March 20th, 2023

Roberto Colarieti
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To the kind attention of the 2023 NBER Heterogeneous-Agent Macro Workshop Admission Committee,

I am writing to support my application for the 2023 NBER Heterogeneous-Agent Macro Workshop. My full contact information can be found at the top of this letter. This document also contains my curriculum vitae and a short statement accompanying the application. My recommendation letters will be written by Professor Ludwig Straub (ludwigstraub@fas.harvard.edu) and Professor Tommaso Monacelli (tommaso.monacelli@unibocconi.it).

I appreciate your consideration and look forward to hearing from you.
Yours Sincerely,
Roberto Colarieti

ROBERTO COLARIETI

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EDUCATION

Harvard University — Cambridge, MA (US)
Ph.D. in Economics. *2022 - Present*
- GPA: 4/4.

Bocconi University — Milan (Italy)
M.Sc. in Economic and Social Sciences. *2019 - 2021*
- Final grade: 110/110 *cum laude*; GPA: 30.5/30.
- Thesis: *The Macroeconomic Implications of Cross-Sectional Heteroskedasticity in Income*. Advisor: Prof. T. Monacelli.

B.Sc. in Economic and Social Sciences. *2016 - 2019*
- Final grade: 110/110 *cum laude*; GPA: 30.7/30.
- Thesis: *Fiscal Policy, Debt and Monetary Financing with Heterogeneous Agents*. Advisor: Prof. T. Monacelli.

Princeton University — Princeton, NJ (US)
Visiting Student, Department of Economics. GPA: 4/4. *Spring 2019*

Convitto Nazionale V. Emanuele II — Rome (Italy)
Liceo Classico Europeo. Final grade: 100/100 *cum laude*. *2011 - 2016*

Ph.D. courses in macroeconomics:
- Harvard University, first year Ph.D. courses: ECON 2010C (Prof. D. Laibson, A. Bilal; Fall 2022), ECON 2010D (Prof. L. Straub, X. Gabaix; Spring 2023).
- Audited: *Macroeconomic Theory II*, Princeton University (Prof. N. Kiyotaki, G. Violante; Spring 2019); *Advanced Macroeconomics IV*, Bocconi University (Prof. T. Monacelli; Spring 2021)

TEACHING and RESEARCH EXPERIENCE

Bocconi University — Milan (Italy)
TA for *Macroeconomics and Economic Policy* (B.Sc. intermediate level course). *Fall 2021*
Research assistant to Prof. T. Monacelli. *2021 - 2022*

Harvard University — Milan (Italy)
Research assistant to Prof. S. Stantcheva. *2020 - 2022*
Social Economics Lab, Research Fellow. *2020 - Present*

IGIER, Innocenzo Gasparini Institute for Economic Research — Milan (Italy)
Visiting Student. Mentors: Prof. T. Monacelli, Prof. L. Iovino. *2020 - 2021*

WORKING PAPERS

Heterogeneous Spending and Saving Behaviors: What Can We Learn from Survey Experiments?, joint with Pierfrancesco Mei and Stefanie Stantcheva. Harvard University Working Paper. March 2023.

Aggregate Demand and Macroeconomic Policy with Heterogeneous Risk, joint with Tommaso Monacelli. CEPR DP 17080. November 2022. Link here.

AWARDS and SCHOLARSHIPS

Fabrizio Saccomanni Scholarship, UniCredit Foundation. Merit-based scholarship funding Ph.D. studies. *2022-2024*.

Honor mention from Bank of Italy's Stringher scholarship. *2022*.

Bocconi Graduate Merit Award. Merit-based full tuition waiver for Bocconi MSc programs. *2019-2021*.

CERTIFICATIONS, IT and LANGUAGE SKILLS

Stata, LaTeX, Microsoft Office, Qualtrics, MATLAB (excellent command). **Dynare** (good command). **R, Python, Julia** (basic command)

Italian, mother tongue. **English**, fluent. **French**, fluent. Baccalauréat avec mention très bien. *Jun 2016*.

EXTRA-CURRICULAR ACTIVITIES

Economic Society for Bocconi Students. First-established Economics student society at Bocconi University. Vice-President (*2020 - 2021*). Member of the Board (*2019 - 2022*). Fellow (*2018 - 2022*).

Short statement

Roberto Colarieti
Harvard University

My interest in the NBER Heterogeneous-Agent Macro Workshop was triggered by several personal factors and experiences. Since my undergraduate and master's studies I have been impressed by the unique ability of heterogeneous agent (HA) models to jointly describe features of the micro and the macro data. I am especially intrigued by the power of these models to capture how the cross-sectional distributions of key individuals' characteristics (e.g., assets and income) interact with agents' optimal choices over the business cycle. This provides realistic insights, for instance, on the effects and the transmission mechanisms of monetary and fiscal policy.

Already starting from my undergraduate years, I had graduate-level exposure to HA topics. In Spring 2019 – as a visiting student in Princeton University – I audited Professor Gianluca Violante's Ph.D. course (*Macroeconomic Theory II*). Moreover, during my M.Sc. in Economics at Bocconi University I worked with Professor Tommaso Monacelli on analytically tractable HA models. Finally, during the first year Ph.D. macro courses at Harvard University we covered the income fluctuation problem, the Aiyagari model, and the relevant numerical methods to solve this class of models.

In addition, I have worked on HA models with my research. Joint with Professor Tommaso Monacelli, we built a tractable HA model to study the role of income risk heterogeneity on the transmission of monetary and fiscal policy. Our model features CARA utility and a Normal income process with heteroskedasticity. Consistent with the empirical evidence, lower income households have a larger individual income cyclicality and higher income volatility. We show that the interaction between heterogeneous individual income cyclicalities and changes in individual risk can amplify demand shocks. Moreover, I am currently working with Pierfrancesco Mei and Professor Stefanie Stantcheva on the design of large-scale surveys of U.S. households to study heterogeneous spending, deleveraging, and saving responses to income shocks. We use hypothetical scenarios triggering a variety of income shocks to elicit intertemporal marginal propensities to consume. We also build ad-hoc questions to discriminate among different reasoning models that households follow in response to such shocks. Overall, this work looks at a deeper dimension of heterogeneity, i.e., the fact that households act according to different models.

In my agenda I am interested to work on how different dimensions of agents' heterogeneity interact and contribute to shape macroeconomic outcomes, and in particular how they affect the transmission channels of fiscal and monetary policy. For instance, a dimension of heterogeneity that I am planning to explore looks at the role of incomplete information and, in particular, at the heterogeneity in households' estimates of unobservable parameters that are important for their economic decisions (e.g., moments of the income process).

To conclude, I am strongly motivated to take part in the NBER Heterogeneous-Agent Workshop and I believe I would greatly benefit from it. I would learn methodological and numerical tools that would allow me to pursue my research agenda in HA-macroeconomics. Most importantly, I would be exposed to cutting-edge literature and to the ideas of great scholars in the field.

Yours Sincerely,
Roberto Colarieti