Yajie Wang

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Education

Ph.D. in Economics, University of Rochester, USA, 2017-2023 (expected)

B.A. in Economics and B.S. in Mathematics, Renmin University of China, China, 2017

Research Interests

Macroeconomics, Labor, and Finance

Working Papers

- "Uncertainty and Unemployment Revisited: The Consequences of Financial and Labor Contracting Frictions", ***Job Market Paper***, November 2022
- "Automation and the Rise of Superstar Firms", with Hamid Firooz and Zheng Liu, *Federal Reserve Bank of San Francisco Working Paper*, April 2022

Work In Progress

- "Borrowing From Workers: How Firms Backload Wages During Financial Distress", *Federal Statistical Research Data Center (FSRDC) Project 2652*

Presentations

Conferences and Seminars

- 2022: University of Rochester, the Federal Reserve Bank of Philadelphia, Midwest Macro (Logan), North America Summer Meeting (Miami), Asian Meeting of the Econometric Society (Tokyo), Young Economist Symposium (Yale)

Discussions

- "Uncertainty, Liquidity Constraint, and Entrepreneurship" by Pengfei Wang, Daniel Yi Xu, Sichuang Xu, and Zhiwei Xu, *China International Conference in Macroeconomics*, June 2022

Fellowships, Scholarships, and Awards

2021-2023	NSF Doctoral Dissertation Research Improvement Grants, PI is Professor Yan Bai
2022-2023	Dean's Post-Field Research Dissertation Completion Fellowship, University of Rochester
2021	Tapan Mitra Prize, Best 5th-Year Paper in Empirical Economics, University of Rochester

2019	Summer Research Grant, University of Rochester
2017-2022	Graduate Fellowship and Tuition Scholarship, University of Rochester
2015-2016	National Scholarship, Renmin University of China

Research Experience

- Special Sworn Status (SSS) Researcher, U.S. Census Bureau, 2021-Present
- Research Assistant for Professor Yan Bai, University of Rochester, 2019-2021
- Research Assistant for Professor George Alessandria, University of Rochester, 2020

Teaching Experience

- Instructor, Department of Economics, University of Rochester
  - ECO 108 Principles of Economics (Summer 2021), Overall Rating: 4.6/5.0
  - ECO 108 Principles of Economics (Summer 2020), Overall Rating: 4.3/5.0
- Teaching Assistant, Department of Economics, University of Rochester
  - ECO 211 Money, Credit & Banking, Professor Narayana Kocherlakota (Spring 2020, 2021)
  - ECO 207 Intermediate Microeconomics, Professor Steven Landsburg (Fall 2019, 2020, 2021)
- Teaching Assistant, Simon Business School, University of Rochester
  - STR 427 Organizational Behavior, Professor Barry A. Friedman (Fall 2020)
  - STR 401 Managerial Economics, Professor Heikki Rantakari (Fall 2019, Fall 2020)

Skills

Languages: Mandarin (native), English (fluent)

Computer Skills: Fortran, MATLAB, Python, Stata, R, LaTeX, and SPSS

References

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Uncertainty and Unemployment Revisited: The Consequences of Financial and Labor Contracting Frictions

(Job Market Paper)

I build a novel search model to study how uncertainty shocks to firm-level productivity affect unemployment. The model's core is a labor contracting friction that implies wages are insensitive to transitory firm-level idiosyncratic shocks. When this interacts with a firm financial friction, wage bills become debt-like commitments by firms to workers, which firms are less likely to take on when high uncertainty raises firm default risks. As firms hire fewer workers, unemployment increases. Quantitatively, I find that the average peak-to-trough increase in unemployment during recessions implied by my baseline model is about the same as that in the data. The model's ability to capture unemployment dynamics diminishes markedly if I eliminate any of the three elements: the financial friction, the labor contracting friction, or uncertainty shocks. My model also suggests that the labor market policy of subsidizing firms' wage bills performs better than increasing unemployment benefits during periods of elevated uncertainty.

Automation and the Rise of Superstar Firms

(with Hamid Firooz and Zheng Liu)

Evidence suggests that the rise in automation technology has contributed to the rise in superstar firms in the past two decades. This empirical link between automation and industry concentration can be explained in a general equilibrium framework with heterogeneous firms and variable markups. Firms can choose to use a worker-only technology or an automation technology that requires both workers and robots as inputs for production. Operating the automation technology requires idiosyncratic per-period fixed costs; and given the fixed cost, larger and more productive firms choose to automate. Automation boosts labor productivity, enabling the large, robot-using firms to expand further and raising industry concentration. Our calibrated model does well in matching the highly skewed usage of automation toward a few superstar firms observed in the Census data. Since robots substitute for labor, increased automation raises sales concentration more than employment concentration, also consistent with empirical evidence. With variable markups, the model highlights a tradeoff for policy interventions: automation raises aggregate productivity and also the average markup. Under our calibration, a modest subsidy for automating firms improves welfare relative to the benchmark economy without policy intervention.

Borrowing From Workers:
How Firms Backload Wages During Financial Distress

A considerable amount of empirical research has shown that firms provide partial insurance to workers against shocks to their productivity. This paper asks about the opposite direction: do workers insure firms against shocks when firms face financial distress? To answer this question, I merge U.S. matched employer-employee data (LEHD) with firm-level financial data from Compustat. I find that workers in financially constrained firms have lower earnings growth first and higher growth later when there is a volatility shock. And the earnings decline is larger for firms with expected longer employment relationships. My findings imply that financially constrained firms borrow from workers through long-term employment relationships by back-loading wages.