Application for NBER Digitalization Tutorial, March 4 – 5, 2020

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Graduate Coursework:

PhD (in progress since 2018), New York University, Stern School of Business, Strategy

MBA (2014 – 2016), University of Chicago, Booth School of Business

MA (2008 – 2010), Duke University, Economics

I have taken the graduate sequences in microeconomics and econometrics. Also, I have taken seminars in strategy, organizational theory, entrepreneurship, innovation/technological change and social networks, and additional methods courses in research design and time series econometrics.

General Research Interests:

My research interests are in organizational economics and strategy, broadly focused on how technological change impacts firm performance and innovation. At NYU Stern I work with Robert Seamans on the organizational impacts of AI as a type of technological change. My interests have developed over the past several years to include organizational networks, corporate accelerators and venturing, and the impact of technological change on the role of the manager. Most of the research projects that I am currently working on look at different aspects of technological change effecting various measures of firm performance. I consider myself very fortunate that the projects that I am involved in as a graduate student are highly reflective of my interests.

I previously worked at Microsoft Corporation, which enabled me to learn about technological product development, marketing and sales. As I complete the PhD, I continue to collaborate with large technology companies on accessing the data that I need to test thoughts and theories that pique my interest. As part of this collaboration, I am independently working on a project analyzing a pairing of network measures from emails/meeting and HR data to better understand attrition and collaboration patterns of innovators within engineering and research divisions.

In summary, it is my goal to draw on my background in economic theory and methods to produce quantitative research in strategy.

Working Paper:

The Business of AI Startups with Jim Bessen, Robert Seamans and Lydia Reichensperger. Bessen, J. E., Impink, S. M., Seamans, R., & Reichensperger, L. (2018). The Business of AI Startups. *Boston Univ. School of Law, Law and Economics Research Paper*, (18-28).

This paper reports on a survey of commercial AI startups, documenting detail about their businesses and their impacts on their customers. These firms report benefits of AI that are more often about enhancing human capabilities than replacing them. Their applications more often increase professional, managerial, and marketing jobs and decrease manual, clerical, and frontline service jobs. These startups sell to firms of different sizes, in different industries and nations, but the distribution of activity is distinct from that of larger firms. Also, firms serving EU customers appear to use higher levels of data protection.

Research Projects in Progress:

Measuring Corporate Culture Through Communication Data with Raffaella Sadun and Andrea Prat. We investigate a new empirical approach to measure differences in corporate culture across large samples of firms. The methodology exploits detailed (and completely confidential) metrics on internal email communications and in-person and virtual meetings to compute basic network metrics at the firm and the department level. The paper discusses the preliminary evidence on cross-firm variation in communication structures emerging from the data, as well as the relationship between these metrics and other firm-level characteristics. We conclude with a brief discussion of the benefits and challenges posed by this empirical approach for the measurement of culture in large samples.

The Impact of Corporate Accelerators with Josh Lerner, Robert Seamans, and Nataliya Langburd Wright. How does a startup's participation in a large technology firms' corporate accelerator program impact the startup's performance (i.e. the ability of the startup to innovate, scale up, and reach global markets)? We collaborate with a large technology to learn more about startup performance, types of technology developed and cross-border expansion of startups "graduating" from the Corporate Accelerator Program. A key finding of this project will be to what extent does access to large technology firms' programs impact startups' ability to expand internationally through the types of technologies they develop.

Heterogeneity of Firm Performance in AI Start-ups with Jim Bessen, Robert Seamans and Lydia Reichensperger. Through a second round of a survey of commercial AI startups (currently in progress) we collect data to be paired with the initial survey (2018) to investigate the impact of access to appropriate data (fit, quality and quantity) on measures of firm performance. The quality of the AI startups' algorithm-based products highly depends on the ability to use adequate data to train their product. Barriers to scale could exist for a subset of AI startups that do not have the funding, partnerships or reputational backing to access appropriate data.