HALL OF MIRRORS: CORPORATE PHILANTHROPY AND STRATEGIC ADVOCACY*

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Information is central to designing effective policy, and policy makers often rely on competing interests to separate useful from biased information. We show how this logic of virtuous competition can break down, using a new and comprehensive data set on U.S. federal regulatory rulemaking for 2003–2016. For-profit corporations and nonprofit entities are active in the rulemaking process and are arguably expected to provide independent viewpoints. Policy makers, however, may not be fully aware of the financial ties between some firms and nonprofits—grants that are legal and tax-exempt but hard to trace. We document three patterns that suggest that these grants may distort policy. First, we show that shortly after a firm donates to a nonprofit, the nonprofit is more likely to comment on rules on which the firm has also commented. Second, when a firm comments on a rule, the comments by nonprofits that recently received grants from the firm's foundation are systematically closer in content to the firm's own comments, relative to comments submitted by other nonprofits. Third, the final rule's discussion by a regulator is more similar to the firm's comments on that rule when the firm's recent grantees also commented on it. *JEL Codes:* D72, P48.

I. INTRODUCTION

Economists and political scientists have long studied—theoretically and empirically—the role interest groups play in the formation of laws and regulations (Olson 1965; Grossman and Helpman 2001). In the U.S., as in many democracies, there are

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well-established channels through which interest groups try to influence the laws and rules that may impact their communities, their businesses, and society at large. Through means such as lobbying, grassroots campaigns, testimonies, and public advocacy, interested parties inform politicians and bureaucrats of the costs and benefits of government action.

While interest groups may have expertise on topics of direct relevance to them, they may also be tempted to present information that is tainted by self-interest. This logic is at the core of the literature on informational lobbying.[1] Government officials must therefore weigh both the quality of information and its impartiality, based in part on its source. As such, policymakers may view information provided by for-profit corporations as less credible if that information is not corroborated by other groups with nonaligned interests. Nonprofit organizations often represent interests that are unaligned with business.[2] Some nonprofits—such as research groups and think tanks—are providers of nonpartisan, technical expertise and are commonly expected to offer a more neutral perspective. Other nonprofits—such as environmental groups, social welfare organizations, and advocacy groups—may have opposing interests to business, to the extent that laws or regulations that benefit their members constrain business profits. Overall, nonprofit organizations may therefore play an important balancing role in the informational lobbying process.

This role can be affected, or even subverted by the financial ties between corporations and nonprofits, when unknown to government regulators and lawmakers.

There exists extensive anecdotal evidence that such concerns are well-founded, as journalists and researchers have uncovered numerous cases of firms using charitable contributions to co-opt

1. By informational lobbying, we refer to the broad literature on strategic information transmission, which encompasses cheap talk and costly signaling models in the context of lobbying. For a complete discussion, see chapters 4–6 in Grossman and Helpman (2001). Early examples include Potters and Van Winden (1992), Austen-Smith (1993, 1995) and Lohmann (1995).

2. As Rose-Ackerman (1996, 716) suggests for interactions with consumers, a rationale is that they "may favor non-profits because they believe that they have less incentive to dissemble because the lack of a profit motive may reduce the benefits of misrepresentation." Easley and O'Hara (1983) also emphasize the role of informational asymmetries. However, ameliorating informational problems is only one of the benefits of not-for-profit status. Other organizational rationales are explored in Glaeser and Shleifer (2001) and Glaeser (2002).

ostensibly neutral and even nonaligned nonprofits across a range of issues and regulatory agencies. Many of these examples involve persuasion-via-donation in public health debates. Jacobson (2005) describes a ("no-strings attached") $1 million donation from Coca-Cola Foundation to the American Association of Pediatric Dentistry (AAPD). The gift was accompanied by a shift in the tone of AAPD statements on sugary beverages, from describing soft drinks as "a significant factor" in tooth decay to describing the scientific evidence of the relationship as "unclear."[3] Similar concerns have been raised with respect to the role of donations from corporations to university research hospitals.[4] A second set of examples comes from oil, chemical, and utility companies' opposition to more stringent environmental regulations. A noteworthy set of cases involved utility companies' provision of financial support to local chapters of the NAACP, then soliciting their support in pushing for fossil fuel–friendly regulations (Anderson et al. 2019). The practice was sufficiently widespread that the NAACP national office issued a white paper describing—and denouncing—such practices. We provide further detail on these and other case studies in Section VII.

The context of U.S. federal regulation, with its far-reaching economic implications and carefully documented record of communication between private organizations and government agencies, offers an ideal setting to establish evidence pertinent to the interactions of for-profit and not-for-profit entities vis-à-vis the government. U.S. federal agencies are legally required to publish proposed rules in the Federal Register, accept public comments on those proposed rules, and consider these comments before rules are finalized.[5] Although there is no legal requirement for agen-

3. A more direct link to policy can be found in the soda industry's efforts against New York City's ban on large sugary drinks in the 2010s. In his decision to strike down the Bloomberg administration policy, the presiding judge cited amicus briefs filed by two New York nonprofits (the local chapter of the NAACP and the Hispanic Federation), which argued that the ban would disproportionately affect ethnic and racial minority groups. Both nonprofits were recipients of funds from Coca-Cola and PepsiCo. See New York Times (2013). Aaron and Siegel (2017) show that 95 national public health organizations received funding from Coca-Cola and PepsiCo during 2011–2015; the study does not, however, look at the effect on organizations' publicly stated positions.

4. See, for example, Harris (2008); Piller and You (2018). See also Angell (2000).

5. The Administrative Procedures Act of 1946, 5 U.S.C. 553(c) states: "the agency shall give interested persons an opportunity to participate in the rule

cies to act on feedback received in the comments, the agencies often attribute changes between proposed and final rules to arguments made via rulemaking (Yackee 2019).[6] As emphasized by Sunstein (2012, 1854), public commentary is also a valuable source of feedback to preempt regulatory mistakes "when the stakes are high and the issues novel." We focus on this environment for our analysis.

The government repository, regulations.gov, provides the largest source for comment information on proposed rules. Our comprehensive data set includes the vast majority of the comments submitted in the rulemaking process since 2003 and all related regulatory material. For each comment, we observe the proposed rule pertinent to that document, the identity of the commenter, and the content of the comment itself. We use natural language processing and machine learning tools (most of them customized to our environment) to standardize, clean, and analyze the corpus of all the comments and rules in our sample.

We complement the commentary data with information on corporate foundations and their beneficiaries, using data on charitable donations by foundations linked to corporations in the S&P 500 and Fortune 500 between 1995 and 2016 through detailed tax forms filed with the Internal Revenue Service (IRS).

We document three robust patterns. First, we show that nonprofits are more likely to comment on the same regulation as their donors, and that this "co-commentary" is most strongly associated with donations in the year immediately preceding the comments. This result survives the inclusion of firm-grantee fixed effects and hence controls for the general tendency of some firm-nonprofit pairs to be both financially connected and active on

making through submission of written data, views, or arguments with or without opportunity for oral presentation. After consideration of the relevant matter presented, the agency shall incorporate in the rules adopted a concise general statement of their basis and purpose." https://www.law.cornell.edu/uscode/text/5/553 (accessed May 2, 2021). There are some exceptions for urgent actions or cases in which the change is so trivial that the agency does not expect comments, but in general, agencies that fail to publish a sufficiently informative proposal or fail to follow the commenting procedure can have their regulations vacated in court.

6. For instance, the U.S. Food and Drug Administration states on their website: "these suggestions can, and do, influence the agency's actions." See https://www.fda.gov/drugs/drug-information-consumers/importance-public-comment-fda (accessed May 1, 2021).

similar regulatory issues. The effect is large: a donation in the preceding year is associated with a 76% increase in the likelihood of co-commentary. It should be noted that co-commentary is not a rare event: about 10% of the average firm's comments have a co-comment by grantees they recently supported.

In our second set of results, using natural language processing tools, we show that the content of comment pairs from firms and nonprofits linked via charitable donations tend to be more similar relative to any other pairs of comments on the same proposed rule. Importantly, the timing of this relationship parallels that of our first set of findings: co-comments in the year immediately following a donation are the most similar, even controlling for the average tendency of a given grantee-firm pair to share similar language. We investigate the semantic orientation of the comments and show that the comment similarity for firm-grantee pairs does not result from comparably worded comments that express opposing sentiment.

Our third main empirical finding is that co-commenting relationships matter for the rules eventually finalized in the U.S. Code of Federal Regulations. Focusing on all comments made by firms in our data set, we show that if the recipient of a recent donation commented on the same proposed regulation as its donor firm, the language of the agency discussion of the final rule is more closely aligned with the firm's comment relative to the comments of other firms. This result is also confirmed when we focus on whether the regulator cites that specific firm in its discussion of the final rule. At the very least, it appears that the firm can obtain more attention from the regulator in finalizing the rule.

The welfare consequences of the patterns we document depend crucially on the theoretical mechanism that produces them. We believe there are two primary theoretical interpretations of our findings that warrant discussion:

i. A "comments-for-sale" view offers the least benign interpretation (in social welfare terms) of our results. Grantees may be simply be "for sale" and willing to change the content of their comments to regulators in exchange for corporations' financial support. Under this interpretation, donations buy comments of certain nonprofits. Some of the examples discussed above and in Section VII underscore this mechanism.

ii. A "comments facilitation" view is more benign. Donations may serve to relax the budget constraints of selected grantees. As new regulations are proposed, a firm precisely targets donations toward nonprofits that happen to be aligned with its interests at that particular point in time. This funding does not result from an expectation that grantees will change the content of their comments in a quid pro quo sense, but because the firm wishes to financially buttress nonprofits presenting an independently similar viewpoint to regulators.

We make two observations on this second, more benign mechanism. First, in Section IV we observe a greater similarity in co-comments between a firm and its grantees following a donation, even relative to the average co-comments made by the same pair when not immediately preceded by a donation. This pattern is also observed in a relatively narrow set of regulatory issues. We acknowledge that these findings admit the possibility that even within a narrow category of issues, a firm may support nonprofits only when a topic of particular alignment suddenly arises. However, the likelihood of such precise targeting needs to be taken into account in evaluating its plausibility. Second, there still may be negative welfare consequences under this more benign interpretation if the donation affects the probability of commenting. Even without a change in the content of comments, when regulatory agencies are not aware of the financial ties between firms and grantees, they misread the signal from a grantee's decision to comment. One can show that as long as the regulator has a less than perfect knowledge of these financial ties (a realistic assumption given the complexity of the data), welfare losses are to be expected under theoretically plausible circumstances.[7] Firms appear aware of this mechanism. In leaked documents describing Monsanto's funding of grantees that would advocate against the banning of its controversial pesticide, Roundup, a Monsanto

7. A parsimonious theoretical framework in the working paper version of our article (Bertrand et al. 2018) illustrates this point. These results do not hinge on the outright distortion of the stance of beneficiary nonprofits, but result from the selective subsidy of communications only offered to a favorable subset of third-party advocates. This simple framework also shows conditions under which welfare losses from subsidizing nonprofit commentary may be less of a concern and when they can be ameliorated by disclosure.

executive states that "the key will be keeping Monsanto in the background so as not to harm the credibility of the information."[8]

Our findings, first and foremost, provide a contribution to the literature on the mechanisms by which interest groups seek to influence government policy (for canonical early contributions see Grossman and Helpman 1994, 2001, and for a more recent discussion Baumgartner et al. 2009; Bertrand, Bombardini, and Trebbi 2014; Drutman 2015). We differ from much of this prior work in our focus on influence via expert commentary, rather than financial contributions and, much more important, in documenting one mechanism by which private interests may cloak biased advice by inducing its provision by a nonobviously aligned party. This finding has implications for how we model the process of governmental information acquisition (Austen-Smith 1993; Laffont and Tirole 1993) and is also of direct policy relevance for corporate disclosure requirements (Bebchuk and Jackson 2013; Peng 2016).

Our work is related to prior research that has shown the value of coalitions of diverse interest groups in the adoption of government policy. The benefits of counteracting advocacy have an established rationale in information economics and political economy. Early theoretical explorations include Becker (1983), Austen-Smith and Wright (1994), Dewatripont and Tirole (1999), and Krishna and Morgan (2001). Empirical applications include work focused on the rulemaking phase of Title IX of the Dodd-Frank Act of 2010 (Gordon and Rosenthal 2018). In another study on legislation introduced in Congress between 2005 and 2014, Lorenz (2020) shows that bills supported by interest-diverse coalitions are more likely to receive committee consideration; in contrast, Lorenz (2020) finds no association between committee consideration and lobbying coalitions' size or their interests' PAC contributions. Generalizing beyond the lawmaking process, this prior work complements our findings, in that it suggests that corporations can expect some return for the type of charitable "investments" we uncover in this article.[9]

From a welfare perspective, we wish to understand potential subversion of the regulatory and rulemaking process due to

8. Monsanto, email, November 30, 2010, "re: Questions". Available at https://usrtk.org/wp-content/uploads/2016/01/SachsAR.pdf. See also Gillam (2017) for a discussion.

9. Other papers that focus on the returns to lobbying include Bombardini and Trebbi (2011, 2012), Kang (2016), Kang and You (2016).

distortions in information and beliefs. These are concerns that add to issues of pure regulatory capture (Stigler 1971; Peltzman 1976) and are complementary to issues of enforcement vis-à-vis the courts (Glaeser and Shleifer 2003). Our analysis may also contribute to understanding the complex problem of cognitive or cultural capture of regulators, highlighted by Johnson and Kwak (2010) and Kwak (2014), in providing a mechanism through which regulators' and special interests' beliefs become more strongly aligned.

Finally, our article expands on earlier work highlighting how corporations may strategically use their corporate philanthropy as an undisclosed tool of political influence. Bertrand et al. (2020) show that corporations allocate more of their charitable giving to congressional districts that are more relevant to the corporations as a result of the committee assignments of their elected representatives. We identify another independent mechanism for "strategic" corporate philanthropy (Baron 2001) in the government arena.[10]

II. Institutional Context and the Data

II.A. Rulemaking Process

The rulemaking process of U.S. federal agencies provides a context in which we may observe both the presence and the content of communication by different entities with interests in influencing the policy maker. While lobbying at the federal or local level does not come with statutory requirements of disclosure of the content or even the exact target of communication, the rulemaking process consists of a series of codified procedures that regulate the activity of federal agencies in the production of "rules" under the Administrative Procedure Act (APA) of 1946.[11]

The subject of policy deliberation is a rule "designed to implement, interpret, or prescribe law or policy," according to the APA. The rulemaking process may be set in motion by the passage of a new law in Congress, which then requires implementation, or

10. See Kitzmueller and Shimshack (2012) for a broader review of corporate philanthropy and corporate social responsibility.

11. Under the Lobbying Disclosure Act of 1995, lobbying registration and reporting forms only require lobbyists to list the topic and the agency lobbied (e.g., Trade, the Senate of the United States), in addition to clients and payments. See Blanes i Vidal, Draca, and Fons-Rosen (2012) and Bertrand, Bombardini, and Trebbi (2014).

by an agency itself, upon surveying its area of legal responsibility and identifying areas that need new regulations.[12] The rulemaking process starts with a Notice of Proposed Rulemaking (NPRM), which includes the objective of the rule and how it would modify the current Code of Federal Regulations. The NPRM is published in the *Federal Register*, at which point the agency specifies a period of 30 to 60 days during which the public can submit comments on the proposed rule.[13]

This notice and comment process is designed to alleviate the informational problem in federal regulatory agencies. These provisions, explicitly delineated in the APA, are fundamental to U.S. public administration rulemaking (Strauss 1996) and provide an opportunity for protection of consumer and private interests in an environment where regulators are typically nonelected and not directly accountable to voters (Besley and Coate 2003).

After comments have been received and additional information collected, the agency may proceed to publish a final rule in the *Federal Register* or issue a Supplemental Notice of Proposed Rulemaking if the initial rule was modified substantially, in which case further comments are invited. This notice-and-comment procedure aims to include the general public and all interested parties in the crafting of the new rule. Importantly, accompanying the final rule, the agency also provides a discussion of the goals and rationale of the policy, and how the comments were incorporated into the final rule; this discussion is published in the rule's Supplementary Information section. Upon finalization of the rule, comments represent part of the official record, and rules can be challenged judicially on procedural or substantive grounds based on comments filed by entities that participated in the process. Judicial review is an important constraint to rulemaking activity in the United States in that it effectively forces regulators to attend to opinions expressed via commentary.

12. Agencies may decide to engage in rulemaking under the recommendation of congressional committees, other agencies, or following a petition from the general public. Only about a third of rules originate via legislation; see West and Raso (2013).

13. Some complicated rules may have much longer comment periods, as a result of multiple stages of the rulemaking process. A rule may start, for example, with an Advance Notice of Proposed Rulemaking document, followed by an initial proposal, then perhaps an updated proposal, and then finally a rule. Each stage might have its own comment period, and the stages could extend over multiple years.

II.B. Institutional Context for Firm-Nonprofit Interaction

In accordance with the APA, regulators are required to weigh public interest in their rulemaking decisions. Consequently, broad coalitions of multiple stakeholders may provide particularly relevant input into a regulatory agency's deliberations. Firms thus have an incentive to mobilize such coalitions to support their positions on specific rules. In the literature on lobbying, such coalitions have empirically shown a degree of success beyond the individual organization,[14] with a particular advantage accruing to more heterogeneous coalitions (Lorenz 2020).[15]

A firm may plausibly enlist the support of a nonprofit in the context of these public policy campaigns. As discussed in Bertrand, Bombardini, and Trebbi (2014), large corporations, such as the ones we study here, retain in Washington both in-house government relations specialists and lobbyists, who monitor government agencies on a daily basis. In anticipation of relevant regulatory or legislative activity, specialists and a host of firms' allies are activated (Baumgartner et al. 2009), including nonprofits, to organize public policy campaigns. As discussed in the introduction, activating arm's-length nonprofits may be particularly beneficial to a firm, due to the tax exemption from charitable grants and lower disclosure requirements, which are both distinctive advantages relative to federal lobbying expenditures, for instance.

In the analysis that follows, we consider the relationship between a firm and a given nonprofit as captured by charitable grants, which may be used in the context of these campaigns (though we do not suggest that all corporate philanthropy is politically motivated). We focus on changes around regulatory actions within a firm-grantee pair, rather than on the composition of a firm's broad coalition of allies, because of the more precise identification this within-pair variation affords to us (see Sections IV and V). In fact, such coalitions change issue by issue and are frequently covert (Mahoney and Baumgartner 2015). Section VI also investigates whether firms engaging a grantee through a donation receive more attention in an agency's discussion of a final rule than other firms commenting on the same rule.

14. See, for example, Nelson and Yackee (2012) and Bombardini and Trebbi (2012).

15. See also DeGregorio (2010) and Mahoney and Baumgartner (2015) and Phinney (2017).

II.C. Data

1. Charitable Giving by Foundations. The starting point for our sample is the set of corporations that have appeared at any point during the period 1995–2016 in the Fortune 500 or S&P 500 lists, which collectively include 1,397 firms.[16] Data on charitable donations by corporate foundations come from FoundationSearch, which digitizes publicly available Internal Revenue Service (IRS) data on the 120,000 largest active foundations in the United States. We find 645 active foundations that can be matched by name to 532 of the initial list of 1,397 firms, some of which have more than one foundation.[17]

Each charitable foundation must submit Form 990/990 P-F "Return of Organization Exempt From Income Tax" to the IRS annually, and this form is open to public inspection. Form 990 includes contact information for the foundation, as well as yearly total assets and total grants paid to other organizations. Schedule I of Form 990, titled "Grants and Other Assistance to Organizations, Governments, and Individuals in the United States," specifically requires the foundation to report all grants greater than $5,000. For each grant, FoundationSearch reports the amount; the recipient's name, city, and state; and a giving category created by the database.[18]

While the IRS assigns a unique identifier (Employer Identification Number, EIN) to each nonprofit organization, Schedule I does not include this code, so we rely on the name, city, and state information to match a grantee to a master list of all nonprofits. This list, called the Business Master File (BMF) of Exempt

16. The initial number of firms is 1,434, but we combine firms that merge during the sample period.

17. As noted in Brown, Helland, and Smith (2006), larger and older companies are more likely to have corporate foundations, which may partly result from the fixed cost of establishing a foundation. Thus, the channel of influence we uncover in our study may be more readily available to larger firms, and further hamper the ability of smaller firms to compete on a level playing field. Brown, Helland, and Smith (2006) also find that state-level statutes – in particular laws relating to shareholder primacy and the ability of firms to consider broader interests in business decisions predict establishment of a foundation. Various endogenous financial variables are also predictive of foundation establishment. The analysis in Brown, Helland, and Smith (2006) is cross-sectional, so their variables are absorbed by the various fixed effects in many of our analyses.

18. The 10 broad categories are: Arts and Culture, Community Development, Education, Environment, Health, International Giving, Religion, Social and Human Services, Sports and Recreation, and Miscellaneous Philanthropy.

Organizations, is put together by the National Center for Charitable Statistics (NCCS) primarily from IRS Forms 1023 and 1024 (the applications for IRS recognition of tax-exempt status). The BMF file reports many other characteristics of the recipient organization, including address, assets, and nonprofit sector code called the National Taxonomy of Exempt Entities (NTEE). The results of the matching between all public charities, private foundations or private operating foundations (designated as 501(c)(3) organizations for tax purposes) in the BMF and the recipients of charitable giving by Fortune 500 and S&P 500 companies is described in detail in Bertrand et al. (2020).

Finally, note that direct charitable giving by firms (that is, not through their charitable foundations) or large charitable grants by executives of the firms are unfortunately not traceable and are thus excluded from the analysis. As we emphasize in Bertrand et al. (2020), while influence via corporate foundation giving is hard to trace, direct giving is even more difficult to observe. We might expect that attempts at influence that the firm feels even more compelling to hide from view would occur via these other channels, and thus not show up in our analysis.

2. Comments and Rules. The source of data on regulatory comments is regulations.gov, a website through which the majority of U.S. federal agencies collect public comments in the notice-and-comment phase of rulemaking.[19] The regulations.gov API provides a search function for document metadata, which allows us to identify all comments submitted and stored on the site. Our initial comment sample consists of all comments posted to regulations.gov in 2003–2016. We use a custom machine learning tool to extract organization names from the comment metadata. The algorithm identified 981,232 comments that appear to be authored by organizations (as opposed to private individuals), and we downloaded the full text of these organization comments. We are particularly interested in comments submitted by nonprofits and by corporations that we observe in our FoundationSearch sample. The comments are linked to corporations' and grantees' names through a custom name-matching tool that implements multiple types of fuzzy matching and manual corrections.[20]

19. A detailed description of our data set construction is offered in Online Appendix A.

20. Available at https://github.com/bradhackinen/nama.

Comments on regulations.gov are organized into folders called "dockets" created by agencies to hold documents related to a narrow topic, usually a single proposed rule or a sequence of rulemaking documents that culminate in a final rule. For example, docket FNS-2006-0044 from the Food and Nutrition Service (FNS) contains only proposed rule 06-09136, "Fluid Milk Substitutions in the School Nutrition Programs," and the comments submitted regarding that proposal.[21] We rely on the agencies' classification and refer to each of these dockets on a homogeneous topic as a rule.[22]

In the last section of the article, we examine the wording of the discussion of final rules as a function of corporate and nonprofit comments. Rulemaking documents such as proposed rules, final rules, and notices are published in the Federal Register. We collect these documents in bulk XML format from the Government Print Office website, and obtain additional identifiers and metadata from the federalregister.gov website API.

Linking comments to specific rules requires additional steps, which we describe in more detail in Section V and Online Appendix A. Online Appendix B describes the tools we use in our text analysis of the comments.

3. Basic Data Facts. Recall that our sample starts with the set of companies that appeared at least once in the Fortune 500 or S&P 500 lists between 1995 and 2016. Of the 1,397 firms in that sample, we find 892 that have commented at least once in the period 2003–2016.[23] This is the sample of firms that forms the basis of our regressions. We have a total of 16,008 firm comments over 5,438 rules. Of these 892 firms, 532 have a foundation. To generate the set of nonprofits for our analysis, we start from the 212,797 entities that received at least one grant from any foundation in our sample over the period 2001–2016. Our sample consists

21. There are also complex dockets that contain multiple proposed rules and notices, but these are rare and still constitute a homogeneous topic. See, for example, docket EPA-HQ-OAR-2008-0699, the Environmental Protection Agency's review of the National Ambient Air Quality Standards for Ozone.

22. Organizations sometimes submit multiple documents to a single docket in the same comment period. For example, when organizations spearhead mass letter writing campaigns, the number of unique documents can number in the thousands. To avoid giving excess weight to multiple submissions from the same organizations, we count the entire set of documents to the same rule in the same calendar year as a single comment.

23. We only consider comments starting in 2003 because this is when the comments database is complete.

of the 11,002 of these grantees that comment at least once at any point during the period 2003–2016. This restriction excludes the set of nonprofits that never receive any grants and never comment. We make this restriction in order to make the combinatorics for firm-grantee pairs tractable in terms of total number of observations, without losing any nonprofits that are active in notice-and-comment rulemaking. For our sample of grantees that do comment during our sample period, we have a total of 52,488 comments on 8,018 rules.

There is vast heterogeneity among firms in their activity in the commenting phase. The most actively commenting firm, Boeing, provided comments on 1,174 rules. On average each firm comments on almost 17 rules, but the distribution is skewed: the median firm comments on 5 rules, while the firms at the first and third quartile comment on 2 and 16 rules, respectively. The distribution of comments among grantees is even more skewed. On average, each grantee comments on almost 5 rules, but the median is 1 and the third quartile is 3 rules. The most active grantee (Center for Biological Diversity) comments on 816 rules.

Online Appendix Table C.3 lists the agencies that receive the highest number of comments from grantees and firms.[24] At the top of the list for firms are the EPA (Environmental Protection Agency), the FAA (Federal Aviation Administration), and the FDA (Food and Drug Administration). The top three agencies as recipients of grantees' comments are the EPA, the Centers for Medicare and Medicaid Services (CMS), and the FDA.

Tables I and II provide summary statistics for 2008–2014 (the period during which our data are most complete) on firm and grantee commenting and what we define as co-comments, which are cases in which firms and grantees comment on the same rule. Table I summarizes the firm side: there are 1,457.8 comments by firms in an average year (made by an average number of firm commenters of 384.4 a year, a figure not reported in the table). On average, a firm comments on 1.9 rules a year. Of these rules, 1.3 received comments from nonprofits. Of particular interest is the further subset of 0.3 rules that received comments from the firm's grantees (the number is 0.2 if we consider grantees that received recent donations[25]). Overall, about 10% of the average

24. Agency acronyms are listed in Online Appendix Tables A.2 and A.3.

25. A recent donation, as we discuss later, refers to a grant received in the year of the comment or the year before.

TABLE I

ANNUAL FIRM COMMENT COUNT DISTRIBUTION BY COMMENTING RELATIONSHIP

	Annual firm comment counts (rules per firm/year)[a]							
Annual comments from each firm on	Mean (1)	Std. dev. (2)	Min (3)	Max (4)	P50 (5)	P90 (6)	P99 (7)	Total[b] (8)
Any rule	1.9	4.9	0.1	108.4	0.6	4.4	20.1	1,457.8
Rules where at least one grantee also comments	1.3	2.2	0	18.9	0.6	3.4	12.3	1,051.0
Rules where at least one grantee who receives a donation from the firm at any time also comments	0.3	1.0	0	12.3	0	0.7	4.9	229.9
Rules where at least one grantee who has received a recent[c] donation from the firm also comments	0.2	0.7	0	10.9	0	0.3	3.3	136.3

Notes. This table summarizes the number of comments submitted by each firm in a representative year (computed as the average across 2008–2014, the period during which our data are most complete).

[a] Each firm-rule-year observation is counted as one comment. Firms that submit multiple documents (or multiple form letters as part of a coordinated campaign) on the same rule in the same calendar year are counted as submitting one comment on that rule.

[b] Total comment count for all firms in our sample.

[c] We use the term "recent" to refer to any donation that occurs in the same or previous calendar year relative to the comment year.

TABLE II

ANNUAL GRANTEE COMMENT COUNT DISTRIBUTION BY COMMENTING RELATIONSHIP

	Annual grantee comment counts (rules per grantee/year)[a]							
Annual comments from each grantee on	Mean (1)	Std. dev. (2)	Min (3)	Max (4)	P50 (5)	P90 (6)	P99 (7)	Total[b] (8)
Any rule	0.6	1.9	0.1	71.6	0.1	1.0	6.1	5,073.0
Rules where at least one firm also comments	0.3	1.1	0	32.6	0.1	0.6	4.0	3,040.0
Rules where at least one firm who donates to the grantee at any time also comments	0.1	0.8	0	33.1	0	0.3	2.9	1,255.6
Rules where at least one firm who has recently[c] donated to the grantee also comments	0.1	0.5	0	31.4	0	0.1	1.4	645.6

Notes. This table summarizes the number of comments submitted by each grantee in a representative year (computed as the average across 2008–2014, the period during which our data are most complete). The set of grantees include those that comment on at least one rule during 2003–2016.

[a] Each grantee-rule-year observation is counted as one comment. Grantees that submit multiple documents (or multiple form letters as part of a coordinated campaign) on the same rule in the same calendar year are counted as submitting one comment on that rule.

[b] Total comment count for all grantees in our sample.

[c] We use the term "recent" to refer to any donation that occurs in the same or previous calendar year relative to the comment year.

firm's comments have a co-comment by grantees they recently supported.

Table II presents the analogous breakdown of commenting for grantees. We note that of the average annual number of comments (5,073 from 2,516.7 annual grantees, the latter figure unreported in the table), 1,255.6 (almost 25%) come from grantees that have received at least one donation from our sample of firms, and 645.6 (almost 13%) come from grantees that received a recent donation. It is interesting to compare the total number of annual comments by firms (1,457.8) to the number of comments by recent grantees (645.6) which, as we will see, submit comments with similar content.

Finally, Table III presents annual donations, which average $9 million per firm, and the donations associated with grantees that comment on the same rules as the firm, which average $700,000. The average firm contributes 8% of its funds to grantees who comment on the same rules (16% to grantees commenting to the same agency). We can conclude that co-commenting represents a meaningful share of both firms' and grantees' activity. Online Appendix Tables C.1 and C.2 report the same firm commenting and co-commenting quantities for rules that have been classified as "significant" under Executive Order 12866, because of the scale of their impacts.[26] Significant rules make up approximately 10% of all rules that receive at least one organization comment, but they receive almost half of all firm comments. Within significant rules, for every five firm comments received by a regulator, the regulator also receives three comments from nonprofits with a financial tie to the firms they are co-commenting with, roughly half of these involving a donation in the concurrent or previous year (i.e., a recent donation).

It is useful to compare the dollar amounts of these donations with federal lobbying expenditures, using a data set maintained by the Center for Responsive Politics.[27] The amount that firms in our sample spent lobbying all federal institutions during our reference period (2003–2014) was $772 million a year. Assuming that those funds were split evenly among all of the institutions listed in each lobbying report filing, we obtain a rough estimate of $538 million a year spent by our sample firms lobbying our

26. One common reason for being classified as significant is that the rule has "an annual effect on the economy of $100 million or more."

27. See https://www.opensecrets.org/federal-lobbying (accessed May 4, 2021).

TABLE III

ANNUAL FIRM DONATION DISTRIBUTION BY COMMENTING RELATIONSHIP

	Annual donations (millions $/year)							
Annual donations from each firm to	Mean (1)	Std. dev. (2)	Min (3)	Max (4)	P50 (5)	P90 (6)	P99 (7)	Total[a] (8)
All grantees	9.0	29.1	0	407	2.3	18.7	124.9	3,430.0
Grantees that comment at least once	2.5	7.5	0	78.4	0.5	5.2	39.5	936.1
Grantees that ever submit a comment to the same agency as the firm	1.4	5.9	0	77.4	0.1	2.5	30.3	544.3
Grantees that ever comment on the same rule as the firm	0.7	4.3	0	75.4	0	0.9	12.8	247.4

Notes. This table summarizes the distribution of annual firm donations for a representative year for our sample of firms that comment at least once (computed by averaging across years 2008–2014, the period during which our data are most complete).

[a] Total donations for all firms in our sample.

sample agencies. The equivalent estimate for the total amount of money donated to nonprofits that co-comment with their donor firms is $251 million, or about 47% of total federal lobbying expenditures. For an additional comparison, firm political action committee (PAC) campaign contributions in a typical congressional cycle average 10% of total lobbying expenditures, or about a fifth of the donations that we consider in this article.

III. Evidence Based on Charitable Giving and Nonprofit Commenting on Regulations

This section focuses on the link between firms and nonprofits through charitable grants, and establishes a relationship between firm-grantee financial ties and their tendency to comment on the same regulations. We denote firms/foundations by $f \in F$ and grant-receiving nonprofits (grantees) by $g \in G$. The following analysis employs all firms and nonprofits available in our data sets, which includes the 11,531 nonprofits that receive at least one grant from any charitable foundation in our sample and that comment on at least one rule since 2003.

Let D_{fgt} be an indicator function that takes a value of 1 if we observe a donation from firm f to grantee g in year t, and 0 otherwise. The indicator function C_{frt} is equal to 1 if firm f comments on rule r in year t, and 0 otherwise. The indicator function C_{grt} is defined similarly and is equal to 1 if grantee g comments on rule r in year t, and 0 otherwise. We define $CC_{fgrt} = C_{frt} \times C_{grt}$ as an indicator equal to 1 when donor f and grantee g comment on the same rule r at time t. We adopt two types of specifications: a "co-commenting" specification and a "rule" specification.

III.A. Co-Commenting Specification

We begin by relating the event of a firm and a grantee commenting on the same rule to a recent financial tie between the two in the form of a charitable donation. In particular, we examine whether co-commenting is more likely in the year of or year immediately following a donation.

Let $CC_{fgt} = I\left(\sum_r CC_{fgrt} > 0\right)$ indicate whether firm f and grantee g comment on the same rule at time t. Our benchmark specification is:

$$CC_{fgt} = \beta_0 + \beta_1 D_{fgt-1} + \delta_{fg} + \delta_t + \varepsilon_{fgt}, \tag{1}$$

TABLE IV
CO-COMMENTING: RECENT DONATION

Dependent variable:	Firm f and grantee g commented on the same rule in year t ($\times 100$)			
Mean	0.175			
	(1)	(2)	(3)	(4)
Firm f contributed to grantee g in year t or $t-1$	1.167***	0.727***	0.133***	0.080**
	(0.038)	(0.035)	(0.038)	(0.036)
Fixed effects				
Year	Y	Y	Y	
Grantee		Y		
Firm		Y		
Grantee-firm pair			Y	Y
Grantee-year				Y
Firm-year				Y
Observations	122,287,230	122,287,230	122,232,220	122,232,220
R^2	0.003	0.019	0.133	0.201

Notes. The dependent variable is equal to 100 if grantee g and firm f comment on the same rule r in year t. The independent variable is equal to 1 if grantee g received a donation from firm f at year t or $t-1$. The sample includes the set of firm-grantee pairs constructed as follows: foundations whose firms comment on at least one rule during 2003–2016, and these foundations' grantees who commented on at least one rule during the same period. Standard errors are clustered at the grantee-firm pair level. *** $p < .01$, ** $p < .05$, * $p < .1$.

where δ_{fg} indicates firm-grantee pair fixed effects, δ_t time fixed effects, and D_{fgt-1} is equal to 1 if we observe a donation from f to g in the year that is concurrent with (t) or preceding ($t-1$) the comments, and 0 otherwise. We group together years t and $t-1$ donations due to the coarseness of the data along the time dimension. We only observe the year of a comment, so it is possible for a comment to be made in, say, January 2006 and a donation in June 2006; hence we can only be certain that the lagged-year donation took place prior to co-commenting.[28]

The four columns in Table IV report different sets of fixed effects in order of increasing stringency. In column (1) we only include time fixed effects δ_t, and in column (2) we include separate grantee, firm, and time fixed effects, which account for the average tendency of certain firms and grantees to be more active in grant making and receiving and in commenting on rules.

28. In Online Appendix Table C.4 we separate contemporaneous and lagged donations and find that lagged donations strongly predict co-commenting, while contemporaneous donations are a weak predictor of co-commenting.

One may still be concerned that the pattern of co-commenting may result from firms contributing to nonprofits that share similar objectives and views, or nonprofits that operate in similar sectors. For instance, the Bayer Science & Education Foundation associated with Bayer US, a pharmaceutical company, may be more likely to donate to health care-related research nonprofits, and both Bayer and health care-related nonprofits may be more likely to comment on health care-related regulations than an average organization. For this reason, our preferred specification in Table IV, column (3) includes firm-grantee fixed effects and time fixed effects. In this specification, β_1 is estimated employing only within-pair variation over time in donations and co-commenting. In particular, β_1 will detect whether, controlling for the average tendency of a certain firm f to co-comment with and donate to a specific nonprofit g, we observe co-comments occurring immediately after a donation from f to g. Column (4) is an even more demanding specification, as we introduce grantee-year and firm-year fixed effects, which control for firm- and grantee-specific changes in commenting and giving/receiving over time. Standard errors are clustered at the grantee-firm pair level for all columns.

We find a robust and economically significant association between recent donations and the likelihood of co-commenting. Co-commenting is sparse when considering all possible firm-grantee-year triples: 0.175% feature co-commenting. In column (3), a recent donation is associated with a 76% increase in the likelihood of co-commenting, even after controlling for the general propensity of a specific firm to give to as well as co-comment with a specific grantee. Even in the saturated specification of column (4), a recent donation increases the probability of co-commenting by 46%.

As a further robustness exercise, Online Appendix Table C.4 includes, along with dummies for donations at time t and $t-1$, a dummy for whether firm f donated to g in year $t+1$. The set of fixed effects in this table is analogous to Table IV. In column (4) of that table, with the most restrictive set of fixed effects (i.e., pair, grantee-year, and firm-year fixed effects), we find that donations made immediately after the commenting period are not associated with co-commenting, whereas only immediately preceding donations are. This pattern further confirms the particular timing we emphasize here, with co-commenting more prevalent only after we observe a recent donation from firm to grantee (though it

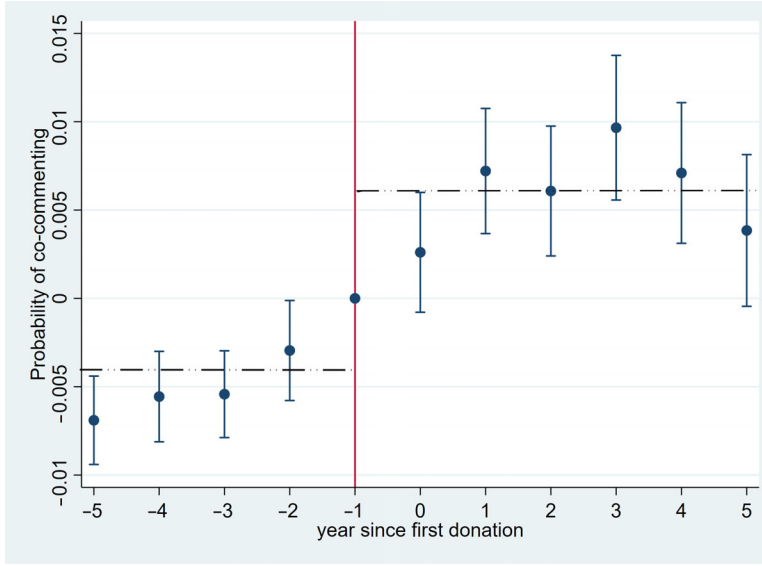

FIGURE I

Event Study for Co-Comment Activity after a Donation

The unit of observation for this analysis is the firm-grantee-year. The dependent variable is a dummy variable that equals 1 if the grantee and the firm co-comment at least once in that year, 0 otherwise. For firm-grantee pairs where there is at least one donation over the sample period, we define the event date as the time of the first donation. To focus on a subset of "clean" events, we exclude from the event study firm-grantee pairs where a second donation occurs within five years of the first donation. We further restrict the event study to firm-grantee pairs for which we have at least five years of data prior and after the the first donation. Finally, for the subsample of firm-grantee pairs that meet the above criteria for inclusion in the event study, we only include five years of data prior and after the event. Firm-grantee pairs for which we observe no donations over the sample period are used as controls. We then regress the co-comment dummy on a vector of dummies for five lead and five lag indicators, the event dummy, calendar year fixed effects, and firm-grantee pair fixed effects, clustering standard errors at the firm-grantee level. The event study graph reports the estimated coefficients on the lead, event, and lag dummies, all relative to one year before the donation, as well as 95% confidence intervals.

is theoretically possible that firms might reward nonprofits only after comments are made, in which case we would observe a positive coefficient). Figure I illustrates this intuition graphically by applying an event study approach to the data. The figure displays the sharp increase in likelihood of co-commenting relative to the period before the donation.

III.B. Rule Specification

In the specifications we have considered thus far, we have aggregated co-commenting across different rules at the firm-grantee-year (*fgt*) level. For robustness, we now present an alternative approach that allows us to control for the average level of commenting on a given rule *r*. This "rule" specification relates the probability of commenting by a grantee on *r* to donations received:

$$C_{gr} = \beta_0 + \beta_1 \underbrace{I\left(\sum_f D_{fg} \times C_{fr} > 0\right)}_{DonorComment_{gr}} + \delta_g + \delta_r + \eta_{gr}, \tag{2}$$

where C_{gr} is equal to 1 if g comments on rule r (0 otherwise) and $DonorComment_{gr} = I(\sum_f D_{fg} \times C_{fr} > 0)$ is equal to 1 if g receives a donation from any firm that comments on r, and 0 otherwise. In its most saturated version, this specification includes rule fixed effects δ_r, which capture the extent to which certain rules are subject to more intense commenting, and grantee fixed effects δ_g, to account for factors like resources and size of the nonprofit, which may make g both more visible (to corporate donors) and more likely to comment on any rule.

Table V reports estimates of β_1 under different fixed effects and with two-way clustered standard errors at the grantee and rule level. Our preferred specification in column (4) has rule and grantee fixed effects. When considering all the possible pairs of grantees and rules, we find a comment in 0.043% of cases. It is not surprising that this number is small, since the universe of all possible grantee-rule pairings involve nonprofits like, say, the Red Cross, that we would not expect to comment on, say, financial regulation. Starting from this baseline probability of commenting on a specific rule, we find that the probability that a nonprofit comments on a particular rule is 3 to 5.5 times higher when a donor firm commented on the same rule, a quantitatively sizable result that accords with our previous results under specification (1).

IV. Quantifying the Similarity in Content across Regulatory Comments

Thus far, our analysis has demonstrated that financial connections between firms and nonprofits are associated with an

TABLE V

COMMENTING ON RULES

Dependent variable:	Grantee g commented on rule $r \times 100$			
Mean	0.043			
	(1)	(2)	(3)	(4)
Grantee g received donation from any firm commenting on r	0.237***	0.177***	0.209***	0.142***
	(0.022)	(0.018)	(0.022)	(0.016)
Fixed effects				
Grantee		Y		Y
Regulation			Y	Y
Observations	117,545,368	117,545,368	117,545,368	117,545,368

Notes. The dependent variable is equal to 100 if grantee g comments on rule r. The independent variable is equal to 1 if grantee g received in any year 2003–2016 a donation from a firm that commented on r. The sample includes the set of firm-grantee pairs constructed as follows: foundations whose firms comment on at least one rule during 2003–2016, and these foundations' grantees who commented on at least one rule during the same period. Standard errors are two-way clustered at the rule and grantee level. *** $p < .01$, ** $p < .05$, * $p < .1$.

increase in the propensity to co-comment on the same rules. We now show that the content of nonprofits' messages to regulators are also related to these nonprofits' financial connections to firms.

To build intuition (and without intent to claim any deliberate deception by the parties involved in this particular instance), consider the example of Bank of America's $150,000 donation to the Greenlining Institute in 2010. Bank of America is the second-largest bank in the United States by total assets and is a central player in housing finance; the Greenlining Institute is a nonprofit focused on improving access to affordable housing and credit for low-income families and minorities. In 2011 both organizations commented on the Office of the Comptroller of the Currency's Credit Risk Retention (CCR) rule, Docket ID OCC-2011-0002, initiated under the Dodd-Frank Act of 2010 (Title IX, Subtitle D, Section 941). CCR, also known as the "skin in the game" rule, imposed a 5% retention requirement on all mortgage loans originated by lenders in the United States to moderate "originate-to-distribute" moral hazard problems pervasive in the build-up to the 2008 financial crisis. The main comment submitted by Bank of America[29] observed that in relation to relaxing the definition of qualified mortgages exempted from retention requirements on the issuing bank's balance sheet (i.e., mortgages deemed safe enough to warrant exemption from the restriction): "the PCCRA provision will cause some borrowers to be unable to obtain a loan at all. In the currently tight private residential mortgage market, borrowers already must provide significant down payments." The Greenlining Institute provided a similar assessment in its comment,[30] expressing the opinion that "by raising the barrier to affordable home ownership with an unreasonable 20% down payment requirement, we will not only keep families from rebuilding after foreclosure, but we will prohibit an entire generation of first time borrowers from owning a home, despite lower home prices across the country." In sum, both organizations appeared to advocate openly for laxer definitions of the CCR exemptions, limiting the rule's bite, and allowing assets with substantially lower quality and higher risk to be exempt.[31]

29. Document ID OCC-2011-0002-0141.

30. Document ID OCC-2011-0002-0353.

31. These efforts ultimately succeeded in entirely defanging the rule. For a discussion, see Norris (2014).

In this section, we provide a framework for examining the content and textual similarity of comments filed by nonprofits and firms and show that upon receipt of a donation from a firm's foundation, comments by a nonprofit are more similar to those of its donor, suggesting that the Bank of America–Greenlining example may hold more broadly in the data.

We compute approximate measures of semantic similarity of pairs of public comments using latent semantic analysis (LSA) with bag-of-words features. LSA is an established technique in the natural language processing (NLP) literature, and it has been shown to perform well on a variety of document classification and retrieval tasks.[32] In our own tests, we found that LSA worked significantly better than some alternatives on a benchmark classification task we developed with our data (see Online Appendix B for details). We verified that we obtain very similar results when using latent Dirichlet allocation (Blei, Ng, and Jordan 2003), another popular approach to modeling document similarity (see Online Appendix D). We proceed in three steps in constructing our measures. First, we collect all comments from all organizations with at least two comments in all rules, and collapse the documents to organization-rule-year-level observations by concatenating the text from all attachments and submissions from a single organization on a given rule in a particular calendar year. We apply LSA to construct a document vector for each rule-year comment that summarizes the distribution of words in each comment. As is common in LSA, we use term frequency inverse document frequency (TF-IDF) weighting to emphasize the importance of words that appear in a small number of documents. Finally, we construct a scalar similarity measure from the cosine angle between the document vectors corresponding to firm and grantee comments and scale this measure to have a standard deviation of one across all firm-grantee co-comment pairs.

Our benchmark comment similarity specification is:

$$S_{fgr} = \beta_0 + \beta_1 D_{fgt-1} + \delta_{fg} + \delta_r + \varepsilon_{fgr}, \tag{3}$$

where S_{fgr} is the similarity of comments of grantee g and firm f commenting on the same rule r finalized in year t, D_{fgt-1} is an

32. See Dumais et al. (1988) and Deerwester et al. (1990). For a discussion of latent semantic analysis, see Dumais (2004). All details for our analysis are in Online Appendix B.

indicator variable that equals 1 if firm f donated to grantee g in either year t or year $t-1$ and 0 otherwise, and the coefficient of interest is β_1. As each rule r is finalized in a specific year t, year fixed effects are spanned by rule fixed effects and are therefore omitted. The data set we use for this analysis includes all possible firm-grantee pairs of comments conditional on commenting on the same rule r (note that this is a small subset of the firm-grantee-year data employed in the Table IV analyses, since co-commenting is a relatively rare occurrence).[33]

The results for equation (3) with separate firm, grantee, and rule fixed effects are presented in Table VI, column (1). We find that firm and grantee comments are 4.7% of a standard deviation more similar after a recent donation.

One potential concern is that the results in column (1) are driven by firms preferentially donating to grantees that have more similar comments on average. We thus include a firm-grantee pair fixed effect in column (2). This specification, with more restrictive fixed effects, exploits only variation in a firm-grantee pair over time and thus measures whether the similarity of comments is higher than average for a specific pair when there is a recent donation linking the two. A recent donation in this specification is associated with an increase in the similarity of comments by 6.1% of a standard deviation, a significant effect.

Even though we find similarity increasing after a recent donation in the fixed effect specification, it is conceivable that donations may happen only at the exact time when the firm and the grantee serendipitously agree on a specific topic of regulation. A more stringent bar to clear would be to hold the topic constant and test whether a nonprofit's comments become more similar to those of the firm after receiving a donation, relative to their standard level of similarity when commenting on that specific topic. To put it differently, we would ideally assess whether a grantee changes its position on the identical topic on which it typically comments just after receiving a donation, along the lines of the Coca-Cola and AAPD example discussed earlier.

33. As a complement to the approach in equation (3), Online Appendix E reports results from a matching estimator that only uses comments from the most similar regulations to estimate the paired untreated counterfactual. The results are consistent with the evidence reported in this section.

TABLE VI

SIMILARITY OF COMMENTS: RECENT DONATION

Dependent variable:	Similarity of comments by grantee g and firm f on same rule					
	(1)	(2)	(3)	(4)	(5)	(6)
Grantee g received donation	0.047***	0.061*	0.032*	0.057***	0.065*	0.040*
from firm f at t or $t-1$	(0.016)	(0.035)	(0.020)	(0.017)	(0.039)	(0.022)
Fixed effects						
Rule	Y	Y	Y	Y	Y	Y
Firm	Y			Y		
Grantee	Y			Y		
Firm-grantee pair		Y			Y	
Agency × NAICS × NTEEC			Y			Y
Comment style control				Y	Y	Y
Observations	168,347	71,195	81,851	168,347	71,195	81,851

Notes. The dependent variable is a similarity index between the comment of firm f and the comment of grantee g in the same rule r, scaled to have a standard deviation of one. The independent variable is equal to 1 if grantee g received a donation from firm f in the year when the comment appears or the year before. The sample includes the subset of firm-grantee observations in which firm and grantee comment on the same regulation. Standard errors use two-way clustering by rule and firm-grantee pair. *** $p < .01$, ** $p < .05$, * $p < .1$.

By construction, we do not have multiple comments on the same rule by the same entities. However, the specification in column (3) aims to approximate this thought experiment by adding fixed effects for agency (a proxy for the topic) times sector (NAICS six-digit code) of the firm times IRS's National Taxonomy of Exempt Entities Classification (NTEEC) code of the nonprofit. This specification therefore exploits only variation in similarity and donations within a set of firms, grantees, and issues that are homogeneous. We find that even in this specification, recent donations are associated with an increase in similarity.[34]

In columns (4)–(6), we maintain the specifications in columns (1)–(3) with an additional modification to the document vectors that is intended to correct for potential bias introduced by similarities in the firm's and grantee's commenting style. Here, we use the term "style" broadly to mean any aspect of the comment text that tends to be repeated across comments by the same organization. For example, there can be large differences in the amount of technical language and jargon employed by different commenters. Our solution is to control for each organization's style by subtracting their mean comment document vector from all of their comments before computing cosine similarities between document vectors (see Online Appendix B for details). The resulting similarity measure then focuses on the parts of comments that vary over time rather than fixed aspects of commenting style. We find that controlling for style in this way only increases the implied association between a recent donation and co-comment similarity.

In Online Appendix C we also present analyses that underscore the very specific timing of the link from donation to comment similarity. In particular, we modify our definition of donations to focus on the period immediately after the regulatory commenting phase. Online Appendix Table C.5 reports these results, using specifications that parallel those presented for the co-commenting results in Section IV. The estimated coefficient on future donations is much smaller in magnitude than that of recent donations, though for this set of results neither coefficient is generally statistically significant. If we run the same comment

34. Although not shown for the sake of brevity, most variation in results with different fixed effects is due to the regression specification rather than changes in the sample. The difference in results in columns (4) and (5) are one exception: the estimated change in similarity associated with a recent donation is 7.1% when using the specification from column (4) and sample from column (5).

similarity regressions on future donations alone, the estimated coefficients are small and never statistically significant (in contrast to recent donations). This placebo exercise is informative along several dimensions. Because future donations are close in time to the commentary activity but statistically and economically insignificant, these findings further assuage the concern that our results may be driven by some underlying shared tendencies of firms and grantees operating in related areas. The systematic timing of excess similarity between comments' texts just following the disbursement of a charitable grant offers more support to the view that donations provide firms with some influence over grantees' expressed viewpoints.

It is natural to ask whether an increased similarity of the text of comments necessarily implies more similar positions on an issue. We construct a test to assess the possibility that firms and grantees may employ a similar terminology, while nonetheless delivering opposing messages to regulators. Our test is based on an analysis of comment sentiment, which relies on established NLP scholarship. Semantic orientation exercises are common in the NLP literature (e.g., the unsupervised classification of book reviews as positive or negative), including applications to economics and finance, for example, in classifying monetary policy announcements as hawkish or dovish, in the study of the tone of financial news, or in partisan speech (Lucca and Trebbi 2009; Gentzkow, Kelly, and Taddy 2019).[35] Using these tools, our goal is to rule out the possibility that the comments of nonprofits receiving grants may use similar words, but express views that are in opposition to their corporate donors.

Table VII maintains the same design and structure of fixed effects as Table VI, but replaces the similarity score S_{fgr} with a semantic orientation concurrence score W_{fgr} as our dependent variable. W_{fgr} is defined as the negative absolute difference between the individual sentiment scores computed for the comments submitted by firm f and grantee g on rule r. To construct the sentiment scores of each comment, we follow Loughran and McDonald (2011) and use their recommended Fin-Neg word list and TF-IDF

35. In general, by semantic orientation we refer to the direction (polarity) of words, phrases, or longer pieces of text in a semantic space or context (e.g., friendly/adversarial, dovish/hawkish, positive/negative) calculated based on a reference lexicon of words or n-grams over which directionality is carefully labeled by a pool of researchers.

TABLE VII

COMMENT SENTIMENT ALIGNMENT: RECENT DONATION

Dependent variable:	Sentiment alignment of comments by grantee g and firm f on same rule-year					
	(1)	(2)	(3)	(4)	(5)	(6)
Grantee g received donation	−0.009	−0.040	−0.014	0.006	−0.028	−0.028
from firm f at t or $t-1$	(0.020)	(0.039)	(0.020)	(0.031)	(0.039)	(0.023)
Fixed effects						
Rule	Y	Y	Y	Y	Y	Y
Firm	Y			Y		
Grantee	Y			Y		
Firm-grantee pair		Y			Y	
Agency × NAICS × NTEEC			Y			Y
Commenter style control				Y	Y	Y
Observations	168,341	71,189	81,851	168,341	71,189	81,851

Notes. The dependent variable is the negative absolute difference between the sentiment score assigned to the comment of firm f and the comment of grantee g in the same rule-year rt, using the TF-IDF weighted Fin-Neg wordlist created by Loughran and McDonald (2011), with the dependent variable rescaled to have a standard deviation of one. The independent variable is equal to 1 if grantee g received a donation from firm f in the year when the comment appears or the year before. The sample includes the subset of firm-grantee observations in which firm and grantee comment on the same regulation. Standard errors use two-way clustering by rule and firm-grantee pair. *** $p < .01$, ** $p < .05$, * $p < .1$.

weighting scheme: first we compute a weight for each word in the comment that reflects its frequency in the document and relative rarity in other documents. Then the comment sentiment is computed as the sum of weights for words in the Fin-Neg dictionary, divided by the sum of weights for all words in the comment. The Fin-Neg dictionary is based on a negative sentiment word list from the *Harvard Psychosociological Dictionary,* but corrects the scoring of words that often occur in business settings (for example, the Harvard list codes *foreign* as negative) and Loughran and McDonald (2011) demonstrate that the resulting sentiment scores predict firm financial outcomes when applied to the text of SEC filings. The comments in our data discuss a wider range of topics than corporate finance, but we believe the Fin-Neg word list is more suitable than comparable sentiment dictionaries, which do not correct for common business language. We interpret each comment sentiment score as a measure of how negative the comment is toward the rule. The interpretation of the coefficient of interest β_1 is therefore the effect of a charitable donation on the alignment of sentiment across firm and nonprofit (i.e., the excess co-movement of sentiment in the two comments relative to any randomly generated pair of firm and grantee comments on that rule).

The data do not support the view that donations systematically reach grantees expressing opposing views to the firm providing the grant relative to a random grantee. The sign of β_1 is inconsistent across specifications and never statistically or economically significant. In Online Appendix F we show that the results in Table VII also hold if we use different dictionaries and approaches for measuring sentiment, including measuring partisan alignment following Gentzkow, Shapiro, and Taddy (2016). Overall, we conclude that there is no systematic relationship between comment sentiment and donations, and that our findings are unlikely to be explained by firm and grantee comments carrying similarly worded but antagonistic messages.

V. Comments and Final Rules

The evidence provided thus far points to firms and their recent grantees commenting more often on the same rules and with more similar language. Circling back to our initial motivation, these patterns may be of concern only if they have an effect on final regulations.

At this point it is important to distinguish between two very different pieces of text that appear in the *Federal Register* when the final rule is published: (i) the final regulatory text is designed to formulate, amend, or repeal sections of the Code of Federal Regulations (5 U.S.C. § 551(5)) and is written with a terminology and structure, at times dictating a change in a single word, that makes it very different from comments submitted and hence unsuitable to our analysis; (ii) the discussion of the rule tends to be longer and presents arguments in favor of or against specific choices that may have been brought forward by firms, nonprofits, and other entities in their attempts to persuade the regulator. We therefore focus on this latter part of the final rule.[36]

Typically, it is extremely hard to assess the effects of lobbying on policy outcomes (Kang, 2016). Much lobbying activity is designed to block change (so no policy differences are observed in equilibrium) and information flows are immaterial and undisclosed (e.g., meetings and phone calls). In our context, though, it is possible to measure the weight placed on each firm's comments by using two proxies: the similarity between the final rule discussion by the regulatory agency and the firm's own comments and the frequency with which a firm is cited by name in the agency's discussion of the final rule. We aim to assess whether, when a firm's grantee comments on the same rule as the firm, the regulator's published discussion of the final rule appears more similar to the firm's comments and whether the regulator cites that firm more frequently in its discussion.

As an example, consider the concern expressed by Wells Fargo, one of the largest depository institutions in the United States, on a specific regulatory burden that the bank believed was implied by the proposed version of the so-called Volcker Rule of the Dodd-Frank Act of 2010. The Volcker Rule aimed to prohibit depository institutions from engaging in the use of part of their depository funding for speculative trading (proprietary trading).[37] Wells Fargo expressed the concern that the proposal required transaction-by-transaction oversight: "We also do not believe that the Proposed Rule's transaction-by-transaction

36. The discussion of the rule is found in the Supplementary Information section, which is part of the preamble to the final rule and typically constitutes its most important component. See https://www.federalregister.gov/uploads/2011/01/the_rulemaking_process.pdf. Last accessed 5/4/2021.

37. Rule 79 FR 5535.

approach, which would require analyzing permitted customer trading, market making, underwriting and hedging activities on a transaction-by-transaction basis, is the best way for the Agencies to implement the Proposed Rule."[38] The OCC addressed this concern directly and conceded some changes to the rule: "A number of commenters expressed general concern that the proposed underwriting exemption's references to a 'purchase or sale of a covered financial position' could be interpreted to require compliance with the proposed rule on a transaction-by-transaction basis. These commenters indicated that such an approach would be overly burdensome. ... [T]o address commenters' confusion about whether the underwriting exemption applies on a transaction-by-transaction basis, the phrase 'purchase or sale' has been modified to instead refer to the trading desk's 'underwriting position.'" The two texts appear related.[39]

We begin by constructing S_{fr}, the similarity score between the discussion of rule r and firm f's comment, using the same LSA-based approach as for our co-comment similarity analysis.[40] In contrast to the similarity score constructed in Section IV, S_{fr} measures the similarity between a comment and the discussion of comments in the final rule, rather than the similarity between the texts of two comments on a proposed rule. We interpret S_{fr} as a proxy for the salience and effectiveness of the firm's comment in shaping the regulator's decisions.

Let us posit that S_{fr} is a function of the commenting efforts of the firm and of grantees connected to the firm by donations:

$$S_{fr} = \beta_1 GranteeCocomment_{fr} + \delta_f + \delta_r + \varepsilon_{fr}. \tag{4}$$

The variable of interest is the dummy $GranteeCocomment_{fr} = I(\sum_g \sum_t C_{grt} \times D_{fg,\,t-1} > 0)$, which is equal to 1 if we observe that a grantee, commenting on the same rule as the firm, also received a donation from the firm in the same or previous year as the

38. Document ID OCC-2011-0014-0285.

39. Interestingly, the Black Economic Council, a recent Wells Fargo grantee, also expressed concerns on the same rule on grounds of excessive complexity. See Document ID OCC-2011-0014-0024.

40. Because of the specific focus on the exact wording of the discussion of rule r, in this section we take r to refer to each separate final-rule discussion, including the minority of cases where there are multiple final rules in a docket. Online Appendix A provides more details on the correspondence between rules and dockets.

grantee submitted their comment, and 0 otherwise. If there is excess similarity between rule discussion and a firm's comment when grantees connected to the firm by donation also comment on that rule, β_1 should be positive. We interpret an increase in S_{fr} as a proxy that, at a minimum, captures the firm having the attention of the regulator. We note, however, that S_{fr} could conceivably correlate with influence in shaping the content of the final rule or in keeping out certain provisions. Importantly, given that we control for rule fixed effects in equation (4), our empirical test asks whether the comment-rule similarity is larger for firms that have a recent grantee commenting on the same rule relative to the comment-rule similarity for firms that also commented on that rule but did not have a recent grantee commenting as well.

We also examine whether firms are cited more often in final-rule discussions in which we observe a comment by one of their grantees, using $log(1 + citations)$.[41] Firm fixed effects in this specification capture the extent to which certain firms are systematically more likely to be cited by regulators across all rules. Similarly, rule fixed effects control for the fact that some rule discussions may include on average more numerous references to firms' comments. Note that we limit the citation analysis to the subset of agencies where there is a norm of citing specific commenters—in many agencies such citation behavior is very rare. We focus on agencies whose mean firm citation counts are greater than one.[42]

Table VIII presents our regression results. We find that the similarity between firm comments and the rule discussion is 16% of a standard deviation higher when at least one grantee commenting on the same rule has received a recent donation from the firm. Similarly, firms are cited more frequently (33% more often) within each rule and are more than twice as likely to be cited at all.

41. To the extent that the comments by grantees could be cited in place of a firm, we will underestimate the true extent to which a firm's view is cited in the final rule.

42. One reason for this behavior is that generically discussing comments instead of naming specific commenters may limit ex post legal action against the regulator. An instance is action brought for arbitrary and capricious behavior arising from an agency's failure to address dissenting comments to a proposed rule. Note that if we do not limit the sample to agencies with a citation norm, the point estimates on these results are much smaller and some are not statistically significant. See Bertrand et al. (2018) for these results.

TABLE VIII

RULE OUTCOMES: RECENT DONATION

Dependent variable:	Similarity between comment submitted by firm f and discussion text in rule r				Log citation count		Any citation	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
At least one grantee g co-commenting and receiving donation from firm f in year t or $t-1$	0.156***	0.155***	0.110**	0.107**	0.288**	0.287**	0.126**	0.129**
	(0.051)	(0.051)	(0.049)	(0.049)	(0.134)	(0.134)	(0.061)	(0.060)
Log expenditure lobbying agency in t and $t-1$		0.002		0.007**		0.002		−0.005
		(0.004)		(0.004)		(0.007)		(0.003)
Fixed effects								
Rule	Y	Y	Y	Y	Y	Y	Y	Y
Firm	Y	Y	Y	Y	Y	Y	Y	Y
Commenter style control			Y	Y	†	†	†	†
Observations	4,675	4,675	4,665	4,665	1,212	1,212	1,212	1,212

Notes. The dependent variables are several measures of the relationship between firm comments and the discussion of comments in subsequent rules. For columns (1)–(4) the outcome is the overall similarity of the text, for columns (5) and (6), the outcome is the log of the number of detected occurrences of the firm's name in the discussion text, and for columns (7) and (8) the outcome is an indicator for the presence of at least one occurrence of the firm's name in the discussion text. Some agencies rarely cite any commenters by name, so in columns (5)–(8) we restrict the sample to agencies whose rules contain an average of at least one citation of a firm per rule. The independent variable is equal to 1 if there is at least one grantee g co-commenting on regulation r and receiving a grant from firm f in year t or $t-1$. The daggers (†) for commenter style control in the citation columns indicate that the outcome measure is not adjusted, but the comment similarity with style control is used to find the best matched rule for each comment. The sample includes all rule-firm pairs, conditional on the firm commenting on the rule. Standard errors use two-way clustering by rule and firm. *** $p < .01$, ** $p < .05$, * $p < .1$.

One of the main difficulties with interpreting these results as causal is that we do not observe all channels of communication from the firm to the regulator (a form of omitted variable bias). However, we do have information about lobbying contacts between the firm and regulator from lobbying disclosure reports filed with the Senate's Office of Public Records.[43] For columns (2), (4), (6), and (8), we control for the estimated expenditure on lobbyists hired to communicate with the agency that published the rule in question.[44] Our results are robust to controlling for lobbying expenditures over the same time period as donations. In fact, conditional on our fixed effects specification, the inclusion of lobbying expenditures as a control does not change the estimated effect of grantee co-commenting at all. This adds weight to the interpretation that the channel of influence we capture in our analysis is through the submitted comments.[45]

As with our co-commenting and comment similarity results, these rule outcomes do not appear to be driven by future donations. In Online Appendix Table C.6 we add an indicator for future donations to grantee co-commenters. When both variables are included, the variable based on recent donations predicts final rule similarity.

VI. Heterogeneity Analysis

In a final set of empirical analyses, we examine whether there exists heterogeneity in the relationship between donations and co-commenting behavior. Details on these analyses may be found in Online Appendix G; we summarize our main findings here for brevity. Because our data span different dimensions, we explored heterogeneity by regulatory agency, by importance of rules, by grantee characteristics, and by industry/firm characteristics. Overall, Online Appendix G shows that our results are not

43. We use bulk lobbying data that have been cleaned and organized by the Center for Responsive Politics, available through www.opensecrets.org.

44. Lobbying disclosure reports do not contain per agency expenditures, but each filing lists the branches of government contacted and the total amount spent. We divide total expenditures for each filing evenly between all branches listed. In practice, our results are not sensitive to how this lobbying amount is constructed.

45. We note, however, that our measure of influence via lobbying is only at the agency level, so that our test of whether there exist correlated margins of influence seeking is imperfect.

driven by selected subsamples but also that estimated coefficients respond in intuitive directions in terms of magnitudes.

In Online Appendix G.1, we show that for high-stake rules (i.e., rules that attract attention, with higher than median number of grantee comments), the extent of co-commenting we describe above is much stronger, both statistically and quantitatively. This is intuitive, as the use of charitable grants as influence is inherently costly, and firms will be more motivated to deploy these grants in situations in which the outcome is particularly contentious or important.

Online Appendix G.2 shows that grantees with agency-specific expertise are more frequent targets of donations at times when the firm comments on regulation. We also discuss how certain dimensions of heterogeneity, for example, based on the interaction of charitable donations with the degree of expertise of a grantee and its engagement with specific regulatory agencies, may help rule out alternative mechanisms, including a potential for "hush money" to silence experts.[46]

One potentially important firm characteristic that may affect the extent and efficacy of the behavior we document is concentration of the commenting firm's industry. As shown in Online Appendix G.3, our estimated coefficients tend to be quantitatively and statistically stronger in more concentrated industries, based on top-four and top-eight revenue concentration ratios. As concentrated industries offer the most natural environment for a collective-action solution and for lobbying according to the standard logic of Olson (1965), this result appears to align with the intuition that there is a strategic element to the co-commenting phenomenon we document.

Regarding regulatory agencies, in Online Appendix G.4 we focus on whether one can detect any asymmetry across party lines in the behavior of agencies under different administrations. Because our sample covers both Republican and Democratic presidents, we focus on the partisan affiliation of the president, who appoints Executive Branch and independent agency commissioners during each electoral cycle. We show that regulatory agencies with commissioners appointed under a Republican administration appear

46. In Online Appendix G.5 we look at heterogeneity based on two other grantee attributes: research and policy orientation. Both types of nonprofits are more likely than average to comment on regulation, but are also less "persuadable" to comment via donation. These results are marginally significant at best, however.

less sensitive to the co-commenting behavior of grantees and that firms make less use of co-commenting under Republican administrations. One explanation for this result may be that Republican appointees may be less sensitive to special interests beyond the business sector relative to Democrats, so there is lesser value to co-opting nonprofits.[47]

VII. Case Studies

In this section we provide case study evidence to complement our econometric analysis and to inform the discussion about the welfare implications of our findings. The case studies that we discuss entered the public domain either through court filings or based on documents uncovered by public interest organizations and journalists. These examples allow us to observe directly the types of activities that one is otherwise required to infer based on statistical analysis. The cases are also sufficiently widespread across industries and over time to underscore how the behavior we document may be more diffuse than previously considered, and they are sufficiently compelling that one may not wish to dismiss a priori the "comments-for-sale" view.

VII.A. Soft Drink Companies and Public Health Policy

The Coca-Cola Foundation/AAPD example illustrates a case of a sizable donation followed by a shift in recommendations by a nominally arm's length grantee. It is important to underscore that such events are not necessarily anomalies.

Aaron and Siegel (2017, 24), in their analysis of sponsorships by the two major soda companies between 2011 and 2015, report how "Save the Children, a group that promoted soda taxes, suddenly dropped this effort in 2010 after receiving more than $5 million from the Coca-Cola Company and PepsiCo in 2009." Save the Children had previously campaigned for soda taxes in the District of Columbia, Mississippi, New Mexico, Philadelphia, and Washington state, and in 2010 abruptly changed course after receiving the grant.

Emails recovered by the Associated Press show more direct evidence of Coca-Cola donations helping influence policy positions at another nonprofit, the Global Energy Balance Network

47. See Yackee and Yackee (2006) for a discussion.

(GEBN), an antiobesity group run by a professor at the University of Colorado. The emails reveal that concurrent with a $1.5 million gift from the company to GEBN, Coca-Cola's chief health and science officer suggested content for the nonprofit's website, provided input into the selection of GEBN's senior leadership, and edited GEBN's mission statement, which was primarily focused on shifting the blame for obesity toward lack of physical exercise.[48]

VII.B. Nonprofit Support for Power Utilities' Regulatory Agenda

In 2019, the Energy and Policy Institute (EPI) released a report titled, "How Utilities Use Charitable Giving to Influence Politics and Increase Investor Profits." EPI surveyed the philanthropic activities of 10 utilities—whose total giving between 2013 and 2017 exceeded $1 billion—using their IRS Form 990s and FERC Form 1 and Form 60 (Anderson et al. 2019). As participants in heavily regulated industries, utility companies are prime candidates for the types of regulatory influence-seeking behaviors we focus on.

Electric utilities routinely buttress their requests for rate increases or public subsidies with letters of support from local nonprofits, often representing minorities or disadvantaged groups. The EPI report revealed grants by Ameren in Illinois to the NAACP, the Black Chamber of Commerce, and the Springfield Urban League, all given around deliberations for weakening energy efficiency rules in the state. Similarly, the Arizona Public Service (APS) Company, an electricity utility, enlisted Chicanos Por La Causa and the Phoenix Indian Center (both APS grantees) in its letter supporting rate increases. More starkly, in 2016, the leader of the Greater Abyssinia Baptist Church in Cleveland, Ohio, was the lead signatory of a letter sent to the state's governor from the Cleveland Clergy Council in support of an Electric Security Plan proposed by FirstEnergy of Akron, Ohio. In 2016 the church had received a $100,000 donation from FirstEnergy's foundation, and another in 2017. Just before these donations, the church leader had expressed concerns and members of his congregation had marched in protest against the plan.

48. Huenergarth (2015). After news of Coke's involvement became public, GEBN was shut down.

There is also distinct evidence that some of the messaging from grantees may be manipulated by firms. For instance, in May 2019, EPI analyzed several public written testimonies by grantees speaking favorably about the bailout of FirstEnergy Solutions, a bankrupt utility in Ohio. The examination of the files' metadata revealed that the documents were all created by a lobbyist hired by FirstEnergy Solutions.

The case of the NAACP in particular warrants further elaboration as an unlikely ally in companies' pushback against unfavorable regulation or legislation. A 2020 *New York Times* column focused on corporate donations to the NAACP describes, for example, something approaching an explicit quid pro quo involving the NAACP's Florida conference, which had received $225,000 from Florida Power and Light.[49] As the *Times* reports, "donations doubled in 2014 just as the utility was pressing state regulators to restrict rooftop solar power and weaken the state's energy efficiency goals," while in the same year, according to the *Times* report, NAACP Florida filed comments in support of the company's position with the state Public Service Commission, taken verbatim from Florida Power and Light lobbying materials. The NAACP's comments were later cited by the commission in the ruling in favor of utilities' demands (the commission cut its energy-efficiency goals by 90%). The organization's director later observed that it was clear that, "if we wanted the money, we had to [support the utilities' position]."

The NAACP's national office saw these types of concerns as sufficiently pervasive and problematic that in 2019 it published a white paper for their local chapters warning of the various ways that energy companies would try to co-opt nonprofits in pursuing fossil fuel-friendly policies.[50] Funding is given as a key mechanism, with the document providing the example of the St. Louis, Missouri, branch, which was cut off by Peabody Coal, a frequent donor, after voicing opposition to fossil fuel interests in comments to the EPA.[51]

49. Penn (2020).

50. NAACP (2019).

51. The report states (11) that Peabody Coal's reply to the NAACP St. Louis Branch president on inquiry about a missing grant was: "We only give money to our friends and you folks went down and talked bad about coal to the EPA."

VII.C. Nonprofit Support for Telecommunications Mergers

Peng (2016) describes the efforts of telecommunications firms to win merger approvals from the Federal Communication Commission (FCC), in part by assembling diverse and vocal coalitions of supporters. Peng quotes Crawford (2013, 538) on the Comcast-NBCU merger, in which "the company encouraged letters to the FCC from more than one thousand non-profits...including community centers, rehabilitation centers, civil rights groups, community colleges, sports programs, [and] senior citizen groups." For the AT&T/T-Mobile merger, Peng similarly documents letters of support addressed to the FCC from nonprofits that, at first glance, would appear to have little interest or expertise in telecommunications policy, including a homeless shelter in Louisiana, a special needs employment agency in Michigan, and the Gay & Lesbian Alliance Against Defamation (GLAAD). The nonprofits were all AT&T Foundation grantees (in the case of the homeless shelter, the donation had come in just five months before the merger was announced). In no case did the nonprofits disclose their AT&T funding in their comments to the FCC, and in at least one instance, the comments did not appear to represent the views of the nonprofit's membership. According to Peng (2016, 540), "GLAAD's president and six board members resigned when its merger endorsement made headlines and revealed that the organization had received AT&T funds."

VII.D. Tobacco Industry

The tobacco industry was a pioneer in the sort of indirect influence we document in this section. Via previously confidential British American Tobacco (BAT) documents, released publicly during the tobacco health damages litigation of the early 2000s, Fooks and Gilmore (2013, 7) find evidence that, "donations [are] used to facilitate closer relationships with recipient organisations by generating trust and support and shape their organisational priorities. Organisations are encouraged to lobby and advocate on behalf of the industry, thereby expanding political conflicts around tobacco control." They document[52] that BAT's donations were "allocated to some groups on the basis of their potential to shape policy agenda though their influence on government thinking and news reporting" and that they were "made to shift

52. See Legacy Tobacco Documents Library at http://legacy.library.ucsf.edu.

thinking on the importance of tobacco control regulation by influencing perceptions of the relative risks of tobacco to population level health."[53]

Similar conclusions are reached in Tesler and Malone (2008) and McDaniel and Malone (2009, 2012), using documents from other tobacco corporations. For instance, McDaniel and Malone (2009) report how Philip Morris's funding to the Young Women's Christian Association national organization disappeared after the organization signed a public letter that was critical of tobacco marketing practices.

The strategic use by tobacco companies of charitable giving as an influence tool over third-party grantees is now so heavily documented (and deemed ultimately detrimental to public welfare) that the World Health Organization's (WHO) Articles 5.3 and 13 of the Framework Convention on Tobacco Control (FCTC)[54] specifically aim to limit the political effects of tobacco industry philanthropy.[55]

VII.E. Mobil Foundation

A document leaked from the Mobil Foundation provides detailed written justification for each of the grants that it made in 1994.[56] For the vast majority of these grants, the document includes a paragraph with the heading "Benefits to Mobil" that delineates why supporting a given charity may be advantageous to the Mobil Corporation. These reasons often go beyond the oft-encited rationales for corporate philanthropy of brand recognition and goodwill.

Of particular interest to our setting are instances in the document in which attempts at indirect influence over regulation appear as an explicit rationale. Excerpts from entries in the 1994

53. For example Fooks and Gilmore (2013, 4) report that in China "BAT supported the Beijing Liver Foundation... to lobby the Ministry of Public Health to 'maintain a perspective on health issues,' recognising that the company could not 'credibly, directly communicate with the Ministry'" with the goal of shifting public health concerns from smoking to other non–tobacco related issues, such as hepatitis.

54. World Health Organization (2013).

55. In its guidelines to the implementation of Article 5.3 of the FCTC, the WHO provides the recommendation to "denormalize and, to the extent possible, regulate activities described as socially responsible by the tobacco industry, including but not limited to activities described as corporate social responsibility." See https://www.who.int/fctc/guidelines/article_5_3.pdf (accessed May 4, 2021).

56. Kelly (2019).

Budget Recommendations of Mobil Foundation most pertinent to our discussion on regulation are reported in Table IX.

Some of these read as rather anodyne explanations for donations to promote the use of science in environmental risk assessment. For example, a donation to the Academy of Natural Sciences (unaffiliated with the National Academy of Sciences or with the American Academy of Arts and Sciences) is justified based on the organization's ability "to challenge the EPA behind-the-scenes on the effectiveness of a regulation for the environment and whether sound science supports the proposed law." A similar rationale is provided for a grant to the Harvard Center for Risk Analysis, among various others, to support the promotion of "scientific risk assessment" which "will benefit Mobil through the adoption of more cost-effective laws and regulations." In other cases, the potential to influence a grantee appears more directly, as when a grant to the National Research Council in support of a study on groundwater treatment, where the benefits to Mobil include the possibility that "by helping to fund the study, Mobil may be offered the opportunity to participate or to receive early access to the findings," or in the case of the National Safety Council (which has a Mobil employee on its board) where Mobil was "successful in 1989 in having the National Safety Council Board of Directors pass a resolution opposing the mandating of any alternative fuel, such as methanol, until studies demonstrated a reduced risk of death, illness or injury."

The entries in Table IX alone account for about 10% of total charitable activity of the Mobil Foundation that year (about $1.2 million in 1993 dollars). The document also provides the names of other significant corporate donors to each organization (in addition to a time series of donations by Mobil to that specific grantee). In most cases, these other donors are other oil, chemical, or industrial firms, indicating that Mobil is unlikely to be the only business aiming to forge ties with potentially useful nonprofits.[57]

57. The type of hidden influence seeking we describe—in addition to being widespread across firms—may also not be limited to the U.S. context. For example, a Greenpeace Canada report released in 2020 provides details of a confidential consultant's presentation that lays out a strategy for influencing Canada's clean-fuel standards. The presentation emphasizes the need for the appearance of "diverse voices...including credible experts and third parties," while industry's role seems to remain as "secondary." One key prong of this approach is facilitating relations with think-tanks and NGOs, and the report lists a number of organizations that would likely be supportive. See Firempong (2020).

TABLE IX

1994 BUDGET RECOMMENDATIONS MOBIL FOUNDATION, INC.

Grantee organization	Listed benefits to Mobil	Amount in budget year 1994	Grants by other corporations in budget year 1993
American Council on Science and Health	One of the major benefits is due to the Executive Director, Dr. Elizabeth Whelan, an articulate spoke person who often appears as a counterpoint to so-called "public interest" groups. [...]	$15,000	Stauffer $10,000; Chevron $10,000; Ashland $25,000; Union Carbide $10,000; ARCO $10,000; Shell $15,000; Exxon $10,000
National Safety Council	Mobil is currently represented on the Board of Directors by David E. Miller and has representatives from the operating divisions on various working committees. By supporting this unique life-saving organization, Mobil is identified as a co-leader in the Council's life-saving mission. Additionally, we were successful in 1989 in having the National Safety Council Board of Directors pass a resolution opposing the mandating of any alternative fuel, such as methanol, until studies demonstrated a reduced risk of death, illness, or injury.	$35,000	DuPont $30,000; Chevron $17,000; Shell $10,000; Amoco $10,000; Texaco $7,500; Ford $10,000; IBM $20,000; AT&T $12,500

TABLE IX
CONTINUED

Grantee organization	Listed benefits to Mobil	Amount in budget year 1994	Grants by other corporations in budget year 1993
Academy of Natural Sciences	Based on the contacts of the Academy, the Environmental Associates Program has the potential to challenge the EPA behind-the-scenes on the effectiveness of a regulation for the environment and whether sound science supports the proposed law.	$15,000	Air Products and Chemicals $15,000; ARCO $15,000; DuPont $15,000; FMC Corp $15,000; ...
Bermuda Biological Station for Research	Dr. Knap's findings are generally quite supportive of oil industry activities and could also influence legislation and regulations favorable to Mobil's U.S. offshore operations. . . . This type of expertise would be most helpful to Mobil not only during the cleanup portion of a spill, but to gather data and provide testimony during litigation concerning environmental damage. Awards from this type of litigation can exceed the total cost of clean-up and mitigation activities.	$15,000	General Atlantic Grp $100,000; Exxon $50,000; Texaco $40,000; X. L. Foundation $40,000; Bacardi int. $50,000; Transworld Oil Ltd. $25,000

TABLE IX

CONTINUED

Grantee organization	Listed benefits to Mobil	Amount in budget year 1994	Grants by other corporations in budget year 1993
Greater Caribbean Energy and Environment Foundation	Dr. Thorhaug represents a valuable Mobil interface with UNEP and UNDP oil spill related activities particularly in third world tropical countries. Her publications and input can have a positive influence in evolving regulations in lesser developed nations.	$10,000	Exxon $6,000; World Bank $25,000; UN Unesco $15,000; Kenya Govt. $30,000; Philippines Govt. $6,000; UNEP $8,000
Harvard School of Public Health Center for Risk Analysis (HCRA)	HCRA (and Director John Graham in particular) is recognized as a leading authority in the application of risk analysis to public policy. It has been effective in influencing Clean Air Act legislation on toxic emission standards and pointing out the safety risks associated with excessively stringent fuel economy standards. We expect the Center to play an influential role in consideration of future environmental legislative and regulatory actions.	$12,500	N/A

Note. Total Budget = $1,217,200. *Source.* Mobil (1993).

VIII. Conclusions

Politicians and voters are frequent targets of messages aimed at persuading them of the merits of specific policy positions. While in most cases the identity of the sender is disclosed, allowing an assessment of the bias and interests of a message's originator, in other instances the identity may be unavailable or even deliberately obscured. These situations range from the use of dark money in U.S. electoral politics in the aftermath of the Supreme Court's *Citizens United v. Federal Election Commissio*n and *McCutcheon v. Federal Election Commission* cases, to the circulation of white papers by think-tanks and other nonprofits.

Independent arm's length organizations may extend the credibility of the positions held by special interests. Our article argues that one has to be careful in assessing the information provided by these apparently independent organizations when this information comes in close proximity to monetary transfers from firms. Such transfers, often in the form of charitable grants, are virtually undetectable by private citizens and civil servants without access to detailed tax returns information.

To provide a quantitative and systematic perspective on this issue, this article studies the interaction of nonprofit organizations and large corporations in the United States' federal regulatory environment. The article presents evidence that corporate foundations' charitable grants reach targeted nonprofits just before those same nonprofits engage in public commentary. The availability of a large set of public comments by nonprofits and by corporations on a diverse set of rules and regulations, ranging from banking to environmental regulation, makes for a rich and virtually untapped empirical environment.

The content of the comments simultaneously communicated by nonprofits and by corporations appears systematically closer (in terms of textual similarity) in the presence of a charitable contribution provided immediately before those comments are filed. While circumstantial, the evidence points to potential concerns in the assessment of this prima facie independent information by targeted regulators, who may be unaware of the philanthropic grants that take place out of direct view. The regulator may thus interpret similar comments from diverse sources as independent, when in fact they are linked via financial ties.

The article also tries to evaluate whether there exist benefits to large business interests from enlisting allied advocates who may be perceived as more balanced and less biased. We focus on textual similarity between the commenting firm and final-rule discussion to gauge influence of comments over regulation. We find evidence consistent with co-comments from nonprofits providing additional visibility to the messages sent by the firms themselves, measured in terms of comment similarity to the final rule or likelihood of citation of a donor firm. The ultimate economic returns to regulatory influence remains complex to assess, and we see this as an area of empirical investigation in need of further research.

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SUPPLEMENTARY MATERIAL

An Online Appendix for this article can be found at *The Quarterly Journal of Economics* online.

DATA AVAILABILITY

Data and code replicating the tables and figures in this article can be found in Bertrand et al. (2021) in the Harvard Dataverse, https://doi.org/10.7910/DVN/UBRTKS.

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