Delia Sih Chien Macaluso

PhD Candidate at the London School of Economics

Phone: +44 7869 260315
Email Address: d.macaluso@lse.ac.uk

Office 1.13, Centre For Macroeconomics
Sir Arthur Lewis Building
London School of Economics and Political Science
32 Lincoln's Inn Fields
London WC2A 3PH
United Kingdom

Academic Referee: **Matthias Doepke**
Nicholas Kaldor Professor of Economics

m.doepke@lse.ac.uk

Department of Economics
Sir Arthur Lewis Building
London School of Economics and Political Science
32 Lincoln's Inn Fields
London WC2A 3PH
United Kingdom

My research agenda focuses on exploring the interconnected nature of wealth inequality and innovation along three dimensions: evolving R&D incentives, structural changes in global trends, and labour market implications.

Demand-Driven Innovation and Expansion of the Product Space I investigate how rising income concentration at the top of the distribution increases consumers' demand for variety, diverting innovation efforts from productivity-enhancing technology toward product expansion. This reallocation reconciles the productivity slowdown with rising aggregate R&D expenditures: firms innovate to expand the product space rather than push the technological frontier insofar as consumers' appreciate a more diversified consumption basket. While both contribute to welfare, they impose radically different implications for total factor productivity. The recent diffusion of generative AI exemplifies this pattern of a technological leap followed by rapid expansion of derivative applications that have permeated daily life.

Structural Changes in Innovation Dynamics It has also become apparent that the competitive innovation process has become increasingly polarised and non-linear: incumbents pursue incremental, defensive innovation to protect market position, while venture-backed firms drive radical, substantive technological breakthroughs. Understanding how to best incentivise and direct innovation through policies remains crucial in sustaining future growth trajectories.

Labour Market Implications These shifts also raise fundamental questions about the long-run substitutability and accumulation of high-skilled human capital. As researchers become increasingly specialized and AI automates certain cognitive tasks, the general equilibrium consequences for skilled labor markets remain unclear.

I intend to address the above questions exploiting the disaggregated R&D and consumption data to identify time trends and differential firm behaviour across different sizes and industries. This boot camp represents an ideal opportunity to bridge micro-level questions about human capital mobility and incentives with macroeconomic frameworks of endogenous growth, while developing the methodological rigor necessary to advance our understanding of how talent drives economic growth.

I am eager to attend the NBER Innovation Research Boot Camp to strengthen my understanding of how innovation drives long-run growth and the critical role of human capital in these dynamics. My research would tremendously benefit from exposure to state-of-the-art empirical methods and theoretical frameworks being developed by leading scholars as the interdisciplinarity of the questions reflects the quintessential need to integrate diverse subfields and theoretically microfound the drivers of modern growth dynamics.

Beyond the technical skills, I am excited to immerse myself in an environment fostering the exchange and dissemination of new research on innovation: the NBER Summer Institute Innovation Policy meeting will provide insights into emerging questions and methodological challenges informing my dissertation and positioning me to contribute meaningfully to this dynamic field as I progress in my academic career.

Best regards,
Delia Macaluso

Delia Sih Chien Macaluso

delia.sc.m@gmail.com ◇ d.macaluso@lse.ac.uk

January 2026

Education

London School of Economics and Political Science

MRes/PhD in Economics *Aug 2022 - present*

MRes Paper: *Demand-Driven Growth and the Evolution of the Product Space*

Core courses: Microeconomics (by A. Ellis, B. Szentes)
Macroeconomics (by M. Doepke, E. Ilzetzki, B.Moll, R. Reis)
Econmterics (by I. Wang, T. Otsu, S. Pischke)

Field courses: Macroeconomics (by M. Doepke, M. De Ridder, P. Aghion, J. Hazell)
International Economics (by T. Sampson, D. Sturm, I. Manelici, D. Mukhin)
Labour Economics (by A. Manning)
Environmental Economics (by R. Burgess)

Teaching: EC400 – Introductory Mathematics and Statistics (by F. Nava, D. Mukhin)
EC2B1 – Macroeconomics II (by W. Den Haan and B. Moll)
EC202 – Intermediate Macroeconomics (by K. Sheedy)
PP440 – Macroeconomics at the time of crises (by E. Yashiv)

Bocconi University

DES-ESS: MSc in Economics and Social Sciences *Sep 2017 - Apr 2020*

Thesis: "Real Business Cycles, Firms' Heterogeneity, and Endogenous Productivity"
Advisor: *Tommaso Monacelli*

BSc in International Economics and Finance *Sep 2014 - Jul 2017*

Thesis: "The role of geopolitical risk in exchange rate determination"
Advisor: *Carlo Ambrogio Favero*

Work Experience

International Monetary Fund *Jun - Aug 2024*

PhD Summer Internship in the Risk Unit of the Strategy, Policy, and Review division. I worked on an empirical project aimed at analysing the non-linearities of cross-country inflation episodes.

University of Oxford *Nov 2020 - Sept 2022*

Pre-doctoral full-time research assistant for Michael McMahon within the ERC research project "Monetary Economics and Communication: New Data, New Tools, New and Old Questions" and assisting Federica Romei on a joint project

- webscraping, document parsing, data manipulation and representation, NLP analysis on Python
- started new project investigating the real effects of dispersion in households' inflation expectations

Sep 2021

Teaching assistant for Federica Romei, teaching monetary economics at the Monetary Economics and International Finance summer school

June 2021

Collaborated in the selection of finalist papers at NuCamp PhD Workshop organised by The Nuffield College Centre for Applied Macro Policy at the University of Oxford. Submissions are from all areas of empirical and theoretical macroeconomics.

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Bocconi University

Extension of my thesis project on the role of heterogeneity à la Dixit-Stiglitz-Melitz in efficient capital reallocation and self-selection into production in a neoclassical model with financial frictions with Tommaso Monacelli and Daniele Siena

Nov - Dec 2019

Research assistant under the supervision of Francesco Decarolis for the impact assessment of the investment policies enacted in Cortina d'Ampezzo for the 2020 FIS Alpine World Ski Championships for *Studiare e Sviluppo*

Other Work Experience

European Central Bank *Aug - Dec 2018*
Traineeship at DG Microprudential Supervision IV

Taishin Financial Holdings *Jul - Sep 2016*
Summer internship - Merchant banking division

Skills

IT LaTeX, Python, MATLAB, R, EViews, Stata, GeoDa
where I have experience in data collection, manipulation, and visualisation together with estimation techniques (regressions, testing, including clustering/heteroskedasticity and controls) in all and performed more specific tasks in each. Some examples are dynamic linear modelling in R, webscraping and text analysis in Python, and VAR processes, calibrations and Dynare simulations in MATLAB

Data providers Bloomberg, Thompson Eikon datastream, Reuters Eikon, OECD database, Aida PA, governmental sources (US, UK, EU, IT), Nielsen scanner dataset

Languages Italian (mother tongue), English (proficient), Mandarin (mother tongue speaker, basic writing), French (basic)

More about me

Hobbies: cooking, gardening, freehand drawing, climbing

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THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

Matthias Doepke
Department of Economics
London School of Economics and Political Science
Houghton Street
London WC2A 2AE
E-mail: M.Doepke@lse.ac.uk

February 14, 2026

Recommendation for Delia Macaluso

Dear Colleague:

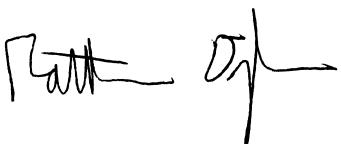
I am writing in support of Delia Macaluso's application for the NBER Innovation Research Boot Camp. Delia is a fourth-year Ph.D. student at LSE specializing in macroeconomics, and I am her supervisor.

Delia is working on issues related to in endogenous innovation. She has developed a model that distinguishes between two different types of horizontal innovation in consumer markets. One of these margins is the creation of entirely new products (in the style of the Romer model), and the other is the creation of smaller variations of existing projects, such as the occasional "refreshs" or redesigns that are common in consumer markets. Economically, these margins are distinguished by the cost of innovation (entirely new varieties are costlier to create) and the substitutability with existing projects (entirely new varieties are more distinct and thus can be sold at higher markups). Delia has also assembled a new firm-level data set that allows her to quantify the model and to characterize how the composition of R&D has shifted over time in response to changing economic conditions. This is promising work at the heart of the innovation agenda.

Overall, Delia is a very strong student whose research program is closely connected to what is covered in the Boot Camp, and she would benefit greatly from participating. I strongly endorse her application.

Please feel free to contact me if you have further questions!

Best Wishes,



Matthias Doepke
Nicholas Kaldor Professor of Economics