Shengyu Li

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Education

2022 to present	Ph.D. in Economics, Tilburg University Expected Completion: June 2027
2020–2022	Research Master in Economics with *cum laude*, Tilburg University
2017–2020	Master's degree in Economics, Graduate School of Chinese Academy of Social Science
2013–2017	Bachelor's degree in Economics, Shandong University

Research Fields

Macroeconomics, Environmental Economics

Job Market Paper

Financial Frictions, Clean Technology Adoption, and Pollution

This paper studies how collateral constraints affect firms' adoption of clean technology and aggregate pollution. Using U.S. manufacturing data, I document that firms use cleaner production technology as they accumulate net worth and grow older. I explain this pattern with a general-equilibrium model of heterogeneous firms facing collateral constraints. Firms can switch to clean technology that reduces operating costs but requires a large upfront expenditure. Collateral constraints distort small firms' adoption decisions: they must build sufficient net worth before they can invest in clean technology. In this economy, financial development, which relaxes collateral constraints, does not always reduce pollution. It also raises wages, which lowers profits and slows the accumulation of net worth that adoption requires. A quantitative analysis examines how the effect of financial development in relaxing financial constraints depends on the pledgeability of the upfront expenditure. Relaxing financial constraints increases output and reduces aggregate pollution only when this expenditure can be pledged as collateral.

Working Papers

Disaster Risks and Collateral Constraints

This paper studies how financial market development shapes the macroeconomic costs of rising disaster risk. I develop a general-equilibrium heterogeneous-agent model in which entrepreneurs face idiosyncratic, uninsured disaster shocks and a collateral constraint. Contrary to the conventional view that financial development mitigates macroeconomic shocks, I quantitatively find that more financially developed economies experience larger output and capital losses as disaster risk rises. This result arises because forward-looking entrepreneurs reduce capital demand and output in anticipation of disaster risk, a channel that operates only through financially unconstrained firms, whose share grows with financial development. Moreover, the paper shows that two margins of disaster risk – probability and intensity – have asymmetric effects: for a given expected capital loss, higher intensity generates larger losses than higher probability, and financial development amplifies this asymmetry. These results imply

that financial development does not uniformly reduce exposure to disaster risk, and that policy should distinguish the probability and intensity margins of disaster risk.

Work in Progress

Wealth Inequality and Household Support for Carbon Tax

Structural Environmental Change (with Christos Makridis)

Disaster Risks and Firm Investment (with Beatriz Garcia Nunes)

Teaching Experience

2022 - present	Tutorial *Econometrics for ECO*, undergraduate level, Tilburg University
2022 - present	Tutorial *Macro 4: Economic Growth and Institution*, undergraduate level, Tilburg University
2022 - present	Tutorial *Competition Policy and Regulation*, undergraduate level, Tilburg University
2022 - present	Supervision of bachelor's theses, Tilburg University

Grants, Scholarships, and Awards

2025	Excellent Teacher Award, Tilburg University
2025	EEA Travel Grant, European Economic Association
2022	*Cum Laude*, Research Master in Economics, Tilburg University

Seminar & Conference Presentations

2026	Canadian Economic Association Annual Conference (Online), RCEA International Conference on the Climate–Macro–Finance Interface (Frankfurt), 5th Dutch Environmental and Resource Economics Day (Tilburg), Tilburg Macro Study Group (Tilburg)
2025	EEA Congress (Bordeaux), EAERE Annual Conference (Bergen), Mannheim Conference on Energy and the Environment (Mannheim), 4th Dutch Environmental and Resource Economics Day (Wageningen), Tilburg University Department of Economics Internal Seminar (Tilburg)
2024	Tilburg Macro Study Group (Tilburg)

Computer Skills

MATLAB, R, Python, Stata

Languages

Chinese (native), English (fluent), Dutch (beginner)

References

Prof. Reyer Gerlagh
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Prof. Burak Uras
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Prof. Sjak Smulders
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