

Research Statement

I am an applied microeconomist with research interests in Political Economy, Environmental, and Public Economics. My work uses novel datasets to trace new channels through which firms lobby government and shape regulatory policy. By demonstrating how firms can exert hidden influence on regulators – separate from the traditional lobbying of politicians – these findings contribute to policy debates on anti-trust, corporate philanthropy, lobbying, and freedom of speech.

In my job market paper *Hall of Mirrors: Corporate Philanthropy and Strategic Advocacy* (with Marianne Bertrand, Matilde Bombardini, Raymond Fisman and Francesco Trebbi) we build a dataset which links financial donations by firms to non-profit organizations, comments submitted to U.S. federal agencies under the *Administrative Procedures Act* for federal rulemaking, and the text of final regulations that are published subsequent to the comments. This dataset is completely novel, and regulators are unlikely to be aware of the financial ties that we have uncovered. We report three sets of findings that are consistent with the view that non-profits comment in ways that favor their benefactors, and firms make strategic use of these donations to influence the design of federal regulations.

In the first part of the paper, we examine the relationship between donations and the commenting choices of non-profits. We find that non-profits are systematically more likely to comment on the same regulation as a firm shortly after receiving money from that firm. The panel structure of our data and large sample size allow us to verify this pattern holds in a variety of demanding regression specifications, including controlling for the average propensity of each firm-non-profit pair to comment on the same regulations with pair fixed effects.

In the second part of the paper, we perform content analysis on the text of the comment submitted by firms and grantees. Our goal is to measure how often comments make parallel arguments or advocate for the same outcome. We approximate this notion using Latent Semantic Analysis (LSA) with bag-of-words features. LSA is natural language processing technique that transforms complex documents into simple vector representations that encode the general topics and word frequencies in the text. Taking the cosine distance between the document LSA vectors gives us a general measure of the similarity of text between documents. We find that comments submitted by non-profits after receiving a donation are more similar to their donor firm's comments than the comment similarity of a random firm-grantee pair on the same regulation. This strongly suggests that the grantees reinforce their donor's message when they comment.

Finally, we extend the comment analysis to include the section of the final regulation document where the regulator discusses the comments received. Here the regulators summarize comments and explain their response. We expect that regulators will spend more time discussing comments that impacted the final design of the final rule, and therefore the similarity between discussion text and comments indicates which comments were more influential. We find that the regulator's discussion is more similar to a firm's comments when that firm has donated to a grantee who also commented on the regulation. We interpret this as evidence that comments from grantees provide a 'signal boost' to a firm's message and help influence the final regulatory text in a way that benefits the firm.

I am working on two additional projects that are related to how firms influence regulations. The first is an investigation into the implementation of the *Dodd-Frank Act* (*Lobbying the Dodd-Frank Act of 2010*, with Marianne Bertrand, Matilde Bombardini, and Francesco Trebbi). One of the largest regulatory interventions in the U.S. financial system since the Great Depression, the *Dodd-Frank Act* saw an unprecedented level of engagement by large and small depository institutions, nondepository financial institutions, and non-profits with major US financial regulators. We follow each regulatory stream from

initial proposal to its final version and track who lobbied, who submitted comments, and who had face-to-face meetings with regulators during the rulemaking process. We examine which banks exerted the largest influence in shaping the final rules and which elements of the law were most effectively neutered and modified. We develop case studies of key regulations to understand how banks succeeded in watering down the final implementation of the Act.

The second work in progress is an investigation of the Clean Power Plan and several other major Environmental Protection Agency (EPA) regulations under the *Clean Air Act* (with Nouri Najjar). For these regulations, the EPA predicted the impacts of each rule with detailed plant-level modelling of the entire electricity sector. We link real plants to both their owners and their fictional counterparts in the EPA's models to produce firm-level data on the expected impacts of each regulation. This gives us an unusually precise measure of each rule's heterogeneous regulatory impacts. We explore who chooses to lobby and comment, and how firm strategies relate to the magnitude, sign, and uncertainty of the expected impacts. We contribute to the lobbying literature by providing further evidence of the large fixed costs to lobbying – whether a firm lobbied in the past is a much better predictor of their lobbying behavior than the impact of the current regulations.

These projects – my job market paper in particular – were made possible by tools I have developed for collecting digitized documents and organizing them into structured relational data, as well as machine learning techniques for extracting quantitative information from large quantities of text. These tools and techniques allow me to take large collections of potentially disorganized and complex documents and construct useful measures for analysis. The regulatory comments dataset we use in my job market paper links over 700,000 Federal Register documents to almost 7 million comments submitted to U.S. regulators by individuals and interest groups, including over 10 million pages of comment text. To construct this dataset, I had to scrape data from two government databases, develop a tool to identify organization names in comment metadata, develop another tool to perform efficient fuzzy matching for millions of organization names, and develop an algorithm for linking related regulation documents based on incomplete and sometimes unreliable identifiers. The completed dataset is unique in its scope and valuable in several ways. I have additional research projects planned which will capitalize on this investment.

There is growing concern among economists that markets in the U.S. are becoming highly concentrated, and that this concentration may have negative effects on consumer welfare. I am additionally concerned about the implications for regulatory capture and political influence more generally. I intend to use novel natural language processing techniques to further develop my measures of firm influence on regulators and examine whether there is any evidence for the hypothesis that regulators are more likely to be influenced, or even captured, when the firms they regulate are large and there are few competitors to provide alternative sources of industry expertise.

The tools I have developed will also allow me to efficiently construct new datasets of a similar scale in the future. I am particularly interested in exploring how firms and non-profits interact with courts using newly accessible collections of millions of court filings.