Aakash Kalyani

PhD Student · Economics · Boston University

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Education

Boston University
PhD Economics (5th year) *2017-2023 (Expected)*
- Fields: Macroeconomics, Innovation, Labor Economics
- Advisor: Tarek Alexander Hassan

Delhi School of Economics, University of Delhi
Masters in Economics *2015*

Netaji Subhas Institute of Technology, University of Delhi
Bachelor of Engineering in Electronics and Communication *2012*

Papers

Working Papers

Diffusion of Disruptive Technologies (**with Nicholas Bloom, Tarek Hassan, Josh Lerner and Ahmed Tahoun**)

The Creativity Decline in US Patenting (Draft coming soon) **Job Market Paper**

Works in Progress

International Migration and Knowledge Diffusion

Gender Disparities in Knowledge Diffusion

Awards

2021 Henry S. Newman Graduate Student Fellowship, Boston University

Presentations

2021 Economic Growth Conference (**NBER Summer Institute 2021**); Economic Fluctuations and Growth Conference (**NBER**); Changing Nature of Innovation - Macro Perspectives (**Centre for Technology, Innovation and Economic Research, India**); Economics Seminar (**Duke University**)

2020 Bocconi Assembly for Innovation and Cooperation (**University of Bocconi, Italy**); Economics Seminar (**Yeshiva University**); Economics Seminar (**Nova School of Business and Economics, Portugal**)

Work Experience

Boston University
Research Assistant to Tarek Hassan *Jan. 2019 - May. 2020*

Boston University
Teaching Assistant for Introductory Statistics *Aug. 2018 - Dec. 2018*

Indian School of Business and Finance
Lecturer, Econometrics and Mathematical Economics *Jul. 2016 - Jul. 2017*

Centre for Advanced Financial Research and Learning, Reserve Bank of India
Research Associate *Jul. 2015 - Jul. 2016*

Professional Experience

Referee

Review of Economic Dynamics

Skills

Software Python, MATLAB, Stata, R, LaTeX
Languages English, Hindi

References

Tarek Alexander Hassan
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Citizenship

Indian, F-1 Visa

Papers

Working Papers

Diffusion of Disruptive Technologies (with Nicholas Bloom, Tarek Hassan, Josh Lerner and Ahmed Tahoun)

We identify novel technologies using textual analysis of patents, job postings, and earnings calls. Our approach enables us to identify and document the diffusion of 29 disruptive technologies across firms and labor markets in the U.S. Five stylized facts emerge from our data. First, the locations where technologies are developed that later disrupt businesses are geographically highly concentrated, even more so than overall patenting. Second, as the technologies mature and the number of new jobs related to them grows, they gradually spread geographically. While initial hiring is concentrated in high-skilled jobs, over time the mean skill level in new positions associated with the technologies declines, broadening the types of jobs that adopt a given technology. At the same time, the geographic diffusion of low-skilled positions is significantly faster than higher-skilled ones, so that the locations where initial discoveries were made retain their leading positions among high-paying positions for decades. Finally, these pioneer locations are more likely to arise in areas with universities and high skilled labor pools.

The Creativity Decline in US Patenting (Draft coming soon) Job Market Paper

While patenting activity has increased in the last few decades, research productivity has declined. In this paper, I use patent text to develop a new time-comparable and ex-ante measure of Patent hetereogeneity: Patent Creativity. I show that Patent Creativity is a significant predictor of patent valuations, and TFP growth and investment at the firm level. Furthermore, average Patent Creativity has halved over the past 4 decades, which explains 58% of the gap between patent activity and research productivity. Using micro level data on inventors, I analyze the relationship between demographics and Patent Creativity. I document that first-time patentors are about 30% more creative than others. This fact along with the decreasing population growth in an endogenous growth model with inventor heterogeneity explains about 24% of the decrease in average Patent Creativity and 35% of the decrease in TFP growth.