Siyu Chen

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Education

Washington University in St. Louis *2025(Expected)*
Ph.D. Candidate in Economics
Advisors: Yongseok Shin **(Chair)**, Yu-Ting Chiang, Yili Chien

Peking University
M.A. in Economics (with distinction) *2019*
B.A. in Economics (with distinction); B.S. in Environmental Science *2016*

Research Interests

Primary: Macroeconomics, Public Finance, Information Economics

Working Papers

"Information, Production Networks and Optimal Taxation" *(Job Market Paper)*

This paper studies optimal taxation in an economy with information frictions and a production network across industries. I show that when all industries share the same information structure, production efficiency holds and optimal policy features no taxes on intermediate goods. Deviating from this benchmark, I characterize the optimal policy when information structure is heterogeneous across industries: The government optimally imposes higher revenue taxes on industries during economic downturns if: (i) these industries exhibit greater information rigidity, (ii) their downstream industries display less information rigidity, and (iii) their input goods are also utilized by less informed industries. I quantify information heterogeneity across industries with a standard text analysis method. Industries display varying levels of attention to economic outcomes, which are correlated with their exposure to business cycle shocks. The calibrated model indicates that, in response to the COVID-19 shock, the optimal taxation leads to a welfare increase of 0.7% for the U.S. and 1.23% for China in terms of consumption, compared to the tax policy that ignores the heterogeneity in information structure.

"Liquidity Trap Revisited: When Wages Are Sticky"

This paper revisits the New Keynesian model in a liquidity trap when the government lacks commitment, showing that incorporating sticky wages restores continuity of the equilibrium path with price flexibility $\lambda_p = \infty$ and $\lambda_p \to \infty$ and resolves counterintuitive implications such as the explosive effects of forward guidance and fiscal policy. In the standard New Keynesian model, greater price flexibility deepens recessions and intensifies deflation during a liquidity trap. As prices become more flexible, the effects of forward guidance and fiscal policy increase explosively, ultimately diverging to infinity. With sticky wages, these limit puzzles disappear. The economy follows a stable path, and policy interventions have moderate and realistic effects during a liquidity trap. Price flexibility is beneficial, while wage flexibility can be beneficial or harmful depending on whether the zero lower bound (ZLB) constraint is binding.

"Industry Dynamics and Economic Growth with Labor Market Frictions" (with Yong Wang and Lijun Zhu) [slides]

We develop a multi-industry growth model with labor market frictions to explore the interaction between such frictions and industrial upgrading and economic growth. Experienced workers in an old industry lose their industry-specific expertise when they are relocated to a more capital-intensive industry and suffer a mismatch. These workers gradually become experienced through on-the-job learning, till the sunrise industry itself becomes a sunset one and workers have to move to an even more capital-intensive industry. We analytically characterize the properties of dynamic labor market performance, the life-cycle dynamics of each of the underlying infinite industries, and the aggregate growth rates. We show that, without any exogenous aggregate shocks, the aggregate unemployment rate exhibits recurrent cycles along with the perpetual structural change driven by capital accumulation.

Awards and Fellowships

University Fellowship, Washington University in St. Louis,	*2019-2025*
Charles Leven Memorial Prize (Best Second Year Paper)	*2022*
Travel Grant: Department of Economics, WashU	*2022*
Outstanding Graduate in Beijing and in Peking University (1/38)	*2019*
China Economic Research Award	*2016*
First Prize in Chinese Mathematical Competition	*2011*

Conference and Seminar Presentations

Economics Graduate Students' Conference (2024), CCER Summer Institute (2024), WUSTL Macro Study Group (2024), China International Conference in Macroeconomics (2023), Society

for Economic Dynamicsc (2022), Society for the Advancement of Economic Theory (2021), International Annual Workshop on New Structural Economics (2021)

Research Experience

Research Assistant to Prof. Yongseok Shin 2021-2023
Research Assistant to Prof. Yong Wang 2017-2019

Teaching Experience

Teaching Assistant: Washington University in St. Louis

- Quantitative Methods in Economics (Graduate Level) Spring 2021
- Applied Econometrics (Graduate Level) Fall 2020

Teaching Assistant: Peking University

- Economic Growth (Graduate Level) Fall 2018
- International Finance Spring 2018

Guest Lecturer: Washington University in St. Louis

- Economic Growth (Graduate Level) Fall 2022

Software and Skills

Python, MATLAB, Stata

LANGUAGE

Mandarin (Native), English (Fluent)

References

Prof. Yongseok Shin (Chair)
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