Yajie Wang

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Department of Economics	Phone: (585) 351-4816
University of Rochester	E-mail: yajie.wang@rochester.edu
Harkness Hall	Website: www.yajiewang.info
Rochester, NY 14627, USA.	Citizenship: China (F1 Visa)

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***, September 2022
- "Automation, Market Concentration, and the Labor Share", 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 in 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

Professor Yan Bai (Co-Advisor)
Department of Economics
University of Rochester
Rochester, NY 14627, USA.
Phone: 585-275-4196
E-mail: yan.bai@rochester.edu

Professor Narayana Kocherlakota (Co-Advisor)
Department of Economics
University of Rochester
Rochester, NY 14627, USA.
Phone: 585-275-4991
E-mail: nkocherl@ur.rochester.edu

Professor Mark Bils
Department of Economics
University of Rochester
Rochester, NY 14627, USA.
Phone: 585-738-8859
E-mail: mark.bils@rochester.edu

Dr. Zheng Liu
Economic Research Department
Federal Reserve Bank of San Francisco
San Francisco, CA 94105, USA.
Phone: 415-974-3328
E-mail: Zheng.Liu@sf.frb.org

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 through the financial channel of incomplete labor contracts. In my model, the labor contracting friction implies wage insensitivity to firms' idiosyncratic shocks. Hence, wage bills are debt-like commitments by firms to workers, which firms are less likely to take on when high uncertainty raises firm default risks. Therefore, when uncertainty is high, firms hire fewer workers, and unemployment increases. Quantitatively, I find that uncertainty shocks, together with aggregate productivity shocks, explain 90% of the increase in unemployment during the Great Recession. The model's quantitative performance deteriorates greatly if either the financial channel or uncertainty shocks are absent. Given the model's quantitative success, I use it to analyze the impact of the United States and German labor market policies that expanded a lot in recent recessions. The U.S. policy raises unemployment benefits, making it more expensive for firms to pay wages, amplifying the recession. Germany subsidizes firms' wage bills to keep workers employed, which outperforms the U.S. policy but still yields a negative impact since its misallocation losses outweigh its gains from insuring firms.

Automation, Market Concentration, and the Labor Share

(with Hamid Firooz and Zheng Liu)

Since the early 2000s, a rising share of production has been concentrated in a small number of superstar firms. We argue that the rise of automation technologies and the cross-sectional variation of robot use rates have contributed to the increases in industrial concentration. Motivated by empirical evidence, we build a general equilibrium model with heterogeneous firms, endogenous automation decisions, and variable markups. Firms choose between two types of technologies, one uses workers only and the other uses both workers and robots subject to an idiosyncratic fixed cost of robot operation. Larger firms are more profitable and are thus more likely to choose the automation technology. A decline in the cost of robot adoption increases the relative automation usage by large firms, raising their market share of sales. However, the employment share of large firms does not increase as much as the sales share because the expansion of large firms relies more on robots than on workers. Our calibrated model predicts a cross-sectional distribution of automation usage in line with firm-level data. The model also implies that a decline in automation costs reduces the labor income share and raises the average markup, both driven by between-firm reallocation, consistent with empirical evidence.

Borrowing From Workers: How Firms Backload Wages in 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 during their times of financial distress? I use the U.S. employer-employee matched data and find that workers in financially constrained firms do 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.