NBER Entrepreneurship Research Boot Camp
Cambridge, MA
July 2024

Aditya Amit Pande
4th Year PhD Student, Economics
University of Maryland, College Park

The study of knowledge creation and diffusion is the common thread which runs through my work as a researcher. I am particularly persuaded by Joel Mokyr's framing of economic growth as a self-reinforcing dance between expanding "propositional" knowledge about the laws of Nature and expanding "prescriptive" knowledge of techniques to manipulate it. Firms enable such knowledge to persist through time and diffuse through space, but most importantly, choose which types of knowledge to create. I am interested in the *endogenous* wedge between the types of knowledge the market incentivizes—often incremental, excludable, and located in particular technological places—and the socially optimal allocation. In attending the ERBC, I hope to learn much more from lecturers and my peers about how the economic environment affects the choices of agents at the bleeding edge of the knowledge creation process: entrepreneurs.

Initially, my own research involved mapping sectoral data on knowledge spillovers to consumer expenditures data (building on recent work by Ernest Liu & Song Ma, as well as Joachim Hubmer). This implies a cross-sectoral, structural change perspective on the productivity slowdown, given a highly asymmetric knowledge network. If rising real income implies a declining "innovation content" of consumption, this would be a drag on economic growth. [1] A simultaneous lesson I learned from joint work with Profs. John Haltiwanger, Chad Syverson, and Robert Kulick on measuring misallocation under departures from CES preferences is that the interaction between intensive and extensive margin distortions is of first-order importance in understanding firms facing either. These experiences shaped my current interest in the interaction between the co-evolution of the knowledge network and the choices of firms, especially entrants. Firms can choose to invest in tacit knowledge (like organizational capital) or zero-sum activities (e.g. non-informative advertising) rather than generating new codifiable knowledge which diffuses easily and can be built upon by others.[2] These choices shape, and in turn are shaped by, relationships with others in the knowledge network. This Boot Camp would be instrumental in deepening my understanding of how entrepreneurs and young firms choose to grow—in particular, how this choice has changed in the face of secular trends in technology, concentration, and business dynamism.

The final strand of my research considers historical episodes of abnormally fast growth. In joint work with IMF researchers Drs. Fuad Hasanov and Reda Cherif, we look to analyze the impact of the Apollo Program on innovation in NASA-targeted technological sectors. Another ongoing project with a fellow UMD PhD student explores the interaction between asset prices and the impact of general-purpose technologies: the diffusion of technologies like the steam power, semiconductors, or artificial intelligence is not a foregone conclusion but depends on the risk-bearing capacity of entrepreneurs. Attending the ERBC would be an invaluable opportunity to understand such rare but defining bursts of innovation, often mediated by the decisions of entrepreneurs.

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[1] I find, preliminarily, that preferences are not very non-homothetic in terms of innovation content (as measured by the centrality of sectors to the innovation network).

[2] This of course stands on the shoulders of many giants, from Bloom, Schankerman, Van Reenen (2013), to a rich vein of recent work by Aghion et. al. (2023), de Ridder (2023), Cavenaile et. al. (2023), and Dinlersoz et. al. (2023) on various dynamic distortions which reduce economic growth. Recent work by Cai and Li (2019), Salome Baslandze, and Evgenii Fadeev is perhaps closest to my own.

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EDUCATION

Ph.D. Economics, University of Maryland at College Park, expected May 2026
M.A. Economics, University of Maryland at College Park, May 2022
B.A. International Economics, Georgetown University (SFS), May 2018

FIELDS OF SPECIALIZATION

Primary: Innovation, Firm Dynamics, Economic Growth
Secondary: Economic History, Industrial Organization

RECOMMENDER

Prof. John Haltiwanger University of Maryland halt@umd.edu

RESEARCH AND RELEVANT WORK EXPERIENCE

Intern, EMRI Program, Center for Economic Studies, U.S. Census Bureau, Nov. 2023 – Present
Research Assistant, Dr. John Haltiwanger, University of Maryland, January 2022 – Present
Research Assistant, Trade and Quantitative Studies Section, Federal Reserve Board, July 2018 – July 2020

PUBLICATIONS

"Riding the Energy Transition: Oil Beyond 2040," *Asian Economic Policy Review*, 16(1), 117-137, 2021, with Fuad Hasanov (IMF) and Reda Cherif (IMF)

WORK IN PROGRESS

"Endogenous Growth Distortions", proposed JMP
"Land of the Lotus-Eaters: Structural Change and the Innovation Network", third-year paper
"Asset Price Booms, GPTs, and Risky Innovation", joint with Manuel Molina (UMD PhD)
"Towards a More General Theory of Distortions", joint with John Haltiwanger (UMD), Robert Kulick (NERA), and Chad Syverson (Chicago Booth)
"The Return to Space: Persistent and Pervasive Impacts of the Space Program", joint with Fuad Hasanov (IMF) and Reda Cherif (IMF)

GRANTS AND AWARDS

Dean's Fellowship and Economics Dept. Supplemental Fellowship, Fall 2020 – Spring 2021

COURSES ATTENDED

Economics of Ideas, Science, and Innovation PhD Course (now NBER Innovation Research Boot Camp), Fall 2022
Princeton Initiative on Macro, Money and Finance, Princeton University, Fall 2022

TEACHING EXPERIENCE

Teaching Assistant, Intermediate Macroeconomics: Theory & Policy (undergraduate), University of Maryland, Fall 2021
Departmental Tutor, Economics (undergraduate), Georgetown University, 2015, 2018

LANGUAGES

English (native), Spanish (proficient), Marathi (spoken, advanced), Hindi (spoken, basic)

COMPUTATIONAL SKILLS

Matlab, Stata, R, Python

PhD COURSEWORK

First Year Sequence (2020-2021):
Macroeconomic Analysis I, II
Microeconomic Analysis I, II
Econometrics I, II

Second Year (2021-2022):
Computational Economics [Industrial Organization] (Prof. Andrew Sweeting)
Computational Methods for Macroeconomics (Prof. Boragan Aruoba)
Advanced Macroeconomics I (Prof. John Haltiwanger)
Topics in International Finance (Prof. Sebnem Kalemli-Ozcan)
Macroeconomics of Imperfect Capital Markets (Prof. Thomas Drechsel)
Empirical Political Economy (Prof. Ethan Kaplan), audit

Third Year (2022-2023):
Empirical Industrial Organization (Prof. Ginger Jin)
Advanced Macroeconomics II (Prof. Luminita Stevens), audit

Fourth Year (2023-2024):
Advanced Topics in International Economics, (Prof. Pablo Ottonello), audit

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February 15, 2024

Letter of recommendation for Aditya Pande for NBER Entrepreneurship Research Bootcamp:

I am happy to write a letter on behalf of Aditya Pande for the NBER Entrepreneurship Research Bootcamp. I think he would be a superb candidate for the bootcamp. I know him through his course work and especially through his work as a research assistant and co-author. In terms of his course work in classes I taught he was outstanding. In the second-year graduate class that I taught covering topics in the overlap between macroeconomics and labor economics he made several presentations that highlighted his skills and potential as a professional economist. I have always been impressed by his intellectual curiosity and his ability to "think outside the box". He has excellent theoretical and empirical skills.

He has research interests that overlap well with the bootcamp. He has interests in firm dynamics on a number of dimensions with ongoing research exploring endogenous innovation as well as collaborative work with me (and Chad Syverson and others) on misallocation. The latter work focuses on the impact of market distortions on both intensive and extensive margins – much of the literature has focused on the intensive margin. We find that misallocation from distorting startups is an important source of productivity losses from market distortions.

I think he has the profile that being part of the NBER Entrepreneurship Research bootcamp would be of great advantage to him and he would be an active participant. This would be a great opportunity for Aditya to develop his perspective and insights about entrepreneurship in ways that will be very valuable to him in his career as an economist.

Sincerely,

John Haltiwanger

John C. Haltiwanger
Distinguished University Professor of Economics