Decision 2022
- Examined how distance from hometown might impact people's fertility decision, using large-scale survey data covering 5 million households in the U.S. from 2000 to 2019.
- Developed a discrete choice model to estimate households' preferences over locations, fertility choices, and consumption.
- Found that changes in migration pattern can account for 5% of the changes in fertility rate since 2000.

Industrial Payments and Physicians' Prescriptions 2020
- Investigate the impact of industrial payments on physicians' prescription choices in the Statin market, using over 10 million prescription records from 16,000 physicians during 2016 and 2017.
- Implement a split-sample Lasso approach to systematically select controls and instruments from a large potential set for demand estimation.

Leadership and Honors

Founder and Organizer of International Trade Reading Group, Penn State 2020 – Present
Schreyer Scholar, Penn State 2019
GRE: 334 (Math-169, Reading-165) 2019
Bates & White Research Funding 2018
Mathematics Advanced Study Semesters Fellowship 2017