Michael Cai

Northwestern Economics

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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 Solves the Persistence Puzzle

Inertial responses of aggregate variables to unexpected shocks is a key business cycle fact. Textbook macroeconomic models lack mechanisms that enhance the persistence of shocks and thus struggle to rationalize this fact without additional features. I show that perpetual youth and standard incomplete markets models — the core of modern HANK models — can match this fact with one simple change: replace model expectations with expectations data. Many existing theories of expectation formation cannot match patterns of bias in expectations data but a simple Bayesian learning model can explain them. Building on this, I characterize a novel mechanism that produces endogenous persistence in HANK models with learning. Inertia results from delayed amplification of an initial shock due to the gradual unanchoring of expectations. I consider two key dimensions of systematic policy 1) responsiveness to fluctuations, e.g. the slope of the Taylor rule, and 2) time length of government debt rollover and show that the length of lags vary with these choices.

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	2023 - 2025
Graduate Fellowship (Northwestern University)	2019 – 23
Award for Excellence in Economics (Single awardee from NYU Stern)	2017

RESEARCH EXPERIENCE

Research Assistant, Prof. Matthias Doepke, Northwestern University	2022-23
Research Assistant, Prof. Matthew Rognlie, Northwestern University	2021-22

	Senior Research Analyst, Dr. Marco Del Negro, Federal Reserve Bank of New York Research Assistant, Prof. Tim Christensen, New York University	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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