Ziyao Wang

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EDUCATION

Ph.D. in Economics, Northeastern University, Boston, USA 2021-2026 (expected)
Dissertation Committee: James Dana (co-chair), Jordi Jaumandreu (co-chair), Santiago Caicedo, Jianfei Cao
M.S. in Economics, University of Wisconsin-Madison, USA 2021
M.S. in Finance & Economics, with Distinction, University of Southampton, Southampton, UK 2019
B.S. in Economics, China University of Geosciences, Wuhan, CHN 2017

FIELDS OF INTEREST

General Interest: Empirical Industrial Organization, Applied Econometrics
Special Focus: Productivity, Technological Change, Market Power, Economics of AI

WORKING PAPERS

Artificial Intelligence (AI) and Endogenous Productivity: Evidence from Korean Firms *(joint with Jae Wook Jung)*

Non-neutral Technological Change in Chinese Manufacturing

Privatization, Market Power, and Non-neutral Technological Change in Chinese Manufacturing

WORK IN PROGRESS

Vertical Licensing, Pricing, and Welfare: Evidence from the Instant Coffee Market *(joint with Muhammad Shabanpour)*

Auction Pricing, Market Efficiency, and Consumer Welfare: Evidence from StockX's Secondary Market *(joint with Muhammad Shabanpour)*

PRESENTATIONS

Chinese Economists Society North America Annual Conference, Ann Arbor, USA Mar 2025
Western Economic Association International Annual Conference, San Francisco, USA June 2025
Chinese Economists Society China Annual Conference, Guangzhou, China July 2025
University of Mannheim & Center for European Economic Research (ZEW), Mannheim, Germany July 2025
Boston University, Empirical Micro Workshop, Boston, USA Sept 2025
BU-BC Green Line Macro Meeting, Boston, USA Oct 2025
MIT Sloan, FutureTech Seminar, Boston, USA Dec 2025
ASSA Annual Meeting, Philadelphia, USA Jan 2026

RESEARCH EXPERIENCE

Research Assistant: *Sovereign Debt and Rollover Risk* for Jun Ma, Northeastern University 2024-Present
Research Assistant: *Synthetic Control Method with Spillover* for Jianfei Cao**,** Northeastern University 2021-2022

TEACHING EXPERIENCE

Northeastern University:

Lecturer: *Principle of Microeconomics* (Evaluation: 4.8/5.0) 2024 Summer
Lecturer: *Principle of Microeconomics* (Evaluation: 4.7/5.0) 2023 Summer
Discussion Instructor: *Principle of Microeconomics* (Evaluation: 4.9/5.0) 2022 Fall-2024 Spring
Teaching Assistant: *Statistics, Public Finance, Urban Economics* 2021 Fall-2022 Spring

University of Mannheim & ZEW:
TA for Jordi Jaumandreu: *Estimating the Production Function, Productivity, and Markups* (PhD level) 2025

HONORS&FUNDINGS

- **CSSH Multi-generational Research Team Program**, *Northeastern University* 2022
- **CSSH Scholar Award** *(summer funding), Northeastern University* 2021-2026
- **Dean's List Award**, *University of Southampton* 2019

LEADERSHIP&SERVICE

Student Representative –*Belonging Committee*, Department of Economics, Northeastern University Oct 2024 – Present

Vice President – *College Volunteer Association*
Outstanding Director in Student Union, China University of Geosciences 2013 –2014

SKILLS

Languages: Mandarin (native), English (fluent)
Software and Programming: MATLAB, STATA, R, Python, LaTeX, SQL
Citizenship/Visa Status: China/F1

REFERENCES

James Dana

Professor,
Department of Economics and
D'Amore-McKim School of Business,
Northeastern University
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Jordi Jaumandreu

Senior Academic Researcher,
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Jianfei Cao

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John Kwoka

Neal F. Finnegan
Distinguished Professor,
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WORKING PAPERS

Artificial Intelligence (AI) and Endogenous Productivity: Evidence from Korean Firms

(joint with Jae Wook Jung)

This paper studies how artificial intelligence (AI) adoption affects firm-level productivity in South Korea. Using a 2017–2023 panel covering all major market sectors, we combine direct survey measures of AI adoption with a structural model of endogenous productivity to address selection into adoption. We find AI adoption raises revenue-based productivity by about 5% on average, with substantial heterogeneity by time since adoption that is consistent with a delayed J-curve, by sector with the largest gains in ICT and short-run losses in manufacturing, and by application area with gains concentrated in product/service development and sales and marketing rather than production processes. Using the estimates, we also examine how AI adoption relates to market power.

Non-neutral Technological Change in Chinese Manufacturing

This article identifies firm-level factor-augmenting productivity for capital, labor, and materials using Chinese manufacturing data from 1998 to 2008, a period of state-owned enterprise reform. We develop a novel method to estimate the parameters of a CES production function and recover the three types of factor-augmenting productivity. Results suggest technological change is strongly biased: labor-augmenting productivity grew 12% annually, capital-augmenting 5%, and material-augmenting 1.4%. Factor-augmenting productivity growth varies by sector and ownership. Productivity growth was driven primarily by incumbents, whereas entrants improved capital efficiency and exiters enhanced labor efficiency. We explain factor cost-share shifts through productivity gaps and relative input prices.

Privatization, Market Power, and Non-neutral Technological Change in Chinese Manufacturing

This paper examines how ownership transformation during China's state-owned enterprise (SOE) reform affected the direction of firm-level technological change. Using Chinese manufacturing data from 1998–2008, I estimate a nested CES production function with factor-augmenting productivities and embed privatization directly into the law of motion for each productivity to address endogenous ownership change. I also relax perfect-competition assumptions in labor markets by allowing ownership-specific rent sharing, which separates true labor-augmenting technological change from wage markdowns. Using the estimates, we quantify how privatization shifts labor-augmenting productivity and compare labor market power between SOEs and private firms.