

HONGXI ZHAO

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PROFESSIONAL EXPERIENCE

North Dakota State University, August 2025 – present

Junior Research Economist/Research Assistant Professor

- Conducted research in agricultural economics, specifically in agricultural insurances, land uses, and safety nets supported by government policies
- Delivered policy briefs and white papers for timely policy reviews and research updates

World Bank Group, January 2023 –present and April 2017 – July 2019

Consultant

- Provided policy suggestions, empirical evidence, and strong data support to EU and African governments
- Led the data analysis section in 5 projects, covering micro-data from 50+ countries
- Major contributor to policy reports' drafting in emerging markets covering over 250 million population
- Designed fully automated maps in R to produce Hotspot maps, Spatial correlation maps and gradient maps, significantly improving reproductivity and accuracy of data visualization for the team
- Applied machine learning and econometric models to conduct poverty mapping and policy impacts analysis
- Cooperated closely with policy makers, economists, statisticians and field specialists across three continents
- Built team data management structures with GitHub/GitKraken, reducing coding conflicts and errors

The Ohio State University, April 2022 – April 2023

Research Assistant

- Worked on Columbus city government commissioned project to evaluate green infrastructure investments
- Constructed staggered DID models to capture residents' valuation of nearby rain gardens
- Analyzed how noise exposure at doorstep and walkable communities affects residential property values

Search Fund Accelerator, October 2016 - March 2017

Private Equity Analyst

- Wrote macro industry investment theses from public micro data and reports
- Developed a procedure to auto-extract information from internet using VBA and Access to identify investment targets, decreasing searching time by over 80%
- Identified and communicated with over 30 private company owners to discuss buyout offers

EDUCATION

The Ohio State University, Columbus, Ohio

Ph.D in Agricultural, Environment and Development Economics, May 2025

Dissertation: Three Papers on Urban Land Use and Growth: Density, Transit, and the Environmental
Dissertation Committee: H. Allen Klaiber (Chair), Sathya Gopalakrishnan, Alex Hollingsworth, Yao Wang, and Ulrich Morawetz

Tufts University, Medford, Massachusetts

M.S. in Economics, May 2016

University of Southern California, Los Angeles, California

B.S. in Economics and Mathematics with Minor in Environmental Studies, May 2013

RESEARCH INTERESTS

Land Economics, Agricultural Economics, Regional Economics, Environmental Economics

PUBLICATIONS

Morawetz, Ulrich. B., Klaiber, Henry. A., & Zhao, Hongxi. 2024. The impact of traffic noise on the capitalization of public walking area: A hedonic analysis of Vienna, Austria. *Journal of Environmental Management*, 353, 120060.

Azevedo, Joao Pedro Wagner De & Van Den Brink, Rogier J. E. & Corral, Paul & Avila, Montserrat & Zhao, Hongxi & Mostafavi, Mohammad-Hadi, 2018. "Poverty, Inequality, and Agriculture in the EU," Policy Research Working Paper Series 8638, The World Bank.

WORKING PAPERS

Zhao, Hongxi; Klaiber, H. Allen. **“The Impact of Commuting Discontinuity and Infrastructure Investment on Urban Development”**.

We use data from Vienna, Austria to quantify how a natural barrier, the Danube River, has influenced recent development patterns as the river creates a commuting cost discontinuity for residents on the opposite side to the city center. Building on the Wheaton (1982) model of urban development, a novel measure of volume infill is built for dense multi-story urban environments. The regression discontinuity design employed identify a proximate effect of 17-19% reduction in infill volume when a new building is constructed across the Danube from the city center, a result consistent with predictions of the Wheaton (1982) urban growth model. A difference-in-difference design is used to identify that the reduction in density is mitigated by bridges, especially large volume multi-modal bridges with large traffic capacity.

Zhao, Hongxi; Klaiber, H. Allen. **“A Day at the Park: The Immediate and Longer-Term impact of the COVID Era on Park Amenity Valuation”**. Review and Resubmit (R&R) at Real Estate Economics.

This paper uses a quasi-experimental approach to investigate changes in the capitalized value of urban open space immediately following COVID-19 as ill over time. Our findings reveal contrasting effects of COVID-19 on the capitalized value of large and small public parks with smaller parks increasing in value and larger parks declining in value. We further find that these impacts were persistent for larger parks but appear more transitory for smaller neighborhood parks.

Zhao, Hongxi; Klaiber, H. Alen; Morawetz, Ulrich B. **“Public Transportation Investments and Private Housing Supply Decisions”**

In this paper, we use a comparative static analysis to empirically examine how public transportation systems, especially high-speed metro, alter urban density, which builds upon structural models of Baum-Snow 2007 and Brueckner 1987. Our results show that metro and trams have significant positive impact on corridor density (0.6-0.8%) and new stations increased corridor density by 1.5-1.7%.

PAPERS IN PROGRESS

Public Investment and Private Ownership: Determinants of Urban Redevelopment Dynamics

Urban development plays a crucial role in enhancing housing quality and energy efficiency, particularly in historic cities where most land is already developed. This paper examines how private ownership structures impact the timing and likelihood of redevelopment, as well as the influence of public real estate investment on redevelopment decisions within neighborhoods.

Capital investment after Redevelopment: An Analysis using WWII Bombing

World War II bombings necessitated widespread post-war urban redevelopment in Vienna. Utilizing a matching method, we found that redeveloped parcels experienced significantly greater capital investment, evidenced by increased building heights, and accommodated substantially more residents.

Distance Equivalence in Assessing Barrier and Non-barrier Urban Development Directions

This paper introduces a method for quantifying the cost imposed by commuting barriers by comparing urban development patterns across different directions. The approach translates barriers into equivalent commuting distances. Initial findings suggest that crossing the Danube River is equivalent to adding at least 1.2 kilometers to a commute.

TEACHING EXPERIENCE

Lead Instructor: AEDE4310 Environmental and Natural Resource Economics

- Microeconomics theory, natural resource dynamic allocations, urban patterns, pollution control, policy analysis methods and climate change policies

Lab Instructor (twice): AEDE2005 Data Analysis for Agribusiness and Applied Economics

- Probability and statistics, summary statistics, hypotheses testing, regressions, Excel techniques, data gathering and analysis skills

Teaching Assistant:

- AEDE 2001 Principles of Food and Resource Economics
- AEDE 4001 Managerial Economics for Agribusiness
- AEDE 4310 Environmental and Resource Economics

OUTREACH PUBLICATIONS

Crop Insurance Premium and Interest Deferrals in a Time of Rising Farm Costs. 2025. *NDSU ARPC Brief*.
What Repeated Crop Insurance Premium Interest Deferrals Mean for Farmers. 2025. *NDSU ARPC Brief*.
Poverty Mapping and Small Area Estimations. 2024. *World Bank Report*.
Access to Basic Services in Ghana. 2024. *World Bank Report*.
Congo Rainforests Evaluation and Protection. 2023. *World Bank Report*
Evaluation of Green Infrastructure Investment. 2021. *Columbus City Government*
The Global Database of Early Childhood Development. 2019. *World Bank Database*
The Global Geodatabase of Poverty at Subnational Levels. 2018. *World Bank Database*.
Thinking CAP: Supporting Agricultural Jobs and Incomes in the EU. 2017. *World Bank Report*.

SERVICES

Referee

- Journal of Association of Environmental and Resource Economists
- Journal of the Agricultural and Applied Economics Association

Presentations and Workshops

- “Park Evaluations during the Pandemic”. *North America Regional Science Conference*. 2022.
- “Commuting Barrier and Urban Density”. *North America Regional Science Conference*. 2022.
- “Data Visualization in R and Stata”. *OSU AEDE PhD Students’ Data Visualization Workshop*. 2021.
- “Evaluations on Columbus Green Infrastructure Investment”. *OSU and Columbus City Government*. 2020.

Students’ Leadership

- Department Delegate in OSU Graduate Students Association (GSA)
- Committee member of OSU GSA International Students Committee

SKILLS

Computer Skills

- R, Stata, Python, ArcGIS, LaTeX, VBA, GitKraken, MATLAB, Tableau, MS Office

Data/Policy Analysis Skills

- *Causal Inference*: Difference-in-Difference (DID), Synthetic DID, Staggered DID, Matching (Propensity Score and Nearest Neighbor), Synthetic Control, Regression-Discontinuity, Panel Data Analysis, Linear, Logistic, Probit Regression, Logit Regression, Instrumental Variable (IV)
- *Machine Learning*: Gradient Boosting, Classification, Decision Trees, Random Forests, SVM, KNN

Other Skills

- *Language*: Mandarin Chinese (native speaker), English (bilingual proficient)
- Passed CFA Level 1 (*December 2016*)