

# Inequality in Agency Rulemaking

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June 20, 2024

## Abstract

Most U.S. law is now made by executive-branch agencies under pressure from vast flows of money, lobbying, and political mobilization. Yet, research on inequality overlooks administrative policymaking. Analyzing a new dataset of over 260,000 comments on draft agency rules implementing the Dodd-Frank Act, we identify the lobbying activities of over 6,000 organizations. Leveraging measures of organizations' wealth, participation in administrative politics, lobbying sophistication, and lobbying success, we provide the first large-scale study of wealth-based inequality in agency rulemaking. We find that wealthier organizations are more likely to participate in rulemaking and enjoy more success in shifting the content of policy documents, while organizations with more members do not enjoy more success. More profit-driven organizations are also more likely to participate and enjoy more lobbying success. Wealthier organizations' ability to marshal legal and technical expertise appears to be a key mechanism by which wealth leads to lobbying success.

**Keywords** Inequality, Bureaucratic Policymaking, Interest groups, Lobbying, Rulemaking, Financial Regulation

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\*Corresponding Author Email: [judgelor@umich.edu](mailto:judgelor@umich.edu). Authors are listed alphabetically; the listing does not imply the significance of contribution. We will be extremely grateful for any comments. The most recent draft is here: [judgelord.github.io/finreg](https://judgelord.github.io/finreg). We thank Larry Bartels, Devin Caughey, Christine Desan, Sanford Gordon, Alexander Hertel-Fernandez, Howell Jackson, David Moss, Eric Talley, Noah Greifer, and participants in the American Political Economy Conference and Harvard American Politics Research Workshop for comments and James Chen for excellent research assistance. We acknowledge the Russell Sage Foundation, the Washington Center for Equitable Growth, and the Radcliffe Institute for Advanced Study for research support. Judge-Lord acknowledges support from the APSA DDRIG (NSF Grant #2000500). Please do not cite without permission.

## 1 Introduction

Studies of political inequality have revealed profound and durable patterns where wealthier citizens have a disproportionate influence on legislative processes. Work in American politics by [Bartels \(2008\)](#), [Baumgartner et al. \(2009\)](#), [Hacker and Pierson \(2010\)](#), [Gilens \(2012\)](#), [Skocpol \(2004\)](#), [Schlozman et al. \(2012\)](#), and others shows ties between economic and political inequality. In contrast to the large literature on inequality in legislative lawmaking, research on inequality in policymaking at executive branch agencies is sparse. Fundamental questions about economic and political power have yet to be addressed systematically: Does wealth-based inequality drive differential participation during administrative policymaking? Are agency officials more likely to address concerns raised by wealthier organizations? If so, why?

Scholars have focused on inequalities in legislative lobbying and influence in part because quantitative data exist in the form of legislative Lobbying Disclosure Act reports and congressional voting records. A major barrier to scholarship on inequality has been the lack of parallel quantitative data on lobbying and policy outcomes for agency policymaking. This paper introduces such measures of wealth inequality, participation, and influence of organizations in agency rulemaking, enabling new tests of inequality in American policymaking.

To investigate the link between economic and political inequality, we focus on agency rules implementing the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (hereafter Dodd-Frank). Post-Dodd-Frank rulemaking is an ideal context to study inequality in administrative policymaking because the legislation delegated considerable authority to executive branch agencies to re-regulate the financial system. The re-regulation sought changes to many important aspects of the financial system such as ensuring the stability of global systemically important banks and establishing new agencies and offices to protect consumers. The economic stakes were massive; agencies proposed rules that sought to increase compliance costs by billions of dollars. Organized interests spent hundreds of millions on lobbyists and lawyers to attempt to alter the proposed rules.

We make three primary contributions.

First, we create a new database of all 264,709 public comments on proposed rules implementing Dodd-Frank, focusing especially on comments from companies and other organizations. Our data cover over eight hundred regulatory actions (in 239 rulemaking processes) across seven agencies.

Second, we develop a suite of new measurement and analytic tools to study who lobbies during rulemaking, how sophisticated their lobbying efforts are, and which organizations have their concerns addressed in the final rules (and which do not).

Third, we leverage these data and tools to provide the first large-scale assessment of the effects of wealth inequality on agency policymaking. In doing so, we answer questions regarding inequality and lobbying participation which were, up to now, only answerable in the legislative process. Beyond prior studies showing differences between business and non-business groups, we are able to compare lobbying behavior among similar organizations. For example, we compare commenting behavior among banks. In doing so, we control for many known sources of variance in commenting behavior, which yields cleaner tests of the relationship between organizational wealth and policy influence.

We show that wealthier and more profit-motivated organizations are more likely to participate in administrative policymaking, and even when the less wealthy organizations participate, wealthy organizations are more likely to have their concerns addressed.

Six main findings support the conclusion.

First, we find that wealthier organizations participate in agency rulemaking at higher rates than less wealthy organizations. We replicate this result within and across various types of for-profit firms and non-profit organizations.

Second, we find that for-profit banks are more likely to participate than non-profit banks such as credit unions and savings associations.

Third, we find that organizations that spend more money on political campaigns and legislative lobbying are also more likely to participate in rulemaking.

Fourth, among organizations that participate in rulemaking, we show that organizations that participate frequently are wealthier than those that participate infrequently.

Fifth, wealthier organizations martial more technically and legally sophisticated comments than less wealthy organizations.

Finally, text from the comments of wealthier organizations is more likely to be incorporated into the preambles of the final rule, which suggests that concerns of wealthier organizations are more salient to policymakers and more effective in shaping the policy agenda of the rulemaking process. Using causal mediation analysis, we find that the ability of wealthy organizations to marshal legal and technical expertise appears to be a key mechanism by which wealth leads to lobbying success. Lobbying sophistication explains a large share of the relationship between wealth and lobbying success. Money buys technical and legal sophistication, and sophistication appears to buy changes to policy documents. In contrast, campaign donations and total lobbying spending do not appear to explain a significant share of the relationship between wealth and lobbying success.

These results hold implications for our understanding of public participation and voice in the policymaking process, as well as for possible policy reforms. For example, scholars have long known that the high barriers to

participation in agency rulemaking tended to amplify the voices of those who have resources over those who don't. We show that this inequality runs much deeper than previously appreciated: our findings suggest that, even among those organizations with some wealth and sophistication, it is those that have the most wealth and sophistication that tend to participate in agency rulemaking and enjoy more lobbying success. As a result, these findings imply a new understanding of privilege among interest groups and its impact on American policymaking.

Regarding policy reforms, our findings suggest that limiting campaign contributions would have little effect on the lobbying success of wealthy organizations at this stage of the policy process. To the extent that the lobbying sophistication mechanism is causal, our results highlight that reform efforts targeting inequalities in access to legal and technical expertise—such as those giving legal assistance and resource subsidies to poorer organizations to write more sophisticated comments and policy recommendations—may be effective in moderating the disproportionate influence of wealth inequality in administrative policymaking.

## 2 Theory

The past two decades have witnessed an outpouring of political science research on how economic inequality shapes policy outcomes that generate further economic and social inequality. [Bartels \(2008\)](#) shows that legislative voting patterns in the U.S. Senate disproportionately reflect the preferences of those individuals at the highest levels of the income distribution. [Hacker and Pierson \(2010\)](#) describe a “winner-take-all politics” by which wealthier Americans improved and secured their economic prospects under both liberal and conservative political leadership while the prospects for middle- and working-class Americans stagnated. [Gilens \(2012\)](#) further systematized these findings using survey data and legislative voting records. Many studies support and refine these observations (e.g., [Baumgartner et al., 2009](#); [Winters and Page, 2009](#); [Kelly and Enns, 2010](#); [Schlozman et al., 2012](#); [Page et al., 2013](#); [Gilens and Page, 2014](#); [Witko et al., 2021](#)).

Empirical portraits of the relationship between wealth and political inequality in the U.S. remain severely incomplete, however. The (relative) exclusion of administrative processes from the study of inequality is a major omission, as bureaucracies are “an essential site of political contestation” ([SoRelle, 2020](#)), especially over policies with diffuse beneficiaries and concentrated costs ([Lowi, 1964](#)).

Policymaking does not stop when Congress passes a law. Many critical policy decisions are made by administrative agencies, in part because the legislature delegates significant policymaking authority and discretion to these agencies to make public policy ([Epstein and O'Halloran, 1999](#); [Huber and Shipan, 2002](#); [Haeder and Yackee, 2020](#)). Legislation almost always requires federal agencies to write the legally binding standards and procedures (i.e., rules) that give statutes practical effect ([West, 1995](#); [Kerwin and Furlong, 2018](#)).

Agency rulemaking has become the primary mode of policymaking in the United States. In 2023 alone, federal agencies finalized over 3,000 rules. Only around 30 bills were passed by the US Congress and signed into law in the same time period. Given the scale and importance of agency policymaking and the large volume of data on business and interest group lobbying, rulemaking presents a unique opportunity to study the relationship between organizational wealth and policy influence.

The rulemaking process creates opportunities for voice and influence. The Administrative Procedure Act of 1946 (APA) requires federal agencies to solicit public comments on their draft policy proposals and to consider any substantive comments before issuing a legally-binding final rule. Agency officials have discretion to make changes to the proposed rule text based on public comments. The firms and other organizations most affected often attempt to influence regulatory policy content by submitting public comments.<sup>1</sup>

Because agencies make policy, moneyed interests spend considerable resources to influence administrative and executive decision-making (Haeder and Yackee, 2015; You, 2017). Firms collectively spend hundreds of millions of dollars lobbying after a bill becomes law, including lobbying the agencies tasked with writing the implementing rules (You, 2017; Ban and You, 2019), often spending more on lobbying agency officials than legislators (Libgober and Carpenter, 2024). Moreover, corporate lobbying of legislators often aims to enlist them in efforts to lobby agency officials, and legislators who receive more corporate Political Action Committee (PAC) money from companies are much more likely to lobby federal agencies on behalf of those companies (Powell et al., 2022).

Several factors suggest that inequalities observed in legislative lawmaking persist in administrative policymaking. Business interests are the main lobbying participants in most agency rulemakings (Golden, 1998; Yackee and Yackee, 2006). Past research theorizes that the high costs associated with public comment submission are one reason for this bias. Knowing when and how to participate as regulation is being formulated requires an organization to monitor the bureaucracy's rulemaking activities, which can be complex and arcane (Kerwin and Furlong, 2018; Rossi, 1997). Recent research on local administrative policymaking finds that public commenters tend to be unrepresentative of the general public along several common demographic dimensions, including wealth (i.e., homeownership), and that these unrepresentative commenters are more likely to sway the policy decision-making of bureaucratic commissions (Sahn, 2024).

Business interests also tend to submit more technical comments suggesting that they are better able to pay the high costs of participation than other types of participants (Jewell and Bero, 2006). Krawiec (2013) studied public participation patterns early in the rulemaking process for section 619 of Dodd-Frank (commonly known

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<sup>1</sup>Federal agency restrictions on ex parte (or “off the public record”) lobbying after the issuance of a proposed rule generally allow researchers to use comments during notice and comment rulemaking to study lobbying (Yackee, 2012).

as the Volcker Rule). She found that comments from financial industry firms were more detailed, complex, and lengthy than those from non-financial firms.

Another reason for this bias may be the type of information conveyed in comments. [Acs and Coglianese \(2023\)](#) demonstrate that agency lobbying often conveys “political information,” as well as policy information, and their research suggests that wealthier organizations are better able to shape regulatory outcomes by signaling their political strength. This implies that, even among what might be considered “wealthy” businesses or firms, inequality may still be determinative because more wealthy organizations may be able to better signal their political power to agency officials than less-wealthy ones.

A related strand of recent research has suggested a mechanism by which traditionally disadvantaged interests may curb business influence during rulemaking: band together to lobby in diverse coalitions ([Dwidar, 2021a,b](#)). These studies also point to continued inequalities: only certain types of coalitions appear to hold policy influence over agency rules, including those with greater resources. This research suggests that inequalities *among* non-profit interest groups demand scholarly attention, in addition to the relative influence of business *versus* non-profit groups.

Research suggests that business interests are influential in rulemaking. Comments from businesses on proposed transportation and labor regulations better predicted policy changes than non-business comments ([Yackee and Yackee, 2006](#)). Similarly, regulatory policy is more likely to change during the U.S. Office of Management and Budget’s (OMB) review when more business interests lobby OMB ([Haeder and Yackee, 2015](#)). However, the extent to which this bias toward business interests is a result of inequalities in the resources for lobbying agencies among businesses and non-business interests has yet to be studied. As scholars have yet to directly measure the wealth of interest groups and likewise, because scholars have yet to measure the sophistication of comments, we do not know if businesses enjoy greater influence *because* of wealth and sophisticated lobbying. The effect of wealth inequality on administrative policymaking thus remains an open question.

## 2.1 Why Study Financial Regulation

Financial regulation is a particularly important area to study inequality, as the highly balkanized institutional landscape advantages large financial companies and frustrates citizens and consumers ([SoRelle, 2020](#)). Financial deregulation since the 1970s has been a bipartisan project, with Democrats advancing policies despite their relationships with labor unions that have strenuously opposed deregulation ([Barton, 2022](#)). Policy entrepreneurs in both parties have also tended to advance legislation that delegates decisions to regulators. Even the Dodd-Frank Act, which was conceived as an attempt to re-regulate the financial sector, did so while handing considerable

authority to federal financial agencies, with over 300 provisions authorizing new rulemaking (Copeland, 2010). Dodd-Frank sought (and in many cases succeeded) in strengthening consumer protection and regulation of risk to the banking system (Engel and McCoy, 2011). However, it did relatively little to change the key structural advantages that financial corporations enjoy (see, e.g., Young, 2012; Young and Pagliari, 2017a; Braun, 2018; Young et al., 2017; James et al., 2021).

The structural advantage of large, high-resource organizations means that they enjoy greater influence over policy than smaller, less wealthy, and less powerful organized interests. Even for regulations that do not formally target less wealthy organizations, this power asymmetry often leads to unequal policy impacts, imposing costs or risks on consumers or less wealthy organizations. For example, a few large banks dominated lobbying on Section 1075 of the Dodd-Frank Act that regulated debit card fees. A key aspect of the law was its exemption for issuers with less than 10 billion dollars of assets. Although formally not subject to regulation, these smaller banks voiced concerns during rule development that the regulations would have substantial downstream effects on them because they participate in the same market. In particular, comments from smaller banks noted that they depend more on revenue from interchange fees than large banks and do not have the economies of scale enabling them to minimize costs. A price limit that, in theory, applies to the top-tier set of firms could create a market norm. To prevent this, the Independent Community Bankers of America argued that the Federal Reserve should make a rule “requiring the networks to adopt tiered rate schedules (one for exempt institutions at existing market rates and another for regulated institutions).” Federal Reserve officials did not implement this suggestion. It is also notable that they did not meet with a single small bank individually. Yet they had multiple individual meetings during rule development with Bank of America, JP Morgan, Wells Fargo, and larger regional banks. Regulators also had fewer meetings with the organized representatives of small banks than with the peak associations of the entire sector, which are dominated by larger banks.

The handful of existing studies that focus on financial rulemaking also present mixed findings about the policy impact of wealth inequality. These studies—which tend to focus on a single agency or a single rule—raise important questions for future scholarship. For example, there are mixed findings regarding the extent of bias in who is able to participate in financial rulemaking. Gordon and Rosenthal (2020) found that a diverse coalition of actors came together to counter the role of larger and more established regulated entities in credit risk retention regulation (see also Ziegler and Woolley, 2016). Agencies may benefit from the participation of interest groups with different preferences and may try to induce this diversity (Hirsch and Shotts, 2018). However, Young and Pagliari (2017b) found that stakeholders beyond affected firms are much less likely to mobilize in the financial sector, especially when a rule is technically complex.

There are also mixed findings about the relationship between organizational wealth and influence. Studying a sample of Securities and Exchange Commission rules following Dodd-Frank, [Ban and You \(2019\)](#) concluded that the resources an organization devotes to lobbying appeared to influence the likelihood that the SEC would cite an organization's name in the preamble to its final rule. In contrast, [Rashin \(2020\)](#) examined thousands of public comments on SEC rules and found that organizational resources did not appear to correlate with a commenter's ability to secure policy changes.

## 2.2 Wealth Inequality Hypotheses

We investigate the role that wealth inequality may play during the development of agency rules, focusing on two potential biases<sup>2</sup>: (1) potential biases in who participates and (2) potential biases in who has influence. We develop several hypotheses about each form of bias.

### 2.2.1 Differential Lobbying Participation

Wealthier organizations, such as businesses, are more likely to participate in agency rulemaking by submitting comments than less wealthy organized interests, such as labor and public interest organizations ([Yackee and Yackee, 2006](#)). Wealthy organizations are better able to pay the up-front costs of lobbying. While past research (e.g., [YackeeJOP2006](#)) focused on differences in lobbying participation *across* different organization types (i.e., businesses versus public interest groups), we go a step further to also address the effects of wealth differentials *within* organizations of a similar type. For example, we theorize that, even among banks, wealthier banks will participate in rulemaking more often than banks with fewer assets. By comparing similar organizations, we can better isolate whether wealth inequality drives differential lobbying participation in rulemaking.

*Differential Participation Hypothesis (H1):* Organizations that comment on proposed rules are wealthier than organizations that do not comment on proposed rules.

Differential participation may also be driven by the concentration of the costs and benefits of regulatory lobbying (see broadly, [Lowi, 1964](#); [Olson, 1965](#); [Wilson, 1989](#)). For-profit organizations—especially regulated firms—tend to have concentrated stakes in regulations. Wealthy profit-seekers have especially strong incentives and the ability to lobby in rulemaking ([Libgober, 2020b,a](#)). Thus, we anticipate differences in participation between for-profit businesses and the industry associations that represent them and other non-profit organizations.

*Profit-motivated Participation Hypothesis (H2):* Profit-seeking organizations and industry associations will be more likely to comment than other non-profit organizations.

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<sup>2</sup>Here we refer to bias in the descriptive, Schattschneider-ian, sense of a system favoring the wealthy ([Schnattschneider, 1960](#))

Moreover, we theorize that wealth inequalities in lobbying participation will persist even among those organizations that can pay the initial costs of rulemaking participation. Stated differently, when focused on those entities that have submitted at least one comment to a Dodd-Frank regulation, we argue that more wealthy organizations will, again, hold an advantage over less wealthy organizations by participating in more rulemaking processes.

*Differential Frequency of Participation Hypothesis (H<sub>3</sub>):* Among organizations commenting on rulemaking, organizations with greater wealth comment on more rules.

### 2.2.2 Differential Lobbying Success

Existing research hints at a differential lobbying benefit attached to wealth during rulemaking. For instance, Haeder and Yackee (2015) find more policy change during rulemaking when business interests are more active than other types of organizations, such as public interest groups. Yet, such research does not provide a clean test of wealth inequality. After all, some businesses are large while some are small; some non-profits hold major financial assets while others do not. We thus seek to understand whether wealth inequality drives lobbying influence during rulemaking and whether wealthier organizations see greater lobbying success during rulemaking.

*Differential Lobbying Success Hypothesis (H<sub>4</sub>):* Wealthier organizations are more successful in changing the content of agency rules.

Research suggests wealthier organizations are more influential because they are disproportionately able to marshal the technical expertise necessary to write sophisticated comments for rules (Wagner et al., 2011). Moreover, agency officials pay greater attention to abstract and technical arguments, such as those in comments from business organizations, while often minimizing the moral and personal arguments found in less sophisticated comments from individuals (Jewell and Bero, 2006; Mendelson, 2011). Additionally, non-industry comments often lack the specificity and detail that agencies need to change policy (Krawiec, 2013). Comments from wealthier organizations may thus be better positioned to provide useful information to regulators and thus to subsidize agencies as they seek to create technical and/or legally sophisticated regulations (see broadly, Hall and Deardorff (2006); Schnakenberg and Turner (2023)). Consequently, we hypothesize that wealthier entities utilize their resources to produce comments with greater technical and legal sophistication than less well-resourced groups and that these more sophisticated comments will be more impactful.

*Differential Sophistication Hypothesis (H<sub>5</sub>):* Wealthier organizations will use more technical and sophisticated language when commenting on proposed rules.

*Dividends of Sophistication Hypothesis (H6):* Comments from wealthier organizations will be more successful in affecting the content of agency rules because of comment sophistication.

Together, these hypotheses assess the role of wealth inequality in creating biases both in who participates and who has influence. They can be summarized as (1) wealthy organizations are better able to participate, and (2) even when the less wealthy participate, wealthy organizations are more likely to have their demands met. The hypotheses also identify a major theorized mechanism of lobbying influence: that wealthy organizations achieve regulatory policy influence via the legal and technical sophistication of their comments on proposed rules.

### 3 Data and Methods

To assess the extent of inequality in financial rulemaking, we assembled data on draft and final rules, comments on those rules, the wealth of various organizations, political spending, and lobbying spending. Data sources included the Federal Register, Regulations.gov, Wharton Research Data Services, the Center for Responsive Politics, Federal Financial Institutions Examinations Council, and the Internal Revenue Service. Using comment text and metadata, we link comments to the organizations that submitted them and metadata about each organization that allows us to measure its resources.

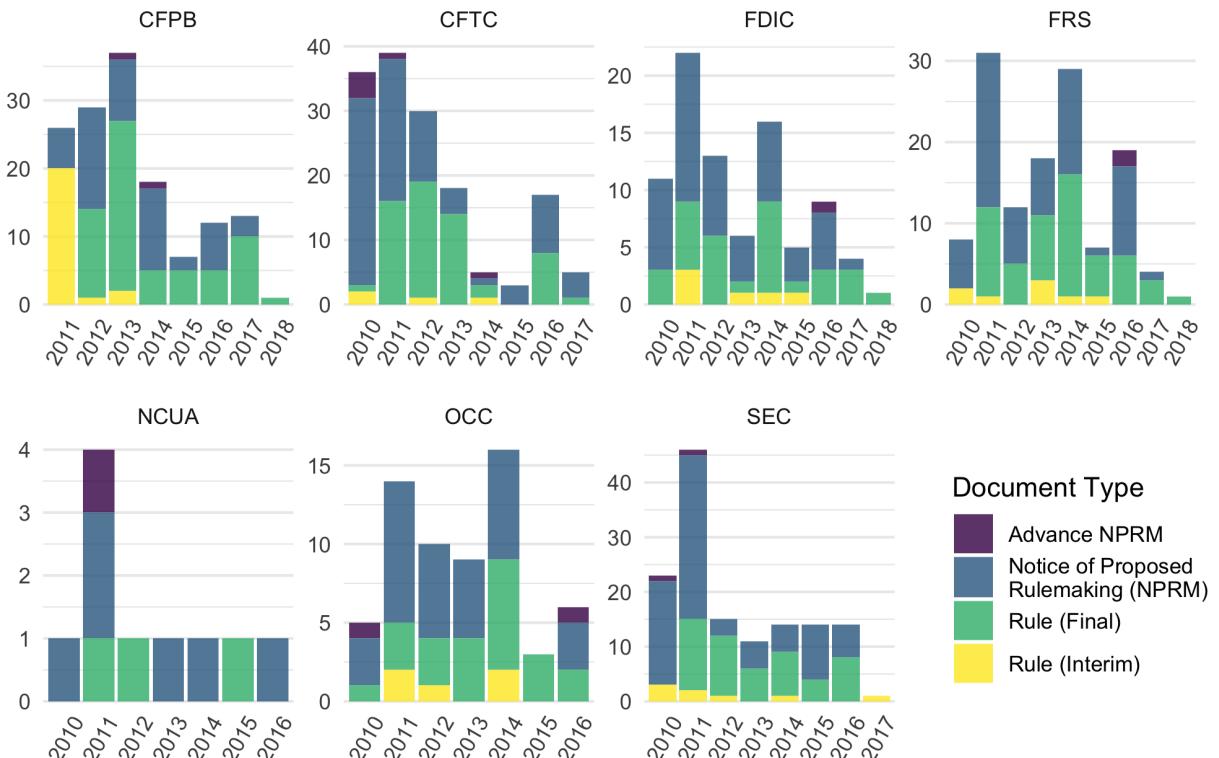
#### 3.1 Agency Rules & Public Comments

From the Federal Register, we collected the text of all rules promulgated under authorities granted by Dodd-Frank between its enactment on July 20, 2010, and July 8, 2018, by the seven primary financial regulators tasked with writing rules under the Dodd-Frank Act: the Consumer Financial Protection Bureau (CFPB), the Commodity Futures Trading Commission (CFTC), the Federal Deposit Insurance Corporation (FDIC), Federal Reserve (FRS), National Credit Union Administration (NCUA), the Office of the Comptroller of the Currency (OCC), the Securities and Exchange Commission (SEC). We also collected all public comments and comment metadata available on these rules from each agency's website or Regulations.gov. In doing so, we collected key information, including the name of the entity submitting the comment and the comment submission date. We also collected the text of all comments from comment submission forms and file attachments. These data include 264,709 comments on 239 separate rulemaking dockets, covering 802 regulatory actions issued by one or more of these seven agencies.<sup>3</sup>

<sup>3</sup>The law firm Davis Polk LLP maintains a list of Dodd-Frank-related rules. Each rule in our sample may be considered a set of connected regulatory actions, generally including a proposed and final rule connected by a Regulation Identifier Number (RIN). We count jointly-issued rules as two rules because agencies collected comments separately.

Figure 1 shows significant variation in regulatory activity across these agencies. The largest agency in our sample by regulatory volume is the CFPB, while the smallest is NCUA. The figure also shows considerable variation in the range of regulatory actions, including advanced notices of proposed rulemaking (ANPRMs), proposed rules, interim final rules, and final rules.

**Figure 1:** Dodd-Frank Act Implementing Actions by Agency. Counts of regulatory acts by agency and by year. Regulatory acts include ANPRM, NPRM, Interim Rule, and Final Rules. Only actions implementing Dodd-Frank are included. Note that one complete rulemaking process typically has two and sometimes more associated actions.



### 3.2 The Wealth of Organizations

Our wealth inequality hypotheses focus on the lobbying behavior of organizations during rulemaking. As a result, we developed a suite of new measurement and analytic tools designed to capture measures of wealth for organizations and then linked these measures to lobbying activities. The final dataset is the subset of all comments on Dodd-Frank rules that match an organization with some form of wealth data. This dataset allows us to compare the wealth of organizations that commented on financial rules to the wealth of similar organizations that did not comment on these rules.

We created the dataset by first collecting and digitizing the texts of all public comments on Dodd-Frank rules. We then extracted entity names and matched them to organizations in databases that yield information on wealth. No single database provides information on wealth for all types of organizations. We thus cast a wide net and identified multiple databases of organizations that might participate in financial rulemaking. The six databases below contain nearly 500,000 banks, credit unions, publicly traded companies, and non-profits. We identify 52,672 comments submitted by organizations that appear in one or more of the datasets described below. These databases are:

1. Financial data, including market capitalization, for all publicly traded companies listed on U.S. exchanges during our analysis time frame from the Wharton Research Data Service's Compustat database. Market capitalization is a common measure of firm size.
2. Separately, market capitalization for all corporations that filed disclosures with the SEC and are thus listed in the SEC's Central Index Key (CIK) database.
3. Assets under management for all bank and bank-like entities covered by the FDIC.
4. Assets under management for all U.S. credit unions from consolidated call reports published by the NCUA.
5. Total assets and annual revenue for all non-profit organizations as reported by Internal Revenue Service 990 forms.
6. Political Action Committee (PAC) donations from all organizations filing campaign disclosure reports with the Federal Election Commission, as compiled by the Center for Responsive Politics. These reports allow us to calculate each organization's average annual PAC contributions.
7. Lobbying expenditures, as compiled by the Center for Responsive Politics from Lobbying Disclosure Act reports. We then calculate the average annual lobbying expenditures for each organization.

Next, we used an iterative matching procedure to match organizations in these six datasets to those organizations that commented on at least one Dodd-Frank rule. This step took considerable innovation because the names that organizations use to submit comments and the names by which they appear in various databases can differ. Our matching procedure involved several steps. We first identified comments that were likely from an organization, excluding those that were from individuals.<sup>4</sup> We then linked these comments to the

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<sup>4</sup>Our study design purposefully sets aside comments from individuals, most of which are form comments, because previous research establishes that form comments are almost always part of a larger "campaign" orchestrated by an organization, and that the organizations that mobilize mass comment campaigns also submit technical comments on the same rules ([Judge-Lord, 2021](#)). Those technical comments from organizations are included in our data.

organization with the best matching name or to no organization when our matching algorithm did not identify a high-probability match in any of the databases. We spot-checked our processes for false positive matches by inspecting organizations that matched many comments and false negatives by inspecting especially long or sophisticated comments that did not match a known organization. We improved the matching algorithm through dozens of iterations and added post hoc corrections. This included hand-validating matches for over 30,000 comments, including all comments from entities that submitted 10 or more comments.

These procedures resulted in a dataset of 5,869 distinct organizations that submitted 52,672 unique comments on one or more Dodd-Frank rules. Below, we use these data to compare the wealth of commenting organizations to the 27,064 similar organizations in one of the above wealth databases that did not comment on a Dodd-Frank regulation.

**Figure 2:** Number of Organizations by Type and Agency to which they Commented. Counts of distinct organizations that have submitted comments to each financial regulator by organizational type. These counts reflect only those comments that have been matched to an organization. The lowest match rate (at the CFPB) still exceeds 20%. See the appendix.

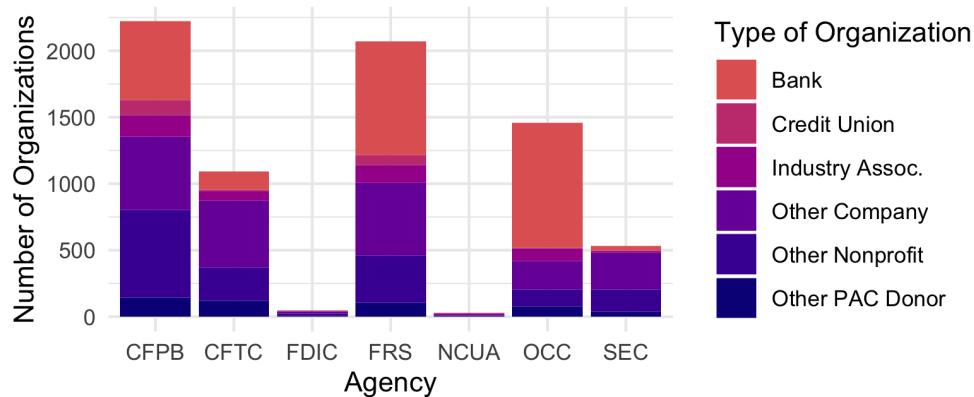
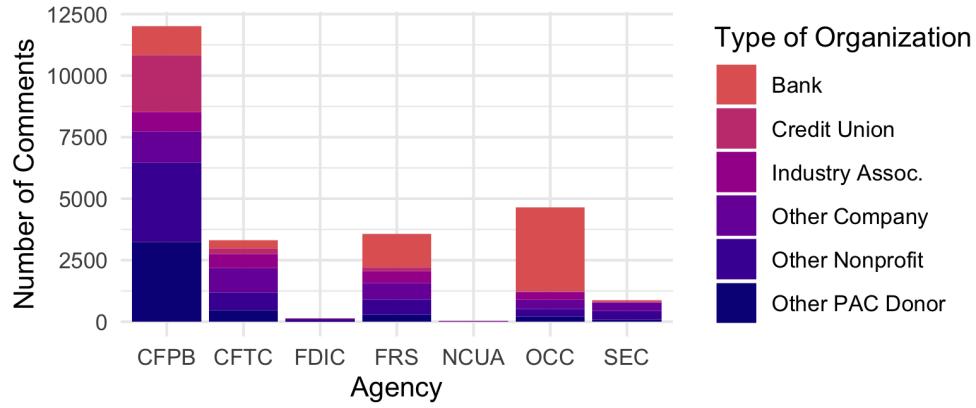


Figure 2 shows the number of unique commenting organizations matched to each database by the agency or agencies to which they submitted comments.<sup>5</sup> Agencies include the CFPB, CFTC, FDIC, FRS, NCUA, OCC, and SEC. Across all agencies except for the FRS, most commenting organizations are non-profits. The next most common type of commenter was federally-insured (FDIC-insured) banks (hereafter “banks”). Organizations that filed with the SEC and donors to PACs were less common. Figure 3 shows the number of comments submitted to each agency by an organization matched to each database described above. There was considerable variation in the number of comments from organizations per rule. For all rules that received more than 25 comments, we matched at least two organizations to asset data. The agency with the largest median number of comments from organizations was the CFPB at 21.

<sup>5</sup>These counts reflect only those comments matched to an organization. Descriptives and details about the matching process are in the appendix.

**Figure 3:** Number of Comments by Organization Type and Agency. Counts of comments from organizations that have submitted comments to each financial regulator by organizational type. These counts reflect only those comments that have been matched to an organization. Details about the match rate are in the appendix.



### 3.3 Profit Motives

We use an organization's legal incorporation status to infer profit motivations. Some 501(c)(3) non-profits, such as industry associations, are formed to advance narrow private interests. While our data on non-profits does not perfectly capture the extent to which organizations advance public or private interests, we classify an organization as representing "profit-seeking" interests if it is incorporated as either a for-profit company or an industry association.

We also leverage variation in types of banking institutions to infer profit motivations. Compared to credit unions and savings associations, commercial banks' legal and organizational structures make them more profit-oriented. Commercial banks are often large corporations managed by a board selected by shareholders and tend to serve corporations and wealthier, profit-motivated clients. In contrast, savings associations are chartered with the narrow purpose of providing affordable residential mortgages. Both types of banks may hold large volumes of assets, but they have very different clients.

### 3.4 Comment Sophistication

We measure comment sophistication by counting the technical terms in each comment. To capture technical sophistication with respect to the use of finance and banking jargon, we use the Oxford Dictionary of Finance and Banking, which includes 5,260 finance and banking terms. To measure legal sophistication, we count legal citations (for details, see the appendix). When an organization submits a comment with multiple attachments, we measure sophistication by summing up the technical terms and legal citations across all submitted documents. This approach follows the intuition that attachments with additional technical language reflect additional sophistication.<sup>14</sup>

### 3.5 Lobbying Success

After reviewing an agency's proposed rule, organizations typically use their comments to articulate the policy changes they want the agency to make in the final rule. To approximate the extent to which commenters' requested policy changes are made, we measure the overlap between the text of each organization's comment and the text added to the final rule. Our measure of lobbying success follows the intuition that an organization whose comment text is repeated by the agency in the text of the final rule is more influential in shifting regulatory content in its desired direction than an organization whose comment text is not reflected in changes in the final rule. Stated differently, more text reuse—from comment to final rule—suggests greater lobbying success.

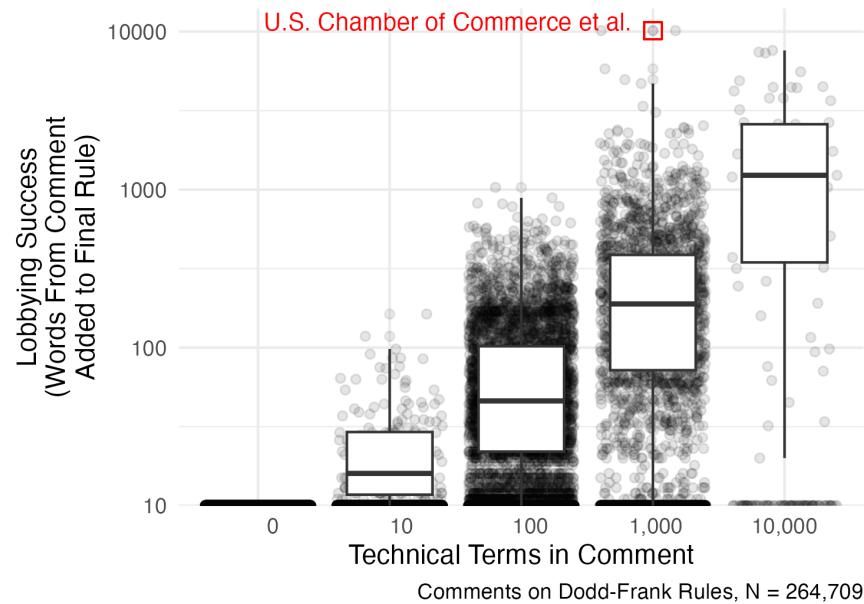
To construct this measure, we first link proposed rules to final rules by their Docket or Regulatory Identification Numbers. We then match comments to proposed rules by publication date. We then tokenize each draft and final rule and comment in groups of 10 words. Ten-word phrases are long enough that they rarely co-occur by chance and are thus a well-validated measure of textual similarity (Wilkerson et al., 2015; Casas et al., 2019; Rashin, 2020). Finally, we count the number of words in phrases of 10 or more that appear in the comment and final rule but do not appear in the draft rule.<sup>6</sup> For rules with multiple final rules, we take the sum of the comment's alignment with both final rules. When an organization submits a comment with multiple attachments, we include the highest-scoring document as the primary comment. This choice aligns with typical commenter behavior because organizations that submit multiple attachments almost always have a primary comment articulating their lobbying demands.

Our measure of lobbying success captures the idea that organizations desire policy change in line with their lobbying demands (Mahoney, 2007). It captures "success" by measuring the alignment between specific requests made in an organization's comment and specific subsequent policy changes. However, lobbying success, as we measure it, does not necessarily prove causality. For example, the organization's comment and the agency may have both copied the repeated text from a third source. Thus, we cannot definitively say that the comment caused the policy change, but we can say whether or not the organization achieved its stated lobbying objectives.

Descriptively, our measures of lobbying sophistication and lobbying success are highly correlated. Our measure of commenter lobbying success increases with the wealth of the commenting organization. Figure 4 shows that the number of words from the comment added to the final rule (the y-axis) correlates with the number of technical words in the comment (the x-axis, binned on a log scale). Box plots show the middle two

<sup>6</sup>We exclude any text from the agency's proposed rule in this calculation to ensure that we do not include phrases in an organization's comment that simply quote the proposed rule. Excluding the proposed rule text in our calculations also guards against the possibility that an organization's decision to include particular phrases in their comments is endogenous to the policy changes agencies make during rulemaking. By excluding the text of the proposed rule in our lobbying success measure, we remove the phrases and text that are most likely to be naturally repeated.

**Figure 4:** Lobbying Success by Comment Sophistication. Each point represents a comment. The horizontal axis bins comments by the order of magnitude of the number of technical terms per comment.



(25%-75%) quartiles and whiskers extending to 1.5 times the inter-quartile range (the distance between the first and third quartiles).

Figure 4 highlights the comment with the highest score on our measure of lobbying success, a comment to the SEC prepared by the law firm White & Case, LLP for the U.S. Chamber of Commerce, Americans for Limited Government, Ryder Systems, Inc., the Financial Services Institute, Inc., and Verizon. This highly-sophisticated comment included a 19-page cover letter with many technical citations underscoring the Chamber’s “very serious concerns on the impact [that the rule’s] whistleblower requirements will have on... companies’ responsibilities to act in the best interests of their shareholders.” This comment also included a marked-up draft of the SEC’s proposed rule, suggesting specific changes, several of which were adopted by the SEC.<sup>7</sup>

Other comments with high lobbying success scores include an 84-page comment from Standard & Poor’s Global Ratings credit rating agency to the SEC, a 59-page comment from the Futures Industry Association to the CFTC, and several marked-up versions of proposed SEC rules from investment companies. Overall, Figure 4 shows a positive correlation between the number of technical banking terms in a comment and the amount of text it shares with the final rule. Using these data (comments, their sophistication, and their lobbying success), the following section assesses our hypotheses about the relationship between wealth, political participation, lobbying sophistication, and lobbying success. Notably, section Section 4.2.5 further explores the correlation between

<sup>7</sup>See more details on this and other comments that score high on our measure of lobbying success in the appendix.

sophistication and lobbying success by assessing comment sophistication as a mediator in the relationship between wealth and success.

### 3.6 Methods

We assess our hypotheses about the relationship between wealth inequality and policy influence using descriptive statistics, regression, and causal mediation analysis. We use Welch t-tests to assess differences between commenters and non-commenters (H<sub>1</sub>), for-profit and non-profit organizations (H<sub>2</sub>), and frequent and infrequent commenters (H<sub>3</sub>). We use regression analyses to assess whether wealth predicts various outcomes of interest. We employ logit regression to model the binary outcome of commenting as a function of wealth (H<sub>1</sub>) and organization type (while controlling for wealth). We model differences between non-profits with for-profits overall and, separately, between for-profit and non-profit types of banks (H<sub>2</sub>). The resulting model coefficients allow us to estimate how changes in an organization's assets and organizational form produce changes in the odds that the organization will comment on a rule. We use Poisson regression to model the count of rules on which an organization comments (H<sub>3</sub>), the number of words from a comment added to the final rule (H<sub>4</sub>), and the number of technical terms used in a comment (H<sub>5</sub>), as a function of wealth. Finally, we employ causal mediation analysis to assess the extent to which campaign donations, lobbying expenditures, and comment sophistication mediate the relationship between wealth and lobbying success (H<sub>6</sub>).

## 4 Results

In this section, we investigate each of our six hypotheses in turn. First, we examine inequalities in which organizations participate in financial rulemaking. Second, we examine inequalities in lobbying influence among organizations that participate. In doing so, we test our hypotheses about wealth, access, and influence in the policy process using two broad types of variation: (1) variation among organizations that did comment and similar organizations that did not comment on rules implementing the Dodd-Frank Act and (2) variation in lobbying sophistication and success among organizations that did comment.

### 4.1 Wealth Inequality in Lobbying Participation

First, we compare levels of resources among commenting organizations and similar organizations that did not comment.

#### 4.1.1 Wealthier organizations are more likely to participate

The *Differential Participation Hypothesis* (H<sub>1</sub>) posits that organizations that comment on financial rules will be wealthier than organizations that do not comment. Because our data included the full population of similar organizations (e.g., all banks or all non-profits) that could reasonably be expected to submit comments, only

some of which did submit comments, we can assess the relationship between wealth inequality participation in the policy process.

Overall, we find strong support for the hypothesis for all types of organizations in our data: organizations that comment are much wealthier on average than similar organizations that do not comment. Figure 5 shows distributions of wealth for organizations that commented on any Dodd-Frank rule and those that did not. The x-axes show measures of wealth: assets or market capitalization. Because the x-axes of the plots in Figure 5 are logged, small differences on the right side of the plotted distributions represent large substantive differences in wealth. Statistical tests for differences between means show that differences within industry associations, other non-profits, banks, and publicly-traded firms are significant at the 0.01 level. Differences between commenting and non-commenting credit unions are significant at the 0.05 level. Logistic regression results (Table 1) support the conclusion that the odds of commenting increase with an organization's wealth among banks, publicly-traded firms, credit unions, industry associations, and other non-profits.

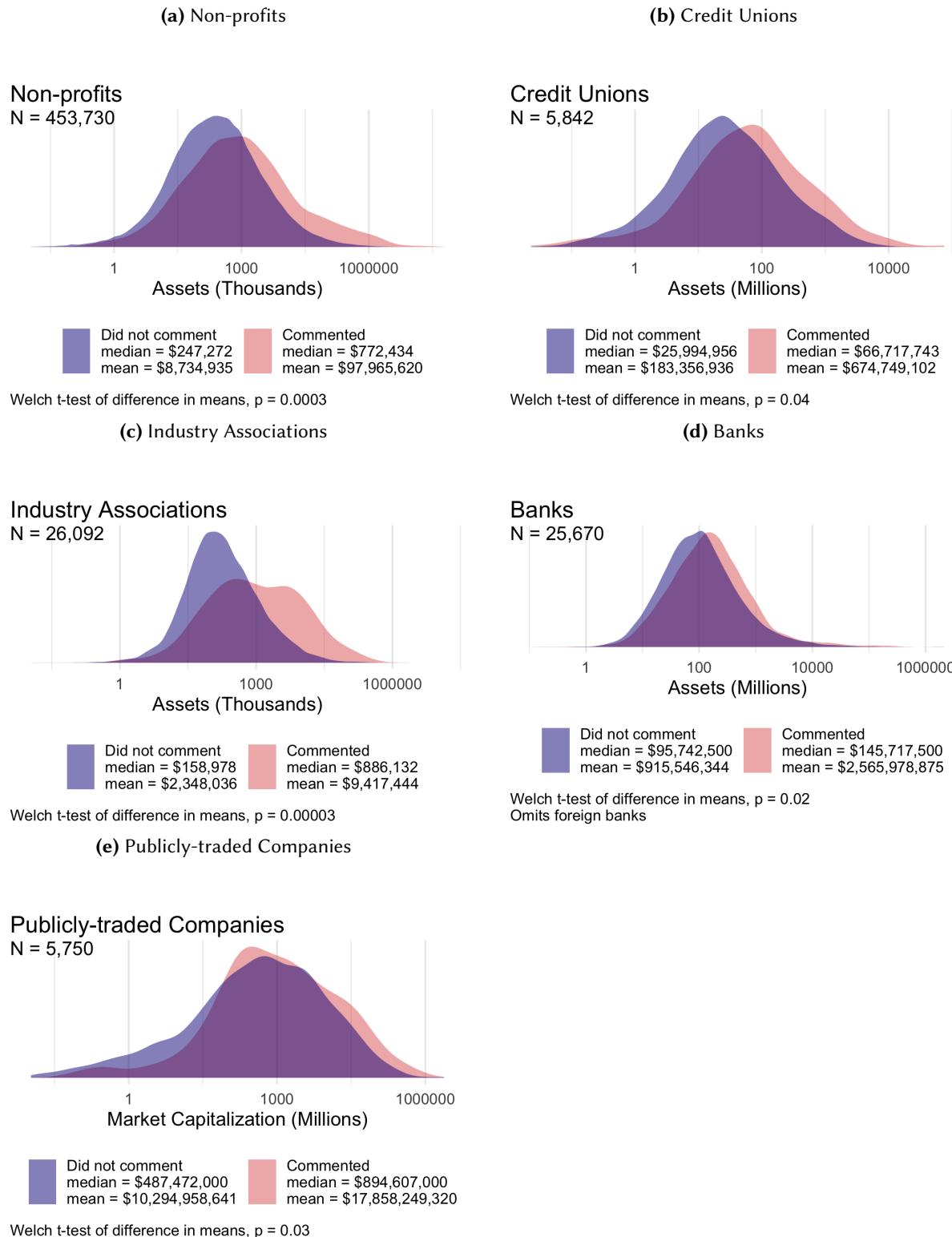
**Non-profits.** Panel (a) in Figure 5 shows that non-profits that comment on proposed financial regulations tend to be significantly better resourced than we would expect from a random sample of non-profits. The average assets of non-profits participating in Dodd-Frank rulemaking were about eleven times larger than non-profits that did not participate; the average assets of non-profits that did not comment was about \$9 million, whereas the average assets of non-profits that did comment had approximately \$98 million.

**Credit unions.** Similarly, panel (b) in Figure 5 shows that, in general, credit unions that comment on proposed financial regulations have more assets than those that do not participate. The average credit union that did not comment has about \$183 million in assets, whereas the average credit union that did comment had about \$675 million. That is, the average commenting credit union is more than three times as large as the average credit union that did not comment.

**Industry associations.** Industry associations that participate in rulemaking also have more resources, almost five times more, than those that do not. Panel (c) in Figure 5 shows that the average non-commenting industry association had about \$2 million in assets, whereas the average commenting industry association had about \$9 million.

**Banks.** Panel (d) in Figure 5 shows that, on average, banks that comment on proposed financial regulations are better resourced than we would expect from a random sample of banks. Banks that participated in financial rulemaking had over three times the average assets of banks that did not participate.

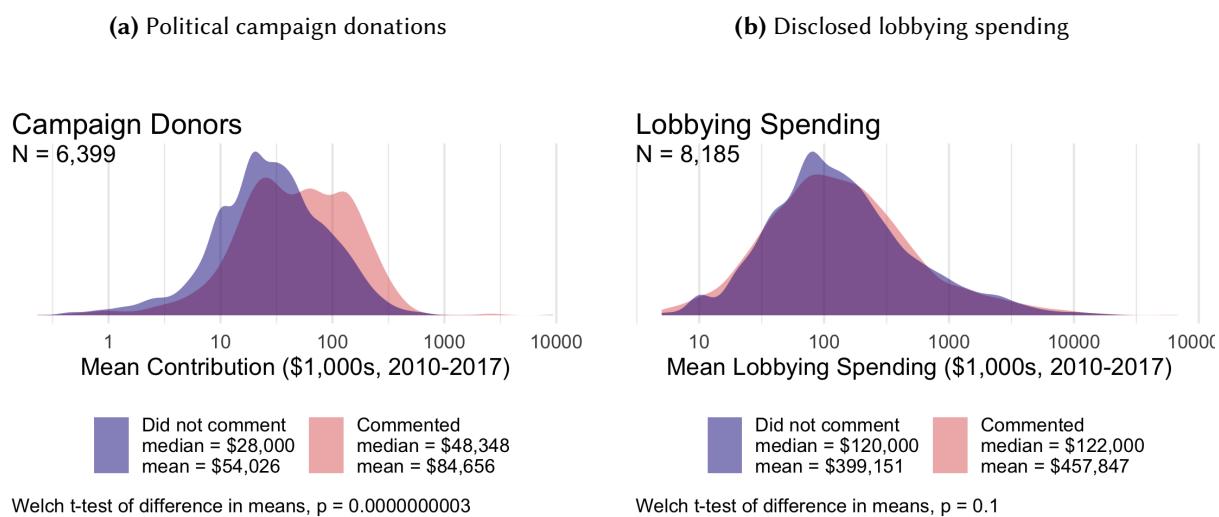
**Publicly-traded companies.** Panel (e) in Figure 5 shows similar distributions over market capitalization (the total value of a company's stock) for publicly-traded companies. Companies that comment on proposed financial regulations are wealthier than those that do not. Specifically, they have much more capital, as measured

**Figure 5:** Financial Resources of Organizations that Did and Did Not Comment

by the total value of their stock. The median market capitalization of companies that commented was about double that of the median company that did not comment. Logit models predicting the odds of commenting (the first column in Table 1 and Figure 9) show the same result: companies with higher market capitalization are more likely to comment.

#### **4.1.2 Organizations that spend more on political campaigns are more likely to comment**

**Figure 6:** Political Spending of Organizations that Did and Did Not Comment



Panel (a) of Figure 6 shows that organizations that comment on Dodd-Frank rules also donate more to political campaigns via PACs compared to organizational PAC donors who do not comment. This further supports the *Differential Participation Hypothesis* ( $H_1$ ). Among organizations that donate to PACs, the average campaign spending per two-year cycle was \$54,000 for those that did not submit a comment, while the average for those that did comment on a Dodd-Frank rule was \$85,000 ( $p < 0.01$ ). Logit models in the appendix also show that PAC donations are a strong predictor of commenting behavior. Panel (b) of Figure 6 shows that organizations that commented on Dodd-Frank rules also tend to spend more on traditional lobbying than those that did not comment, but these differences are not significant at the 0.05 level.

#### 4.1.3 Profit-driven organizations are more likely to comment than non-profits

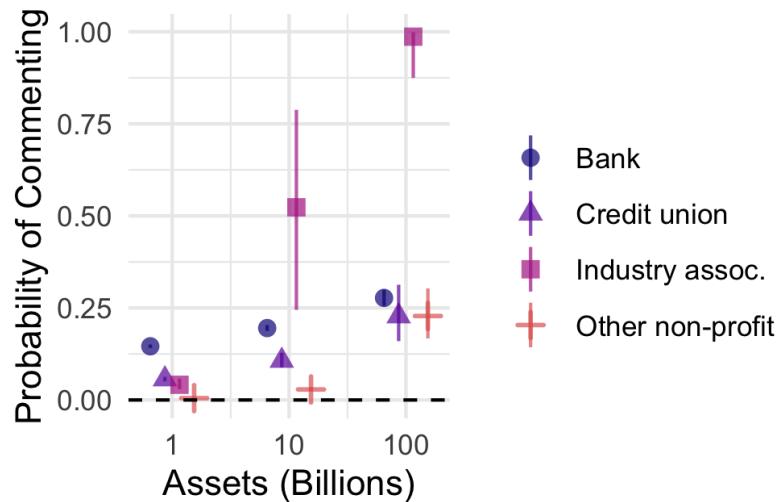
The *Profit-Motivated Participation* Hypothesis (H<sub>2</sub>) posited that for-profit organizations are more likely to participate in rulemaking than non-profit organizations. We find strong support for this hypothesis when we analyze the data overall (i.e., comparing for-profit companies with non-profits) and when we compare for-profit banks (commercial banks) to those that are non-profit (credit unions and savings associations). 12% of commercial banks commented on Dodd-Frank rules. In contrast, only 3% of non-profit savings associations, 2%

of non-profit credit unions, and 0.2% of other non-profits commented. Commercial banks were six times more likely to comment on a Dodd-Frank rule than the average Credit Union and 60 times more likely to comment than the average non-profit organization.

Banks are more likely to comment than credit unions and other types of non-profits, even when controlling for differences in assets. Table 1 shows the results of logit models predicting the log odds of commenting by organization type (bank, credit union, industry association, or other non-profit organization) and total assets. Based on model 2 from Table 1, Figure 7 shows that the predicted probability of commenting increases as all types of organizations gain more assets. Wealthier banks, credit unions, and other non-profits are more likely to comment than less wealthy ones. This further supports the *Differential Participation Hypothesis* (H1).

The relationship between wealth and commenting behavior is strongest for industry associations, further supporting the *Profit-Motivated Participation Hypothesis* (H2). Compared to other non-profits, those that represent profit-seeking businesses (industry associations) are much more likely to deploy more resources toward influencing public policy as they gain assets (see Figure 7 and appendix Table A2).

**Figure 7:** Predicted Probability of Participating in Dodd-Frank Rulemaking by Assets and Type of Organization



To further test this hypothesis, we subset our data to banks and estimate the odds of commenting across different types of banks. Figure 8 (based on model 3 from Table 1) shows that for-profit banks (i.e., commercial banks) are significantly more likely to comment than non-commercial banks (i.e., non-profit savings associations and savings associations), further supporting the link between profit motives and lobbying activity. For example, among banks with a mean asset amount of approximately 1 billion USD, our model predicts a commercial bank to have a 29% probability of commenting. Meanwhile, a non-profit savings association with the same asset

**Table 1:** Log Odds of Commenting on Any Dodd-Frank Rule

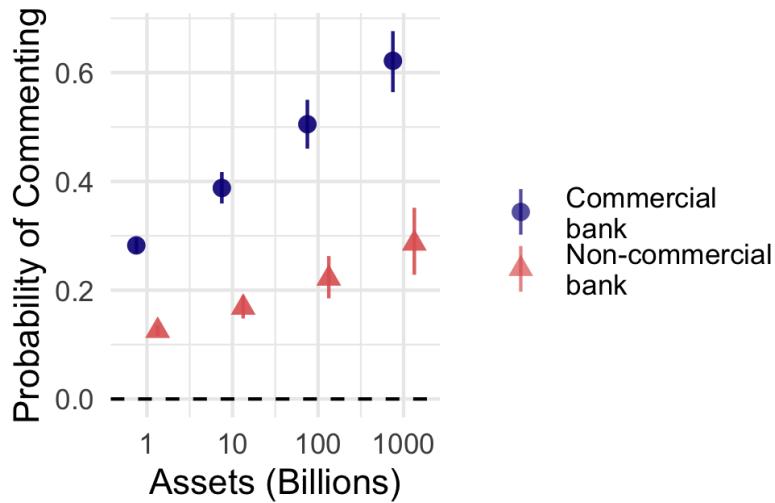
	(1)	(2)	(3)
Dependent Variable	Commented	Commented	Commented
Log(Market Capitalization)	0.109*** (0.018)		
Log(Assets)		0.206*** (0.015)	0.207*** (0.013)
Credit union		-1.189*** (0.078)	
Industry assoc.		-2.551*** (0.063)	
Other non-profit		-4.111*** (0.039)	
Log(Assets) x Credit Union		0.200*** (0.059)	
Log(Assets) x Industry assoc.		1.693*** (0.263)	
Log(Assets) x Other non-profit		0.834*** (0.047)	
Non-commercial bank		-1.009*** (0.055)	
Log(Assets) x Non-commercial bank		-0.058** (0.022)	
Num.Obs.	5797	495 129	25 670
Log.Lik.	-1371.259	-21 829.469	-10 702.495

+ p &lt; 0.1, \* p &lt; 0.05, \*\* p &lt; 0.01, \*\*\* p &lt; 0.001

Reference catagory = Banks for model 2, commercial banks for model 3

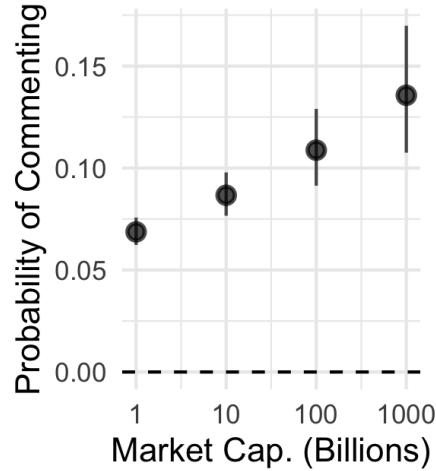
resources has only a 12% probability of commenting. This further supports the *Profit-motivated Participation Hypothesis* (H<sub>2</sub>). Moreover, assets remain a significant predictor of whether an organization comments even controlling for differences in the type of bank institution. This provides additional evidence for the *Differential Participation Hypothesis* (H<sub>1</sub>).

**Figure 8:** Predicted Probability of Participating in Dodd-Frank Rulemaking by Type of Bank



Finally, we estimate the probability of commenting among publicly traded companies based on their market capitalization. This alternative measure of corporate wealth yields the same conclusion: companies with greater wealth are more likely to comment. This is true even among large publicly-traded companies. Figure 9 (based on the results shown in model 1 of Table 1) shows that the predicted probability of commenting nearly doubles from about 7% to about 14% as a company goes from having a market capitalization of one billion to one trillion.

The main takeaway thus far is that resources correlate with commenting behavior; wealthier organizations are more likely to participate in regulatory lobbying than less wealthy organizations. If representation is largely about who shows up to participate in the policy process, companies with high market capitalization, organizations that give more to political campaigns, and banks, credit unions, and non-profits with more assets are better represented than similar organizations with lower market capitalization, less political spending, and fewer assets. Both within and across different types of organizations, wealthier organizations are more likely to be at the table when important policy decisions are made.

**Figure 9:** Predicted Probability of Participating in Dodd-Frank Rulemaking by Market Capitalization

## 4.2 Wealth Inequality among Organizations that Lobby

We now investigate wealth inequalities within the subset of organizations that do participate in rulemaking. By focusing on variation among organizations that all commented on at least one Dodd-Frank rule, we can have even more confidence that we are comparing similar organizations.

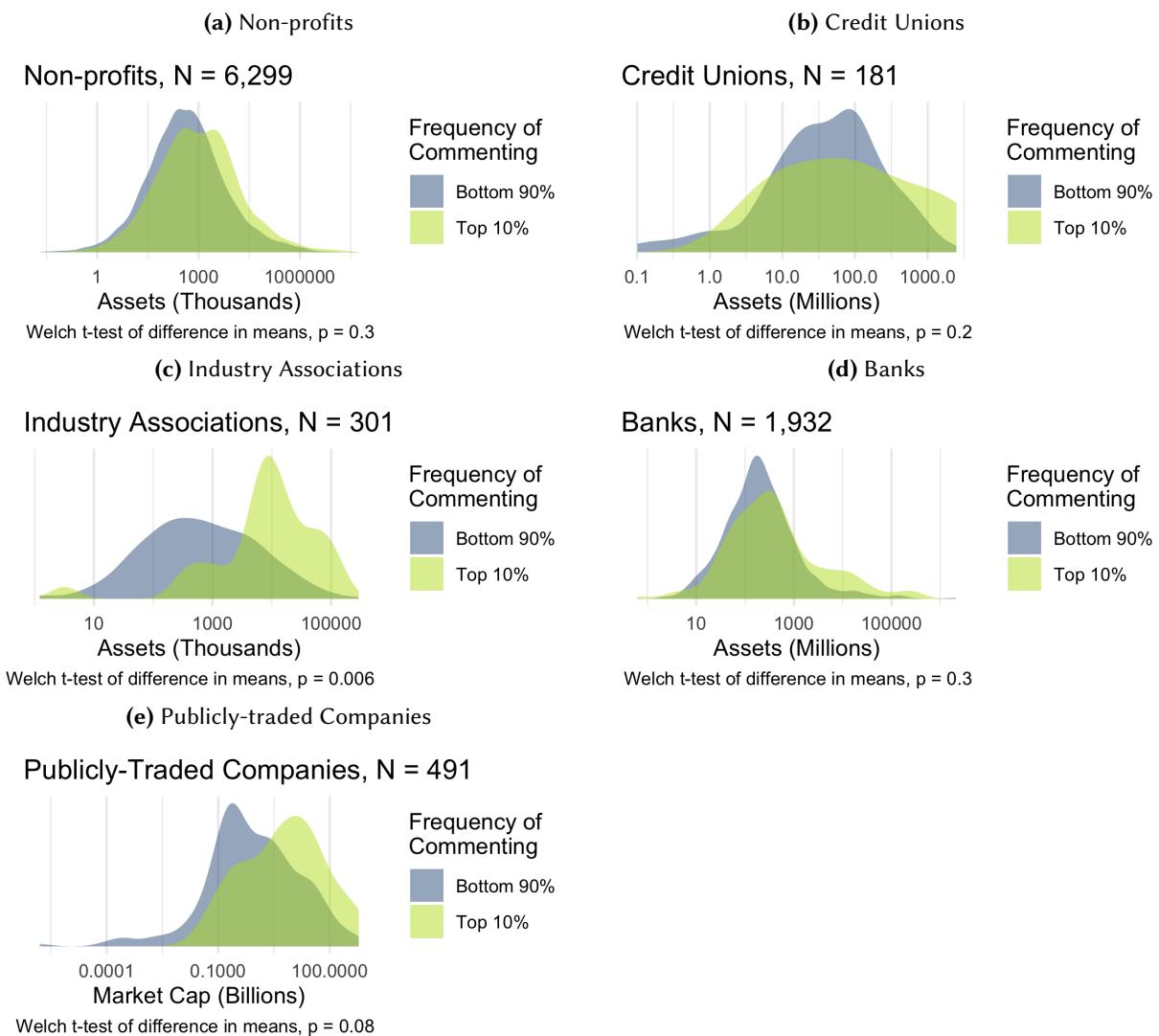
### 4.2.1 Frequent participants are wealthier than those who participate less frequently

The *Differential Frequency of Participation* Hypothesis ( $H_3$ ) posits that, among commenters, wealthy organizations will participate more frequently. To test this hypothesis, we count the number of Dodd-Frank rules on which each participating organization commented. Figure 10 shows that organizations that comment on more rules tend to be wealthier. Given that most organizations comment on few rules, we sort commenters by the number of rules on which they comment and compare the wealth of the top 10% to the bottom 90%. In the appendix, we show similar results comparing organizations that commented on five or more rules to those that commented on fewer than five rules.

Panel (a) of Figure 10 shows that most of the non-profits in the top 10% of most frequent commenters had assets over \$1 million. In contrast, non-profits in the bottom 90% (i.e., low-frequency commenters) had assets under \$1 million. Panel (b) of Figure 10 shows that most of the credit unions in the top 10% of most frequent commenters had greater assets than the average credit union in the bottom 90%. Panel (c) of Figure 10 shows that most of the industry associations in the top 10% of most frequent commenters had greater assets than the average industry association in the bottom 90%. Most of the industry associations in the top 10% of most frequent commenters had assets over \$10 million. In contrast, industry associations in the bottom 90% (i.e.,

low-frequency commenters) had assets under \$1 million. Panel (d) of Figure 10 shows that, even among banks, a large share of the most frequent commenters had assets over \$1 billion. Yet, nearly all banks that were less frequent commenters—most of which only commented on one rule—had far less than \$1 billion in assets. Panel (e) of Figure 10 shows that, among publicly-traded companies, the majority of frequent commenters had market capitalization over \$10 billion. In contrast, most companies that were less frequent commenters had under \$10 billion in market capitalization. Overall, while these differences are only statistically significant for industry associations and publicly-traded companies, the general pattern is in the direction predicted by Hypothesis 3: frequent commenters also tend to be more wealthy organizations.

**Figure 10:** Frequent and Infrequent Commenters (By Percentile of the Number of Dockets on Which Each Organization Commented) by Resources (Log Scale)



#### 4.2.2 Wealthier commenters have greater lobbying success

The final three hypotheses focus on the association between wealth inequality and lobbying success: The *Differential Lobbying Success Hypothesis* ( $H_4$ ) posits that wealthy organizations will be more successful in their regulatory lobbying. The final two hypotheses address why we may see this pattern emerge. For instance, is it because wealthy organizations spend more on political campaigns and lobbying targeting Congress? Or because they employ more legal and technical expertise when they comment on proposed rules?

Figure 11 provides descriptive support for Hypothesis 4. For banks and other companies, we see a positive correlation between an organization's wealth and its lobbying success. The pattern is less clear for non-profits. In other words, wealthier companies appear to be more successful in shifting the content of final rules than similar—but less wealthy—companies. The y-axes of plots in Figure 11 indicate the number of words that appear in 10-word phrases in both an organization's comment and the final rule (but were not present in the proposed rule). The x-axes of each plot in Figure 11 represent different indicators of wealth binned on a log scale. The differences in means capture the extent to which wealth is correlated with lobbying success (as measured by the amount of text added to an agency's final policy documents containing exact phrases used by or suggested by an organization's comment).

#### 4.2.3 Wealthier companies are more sophisticated at lobbying

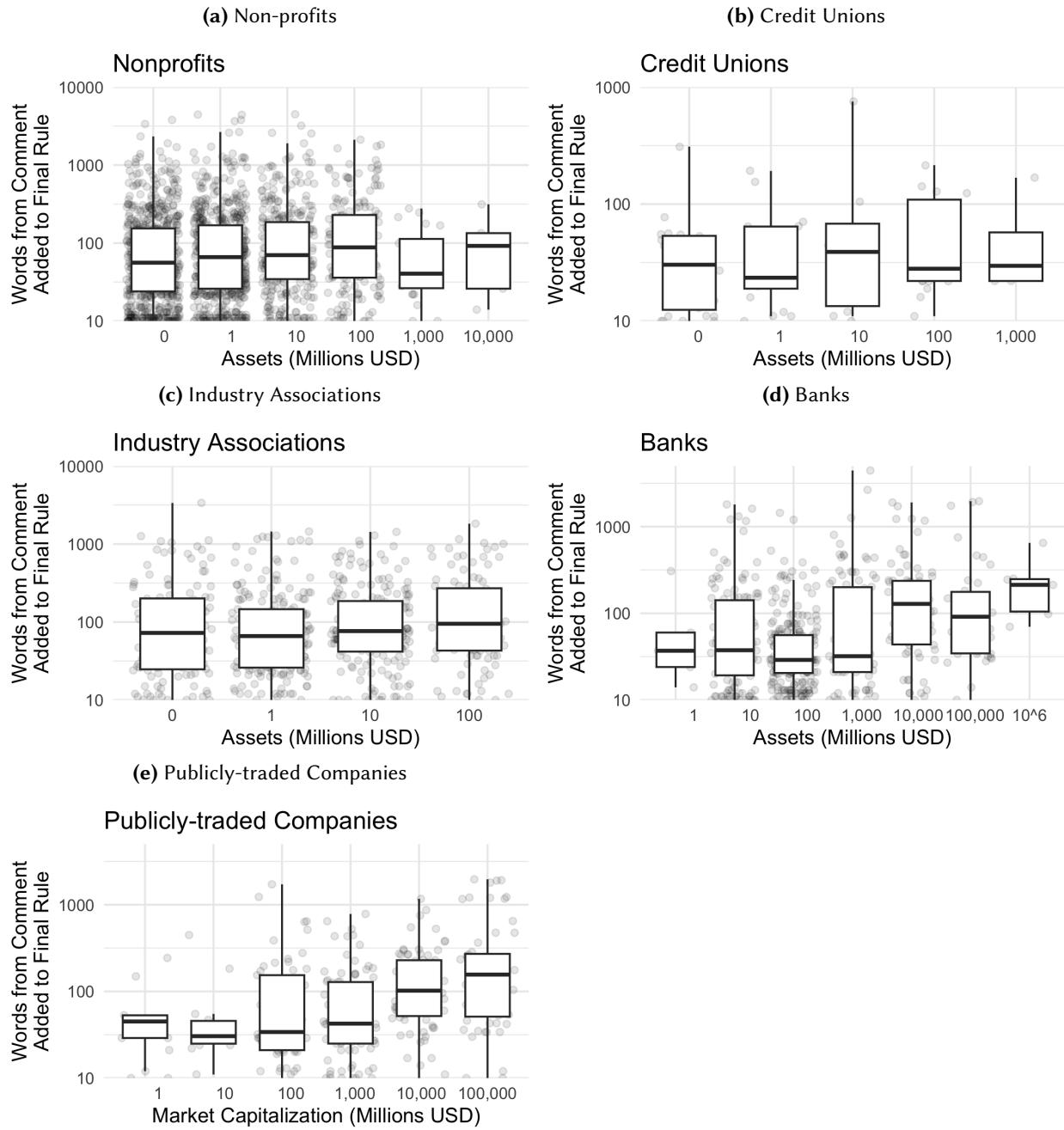
We now turn to possible explanations for the positive relationship between wealth and lobbying success. The *Differential Sophistication Hypothesis* ( $H_5$ ) suggests wealthier organizations submit more sophisticated comments than less wealthy entities. Figure 12 provides evidence of just such a relationship. It shows that the comments from wealthier organizations tend to include more technical language specific to finance and banking. This pattern is especially strong for banks and publicly traded companies. For example, nearly every comment from a company with market capitalization over \$50 billion contained over 100 technical terms, while companies with lower market capitalization tended to submit less sophisticated comments.

#### 4.2.4 More sophisticated comments correlate with greater lobbying success

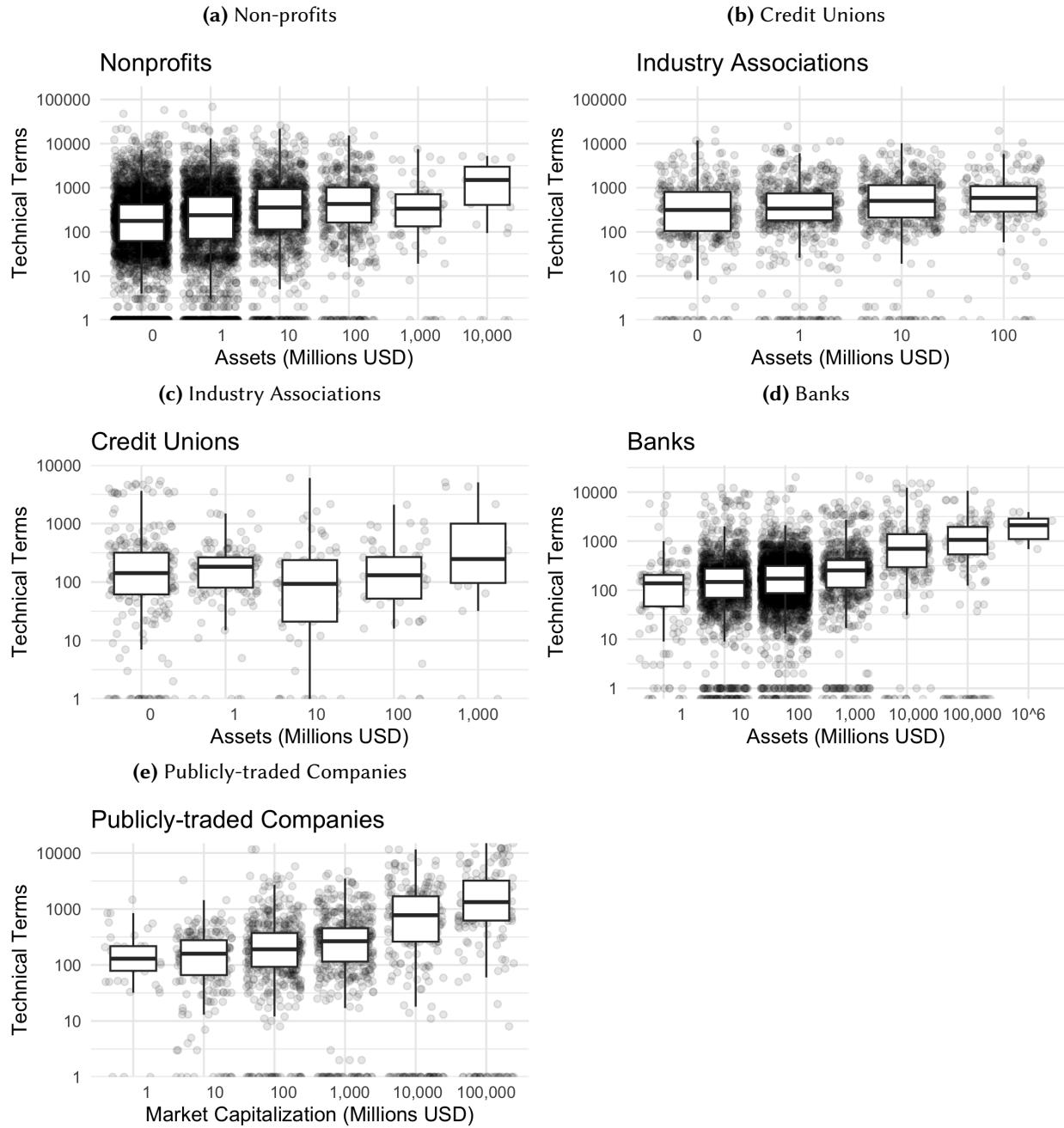
We theorize in the *Dividends of Sophistication Hypothesis* ( $H_6$ ) that comments from wealthier organizations are more successful in shifting the content of financial rules *because* wealthier organizations submit more sophisticated comments. We investigate this proposed mechanism for unequal influence by assessing the relationship between legal and technical sophistication and lobbying success.

Table 2 shows that comments that use more sophisticated technical language are more likely to contain text that was added to the final rule. Table 2 shows estimates of lobbying success from regression models where the key predictor variable is the number of technical terms or legal citations in a comment. Both models suggest a

**Figure 11:** Amount of Text Repeated in Final Rules by Commenter Resources. Each point represents a comment. The horizontal axis bins comments by the order of magnitude of the assets of the commenting organization in millions of dollars.



**Figure 12:** Amount of Technical Language by Assets. Each point represents a comment. The horizontal axis bins comments by the order of magnitude of the assets of the commenting organization in millions of dollars.



**Table 2:** OLS Models of Lobbying Success by Comment Sophistication

	(1)	(2)
Dependent Variable	Efficacy	Efficacy
Technical Terms	0.088*** (0.003)	
Legal Citations	13.698*** (0.883)	
Log(Technical Terms)		40.175*** (3.826)
Log(Legal Citations)		142.614*** (8.031)
Num.Obs.	9035	9035
Log.Lik.	-69 582.862	-70 202.319

+ p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001  
Poisson regression yields similar results (see appendix)

statistically significant relationship. Substantively, the use of 10 additional technical finance or banking terms in an organization's comment is associated with an additional word being added to the text of the final rule. Each legal citation in a comment is associated with about 14 additional words from that comment added to the final rule. By "additional words," we mean words from a 10-word phrase that appears in the organization's comment and in the final rule but was not present in the draft rule.

#### 4.2.5 Legal and technical sophistication explains the lobbying success of wealthy companies

Finally, to further evaluate the *Dividends of Sophistication* Hypothesis (H6), we apply mediation analysis to examine the extent to which the sophistication of the comments may explain the relationship between wealth and lobbying success. Mediation analysis can take various forms, from structural equation models and sequential testing of additional variables to more modern techniques rooted in causal inference (MacKinnon, 2012). As recent work has shown (Imai et al., 2011), causal analysis of mediator variables requires strong assumptions that are unlikely to be satisfied in the complex observational setting of this study. Still, we consider observational analysis of mediation hypotheses worthwhile for the same reason we regard other non-identified, descriptive studies as valuable: they permit the repeated, principled testing of hypotheses that can inform important scholarly and policy debates where randomized studies are problematic or unlikely.

We follow the estimation strategy and approach of the more modern literature in causal inference and conduct this analysis through the mediation package in R (Tingley et al., 2014). In this literature, causal mediation

analysis aims to decompose an average treatment effect into its parts. The treatment effect is also called the total effect, meaning the effect of a treatment on an outcome. This total effect is the sum of the direct effect, the effect that a treatment has directly, and the indirect effect, which is the effect through some mediator. The mediator is often thought of as a mechanism by which a treatment transforms into an outcome. Hypothetically, an effect may have multiple, potentially interrelated mediators, making the analysis more complex and challenging.

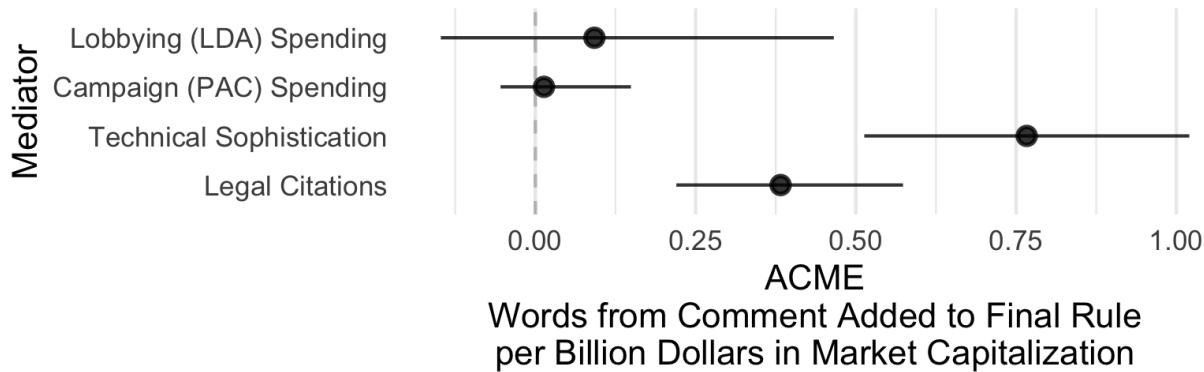
Here, we focus on the publicly-traded companies that submitted comments to our Dodd-Frank rules. Because the correlation between wealth and lobbying success (corresponding to the “total effect” in this analysis) was largest for these companies (see Figure 11), we use this subset to examine how sophisticated lobbying may be mediated by the relationship between wealth and lobbying success. In this analysis, the company’s market capitalization is the key predictor variable, lobbying success is the dependent variable in the main models, and comment sophistication is the key mediator our hypothesis expects (i.e., the dependent variable outcome in the mediator model).

In conducting our mediation analysis, we examine four causal pathways<sup>8</sup> between wealth and lobbying success: (1) donating to political campaigns via PACs, (2) spending on lobbying covered by the Lobbying Disclosure Act, (3) using more technical language in public comments, or (4) using more legally-sophisticated language in public comments. We test each mediator individually because they are not causally sequential ([Imai and Yamamoto, 2013](#)). Mediation analysis conducted in this fashion suggests that the bulk of the relationship between wealth and lobbying success is attributable to wealthier organizations submitting more sophisticated comments. Market capitalization is highly correlated with using technical terms in comments, which is associated with lobbying success. The Average Conditional Marginal Effect (ACME) estimates in Figure 13 show that both technical and legal sophistication appear to help explain the relationship between wealth and lobbying success ( $p < 0.05$ ). Moreover, Appendix Figure A18 shows that the ACME for technical sophistication is a large share of the Total Effect of wealth on lobbying success. Thus, we see support for Hypothesis 6: much of the relationship between market capitalization and our measure of lobbying success results from wealthier organizations submitting more sophisticated comments. This conclusion is robust to focusing on technical or legal sophistication, but technical sophistication explains a larger share of the relationship between wealth and lobbying success than legal sophistication.

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<sup>8</sup>We use the term causal pathways to refer to the fact that this analysis assumes a causal model, in the same way, that OLS with selection on observables assumes a causal model. To interpret the findings and point estimates of mediation analysis as causally identified requires stronger assumptions than we think are justified. To do that, we would need to assume that the relationship between wealth and lobbying success is causal and that the mediator(s) examined are the only possible causal pathways between wealth and lobbying success. That is, we must assume there is only a direct effect of wealth and a mediated effect through the proposed mediator. We think this is unlikely because of inter-relationships between the mediators and the possibility of omitted variables that cause wealth and the proposed causal pathways.

**Figure 13:** Political Spending, Lobbying, Technical Sophistication, and Legal Sophistication as Proposed Mediators between Wealth and Lobbying Success



Mediation analysis allows us to compare alternative influence mechanisms. One alternative mechanism goes through campaign contributions and power in Congress. If organizational wealth enables greater political contributions, political contributions buy power in Congress, and if agency officials are concerned about congressional sanction when revising rules, campaign contributions may drive lobbying success. This argument is similar to research by [Gordon and Hafer \(2005\)](#) suggesting that large organizations exert influence through repeated political contributions. We use PAC contributions as the proposed mediator to test this alternative argument.

Finally, we use lobbying expenditures as the mediator. Since disclosed lobbying expenditures target both Congress and agency officials, this causal pathway could operate via congressional sanction (as with the campaign spending via PACs) or more directly through lobbyists persuading agency officials to adopt their client's preferred policy language.

In both cases, the ACME is small and not statistically significant. This implies that increasing a corporation's wealth increases its expenditure on candidates and lobbyists, but this does not then translate into influence on change from draft to final agency rule. The differing estimates of mediation effects suggest that PAC contributions and reported lobbying expenditures are not as substantial mechanisms of influence in changes between draft and final rules.<sup>9</sup>

#### 4.2.6 Alternative Interpretation: Wealth Indicates Larger Membership.

One alternative explanation for our findings is that wealthy organizations have more influence because they represent more people. If true, then organizational wealth is merely a stand-in for organizational membership. This would affect the implications of our analyses. Upon investigation, however, the wealth-membership

<sup>9</sup>This does not mean that political spending and lobbying do not have large effects on earlier stages of the policy process, including the drafting of proposed rules.

association fails to explain the patterns in the data. The most likely case for this pattern to occur would be in non-profit organizations. Thus, to test these relationships, we examine the active membership base of non-profits. We find that organizations with larger numbers of volunteers are no more likely to comment (Appendix Figure A4) or have lobbying success when they are larger (Appendix Figure A5). In fact, controlling for the number of volunteers, assets remains a significant predictor of whether a non-profit organization will comment, and the coefficient on assets is unaffected by including an organization's number of volunteers in the model.

Second, our findings in section Section 4.1.3 suggest that net of wealth, for-profit organizations still enjoy greater advantages than non-profit organizations. To be consistent with pluralist democracy, for-profit organizations would need to represent the interests of more people, on average, than non-profit organizations of similar size.

## 5 Conclusion

Capital-based wealth inequality increased dramatically over the twentieth century, especially in the United States (e.g., [Piketty, 2014](#); [Saez and Zucman, 2020](#)). Political science research documented profound and durable patterns where wealth inequality in the United States leads to disproportionate influence in congressional policymaking, but inequality in administrative policymaking has largely escaped systematic study.

We provide novel data and tools to study the relationship between wealth, representation, and inequality in administrative policymaking for the first time. Specifically, we collect the most comprehensive data ever assembled on one of the most sweeping regulatory statutes ever enacted in the United States: the Dodd-Frank Act of 2010. This legislation delegated significant powers to federal agencies to flesh out statutory policies, restrictions, meaning, and standards in rulemaking. The degree of administrative discretion was vast, and our new dataset permits a direct examination of the regulatory policy content created by government agencies in response, as well as attempts to impact those policies by outside organizations.

Our systematic approach—covering all rules across multiple agencies implementing the same landmark piece of legislation—allows unique comparisons within and across agencies and types of organizations. It is the first study of which we are aware to systematically measure the wealth of those participating in agency rulemaking. By combining changes in rules with data from comments and their authors, we can assess the relative level of lobbying access and lobbying effectiveness that different types of organizations enjoy.

We find support for our hypotheses predicting that disparities in wealth lead to inequality in administrative policymaking. We find two kinds of bias in rulemaking: bias in participation and bias in influence. Wealthy organizations are more likely to participate in regulatory lobbying than less wealthy organizations. These

findings hold even when comparing similar organizations—such as when comparing wealthy banks to less wealthy banks. In the end, if representation is primarily shaped by who shows up, then these results suggest that wealthy organizations are better represented during financial rulemaking.

We also find evidence that inequalities in wealth drive lobbying influence. For example, market capitalization is strongly correlated with lobbying success among publicly-traded firms. Market capitalization is also highly correlated with comment sophistication, which, in turn, is associated with lobbying success. Mediation analysis suggests that much of the strong association between organizational wealth and organizational lobbying success is a result of the technical and legal sophistication present within the organization's comment, not political power gained through campaign contributions or spending on lobbying firms.

Our empirical study also provides stylized facts that address some of the formal literature on administrative policymaking. Of the literature summarized in [Schnakenberg and Turner \(2023\)](#), our results cohere most with subsidy-based theories of special interest influence ([Hall and Deardorff, 2006](#)) and with models of policy development monopolies ([Hirsch and Shotts, 2018](#)). Specifically, there may be a rationale for agencies to follow Hirsch and Shotts' recommendation that agencies induce information provision (competition) by policy developers with different preferences. Meanwhile, our findings that larger and wealthier organizations are more likely to participate and, conditional on participating, more likely to see their comments incorporated in final rule generation, provide the basis for further theoretical work. Our novel measures of comment sophistication also permit those interested in formal modeling to perform tests of hypotheses on commenting strategy, costly signaling and the mobilization of expertise. That said, this is primarily a descriptive, large-sample empirical study and we do not claim to decisively adjudicate among claims in the formal literature. In focusing on rulemaking, our analysis also leaves aside important issues about venue choice raised in [Boehmke et al. \(2013\)](#) and other works. A richer empirical study might consider the simultaneous empirical modeling of legislative lobbying and commenting as potential complements or substitutes.

These results hold important implications for reform efforts aimed at ameliorating the effects of wealth inequality on government policy ([OIRA, 2023](#)). For instance, reforms that provide resources to select organizations to develop more sophisticated comments and policy recommendations may be an effective means to level the playing field between differentially resourced lobbying entities. Such a strategy would resemble subsidized legal representation used in other kinds of policies. The novel feature is that this would be aimed at reducing inequality in administrative policymaking—i.e., rulemaking. Efforts similar to this are already underway at some agencies, including at the U.S. Federal Energy Regulatory Commission.<sup>10</sup> This article's findings suggest that such reforms merit close study.

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<sup>10</sup> See: <https://www.ferc.gov/equity>

Future work is needed to extend this article's findings. For instance, following [Ban and You \(2019\)](#), additional research is needed to make explicit comparisons between the legislative and regulatory policymaking processes to provide a more complete picture of how inequality may manifest across policymaking in America's key political institutions. Future work could also assess the relationship between wealth inequality in other areas of agency decision-making, such as spending, permitting, and enforcement decisions.

In the end, this study presents a model for studying inequality in U.S. policymaking. With the rise of the administrative state, scholars have documented the importance of agency rulemaking ([Kerwin and Furlong, 2018](#)), institutional bias toward businesses ([Yackee and Yackee, 2006](#)), and the massive value businesses gain from lobbying agencies ([Libgober, 2020a](#)). Our data and analysis methods enable a new view of the biases in participation and influence in agency rulemaking. The consistent patterns in wealth disparities and impacts that we uncover advance our understanding of lobbying, money in politics, and how these pressures shape democracy in the modern administrative state.

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## Appendix

### A Data collection and processing

Table A1 and Figure A1 show the number of rulemaking processes (dockets) and comments in our data by agency. Identifying comments from organizations and matching those organizations to metadata about their resources required significant effort. To match comments to organizations found in various databases, we first extract entity names from the text or from comment metadata where available. We then use a custom probabilistic matching algorithm that was iteratively built to correctly match organizations in these data using a combination of term-frequency times inverse document frequency (TF-IDF) and Jaccard distance. For each commenter, we start with the most uncommon token (word) in the entity name string and search for names in each dataset that have that token. For example, if Klamath First Federal Bank submitted a comment, the algorithm first looks for names with the token “Klamath.” We then rank the resulting candidate matches using a modified Jaccard index that scores each token in the commenter’s name that matches a token in the candidate name in inverse proportion to the token’s frequency in the commenter dataset (normalizing by the sum of the inverse frequencies of all the tokens in the commenter’s name, matching or otherwise) so that ‘more informative’ words contribute more to the match score. We then set a threshold match score that, upon inspection, yields correct matches. Finally, we then hand-validated over 30,000 comments, including all matches that occurred ten times or more and a sample of others and implement a custom set of corrections based on this validated set.

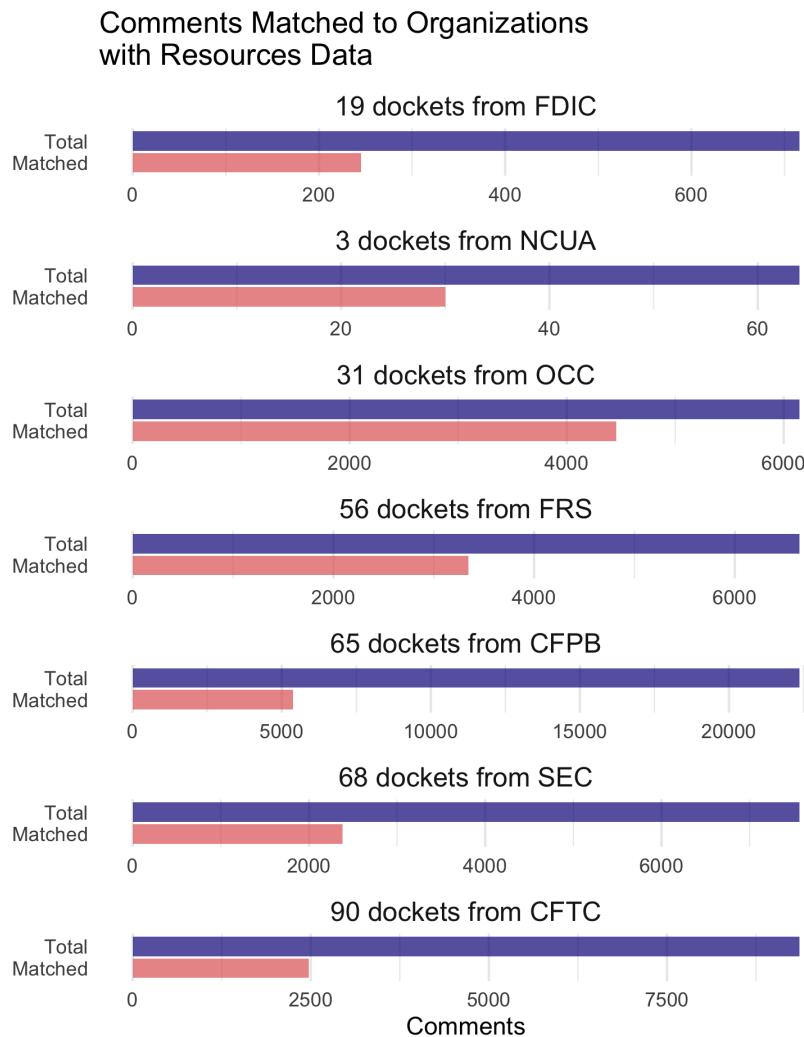
**Table A1:** Comments, Comment Attachments, Comment Sophistication, Comment Lobbying Success, and Commenter Wealth Data on Rules Implementing the Dodd-Frank Act

Agency	Attachments	Comments	Sophistication Measures	Success Measures	Wealth Data
CFPB	85192	231589	231589	231589	17469
CFTC	13728	37675	37675	37675	5105
FDIC	811	807	807	807	135
FRS	7156	7116	7116	7116	3808
NCUA	66	66	66	66	29
OCC	11926	12017	12017	12017	4852
SEC	10240	9368	9368	9368	935

### A.1 Entity extraction and matching

Figure A1 shows the number of rulemaking dockets and the number of comments matched to organizations with resource data by agency.

**Figure A1:** Dockets and Comments Matched to Asset Data by Agency

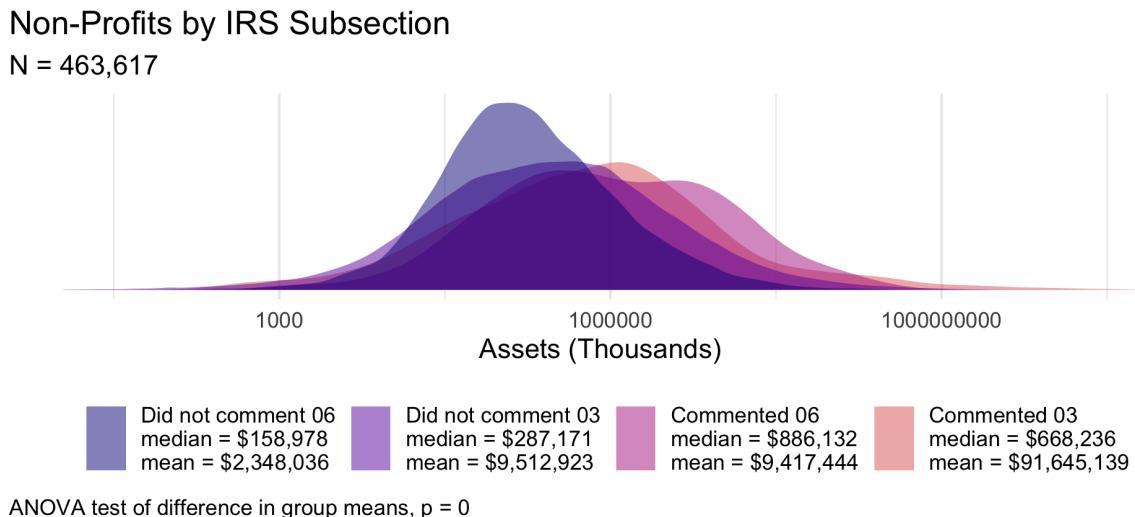


## B Additional descriptives

### B.1 Types of Non-Profits

Figure A2 shows that the relationship between assets and commenting shown in Figure 5 also appears when we look at different types of non-profits. Specifically, we focus on the difference between business leagues — 501(c)(6)s — and charities — 501(c)(3)s. The difference between the groups means are statistically significant using a one-way ANOVA, although we note that in the six pairwise t-tests between all the groups the differences between the 501(c)(6)s that commented and the 501(c)(3) that did not and the 501(c)(6)s that commented and those that did not were not statistically significant.

**Figure A2:** Non-profits that Did and Did Not Comment by Type

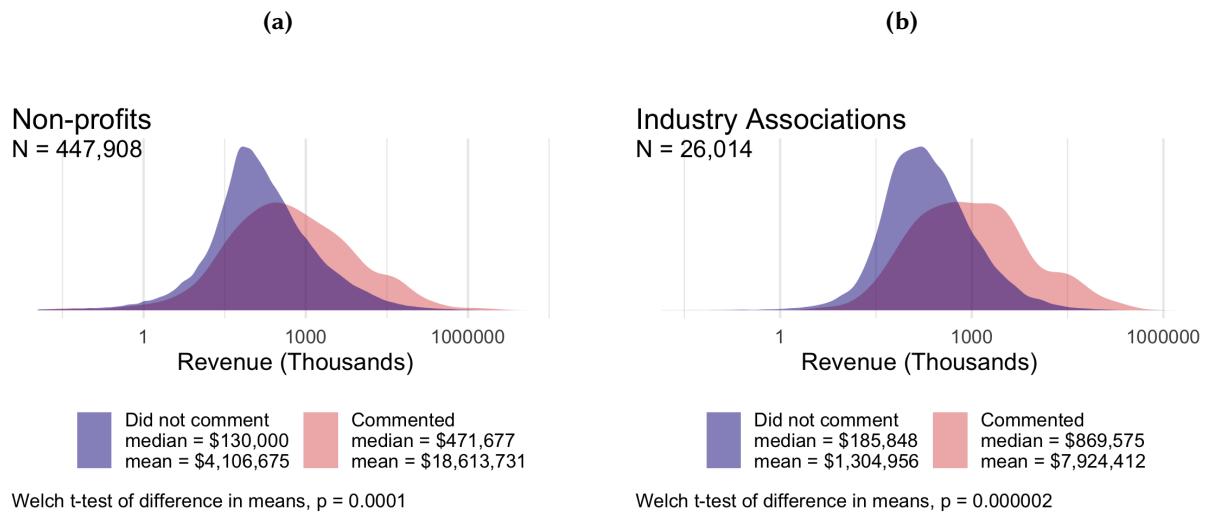


### B.2 Non-profit revenue

Figure A3 shows that the relationship between assets and commenting shown in Figure 5 also appears when we look at revenue rather than assets. Indeed the relationship between revenue and commenting is much stronger than the relationship between assets and commenting. We focus on assets in the body of the text because it is more comparable to wealth measures from for-profit organizations.

### B.3 Non-profit volunteers

Figure A4 shows that the a non-profit's assets and the number of volunteers it has are not especially correlated for the sample of organizations that commented on a Dodd-Frank rule. This offers further evidence that the relationship between wealth and lobbying success we observe should not be interpreted as larger membership

**Figure A3:** Revenue of Non-profits that Did and Did Not Comment

organizations being more successful. Rather, it is wealthy organizations, regardless of membership that enjoy success rulemaking.

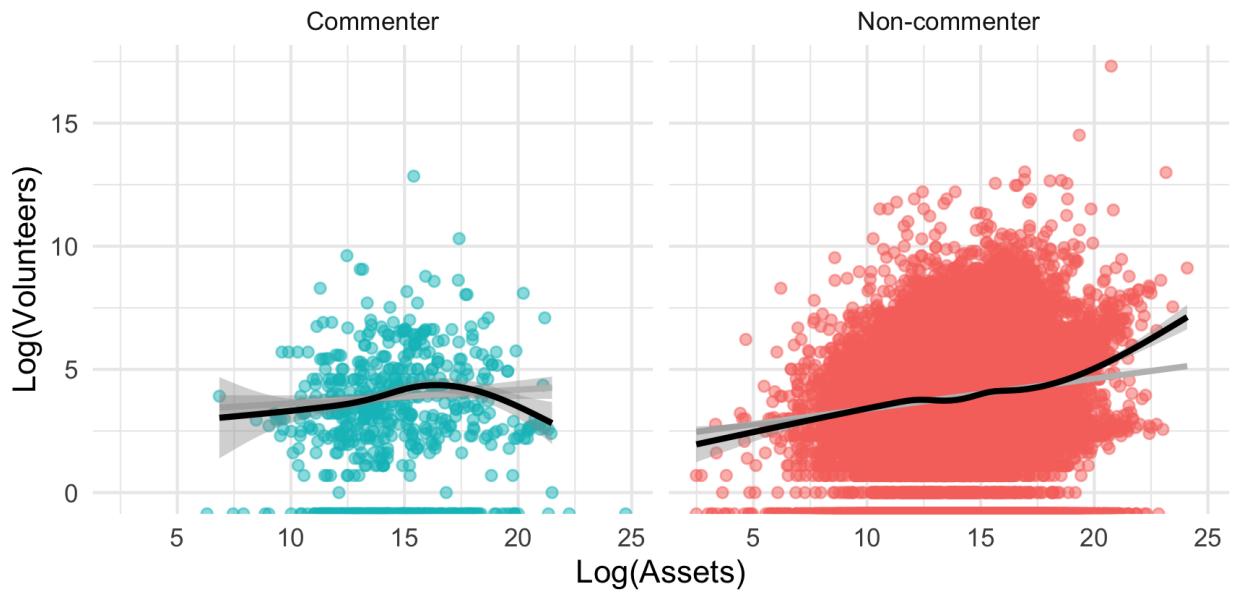
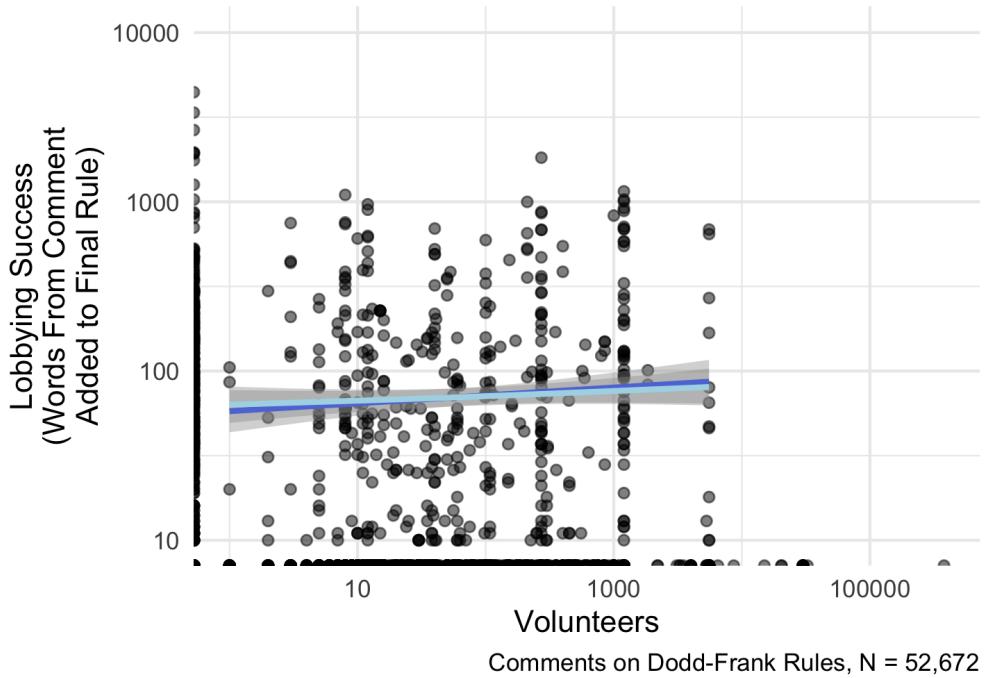
**Figure A4:** Volunteers of Non-profits that Did and Did Not Comment

Figure A5 shows that the a non-profit's number of volunteer does not predict its level of lobbying success.

#### B.4 Histograms

Figures A6, A7, and A8 present histograms of wealth distributions by whether an organization commented on a Dodd-Frank rule.

**Figure A5: Efficacy by Number of Volunteers**

#### B.4.1 Variation within classes of banks

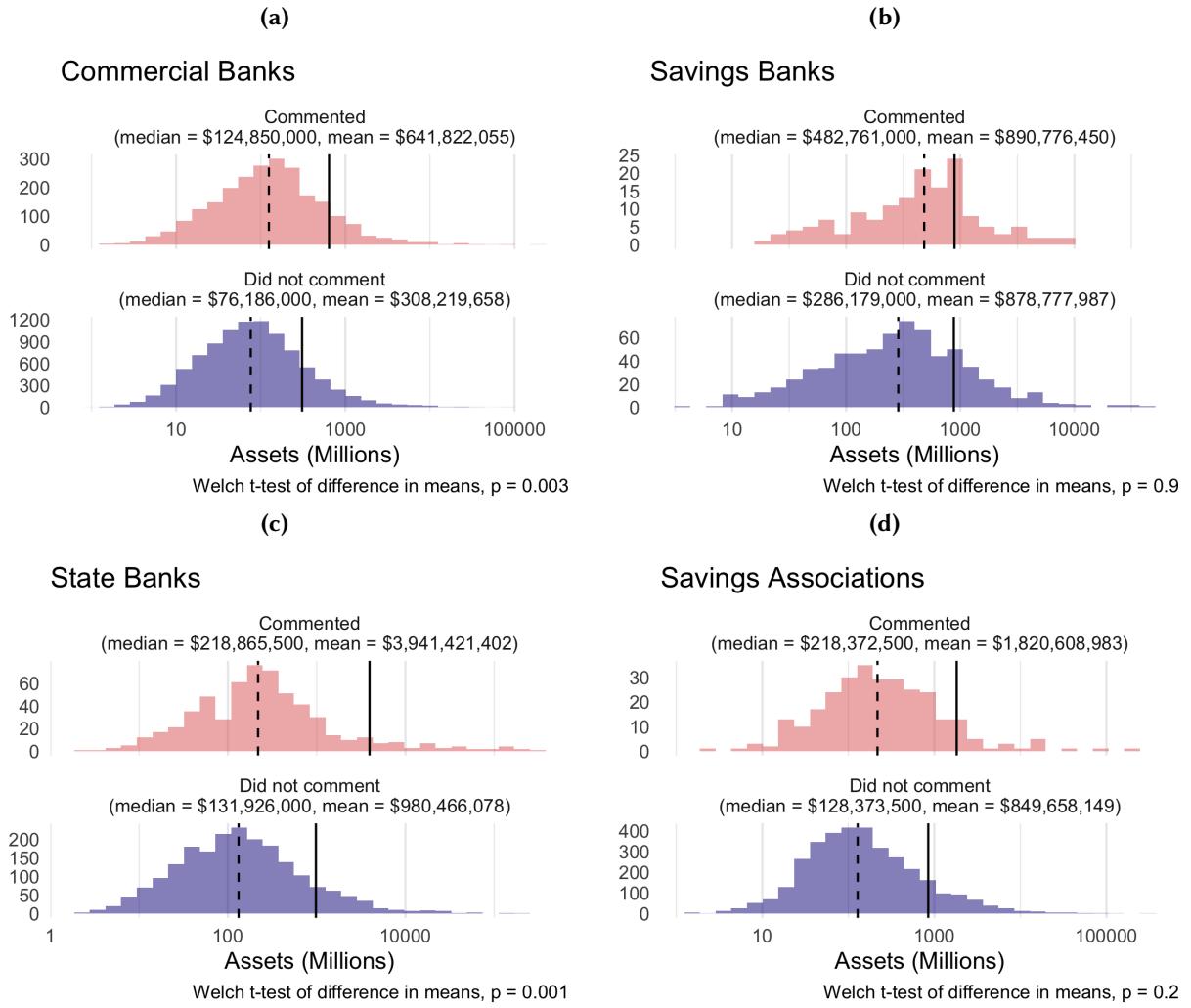
When we look within categories of banks, we see that the wealthier banks within each class are also more likely to submit comments on financial rules than similar banks with less wealth. Figure A7 shows that, within each class of bank (i.e., commercial banks, commercial banks, state banks, and savings associations), wealthier banks participate in financial rulemaking more than less wealthy banks. While the differences within types of banks are fairly large, these differences in means only reach statistical significance at the 0.05 level for for-profit categories of banks.

Figure A7 shows wealth distributions for four prominent types of banks: commercial banks, commercial banks, state banks, and non-profit savings associations. The top-left panel of Figure A7 shows that commercial banks that comment are wealthier than those that did not comment. The modal commercial bank that commented has 40 percent more assets than the modal commercial bank that did not comment. The top-right panel of Figure A7 shows that commercial banks banks that comment are wealthier than those that did not comment. The modal commercial bank that commented has nearly twice the assets of the modal commercial bank that did not comment. Similarly, the bottom-left panel of Figure A7 shows that the average assets of state banks that commented were three times the average assets of the state banks that did not comment. While savings associations are less likely to comment than more profit-oriented banks, such as commercial banks (see

**Figure A6:** Financial Resources of Organizations that Did and Did Not Comment

Figure A12), the bottom-right panel of Figure A7 shows that when savings associations do comment, they tend to be the wealthier ones.

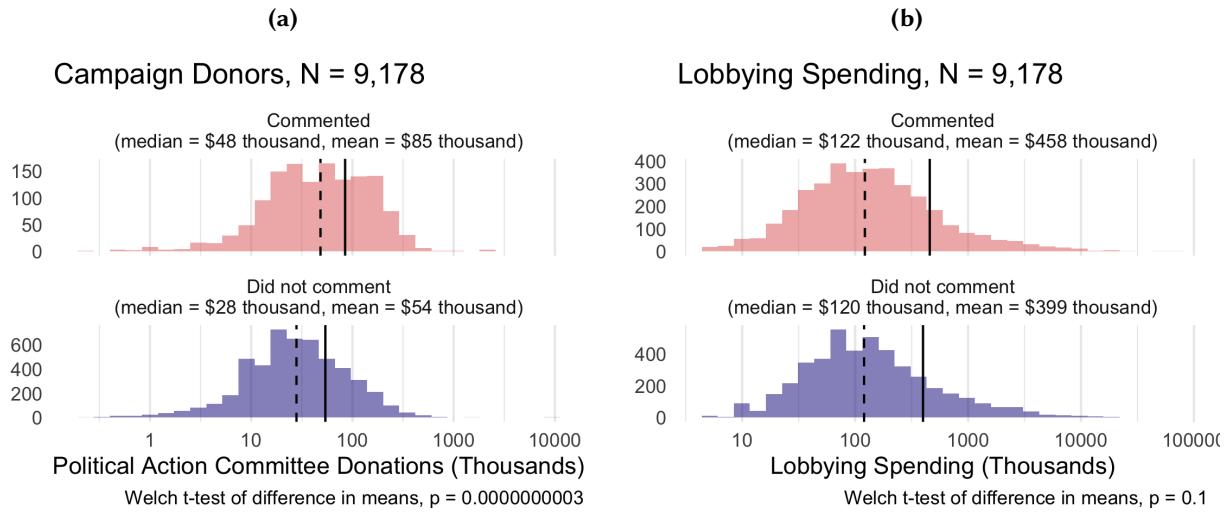
**Figure A7: Financial Resources of Banks that Did and Did Not Comment**



#### B.4.2 Variation among organizations that donate to campaigns and spend money on lobbying

#### B.5 Frequent commenters by number of Dodd-Frank rules

Note that commenting on *more rules* is not the same as submitting *more comments* overall. Many wealthy organizations only submit one sophisticated comment per rulemaking docket. Some organizations also submit many comments on the same rule as a form of public pressure. Pressure campaigns are mostly organized by public interest groups but are also occasionally organized by regulated companies (Judge-Lord, 2021). For example, Axcess Financial (a payday lending company) and Advance Financial (a credit union) both mobilized over 1000 comments from their retail stores on the Consumer Financial Protection Bureau's Payday Loan

**Figure A8:** Political Spending of Organizations that Did and Did Not Comment

Rule. Mobilizing public pressure is different from lobbying. Our analysis here focuses on the breadth, not the amplitude of lobbying.

## C Regression tables

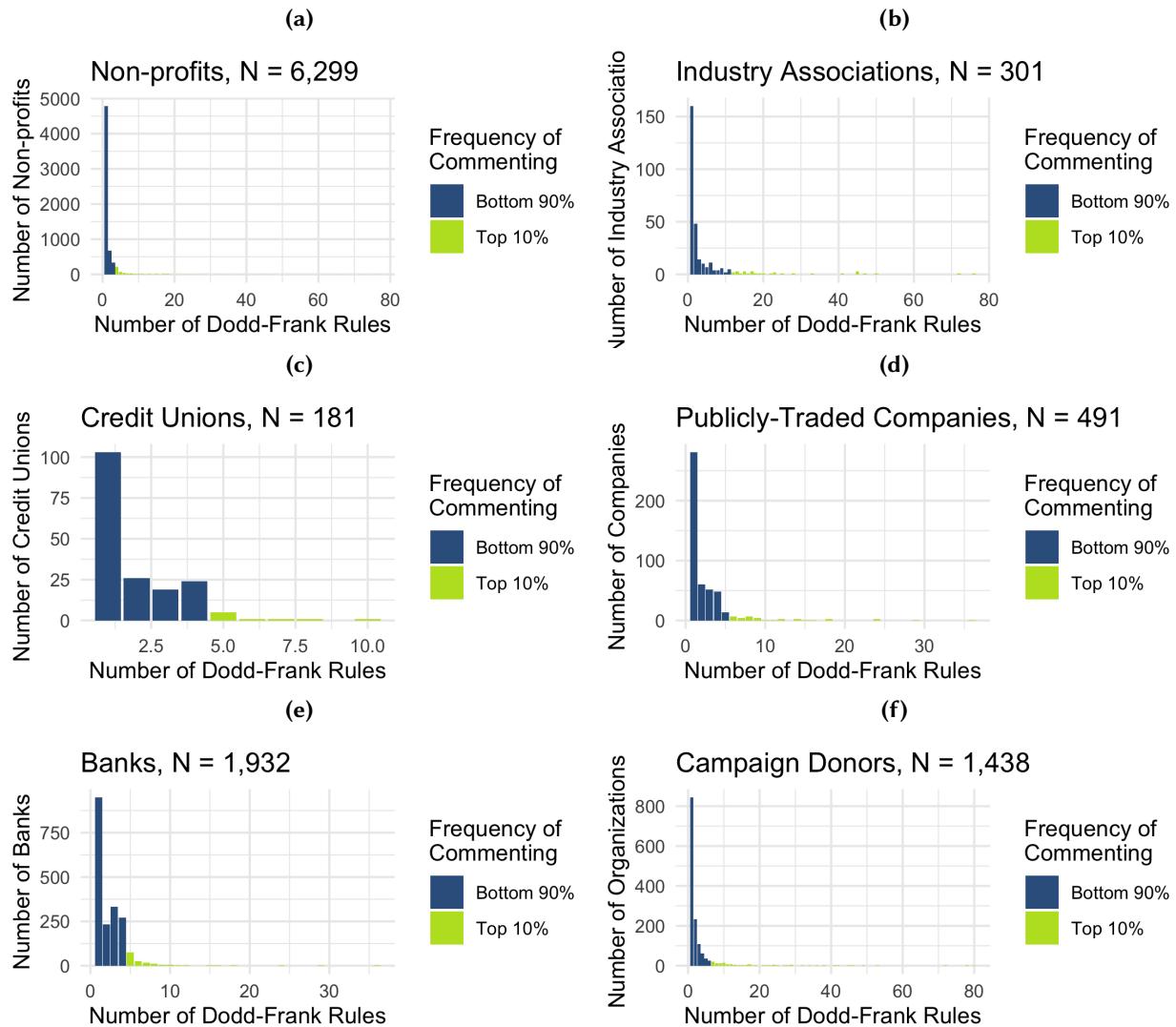
### C.1 The Odds of Commenting by Wealth

Table A2 presents alternative specifications of the model shown in column 2 of Table 1, using linear instead of logged terms and omitting interaction terms. In all specifications, the results are essentially the same. The only differences appear in the interaction terms between the linear and logged asset models. Banks remain more likely to comment than credit unions and other nonprofits across the distribution of support. In the linear models, this difference is larger at higher asset levels, whereas in the logged model this difference is smaller at higher (logged) asset levels.

Figure A11 (Table A3) shows the results of separate logit models predicting the log odds of commenting on a Dodd-Frank rule by assets for banks, credit unions, and non-profits. These models show that wealthier organizations of all three types are significantly more likely to comment. Of these three types of organizations, the marginal effect of assets on the log odds of commenting is the largest for banks.

Column 1 of Table 1 presented a model that pooled data bank, credit union, and nonprofit assets. For robustness, Table A3 presents regression tables estimating separate models for each type of organization.

Table A5 and Table A4 present alternative specifications to the model in column 3 of Table 1. Table A4 presents models without interactions and without logging assets. Table A5 presents models that break out more categories of banks, rather than lumping them into commercial and non-commercial banks. Figure A12 and

**Figure A9:** Number of Dockets on Which Each Type of Organization Commented

**Figure A10:** Frequent and Infrequent Commenters (By the Number of Dockets on Which Each Organization Commented) by Resources (Log Scale)

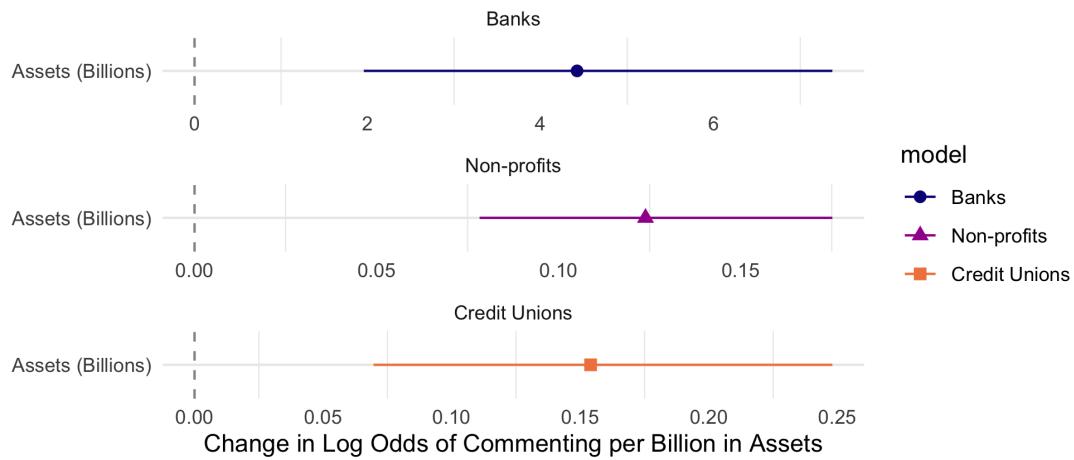


**Table A2:** Log Odds of Commenting on Any Dodd-Frank Rule

	(1)	(2)	(3)	(4)
Dependent Variable	Commented	Commented	Commented	Commented
Assets (in Billions)	0.000*** (0.000)	0.000** (0.000)		
Credit union	-1.128*** (0.059)	-1.170*** (0.061)	-1.013*** (0.060)	-1.189*** (0.078)
Industry assoc.	-2.715*** (0.059)	-2.717*** (0.059)	-2.439*** (0.062)	-2.551*** (0.063)
Other non-profit	-4.238*** (0.034)	-4.241*** (0.034)	-3.969*** (0.038)	-4.111*** (0.039)
Assets x Credit union		0.015** (0.005)		
Assets x Industry assoc.		0.026+ (0.015)		
Assets x Other non-profit		0.012*** (0.002)		
Log(Assets)			0.261*** (0.014)	0.206*** (0.015)
Log(Assets) x Credit Union				0.200*** (0.059)
Log(Assets) x Industry assoc.				1.693*** (0.263)
Log(Assets) x Other non-profit				0.834*** (0.047)
Num.Obs.	495 129	495 129	495 129	495 129
Log.Lik.	-22 091.168	-22 073.176	-21 950.973	-21 829.469

+ p &lt; 0.1, \* p &lt; 0.05, \*\* p &lt; 0.01, \*\*\* p &lt; 0.001

Reference category = Banks

**Figure A11:** Log Odds of Participating in Dodd-Frank Rulemaking by Assets**Table A3:** Log Odds of Commenting on Any Dodd-Frank Rule

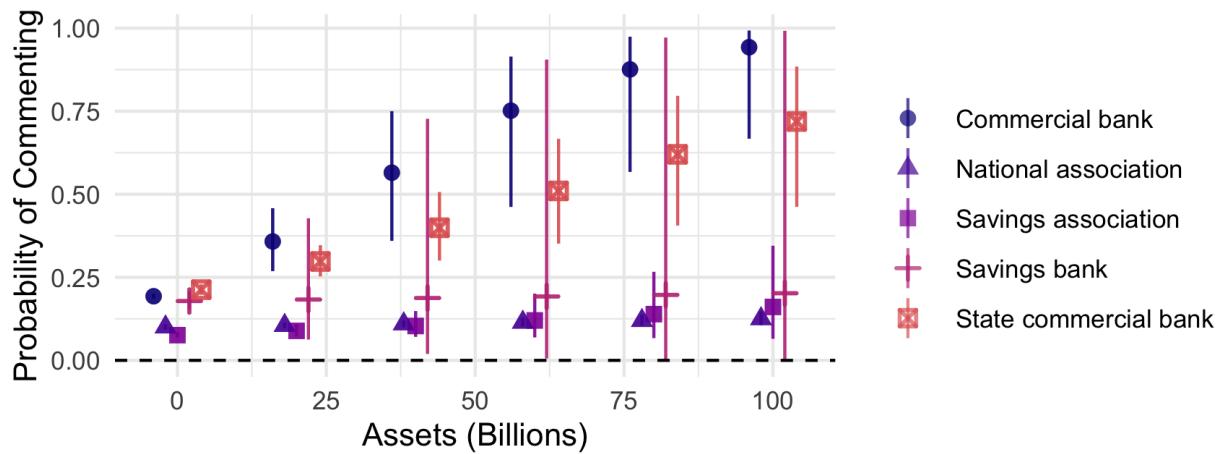
	Banks	Non-profits	Credit Unions
Dependent Variable	Commented	Commented	Commented
Assets (Billions)	0.004** (0.001)	0.120*** (0.024)	0.154*** (0.046)
Num.Obs.	25 670	463 617	5842
Log.Lik.	-11 100.811	-9927.730	-1254.445

+ p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

Table A5 show that commercial banks were disproportionately represented in Dodd-Frank rulemaking and non-commercial banks (e.g. savings associations) were less represented, even controlling for asset differences. This provides further support for the *Profit-motivated Participation Hypothesis* (H2).

Likewise, assets remain a significant predictor of whether an organization comments even controlling for differences in the type of bank institution. This provides additional evidence for the *Differential Participation Hypothesis* (H1).

**Figure A12:** Predicted Probability of Participating in Dodd-Frank Rulemaking by Type of Bank



## C.2 The Odds of Commenting by Political Spending

Figure A13 (Table A6) shows the results of logit models predicting the log odds of commenting on a Dodd-Frank rule by each organization's average or total political action committee contributions. These models show that organizations that spend more on political campaigns are significantly more likely to comment.

**Table A4:** Log Odds of Commenting on Any Dodd-Frank Rule by Bank Type

	(1)	(2)	(3)	(4)
Dependent Variable	Comment	Comment	Comment	Comment
Assets (Billions)	0.004** (0.001)	0.006*** (0.002)	0.029*** (0.005)	
Non-commercial bank		-0.834*** (0.038)	-0.813*** (0.038)	-1.009*** (0.055)
Assets x Non-commercial bank			-0.026*** (0.006)	
Log(Assets)				0.207*** (0.013)
Log(Assets) x Non-commercial bank				-0.058** (0.022)
Num.Obs.	25 670	25 670	25 670	25 670
Log.Lik.	-11 100.811	-10 840.390	-10 822.941	-10 702.495

+ p &lt; 0.1, \* p &lt; 0.05, \*\* p &lt; 0.01, \*\*\* p &lt; 0.001

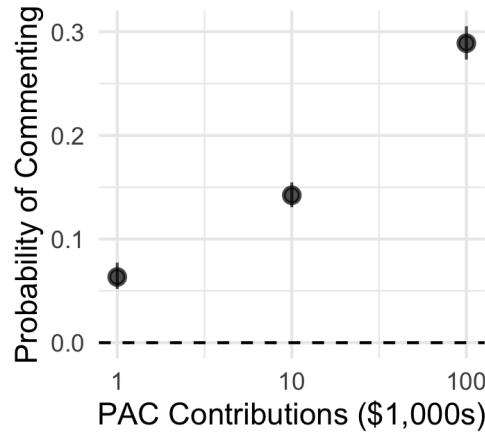
Non-commercial banks include savings associations and national associations.

**Table A5:** Log Odds of Commenting on Any Dodd-Frank Rule by Bank Type

	(1)	(2)
Dependent Variable	Comment	Comment
Assets (Billions)	0.004** (0.001)	0.006*** (0.002)
National Bank		0.292*** (0.074)
Commercial Bank		1.079*** (0.066)
Savings Bank		0.964*** (0.109)
State Commercial Bank		1.215*** (0.077)
Num.Obs.	25 670	25 670
Log.Lik.	-11 100.811	-10 800.787

+ p &lt; 0.1, \* p &lt; 0.05, \*\* p &lt; 0.01, \*\*\* p &lt; 0.001

Reference category = savings associations

**Figure A13:** Predicted Probability of Participating in Dodd-Frank Rulemaking by Political Spending**Table A6:** Log Odds of Commenting on Any Dodd-Frank Rule by Bank Type

	(1)	(2)	(3)	(4)
Dependent Variable	Commented	Commented	Commented	Commented
Avg. PAC Spending (Thousands/Year)	0.002*** (0.000)			
Total PAC Spending (Thousands)		0.000*** (0.000)		
Log(Avg. PAC Spending)			0.389*** (0.028)	
Log(Total PAC Spending)				0.277*** (0.016)
Num.Obs.	6399	6399	6399	6399
Log.Lik.	-3299.087	-3239.313	-3214.713	-3164.063

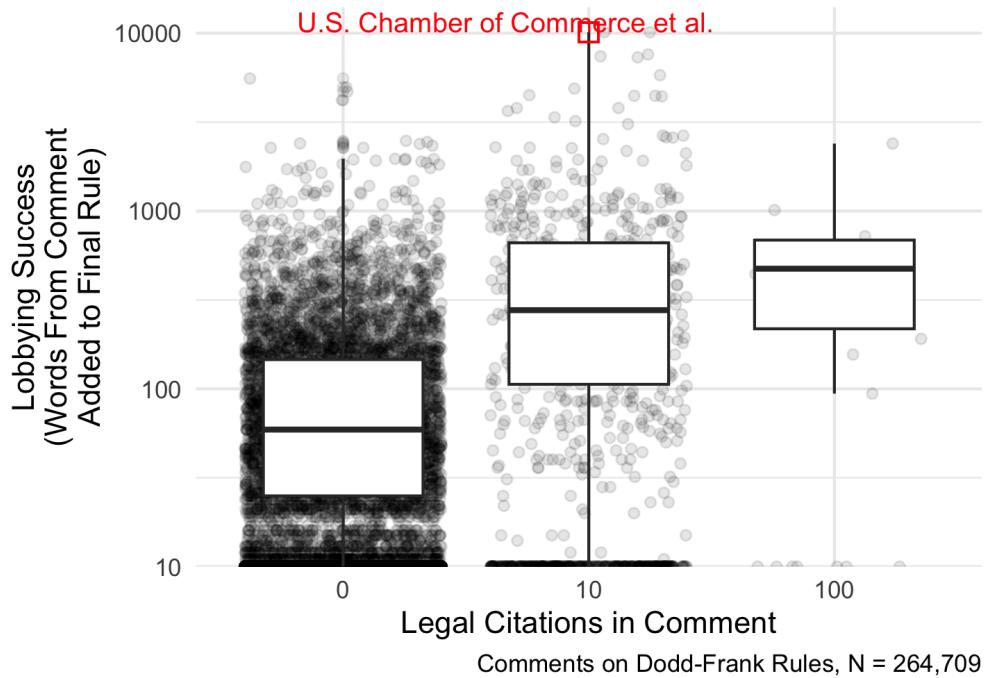
+ p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

## D Measuring comment sophistication with legal citations

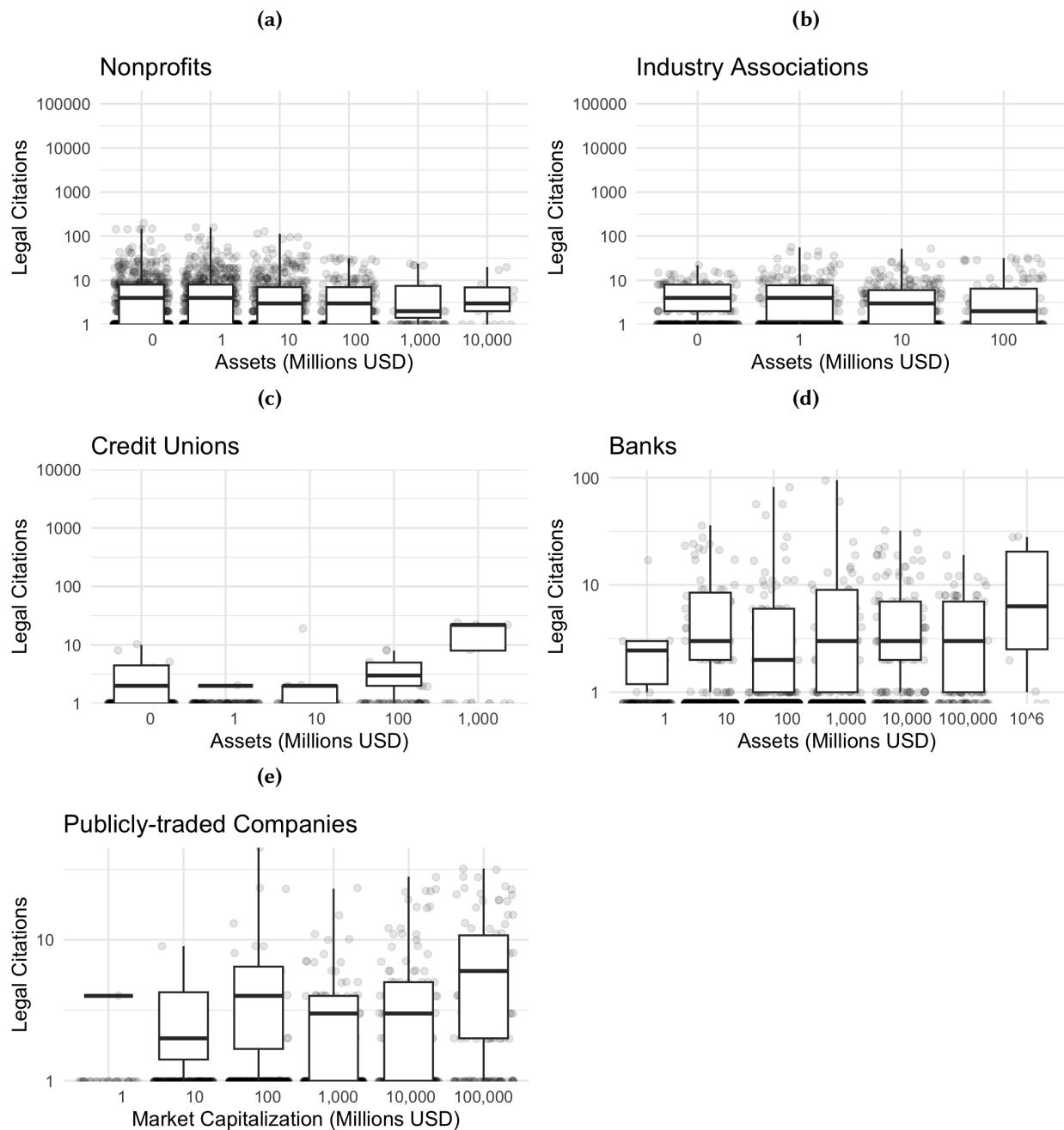
Our analyses investigating the *Differential Sophistication* (H5) and *Dividends of Sophistication* (H6) hypotheses rely on a measure of comment sophistication based on the number of technical terms used in a given comment. However, using technical terms is only one way to gauge sophistication. An alternate measure would be the number of legal citations in the comment. Wealthier organizations may be more influential by using sophisticated legal arguments in commenting.

This section replicates the descriptive and regression analyses conducted in sections 4.2.3 and 4.2.4, using the number of legal citations as the measure of comment sophistication. We count the number of citations to the U.S. Code, Supreme Court cases, appellate and district court cases, the code of federal regulations, and the federal register. Like in the analyses relying on technical terms, we sum up citations across all the submitted documents of a commenter. Figure A14 shows a strong relationship between legal citations and comment lobbying success, again highlighting the comment from the Chamber of Commerce discussed in Section 3.

**Figure A14:** Lobbying Success by Comment Sophistication



Our findings on wealth technical sophistication (H5) hold even with an alternative legal measure of sophistication. Figure A15 shows that the number of words from the comment added to the final rule is correlated with the number of legal citations. Like the analyses using technical terms, the figure also shows a positive correlation between the number of legal citations in a comment and the amount of text it shares with the final rule.

**Figure A15:** Amount of Legal Language by Assets (Among Comments from Banks on Dodd-Frank Rules)

**Table A7:** Poisson Models of Lobbying Success by Comment Sophistication

	(1)	(2)
Dependent Variable	Efficacy	Efficacy
Technical Terms	0.000*** (0.000)	
Legal Citations	0.020*** (0.000)	
Log(Technical Terms)		0.798*** (0.001)
Log(Legal Citations)		0.175*** (0.001)
Num.Obs.	9035	9035
Log.Lik.	-1 146 644.127	-590 664.069

+ p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

Findings regarding the relationship between technical sophistication and the number of words from a comment added to final rule (efficacy) are robust to alternative specifications. Table A7 re-estimates the models from Table 2 using Poisson regression. While Poisson regression is more appropriate for counts of words added to the final rule, the coefficients are more difficult to interpret than the OLS results in Table A7.

Analyses on sophistication and influence (H6) also hold up when using a measure of legal sophistication. Figure A14 shows that comments using more legal language are more likely to contain text added in the final rule.

**Figure A16:** OLS Models of Lobbying Success by Legal Language

## E Mediation

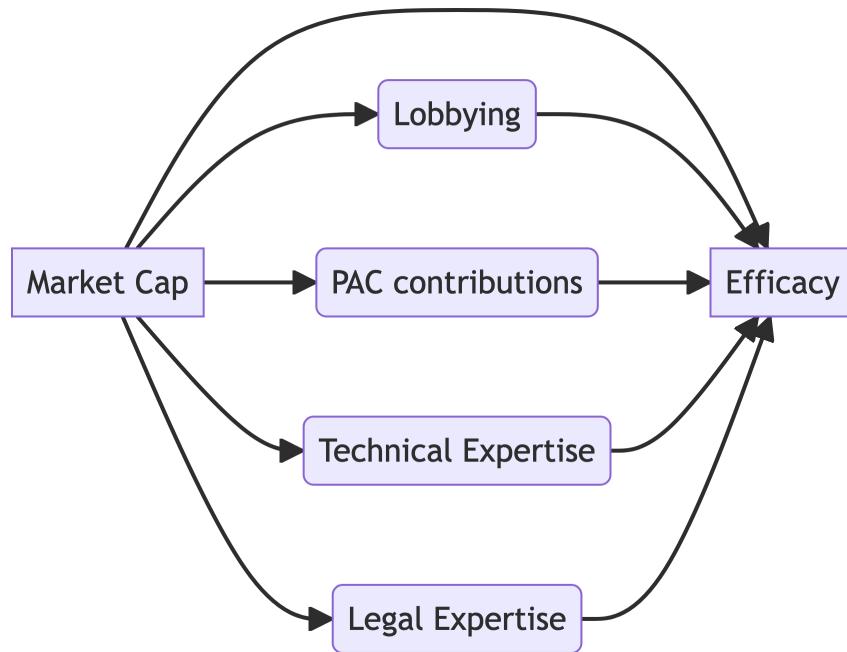
Lobbying and PAC contributions are both forms of political spending that would influence the rulemaking process in a direct financial way. Technical expertise and legal expertise are both measured using dictionary techniques, looking at banking terms and legal citations, respectively. The expertise pathways each come from a

sense that large companies employ experts who have meaningful advice to give to agencies, whether it be on finer points of the law or nuance in how regulations should be enforced to capture the correct behaviors.

Money itself can influence the efficacy, if there is a portion of efficacy that is purely a function of wealth. For example, if attention was driven by the wealth of a company, then this might be a direct relationship from the market cap of the company to the efficacy of their comments.

Figure A17 formalizes these potential pathways into a basic DAG.

**Figure A17:** Stylized pathways of influence from wealth to efficacious comments.



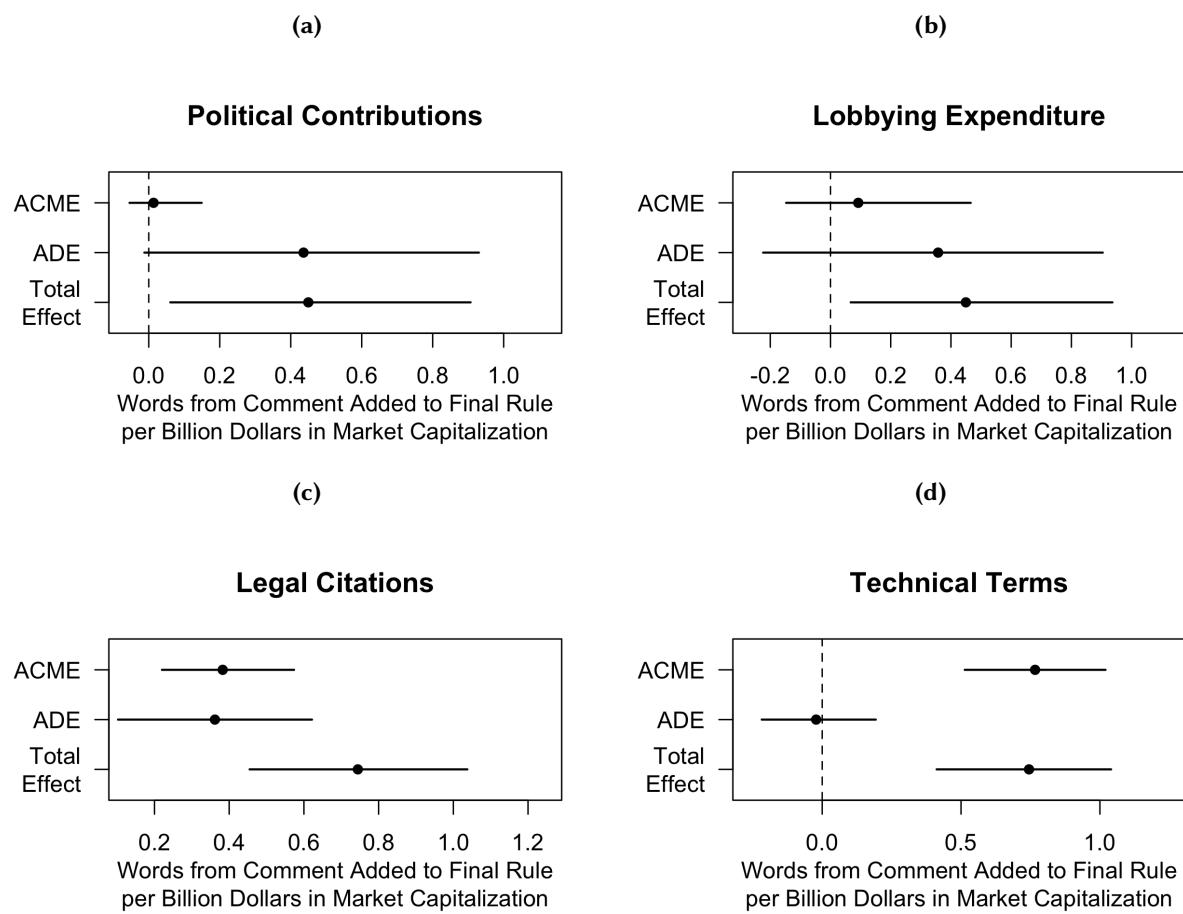
To test the different pathways, we require some strong assumptions.

1. There is a causal relationship from the market cap of a company to the efficacy of comments.
2. The paths included in the analysis are the full enumeration of possible paths.
3. The relationships can be described by linear models and binarized treatments.

Note that while these assumptions are possible, our estimation is not identified. Further, we are technologically limited by existing software for mediation analysis (see the [mediation R package](#)).

Figure A18 demonstrates that the Average Conditional Marginal Effect (ACME) for technical sophistication is nearly identical to the Total Effect of market capitalization on lobbying success. This means that technical sophistication explains nearly all of the greater success of wealthier companies. Legal sophistication also explains a large share of the total relationship when we use legal citations as an alternative mediator. This suggests that legal citations explain much of the greater success of wealthier companies.

**Figure A18:** Political Spending, Lobbying, Technical Sophistication, and Legal Sophistication as a Proposed Mediators Between Wealth and Lobbying Success



**Table A8:** Models for Mediation Analysis

Dependent Variable	(1)	(2)	(3)	(4)	(5)
PAC Spending	78.003*** (12.909)	37.136*** (3.803)	6.696*** (1.076)	0.014*** (0.003)	Efficacy -0.302* (0.121)
Market Capitalization(Billions)					
Lobbying Spending				0.013*** (0.004)	
PAC Spending				-0.003** (0.001)	
Technical Terms				0.109*** (0.007)	
Legal Citations				3.506 (2.652)	
Num.Obs.	237	237	237	237	237
Log.Lik.	-2749.900	-2460.241	-2160.979	-764.735	-1567.190

+ p &lt; 0.1, \* p &lt; 0.05, \*\* p &lt; 0.01, \*\*\* p &lt; 0.001

## F Measuring change between draft and final rules

In dealing with endogeneity, one methodological choice merits elaboration: we excluded text from the proposed rule when measuring lobbying success but not when measuring sophistication. This choice rests on the underlying concepts we are attempting to measure. In measuring text reuse, we aim to capture ideas that were not yet in the policy when the comment was submitted. Thus, text copied from the agency's proposal must be excluded. Indeed, text that appears in both the draft and final rule is what did *not* change. If a commenter attached a marked-up version of the proposed rule, we aim to exclude all but their suggested changes.

In contrast, in measuring sophistication, we aim to assess how much the commenter utilizes expertise to engage in technical policy debates. Here, attaching a marked-up version of the proposed rule captures the underlying concept of sophistication. Thus, our counts of technical banking terms do not exclude the text of the draft rule. Even if they are the agency's terms, engaging with its texts indicates sophistication. For example, the comment with the most legal terms from a bank contained a 4-page comment and 112 pages of attachments, 105 of which were the full proposed rule. These 105 pages were excluded from our measure of text reuse but included in the legal and banking terms count.

Our algorithm works in the following steps: Match each comment to the proposed rule that came after the proposed rule and before the final rule. For a simple sequence (1) proposed rule, (2) comment, (3) final rule, this step is perfunctory. Not all rulemaking sequences, however, follow this template. Some have multiple proposed rules. Suppose a rule has 2 proposed rules and a final rule and a comment came after the second proposed rule (i.e. (1) proposed rule, (2) proposed rule two, (3) comment, and (4) final rule). We would match the comment to the second proposed rule, since this comment is likely responding to that version of the proposed rule rather than the first one.

For the proposed-final pair, tokenize the proposed and final rule into sentences and then remove the text of the proposed rule from the final rule. Re-tokenize both the proposed and final rules into 10-grams. Find the overlap between proposed and final rules, keeping track of the position index of the 10-grams. 10-grams that are consecutive in the proposed rule should be treated as consecutive n-grams for the purpose of counting consecutive words. In this manner, two consecutive 10-grams would have a sequence length of 11 and not 20.

This algorithm has a few notable strengths. First, it focuses on text that is both legally binding and the explanation for why it is legally binding. Second, the results are easy to interpret: efficacy is simply the number of words in a comment and its corresponding final rule. There are, however, several drawbacks. Notably, not all sequences in both comments and final rules are equally influential. Second, when there are multiple proposed and final rules, the algorithm relies on the date a comment is submitted to match the comment to the right

proposed-final pair. This is problematic when a comment is written about one proposed rule but submitted after a subsequent proposed rule is released.

## G Validation of text re-use as a measure of lobbying success

Below, we shed light on why several comments have efficacy values that are particularly high.

- 1) <https://www.sec.gov/comments/s7-33-10/s73310-110.pdf>, Efficacy score = 10131

This letter is unusual in that its members (Americans for Limited Government, Ryder Systems, Inc., Financial Services Institute, Inc., U.S. Chamber of Commerce, Verizon, and White & Case, LLP) are all part of multiple coalitions and submitted multiple comments. The Chamber of Commerce, for example, submitted five comments and attended seven meetings and was a part of two separate coalitions.

- 2) <https://www.sec.gov/comments/s7-33-10/s73310-35.pdf>, Efficacy score = 10131

This is the same letter as above, submitted twice to the SEC although recorded by the SEC as a separate comment. Reassuringly it has the same efficacy!

- 3) <https://comments.cftc.gov/Handlers/PdfHandler.ashx?id=24275>, Efficacy score = 7593

- 4) <https://comments.cftc.gov/Handlers/PdfHandler.ashx?id=24205>, Efficacy score = 7411

- 5) <https://www.sec.gov/comments/s7-41-11/s74111-230.pdf>, Efficacy score = 7312

The following three comments (<https://comments.cftc.gov/Handlers/PdfHandler.ashx?id=24275>, <https://comments.cftc.gov/Handlers/PdfHandler.ashx?id=24205>, <https://www.sec.gov/comments/s7-41-11/s74111-230.pdf>) are all related. The CFTC, OCC, FRB, FDIC, and SEC all worked together to develop rules to prohibit banking companies from engaging in proprietary trading (trading securities with their own money instead of clients'). While all five agencies worked together to write a final rule, in the end the CFTC wrote one rule and the OCC, FRB, FDIC, and SEC wrote another. Despite the different final rules, the agencies “the CFTC and the other agencies have worked closely together to develop the same rule text and supplementary information, except for information specific to the CFTC or the other agencies, as applicable.”

The comment <https://comments.cftc.gov/Handlers/PdfHandler.ashx?id=24275> is a 340-page letter from Occupy the SEC, a group affiliated with Occupy Wall Street, submitted on the CFTC’s version of the final rule. It was cited 285 times in the preamble to the final rule.

The comment <https://comments.cftc.gov/Handlers/PdfHandler.ashx?id=24205> is a 325-page letter from Occupy the SEC and was submitted on the CFTC's version of the final rule. It was cited 284 times in the preamble to the final rule.

The comment <https://www.sec.gov/comments/s7-41-11/s74111-230.pdf> is a 325-page letter from Occupy the SEC and was submitted to the OCC, FRB, FDIC, and SEC's version of the rule. It was cited 284 times in the preamble to the final rule.

- 6) <https://www.sec.gov/comments/s7-25-11/s72511-55.pdf>, Efficacy score = 5809

SIFMA is cited over 500 times by the CFTC in the preamble to the final rule.

- 7) <https://www.sec.gov/comments/s7-18-11/s71811-32.pdf>, Efficacy score = 5563

Standard & Poors's letter to the SEC is cited over 200 times by the SEC in the preamble to the final rule.

- 8) <https://comments.cftc.gov/Handlers/PdfHandler.ashx?id=25016>, Efficacy score = 4965

Not only did the FIA help develop the guidelines that were codified into the final rule, the FIA's letter was cited 98 separate times by the CFTC in the preamble to the final rule.

## G.1 Case Study on the Whistleblower Rule

As a part of the Dodd-Frank Act, Congress mandated that the SEC establish a whistleblower program to provide monetary incentives to individuals that report violations of securities laws. Eligible employees who provide "original, timely, and credible information that leads to a successful enforcement action" are eligible for awards ranging from 10-30% of the money collected when a fine exceeds \$1 million. Between 2012 and September 2018, the SEC received over 28,000 tips and disbursed \$326 million to 59 whistleblowers. Successful tips have halted frauds, Ponzi schemes, and accounting violations among other types of financial misconduct.

Among other provisions, the SEC proposed making certain individuals ineligible for the reward. One class of ineligible employees were people who learned about and reported violations based on information obtained from audits required under securities laws. In the proposed rule, the SEC operationalized this as:

- (4) The Commission will not consider information to be derived from your independent knowledge or independent analysis if you obtained the knowledge or the information upon which your analysis is based;
- (iii) Through the performance of an engagement required under the securities laws by an independent public accountant, if that information relates to a violation by the engagement client or the client's directors, officers or other employees;

The American Bar Association had a problem with this provision because it did not explicitly exclude internal company personnel who support the auditors above. That is, the ABA feared that not explicitly excluding employees who help on audits would allow those employees to report fraud directly to the SEC and be treated as whistleblowers. The American Bar Association wrote:

The Committees believe that Proposed Rule 21F-4(b)(4)(iii) with respect to information obtained through the performance of an engagement required under the securities laws by an independent public accountant should also include information obtained by internal company personnel in connection with their role supporting an independent public accountant conducting an audit required under the securities laws (including both a financial statement audit and an audit of internal controls).

The SEC agreed and then cited the passage in the preamble of the final rule:

One commenter urged that the exclusion for independent public accountants should also extend to information obtained by internal company personnel in connection with their role supporting an independent public accountant conducting an audit required under the securities laws.

Crucially, they also changed the legally operative language of the final rule to explicitly exclude the aforementioned employees.

(4) The Commission will not consider information to be derived from your independent knowledge or independent analysis in any of the following circumstances:

(iii) In circumstances not covered by paragraphs (b)(4)(i) or (b)(4)(ii) of this section, if you obtained the information because you were: ...

(B) An employee whose principal duties involve compliance or internal audit responsibilities, or you were employed by or otherwise associated with a firm retained to perform compliance or internal audit functions for an entity;

## G.2 Summary Statistics on Citations in the Whistleblower Rule

A slightly different measure than efficacy is how many times the organization is cited by the Securities and Exchange Commission in the preambles of the final rules. This table reveals three interesting patterns. First, the majority of all trade associations, coalitions, corporations, and law firms who submitted comments were cited. Second, comments from trade associations and coalitions were cited extensively. Third, although a few citizens were cited, the modal citations on a comment from a citizen was 0.

**Table A9:** Citations to Comments on the Whistleblower Rule

Type of Organization	Cited	Out of	Avg Citations	Cited Once
Associations	34	39	12.2	4
Citizens	13	136	4.4	6
Coalitions	6	7	14	0
Corporations	11	16	5.1	0
Law Firms	22	29	4.4	8