Tianhao Zhao

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Education

Emory University — Atlanta, GA
Ph.D. in Economics (expected) — *2019 — 2025*

Dissertation: Essays on housing and macroeconomics
Advisor: Vivian Yue

Emory University — Atlanta, GA
M.A. in Economics — *2019 — 2022*

Beihang University — Beijing, China
B.S. in Economics (Financial Engineering) — *2014 — 2018*

Research Interest

Macroeconomics, International finance, Computational economics

Research Papers

Working papers

- Ding, C. and Zhao, T., 2024. Frictions, net worth shocks, and heterogeneous impacts. Available at SSRN 4915272.

Work in progress

- Financial dollarization, exchange rate, and macroprudential policy (with C. Ding, V. Yue, and A. Zaretski)

Journal articles

- Jiang, Y., Zhao, T. and Zheng, H., 2021. Population aging and its effects on the gap of urban public health insurance in China. *China Economic Review, 68*, p.101646.
- Jiang, Y., Zheng, H. and Zhao, T., 2019. Socioeconomic status and morbidity rate inequality in China: based on NHSS and CHARLS data. *International Journal of Environmental Research and Public Health, 16(2)*, p.215.
- Wang, S., Zhao, T., Zheng, H. and Hu, J., 2017. The STIRPAT analysis on carbon emission in Chinese cities: An asymmetric laplace distribution mixture model. *Sustainability, 9*(12), p.2237.

Dissertation chapters

- Asymmetric impacts of net worth shocks on the U.S. economy: Evidence from U.S. counties.

Abstract: This chapter examines the persistent and asymmetric effects of net worth shocks on the U.S. economy following the Great Recession, using a new county-level panel dataset (CountyPlus) covering 2003 to 2019. Employing local projections with functional coefficients, the study estimates semi-parametric impulse responses to capture the amplifying effects of downward nominal wage rigidity and collateral constraints at varying magnitudes of net worth shocks. The findings reveal substantial heterogeneous impacts of net worth shocks, which are notably more severe during economic busts.

- Downward nominal wage rigidity and collateral constraints: A theory for understanding the post-Great Recession U.S. economy.

Abstract: This chapter develops a continuous-time heterogeneous agent model to explain the prolonged downturn of the U.S. economy following the Great Recession. The model incorporates downward nominal wage rigidity, collateral constraints, endogenous idiosyncratic unemployment risk, and illiquid housing wealth. Using the sequence-space Jacobian method for estimation and the CountyPlus dataset, the analysis reveals significant interactions between wage rigidity and collateral constraints, which together contribute substantially to the slow recovery of the recent U.S. economy.

- Deep learning insights into geographically heterogeneous impacts of net worth shocks on U.S. household balance sheets.

Abstract: This paper examines the spatial-temporal heterogeneity in the loss of U.S. household wealth during the Great Recession, addressing the challenges posed by the endogeneity of household net worth shocks and the interconnectedness of local economies. The study employs a deep neural network model with an embedded structural layer that treats counties as open, interconnected economies. Leveraging the CountyPlus dataset and a network structure representing economic linkages between U.S. counties, the model estimates the heterogeneous effects of net worth shocks while addressing endogeneity concerns.

Scholarly Presentation

- Brown bag seminar, 2024 (scheduled), Federal Reserve Bank of Atlanta
- Midwest Macroeconomics Meetings, 2024, Purdue University
- International Conference on Empirical Economics, 2024, Pennsylvania State University Altoona

Professional Service

- Referee, BMC Public Health (SCI Q1)
- Session chair, International Conference on Empirical Economics, 2024, Pennsylvania State University Altoona

Teaching

Instructor Fall 2022
ECON 112: Principles of Macroeconomics *Emory University*

Teaching Assistant 2020 — 2024
Multiple courses *Emory University*

- ECON 421: Micro-econometric Data Analytics (Spring 2024)
- ECON 610: Macroeconomic Theory I (Fall 2023)
- ECON 212: Intermediate Macroeconomics (Fall 2023)
- ECON 363: Political Economy of China (Spring 2023)
- ECON 112: Principles of Macroeconomics (Spring 2022)
- ECON 363: Political Economy of China (Spring 2021)
- ECON 363: Political Economy of China (Fall 2020)

Research Assistantship

Esfandiar Maasoumi Fall 2023
Engaged in the research on the inference of automatic debiased machine learning. *Emory University*

Vivian Yue Spring 2023
Conducted analysis on the development of digital currency. *Emory University*

Kaiji Chen Fall 2021
Undertook empirical research on China's saving rate using survey data. *Emory University*

Mi Luo Spring 2021
Analyzed the spillover effects of school performance on labor market outcomes. *Emory University*

Haitao Zheng 2017 — 2019
Modeled China's public health system with overlapping generation models. *Beihang University*

Skill and Awards

- **Programming Languages**: Julia, Python, MATLAB, R, Stata, C, SAS, Fortran, SQL
- **Awards**: Professional Development Support Conference Funds, Emory University

References

Vivian Yue (Advisor)
Samuel Candler Dobbs Professor of Economics
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