Michael Cai

Northwestern Economics

CONTACT INFORMATION Department of Economics Northwestern University 2211 Campus Drive

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www.michaelcai.com Citizenship: USA

RESEARCH INTERESTS Macroeconomics, Behavioral Economics, Time-series Econometrics

EDUCATION

Ph.D in Economics, Northwestern University

2025 (expected)

2017

Committee: Matthias Doepke (Chair), George Marios Angeletos, Matthew Rognlie B.S. summa cum laude in Economics, New York University Stern School of Business

Job Market Paper

HANK with Actual Expectations

Replacing traditional assumptions on expectation formation with expectations data, I show that canonical heterogeneous agent models without further modification can match a core business cycle fact: the inertial response of aggregate consumption to macroeconomic shocks. Systematic patterns of expectational errors in the data do not neatly conform to many existing theories of expectation formation, both full-information rational expectations (FIRE) and those uniformly predicting under- or over-reaction relative to FIRE. Expectations formed with a simple model of Bayesian learning can match these patterns. I analyze the determinants of aggregate consumption inertia in a stylized heterogeneous agent New Keynesian model with learning and document a novel mechanism that inertia changes with systematic policy conduct. In other words, lags are variable. In this model, inertia emerges when certain "belief feedback" measures, functions of household elasticities and policy rule responsiveness, are large. Monetary-fiscal interactions produce a new government debt stabilization channel for reducing lags: shortening the debt repayment timeline diminishes "belief feedback" from inertial past expectations into future realized demand.

SELECTED WORKS IN PROGRESS

Optimal Long-Run Fiscal Policy with Heterogeneous Agents

(with Adrien Auclert, Matthew Rognlie, and Ludwig Straub)

We introduce a new method for characterizing the steady state of dynamic Ramsey problems, building on the dual approach to optimal taxation. Applying this method to standard calibrations of heterogeneous-agent models à la Aiyagari (1995), we find that in many cases Ramsey steady states do not exist, with our results suggesting that long-run immiseration is optimal instead. When Ramsey steady states do exist, they are associated with optimal long-run labor income taxes close to 100%. We show that these conclusions are related to strong anticipatory effects of future tax changes.

PUBLICATIONS

Online Estimation of DSGE Models

(with Marco Del Negro, Edward Herbst, Ethan Matlin, Reca Sarfati, and Frank Schorfheide) The Econometrics Journal: Volume 24, Issue 1, Jan 2021, Pg. C33-C58

DSGE Forecasts of the Lost Recovery

(with Marco Del Negro, Marc P. Giannoni, Abhi Gupta, Pearl Li, and Erica Moszkowski) *International Journal of Forecasting*: Volume 35, Issue 4, Oct-Dec 2019, Pg. 1770-1789

AWARDS

Alfred P. Sloan Foundation Pre-Doctoral Fellowship in Behavioral Macroeconomics

Graduate Fellowship (Northwestern University)

Award for Excellence in Economics (Single awardee from NYU Stern)

2023-2025

2019-23

2017

RESEARCH EXPERIENCE	Research Assistant, Prof. Matthias Doepke, Northwestern University Research Assistant, Prof. Matthew Rognlie, Northwestern University Senior Research Analyst, Dr. Marco Del Negro, Federal Reserve Bank of New York Research Assistant, Prof. Tim Christensen, New York University	2022-23 2021-22 2017-19 2016-17
TEACHING EXPERIENCE	Intermediate Macroeconomics, Prof. Mark Witte, Northwestern University Intermediate Macroeconomics, Prof. Giorgio Primiceri, Northwestern University	2023 2021
OTHER Experience	Visiting Scholar, Federal Reserve Bank of Chicago Research Officer, International Monetary Fund	2024 2022

PROGRAMMING Python, Julia, Matlab

LANGUAGES English (native), Chinese (basic)

REFERENCES Professor Matthias Doepke

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Last updated: October 2024