

Inequality in Administrative Democracy: Methods and Evidence from Financial Rulemaking

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Abstract

Research on inequality in American democracy has focused on legislative processes, largely overlooking administrative policymaking, where most U.S. law is now made under pressure from vast amounts of money, lobbying, and political mobilization. Leveraging a broad suite of measurements of the wealth, participation, and lobbying success of organizations during rulemaking, we provide the first large-scale assessment of wealth inequality in agency rulemaking. To do so, we collect an original database of over 260,000 comments on the agency rules implementing the Dodd-Frank Act, in which we identify the lobbying activities of over 6,000 organizations. We find that wealthier organizations are more likely to participate in the rulemaking process, advance more sophisticated comments, and enjoy more success in shifting the content of federal agency rules. Our findings show how an organization's wealth translates into political power in a country increasingly governed through agency rulemaking.

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

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1 Introduction

Studies of political inequality have revealed profound and durable patterns where wealthier citizens have a disproportionate influence on lawmaking processes. Critical work in American politics by Bartels (2008), Baumgartner et al. (2009), Hacker and Pierson (2010), Gilens (2012), Skocpol (2004), Schlozman, Verba, and Brady (2012), and others documents ties between economic and political inequality. Relatedly, Piketty (2014) and others in economics and other social sciences have demonstrated rising capital-based wealth inequality over the twentieth century, especially in the United States (e.g., Saez and Zucman 2020).

In contrast to the large literature on inequality in legislative lawmaking, research on inequality in administrative lawmaking is sparse. Agencies routinely convert broad legislative grants of authority into specific and legally-binding rules with vast social and economic effects (W. F. West 1995; Kerwin and Furlong 2018). Agency rules give federal policy “concrete expression” (Moe and Wilson 1994). When policymaking occurs via agency rulemaking, do the inequalities observed in the legislative process persist or morph?

Several factors suggest cause for concern. We know, for instance, that firms spend hundreds of millions of dollars lobbying after a bill becomes law, including lobbying the agencies tasked with implementing the legislation (You 2017; Ban and You 2019; Libgober and Carpenter 2020). We also know that 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, Judge-Lord, and Grimmer 2022) and that, overall, business interests are the main lobbying participants in most agency rulemakings (Golden 1998; J. W. Yackee and Yackee 2006).

Given the scale and importance of U.S. administrative policymaking and the large volume of data on business and interest group lobbying, rulemaking presents an opportunity to study the relationship between wealth inequality and policy influence (Carpenter et al. 2020).

While the methods we advance in this article will allow scholars to study wealth inequality across policy domains, we focus on financial rulemaking and specifically on the rules implementing the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (hereafter Dodd-Frank). Dodd-Frank spurred significant rulemaking activity and mobilized interests to shape those rules. Beyond its provision of granular data, however, financial policymaking offers another reason for studying inequality: finance is perhaps an unparalleled site of interaction between economic inequality and unequal representation in democratic government.

Consider how media reporting in 2017 illustrated the political priorities of those at the very upper end of the income and power scale in the United States. During that year, major newspapers documented high-level gatherings between CEOs and officials at the Trump White House. For our purposes, what is interesting about these meetings is that the existing inequality literature would likely have predicted America's wealthiest business leaders and allocators of capital would direct their lobbying at congressional lawmaking. Instead, these business leaders and their lobbyists were targeting the rules implementing Dodd-Frank (Protess and Davis 2017; Radnofsky and Feintzeig 2017).

We make three primary contributions. First, we create a new database of 264,709 comments submitted by organizations to agencies tasked with implementing Dodd-Frank.¹ Our data cover over eight hundred regulatory actions, in 239 rulemaking processes across seven agencies.² The data cover over eight hundred regulatory actions within 239 rulemaking processes across seven agencies.³ Second, we develop a suite of new measurement and analytic tools to study who lobbies during rulemaking and who influences final rules, as well as who does not. Third, we leverage these data and tools to provide the first large-scale assessment of the impacts of wealth inequality during agency policymaking. In doing so, we are able to answer questions

¹Our database includes all 264,709 public comments on Dodd-Frank rules, but we focus our analysis on comments from organizations for reasons described in Section 3.

²We define a regulatory action as the publication of a proposed or final rule by one agency. We count a joint rule issued by the SEC and the Federal Reserve as two regulatory actions.

³We define a regulatory action as the publication of a proposed or final rule by one agency. We count a joint rule issued by the SEC and the Federal Reserve as two regulatory actions.

on inequality and lobbying participation which were, up to now, only answerable in the legislative process.

We produce six main findings—all of which support the conclusion that wealthy organizations are advantaged during the administrative policymaking process. 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. Third, we find that organizations that spend more money on political campaigns and lobbying are 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 advance more sophisticated comments than less wealthy organizations. Sixth, and finally, wealthier organizations are more successful in shifting the content of federal agency rules through their comments. Finally, using causal mediation analysis, we demonstrate that the influence of wealthier organizations on regulatory content is largely driven by the sophistication of their comments.

The idea that wealth inequality has affected financial policymaking is far from new. Nevertheless, critical questions remain unanswered. Does wealth inequality drive differential lobbying participation during administrative policymaking? Do wealthy organizations get what they want more often during rulemaking? And, if so, why? We provide the data and tools to address these questions. Our analysis of financial rulemaking yields initial answers and evidence within a significant policy domain. Such information is critical to inform scholarly research regarding the impact of wealth inequality on policymaking and further our understanding of American government, lobbying influence, and the role of money in politics within our administrative democracy.

2 Theoretical Foundations

The past two decades have witnessed an outpouring of social science research on inequality in the United States and other countries. Several scholars concentrated on the structural and technological determinants of inequality (e.g., Goldin and Katz 2009; Piketty 2014). Others examined political processes as a place where economic inequality shapes policy outcomes that generate further economic and social inequality.

In *Unequal Democracy*, Bartels (2008) established an important empirical case for political inequality by showing 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) described 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. In *Affluence and Influence*, 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, Verba, and Brady 2012; Page, Bartels, and Seawright 2013; Gilens and Page 2014; Witko et al. 2021). Taken together, these studies mark critical innovations in our understanding of U.S. politics and policymaking.

Yet our empirical portrait of the relationship between wealth and political inequality in the U.S. remains incomplete. 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; S. F. Haeder and Yackee 2020). Some agencies have acquired sufficient legitimacy and expertise to gain autonomy in program initiation, interpretation, and policymaking (Carpenter 2001, 2010). Because agencies make policy, moneyed interests spend considerable resources to influence

administrative and executive decision-making (S. Haeder and Yackee 2015; You 2017). These dynamics are often studied under the concept of regulatory capture (Carpenter and Moss 2013). Yet, few regulatory capture projects speak to questions of political inequality, and few studies of political inequality address bureaucratic policymaking.

This is a major omission. This omission is particularly large in the financial regulation space.

Unequal levels of power and access to the government may be especially acute in financial regulation, where Congress tends to rely upon government agencies to develop key regulatory concepts and instruments and, in doing so, to carry out legislative intent. Administrative agencies made many of the most important deregulatory decisions of the past three decades. These include reductions in regulatory capital requirements and the deregulation of mortgage and other consumer loans (Engel and McCoy 2011). While ostensibly re-regulating the financial sector, Dodd-Frank handed considerable authority to federal financial agencies (Carpenter and Krause 2012; Carpenter and Moss 2013), with over 300 provisions authorizing new rulemaking. Each provision could result in multiple rules (Copeland 2010). Each rulemaking process presents an opportunity for the financial industry and others to lobby the government agency for policy change.

The traditional literature on bureaucratic politics has largely yet to address questions of wealthy inequality of influence during rulemaking and financial policymaking. An older literature (McCubbins, Noll, and Weingast 1987; Balla 1998) examined rulemaking as an important venue of policymaking, often debating whether Congress could use procedures like public comment periods to control administrative agencies. Other high-profile research focused on the legislature's decision to delegate (Epstein and O'Halloran 1999; Volden 2002; Huber and Shipan 2002). These patterns shifted when scholars began focusing more on the role of public comments during rulemaking and attempted to correlate the requests made in comments with regulatory policy change (Golden 1998; W. West 2004; J. W. Yackee and Yackee 2006; S. W. Yackee 2006; McKay and Yackee 2007).

Recent work has suggested a mechanism by which traditionally disadvantaged interests may combat business bias during rulemaking: band together to lobby in diverse coalitions (Dwidar 2021b, 2021a). However, these studies point to continued inequalities, including that only certain types of coalitions appear to hold policy influence over agency rules, including those with greater financial capacity.

When we focus on the handful of existing financial rulemaking studies, we uncover a mixed portrait of 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 the area of credit risk retention regulation (see also Ziegler and Woolley 2016). However, Young, Marple, and Heilman (2017) found that stakeholders beyond affected firms are much less likely to mobilize in the financial sector, especially when a financial rule is technically complex.

There are also mixed conclusions about biases in who has influence in financial rulemaking. For example, Krawiec (2013) studied public participation patterns early in the rulemaking process for section 619 of Dodd-Frank (commonly known as the Volcker Rule). She found that comments from the financial industry, which presumably is better resourced, were more detailed, complex, and lengthy than those from non-financial firms. Ban and You (2019) focused on lobbying and agency rulemaking on a sample of SEC rules after Dodd-Frank. They concluded that the resources an organization devotes to lobbying appeared to influence the likelihood that the SEC would list an organization's name in its final rule. In contrast, S. D. Rashin (2020) examined thousands of public comments on SEC rules and found that organizational resources did not appear to correlate with a commenter's lobbying ability to secure policy changes.

Thus, the existing literature yields a mixed set of conclusions on the impact of wealth inequality during rulemaking, leaving open critical hypotheses regarding the plausible effects

of wealth inequality during agency rulemaking in financial regulation.

2.1 Wealth Inequality Hypotheses

We investigate the role that wealth inequality may play during the development of financial regulations. We group our arguments under two categories, representing two potential biases in U.S. rulemaking: (1) bias in participation and (2) bias in influence. We develop three hypotheses about each form of bias.

2.1.1 *Differential Lobbying Participation*

Previous work suggests that wealthier organizations, such as business firms, will participate in agency rulemaking via the submission of comments at a greater rate than other less wealthy organized interests, such as labor and public interest organizations (J. W. Yackee and Yackee 2006). Past research theorizes that the high costs associated with public comment submission are one reason for this bias. Rossi (1997) writes of the need to monitor the bureaucracy's rulemaking activities, which can be complex and arcane, to know when and how to participate in regulation is being formulated (see also, Kerwin and Furlong 2018). S. W. Yackee (2019) implies that these high participation costs may be paid more readily by business interests (see also, Jewell and Bero 2006).

While past research has focused on differences in lobbying participation across different organizational types (i.e., business firms 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 via the submission of comments to financial rules more often than banks with fewer assets to draw upon. The theoretical reasons for this expectation are the same as articulated above—wealthy organizations are better able to pay the up-front costs of lobbying and often have more concentrated stakes in policy outcomes. By comparing similar organizations, however, we can better isolate whether wealth inequality (rather than other differences across

organizations) drives differential lobbying participation in rulemaking.

Differential Participation Hypothesis (H1): Organizations that comment on financial rules will be wealthier than organizations that do not comment on financial rules.

An additional driver of differential participation may be the concentration of the costs and benefits of lobbying on government regulations (see broadly, Lowi 1964; Olson 1965; Wilson 1989). For-profit organizations—such as publicly-traded companies and banks—tend to have concentrated and narrow stakes in regulations. Wealthy profit-seekers then have especially strong incentives to lobby in rulemaking (Libgober and Carpenter 2020; Libgober 2019). By construction, non-profit organizations have less profit-seeking incentives. Non-profits are often formed to advance broader concepts of the public interest rather than narrow private interests. Thus, we anticipate differences between for-profit and non-profit organizations.⁴

Profit-motivated Participation Hypothesis (H2): Profit-seeking organizations will be more likely to comment.

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 across a larger number of rules. For instance, among the non-profit organizations that submit comments on financial regulations, we hypothesize that the wealthier non-profits will comment on more regulations than those less wealthy.

Differential Frequency of Participation Hypothesis (H3): Among organizations commenting on financial rulemaking, organizations with greater wealth will comment on a larger number of financial rules.

⁴Our paper categorizes for-profit organizations as “profit-seeking” and non-profit organizations as absent of profit-seeking behavior. However, non-profit industry associations can focus their efforts on private interests, demonstrating profit-seeking behavior. Because our data do not include a measure of private-public interests among the organizations featured, we opt for this binary “profit-seeking” categorization between for-profit and non-profit organizations based on incorporation status.

2.1.2 Differential Lobbying Success

Existing research hints at a differential lobbying benefit attached to wealth during rulemaking. For instance, S. Haeder and Yackee (2015) find more policy movement on federal regulations 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 are poor. We thus seek to understand whether wealth is a common factor driving organizational influence during rulemaking. As a result, we theorize that, among similar organizations, wealthier ones will see greater lobbying success during financial rulemaking. For example, we expect the comments of more wealthy large banks will impact the content of final financial rules more than those of less wealthy large banks.

Differential Lobbying Success Hypothesis (H4): Comments from wealthier organizations will be more successful in shifting the content of agency rules.

Research suggests wealthier organizations are more influential because they can better deploy sophisticated technical information than less well-off entities (Wagner, Barnes, and Peters 2011). Put differently; large organizations are disproportionately able to marshal the technical expertise necessary to write sophisticated comments for rules. Building on S. W. Yackee (2015), we theorize that more sophisticated comments will be associated with greater lobbying success during rulemaking. Agency officials pay greater attention to abstract and technical arguments, such as those often in comments from business organizations, while often minimizing common moral and personal arguments to less sophisticated comments from individuals (Jewell and Bero 2006). For example, in the pre-proposal stage of the Volcker rule, non-industry comments often lacked the specificity and the detail that agencies needed to change policy (Krawiec 2013). Consequently, we hypothesize that wealthier entities will utilize their resources to produce comments that hold greater sophistication than less prosperous groups, and these comments will be more impactful.

Differential Sophistication Hypothesis (H5): 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 test for two major kinds of potential bias in policymaking: that the wealthy are better able to participate and that even when less wealthy groups participate, the wealthy are likely to have their demands met. Additionally, they test a major theorized mechanism of lobbying influence: the ability of the wealthy to mobilize lawyers and experts to make sophisticated and thus influential arguments on their behalf.

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, and organizational wealth and lobbying expenditures. Data sources included the Federal Register, Regulations.gov, Wharton Research Data Services, the Center for Responsive Politics, Federal Financial Institutions Examinations Council (FFIEC), the Internal Revenue Service (IRS), the Consumer Financial Protection Bureau (CFPB), Commodity Futures Trading Commission (CFTC), the Federal Deposit Insurance Corporation (FDIC), Federal Reserve (FRS), National Credit Union Administration (NCUA), Office of the Comptroller of the Currency (OCC), the Securities and Exchange Commission (SEC). This expansive data collection effort includes data on agency administrative data, public comment and rule texts, and measures of organizational wealth.

3.1 Agency Rules & Public Comments

From the Federal Register, we collected the text of all rules promulgated under authorities granted in 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: FRS,

CFPB, SEC, CFTC, FDIC, NCUA, and OCC. 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 organization submitting the comments 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.⁵

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, interim, final, and final rules.

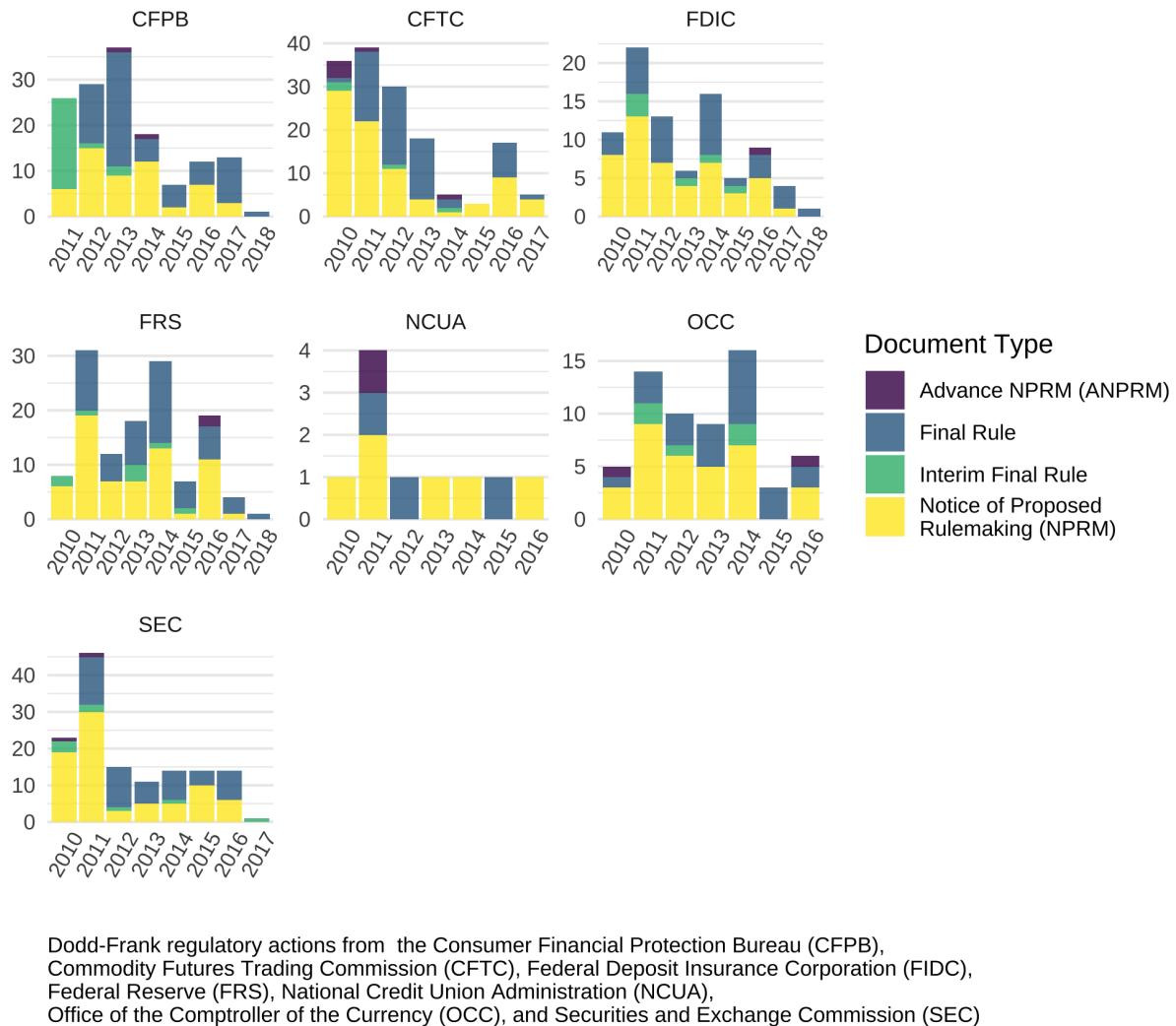
3.2 Organization Comments on Proposed Rules

We identify 21,352 comments submitted by organizations that appear in one or more of the datasets described below. Combined, these datasets contain nearly 500,000 publicly traded companies or nonprofits. Our main analyses focus on comments from organizations that we could link to measures of organizational wealth or lobbying activity. Past research suggests that organizations and individuals tend to submit different types of comments to rules (Jewell and Bero 2006). We go one step further and compare commenting behavior among similar types of organizations. For example, we compare the commenting behavior of large banks to other large banks. Thus, we control many known sources of variance in commenting behavior, yielding cleaner tests of our hypotheses.

The first step in creating these data was collecting and digitizing the texts of all public comments on Dodd-Frank rules. We then extracted entity names and attempted to match them to organizations in databases of organizational wealth. The final dataset is the subset of

⁵The 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, which must include a proposed and final rule connected by a Regulation Identifier Number (RIN). We count a joint rule issued by the SEC and FRS as two rules because both agencies collected comments separately.

Figure 1: Dodd-Frank Act Implementing Actions by Agency



all comments that match an organization with some form of wealth data. Practically, acquiring wealth information for all commenters—including thousands of individuals who submit form comments as part of mass comment campaigns (with no little identifying information)—would have been impossible. Moreover, because nearly all individual commenters are mobilized by an organization, form comments are best conceptualized as supporting the more sophisticated organizational comments we focus on here (Judge-Lord 2019).

There was considerable variation in the organizational comments on rules across the seven financial regulators. For example, the CFPB rules regulating payday loans generated the largest number of organizational comments (3898) in our data. At the same time, many low-salience rules received few comments. Several rules received no comments from organizations with publicly-available wealth data. However, 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 organizational comments was the CFPB at 21.

3.3 Organization Wealth

We developed several new tools to test our wealth inequality hypotheses, including tools that allowed us to compare the wealth of organizations that commented on financial rules in our sample to the wealth of similar organizations that did not comment on these rules. No single database provides wealth data on all such organizations. As a result, we cast a wide net and identified multiple databases of organizations that might participate in financial rulemaking. These databases include:

1. All publicly traded companies listed on U.S. exchanges during our analysis time frame from the Wharton Research Data Service’s Compustat database, including financial data, such as market capitalization.
2. All corporations that filed disclosures with the SEC and are thus listed in the SEC’s Central Index Key (CIK) database.
3. All bank and bank-like entities covered by the FDIC, which reports each bank’s

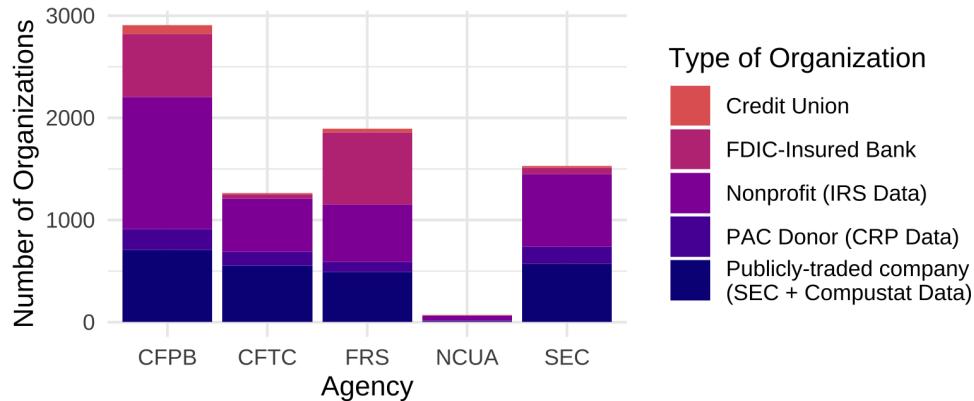
classification and total assets under management.

4. All credit unions from consolidated call reports published by the NCUA, which include the total assets under management for each credit union.
5. All non-profit organizations reported by the IRS 990 forms, including each non-profit's total assets and annual revenue.
6. All organizations reporting Political Action Committee (PAC) donations, as compiled by the Center for Responsive Politics. We then calculate the average annual PAC contributions for each organization.

Next, we used an iterative matching procedure to find matches for organizations that commented on Dodd-Frank rules in various datasets. This step took considerable innovation because the names that organizations use to submit comments and the names by which they appear in various databases often differ. Our matching procedure involved several steps. We first identified comments that were likely from an organization, excluding those that were likely from an individual or a mass commenting campaign. We then linked these comments to the 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 above databases. We then spot-checked our processes for false positive matches by inspecting organizations that matched many comments and false negatives by inspecting especially long, sophisticated, or efficacious comments that did not match a known organization. We then improved the matching algorithm through dozens of iterations. This procedure ultimately resulted in a dataset of over 6,377 distinct organizations that submitted 21,352 unique comments on one or more Dodd-Frank rules. We use these data to compare the wealth of commenting organizations to 491,956 similar organizations in one of the above wealth databases that did not comment on financial regulations.

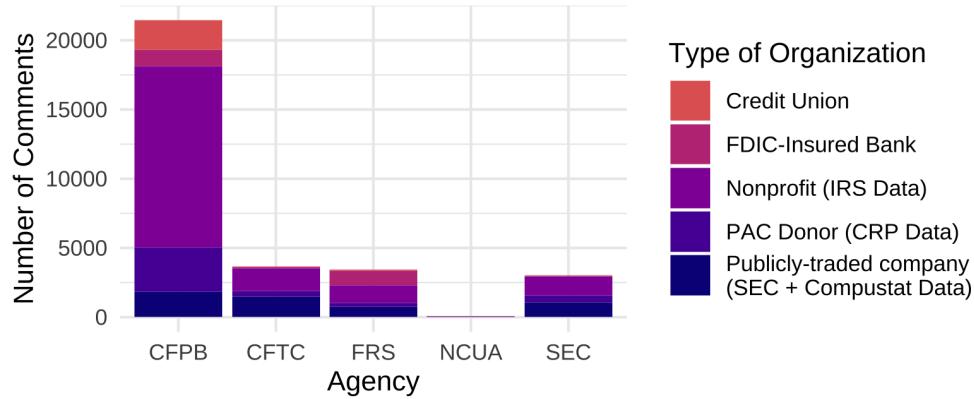
Each database contains qualitatively different types of organizations; we can compare patterns of commenting within each type and across types. The remainder of this section describes the distribution of these data, which are not equally distributed across agencies,

Figure 2: Number of Organizations by Type and Agency to which they Commented, Including the Consumer Financial Protection Bureau (CFPB), Commodity Futures Trading Commission (CFTC), Federal Reserve (FRS), National Credit Union Administration (NCUA), and Securities and Exchange Commission (SEC)



rules, and commenter types. Figure 2 shows the number of unique commenting organizations matched to each database by the agency or agencies to which they submitted comments. Across all agencies except for the Federal Reserve (FRS), most commenting organizations are non-profits. The next most common type of commenter was federally-insured (FDIC-insured) banks (hereafter “banks”). Organizations that report to 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.

Figure 3: Number of Comments by Authoring Organization Type and Agency, Including the Consumer Financial Protection Bureau (CFPB), Commodity Futures Trading Commission (CFTC), Federal Reserve (FRS), National Credit Union Administration (NCUA), and Securities and Exchange Commission (SEC)



3.4 Comment Sophistication

We measure comment sophistication by counting the technical terms in each comment. To capture sophistication with respect to the use of finance and banking jargon, we use the Oxford Dictionary of Finance and Banking, which includes 5260 finance and banking terms. 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. For example, the most sophisticated organizations often submit a cover letter, a marked-up version of the proposed rules, and studies supporting their arguments.

3.5 Lobbying Success

After reviewing an agency’s proposed rule, organizations typically use their comments to articulate the changes they want to see the agency make in the final rule. To approximate the extent to which commenters requested changes are made, we measure the overlap between the text of each organization’s comment and the text added to the final rule. Importantly, we exclude the text of the agency’s proposed rule in this calculation, so we do not include phrases quoting the proposed rule as having informed the final rule. This measure follows the intuition that an organization whose comment text is repeated by the agency in changes to the final rule is more influential in shifting regulatory content in their desired direction than an organization whose comment is not reflected in changes in the final rule. If this intuition is correct, greater text overlap suggests greater policy influence.

To construct this measure, we first link proposed rules to final rules by their Docket or Regulatory Identification Numbers — agency identifiers that uniquely identify a series of rulemaking actions. For rules with more than one proposed rule, we match comments to proposed rules by publication date; if a comment comes after the publication of a second proposed rule, it is assumed to be on the second proposed rule. We then tokenize each draft

and final rule and each comment in groups of ten 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, Smith, and Stramp 2015; Casas, Denny, and Wilkerson 2019; Judge-Lord 2017; S. Rashin 2018). 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. 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 only the highest scoring document as the primary comment. We do this because organizations that submit multiple attachments often have one primary comment and a bunch of supporting material. We are only interested in the effect of the comment, not the supporting material.

However, this measure of lobbying success does not necessarily indicate a causal relationship between lobbying and rule change. For instance, the organizational commenter and the agency may have copied the phrase from some third source. It is also possible that the processes that lead organizations to include particular phrases in their comments are endogenous to the policy changes agencies make during the financial rulemaking process. We deal with this potential endogeneity by excluding the text of the proposed rule when we measure lobbying success. Doing so removes the phrases and text that are most likely to be naturally repeated and thus drive endogeneity. In doing so, our measurement approach mitigates this concern. Despite its limitations, our measure can capture “success” in the sense that it measures the alignment between specific requests made in an organization’s comment and specific subsequent policy changes.

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

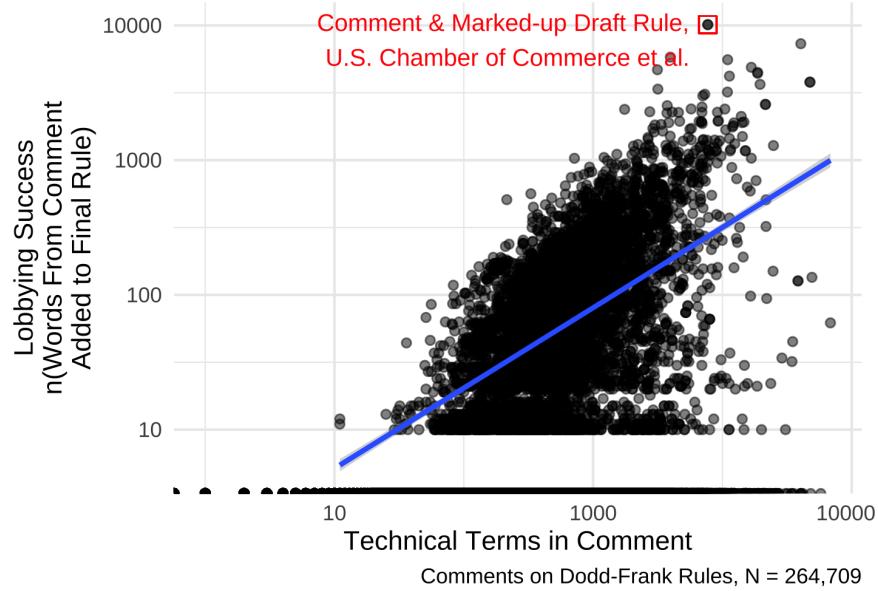
commenter attached a marked-up version of the proposed rule, we aim to exclude all but their suggested changes.

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.

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 correlates with the number of technical words. The plot 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 [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. 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, 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 (organizational 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 4.2.5 further explores the correlation between sophistication and lobbying success by assessing comment sophistication as a mediator in the relationship between wealth and success.

Figure 4: Lobbying Success by Comment Sophistication



3.6 Methods

We assess our hypotheses about the relationship between wealth inequality and policy influence using descriptive and statistical evidence, including t-tests, multivariate models, and causal mediation analyses.

Descriptively, we compare the wealth distribution and mean asset amount of different organizations to assess differences between commenters and non-commenters (H1), for-profit and non-profit organizations (H2), and frequent and infrequent commenters (H3). We use Welch t-tests to determine whether two groups equal means. Because sample sizes are unequal between the groups compared in each hypothesis, Welch t-tests are an appropriate method for uncovering any average difference between them.

We also use regression analyses to gauge whether organizational wealth predicts various outcomes of interest.

We use logit regression to model the binary outcome of commenting as a function of wealth (H1) and organization type (controlling for wealth), comparing non-profits with for-profits, both overall and between for-profit and nonprofit types of banks (H2).

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 discrete count of rules an organization comments on (H3), the number of words from a comment added to the final rule (H4), and the number of technical terms used in a comment (H5), as a function of organizational wealth.

4 Results

In this section, we take each of our six hypotheses in turn, first exploring inequalities in which organizations participate in financial rulemaking and then inequalities in influence among organizations that participate. We thus test our hypotheses about wealth and access to the policy process using two broad types of variation: (1) variation between commenters and similar organizations that did not participate in Dodd-Frank rulemaking and (2) variation among organizations that did participate in the frequency, sophistication, and impact of their participation.

4.1 Wealth Inequality in Lobbying Participation: Variation Across Commenters and Non-Commenters

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

Our *Differential Participation Hypothesis* (*H1*) posits that organizations that comment on financial rules will be wealthier than organizations that do not comment. To assess this, we compare organizations that did and did not comment on Dodd-Frank rules. Because our data included data on a full population of similar organizations that could reasonably be expected to submit comments (e.g., all banks and all non-profits), only some of which did submit comments, we can draw important new conclusions about the relationship between wealth inequality participation in the policy process.

Overall, we find strong support for the *Differential Participation Hypothesis*: organizations that comment are much wealthier on average than similar organizations that did not comment. Figure 6 shows distributions of logged organizational wealth by whether the organization commented on any Dodd-Frank rule. Organizations that comment are higher on the wealth distribution than similar organizations that did not comment. Because the x-axes of the plots Figure 6 are logged, differences that appear small in the plotted distributions represent large substantive differences in wealth. Differences within non-profits and public-traded firms are significant at the .01 level in a Welch Two Sample t-test. While differences in credit unions are large, the smaller sample lacks the power to achieve statistical significance.

Logistic regression results confirm these differences in means, including statistically significant differences among credit unions. Figure 5 (Appendix Table 4) shows the results of 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.

Figure 6 shows the distribution (on a log scale) of organizations' financial resources for commenting organizations that matched in our comment database compared to similar organizations.

Non-profits. The top left panel in Figure 6 shows that non-profits that comment on

Figure 5: Log Odds of Participating in Dodd-Frank Rulemaking by Assets

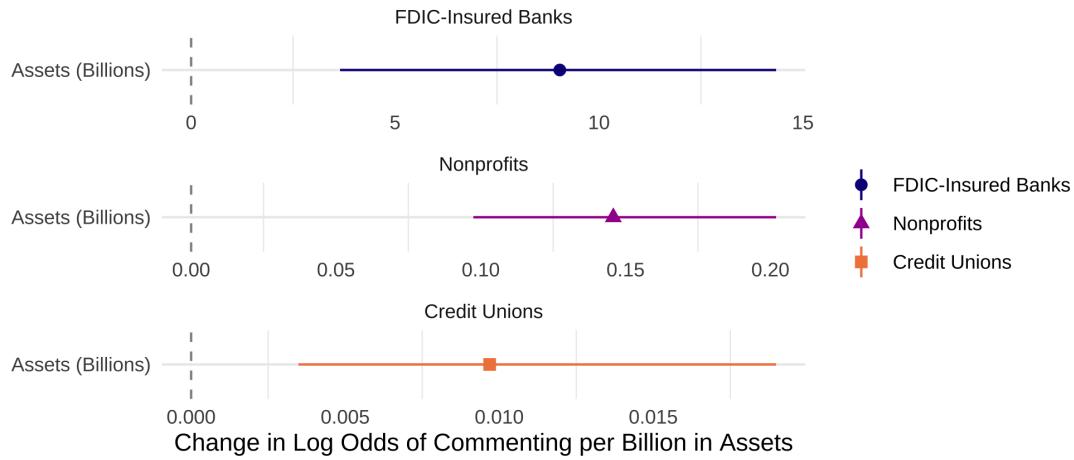
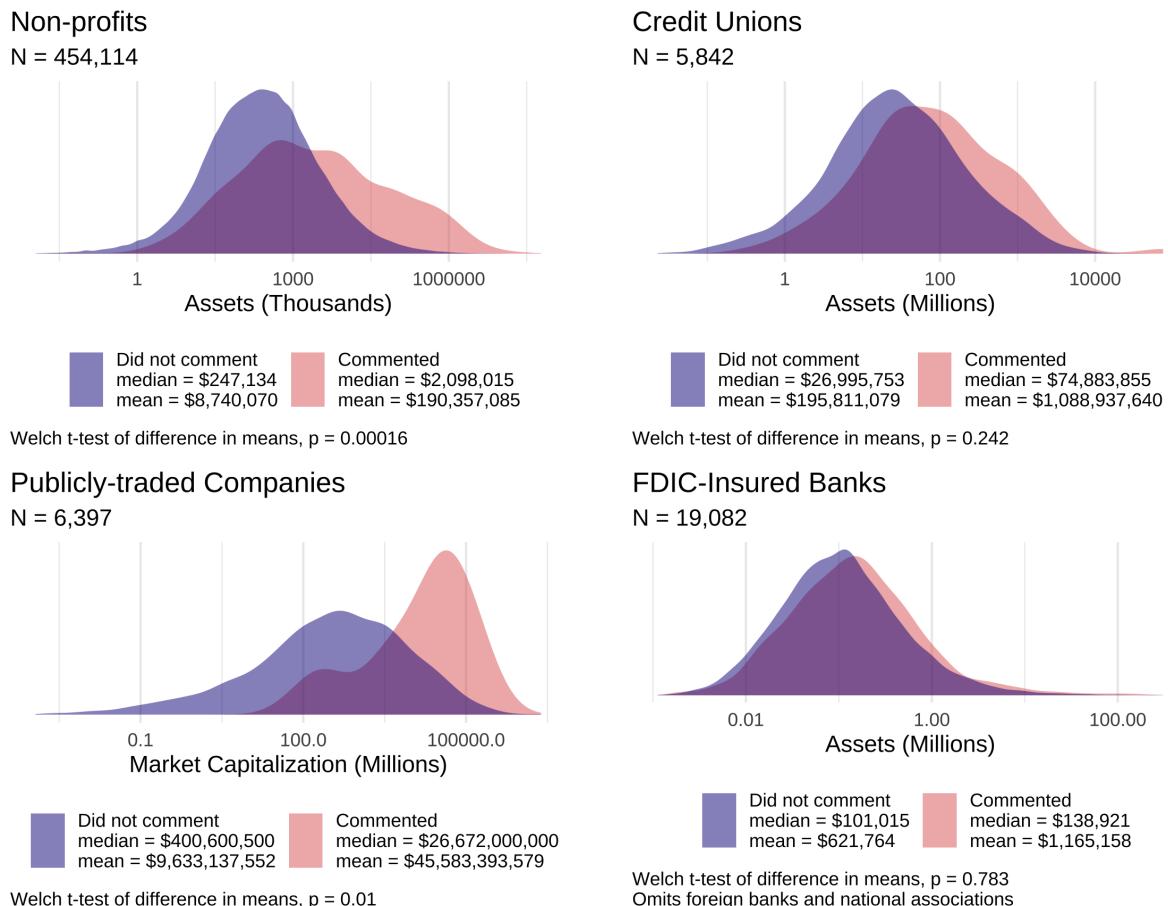


Figure 6: Financial Resources of Organizations that Did and Did Not Comment



proposed financial regulations tend to be significantly better-resourced than we would expect from a random sample of non-profits. The average assets of commenting non-profits were ten times larger than non-profits that did not participate; the average non-profit that did not comment had about \$7.5 million in assets, whereas the average non-profit that did comment had approximately \$75 million in assets. Thus, the average assets of commenting non-profits were ten times larger than non-profits that did not comment. This shows that the *Differential Participation Hypothesis* (H1) holds within non-profit organizations.

Credit Unions. Similarly, the top right panel in Figure 6 shows that credit unions that comment on proposed financial regulations also tend to be significantly better-resourced than we would expect from a random sample of credit unions. The average credit union that did not comment has about \$27 million in assets, whereas the average credit union that did comment has \$75 million in assets. The average commenting credit union is thus three times larger than the average credit union that did not comment. This shows the *Differential Participation Hypothesis* (H1) among credit unions.

Publicly-traded companies. The bottom left panel in Figure 6 shows similar distributions over market capitalization for publicly traded companies. Companies that comment on proposed financial regulations are better-resourced than we would expect from a random sample. Specifically, they have much more capital, as measured by the total value of their stock. The median market capitalization of companies that commented was almost 70 times that of the media company that did not comment.

Banks. The bottom right panel in Figure 6 shows that, on average, banks that comment on proposed financial regulations are better-resourced than we would expect from a random sample of banks. The x-axis shows assets in thousands of dollars. Banks that participated in financial rulemaking had almost 40% greater median assets and nearly double the average assets.

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 7 shows that, within each class of bank (Commercial Banks, Savings Banks, State Banks, and Savings Associations), wealthier the banks participating in financial rulemaking are the wealthier ones.⁶ While the differences within types of banks are fairly large, these differences in means do not reach statistical significance at the .05 level.

Figure 7 shows wealth distributions for four prominent classes of banks: Commercial Banks, Savings Banks, State Banks, and non-profit Savings Associations. The top-left panel of Figure 7 shows that Commercial Banks that comment are wealthier than those that did not comment. The modal Commercial Bank that commented was 40 percent more assets than the modal Commercial Bank that did not comment. The top-right panel of Figure 7 shows that Savings Banks banks that comment are wealthier than those that did not comment. The modal Savings Bank that commented has nearly twice the assets of the modal Savings Bank that did not comment. The bottom-left panel of Figure 7 shows that State Banks that comment are wealthier than those that did not comment. 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 (see Figure 9), the bottom-right panel of Figure 7 shows that, when Savings Associations do comment, it tends to be the wealthier ones.

4.1.2 Organizations that make larger campaign donations and spend more on lobbying are more likely to comment

The final two ways that we investigate *Differential Participation* Hypothesis (H1) Figure 8 shows that organizations that comment on Dodd-Frank rules also donate more to political campaigns via political action committees. This aligns with the *Differential Participation* Hypothesis (H1). Among organizations that donate to campaigns, the average campaign

⁶There are over seventeen different types of institutions that the U.S. government defines as banks (see <https://www.ffiec.gov/npw/Help/InstitutionTypes>). This paper focuses on Commercial Banks, thrifts (savings institutions), and credit unions. Commercial Banks are publicly-traded corporations that make loans to businesses and individuals. Credit Unions are non-profit banks. Savings institutions (thrifts) are non-profits primarily involved in mortgages.

Figure 7: Financial Resources of FDIC-Insured Banks that Did and Did Not Comment

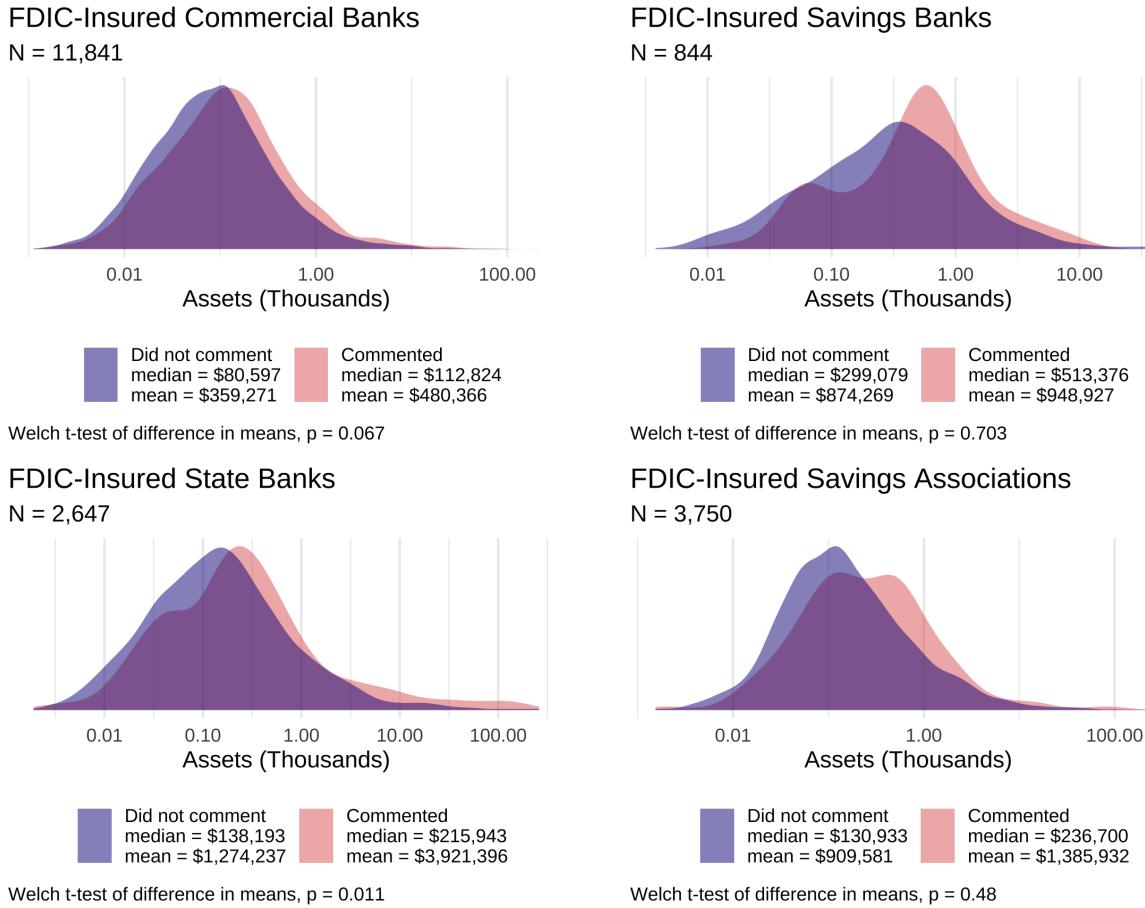
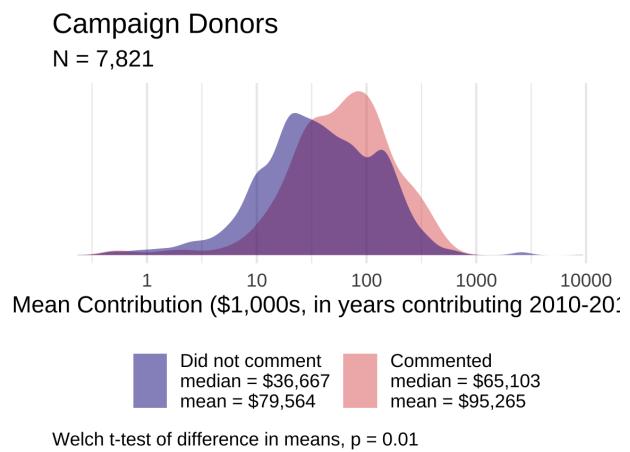


Figure 8: Campaign Spending of Organizations that Did and Did Not Comment



spending per two-year cycle was \$80,000 for those that did not comment, and the average for a donor organization that did comment on a Dodd-Frank rule was \$95,000. The difference in average campaign spending between organizations that commented and do not comment is significant at the 0.01 level in a Welch Two Sample t-test.

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

Our *Profit-motivated Participation* Hypothesis (H2) posited that for-profit organizations would be more likely to comment than non-profit organizations. We find strong support for this hypothesis, both overall (comparing banks with non-profits) and among for-profit and non-profit banks. Twelve percent of Commercial Banks commented on Dodd-Frank rules. In contrast, only three percent of non-profit Savings Associations, two percent of credit unions, and 0.2 percent of other non-profits commented. This means that 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.

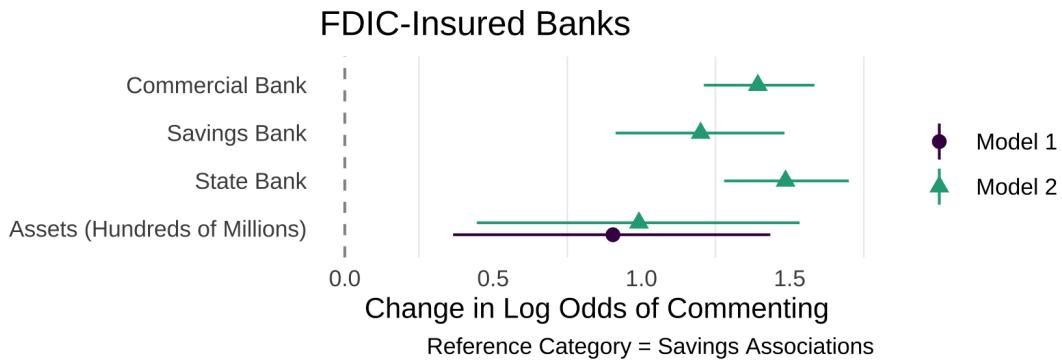
To further test this hypothesis among banks, we estimate the odds of commenting across different types of banks; we find that for-profit banks (Commercial Banks) are significantly more likely to comment than non-profit Savings Associations and credit unions, further supporting the link between lobbying activity and profit. Among FDIC-insured banks with a mean asset amount of \$1,175,970, our model predicts commercial banks to have a 12 percent probability of commenting.

Meanwhile, non-profit savings associations with the same asset resources have only a 3 percent probability of commenting.

Commercial Banks are often large multinational corporations managed by a board selected by shareholders. 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. Commercial Banks and Savings Associations serve different clients. Figure 9 (Appendix Table 5) shows that banks serving corporations

and wealthier and profit-motivated clients were disproportionately represented in Dodd-Frank rulemaking and that Savings Associations were less represented, even controlling for asset differences. This supports 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 institution. This further supports the *Differential Participation* Hypothesis (H1).

Figure 9: Log Odds of Participating in Dodd-Frank Rulemaking by Type of FDIC-Insured Bank



Further supporting the *Profit-motivated Participation* Hypothesis (H2), non-profits and credit unions are significantly less likely to comment than Banks, even when controlling for differences in assets. Table 1 shows the results of logit models predicting the log odds of commenting by organization type (credit union, non-profit, or bank) and total assets. In specifications estimating the constant effect of assets (Model 1) and different effects by organization type (Model 2), non-profits are less likely to comment than for-profit organizations.

The main takeaway from this analysis is that organizational resources correlate with commenting behavior. That is, wealthy organizations are represented more 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 represented better than those with lower market capitalization, less lobbying spending, and fewer assets. Both

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

	Model 1	Model 2
Dependent Variable	Commented	Commented
Assets (in Billions)	0.013*** (0.002)	0.904*** (0.267)
Credit union	-1.969*** (0.105)	-1.948*** (0.106)
Non-profit	-4.322*** (0.044)	-4.315*** (0.044)
Assets x Credit union		-0.894*** (0.267)
Assets x Non-profit		-0.889*** (0.267)
Num.Obs.	489 433	489 433
Log.Lik.	-12 337.456	-12 332.171

Reference category = Banks

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

within and across different types of organizations, wealthier organizations are more likely to be at the table when important policy decisions are made.

4.2 Wealth Inequality in Lobbying Frequency, Sophistication, Success

We now turn to hypotheses about inequalities within the population of organizations participating in the policy process. Hypothesis 3 posits that, among commenters, wealthy organizations will participate more frequently. Focusing on variation among organizations that all commented on at least one Dodd-Frank rule gives us even more confidence that we are comparing similar organizations with similar interests. Despite their similarities, however, some organizations commented more frequently, used more sophisticated language, or were more successful in having their policy demands met than others. We explore whether each of these types of variation is related to wealth.

4.2.1 The “usual suspects” are wealthier than those who participate less frequently

To investigate Hypothesis 3, that frequent commenters tend to be wealthy organizations, we count the number of Dodd-Frank rules on which each participating organization commented. Figure 10 shows that organizations that comment on more rulemaking dockets tend to be wealthier.⁷

The top-left panel of Figure 10 shows that most of the non-profits in the top one percent of most frequent commenters had assets over \$10 million. In contrast, non-profits in the bottom 99 percentiles (the least frequent commenters, most commenting on only one rule) had assets under \$10 million.

The middle-left panel of Figure 10 shows that, among publicly-traded companies, most of the top ten percent of most frequent commenters had market capitalization over \$10 billion. In contrast, most companies in the bottom 99 percentile had under \$10 billion in market capitalization.

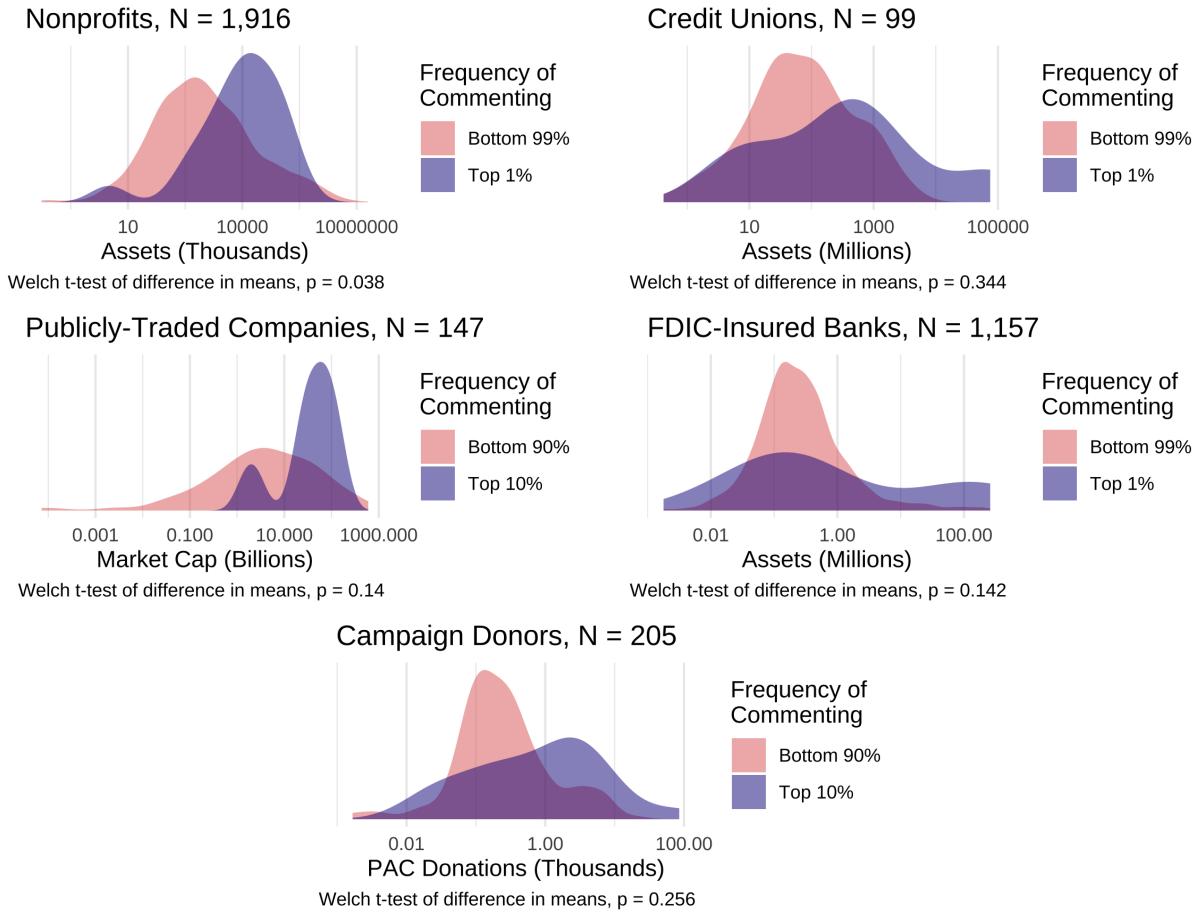
The middle-right panel of Figure 10 shows that, even among banks, a large share of the top one percent of most frequent commenters (the select few that commented on more than five rules) had assets over \$1 million; many over \$100 million. Yet, nearly all banks in the bottom 99 percentiles of most frequent commenters (most of which only commented on one rule) had under \$1 million in assets.

The bottom panel of Figure 10 shows that most of the campaign donors in the top ten percent of most frequent commenters donated over \$1,000. In contrast, most campaign donors in the bottom 99 percentile donated less than \$1,000. While differences in average wealth between organizations that comment and those that do not are only statistically significant

⁷Note 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 2019). 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 Rule. Mobilizing public pressure is different from lobbying. Our analysis here focuses on the breadth, not the amplitude of lobbying.

at the .05 level for non-profits, frequent commenters are systematically wealthier for all organization types. This supports Hypothesis 2; frequent commenters tend to be wealthy organizations.

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



Further supporting Hypothesis 2, OLS models presented in Table 2 show statistically significant relationships between wealth and frequency of commenting on Dodd-Frank rules for banks, credit unions, and campaign donors. For every additional billion dollars in assets under management, banks commented on about 12 additional Dodd-Frank rules on average. Likewise, each additional three million in campaign donations correlates with commenting on one additional rule.

Table 2: OLS Predicting the Number of Dodd-Frank Rules On Which an Organization Commented

	Non-profits	Credit Unions	Public Companies	Banks	PAC Donors
Dependent Variable	Number of Rules	Number of Rules	Number of Rules	Number of Rules	Number of Rules
Assets (in Billions)	0.026 (0.204)	0.232*** (0.050)		12.054*** (1.963)	
Market Capitalization (Billions)			0.003 (0.004)		
Campaign Donations (Millions)					0.335*** (0.077)
Num.Obs.	1916	99	147	1157	205
Log.Lik.	-5968.465	-270.410	-408.365	-1850.961	-685.648
F	0.016	21.253	0.557	37.726	18.983

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

4.2.2 Wealthier commenters are more influential

Our final three hypotheses focus on biases associated with lobbying influence during financial rulemaking.

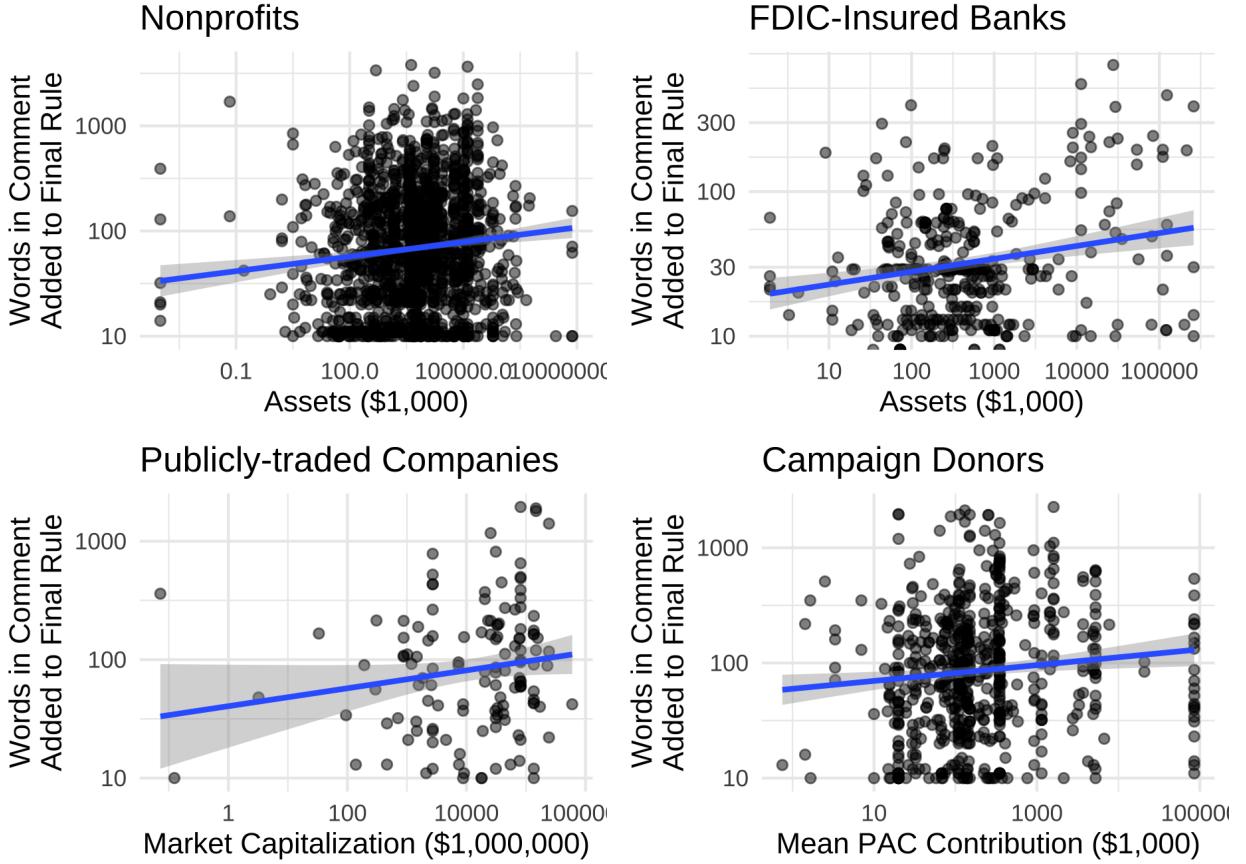
In Hypothesis 4, we argue that wealthy organizations will be more successful in regulatory lobbying. The final two hypotheses sort out why we may see this pattern emerge.

Figure 11 provides descriptive evidence regarding Hypothesis 3. The strong positive correlation between an organization’s wealth and its comment’s similarity to text added to the final rule aligns with the *Differential Lobbying Success* Hypothesis (H5): wealthier organizational commenters tend to be more successful in shifting the content of final rules than other similar but less wealthy organizations. The y-axis of all plots in Figure 11 indicates the number of words that appear in 10-word phrases in both a comment and the final rule but were not present in the draft rule. This measure captures the extent to which text added to final policy documents contains exact phrases used or suggested by a particular organizational commenter. The x-axes of each plot in Figure 11 represent different indicators of organizational wealth.

Across the four panels of Figure 11, we uncover strong positive correlations between an organization’s wealth and lobbying success. As a result of the greater alignment between the comments of wealthier organizations and changes made to rules, there is a much stronger similarity between the text of comments submitted by wealthy entities and the agency’s final

rule than there for poorer entities. We find this positive correlation between wealth and lobbying success among non-profits, among publicly traded companies, banks, and among organizations that donate to political campaigns.

Figure 11: Amount of Text Repeated in Final Rules by Commenter Resources

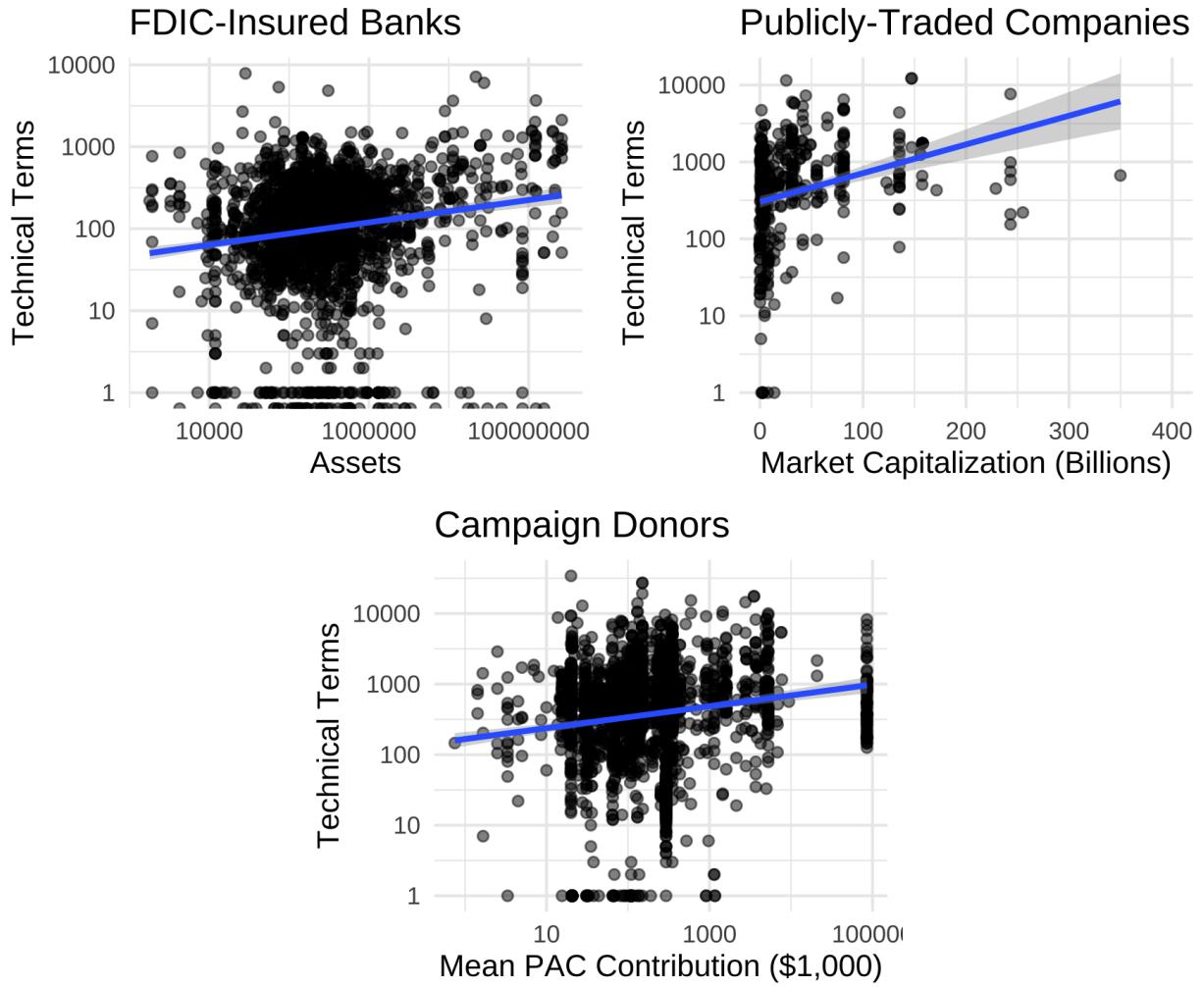


4.2.3 Wealthier companies are more sophisticated at lobbying

We theorize in our *Differential Sophistication Hypothesis* (H5) that wealthier organizations submit more sophisticated comments—especially in terms of their use of technical language—than less well-off entities. Figure 12 provides evidence of just such a relationship. It shows that the comments from wealthier organizations tend to include more technical language used in finance and banking. We see this pattern among organizations of several types: banks, publicly traded companies, and campaign donors. Nearly every comment from a company

with market capitalization over \$50 billion contained over 100 technical terms, while many less capitalized companies submitted less sophisticated comments.

Figure 12: Amount of Technical Language by Assets (Among Comments from FDIC-Insured Banks on Dodd-Frank Rules)



4.2.4 More sophisticated comments are more influential

We theorize in our *Dividends of Sophistication* hypothesis (H6) that comments from wealthier organizations will be 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 first assessing the relationship between technical sophistication and lobbying success. We find that technical terms correlate with lobbying success. Figure 4

Figure 13: Amount of Legal and Technical Language by Market Capitalization (Among Comments on Dodd-Frank Rules)



shows that comments that use more sophisticated technical language are more likely to contain text that was added to the final rule. To the extent that this similarity in language reflects lobbying success, this aligns with the *Dividends of Sophistication* Hypothesis (H6).

Figure 14: OLS Models of Lobbying Success by Technical Language



Further supporting the *Dividends of Sophistication* Hypothesis (H6), Figure 14 shows estimates of lobbying success from Poisson regression models where the predictor is the number of technical terms or legal citations in a comment. Both models suggest a statistically significant relationship. Substantively, ten additional technical finance or banking term used in an organization's comment is associated with an additional word added to the text of the final rule that was originally found in the organization's comment.

4.2.5 Legal and Technical Sophistication Explains the Lobbying Success of Wealthy Companies

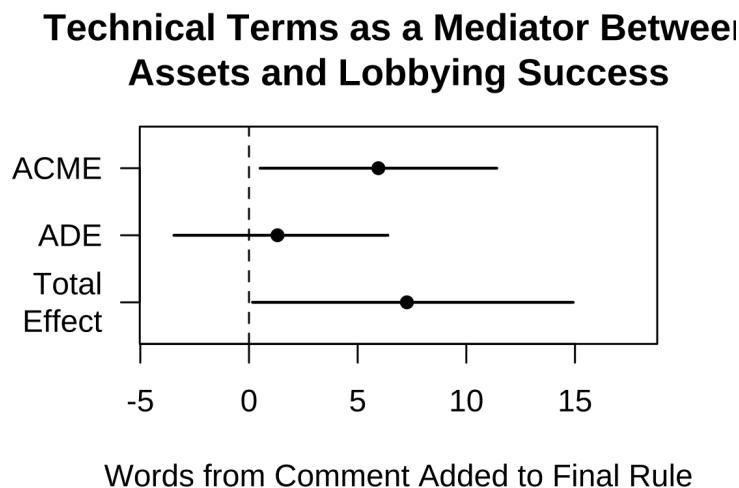
Finally, to draw firmer conclusions regarding the *Dividends of Sophistication* Hypothesis (H6), we use mediation analysis to estimate the extent to which the sophistication of the organizational comments explains the relationship between organizational wealth and lobbying success. Here we concentrate our analyses on publicly traded companies that submitted comments to our Dodd-Frank rules. Because the correlation between wealth and lobbying

success was highest in these companies (see Figure 12), this subset offers the best test of a mediated effect. The company's market capitalization is the key predictor variable, lobbying success is the dependent variable in the main models, and the number of technical terms is the proposed mediator (the dependent variable in the mediator model).

We find that the bulk of the relationship between wealth and lobbying success can be attributed to wealthier organizations using more technical language. Market capitalization is highly correlated with using technical terms, which are associated with lobbying success. Thus, we can conclude that much of the effect of market capitalization on lobbying success results from using technical banking terms.

With technical terms as the mediator, Figure 15 shows that the Average Conditional Marginal Effect is a large share (69.4%) of the Total Effect of wealth on lobbying success. The conditional effects of technical language are significant at the .05 level. In the appendix, we show that this analysis replicates using an alternative measure of sophistication: the number of legal citations in a comment.

Figure 15: Technical Language as a Proposed Mediator Between Wealth and Lobbying Success



5 Conclusion

This paper offers a new and systematic perspective on inequality in bureaucratic policymaking by combining multiple methods and data sources. Our systematic approach, covering all rules across multiple agencies implementing the same landmark piece of legislation (the Dodd-Frank Act) and rich data on multiple participants, allows unique comparisons within and across agencies and types of organizations. This new dataset allows us to assess the relative level of access and lobbying success that different types of organizations enjoy across policymaking institutions.

We find support for theories that predict that economic inequality leads to inequality in the policy process. Vastly unequal levels of resources among organizations lead to inequalities in participation, frequency of participation, lobbying sophistication, and lobbying success. Further, we offer evidence that differences in lobbying success across wealthy and less wealthy organizations result from lobbying sophistication and that participation is profit-motivated.

We have shown that commenting is disproportionately concentrated among wealthier organizations. Many organizations do not have the baseline level of resources to engage in sophisticated lobbying. Our finding that wealthier companies generally advance more sophisticated comments suggests that wealth correlates with the lobbying behavior that past studies found to be most influential. Sophisticated and technical lobbying strategies are effective. Indeed this has been a common explanation for why businesses enjoy exceptional levels of access and influence in agency rulemaking (J. W. Yackee and Yackee 2006). Our results lend support to this theory. Where previous studies generally assume that businesses are wealthier, we show that businesses are wealthier and that within and across types of organizations—including businesses—organizations with more engage in more sophisticated and technical lobbying efforts.

We have also shown that corporate wealth is positively correlated with the best available quantitative measures of commenter lobbying success. Wealth (measured by market capital-

ization) is strongly correlated with lobbying success among publicly-traded firms. Market capitalization is also highly correlated with using technical terms, which are associated with lobbying success, and causal mediation analysis suggests that much of the effect of market cap on lobbying success is a result of the use of technical and legal terms. Given previous research and our analysis of commenter sophistication, this finding may not be surprising, but the magnitude of these relationships has implications for future research and policy reforms.

The study also has several limitations. For instance, our analyses of wealth focus on organizational commenters, setting aside the views of individual participants, including those submitted via form commenters. Additionally, our tools and findings are focused on the notice and comment rulemaking process and thus, must be combined in the future with observations drawn from the legislative policymaking process to provide a full picture of how inequality may manifest across policymaking in America's key political institutions.

Finally, this study presents a model for studying inequality in the new center of U.S. policymaking. With the rise of the administrative state, scholars have documented the importance of agency rulemaking. Landmark studies have documented institutional bias toward businesses (J. W. Yackee and Yackee 2006) and the massive value businesses gain from lobbying agencies (Libgober and Carpenter 2020). However, systematically studying these many diverse and complex policy processes is difficult. Because of this, our limited understanding of the biases in the process has not been matched with systematic data on the forces behind these biases. The methods we used to document inequality in financial rulemaking are designed to be scalable and reproducible so that future work can compare levels of inequality across other policy domains. Agency rulemaking dominates many policy domains. Companies and other interest groups spend much of their lobbying efforts on agency rulemaking. These methods open up to systematic study the biases of administrative democracy.

Table 3: Comments, Comment Attachments, Comment Sophistication, Comment Lobbying Success, and Commenter Wealth Data on Rules Implementing the Dodd-Frank Act

Agency	Attachments	Comments	Lobbying Success and Sophistication Measures	Wealth Measures
CFPB	70,778	231,589	231,589	11,813
CFTC	8,496	37,675	37,675	3,087
FRS	7,146	7,116	7,116	3,383
NCUA	53	66	66	78
OCC	11,926	12,017	12,017	0
SEC	6,998	9,368	9,368	2,991
FDIC	0	807	807	0

A Data collection and processing

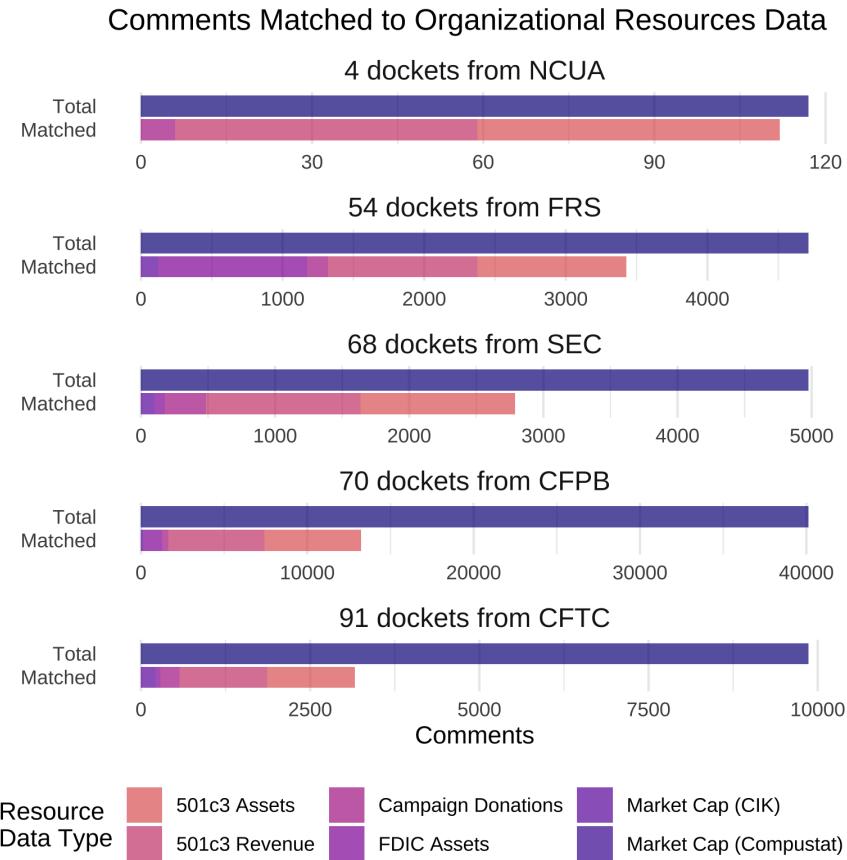
Table 3 and Figure 16 show the status of data collection and processing. We have yet to attempt to match comments on rules by the OCC and FDIC to organizations with asset data. These comments will be included in the above analysis shortly.

As noted, the data we use in our analysis is the subset of all comments that match an organization with one or more types of wealth data. Practically, acquiring wealth information for all commenters—including thousands of individuals who submit form comments as part of mass comment campaigns (with no little identifying information)—would have been impossible. Moreover, because nearly all individual commenters are mobilized by an organization, form comments are best conceptualized as supporting the more sophisticated organizational comments we focus on in our analysis here (Judge-Lord 2019).

A.1 Entity extraction and matching

Figure 16 shows the number of rulemaking dockets and the number of comments matched to organizations with organizational resource data by agency.

Figure 16: Dockets and Comments Matched to Asset Data by Agency



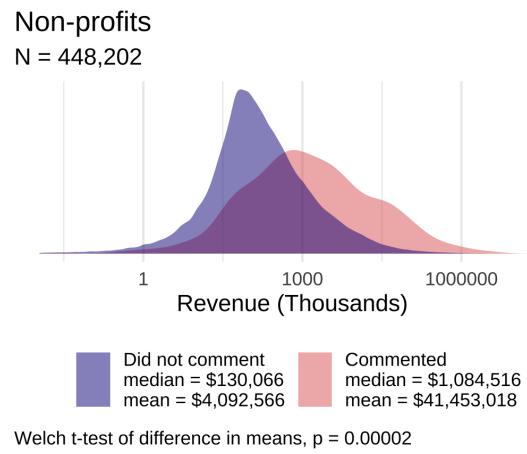
To match comments to organizations found in various databases, we first extract entity names from the text or from comment metadata where available. We then use a custom probabilistic matching algorithm that was iteratively built to correctly match organizations in these data using a combination of term-frequency 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 inspect all matches that occurred ten times or more and a sample of others and implement a custom set of corrections.

B Additional descriptives

Figure 17 shows that the relationship between organizational assets and commenting shown in Figure 6 also appears when we look at revenue rather than assets.

Figure 17: Revenue of Non-profits that Did and Did Not Comment



Figures 18, 20, and 19 present histograms—a more detailed version of the density plots in Figure s6, 7, and 8.

Figure 18: Financial Resources of Organizations that Did and Did Not Comment

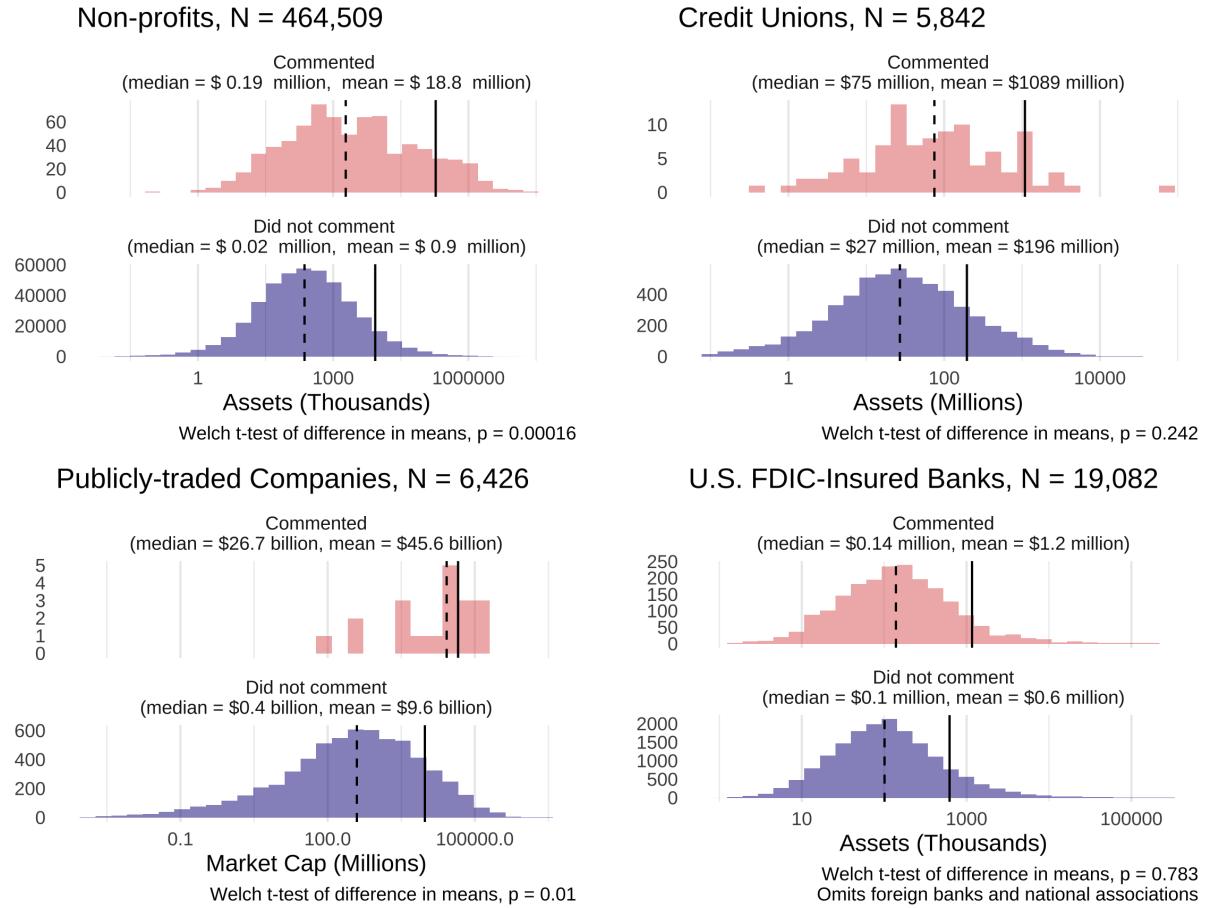


Figure 19: Campaign Spending of Organizations that Did and Did Not Comment

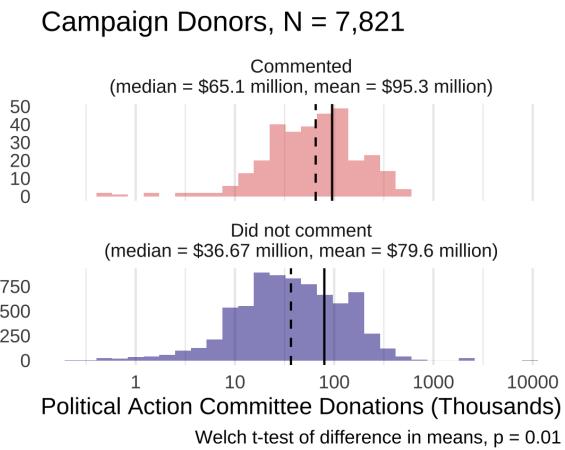


Figure 20: Financial Resources of FDIC-Insured Banks that Did and Did Not Comment

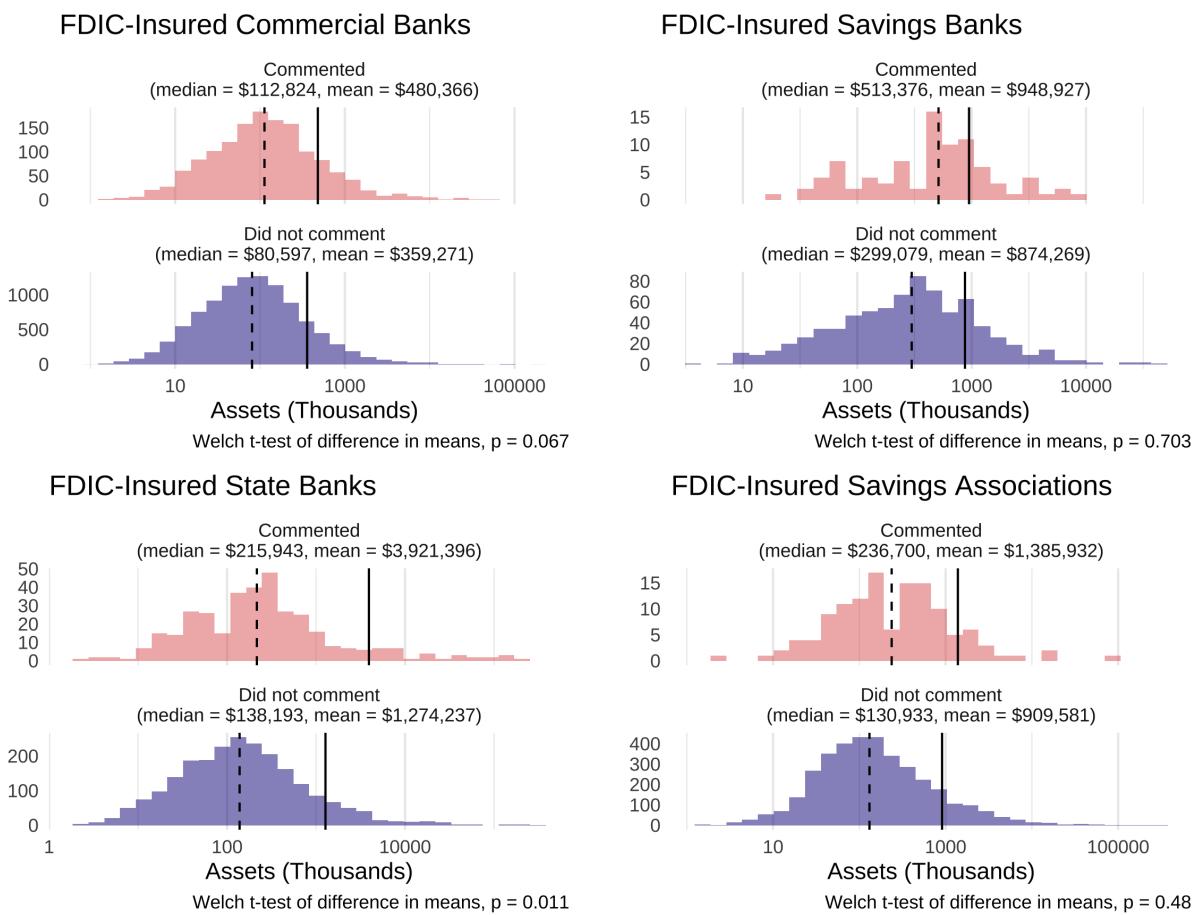


Figure 21: Number of Dockets on Which Each Type of Organization Commented

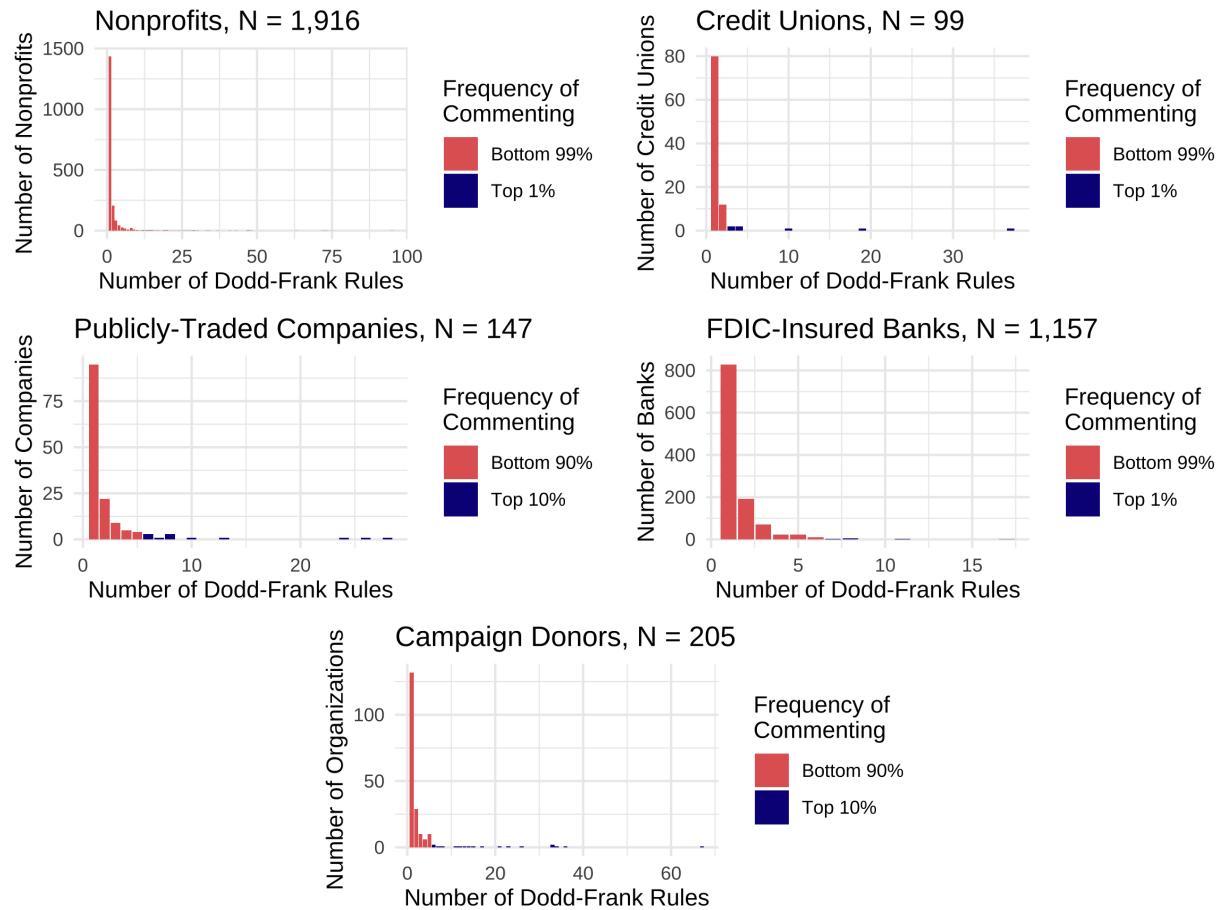


Figure 22: Frequent and Infrequent Commenters (By the Number of Dockets on Which each Organization Commented) by Resources (Log Scale)

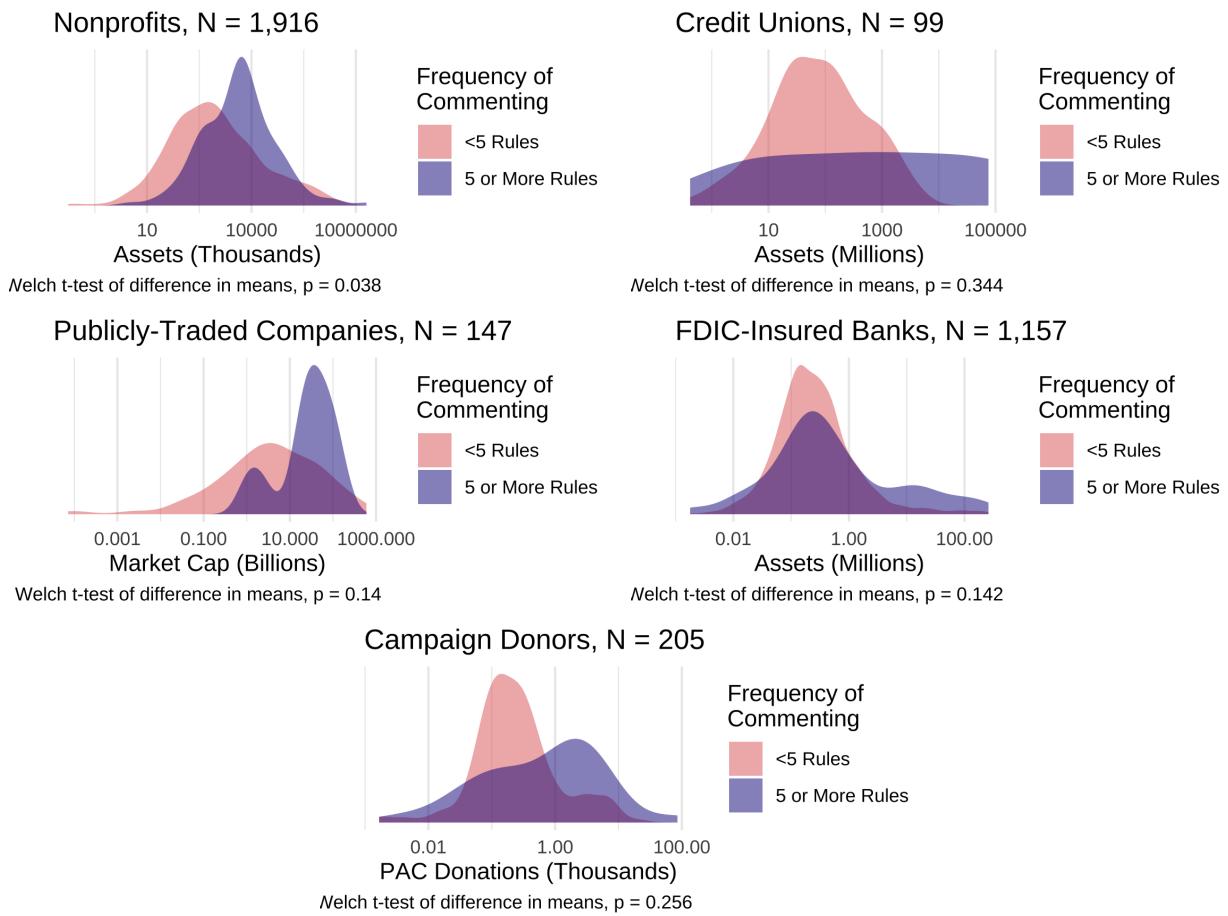


Table 4: Log Odds of Commenting on Any Dodd-Frank Rule

	FDIC-Insured Banks	Nonprofits	Credit Unions
Dependent Variable	Commented	Commented	Commented
Assets (Billions)	9.040*** (2.672)	0.146*** (0.027)	0.010* (0.004)
Num.Obs.	19 082	464 509	5842
Log.Lik.	-6418.955	-5416.122	-497.095

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

Table 5: Log Odds of Commenting on Any Dodd-Frank Rule by Bank Type

	Model 1	Model 2
Dependent Variable	Comment	Comment
Assets (Hundreds of Millions)	0.904*** (0.267)	0.992*** (0.272)
Commercial Bank		1.393*** (0.095)
Savings Bank		1.200*** (0.145)
State Bank		1.486*** (0.107)
Num.Obs.	19 082	19 082
Log.Lik.	-6418.955	-6255.521

Reference category = savings associations

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

C Regression tables

Table 4 presents the full the regression table for models shown in Figure 5.

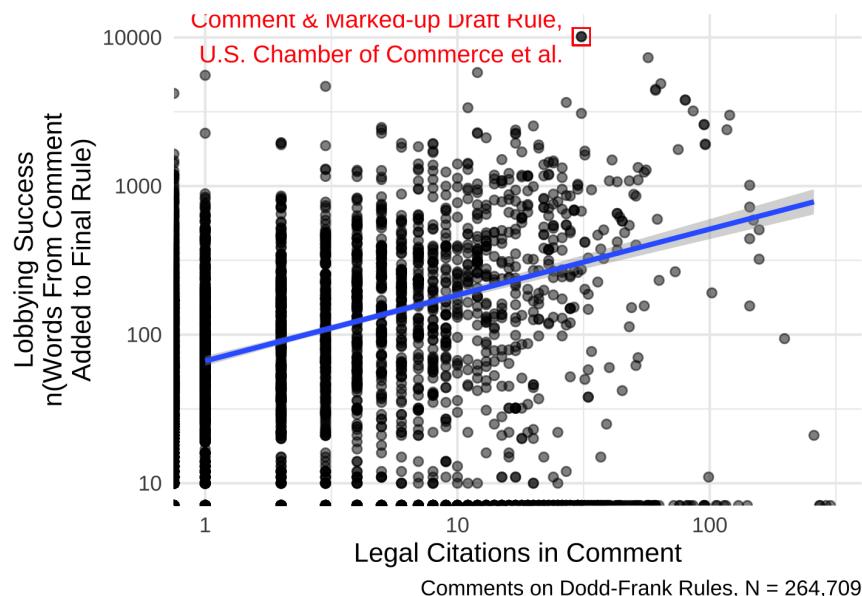
Table 5 presents the full the regression table for models shown in Figure 9.

D Comment sophistication: 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 23 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 23: Lobbying Success by Comment Sophistication



Descriptive and regression analyses demonstrate that our findings on wealth technical sophistication (H5) hold even with an alternative legal measure of sophistication. Figure 24 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 24: Amount of Legal Language by Assets (Among Comments from FDIC-Insured Banks on Dodd-Frank Rules)

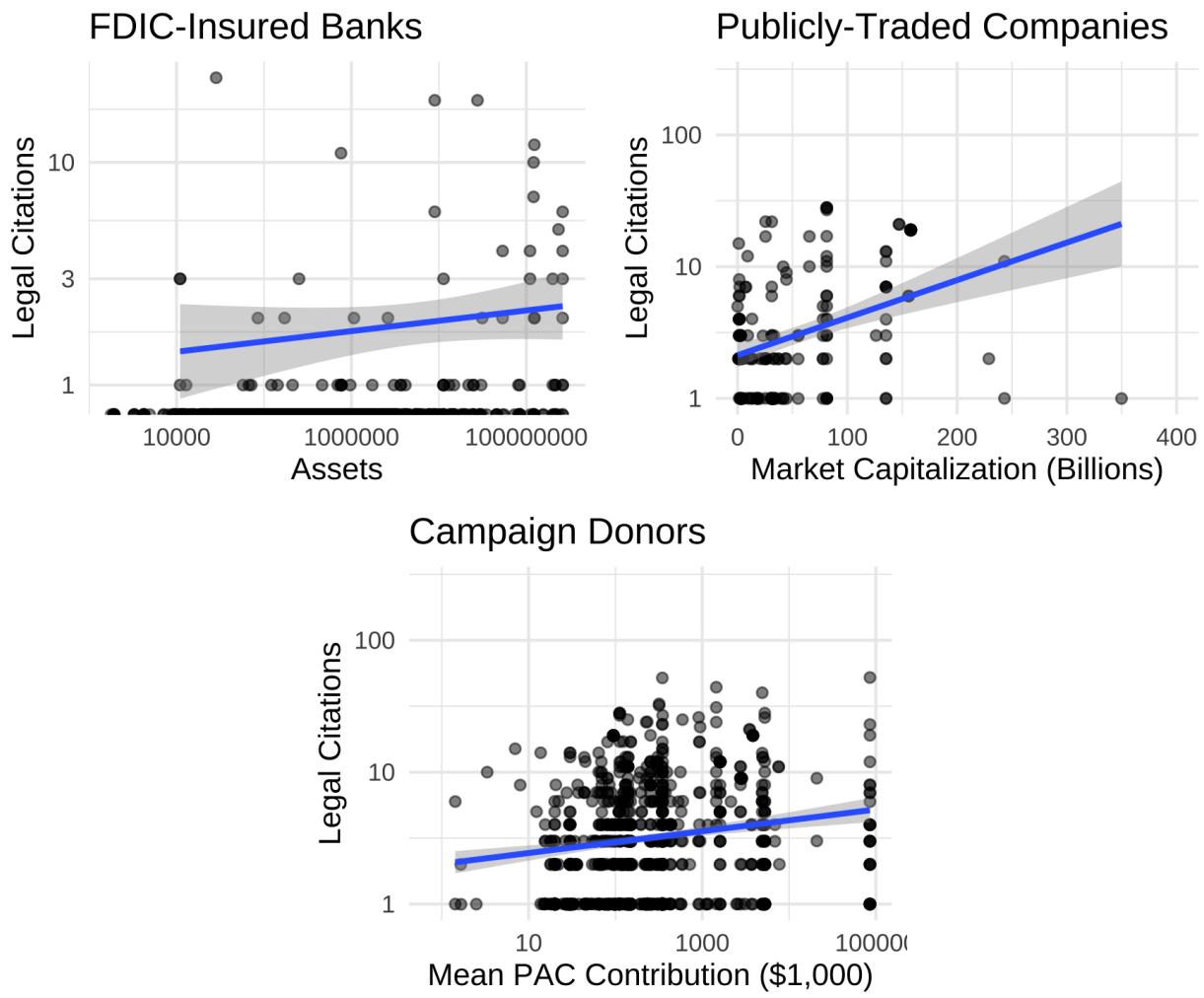
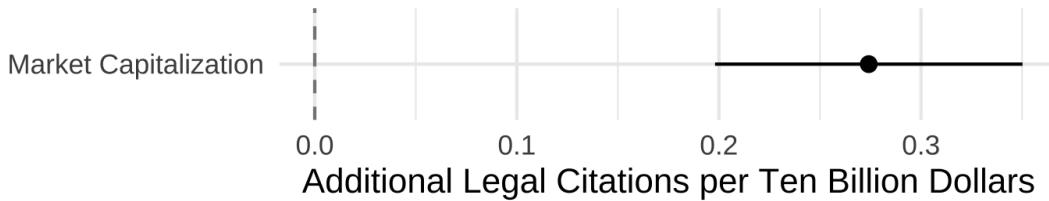


Figure 24 also corroborates with regression findings on technical sophistication. Here, comments from wealthier organizations tend to include more legal language, a pattern permeated across banks, publicly traded companies, and campaign donors. Similar to the

relationship between technical terms and commenter wealth, most of the comments from publicly traded companies with ten or more legal citations were submitted by companies with over \$50 billion in market capitalization.

Figure 25: Amount of Legal Language by Market Capitalization (Among Comments on Dodd-Frank Rules)



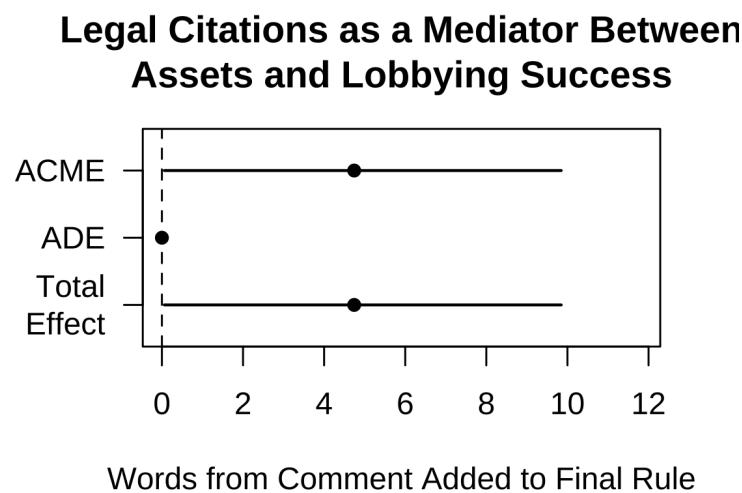
Analyses on sophistication and influence (H6) also hold up when using a measure of legal sophistication. 23 shows that comments using more legal language are more likely to contain text added in the final rule. Substantively, each additional legal citation in an organization's comment is associated with 34 additional words in the final rule.

Figure 26: OLS Models of Lobbying Success by Legal Language



Lastly, we further our investigation of sophistication and influence with a causal mediation analysis using legal sophistication. Figure 27 demonstrates that the Average Conditional Marginal Effect is nearly identical to the Total Effect of market capitalization on lobbying success. This means that legal citations explain almost all the greater success of wealthier companies (the estimated direct effect of wealth, controlling for the number of legal citations, is near zero).

Figure 27: Legal Citations as a Proposed Mediator Between Wealth and Lobbying Success



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