Nicholas C. Hoffman

March 2023

Tepper School of Business
Carnegie Mellon University
5000 Forbes Avenue
Pittsburgh, PA 15203

Email: nchoffma@andrew.cmu.edu
Cell: (412) 926-5234
Personal Site
CMU Webpage

To the directors of the 2023 NBER Graduate Student Workshop on Heterogeneous-Agent Macroeconomics,

My name is Nicholas Hoffman, and I am a fourth-year Economics PhD student at Carnegie Mellon University in Pittsburgh, Pennsylvania. My research focuses on macroeconomics, fiscal and monetary policy, wealth inequality, and mechanism design. I am writing to submit myself for consideration to attend the 2023 NBER Graduate Student Workshop on Heterogeneous-Agent Macroeconomics.

My advisor and thesis committee chair is Ali Shourideh, who can be reached at ashourid@andrew.cmu.edu. Dr. Shourideh has agreed to provide a recommendation on my behalf, should I be shortlisted for participation in the conference.

I thank you for your consideration, and I look forward to hearing from you.

Best,

Nicholas C. Hoffman
March 19, 2023

Nicholas C. Hoffman

Curriculum Vitae
March 2023

Tepper School of Business
Carnegie Mellon University
5000 Forbes Avenue
Pittsburgh, PA 15213

Email: nchoffma@andrew.cmu.edu
Cell: (412) 926-5234
Personal Site
CMU Webpage

Education

2019 - present PhD in Economics, **Carnegie Mellon University** (expected graduation May 2025)
Areas: Macroeconomics, Public Finance, Monetary Policy, Wealth Inequality, Heterogeneous-Agents Macro, Mechanism Design
Thesis: Wealth, Entrepreneurship, and Economic Policy (working title)
Advisors: Ali Shourideh (Chair), Laurence Ales, Ariel Zetlin-Jones, Christopher Sleet

2021 M.A. in Economics, **Carnegie Mellon University**

2016 B.A. in Economics, **Xavier University**
Minor in Mathematics
Honors: Summa Cum Laude, Department of Economics Award, Phi Beta Kappa

Graduate Macroeconomics Coursework

Year	*Course*	*Grade*
2019	Macroeconomics I	A
2020	Macroeconomics II: Distributional Macroeconomics	A
2020	Computational Methods for Economics	A
2020	Dynamic Competitive Analysis (OLG)	A

Research

Working Papers

- **Mobility**, with Daniel Carroll and Eric R. Young

Works in Progress

- **Optimal Capital Taxation with Heterogeneous Rates of Return**, with Ali Shourideh
- **Monetary Policy Transmission with Heterogeneous Rates of Return**

Other Articles

- **New Data on Wealth Mobility and Their Impact on Models of Inequality**, Federal Reserve Bank of Cleveland Economic Commentary with Daniel Carroll (FRBC Link, Press Article)

Work Experience

Carnegie Mellon University 2021-2022
Research Assistant to Dr. Ariel Zetlin-Jones
Working Paper: Building Credit Histories (Link)

Federal Reserve Bank of Cleveland 2016-2019
Research Analyst
Research assistant to Dr. Daniel Carroll and Dr. Ellis Tallman

Xavier University Department of Economics 2016
Research Assistant to Dr. Edward Kosack

Xavier University Learning Assistance Center 2013-2016
Tutor: Economics, Statistics, Accounting

Teaching Experience

Courses Taught

Carnegie Mellon University, Undergraduate
Principles of Macroeconomics (2022) Students: 12

Teaching Assistance

Carnegie Mellon University, Graduate
Macroeconomics I, II, and III (2020-21); Computational Methods for Economics (2021)

Carnegie Mellon University, Undergraduate
Principles of Macroeconomics (2022, 2023); Intermediate Macroeconomics (2021, 2022)

Conference Presentations

WHΔT'S NΣXT? The Path to a PhD July 2019
Federal Reserve Bank of Cleveland: RA Graduate School Conference

Programming Languages

Primary: Julia, R, Matlab
Proficient: Python, Fortran, Stata

Research Statement

Summary

My research focuses on macroeconomics, public finance, income and wealth heterogeneity, and mechanism design. I am primarily interested in the implications of heterogeneity in household income, wealth, and private information for economic policy. Through the Workshop on Heterogeneous-Agent Macroeconomics, I will continue to build the theoretical and computational tools needed to advance my research. In particular, this conference will enable me to expand my research to study optimal policy in models incorporating rich household heterogeneity and aggregate uncertainty, and to estimate these models to better align my work with data.

Current Research

As a Research Analyst at the Federal Reserve Bank of Cleveland, I coauthored a working paper with Daniel Carroll and Eric R. Young in which we study short-run wealth mobility, in both US data and in an Aiyagari-style heterogeneous-agents model. We find that this model generates far too little wealth mobility relative to the data, even when augmented to match US wealth *inequality*. Turning to the data, we document the importance of shocks to wealth directly, such as returns from a closely-held business, in generating empirical wealth mobility.

At Carnegie Mellon, I am coauthoring a forthcoming working paper with Ali Shourideh on the optimal taxation of capital income in a model with heterogeneous returns. We find that the optimal capital income tax schedule provides a combination of *selection* and *incentives*: the government selects which agents should invest in their entrepreneurial project, and ensures that these households invest a socially-efficient amount into their business.

Additionally, I have begun a project studying the role of idiosyncratic capital income risk in the transmission of monetary policy. Heterogeneous rates of return are a key force in shaping the wealth distribution in the data. This heterogeneity induces an additional channel by which households are affected differently by an accommodative monetary policy shock: households with lower returns save less, while households with higher returns "lever up," borrowing at a lower cost to invest more into risky capital. In addition to amplifying policy shocks, this channel introduces state contingency to the efficacy of policy: the overall effect of the shock now depends on the level of the long-run interest rate, and the concentration of wealth in the hands of business owners.

Future Directions and NBER Graduate Conference

My primary motivation for attending this conference is to continue my education on the tools necessary to study the impact of rich heterogeneity on economic aggregates and optimal policies, particularly in the presence of aggregate risk. Thus far, I have abstracted away from aggregate uncertainty in my research, focusing on either steady-state analysis or the transmission of a zero-probability policy shock. This conference will allow me to expand my research to new areas of inquiry. For instance: how should a central bank respond to an inflationary shock coupled with panic in the banking sector? How should capital taxation vary over the business cycle, if at all? How do recessions influence social mobility? Studying questions such as these requires the ability to efficiently solve models with rich heterogeneity, aggregate uncertainty, and behavioral frictions—an ability which I will hone at this conference.

Additionally, my research thus far has focused on the theoretical implications of household heterogeneity for economic aggregates and policy. This conference offers me an opportunity to learn more about the process of estimating the models with which I wish to work, thereby bringing my research in better alignment with data. Here again, the lessons from this conference will allow me to strengthen my policy analysis: with estimated models in hand, I can better study the impacts of counterfactual policies.