NBER Innovation Research Boot Camp 2026
Cover Letter

Antonio Ughi
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Dear Members of the Selection Committee,

I am writing to apply to the NBER Innovation Research Boot Camp 2026.

I am currently a third-year PhD student in Economics at the Paris School of Economics and an affiliate of the Innovation Lab at the Collège de France, under the supervision of Prof. Philippe Aghion and Prof. Angelo Secchi.

For this application, my recommendation letter is provided by Prof. Ariell Reshef, a member of my PhD committee.

My research lies at the intersection of technology diffusion, industrial and innovation policy, and business dynamism. These themes closely align with the scope and objectives of the Boot Camp, as detailed in the accompanying research essay.

Thank you very much for your consideration.

Sincerely,

Antonio Ughi

February 12, 2026

Antonio Ughi

Email: antonio.ughi@psemail.eu | Personal Page | Address: 5 Villa Coeur de Vey, 75014, Paris

RESEARCH INTERESTS

Economics of Innovation, Technology Diffusion, Productivity, Firm Dynamics, Industrial Policy

EDUCATION

Paris School of Economics (PSE) – Ph.D., *Economics* — Paris — 09/2024 – present
- Thesis title: "Technology diffusion, Industrial Policy, and Business Dynamism"
- Advisors: Prof. Philippe Aghion and Prof. Angelo Secchi
- Committee Member: Prof. Ariell Reshef

PSE & École des Hautes Études en Sciences Sociales – MRes, *Economics and Policy Analysis* — Paris — 09/2023 – 06/2024
- GPA: 16.7/20, A+ (highest honors)
- Thesis: "Industrial Policy and Firm Dynamics"

Sant'Anna School of Advanced Studies – Honors Master Diploma, *Economics and Management* — Pisa — 09/2016 – 12/2022
- Awarded a full merit-based research scholarship at Scuola Superiore Sant'Anna through a selective nationwide competition. Completion of the Honors Master Diploma required academic excellence and the submission of annual research dissertations.
- Final grade: 100/100 *cum laude* (highest honors)
- Thesis: "Drivers and implications of firms' digital adoption" | Supervisor: Prof. Andrea Mina

University of Pisa – MSc, *Economics* — Pisa — 09/2019 – 02/2022
- Final grade: 110/110 *cum laude* (highest honors)
- Thesis: "Industry 4.0 and firm performance. A policy evaluation for Italy" | Supervisors: Prof. Andrea Mina and Prof. Federico Tamagni

University of Pisa – BSc, *Economics and Management* — Pisa — 09/2016 – 07/2019
- Final grade: 110/110 *cum laude* (highest honors)

FURTHER EDUCATION

Stanford University (Digital Economy Lab) – Summer School on the *Economics of AI* — Stanford — 08/2025
Sciences Po – Erasmus+ — Paris — 03/2022 – 06/2022
London School of Economics – Summer School in *Public Finance* — London — 07/2019
École Normale Supérieure – Exchange Research Programme — Paris — 02/2019 – 05/2019
Aarhus University of Applied Sciences – Erasmus+ — Aarhus — 02/2018 – 06/2018
Chongqing University – Exchange Programme — Chongqing — 11/2017

WORK IN PROGRESS

- Aghion, P., Aragoneses, M., and Ughi, A., "Government Investment and Business Dynamism"
- Calvino, F., Criscuolo, C., De Stefano, T., Timmis, J.D., and Ughi, A., "AI Diffusion within Multinational Firms"
- Linarello, A. and Ughi, A. "Automation Diffusion: Firm-to-Firm Network Spillovers and Industrial Policy"

WORKING PAPERS

- Ughi, A. and Mina, A., (2023), "Digital Advantage: evidence from a policy evaluation of adoption subsidies", *LEM Working paper series*, 2023/41. R&R *Research Policy*

PRE-DOCTORAL RESEARCH & POLICY WORKS

- Gronchi, I. and Ughi, A. (2025), "Reviewing Italy's Industrial Policy (2006-2024)", *LUISS LUHNIP Working Paper* 9
- Calvino, F., Criscuolo, C., Ughi, A., (2024), "Digitalisation over the COVID-19 pandemic: cross-country evidence from microdata", *OECD Science, Technology and Industry Working Papers*, OECD Publishing, Paris
- Calvino, F., Dernis, H., Samek, L., Ughi, A., (2024), "A sectoral taxonomy of AI intensity", *OECD Artificial Intelligence Papers, No. 30*, OECD Publishing, Paris

- OECD (2023), *Boosting evidence-based policy making for economic development policies in Italy*, OECD Publishing, Paris
- Ughi, A., Zeli, A., Lombardi, S., (2023), "Financial constraints and firm performance: evidence from firm-level data", *ISTAT Review of Official Statistics*

RESEARCH & WORK EXPERIENCE

Bank of Italy – Visiting Researcher — Rome — 06/2024 – 09/2024
- Accessed microdata for a PhD chapter

Organisation for Economic Co-operation and Development (OECD) – Policy Analyst | *STI/PIE* — Paris — 06/2022 – 05/2024
- Worked in the Productivity, Innovation and Entrepreneurship Division
- Co-authored two papers on technology diffusion across OECD countries; started a work on AI diffusion within multinational firms
- Worked on a structural reform project for the Italian Ministry of Economic Development

Bocconi University & Sant'Anna, ICC Association – Research Assistant for Prof. G. Dosi — Pisa — 07/2021 – 01/2022

Italian Ministry of Economic Development – Research Analyst | *Cabinet Office* — Rome — 11/2021 – 02/2022
- Accessed microdata for my MSc thesis

Italian National Institute of Statistics – Visiting Research Student — Rome — 03/2021 – 05/2021

Italian Government – Policy Analyst | *CIPE* — Rome — 11/2020 – 02/2021

Italian Ministry of Economy and Finance – Policy Analyst | *RGS* — Rome — 10/2018 – 01/2019

TEACHING EXPERIENCE

Paris School of Economics (PSE) – Teaching Assistant for Prof. M. Mugnier — Paris — 02/2026 – present
- Advanced Econometrics (Graduate Level)

CONFERENCES & SEMINARS

- European Commission "10th European Conference on Corporate R&D and Innovation" (CONCORDi) (Sept. '25): presented the paper "Automation Diffusion: Firm-to-Firm Network Spillovers and Industrial Policy"
- OECD Workshop on "AI, digital technologies, and economic outcomes" (Nov. '23): co-organized the conference
- OECD Applied Economic Seminar (Oct. '23): presented the paper "Digitalisation over the COVID-19 pandemic: cross-country evidence from firm-level data"
- DRUID (Jun. '23): presented the paper "Digital Advantage: evidence from a policy evaluation of adoption subsidies"

HONORS & AWARDS

- **Paris School of Economics & Université Paris 1 Panthéon-Sorbonne** (2025-2028): PhD scholarship (3 years)
- **Bank of Italy** (2024-2025): Visiting scholarship for a research project (3 months; extended for 3 additional months)
- **Bank of Italy** (2023-2025): "Bonaldo Stringher" research scholarship (1 year; extended for 1 additional year)
- **UniCredit Foundation** (2019): 5th Summer School Programme scholarship
- **Sant'Anna School of Advanced Studies** (2016-2021): full research fellowship (5 years)

SKILLS

- Programming: Stata, R, Python, MatLab
- Languages: English (working proficiency), French (upper intermediate), Italian (native)

SELECTED GRADUATE COURSEWORK

Sant'Anna School of Advanced Studies, University of Pisa (MSc) — Overall Average: 29.7/30 (A+)

- Advanced Econometrics — 30/30
- Advanced Macroeconomics — 30/30 (cum laude)
- Advanced Microeconomics — 30/30
- Advanced Statistics — 30/30
- Corporate Finance — 30/30
- Economics and Management of Innovation — 29/30
- Mathematical Methods for Economics — 29/30

Paris School of Economics (MRes) — Overall Average: 16.7/20 (A+)

- Advanced Microeconometrics (Econometrics) — 15.83/20
- Growth and Climate Change (Macroeconomics) — 17.25/20
- International Macroeconomics (Macroeconomics) — 18/20
- Machine Learning in Economics (Econometrics) — 18.75/20
- Macro and Micro Simulation of Public Policies (Applied Microeconomics) — 17/20
- Network Economics (Microeconomics) — 14.5/20

Paris School of Economics (additional optional coursework)

- Recursive Methods in Economic Theory — Attended and validated

NBER Innovation Research Boot Camp 2026 **Antonio Ughi**

Research Essay February 12, 2026

My research agenda focuses on how Artificial Intelligence (AI) and other digital and automation technologies diffuse across firms and affect productivity growth. I am particularly interested in understanding how the design and targeting of industrial policies shape the direction and speed of technology diffusion and the aggregate degree of business dynamism.

In my first project, conducted in collaboration with the Bank of Italy, I study the diffusion of "Industry 4.0" automation technologies across firms and the implications for firm dynamics. The central focus of the paper is the role of production networks: how adopting buyers and suppliers influence technology uptake among firms far from the technological frontier, and how network linkages mediate productivity gains from adoption. Guided by theory, I combine novel firm-level data with variation induced by an industrial policy shock to identify firm-to-firm adoption and productivity spillovers of new technologies, an important gap in the literature.

In a second line of work, conducted with Flavio Calvino, Chiara Criscuolo, Timothy De Stefano, and Jonathan Timmis, we examine the global diffusion of AI within multinational firms. In particular, we study what drives adoption within firms, the role of proximity to AI-related scientific activity for early adopters, and the frictions shaping AI diffusion over time across multinational establishments.

In a third, recently started project with Philippe Aghion and Martin Aragoneses, we examine how different forms and combinations of government support measures can foster – or potentially hinder – business dynamism and innovation across the firm age distribution.

From the outset of my PhD, I have viewed a research visit to the United States as a natural complement to my training, given the central role of US academic circles in shaping modern research on innovation, firm dynamics, and economic growth. This objective took a concrete step forward last August, when I was selected to attend a summer school at Stanford on the Economics of AI – my first time in the country. The intellectual exchange there strengthened my commitment to engaging more closely with the US research community.

The NBER Innovation Research Boot Camp represents a unique opportunity in this respect: it brings together leading scholars and junior researchers in a highly focused setting directly aligned with the themes of my doctoral work.

Attending the Boot Camp would, first, allow me to receive feedback on my projects from leading scholars working at the research frontier. This would help me refine the positioning of my research agenda within the literature and further assess the suitability of my first project, as well as related research ideas, as a Job Market Paper. Second, the Boot Camp would provide the opportunity to engage with peers working on closely related questions, enriching both the empirical and theoretical dimensions of our respective work and creating connections for future collaborations. Finally, this exchange would help me better clarify my longer-term career direction. For these reasons, the Boot Camp represents a unique opportunity, especially at this stage of my doctoral training.







February 12, 2026
Paris, France

Recommendation Letter for Antonio UGHI

To the NBER Innovation Research Boot Camp selection committee,

It is my pleasure to write this letter in support of the application of Antonio UGHI to participate in the NBER Innovation Research Boot Camp, July 17–23, 2026 — Cambridge, MA. I have come to know Antonio through a course he took with me at the master level at PSE ("Foreign Investment, MNEs and GVCs"), where he scored at the top of the class, as well as being involved in advising him, as part of his Ph.D. committee. Antonio is one of the most promising Ph.D. students I have come across at PSE. He is working on extremely important policy-relevant questions, leveraging novel data that he has managed to combine, as well as state of the art techniques. His interests lie squarely within the topics covered by the Boot Camp. I am sure that not only will Antonio benefit from it, he will likely contribute even more. For these reasons, on which I elaborate below, **I strongly recommend you to admit him to the Boot Camp**.

In his first project Antonio studies technology diffusion and how industrial (or other) policy can help improve the process of diffusion of frontier technologies. The importance of this research is underscored by the decline in productivity growth in Europe, and by the rise in application of industrial policies across the world. What distinguishes Antonio's approach is that he studies the network determinants of productivity adoption, not only the incidence and effects of adoption *per se*.

To do this, Antonio and his coauthor Andrea Linarello (Bank of Italy) leverage firm-to-firm transaction data to build an exhaustive network of firms. They observe when firms adopt automation technologies, and draw causal inference from a policy that was designed to incentivize firms to adopt. They exploit the timing of the policy and the actual adoption dates in order to distinguish adoption due to the policy, versus adoption due to spillovers via the network (adoption of suppliers and customers). Using state of the art econometric techniques, Antonio and Andrea uncover the importance of the network in the diffusion process, and the contribution of it to firm outcomes.

Antonio embarked on this project while doing a short visit at the Bank of Italy. This demonstrates Antonio's ability to leverage encounters to become collaborations.

A second project that Antonio is working on studies the importance of multiple interventions for the success of industrial policies. Typically, the effects of industrial (and other) policies are studied in isolation – and for good methodological reasons. However, as Antonio shows, firms receive (in fact, seek) multiple benefits from different policies and policy tools, for example, sequential subsidies for credit. If there are complementarities across these subsidies, either due to financial or production reasons (for example, a critical threshold must be attained), then studying each one in isolation may severely underestimate their cumulative effect.

In order to address this challenge, Antonio has harmonized and merged several registers of firm beneficiaries of different policies together with firm balance sheet data to create a unique dataset that allows studying the multiple incidences of policy interventions. Using state of the art econometric techniques (de Chaisemartin & D'Haultfoeuille, 2024. "Difference-in-differences estimators of intertemporal treatment effects", *Review of Economics and Statistics*), Antonio plans to identify the cumulative effects of the multiple incidences. This project resembles another project that Antonio is pursuing jointly with the recent Nobel Prize Laureate in Economics, Philippe Aghion. I know Philippe well, and I know he collaborates only with the very best of our Ph.D. students. This is also why he agreed to co-supervise Antonio.

Antonio has already demonstrated that he has the **professional skills** needed to produce high quality research. He has developed research programs independently, as well as in collaboration with others. He has been entrepreneurial in accessing data and in contacting researchers. This

demonstrates his **social skills**. Beyond this, my experience with him demonstrates that he is a very amicable person. Antonio's **commitment** to his work is absolute. This is demonstrated by his willingness to travel for extended periods in order to work with data. Finally, Antonio's **personal development potential** is very high. I can see him integrating in top research departments in economics.

To summarize, I think that Antonio is a perfect fit for this Boot Camp, both in terms of potential to learn, as well as his potential to contribute. Therefore, I strongly recommend that you admit him.

I hope that this letter assists your selection decision. Please do not hesitate to contact me with further questions or concerns via email: ariell.reshef@psemail.eu.

Sincerely,



Ariell Reshef
Directeur de Recherche, CNRS, Université Paris 1 Panthéon-Sorbonne
Associate Member, Paris School of Economics