March 21, 2021

Harvard Business School
50 HBS Mail Center
700 Soldiers Field Road
Boston, MA

Dear NBER Entrepreneurship Bootcamp Organizing Committee,

I am writing to express my interest in attending the NBER's Entrepreneurship Research Bootcamp this August. I am in my third year of the PhD program in Business Administration in the Strategy Unit at Harvard Business School, and I believe that this bootcamp could substantially help me further advance my research on entrepreneurship.

My interest in entrepreneurship was sparked by experiences I had before my PhD program. Prior to beginning my graduate studies, I spent five years working at an economic consulting firm. The firm primarily provided expert services related to intellectual property litigation. Working at this firm exposed me to the challenges that entrepreneurs and startups face in the court system. I saw firsthand the enormous advantages that incumbent firms held in the legal system due to their superior resources. The experience gave me a strong interest in understanding how entrepreneurial firms navigated the legal system, and how this system affected entrepreneurial strategy.

I believe my coursework and my research experience so far in the PhD program has positioned me to benefit from this bootcamp. I have attached a list of my courses to this application. I have taken a broad set of classes related to entrepreneurship, innovation, and strategy. My application essay provides more detail on my research interests and my experience so far. Additionally, I have a recommendation letter from my adviser, Professor Hong Luo.

Thank you for your consideration. Please feel free to contact me at 925-286-5785 or danielbrown@hbs.edu.

Sincerely,

Daniel Jay Brown

Daniel Jay Brown

700 Soldiers Field Road | Boston, MA 02163 | (925) 286-5785 | danielbrown@hbs.edu

RESEARCH INTERESTS

Strategy, Law and Entrepreneurship, Geography of Innovation, Intellectual Property

EDUCATION

Harvard Business School **Boston, MA**
PhD Candidate in the Strategy Unit July 2018 – Present

- Studied microeconomics, econometrics, industrial organization, and innovation
- Focused on intersection of innovation and the legal system
- Performed research related to innovation and intellectual property
- Teaching Fellow for the required MBA Strategy Course

University of California, Berkeley **Berkeley, CA**
B.A. in Economics. *GPA: 3.73*. May 2013

- **Honors:** Dean's List, Fall 2010. Graduated with Distinction.

PROFESSIONAL EXPERIENCE

Intensity Corporation **San Diego, CA**
Associate January 2016 – May 2018
Analyst July 2013 – December 2015

- Provided microeconomic research and consulting services related to intellectual property litigation
    - Worked with team of experienced economists with doctorates from the University of Chicago and the University of Pennsylvania
- Constructed models using Excel and Stata to calculate lost profits and reasonable royalties for multimillion-dollar patent infringement lawsuits involving Fortune 500 companies
- Synthesized research on market structure, participants, and competitive performance in fields such as semiconductors and pharmaceuticals
- Cofounded forecasting practice, which used macroeconomic models to produce financial forecasts for thousands of publicly traded companies
    - Developed innovative metrics related to peer relationships, financial time series, and analyst estimates to serve as inputs to econometric models for financial forecasting

ADDITIONAL

- Skills: MS Office (Word, Excel, PowerPoint). Stata. Python. SQL.

Daniel Jay Brown PhD Coursework

1. Theoretical and Empirical Perspectives on Entrepreneurship: Organizational Economics and Growth
2. Economics of Ideas, Innovation and Entrepreneurship
3. Empirical Studies of Innovation and Digitization
4. The Foundations of Strategy
5. Industrial Organization I
6. Microeconomic Theory I
7. Microeconomic Theory II
8. Econometrics I
9. Econometrics II
10. Causal Inference for Management Research
11. Design of Field Research Methods
12. The Economics of International Business
13. Doctoral Seminar in Business History: The Great Divergence

Daniel Jay Brown

Workshop Application Essay

I want to attend the Entrepreneurship Research Bootcamp so that I can further explore my interest in the intersection of entrepreneurship, innovation, and the law. Before I started graduate school, I worked at an economic consulting firm that provided expert services related to intellectual property litigation. This job gave me firsthand experience of the challenges entrepreneurial firms face in the legal system, which often advantages large incumbents that possess substantial resources. With the assistance of this bootcamp, I hope to conduct research that explores how entrepreneurial firms navigate the legal system and how legal institutions affect entrepreneurial strategy.

Current Research

For my current project, I am exploring the effect that the Supreme Court ruling *Alice v. CLS Corporation* had on inventor mobility. The *Alice* ruling substantially weakened intellectual property rights in certain technological areas, such as financial and business software. Using a difference-in-differences analysis, my coauthor and I find that inventor-employees in technological areas affected by the ruling were more likely to leave their employer after the ruling. This could be driven by multiple factors.

First, weaker patents may decrease the ability of firms to prevent their employees from using their invention-specific skills at other firms. Essentially, inventor-employees may have human capital that is specific to patents owned by their employers; when patents are weakened, these inventors may be able to use this capital elsewhere, so employee exit may rise. Additionally, weakened patent rights may increase mobility by encouraging follow-on

innovations from competing firms, given the reduced threat of patent enforcement. These firms might seek to hire away inventor-employees for their relevant skills.

Although these initial results are interesting, we are still analyzing where inventors are going when they exit, and which types of firms were most affected by the ruling. We are especially interested in how this ruling affected the entrepreneurial landscape. Did inventors leave to start new firms because they were less threatened by patent enforcement? Were small, entrepreneurial firms especially damaged by the ruling, as their inventors left, and they had no alternative means for protecting their innovations? We believe this ruling presents an excellent opportunity to examine how the strength of intellectual property rights affects the success of entrepreneurial firms.

Future Research

In addition to my current project, I believe there are many other promising research possibilities related to entrepreneurship and the legal system. One potential project would be to explore the role played by lawyers themselves. Law firms like Wilson Sonsini have a strong reputation for serving the needs of startups. Yet there has been little quantitative analysis of the benefits that top law firms provide to startups in comparison to less prestigious firms. Are these firms better at connecting startups to venture capital investors, helping them avoid litigation, or protecting their intellectual property rights?

This is just one possible direction, but I believe there are other promising projects in this area. Understanding how entrepreneurs are affected by legal institutions is important to both founders and policymakers. I hope to make a substantial contribution to our understanding of this relationship, and I believe attending this bootcamp will help me do so.



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HONG LUO |
JAMES DINAN AND ELIZABETH MILLER ASSOCIATE PROFESSOR
OF BUSINESS ADMINISTRATION

March 22, 2021

Morgan Hall 241,
Boston, MA, 02163
hluo@hbs.edu

Dear Organizing Committee of the NBER Entrepreneurship Research Boot Camp,

I would like to recommend Daniel Brown to participate in this boot camp. Daniel is in his third year in the HBS strategy program. He is currently exploring his dissertation topics, which are likely to be in *the intersection between the geography of innovation/entrepreneurship and the law*. Based on my own past experience with the boot camp, this would be a great opportunity for him to learn about the leading research topics in entrepreneurship generally and get to know the leading scholars and potential peers.

I have been interacting with Daniel mainly through a year-long doctoral research development workshop that is required for all students in our program between year two and their job market year. In this workshop, the students get a safe space to present in a 30-min format every month about research ideas that they are currently experimenting with or working on.

Through the course of the last year, I got to observe him finishing his second-year paper starting from scratch. It took some time, but ultimately, he was able to identify an important supreme court ruling, define a research question, collect the relevant data, and make a reasonable attempt at the conceptual argument and empirical analysis. Overall, he has made great progress towards understanding the process of doing independent research.

Dan's second-year paper is about a supreme court ruling *Alice Corporation vs. CLS Bank International*, which reduced the patentability for certain technologies, in particular, software and business method patents. He used this ruling as an exogenous shock to *examine the impact of a weaker patent regime on the mobility of inventor-employees*. Conceptually, the net effect is ambiguous. He argues in the paper that on the one hand, reducing the efficacy is likely to reduce inventor-employee mobility. This could be because weakened patent rights encourage firms to rely more on secrecy, increasing firms' incentives to retain their employees. In addition, if weaker patent enforcement reduces R&D incentives also for competitors in the affected technology areas, this may also reduce their desire to poach a focal firm's employees.

On the other hand, weak patent enforcement could also increase the demand of competing firms for such talent because these rivals can now develop similar products without worrying about patent infringement. This and other forces may increase the mobility of inventor-employees.

A difference-in-differences analysis using patent data shows that after the ruling, relatively to employees that work in areas that are not much affected, the likelihood for an inventor working in areas that are the most affected to leave their employer increased by 17%. This increase in mobility is weaker when the inventor has a highly cited patent.

As mentioned, he is just starting to explore his dissertation topic. One set of topics he is interested in is the location decision of firms that rely on inventive talent, forces that pull them together versus forces that pull them apart.

Thank you very much for considering, and please let me know if you have questions.

All the best,
Hong Luo