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 and Monetary Economics

Working Papers

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

This paper studies optimal taxation in a multisector economy with information frictions, in which firms buy and sell intermediate goods over a production network. I show that the production efficiency result holds in an economy where information frictions are symmetric across industries. In the context of production networks, I find two key matrices that play a crucial role in determining the optimal taxation: the input reliance matrix and the output allocation matrix. The optimal taxation is solved in a closed form by using both matrices and the difference of information rigidities. The study shows that the government should impose higher revenue taxes on an industry when (i) it has greater information rigidity, (ii) its upstream industries have smaller information rigidity, and (iii) its input goods are also used by less informed industries in recession. To quantify the model, I use text analysis. Industries exhibit varying degrees of attention to economic outcomes, with some being consistently more attentive than others. This attention is positively correlated with an industry's exposure to business cycle shocks. The calibrated model indicates that, in response to the COVID-19 shock, China should shift its tax burden onto the utility, agriculture, and transport industries, leading to a welfare increase of 0.7% for the U.S. and 1.23% for China.

"Liquidity Trap Revisited: When Wages Are Sticky"

I show that the puzzling implications of the standard New Keynesian model in a liquidity trap are resolved by incorporating sticky wages. In the standard New Keynesian model, price flexibility is harmful to the economy, forward guidance has a magical power to stimulate output, and the fiscal multiplier is paradoxically large during the liquidity trap. With more flexible prices, the economy suffers from a deeper recession and greater deflation, and the impacts of the forward guidance and the fiscal policy grow explosively to infinity. We find that these limit puzzles disappear when wages are sticky. The economy behaves normally, and policies have reasonable effects during the liquidity trap. Price flexibility is beneficial, while wage flexibility can be either 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)	**Prof. Yu-Ting Chiang**	**Prof. Yili Chien**
Department of Economics	Research Division	Research Division
Washington University in St. Louis	Federal Reserve Bank of St. Louis	Federal Reserve Bank of St. Louis
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