Applicant
Abhishek Dev
Doctoral Student in Finance (2020-2025), Yale School of Management
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Recommender
Josh Lerner
Jacob H. Schiff Professor of Investment Banking
Unit Head, Entrepreneurial Management, Harvard Business School

Song Ma
Assistant Professor of Finance
Yale School of Management

Abhishek Dev

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Education

Yale University, New Haven, CT. , 2025
PhD in Finance

Bard College, Annandale-on-Hudson, NY. , 2016
B.S. in Economics and Finance
Distinguished Scientist Scholarship, Levy Economics Scholarship, Ottaway Scholarship

Work Experience

Harvard Business School / Private Capital Research Institute, Allston, MA *May 2017 - August 2020*
Research Associate for Professor Josh Lerner

- Researched the capital structure of private firms with a unique database from Certificates of Incorporation (COIs) of over 800 venture capital-backed firms in collaboration with Professor Ilya Strebulaev at Stanford. We reconstruct the capital structure of private companies by exploiting the contractual terms contained in COIs. These documents include information on the original issue price and various investor protections for each class of preferred shareholders for each round, allowing us to trace the fundraising trajectory.
- Researched whether impact investors generate social and environmental value along with market-rate returns using a novel data on impact investors. Interviews conducted with these impact investors help us understand how does the incentive structure for employees in impact-oriented companies differs from non-profit and profit-motivated companies, and if the employees derive non-pecuniary benefits working in a mission-driven environment.
- Collaborated with professors and Ph.D. students at HBS, Stanford GSB, Chicago Booth, NYU Stern and other schools on over half-a-dozen smaller projects on private equity and venture capital market.

MIT Sloan School of Management, Cambridge, MA *June 2017 - August 2020*
Research Assistant for Professors Paul Asquith and Parag Pathak

- Researched the effect of mandatory transparency of price and volume information in the early 2000s on the US corporate bond market. Available as NBER Working Paper "The Effects of Mandatory Transparency in Financial Market Design: Evidence from the Corporate Bond Market."

World Bank, Washington DC *Jan. 2017 - April 2017*
Research Assistant for Professors Sam Asher and Paul Novosad

- Researched the distribution of economic activity within and across Indian cities using the Indian Census Data.

Harvard Kennedy School - CID, Cambridge, MA *Nov. 2016 - Feb. 2017*
Research Intern

- Assisted with writing and figures on pension systems in Western Europe for the book "Too Small to Fail."

National Bureau of Economic Research, Cambridge, MA *June 2016 - Dec. 2016*
Research Intern for Professors Pascal Noel and Peter Ganong

- Researched how the housing debt overhang depressed consumer spending and impeded the economic recovery.

Research Papers

Publications

"The Creation and Evolution of Entrepreneurial Public Markets" (with Shai Bernstein and Josh Lerner), *Journal of Financial Economics*, 2020.
Featured in *Harvard Law School Forum on Corporate Governance and Financial Regulation*, Feb. 21, 2019

Abstract: This paper explores the creation and evolution of new stock exchanges around the world geared towards entrepreneurial companies, known as second-tier exchanges. Using hand-collected novel data, we document the proliferation of these new stock exchanges that were created in a large number of countries, attracted a significant volume of global IPOs, were introduced fairly cyclically, and had lower listing requirements when compared to first-tier stock exchanges. We find that increases in demand for entrepreneurial capital-as proxied for by patenting, IPOs, and stock market

valuations-led to a higher likelihood of the introduction of second-tier exchanges. We find no evidence that new second-tier exchanges diverted the existing flow of IPOs from established stock exchanges. Shareholder protection strongly predicted exchange success, even in countries with high levels of venture capital activity, patenting, and financial market development. Second-tier exchanges in countries with better shareholder protection allowed younger, less profitable, but faster-growing companies to raise more capital. These results highlight the importance of institutions in enabling the provision of entrepreneurial capital to young companies.

Working Papers

"Public Entrepreneurial Finance around the Globe" (with Jessica Bai, Shai Bernstein and Josh Lerner), March 2021
Abstract: This paper examines how government funding programs geared towards early-stage companies interact with private capital markets. Using hand-collected data on 755 government programs worldwide, we find that governments' allocations to such funding programs in the past decade have been comparable to global venture capital disbursements. Government programs were more frequent in periods with more private venture activity, a relationship that was stronger in nations with better public governance. The programs' structures often relied on the local private sector. The private sector's involvement was greater when government programs targeted earlier stage companies and when rankings of government effectiveness were higher. These findings suggest complementarity between public and private entrepreneurial finance.

"Studying the Portfolio Companies of U.S. Impact Investors" (with Diane Burton, Gurveen Chadha, Shawn Cole, Christina Jarymowycz, Leslie Jeng, Laura Kelley, Josh Lerner, Jaime R. Diaz Palacios, Yue Cynthia Xu, and T. Robert Zochowski), March 2021
Abstract: Recent years have seen a dramatic shift in how the U.S. approaches social problems. Charity and philanthropy have increasingly yielded to markets and investments (Barman 2016; Horvath and Powell 2020). As of the end of 2019, the field of impact investing encompassed an estimated $715 billion in assets under management (Hand et al. 2020). While there have been efforts to increase our understanding of how impact investors operate (Gray et al. 2015; Kovner and Lerner 2015; Burton et al. 2020; Geczy et al. 2020; Barber et al. 2021), less attention has been paid to performing a systematic analysis of the companies that they fund. One important constraint has been data availability, as standard data sources do not typically identify impact portfolio companies ("IPCs"). Even once identified, standard data sets contain limited data on these companies, which are typically private. Our research agenda aims to fill this gap by facilitating the study of IPCs through a multi-method approach, which combines quantitative sampling methods with gathering and analyzing information found in publicly-filed documents and qualitative interviews. This paper describes our sampling methodology and research process. We reduce the sampling bias prevalent in past research by drawing upon an expansive database of IPCs, compiled by the Project on Impact Investments ("Pii") at Harvard Business School ("HBS") (Burton et al. 2020). Ultimately, we hope our comprehensive data on a representative sample of 332 portfolio companies will serve as an important resource to fill gaps in our understanding.

"The Project on Impact Investments' Impact Investment Database" (with Diane Burton, Shawn Cole, Christina Jarymowycz, Leslie Jeng, Josh Lerner, Fanele Mashwama, Yue Cynthia Xu, T. Robert Zochowski), May 2020
Abstract: Impact investing has grown significantly over the past 15 years. From a niche investing segment with only $25 billion AUM in 2013 (WEF 2013), it experienced double-digit growth and developed into a market with an estimated $502 billion AUM (Mudaliapar and Dithrich 2019). Despite the growth and maturation of impact investing, gathering complete and accurate data on the characteristics of this industry continues to be a challenge. This paper describes the creation of a new dataset on both impact investors and the portfolio companies they fund, comprising 409 impact investors and 13,212 portfolio companies. We code impact investors according to established categories such as legal form, types of investments and return objectives. We then develop measures of the relative importance of social impact for each investor in an effort to add a new analytic categorization. We conclude by describing the distribution of investors and firms across these various categories.

"Forecasting Error and Bias in the US Social Security Projections", August 2019
Abstract: The accuracy of the US Social Security Administration's economic and financial forecasts is critical for the solvency projection of the Social Security Trust Funds. I provide the first systematic and complete assessment of the performance record of the Trustees' economic projections from 1992 to 2015. I find that, since 1992, Trustees' projections for productivity growth rate more than one year into the future have similar error rates, i.e., projections two years into the future are as inaccurate as the projections 40 years into the future. I also find that though there is cyclical nature to over- and under-projection correlated to the business cycle, the productivity growth rate is systematically under-projected.

Research in Progress

"Underpricing in the Corporate Bond Market" (with Paul Asquith)
Abstract: We study the underpricing of corporate bond initial public offerings and secondary offerings using recently released Academic TRACE data. The data allows us to differentiate the trades made by the underwriting syndicate and those made by the dealers to calculate the fraction of money left on the table that goes to the underwriter syndicate and the initial investors. Further, using the discount on the offer price available to underwriters, we can calculate the revenue generated by the underwriters in the initial and secondary bond offerings.

"Cleaning Academic TRACE Corporate Bond Data" (with Paul Asquith)
Abstract: TRACE corporate bond database has been a crucial resource for empirical corporate bond market research. We provide the most systematic and comprehensive protocol to clean the Academic TRACE data. Our significant contribution is on processing trade reporting errors and consolidating agency trades, which are represented as multiple trade reports in the data. Given the self-reported nature of the data, the trades are subject to several types of errors. Some of these errors are caught by the reporter and are subsequently flagged. However, even after correcting these flagged trade reports, we find that the mistakes in trade reports are common, though the frequency has decreased over time since 2002. We provide methods to identify all of these errors and correct them.

Presentations

INET Finance, Law, and Economics (2019); MIT Media Lab Innovation, Economic Complexity, and Economic Geography Workshop (2018)

Coursework

Completed
Theoretical and Economic Perspectives on Entrepreneurship: Finance
Theoretical and Economic Perspectives on Entrepreneurship: Organizational Economics
General Economic Theory: Microeconomics I
Econometrics I
Financial Economics I

Current:
General Economic Theory: Microeconomics II
Econometrics II
Behaviorial Economics

I am interested in entrepreneurial finance and entrepreneurship. My research interest has been developed over the years, working in this field at Harvard Business School.

In our first research paper, with Professors Josh Lerner and Shai Bernstein, we study the drivers of the creation and success of second-tier stock exchanges, focusing specifically on the role of countries' legal provisions for shareholder protection. These junior-markets have been heralded as a way to promote the creation, financing, and retention of job-creating new ventures, and indeed, we find that they have attracted 44% of all IPOs since 1990. We find that increases in demand for entrepreneurial capital lead to more second-tier exchanges being introduced. I proposed looking at whether these exchanges divert the existing flow of IPOs from the primary market. We do not find any evidence of a substitution effect, either in terms of the flow or the composition of IPOs listed on an existing first-tier exchange, indicating that these exchanges serve a different segment of the market. We also find that shareholder protection strongly predicts these markets' creation and success, suggesting the importance of institutions in enabling the provision of entrepreneurial capital to young companies. This project was the impetus to continue to study government policies to promote entrepreneurship and innovation.

Following our paper on second-tier exchanges, in our second research paper, with Professors Josh Lerner, Shai Bernstein, and another graduate student Jessica Bai, we study how government funding programs geared towards early-stage companies interact with private capital markets. Using hand-collected data on 755 government programs introduced in 66 countries since 1990, we find that governments have introduced a broad range of policies with varying degrees of success. The policies include direct subsidies, grants, loans, credit guarantees, R&D tax credits, etc. We also find that governments' allocations to such funding programs in the past decade have been comparable to global venture capital disbursements. Government programs

were more frequent in periods with more private venture activity, a relationship that was stronger in nations with better public governance. The programs' structures often relied on the local private sector. The private sector's involvement was greater when government programs targeted earlier stage companies and when rankings of government effectiveness were higher. These findings suggest complementarity between public and private entrepreneurial finance.

One of the reasons I am applying to the boot camp is to understand literature in entrepreneurship better. Taking the graduate sequence course on "Theoretical and Empirical Perspectives on Entrepreneurship" and seminars in business economics at HBS, I am familiarized with current literature and important research questions in the field. Attending the boot camp will provide not only the guideline but also the incentives and best instructions. It helps with my research and will help me learn about the kinds of questions researchers are interested in.

Moreover, getting involved in the entrepreneurship research community can give me more confidence and a sense of belonging, which is essential for me. We all believe and know that entrepreneurship economics is going to be one of the core fields in academia, given more data available and more theoretical frameworks established. It would be an excellent chance for me to get involved more in the international community by building more connections with the pioneers of the field.

In addition, this will be an excellent opportunity to interact with peers who have similar research interests. This will mean new people to discuss ideas but also develop research relationships, some of which could develop into co-authorships.

HARVARD UNIVERSITY

GRADUATE SCHOOL OF BUSINESS ADMINISTRATION

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March 27, 2021

To Whom It May Concern:

Abhishek Dev has asked me to write a letter of recommendation for his application to the entrepreneurship boot camp at NBER. I am really very delighted to do so.

My colleague Dr. Leslie Jeng and I had hired Abhishek in 2017 to as one of the full-time researchers at the Private Capital Research Institute, and he worked with us until he departed for Yale in the summer of 2020. Our non-profit, an outgrowth of the World Economic Forum project on private equity, is seeking to encourage the production and diffusion of objective research about venture and buyout funds, with a particular emphasis on the development of high-quality databases. The sources of these databases include the California and Delaware Secretary of State's office and commercial databases. This effort, which has been backed by the Kauffman, Sloan, and Smith Richardson Foundations, has succeeded in gathering, integrating and making accessible a wide variety of information with relatively limited resources.

Abhishek was hired to help with all technical aspects of the effort: building a database infrastructure, performing database integration, creating a usable working environment for academic researchers, and facilitating database access. In addition, Abhishek has helped support our end users, academic researchers, by providing analyses and smaller datasets, and worked with me on a variety of events.

More significantly, Abhishek has worked, in addition to his formal duties at the PCRI, with my colleague Shai Bernstein and myself on a project on second-tier markets around the world, which has published in the *Journal of Financial Economics*. This project developed a hand-collected novel data set to explore the roughly 150 new exchanges created over the past three decades in almost 80 countries, a process that took creative and painstaking work.

Abhishek managed the data-gathering process, pulling together and supervising a large team of researchers very efficiently. The data sources for these exchanges were highly dispersed, in many different languages, and frequently incomplete. When Shai and I crosschecked the

various stages of the process, we discovered that the accuracy of the data compilation was extremely high.

But Abhishek's role went well beyond data compilation. He played a key role in conceptualizing, developing and executing the empirical analyses. In short, he was a full-fledged partner in the paper. Shai and I were so pleased with the nature of his contributions that we launched a second project with him, one looks at the evolution of policies geared towards promoting entrepreneurial finance around the world. This project again combines widely dispersed data from many nations, and is making good progress.

In both these projects, Abhishek has demonstrated skills that are likely to be very useful in academic life. Having worked closely with Abhishek on a wide variety of tasks, I can attest he is a real pleasure to work with. He is extremely positive on a personal level, always willing to help out. Many of the projects have required a lot of work, much of it non-glamorous and not always intellectually challenging. Abhishek has been more than glad to roll up his sleeves and help out, providing the same care and attention to detail that characterizes his other work.

As I have hinted already, Abhishek is a true "self-starter": rather than waiting for assignments, Abhishek takes it upon himself to identify and address problems. He has also deftly managed a large team of Harvard undergraduates over two summers, as well as a smaller group during term time. He always managed to be respectful of others' opinions and listened carefully, while guiding the team towards a consensus.

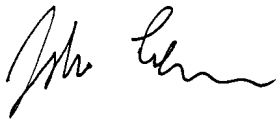
Given the nature of the paper-writing process, the small size of the PCRI team, and the intensive nature of the various projects, I have had a chance to get to know Abhishek quite well. In this letter, I compare Abhishek to the roughly 150 Harvard College undergraduates or recent graduates who have worked for me over the twenty-five years that I have been on the faculty of the Harvard Business School. I have typically restricted my hiring to honors students who are majoring in economics, applied mathematics, and/or computer science. Many of these students have gone onto further study at top professional and graduate schools, and then to leadership positions in investment management and technology firms, as well as successful academic careers.

Even against this high-powered comparison set, Abhishek is a clear stand-out for his analytic skill, economic intuition, and leadership ability. The wide variety of tasks he undertook, the quality of his work, his ability to supervise and motivate a team of research assistants, and his careful thinking about the analyses were all top-notch.

In short, Abhishek has demonstrated a great set of skills, which are likely to serve him well in the years to come. I would rank him in the top five percent of the selected group of Harvard recent alumni and undergraduates that I have worked with. I would be delighted to recommend him strongly

I hope these comments are of use. Please do not hesitate to follow up with any additional questions.

Best wishes,



Josh Lerner

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Re: Recommendation Letter for Abhishek Dev

Dear David and the Review Committee,

I am writing to recommend Abhishek Dev for the 2021 NBER Entrepreneurship Research Boot Camp. Abhishek is a PhD student in finance from Yale School of Management, and I am working with him on research and teaching related to entrepreneurship and entrepreneurial finance. My recommendation is based on our regular interactions and coauthor-ship.

To start from the conclusion—Abhishek gets my strong recommendation. He is one of the most research-ready PhD students I've ever seen at his stage (even though he is only in his first year, rising to the second), and I have no doubt that he will be a valuable boot camper for the class of 2021.

Abhishek has extensive research experience with Prof. Josh Lerner and Prof. Shai Bernstein during his pre-doc RA work at HBS. They have a joint paper together published at the JFE, which I really like. He is also quite research active after joining Yale, focusing on entrepreneurship, VC, and related topics.

Abhishek is at the stage where the boot camp training can really help him further his research. The boot camp will for sure teach him valuable lessons ranging from the literature, the appreciation of research questions, among other things. I have no doubt (but will personally monitor to ensure) that Abhishek will read all required papers carefully and actively contribute to the discussion in class. I will also work closely with him and give advice as he explores the literature more broadly.

I hope that you give Abhishek serious consideration for a spot in the boot camp this year. Please do not hesitate to contact me for any further questions.

Sincerely yours,

