Eliot Abrams
5553 S Kimbark Ave, Apt 1
Chicago, IL 60637
(708) 609-0259
eabrams@uchicago.edu

To whom it may concern,

Please consider my following application to attend the 2019 NBER Digitization Tutorial. I previously attended the tutorial in 2017 when I was working on a paper concerning US securities crowdfunding. I found the presentations and discussions at the tutorial sessions to be incredibly helpful in advancing that paper. Since 2017, I have continued to work on topics in digitization. I am currently working on a paper that examines the importance of accounting for the digital divide that keeps certain consumers from considering online direct banks and a second paper that analyzes the impact of the digital video content of mortgage and home equity commercials on origination and refinancing. I describe these in more detail below. Given my experience with the 2017 tutorial, I know that the 2019 tutorial will help me greatly improve these papers and will hopefully inspire additional research ideas.

Thank you in advance for your consideration,

Eliot Abrams

Background

I am a 5th year Economics PhD student at the University of Chicago Booth School of Business. I completed three field sequences: Industrial Organization, Asset Pricing, and Corporate Finance. After the sequences, I TA-ed for a number of IO and finance courses including:

- Asset Pricing (PhD) for George Constantinides in Fall 2016 and 2018 and for John Heaton in Fall 2017
- Competitive Strategy (EMBA) for Luis Garicano in Winter 2018 and 2019
- Entrepreneurial Finance and Private Equity (MBA) for Eric Zwick in Spring 2017 and 2018 and for Yael Hochberg in Winter 2018

I continue to be broadly interested in the overlap between IO and finance, particularly topics in fintech. My work builds directly on research in digitization as, generally speaking, digitization is what separates fintech firms, products, and institutions from their traditional counterparts.

Dissertation

I plan to propose my dissertation on December 5th, 2018 with the committee being Chad Syverson (co-chair), Ralph Koijen (co-chair), Ali Hortacsu, Doug Diamond, and Tom Wollmann.

The dissertation will be the paper *Consumer Consideration, Online Banking, and Bank Market Power* described below. I expect to participate in the 2020 job market and defend in Spring 2020.

Relevant Working Papers

I am currently working on three papers that touch various digitization topics. In my dissertation, *Consumer Consideration, Online Banking, and Bank Market Power*, I note that consumers are generally less likely to consider online direct banks. As such, researchers and policy-makers need to account for consideration when estimating models of bank competition to get accurate estimates of bank market power and predictions for regulatory impacts. A message of this paper that applies generally is that often less price-sensitive consumers do not consider digital retailers (say an online bed-in-a-box mattress company), which gives the physical retailers additional pricing power over these consumers.

In separate work, I make use of the trove of data and ease of experimentation that digitization has brought. In *Extracting Features from Bank and Mortgage Company Commercials*, I use various machine learning algorithms to extract features from the video content of mortgage and home equity commercials. I then apply a border strategy to identify the impact of these features on origination and refinancing. In *Finding Exogenous Variation in Data*, my coauthors and I propose a method for recovering exogenous observations by fitting a nonparametric mixture model. This method is particularly suited for recovering a website's A/B tests. Namely, consider a movie recommendation website that tests its recommendation algorithm by showing random recommendations to randomly selected visitors. Even if this website does not preserve any information on these tests, a researcher with data on which movies were recommended to a set of users could identify a subset of these users who were shown random recommendations using our method.

The abstracts are:

Consumer Consideration, Online Banking, and Bank Market Power

Accurate measures of bank market power are important for anti-trust and monetary policy. However, standard measures fail to account for the fact that a given consumer only considers a subset of banks. This choice set error has grown over time with the rapid rise of online direct banks because online banks are considered by less than a quarter of Americans. I provide the first model of bank competition that incorporates limited consideration and estimate the model using US bank branch level deposits and interest rates over 2004-2018. I show that adding consideration corrects the bank market power estimates and that bank market power has been increasing over this period with the largest banks gaining significant pricing power from price-sensitive consumers switching to online banks. Using the model, I then demonstrate that this increase in bank market power has materially reduced the deposit response to changes in the Federal Funds rate and examine policies for increasing bank competition. I find that establishing a narrow bank or rolling-back regulation on mid-sized banks increases competition, but that neither policy is as effective as postal banking or the introduction of a widely-considered online bank–say an Amazon bank.

Extracting Features from Bank and Mortgage Company Commercials

Recent advances in machine learning have made it possible to extract rich data features from video. These techniques allow for a new understanding of the role of advertising in marketing products. I demonstrate how to extract text, image, and audio features from a novel dataset of over 20,000 bank and mortgage company commercials covering the years 2004 to 2015. I then apply these features to show how commercials impact mortgage and home equity loan origination and refinancing.

Finding Exogenous Variation in Data with George Gui and Ali Hortacsu

We reconsider the classic problem of recovering exogenous variation from an endogenous regressor. Two-stage least squares recovers exogenous variation through presuming the existence of an instrumental variable. We rely instead on the assumption that the regressor is a mixture of exogenous and endogenous observations–say as the result of temporary natural experiments. With this assumption, we propose an alternative two-stage method based on nonparametrically estimating a mixture model to recover a subset of the exogenous observations. We demonstrate that our method recovers exogenous observations in simulation and can be used to find pricing experiments hidden in grocery store scanner data.