

# Siyu Chen

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## Education

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**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

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**Primary:** Macroeconomics and Monetary Economics

## Working Papers

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[“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”](#)

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  $\lambda_w \rightarrow \infty$  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

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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

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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

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

## Teaching Experience

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### 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
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## Software and Skills

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Python, MATLAB, Stata

## LANGUAGE

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Mandarin (Native), English (Fluent)

## References

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### Prof. Yongseok Shin (Chair)

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### Prof. Yu-Ting Chiang

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### Prof. Yili Chien

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