

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, Regression Discontinuity, IV
- 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 heterogeneous 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
Bates & White Research Funding	2018
Mathematics Advanced Study Semesters Fellowship	2017