Michael Fabian Barczay
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Dear Madam or Sir,

My name is Michael Fabian Barczay and I am second-year PhD student in economics at the European University Institute in Florence. Please find attached a statement containing my motivation to attend the "NBER Workshop on Heterogeneous-Agent Macroeconomics" as well as a CV listing my completed macro courses. My first PhD advisor at the European University Institute, Alexander Monge-Naranjo, is available to write a recommendation for me. His contact details are:

Alexander Monge-Naranjo
European University Institute
Department of Economics
alexander.monge-naranjo@eui.eu
+39 055 4685 942

I would like to thank you in advance for considering my application and I am looking forward to hearing back from you.

Sincerely,



Michael Fabian Barczay

It was with great interest that I read about the NBER's "Graduate Student Workshop on Heterogeneous-Agent Macroeconomics." I am a second-year PhD student at the European University Institute in Florence working on issues related to (optimal) fiscal policy. Attending the workshop would not only allow me to deepen my understanding of some of the frontier methods used for solving heterogeneous agent (HA) models but it would also give me the opportunity to interact with both established scholars as well as graduate students working on HA macroeconomics.

I am a macroeconomist working on the role of household heterogeneity for the design of fiscal policy and problems of optimal taxation. In my first project, I try to understand how consumption taxes interact with the income tax system in the US. In particular, I ask how we should optimally design a system of differentiated tax rates on various expenditure items in the presence of the income tax progressivity observed in US states. To do so, I am developing a HA model featuring heterogeneous households with non-homothetic CES preferences over a variety of consumption goods and a government running a realistic system of consumption- and income taxes. Efficiently solving this model to find the optimal mix of differentiated tax rates on a variety of consumption goods constitutes a crucial component of this project.
In another project, I intend to focus more on the importance of household heterogeneity in the design of fiscal policies in the presence of aggregate fluctuations. Especially, I would like to study temporary VAT cuts as a form of unconventional fiscal policy during recessions – as implemented by Germany during the Covid-19 crisis or in the UK in 2008 and 2009. While such policies have been shown to stimulate aggregate demand, their effectiveness depends crucially on the distribution of households, their MPCs and the composition of their consumption baskets.

Since both projects are computationally demanding, learning more about efficient solution methods for HA models would substantially improve my research. For instance, solving efficiently these types of models is a precondition for being able to understand better the optimal tax mix on different consumption goods since it involves repeatedly solving HA models for different configurations of the tax system. Additionally, learning more about frontier solution methods when these HA models include aggregate shocks would allow me to delve deeper into optimal tax policies when the economy is driven by aggregate shocks. During my second year PhD courses, I have already been introduced to some of the state of the art techniques, such as the Sequence-Space Jacobian and its use for solving HA models. Learning more about these techniques from the pioneers of these methods would constitute an excellent opportunity to deepen my theoretical and practical knowledge of these methods.
Additionally, I would very much appreciate the opportunity to interact with the instructors of the workshop. Adrien Auclert's, Bence Bardóczy's, Matthew Rognlie's and Ludwig Straub's research on fiscal policy, iMPCs, and more generally the interaction between heterogeneity and government policies as well as aggregate variables is highly relevant for my own work. At the same time, I am also convinced that attending a course with 35 graduate students – all deeply enthusiastic about fiscal and monetary policy in HA models – would constitute an excellent opportunity to engage with young academics in the field.

Finally, I am certain that my past PhD courses have prepared me well for the workshop. Ranging from theoretical courses on, for instance, the New Keynesian model or incomplete markets models to computational macro courses, I have been exposed to the prerequisites of the workshop. Paired with my previous experience in working with Python, I would be able to fully benefit from the teaching and practical sessions and I would be in a position to fruitfully contribute to discussions on the topics of the course.

Michael Fabian Barczay

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RESEARCH INTERESTS

(Quantitative) Macroeconomics, Heterogeneity, Fiscal Policy, Taxation, Monetary Policy

EDUCATION

PhD in Economics, European University Institute — **Florence, IT**
Supervisors: Alexander-Monge Naranjo, Russell Cooper — Since 2020

MA Specialized Economic Analysis, Barcelona GSE — **Barcelona, ES**
Program in International Trade, Finance and Development — 2018 - 2019
Thesis Supervisors: Fernando Broner, Antonio Ciccone

MA International Affairs, Graduate Institute Geneva — **Geneva, CH**
Thesis Supervisor: Liliana Andonova — 2016 - 2018

BA Business and Economics, University of Basel — **Basel, CH**
Major in Economics — 2013 - 2016
Thesis Supervisor: Sarah M. Lein

MACROECONOMICS PHD COURSES

Core Courses Year 1

Macroeconomics I (R. Cooper; OLG with Fiscal and Monetary Policy), Macroeconomics II (J. Bueren and E. Challe; RBC, Dynamic Programming, New Keynesian Model), Macroeconomics III (A. Monge-Naranjo and E. Challe; Incomplete Markets, Search & Matching)

Advanced Courses Year 1/2

Endogenous and Exogenous Incomplete Markets (Á. Ábrahám), Fiscal and Monetary Policy (R. Marimon), Life-Cycle Heterogenous Agent Models (J. Bueren), Computations and Quantitative Models in Macro (A. Monge-Naranjo), Optimal Fiscal Policy in Quantitative Macro Models (A. Ferriere), Inequality and Education (A. Monge-Naranjo), Firm Heterogeneity (B. Grassi), Financial Frictions (S. Tsiaras)

EXPERIENCE

Research Assistant, European University Institute — since 2022
RA to Alexander-Monge Naranjo

Intern, Swiss National Bank — 2019 - 2020
Inflation Forecasting Unit

Research Assistant, Graduate Institute Geneva — 2018
RA to David Sylvan

TEACHING

Macroeconomics I (Dynamic Fiscal and Monetary Policy) — Fall 2021
EUI, PhD Level – Teaching Assistant to Russell Cooper

Programming with Matlab — Fall 2021
EUI, PhD Level – Instructor

WORK IN PROGRESS

"On the Optimal Design of Consumption Taxes"

"A Time-varying Bank Lending Channel in Switzerland," with Matthias Gubler and Sylvia Kaufmann

SHORT COURSES & SUMMER SCHOOLS

"Tools for Macroeconomists (Advanced)," Wouter den Haan & Pontus Rendahl, Oxford, 2021

"Inference in Structural Macro Models," Domenico Giannone & Girogio Primiceri, Swiss National Bank, 2020

"Barcelona GSE Data Science Winter School (Machine Learning with Python)," Omiros Papaspiliopoulos, Barcelona, 2019

"Zaeslin & Maag Summer School at the University of Basel (Negotiation)," Catherine Tinsley, Basel, 2017

SCHOLARSHIPS

Scholarship Swiss State Secretariat for Education, Research and Innovation — since 2020

Dr. Max Huusmann Foundation, Zurich, Scholarship for the Graduate Institute — 2016-2018

SKILLS

Computational

Matlab (Advanced), Python (Intermediate), R (Intermediate), Stata (Intermediate), Julia (Beginner)

Languages

German (native), English (fluent), French (fluent), Italian (fluent), Spanish (basic), Egyptian Arabic (basic)

PROFESSIONAL ACTIVITIES

Co-Organizer, Macro Working Group, European University Institute — 2021-2022

Researchers Representative, Economics Department, European University Institute — 2021

Ambassador, European University Institute — since 2021