Political Information in Bureaucratic Policymaking

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Abstract

This dissertation is about ordinary people's input on policies made by bureaucrats. Most new policies in the United States are made by bureaucrats, and most comments that federal agencies receive on their draft policies come from ordinary people who were inspired by an interest-group campaign. Yet leading theories of bureaucratic policymaking neither explain nor account for these occasional bursts of civic engagement. I make three main contributions:

First, drawing on scholarship on social movements, interest group behavior, and lobbying, I identify three distinct reasons for lobbying organizations to mobilize ordinary people. Each logic suggests a different observable pattern of public engagement, and I analyze millions of public comments on thousands of agency rules to develop the first systematic measures of public engagement in bureaucratic policymaking.

Second, building on theories of political oversight, I theorize that mass engagement in bureaucratic policymaking may alert elected officials to political opportunities and risks, affecting oversight behavior. I assess this argument by analyzing correspondence between Members of Congress and bureaucrats on proposed rules with and without mass engagement.

Third, I integrate these intuitions about outside lobbying and oversight into a broader theory of how mass mobilization may affect policy by producing potentially influential political information. I suggest four causal mechanisms by which lobbying may influence bureaucrats. Thus far, theories of rulemaking have focused on the power of technical information, where insider lobbying is most likely to matter and outside lobbying is least likely to matter. As a result, political scientists have largely overlooked mass engagement. This gap suggests that incorporating theories of social movement influence may advance bureaucratic politics scholarship and that bureaucratic politics may be fertile ground for testing social movement theory. To address this gap, I use my new measures of mass engagement and oversight to assess the effect of political information on rulemaking and rules.

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Summary

Much of the law governing the United States is made by agencies, not by Congress. Like Congress, agencies occasionally receive input from a large number of ordinary people, but leading theories of bureaucratic policymaking neither explain nor account for these occasional bursts of civic engagement. How, if at all, should scholars incorporate mass engagement into models of bureaucratic policymaking? To better understand the role of ordinary people in bureaucratic policymaking, I develop theories of why mass engagement occurs and how it may affect policy. To assess these theories, I tackle three related empirical questions: (1) Why does it occur?, (2) How does it affect the oversight behaviors of agencies' political principals?, and (3) Does mass engagement in bureaucratic policymaking affect policy?

Part 1. Why do agencies (occasionally) get so much mail? Why do some rules receive many comments from ordinary people and some do not? Answering this question requires a theory explaining variation in mass engagement. Because the vast majority of comments are inspired by interest-group campaigns, finding their cause requires a method to link comments to the lobbying coalitions that mobilized them. To link individual comments to the more sophisticated lobbying efforts they support, I use text reuse and Bayesian classifiers to identify clusters of similar comments, reflecting formal and informal coalitions. I theorize that lobbying coalitions' resources, opportunities, and public support explain variation in mass engagement and that it will fit one of three patterns: (1) Coalitions that perceive an opportunity to influence policy and have sufficient resources to do so will "go public" when they are disadvantaged in insider politics but have more public support than opposing coalitions. More public support yields more engagement, more effort per comment, and contagion beyond those mobilized directly. (2) Coalitions with less support may "counter-mobilize" with proportionally smaller effects. (3) Finally, coalitions may mobilize for reasons unrelated to the policy at hand, yielding similar mass engagement but with little sophisticated lobbying. Measures of mass engagement include (1) comments per coalition, (2) effort per comment, (3) share of comments per coalition mobilized indirectly (i.e. the potential for conflict spread). Next, I test whether variation in engagement explains variation in oversight behavior (part 2) and policy outcomes (part 3).

Part 2. Does mass engagement affect political oversight? The political information signaled by mass engagement may serve as a "fire alarm," altering principals to oversight opportunities or "warning signs" altering them to political risks. When a coalition mobilizes successfully, elected officials ought to be more likely to engage on their behalf and less likely to engage against them. To assess these hypotheses, I count the number of times Members of Congress engage the agency before, during, and after comment periods on rules where lobbying organizations did and did not go public. I then use text analysis to compare legislators' sentiments and rhetoric to that used by each coalition. Dependent variables include (1) the number of comments from Members of Congress on the rule (2) the share of supportive congressional comments, (3) the similarity of words in comments from the coalition and Members of Congress.

Part 3. Does mass engagement affect rulemaking and rules? I theorize that the effects of political information on policy depend on the extent to which the strategic environment allows change and how political information is processed, both directly within agencies and indirectly through other actors (e.g. Members of Congress) whose appraisals matter to bureaucrats. The main dependent variable is change in the rule text. I systematically identify changes between draft and final rules, parse these differences to identify meaningful policy changes, and compare them to demands raised in comments to measure which coalition got their way. However, assessing policy change is difficult. Thus, I also use other measures of agency responses to lobbying efforts.

1 Introduction

Large democracies face two big problems. First, they are vulnerable to fleeting passions and demagogues. To combat this, many decisions are left to experts who, ideally, exercise judgment loosely guided by the public. Second, everyone cannot vote on every decision. Thus, power is delegated to representatives (who then delegate it to deputies), create temporary mini-publics, and solicit input from those most affected or moved by a public decision.[1] Most policy is then made by bureaucrats, supposedly guided indirectly through elected representatives and directly by limited public input (mostly limited to more contentious policy debates).

With the rise of the administrative state, U.S. federal agencies have become a major site of policymaking and political conflict. West and Raso (2013) estimate that upward of 90% of legally binding U.S. federal policy is now written by agencies. Agency rules are revised much more frequently than statutory law (Wagner et al. 2017) and in the years or decades between legislative enactments, federal agencies make legally-binding rules interpreting and reinterpreting old statutes to address emerging issues and priorities. Examples are striking: The effect of the Dodd-Frank Wall Street Reform and Consumer Protection Act was largely unknown until the specific regulations were written, and it continues to change as these rules are revised. Congress authorizes billions in farm subsidies and leases for public lands, but who gets them depends on agency policy. In the decades since the last major environmental legislation, agencies have written thousands of pages of new environmental regulations and thousands more changing tack under each new administration. These revisions significantly shape lives and fortunes. For example, in 2006, citing the authority of statutes last amended in the 1950s, the Justice Department's Bureau of Prisons proposed a rule restricting eligibility for parole. In 2016, the Bureau withdrew this rule and announced it would be requiring fewer contracts with private prison companies, precipitating a 50% loss of industry stock value. Six months later, a new attorney general announced these policies would again be reversed, leading to a 130% increase in industry stock value. Rulemaking clearly matters.

Less clear, however, is how the new centrality of agency rulemaking fits into a democracy. In addition the bureaucracy's complex relationships with the president and Congress, agencies have complex and poorly understood relationships with the public and advocacy groups. Relationships with constituent groups may even provide agencies with a degree of "autonomy" from their official

[1] As imagined by Dahl (1989), mini-publics are representative, selected at random, and deliberative. Besides juries, however, randomly selected deliberative bodies are rare. Instead, citizens more often engage in government decisions when given opportunities to opt-in, such as hearings, petitions, and public comment periods. These mechanisms of engagement generate a different, more contentious flavor of public input than the discourse imagined by scholars who focus on deliberation.

principals (Carpenter 2001).

Processes like public comment periods, where agencies must solicit public input on draft policies, are said to produce valuable technical information (Yackee 2006*b*; Nelson and Yackee 2012), oversight opportunities (Balla 1998; Mccubbins and Schwartz 1984), and democratic legitimacy (Croley 2003; Rosenbloom 2003). There is no normative consensus on how to rank or merge these goals (Wilson 1967, 1989; Carrigan 2017). Procedures requiring agencies to solicit public input and the justification of these procedures cite all three aims. For example, these various goals are evident in the Administrative Conference of the United States (ACUS) Proposed Recommendation on Public Engagement in Rulemaking, which asserts that "The opportunity for public engagement is vital to the rulemaking process, permitting agencies to obtain more comprehensive information, enhance the legitimacy and accountability of their decisions, and enhance public support for their rules" (ACUS 2018). Public comment periods are purported to simultaneously produce technical information, accountability to elected officials, and responsiveness to public demands.

Yet, legitimacy, accountability, public support, and, especially, collecting information depend not just on the opportunity to engage but actual engagement (Herz 2018), and we know surprisingly little about the vast majority of public comments (i.e. those submitted by ordinary people as part of a public pressure campaign) and the role that this kind of input may or may not play in rulemaking.

Defining mass engagement Political scientists often define civic engagement as writing to government officials, signing petitions, attending hearings, attending protests, or donating to a political campaign (Verba and Nie 1987). While donating is more common in electoral politics, activists frequently target agency policymaking with letter-writing campaigns, petitions, protests, and mobilizing people to attend hearings.

Following the conventional terms "mass comment campaign" and "public engagement," I call the general phenomenon "mass engagement" resulting from a "mass mobilization campaign" in order to distinguish the magnitude of civic engagement. By mass engagement, I mean that thousands of people beyond professional policy influencers engage. In my empirical context of agency rulemaking, I define mass engagement as more than 1000 public comments or 100 identical comments, plausibly indicating a mobilization effort.[2]

[2]Note; this differs from the Environmental Protection Agency's definition of mass comment campaign as two or more identical comments. In the results below, I use an intermediate category—"small batch"—comments to describe identical comments numbering less than 100

Contrary to the common assumption that this emerges organically, it is almost always mobilized by an organization that also engages in sophisticated lobbying or in coordination with such an organization. As Sant'Ambrogio and Staszewski (2018) conclude "The 'mass comments' occasionally submitted in great volume in highly salient rulemakings are one of the more vexing challenges facing agencies in recent years. These comments are typically the result of orchestrated campaigns by advocacy groups to persuade members or other like-minded individuals to express support for or opposition to an agency's proposed rule."

While practitioners and administrative law scholars have long pondered what to make of mass commenting, political scientists have had surprisingly little to say about this kind of civic participation. The contentious politics that inspire the majority of public comments have no place in leading models of bureaucratic policymaking and have largely been ignored by political scientists.[3] Instead, models focus on how agencies either learn about policy problems, negotiate or avoid accountability to various principals, or balance interest-group demands.[4]

Most scholars are skeptical that ordinary people can affect rulemaking. Foundational scholarship on rulemaking by Furlong and Kerwin (2004), Furlong (1997, 1998), and Kerwin and Furlong (2011) focuses on interest group lobbying. To the extent scholars address the input of ordinary people at all, both existing theory and empirical scholarship suggest skepticism that it matters. (By "ordinary" people, I simply mean people who are not professional policy-influencers, not that these politically-engaged people are demographically representative of the broader public.) Empirical scholarship finds that economic elites and business groups dominate American politics in general (Gilens and Page 2014) and rulemaking in particular. While some are optimistic that requirements for agencies to solicit and respond to public comments on proposed rules allow "civil society" to provide public oversight (Michaels 2015; Metzger 2010), most studies find

[3] But see Yackee (2015), who surveys commenters, finding that members of the public believe their comments matter, even though powerful groups have more influence; Cuéllar (2005), who examines public input on three rules, finding that ordinary people made up the majority of commenters, which, he argues, "shows at least some potential demand among the mass public for a seat at the table in the regulatory process"; Moore (2017), who identifies several key predictors of which rules receive more comments; Shapiro (2008) who studied nine rules, finding the more complex but lower-salience rules with more comments were also the ones that changed; and Balla et al. (2018) and Potter (2017*a*), who find mass comment campaigns driving significant participation of ordinary people in EPA rulemaking.

[4] On learning, see Kerwin and Furlong (2011) and empirical studies by Yackee (2012), Cook (2017), (Gordon and Rashin 2018), and Walters (2019). See Gailmard and Patty (2017) and Libgober (2018) for information-based models where comments reveal information to the agency.

On accountability to elected officials, see Furlong (1997), Nou and Stiglitz (2016), Potter (2017*b*), Woods (2018), and Yackee and Yackee (2009). See Gailmard and Patty (2012) for a review of formal models of oversight. Especially relevant to my analysis of the effects of mass mobilization on oversight, Potter (2014) develops a signaling model where agencies propose and principals veto rules depending, in part, on their beliefs about interest group preferences.

On interest group balancing see Yackee and Yackee (2006), Yackee (2006*b*), and Kerwin and Furlong (2011). A key assumption of Libgober's (2018) model is that bureaucrats have a distribution of preferences over interest group positions, about which they are uncertain unless groups reveal their preferences through commenting.

that participants in rulemaking often represent elites and business interests (Seifter 2016; Crow, Albright and Koebele 2015; Wagner, Barnes and Peters 2011; West 2009; Yackee and Yackee 2006; Yackee 2006*b*; Golden 1998; Haeder and Yackee 2015; Cook 2017).

From a strategic perspective, agency officials are not directly accountable to voters. And even if organized groups do supplement congressional and judicial checks on executive power, the groups that participate in rulemaking represent only certain (if any) segments of the public and may not represent them well (Seifter 2016). Scholars are thus skeptical about rulemaking as a site for collective action the ability of most people to participate. As a result, mass comment campaigns are dismissed as epiphenomenal to bargaining with principals or interest groups. Indeed, almost all empirical studies of rulemaking discard unsophisticated comments from ordinary people, as evident from a comprehensive review of scholarship on "The Politics of Rulemaking" by Yackee (2018), who finds skepticism about citizen comments, but no studies of mass mobilization as a lobbying tactic:

> "Kerwin and Furlong (2011) point out that a citizen must know not only that a regulation is being formulated but also how and when to participate. This is a high bar for most Americans. Second, to be influential during rulemaking, commenters may require resources and technical expertise. As Epstein, Heidt and Farina (2014) suggest, agency rule-writerswho are often chosen because of their technical or policy-specific expertiseprivilege the type of data-driven arguments and reasoning that are not common to citizen comments. When taken together, these factors suggest why interest group lobbying may occur at a higher rate than citizen lobbying. In short, interest groups are better able to afford the costs of regulatory participation (Yackee 2006*a*). This may come as no surprise to students of interest group politics, who have long known the difficulty of collective action across citizens (Olson 1965), as well as the problems associated with mobilizing citizen groups, who have no ready-made constituency and no easy sources of political funding (Walker 1991)." (p. 10)

For any particular lay commenter, this conclusion seems inescapable. But groups do occasionally mobilize, usually behind a more sophisiticated lobbying effort. Are ordinary people still powerless when mobilized in large numbers? Without systematic understanding and study of public participation, it is difficult to adjudicate such questions about how processes like public comment periods may enhance or undermine various democratic ideals.

This scholarly oversight is surprising given that most people are only aware of rulemaking

when it is the target of a high-profile mass mobilization campaign.[5] While most rules receive little attention, the ease of online mobilizing and commenting has, like other forms of participation (Boulianne 2018), created exponential increases in the number of rules in which thousands and even millions of people engage (see Figure 2; note that comments per rule are on a logarithmic scale).[6] Occasionally, a large number of people are paying attention. These bursts of civic participation may affect rulemaking (Coglianese 2001), but this intuition has yet to be tested.

The general failure to explain or account for mass engagement in rulemaking is also striking in light of how agencies advertise public comment periods as an opportunity for a voice in government decisions.[7] Big red letters across the top of the Regulations.gov homepage solicit visitors to "Make a difference. Submit your comments and let your voice be heard" (Figure 1). A blue "Comment Now!" button accompanies a short description of each draft policy and pending agency action. Another invitation at the bottom of the page reads "Participate today!" Public commenting on proposed agency rules is described as "an important part of democracy" (WSJ 2017), the "often held out as the purest example of participatory democracy in actual American governance" (Herz 2016). Rossi (1997) finds that "courts, Congress, and scholars have elevated participation [in rulemaking] to a sacrosanct status...greater participation is generally viewed as contributing to the democracy." Yet despite much debate about the theoretical import and possible reforms, the bulk of public comments have yet to be studied.

While "ordinary" members of the public may occasionally provide novel and useful technical information to expert bureaucrats, such sophisticated means of influencing policy are out of reach for the vast majority of people. Thus, to investigate the potential role of ordinary people in bureaucratic politics I look elsewhere—not because ordinary people never provide novel and useful technical information, but because this is simply not how most people attempt to influence policy, nor, I argue, how we should expect ordinary people to have influence.

[5] Some of the most contentious recent public controversies involve bureaucratic policymaking. For example, along with 50 thousand protesters in Washington D.C., the State Department Received 1.2 million comments on the Environmental Impact Statement for the Keystone Pipeline. Similarly, along with the thousands of protesters supporting the Standing Rock Sioux protest to the Dakota Access Pipeline, the Army Corps of Engineers received hundreds of thousands of comments. Alongside protest actions that included shutting down many websites, the Federal Communications Commission's open internet rule received 22 million comments. While some of these comments appear to be fake, the scale of public engagement is remarkable given how little attention political scientists have paid to it. Fake public comments also raise the question of why an organization would bother to generate fake public input if it did not matter, as its omission from theories of bureaucratic policymaking would seem to imply.

[6] Proposed rules that have attracted the most public attention have been published by the Federal Communications Commission (FCC, omitted from this plot), the Environmental Protection Agency (EPA), the Department of Interior (DOI), the Bureau of Ocean Energy Management (BOEM), the Consumer Financial Protection Bureau (CFPB), and Fish and Wildlife Service (FWS).

[7] I focus on public comments in rulemaking, but the theories and methods here may also apply to other kinds of political engagement such as through social media or protests as well as to other political decisions, including state-level rulemaking. Social media engagement may be especially important if agencies implement the recommendations of ACUS (2018) that "Agencies should consider using social media before or in connection with direct final rulemaking to quickly identify whether there are significant or meaningful objections" (p. 34).

Figure 1: Regulations.gov Solicits Public Comments on Draft Agency Rules

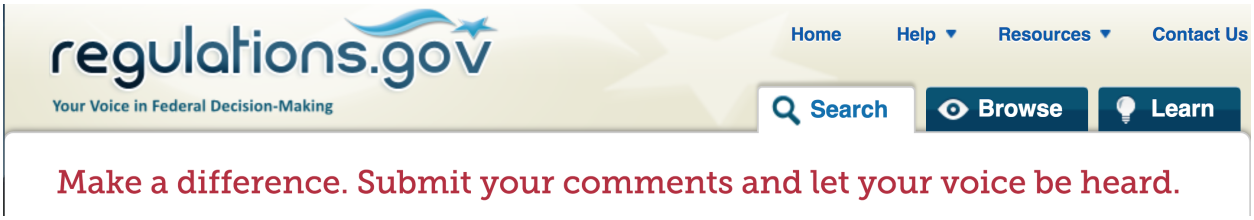
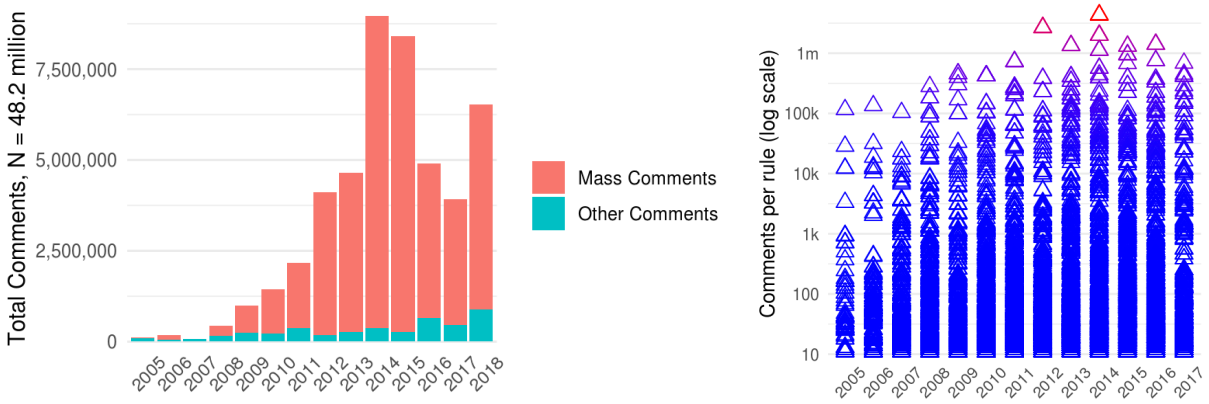


Figure 2: Comments on Proposed Rules per Year (left) and per Rule (right) posted on regulations.gov



Most public comments are, in fact, of the flavor suggested by the solicitations on Regulation.gov—ordinary people voicing opinions on a proposed policy. They do not provide useful technical information or suggest specific edits to policy texts like the interest group comments that have thus far captured the attention of political scientists. If they add information to rulemaking, it is a different, more political flavor of information. Indeed as Figure 2 shows, every year since 2008, most people who comment on draft regulations have done so as a result of an interest group's campaign.[8]. Public engagement in rulemaking is highly clustered on a few rules made salient by these campaigns. It is plausible that, at least some of the time, such campaigns aim to influence policy. It is also plausible the thousands of people engaging on a few proposed rules may alter the politics of these policy processes, but this hypothesis remains untested. Indeed, we have much to understand about the causes and effects of these campaigns before we are in a position to ask if they are a mechanism to influence policy.

The kind of politics created by mass engagement has a few notable features. It is contentious; most ordinary people are not engaging in deliberation, they are simply making demands. Importantly, however, processes like public comment periods channel contentious demands into

[8] At least with respect to agencies participating in regulations.gov. See sections 2.2 and 2.2.4 for my definition and methods for identifying mass comments

institutionalized policy processes rather than undermining them. Mass commenting may also, in a sense, expand participation.[9] Surely, those who opt in are far from representative of the broader public (Verba and Nie 1987), but it is difficult to argue that they are not more representative than the handful of political insiders who participate in most policy processes. If the usual participants have "an upper-class accent" as Schattschneider (1942) put it, adding thousands more voices may dilute this bias. In short, the politics of rulemaking created by mass engagement is much more inclusive and contentious than most rulemakings, but also much more institutionalized than most contentious politics. Mass engagement in rulemaking thus presents a novel context to examine the consequences of broader engagement in typically insider-dominated policymaking and the ways in which public participation may condition how political decisions are made.

Incorporating mass engagement into theories of bureaucratic policymaking. How, if at all, should scholars incorporate mass engagement into models of bureaucratic policymaking? I argue that mass engagement produces potentially valuable political information about the coalition that mobilized it. Thus, depending on how agencies process political information, "going public" may occasionally be an effective strategy for organizations to influence policy, both directly and indirectly.

Dissertation outline. Does mass engagement in bureaucratic policymaking affect policy? This question drives my project. However, two questions must be answered first: (1) Why does it occur? and (2) How does it affect political oversight? These questions drive two initial empirical chapters. Thus, my analysis has three steps. First, I theorize that activists' opportunities and strategies and latent public opinion drive engagement. Second, I theorize that variation in mass engagement will lead to variation in political oversight. Third, I theorize that mass engagement may affect rulemaking both directly, and indirectly via its affect on political oversight.

[9] If defining "political participation" as "acts aimed at influencing governmental decisions (Verba and Nie 1987: p. 2), signing a petition or mass comment clearly counts. However, some consider true participation to be deliberative, which mass commenting clearly is not. Other requirements, that participation is "genuine," "informed," or "reasoned" are more difficult to assess. Normative theorists may debate whether deliberation among a small number of people is preferable to a large number of people simply expressing their preferences, but empirically, public participation in bureaucratic policymaking is much more the latter.

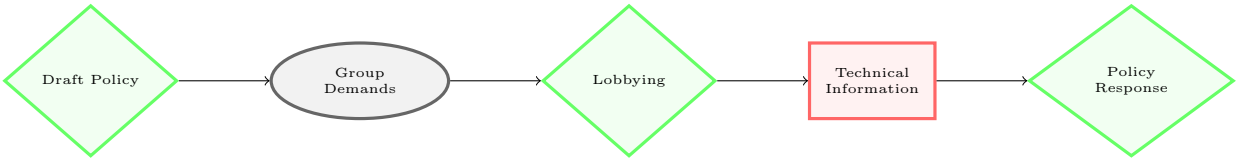
2 Part 1: Mass mobilization → Political information

2.1 Why agencies (occasionally) get so much mail

This section builds a theory to explain variation in mass engagement. I argue that we should observe different patterns of engagement depending on whether an organization launches a mobilization campaign as an outside lobbying tactic, to counter such a campaign, or for reasons other than influencing policy. In the next section, I develop methods to measure these patterns. In short, these measures capture similar statistics to questions posed by Verba and Nie (1987: p. 9): "How much participation is there, what kind is it, and from what segments of society does it come?"

However, as noted above, scholars of bureaucratic policymaking have focused on the sophisticated lobbying efforts of powerful interest groups such as business coalitions. A key insight from this scholarship is that technical information is the currency of insider lobbying. Figure 3 illustrates the classic causal model of insider lobbying that describes most rulemakings. However, mass engagement has no place in this model. I aim to fill this gap.

Figure 3: The Classic Model of Interest Group Lobbying in Bureaucratic Policymaking



I offer a framework for assessing the causes of mass engagement. I argue that organizations may mobilize large numbers of people for three reasons with observable implications for observed patterns of mass engagement and theoretical implications for predicted effects on policy.

2.1.1 Hypotheses about the drivers of mass mobilization

2.1.2 Types of campaigns

The outcomes of mass mobilization depend, in part, on the aims of a campaign. I group campaigns by which of three distinct aims they pursue: (1) to win concessions by going public, (2) to disrupt a perceived consensus, or (3) to go down fighting. Going public and disrupting a perceived consensus are forms of proactive and reactive outside lobbying, respectively. Here, going down fighting describes any situation where the organization does not expect to influence policy but mobilizes for other reasons.

Going public. Coalitions "go public" when they believe that expanding the scope of conflict gives them an advantage.[10] As these are the coalitions that believe they have more intense public support[11], mass engagement is likely to skew heavily toward this side. Indeed, Potter (2017*a*) finds that advocacy group-driven campaigns mobilize far more people on average than industry-driven campaigns. Additionally, many people may be inspired indirectly (e.g. through news stories) or to engage with more effort (e.g. writing longer comments) than people mobilized by the side with less public support. This is important because political information may be especially influential if decisionmakers perceive a consensus.[12]

Hypothesis 1a: *Lobbying coalitions mobilize mass engagement when they perceive the attentive public is on their side, have sufficient resources, and perceive an opportunity to influence policy.*

The key part of this hypothesis is that mobilizing is correlated with public support. The converse, that organizations mobilize when they have less public support, could also be true. For example, business groups who are already advantaged in low salience rulemaking may decide to further leverage their superior resources to mobilize support in order to alter a bad reputation or bolster claims that they represent more than their private interest. If mobilization most often takes this form, this would be evidence against Hypothesis 1a and Schattschneider's argument that it is the disadvantaged who seek to expand the scope of the conflict.

The latter parts of Hypothesis 1a regarding sufficient resources and political opportunity are merely scope conditions. Most organizations that are disadvantaged in low-salience rulemaking also lack resources to launch a mass mobilization campaign. If an organization does not perceive a lobbying opportunity, it would be incorrect to call mobilization a lobbying strategy. Many factors may contribute to perceived political opportunities. For example, Moore (2017) finds that agencies that use high levels of expertise (as defined by Selin (2015)) receive fewer comments, possibly because mobilizing organizations perceive these rules to be less open to influence.

Disrupting a perceived consensus. Second, because the impression of consensus is powerful, when a coalition goes public, an opposing coalition may countermobilize. Because I theorize that these are coalitions with less intense public support and its aim is prevent a perceived con-

[10] "Going public," "outside lobbying" or an "outside strategy" contrasts with insider lobbying. It is used by Presidents (Kernell 2007), Members of Congress (Malecha and Reagan 2012), interest groups (Walker 1991; Dür and Mateo 2013), Lawyers, and Judges (Davis 2011). For example, organizations may use phone banks, targeting strategies, and direct-mail techniques to drum-up and channel public support (Cooper 1985).

[11] This strategy is likely to be used by those disadvantaged (those Schattschneider (1975) calls the 'losers') in a policy process with less public attention.

[12] For example, consensus among interest groups (Golden 1998; Yackee 2006*b*), especially business unity (Yackee and Yackee 2006; Haeder and Yackee 2015), predicts policy change, though it is not clear if this is a result of strategic calculation, a perceived obligation due to the normative power of consensus (e.g. following a majoritarian logic (Mendelson 2011)), or simply that unified demands are easier to process than opposing demands.

sensus, I expect such campaigns to engage fewer people, less effort per person, and yield a smaller portion of indirect engagement.

Hypothesis 1b: *When a lobbying coalition with more intense public support mobilizes successfully in response to an opportunity to influence policy, opposing coalitions with less public support are more likely to counter-mobilize, but at a proportionally smaller scale.*

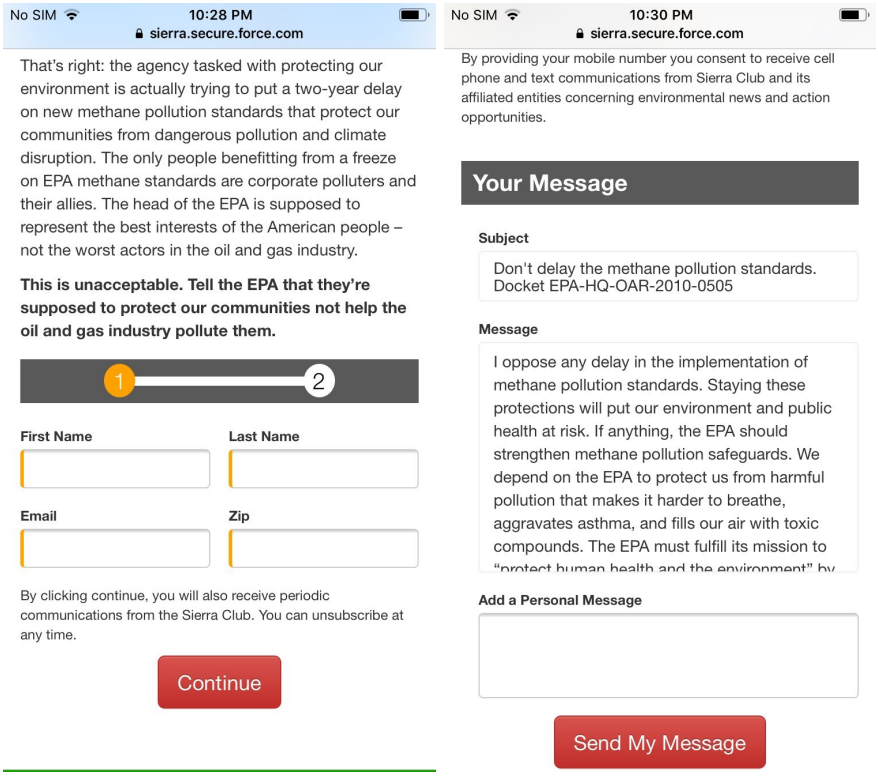
The first part of Hypothesis 1b would be undermined if lobbying organizations with less public support are no more likely to engage in outside lobbying when their opposition does so. While Potter (2017*a*) found industry groups were no more likely to advocate for rules to be strengthened, weakened or withdrawn, this does not mean that they are no more likely to mobilize when their opposition does so.

The second part of this hypothesis, that countermobilization is proportionally smaller, rests on the intuition that the scale and intensity of public engagement is moderated by preexisting support for the proposition that people are being asked to support. It is possible that the "potentially mobilized" segments of the public are unrelated to public support prior to being contacted by the campaign, for example, if mobilization is driven more by partisan identities than issue preferences.

Going down fighting. Finally, campaigns may target supporters rather than policymakers. Sometimes organizations "go down fighting" to fulfill supporters' expectations. I use "going down fighting" as shorthand for campaigns aimed only at fulfilling member, donor, or supporter expectations and related logics that are internal to the organization, including member retention or recruitment, fundraising, or satisfying a board of directors. For example, as Figure 4 shows, the Sierra Club uses campaigns to collect contact information of supporters and potential members. In this case, given the executive-branch transition between 2010 when the rule was initiated and 2017 when it was delayed, the Sierra Club may have had little hope of protecting methane pollution standards, but for members of the public who wanted to voice their opinion, the Sierra Club created an easy way to do so, as long as users consented to "receive periodic communication from the Sierra Club."

While such campaigns may engage many people, they are unlikely to affect policy or to inspire countermobilization. I expect such campaigns to occur on rules that have high partisan salience (e.g. rules following major legislation passed on a narrow vote), rules that propose large shifts on policy issues dear to member-funded public interest groups, or rulemaking started shortly after presidential transitions when executive-branch agendas shift more quickly than public opinion.

Figure 4: Mass mobilization campaign by the Sierra Club collects contact information



Hypothesis 1c: *When a lobbying coalition with more intense public support successfully mobilizes for reasons other than influencing policy, opposing coalitions with less public support are not more likely to counter-mobilize.*

Going public and going down fighting may be difficult to distinguish in the observed public response. Indeed, members of the public may poorly understand the different chances of success in each case. However, lobbying organization do likely know their chances of success and should thus invest less in sophisticated insider lobbying under the going down fighting strategy. By identify cases where coalitions engage in large public campaigns without corresponding investment in sophisticated lobbying, I can assess whether countermobilization and is indeed less likely in these cases. Table 1 specifies the general pattern of engagement, that each of the three reasons behind mass-comment campaigns suggests.

As Table 1 suggests, the relevant statistic distinguishing patterns is the *relative* number of each type of comment on each side on a given rulemaking docket. Even among rules targeted by campaigns, salience varies significantly and thus "high" and "low" numbers of comments will differ across rules. Importantly, even campaigns that achieve very low public response rates appear in these data. Because campaigns aim to collect thousands of comments, it is implausible

Table 1: Observable differences in engagement across types of mass-mobilization campaigns

	Inside	Outside		
	Technical information	Number of comments	Effort	Contagion
Going public	High	High	High	High
Disrupting	High	Low	Low	Low
Going down fighting	Low	High	High	High

that even the most unpopular position would achieve no supportive responses. For example, Potter (2017*a*) found Poultry Producers averaging only 319 comments per campaign. While this is far from the Sierra Club's average of 17,325 comments per campaign, it is also far from zero.

Public and private goods. While coalitions may form around various material and ideological conflicts, those most likely to be advantaged by going public or going down fighting are public interest groups—organizations primarily serving an idea of the public good rather than the material interests of their members.[13] Thus, I theorize that mass mobilization is most likely to occur in conflicts of public versus private interests or public versus public interests (i.e. between coalitions led by groups with distinct cultural ideals or desired public goods), provided they have sufficient resources to run a campaign. If true, one implication is that mass mobilization will systematically run counter to concentrated business interests where they conflict with the values of public interest groups with sufficient resources to mobilize.

Hypothesis 1d: *Public interest group coalitions mobilize more often than business-driven coalitions.*

Hypothesis 1d posits a conditional logic in the decision to mobilize. If outside lobbying were purely determined by resources, business-driven coalitions would often dominate, as they do elsewhere. However, I argue, because outside lobbying can alter the decision environment, those who have the advantage in the usual rulemaking process (where a more limited set of actors participate) have little incentive to expand the scope of the conflict.

[13] Potter (2017*a*) similarly distinguishes "advocacy groups" from "industry groups." Berry (1999) calls these groups "citizen groups" and emphasizes conflict over cultural issues. While some public interest groups focus on conservative or progressive cultural issues, like religious education, immigration, or endangered species, many are more focused on the public provision or protection of public goods such as national parks, consumer product safety standards, air quality, drinking water, and public safety.

One exception may be types of membership organizations that are both broad and often focused on material outcomes for their members such as labor unions. Potter (2017*a*) puts unions in the "Industry" category. I take a different approach based on the coalition with whom such groups lobby. If a union lobbies alongside businesses, I classify this as a private interest-driven coalition. If a union lobbies with public interest groups on public health or safety issues, I classify this as a public interest.

2.1.3 Types of public engagement

I classify supporters into three types that help describe key pieces political information. I illustrate these types in the context of public comments. Comments that are exact copies of a form letter are akin to petition signatures from supporters who were engaged by a campaign to comment with minimal effort. Commenters that also take time to add their own text indicate more intense preferences. Finally, commenters who express solidarity in similar but distinct phrases indicate they were engaged indirectly, perhaps by a news story or a social media post about the campaign, as campaign messages spread beyond those originally targeted.[14] Because the success of a mobilization effort is moderated by public support, broader public interest group coalitions ought to mobilize more people, more effort per person, and more people indirectly for the same amount of mobilization effort (e.g. spending or solicitations).

Hypothesis 1e: *Public interest group coalitions mobilize more successfully than business-driven coalitions. Indicators of success include (1) the number of comments supporting a coalition (2) the effort per comment (3) the number of comments mobilized indirectly.*

The size of each group thus offers political information to policymakers, including coalition resources, the intensity of sentiment, and potential for conflict to spread. The first two types signal two kinds of intensity or resolve. First, they show the mobilizers' willingness to commit resources to the issue. Second, costly actions show the intensity of opinions among the mobilized segment of the public (Dunleavy 1991). The number of people engaged by a campaign is not strictly proportional to an organization's investment. The less people care, the more it costs to mobilize them. The third type indicates potential contagion. Indications that messages spread beyond those originally targeted may be especially powerful (Kollman 1998).

Information about organizational resolve, the intensity of public demands, and contagiousness are thus produced, but such political information will only influence decisions if these signals are processed in a way that captures this information and relays it to decisionmakers. These organizational processes may vary significantly across agencies.

2.1.4 Incorporating political information into models of lobbying in rulemaking

If all campaigns best fit the "going down fighting" type, then scholars are right to dismiss them. Below, I set these campaigns aside and elaborate on why mass mobilization may often be best

[14] It is possible that some people in this latter category engage purely on their own initiative, but any impact they have likely comes from their alignment with a coalition. Furthermore, as I show below, wholly original comments are rare.

understood as a tactic aimed at influencing policy.

An organization's ability to expand the scope of conflict by mobilizing a large number of people may occasionally be a valuable political resource. In contrast to scholars who focus on the deliberative potential of public comment processes, I focus on public engagement as a tactic aimed at gaining power, either by leveraging powerful ideas or engaging actors with the institutional power to shape decisions. Scholars who do understand mobilization as a tactic (Furlong 1997; Kerwin and Furlong 2011) have thus far focused on organizations mobilizing their membership. I include a campaign's broader audience and its potential to grow, more akin to the concept of an attentive public (Key 1961) or issue public (Converse 1964).

Appeals to the government are almost always couched in the language of public interest, even when true motivations are obviously private (Schattschneider 1975). When lobbying during rulemaking, groups often make suspect claims to represent broad segments of the public (Seifter 2016). If agency staff do not trust an organizations' representational claims, engaging actual people may be one of the few credible signals of a broad base of support. Furthermore, if organizations claim to represent people beyond their official members, reforms requiring groups to disclose information about their funding and membership (Seifter 2016) only go part way to assess groups' claims to represent these broader segments of the public. Indeed, if advocacy group decisions are largely made by D.C. professionals, these advocates themselves may be unsure how broadly their claims resonate until potentially-attentive publics are actually engaged.

Theorists may debate whether signing a petition of support without having a role in crafting the appeal is a meaningful voice or whether petitions effectively channel public interests, but, at a minimum, engaging a large number of supporters may help broader interests to distinguish themselves from truly narrower ones. It suggests that the organization is not "memberless" (Skocpol 2003) in the sense that they are able to demonstrate some verifiable public support.[15]

Here I build on three insights. First, Furlong (1997) and Kerwin and Furlong (2011) identify mobilization as a tactic. The organizations that they surveyed reported that forming coalitions and mobilizing large numbers of people are among the most effective lobbying tactics. Second, Nelson and Yackee (2012) identify political information as a potentially influential result of lobbying by different business coalitions. While they focus on mobilizing experts, Nelson and Yackee (2012) describe a dynamic that can be extended to mass commenting:

> "strategic recruitment, we theorize, mobilizes new actors to participate in the policy-

[15] Public support can be faked or inflated using "astroturf" tactics but as I argue below, such campaigns ought to have observably different patterns of engagement.

> making process, bringing with them novel technical and political information. In other words, when an expanded strategy is employed, leaders activate individuals and organizations to participate in the policymaking process who, without the coordinating efforts of the leaders, would otherwise not lobby. This activation is important because it implies that coalition lobbying can generate new information and new actors—beyond simply the 'usual suspects'—relevant to policy decision makers. Thus, we theorize consensus, coalition size, and composition matter to policy change."

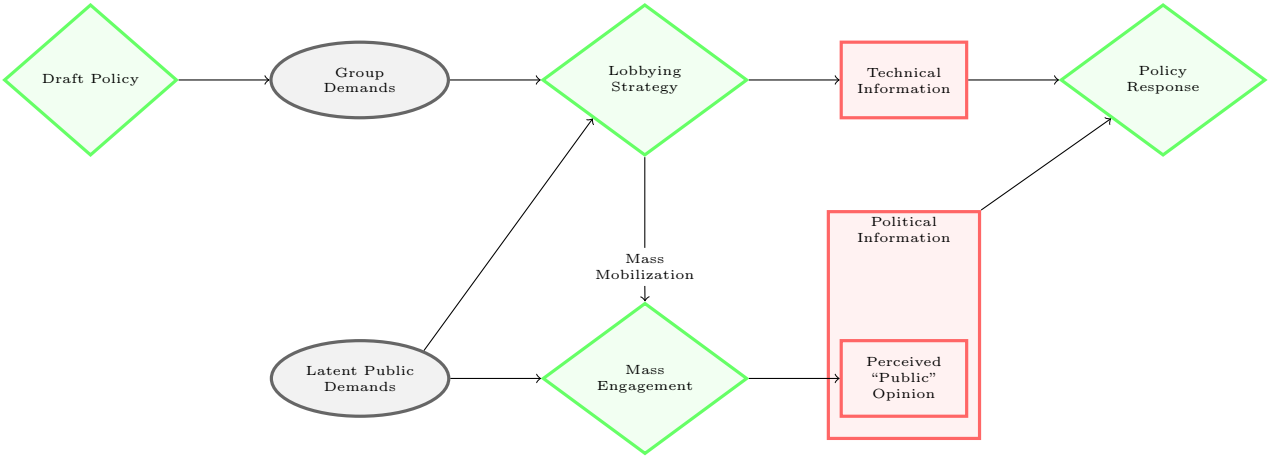
I argue that, with respect to political information, this logic extends to non-experts. The number and distribution of ordinary supporters may matter because it suggests a *public* consensus. Instead of bolstering *scientific* claims, a perceived public consensus bolsters *political* claims. Finally, Furlong (1998), Yackee (2006*b*), and others distinguish between direct and indirect forms interest group influence in rulemaking. This distinction is especially important for political information, which may be most influential through indirect channels, such as through elected officials. In short, to understand how groups lobby in rulemaking, we must understand mass mobilization as a tactic aimed at producing political information that may have direct and indirect impacts on policymaking.

While most scholars have emphasized mass comments' lack of useful technical information, a few have raised their role in creating political information. Cuéllar (2005) calls on agencies to pay more attention to ordinary peoples' expressions of preference and Rauch (2016) suggests that agencies reform the public comment process to include opinion polls. I build from a similar intuitions that mass comment campaigns currently function like a poll or, more accurately, a petition, capturing the intensity of preferences among the attentive public—i.e. how many people are willing to take the time to engage.[16] Self-selection may not be ideal for representation, but opt-in participation—whether voting, attending a hearing, or writing a comment—may often be one of the few heuristics decisionmakers have about public preferences.

Mobilizing citizens and generating new political information are key functions of interest groups in a democracy (Mansbridge 1992; Mahoney 2007). Campaigns inform agencies about the distribution and intensity of opinions that are often too nuanced to estimate a priori. Many questions that arise in rulemaking lack analogous public opinion polling questions, making mass commenting a unique source of political information. As with public opinion on many specific policy issues, most members of the public and their elected representatives may only learn about

[16] For example, a campaign by the World Wildlife Federation provided language explicitly claiming to have public opinion on their side. Their model comment stated that "Along with 80% of the American people, I strongly support ending commercial trade in elephant ivory in the US." This suggests that mass comment campaigns aim to signal information about public opinion.

Figure 5: Incorporating Mass Engagement and Political Information into Models of Lobbying



the issue and take a position as a result of a public pressure campaign (Hutchings 2003). I thus consider public demands to be a latent factor in my model of policymaking (Figure 5). Public demands shape the decisions of groups who lobby in rulemaking. If they believe the attentive public is on their side, groups may attempt to reveal this political information to policymakers by launching a mass mobilization campaign. The public response to the campaign depends on the extent that the attentive public is passionate about the issue.

Figure 5 amends the Classic Model of interest group lobbying (Figure 3) to incorporate the above intuitions. In addition to providing technical information, for example through sophisticated comments, an organization may mobilize supporters. The more support a group has, the more successful this effort will be. Large-scale engagement may produce several types of relevant political information. The most direct and obvious is the expressed "public opinion" that policymakers observe.[17]

As noted, the causal process visualized in Figure 5 only operates under certain conditions, one of those being that mobilization is aimed at influencing policy.

2.2 Measuring mass engagement and political information

In this section, I develop methods to attribute mass comments to the campaigns that mobilized them and measure the intensity of preferences expressed. To link individual comments to the more sophisticated lobbying efforts they support, I use textual similarity to identify clusters of similar comments, reflecting formal and informal coalitions. Comments with identical text (if

[17] I address other types of political information that mass engagement may create elsewhere. For an expanded model, see Figure 12 in the Appendix.

any) indicate which groups and coalitions ran a mass comment campaign. Within each campaign, I measure the intensity and potential for the movement to grow. To measure intensity, I examine the ratio of high-effort and low-effort comments. To measure potential to grow, I measure the number of comments mobilized indirectly by the campaign (i.e. those that support a campaign but do not include text provided by the campaign). The result is several new measures that paint a picture of mass commenting.

2.2.1 Who lobbies?

Previous studies of rulemaking stress the importance of coalitions (Yackee and Yackee 2006). Scholars have measured coalitions of organized groups but have yet to be able to attribute citizen comments to the coalition that mobilized them.

Data. I collected a corpus of approximately 70 million comments via the regulations.gov API. Approximately 50 million of these comments were on proposed rules (about 16,000 proposed rules from 144 agencies from 2005 to 2018). I then linked these comments to other data on the rules from the Unified Agenda and Office of Information and Regulatory Affairs Reports on draft rules sent to them for review. Summary statistics for these data are in the Appendix.

Unfortunately, metadata on the authors of comments and their organizational affiliations are inconsistent and incomplete. As this information is key to identifying influential actors, improving these data was a significant data-organization task. First, I identified organizations responsible for mobilizing 100 or more comments with repeated text, either identical text or partially unique texts that contain shared language.[18]. I then searched comment texts for mentions of these organizations' names to complete missing information on the mobilizing organization. The top 100 mobilizing organizations mobilized between 55 thousand and 4.2 million comments. Figure 6 shows the top organizers of comments posted to regulations.gov.

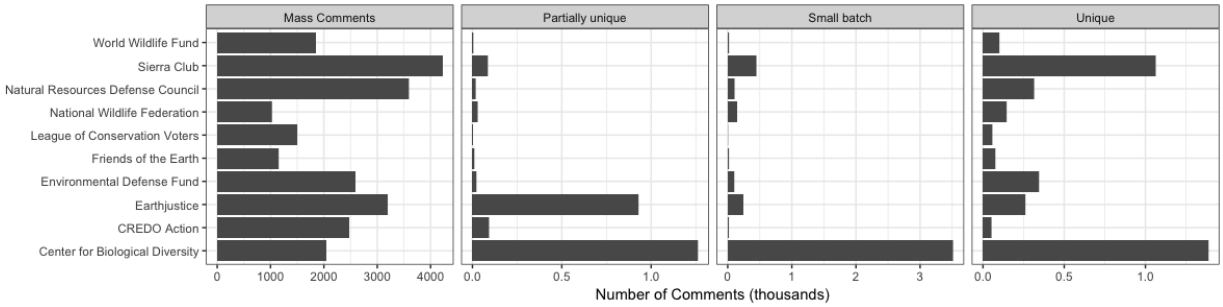
Having identified who is participating in rulemaking, the next step is to identify who is lobbying together.

2.2.2 Who lobbies together?

The Oceana coalition framed its mass mobilization effort to curb the Bureau of Ocean Energy Management's 2017 Proposed Offshore Oil and Gas Leasing Program as a "petition signed by

[18]Specifically, I identify comments that are not identical but share a 10-word (or "10-gram") string using a moving window function looping over each possible pair of texts to identify matches. For more about this method and comparisons with related partial matching methods such as the Smith-Waterman algorithm, see Casas, Denny and Wilkerson (2017) and Judge-Lord (2017)

Figure 6: Top mobilizers of comments posted to regulations.gov



67,275 self-proclaimed United States residents," suggesting that organizations consider these efforts as akin to petitions. In the same statement, Oceana also claimed the support of "more than 110 East Coast municipalities, 100 Members of Congress, 750 state and local elected officials, and 1,100 business interests, all of whom oppose offshore drilling," suggesting that claims of public and elected official support aim to provide similar kinds of political information.

When actors sign onto the same comment, it is clear that they are lobbying together. However, various businesses, advocacy groups, and citizens often comment separately even when they aligned. The comment process is open to anyone and it is often not worthwhile for all actors to coordinate their messages. Thus, in addition to mapping text re-use, I adapt several statistical models (k-means clustering and Bayesian classifiers) of text to classify comments into coalitions. I cluster documents by the frequency with which they use different words. Being classified together does not mean that the documents all address exactly the same distribution of substantive issues, just that they use similar words relative to the full set of documents. I start by modeling all comments on each rule (collapsing identical comments to one document) with two and three topics, which I will then inspect to see how well the comments of named organizations were classified. If the two topic model most sensibly describes the conflict, I label these clusters "pro" and "con'.' If the three-topic model more sensibly describes the conflict, I label these clusters as "pro, con, other." If neither fits well, I increase the number of clusters as needed.

2.2.3 Measuring the volume, intensity, and potential contagion of public engagement.

I measure variation in engagement in there ways, corresponding to the three types of comments described above.

Volume. First, I measure the total number of comments on the rule. As commenting results

from multiple processes: a coalition deciding to lobby at all, a coalition deciding to mobilize, and response to the campaign the distribution contains many cases where groups may have had success mobilizing but never reached the choice of whether to mobilize or not. Perhaps they were unaware of the draft rule. Once the decision to mobilize has been reached and made, the response to mobilizing is a count process. Thus, I expect the count of comments across rules to follow a zero-inflated negative binomial distribution.

Effort. I measure effort per comment by the number of words people write, omitting any to text longer than 10 words that is not unique, usually because it was provided by a mobilizing organization. For example, using the form shown in Figure 4, the Sierra Club mobilized more than 47,710 people to submit exactly the same text on the delay of the methane pollution rule, but 7,452 people also took the time to write a personalized comment in addition to the text provided. However, we may not observe people who have low levels of passion for the issue because they either do not cross the effort threshold required to comment or opt to write nothing more than the form letter. I consider the low end of the distribution of words to be truncated.

Contagion. Mass-comment campaigns have wildly different results. Some gather a clean 10,000 copies of (signatures on) the same comment and call their work done. Others "go viral"—inspiring a mess of further engagement where the original messages are translated through social media posts and news stories. To identify people who were plausibly mobilized indirectly by a campaign, I count the number of people who use similar distribution of words to that of the form letter but fewer than 10 words matching any other comment. This is regular count process.

2.2.4 Patterns of public engagement in rulemaking

Most comments result from mass-comment campaigns. Figure 7 shows all comments posted on regulations.gov over time by whether they are exact or partial copies of another comment or not. While some agencies classify all duplicate comments as mass comments, I call comments that have between 2 and 99 identical copies, "medium batch" because such comments may reflect coordinated efforts among interest groups that do not include a public pressure strategy that involves mobilizing ordinary people. Here "mass comments" are comments that have either 100 or more identical copies or were uploaded in bulk batches of at least 100. This restrictive definition of what counts as mass engagement captures comments that were certainly mobilized by a campaign. As Figure 7 shows the vast majority of comments are mobilized by mass commenting campaigns. In other words, most comments are from ordinary people.

The right pane of Figure 7 shows results from a sample of several million comments for which

Figure 7: Comments on Draft Rules Posted to Regulations.gov 2006-2018

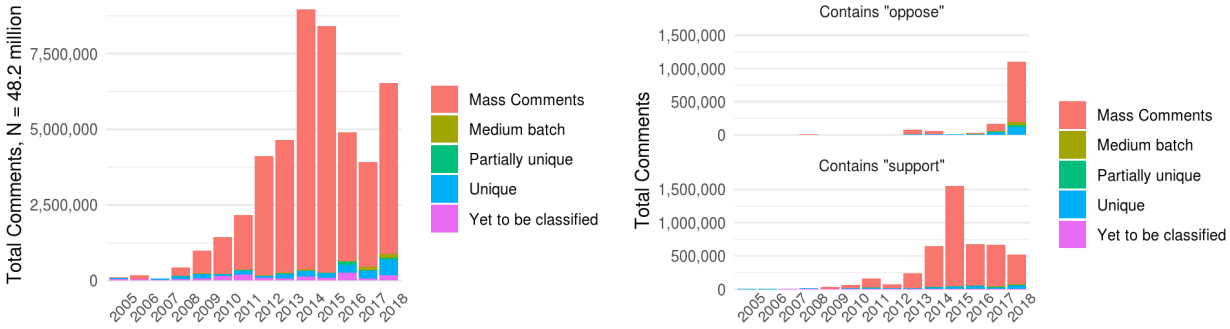
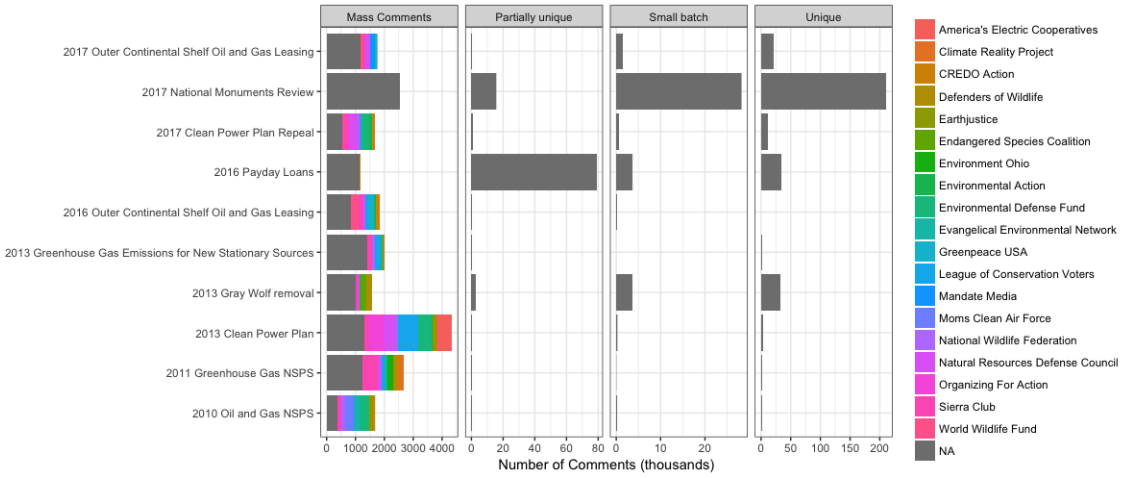


Figure 8: Top 10 Dockets Receiving the Most Comments on regulations.gov and the top 20 Mobilizers



I have digitized texts. Many of these comments appear to support proposed agency rules, as was the case with both the do not call and mercury rule examples. A rough measure of support (whether the comment text includes " support " or " oppose ") shows that many more comments mention support, until 2018, when there is a fairly dramatic reversal in the share of comments mentioning "support " compared to those mentioning "oppose " (Figure 7). This may be a function of the changing regulatory agenda due to the change in presidential administration.

Most comments occur on a small number of salient rules. Approximately a third of public comments posted to regulations.gov were received on just ten dockets.

A coalition of public-interest organizations mobilize most comments. As Figure 8 shows, the most prolific mobilizers are environmental groups. On 5 out of the top 10 dockets (here including rulemaking and non-rulemaking dockets), a similar coalition of groups mobilized

the majority of public comments. In part, this is because the Environmental Protection Agency produces a large share of the substantive rules posted to regulations.gov. However, it is notable that, on the top ten dockets, 19 of the top 20 mobilizers generally lobby together. America's Energy Cooperatives, an industry association, stands out as the lone mobilizer on behalf of material interest for its members. Notably, it only mobilized significantly on the Clean Power Plan but not on the subsequent Clean Power Plan repeal.

3 Part 2: Political information → Oversight

3.1 Why mass engagement may affect political oversight

When George W. Bush replaced Bill Clinton as president, career bureaucrats at the Federal Trade Commission knew that this meant a change in policy priorities. Many rulemaking projects initiated under the Clinton administration were likely to be withdrawn or put on hold. They also knew that the new administration wanted to be perceived as advancing a new policy agenda, not merely undoing Clinton-era regulations. Entrepreneurs within the agency saw a political window of opportunity to initiate a new regulatory agenda aimed at curbing a growing volume of telemarketing calls. This initiative seemed likely to be popular with voters but, even with a supportive president, would be difficult to advance over the objections of the telemarketing industry whose campaign donations had earned them many powerful allies in Congress. Agency officials report being pessimistic about the FTC's telemarketing effort succeeding over opposition from Congress.

When the draft "Telemarketing Sales Rule" (also known as the "Do Not Call" rule) was published, however, public support and engagement were overwhelming. The rule received thousands of supportive comments from frustrated members of the public who were encouraged to comment by advocacy groups like the Consumer Federation of America. Agency officials report that the volume of public response not only encouraged the agency and the administration but, more importantly, "scared off" Members of Congress who the industry was relying on to kill or reverse the rule. Once it became clear that the public was paying attention and sufficiently mobilized to act on the issue, elected officials became much less willing to take unpopular positions supporting industry donors. Instead, Congress ended up codifying the agency's authority to implement the Do Not Call regulations with legislation the following year.

The story of the Do Not Call rule suggests that public engagement in rulemaking may occa-

Figure 9: The Classic Model of Principal-Agent Oversight in Bureaucratic Policymaking

sionally be influential because it affects the behavior of elected officials who have the power to provide key support or opposition to a proposed rule.

Political oversight. Political oversight of bureaucracies has long concerned both practitioners and theorists. Political scientists often model the relationship between elected officials and bureaucrats as a principal-agent problem. For example, an agency may have a preferred policy but, upon observing the preferences of principals, may change the rule or delay its publication to avoid being reversed (Potter 2017*b*). While it is widely accepted that agency officials must take the positions of their principals into account, the mechanisms by which this occurs and the empirical conditions for political control are debated.

Because I focus on influence in the period between publication of draft and final rules, I focus on information about principals' preferences revealed to the agency in this period. Oversight during rulemaking is a form of ex-post control (Epstein and O'Halloran 1994), in this case after the proposed rule is published. Figure 9 shows a version of the classic model of principal influence in rulemaking. Upon learning content of a draft rule, an official with power over the agency may choose to signal their demands to the agency. There is an ongoing debate among scholars over how political oversight operates–i.e. how the observable behaviors of principals actually inform agency decisions.

McCubbins, Noll and Weingast (1987) suggest two oversight mechanisms. Principals may proactively attend to agency activities, like a "police patrol" or they may rely on bureaucrats' fear of sanction when attentive interest groups alert principals about agency activities, more like a "fire alarm." Administrative procedures like mandatory public comment periods thus offer opportunities for direct oversight and to be alerted to oversight opportunities.

3.1.1 Incorporating political information into models of political oversight

In addition to interest groups directly alerting elected officials to oversight opportunities as in the "fire alarm" model, the political information signaled by mass engagement may alert elected officials to political risks (like a "warning sign") *or*, conversely, to encourage the agency to hold

course (like a "beacon" attracting positive attention and credit claiming opportunities. In the case of the FTC's "Do Not Call" rule and subsequent legislation, mass engagement functioned more as a "warning" for would-be opponents and a "beacon" for potential allies, effectively enabling and empowering rather than restraining the agency as the classic "fire alarm" concept suggests. Agency officials credit the public support mobilized by mass comment campaigns with the political momentum needed to hold course.

Mass engagement in bureaucratic policymaking may affect the behavior of an agency's principals because the shadow of public sanction hangs over elected officials (Arnold 1979; Mayhew 2000). Moore (2018) finds that agencies that receive more comments per rule are also subject to more congressional hearings. When the public is more attentive, it is more important for officials to take popular positions and avoid unpopular ones. Thus, when a coalition goes public, especially if it generates a perceived consensus in expressed public sentiments, elected officials ought to be more likely to intervene on their behalf and less likely to intervene against them.

3.1.2 Hypotheses about the relationship between mass engagement and oversight

It may be the case that both principals and the majority of commenters hold the same position simply because it is popular. Thus, to assess the "fire-alarm," "beacon," and "warning sign" mechanisms, it is important to condition on principals' existing policy positions and to control for their baseline rates of commenting. I estimate principals baseline rates of commenting using legislators' comments on similar rules that did not receive a mass comment campaign. I may also use partisanship to approximate principals' priors. Future work could improve this by coding principals' specific policy positions using the best data available prior to the draft rule's publication.

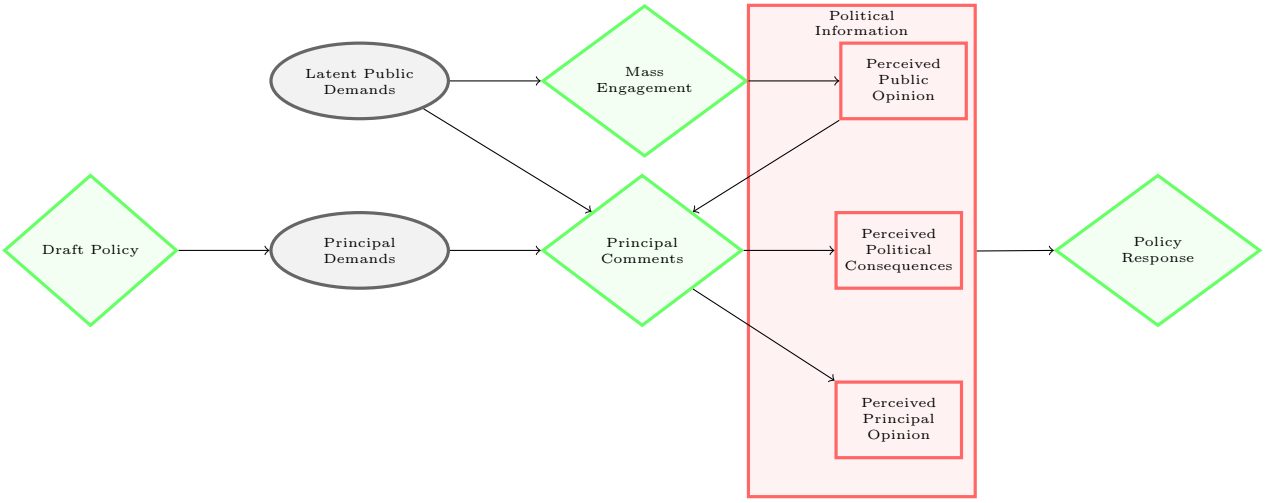
Hypothesis 2: *Elected officials' advocacy is moderated by mass engagement.*

Hypothesis 2a: *Mass commenting attract oversight from allies. The more comments supporting a position, the more likely principals holding that position are to engage.*

Hypothesis 2b: *Mass commenting reduces oversight from opponents. The more comments opposing a position, the less likely principals holding that position are to engage.*

Hypothesis 2a implies that β_1 is positive and Hypothesis 2b β_2 is negative in this statement: $Pr(\text{Principal Comments} \mid \text{Principal Position } i) \sim \beta_0 + \beta_1 \text{Comments supporting } i + \beta_2 \text{Comments opposing } i$

Figure 10: Incorporating Mass Engagement and Political Information into Models of Political Oversight



If Hypothesis 2a is correct, it would suggest an addendum to Hall and Miler's (2008) finding that legislators are more likely to engage in rulemaking when they have been lobbied by a like-minded interest group: When interest groups lobby elected officials to engage in rulemaking, they may be more likely to engage when aligned with the majority of commenters than when opposed to them. If elected officials learn from political information, they will be even more likely to engage when lobbied by a coalition that includes public interest groups running a mass-comment campaign, and less likely to engage when opposed by a large mass comment campaign.[19]

Alternatively, the effect of mass engagement on political principals may be asymmetric. Mass engagement may only mobilize or only demobilize. For example elected officials may be attracted to oversight opportunities but not dissuaded by mobilization on the other side because they assume their voters share their position. Or, if elected officials are risk adverse, they may avoid engaging in contentious rulemaking processes regardless of the balance of comments. Each of these results would be evidence against hypothesis 2b or 2a respectively.

Figure 10 builds on the classic model of political oversight in two ways. First, it suggests that comments from elected officials are a particularly relevant oversight behavior and a mechanism by which bureaucrats learn and update beliefs about their principals' demands. Second, it suggests that such oversight behaviors may be affected by mass engagement because of the impressions of

[19]Of course, if Members of Congress receive signals about the distribution of comments from their districts, the distribution of opinions in their district constituency may be more important. Figure 4, shows that the Sierra Club requires zip code information from commenters, so mass-mobilizers may often send such information to elected officials.

public opinion (i.e. the political information) it creates.

3.2 Assessing effects on elected officials' oversight behavior

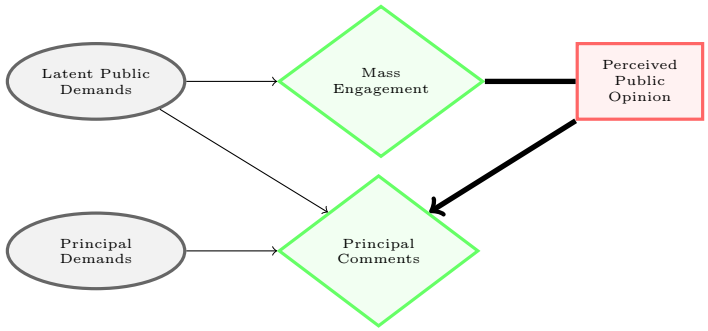
To assess the hypothesis that mass engagement affects the engagement of political principals, I examine the relationship between mass commenting and the behavior of Members of Congress, while attempting to control for other reasons that Members of Congress may comment on a proposed rule. The bold arrow in figure 11 indicates the key relationship that I test in this step. I aim to test the relationship between mass public engagement and engagement from Members of Congress, who may receive information about public opinion from mass engagement.

I measure the dependent variables, legislator attention and support, several ways. First, I count the number of times Members of Congress engage the agency across rules and before, during, and after comment periods on rules where lobbying organizations did and did not go public. By engaging the agency, I mean that Members of Congress raise a rule in personal correspondence or comments that members send to the agency. I then code each contact from the member of congress and each coalition lobbying on the rule on the same three-point scale: are they asking for the rule to go further, be scaled back, or published as is. This is similar to other hand-coding approaches to policy demands. Next, I use text analysis to compare the sentiment and rhetoric (phrases and word frequencies) used by legislators to that used by each coalition.

3.2.1 Models testing the relationship between mass engagement and oversight

There are several ways to test for a relationship between mass engagement and engagement by Members of Congress. The key explanatory variables of interest are the measures of mass engagement created in step 1 (how many and what types of comments). For simplicity, in the equations below, I only include measures related to the number of comments. Thus β_0 is the

Figure 11: Modeling the Relationship between Mass Engagement and Political Oversight



estimate for a rule with no public comments.

In Model 1, the dependent variable is the total number of comments from Members of Congress on the rule: Y = *Total comments from Congress* $\sim$ zero-inflated negative binomial, with one observation per rule. Let x be the the total number of public comments.

$$Y \sim \beta_0 + \beta_1 x \tag{1}$$

In Model 2, the dependent variable is the number of comments from Members of Congress on the rule that support the coalition or organizations in the coalition: Y_i = *Total comments from Congress supporting coalition* $i \sim$ negative binomial, with one observation per coalition per rule. Let x_i be the total number of public comments supporting coalition i.

$$Y_i \sim \beta_0 + \beta_1 x_i \tag{2}$$

In Model 3, the dependent variable is the share of Congressional comments supporting the coalition: Y_i = *Share of Members of Congress supporting coalition* $i \sim$ beta, with one observation per coalition per rule. Let z_i be the *share* of public comments supporting coalition i.

$$Y_i \sim \beta_0 + \beta_1 z_i \tag{3}$$

In Model 4, the dependent variable is rhetorical similarity between comments of each coalition i and each Members of Congress j: Y_{ij} = *Text similarity score between legislator comment and coalition* i *texts*, with one observation per legislator comment per coalition. Let z_i be the share of public comments supporting coalition i.

$$Y_{ij} \sim \beta_0 + \beta_1 z_i \tag{4}$$

Limitations. One challenge will be controlling for rule salience, which may affect both public and legislator attention (indeed, both are endogenous to rule salience). Another challenge will be controlling for latent public opinion, which may usually, but not exclusively, be revealed to

legislators through mass engagement.

4 Part 3: Political information → Policy

4.1 Why mass engagement may affect rulemaking and rules

In this section, I integrate the above arguments about interest group lobbying and political oversight to offer a broader model of influence in rulemaking that highlights the political information available to policymakers. As suggested above, such information occasionally arises from contentious debate and civic mobilization and may influence elected officials' oversight behaviors.

If we appreciate agency policymaking as a site of contentious politics, mechanisms emerge by which mass mobilization may affect both the strategic environment and ideological perspectives of those who write agency rules. These mechanisms remain under-theorized and untested. I begin to fill this gap by outlining four mechanisms by which political information may influence bureaucratic policymaking.

Bureaucrats may have both strategic and normative reasons for updating policy decisions in light of new political information. The effects of political information on policy thus depend on the strategic context that may or may not offer opportunities for influence. It also depends on cognitive and institutional processes that may or may not incorporate political information.

First, I argue, if mass mobilization indirectly affects the strategic environment, it does so by signaling public demands and grass-roots political power to elected officials. Second, I argue, if mass mobilization directly affects agency policymaking it does so by evoking norms rooted in organizational identities and reputations. The next two subsections address these indirect and direct mechanisms in more depth.

4.1.1 Mechanisms by which groups may influence bureaucratic policymaking

Why might mass mobilization matter? The literature on bureaucratic policymaking offers two types of explanations rooted in either strategic behavior or organizational processes and norms. Political scientists often focus on the strategic context in which policy decisions are made. Public administration and management scholars tend to focus more on organizational logics and identities.

New information may affect a policy decision directly or indirectly through political principals. New scientific or legal information spurs revision of calculations about cost and benefits or the

Table 2: Mechanisms by which new information may influence bureaucratic policymakers

	Shifting Strategic Incentives	Norms in Institutional and Cognitive Processes
Direct	Technical information (H3a) (e.g. inputs to benefit-cost analysis)	Attentive "public" opinion (H3b) (public service/responsiveness)
Indirect	Likely retribution and reward (H3c) (e.g. future budgets, careers, support)	Elected official opinion (H3d) (accountability/representative democracy)

likelihood of being reversed in court. New political information spurs bureaucrats to update their beliefs about levels of support among certain populations or their elected representatives and thus the likely political consequences of a decision.

While scholars often focus on the top right cell of Table 2, the influence of political information is to be found in the other three cells.

Political scientists have focused on strategic factors—either on how lobbying provides technical information that directly influences agency decisions (as reviewed in section 1) or on how oversight indirectly constrains them (as reviewed in section 3.1). Mass engagement is only likely to affect the later. Specifically, mass engagement offers new political information that is relevant to the likelihood of political support, sanction, or reversal may indirectly affect bureaucrats' strategic calculations.

Political information revealed through mass engagement may also affect bureaucrats' normative evaluations. These effects may be direct (e.g. the weight that norms of direct democracy give to limited public input) or indirect (the weight that norms of accountability give to elected officials' input). The strength of norms of direct and indirect accountability to public demands may vary across agencies with levels of political insulation and responsiveness.

Influence depends on how political information is processed, both directly within agencies and indirectly through other actors (e.g. Members of Congress) whose appraisals matter to bureaucrats.

4.1.2 Hypotheses about influence in rulemaking

Each of the four mechanisms shown in Table 2 and Figure 12 suggests hypotheses with a weak version (the mechanism helps explain policy influence) and a strong version (the mechanism alone explains influence). I first list these hypotheses and then describe the intuition behind the three about the effects of political information. In the next subsection, I offer a basic statistical model

to test each hypothesis with respect to three different measures of lobbying success.

Hypothesis 3a: *Weak: Agencies respond to sophisticated comments.*

Strong: Agencies only respond to sophisticated comments (i.e. political information has no effect).

Hypothesis 3b: *Weak: Agency responses to sophisticated comments are moderated by perceived public opinion as expressed in mass comments.*

Strong: Agencies responses to sophisticated comments are moderated only by perceived public opinion as expressed in mass comments (i.e. not by elected officials).

Hypothesis 3c: *Weak: Agency responses to sophisticated comments are moderated by perceived elected official opinion.*

Strong: Agencies responses to sophisticated comments are moderated only by perceived elected official opinion (i.e. not by mass comments directly or by especially influential elected officials).

Hypothesis 3d: *Weak: Agency responses to sophisticated comments are moderated by strategically important elected officials' opinions.*

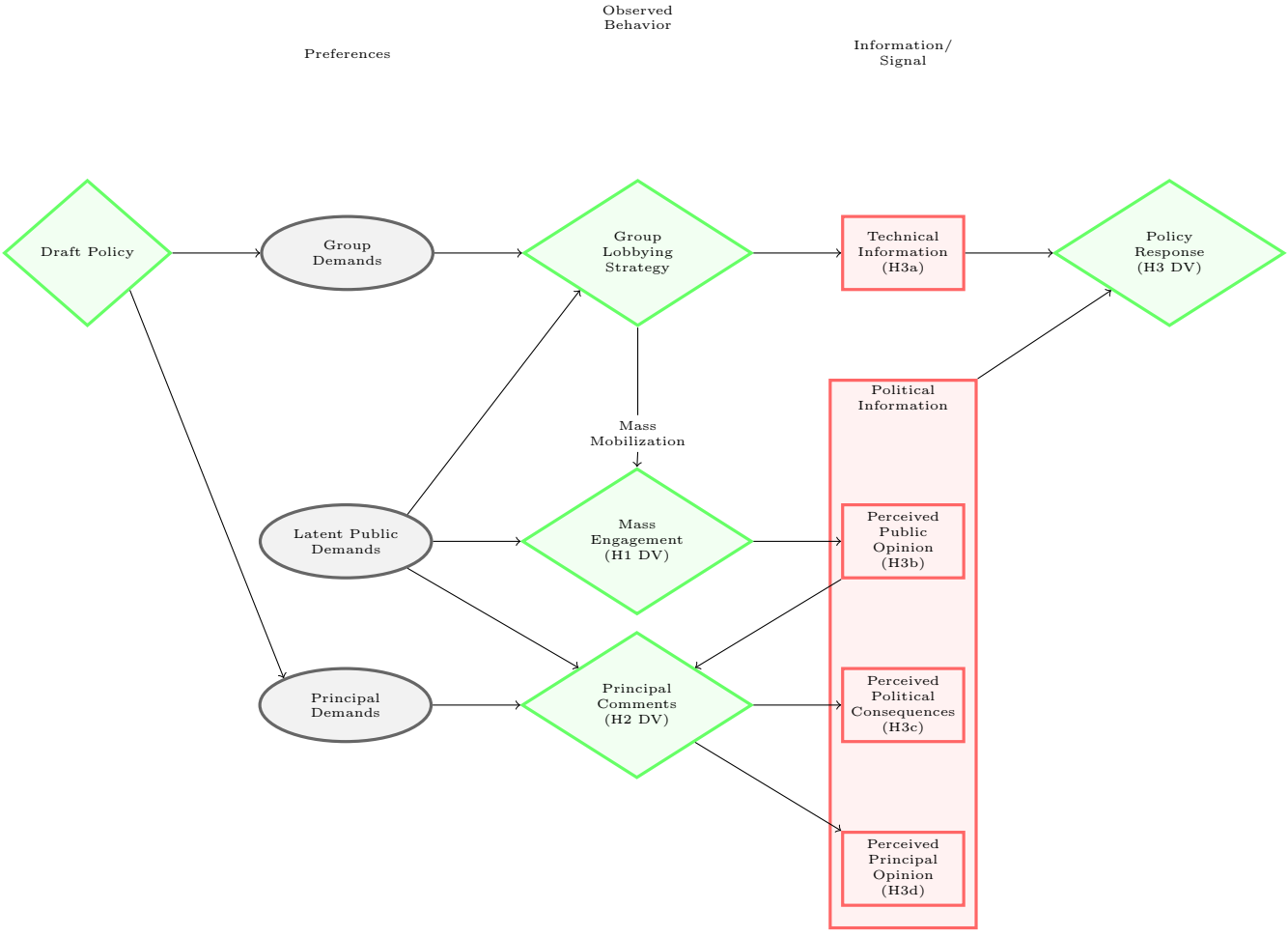
Strong: Agencies responses to sophisticated comments are moderated only by strategically important elected officials' opinions.

3b: Direct effects on information processing and normative evaluations: In addition to strategic calculations, mass engagement may shift how information is processed and evaluated, both institutionally and cognitively. By focusing policymakers attention on certain aspects of policy decisions, mass engagement may affect who is involved in these decisions and how they are framed (Rinfret 2011).

Institutionally, higher comment volume may engage a larger and more politically-oriented set of staff and consultants. Cognitively, expanding the scope of conflict highlights the political aspects of a decision, perhaps mobilizing cognition focused more on norms of public service or partisan ideology than on strategic or technical rationality. In both cases, campaigns re-frame decisions as political and provide information that is especially relevant if processed through such a frame.

Here the causal process involves mobilizing norms and ideas right and wrong rooted in individual and institutional identity. Because concepts of mission, reputation, and the validity of claims are intertwined, these mechanisms are difficult to precisely define. Nevertheless, scholars

Figure 12: The Role of Mass Commenting and Political Information in Bureaucratic Policymaking



have identified several types of direct influence. One important factor in decision making is personal and institutional reputation (Carpenter 2001). This can take several forms. For example, individuals trained as scientists and agencies that cultivate reputations for producing valid science may be persuaded by rigorous scientific claims. Similarly, individuals who identify strongly as public servants and agencies with reputations for public responsiveness may be persuaded by claims about public or "stakeholder" opinion (Meier and O'Toole 2006). In general, claims that resonate with the problems an agency has been tasked with solving and the means it has to solve those problems are likely to be well received.

3c: Indirect effects on strategic calculations about political consequences The White House has several tools to influence agency decisions. These include executive orders (Mayer 1999), appointments (Doherty, Lewis and Limbocker 2014; Lewis 2008; Wood, Moran and Weingast 1988), budgets (Whittington and Carpenter 2003), and review of proposed policies (Haeder and Yackee 2015; Acs and Cameron 2013). Congress also has several tools to influence agency decisions. These include the power of the purse (Fenno 1986; Bolton and Thrower 2015), oversight, and new legislation. Some research suggests that this constraint is larger under divided government (Yackee and Yackee 2009) and that under divided government Congress tends to divide power among multiple agencies (Farhang and Yaver 2016).

Mass mobilization may signal political risks or benefits of engaging in agency policymaking to members of Congress and the White House. It also may signal to the agency that activists have the capacity to sustain pressure through the policy process (Coglianese 2001). Thus, mass mobilization may act as a signal of political power that reshapes rule-writers' beliefs about their strategic context. These beliefs about consensus may then shape rulemaking and rules.

Mass mobilization may also signal a coalition's *potential* to influence the responses to agency action from the White House, Congress, or courts. For example, the number, geographic distribution, size, and proportion of businesses who lobby against a rule, may provide information about how much money and which of their political principals may be invested in attacking a rule. Similarly, the number of people who engage in a rulemaking and the intensity of engagement may provide information about how much support or scrutiny an agency is likely to receive from certain political principals.

As activist campaigns may be less predictable than business lobbying, civic mobilization may provide even more information about constellations of support or opposition and the intensity of these policy demanders. If the information leads bureaucrats to update their understanding of

the constellations of interests, their intensity, and the power and resources of each coalition, it may affect their strategic response.

Bureaucrats care about the consequences of their actions, both for themselves for their agencys mission. Their success and power depend on the support of a political coalition that includes elected officials (Carpenter 2001). West (2004) theorizes that the primary mechanism by which mass-commenting matters is to alert political principals. Members of Congress, especially, may usually be unaware of rulemaking (Nou and Stiglitz 2016). Conversely, as the story of the Do Not Call rule illustrates, campaigns may "scare off" elected officials who otherwise would have weighed in.

3d: Indirect influence through the normative weight of elected officials' opinion: To the extent that elected officials' preferences guide agency decisionmaking—i.e. to the extent that agency decisions are shaped by norms of accountability in representative democracy—mass mobilization campaigns may be influential by inspiring elected officials to voice their preferences, i.e. to produce new political information. When elected officials take a position publicly on a draft rule or in a private letter to an agency, such political information may have normative force beyond simply strategic calculations.

Capacity to process information. The impact of any kind information on policy decisions depends on the agency's capacity to process this type of information. This is an important moderator on all information-based mechanisms of influence. It is possible that many agencies lack the capacity to process political information embedded in mass comments. Some may simply discard this information as Mendelson (2011) found to be occuring. The expected influence of mass engagement thus depends on how information is processed, which I expect to vary significantly across agencies.

4.2 Assessing effects on rulemaking and rules

The main dependent variable here is changes in the rule text. However, assessing policy change is difficult. Thus, I also use other measures of agency responses to lobbying efforts. Agencies may or may not change draft policies or may speed up or delay finalizing them. They write lengthy justifications of their decisions in response to some demands but not others. They may or may not extend the comment period. Measuring actual changes in policy text is more difficult. I aim to use automated methods to systemically identify changes between draft and final rules, parse

these textual differences to identify meaningful policy changes, and compare them to demands raised in comments to measure which coalition got their way.

I measure the extent to which the text of a policy becomes more similar or less similar to the text of each public comment.

One way to think about this is that this change represents an increase in utility for those lobbying for the change. Purposeful actors got what they asked for and presumably reap the rewards. All dimensions of disagreement collapse to the latent dimension of utility. Taking a broader view of politics offers a less parsimonious, but more direct interpretation. Changes in law may deliver utility, but more precisely they reflect ideas. These may be ideas about "who gets what, when, and how," but also about identities, aspirations, possibilities, whose opinions matter, and who constitutes the political community, which may be difficult to reduce to a single dimension. Focusing on costs and benefits alone risks overlooking much of the ideological and interpretive work lawmaking does in constructing political communities, possibilities, and norms. Public comments in rulemaking, like other forms of policymaking, may often be about more than self-interest.

Importantly, my project does not attempt to answer what actors want in general, *a priori* of any policy proposal. Without some reference point (existing policy, for example) what actors want may be impossible to define. I assess what commenters want *given* a proposed policy. What commenters request may not be a sincere representation of their ideal policy, but it is plausibly what they really want given what they believe is possible. While this may be insufficient for estimating ideal points, it is sufficient for measuring who gets what they ask for.

Limitations. Observing policy influence, especially in the final stages of policymaking is difficult. Given the momentum of political agendas and the fact that much is determined before draft rules are made public, changes are often on the margins. But such marginal victories are also the aim of business and other interest groups. Additionally, my theory suggests that influence is likely only in cases where mass mobilization is (1) aimed at influencing policy and (2) not accurately anticipated by policymakers. Identifying these conditions these will also be difficult.

Observational studies of policy decisions are almost always frustrated by the fact that decisionmakers rationally anticipate the actions of those who would influence them, rendering this influence difficult to observe. Thus I expect to observe larger effects in cases where mobilization or the level of engagement achieved was not anticipated by agency staff. However, as long as rulewriters do not perfectly anticipate mass engagement, it should have observable, if depressed,

effects. Thus, without accounting for anticipation, any effects I uncover are likely underestimated, making the methods described above conservative tests.

Participants may ask for two general kinds of things: They ask for specific changes to identified parts of the text or they may ask for a broad shift in emphasis, what Jones and Baumgartner (2005) call a policy image. For example, on the same Clean Power Plan rule, some may ask the Environmental Protection Agency to make specific changes to two sentences having to do with the classification of power plants. Others may ask for broad re-framing to focus less on economic costs and more on environmental equity and the effects of pollution on children (Rinfret 2011). Many commenters do both.

I thus leverage two key pieces of information from the rulemaking record: The text comments and the change from the draft rule to the final. Both approaches require the same initial steps. To identify how exactly the rule changed from draft to final, I use text reuse methods to identify what is the same and has been added or subtracted.

4.2.1 Measuring lobbying success as changes in rule texts.

Having identified coalitions by the textual similarity in comments (having removed all sentences quoting the agency's draft rule and call for comments), I identify general and specific policy demands and whether a policy changes in the direction requested by each coalition. The result is several measures of lobbying success. I then model the relationship between my measures of coalition size (i.e. comment volume), intensity, and contagion with lobbying success.

I measure whether organizations lobbying in rulemaking got what they asked for in three ways. Each captures a different dimension of success.

Measure 1: General direction of change. First, each new rule moves policy in a general direction. For a subset of rules that received mass comment campaigns[20] and a matched sample of other rules, I will hand-code each rule and each coalition on a simple three-point scale: did the comment say the rule goes too far, not far enough, or is about right and did the final rule (in general) go further, retrench, or stay the same as the draft. This is similar to the coding scheme used by (Potter 2017*a*) and others who code comments as requesting that rules be "published as is, strengthened, weakened, or withdrawn. This method of identifying whether a rule seems to move in the direction requested is also similar to leading methods of assessing influence in rulemaking—Yackee and Yackee (2006) measure whether commenters requested for more or less

[20] Approximately 2000 of 14,000 draft rules for agencies participating in regulations.gov)

regulation—and superior to self-reported influence (Furlong 1997).

Measure 2: Specific changes in policy text. Second, when specific changes are made between a draft and final rule, I use text reuse methods (like plagiarism detection) to identify comments that suggested changes in language that match observed rule changes. If final rules add the specific phrases suggested in comments or revise phrases identified in comments, this is evidence that these commenters may have received some of the changes they requested.[21] Text reuse can be measured for individual commenters and averaged over coalitions.

Measure 3: General change in policy text. Third, I assess the relative similarity in word use (i.e. frequency) between each coalitions' comments and changes in rule text and preambles. To identify the adoption of demands for broader shifts in policy image and emphasis, I propose a relational topic modeling approach. In contrast to the classifiers I use to classify commenters into coalitions, this approach assumes that each text is a mixture over a number of topics. Each word token in a document is assigned to exactly one topic. Words and thus documents have distributions over topics. The extent to which distribution of topics that changed from the draft to the final is similar to the distribution in comments may be seen as a measure of whether the commenter got what the kind of change in policy emphasis they asked for.[22]

I combine topic modeling approaches with text reuse methods, allowing better measurement not just of what is discussed but the topic distributions of what is being added, cut, copied, or otherwise receiving special attention. Of course, all topic models focus on the relationship between text, but by making some of the text units themselves a relationship between texts with text reuse methods, the topic model takes a "difference in difference" form (i.e. the relationship between comment texts and text added or deleted from the final rule versus text that remained the same). Much of the rule content is retained from one version to the next, but some content changes. This method measures how these changes relate to the changes proposed by sophisticated comments.

I focus on changes from draft to final rule by selecting only the text that was added or

[21] The significance of this kind of relationship between texts could be measured by how many words were copied, weighted by the forcefulness of these words. For example, I could create a dictionary of legally-significant words such as "shall, "must, "enforcement, and "standard. and weight textual alignment scores accordingly.

[22] Some rulemaking processes also have a commenting period before the draft policy is published. In these cases, commenters respond to an Advanced Notice of Proposed Rulemaking (ANPRM). A similar approach can be used in these processes with the key difference that similarities between comments and the draft rule (now the outcome text), either in specific text fragments or general topic distribution, take on a different meaning. Instead of representing changes to a policy text, it may represent common understandings of what policy already was or had to be on this topic. Changes in the final rule more plausibly represent differences in what policy could be. With respect to the ANPRM and proposed rule, it is more difficult to infer that the same result would not have occurred without their comments. While such counterfactual inference is not my purpose and both measure the same core phenomena of the words actors want becoming policy, interpretation of what this means must attend to this difference.

subtracted. This can be thought of as a versioning problem where the agency updates the rule. To focus on what changed, I excluded sentences that appear (approximately) verbatim in both the draft and final. Wilkerson, Smith and Stramp (2015) successfully employ this approach to identify new and content copied from various bills in the legislative processes leading to the Affordable Care Act.

The result is a quantitative measure of the alignment between suggestions made in comments and text added or subtracted from the draft to final rule.

A finding that the words or topics that one actor suggested be added to a policy were twice as likely to appear in the final policy compared to the draft is a powerful and intuitive description of where the power to shape policy resides.[23]

4.2.2 Models of lobbying success in rulemaking

The three measures of lobbying success (general direction, specific language, general language) allow three distinct tests for hypotheses 3a-3d: Let a_i be the demands of sophisticated comments of a coalition i, b_i be the number of comments supporting a coalition i, c_i be the number of comments from all members of Congress supporting coalition i, and d_i be the number of comments from members of Congress with formal oversight powers supporting coalition i.

The general model for all three dependent variables is approximately[24]

$$Y_i \sim \beta_0 + \beta_1 a_i + \beta_2 a_i * b_i + \beta_3 a_i * c_i + \beta_4 a_i * d_i \tag{5}$$

Model 1 is an ordered logit, with one observation per coalition per rule. The Dependent variable is the absolute distance between general change in rule change direction and the direction requested by the coalition $\in$ {more, less/withdrawn, about the same}:

$Y_i = -|$*Direction - Direction requested by coalitioni*$|$.

Model 2 uses a negative binomial link function. The dependent variable is the textual alignment betw een specific policy suggestions and specific policy changes:

$Y_i =$ *number of words requested to be changed that were changed.*

Model 3 uses beta regression. The dependent variable is the similarity in overall word use between the comments of each coalition and changes in the rule and/or rule preamble:

[23] This is, perhaps, even more powerful than saying that the policy tended to shift toward their ideal point on some latent dimension, where the exact content anchoring the ideal point and the dimension is at least slightly ambiguous.

[24] As these variables are correlated, a more sophisticated modeling strategy will be needed.

$Y_i = -|$*Proportion of topic in rule and/or preamble change - proportion of topic in coalition* $i's$ *comment(s)* $|$.

5 Conclusion

The legitimacy of bureaucratic policymaking is said to depend on the premise that rulemaking provides an outlet for public voice (Croley 2003; Rosenbloom 2003). Yet, it is not just the opportunity to engage, but actual engagement that matters, and we lack an empirical base necessary to evaluate whether any legitimacy the public comment process may provide is deserved. This paper makes a few initial steps toward better understanding actual public engagement in bureaucratic policymaking.

6 Appendix

Figure 13: Rules ranked by number of comments posted to regulations.gov

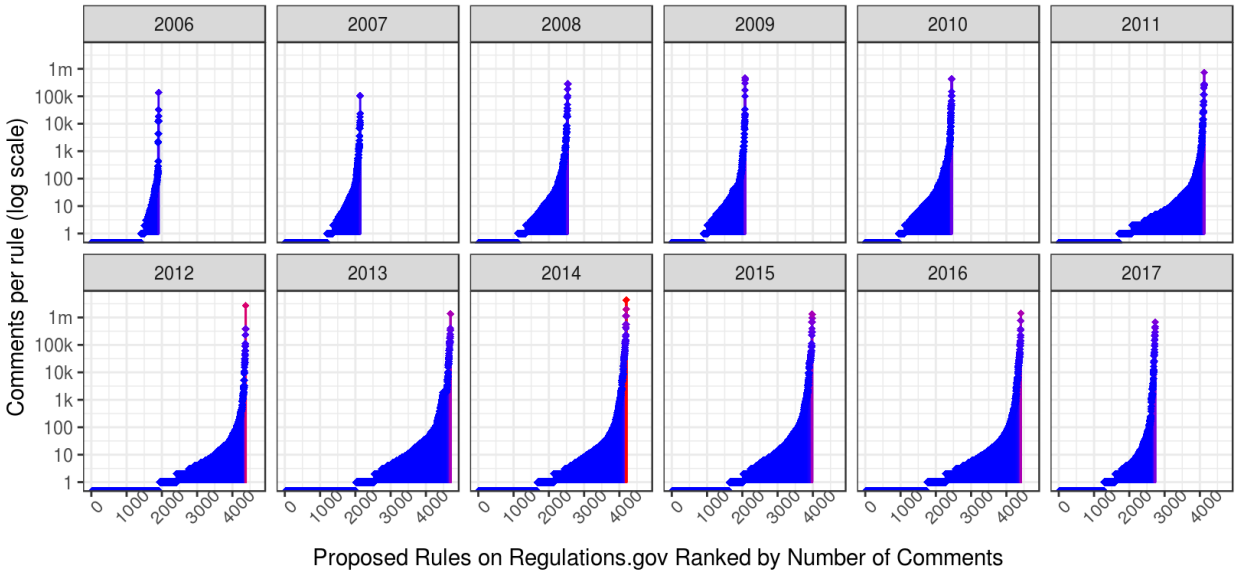


Figure 14: Major and non-major rules on regulations.gov

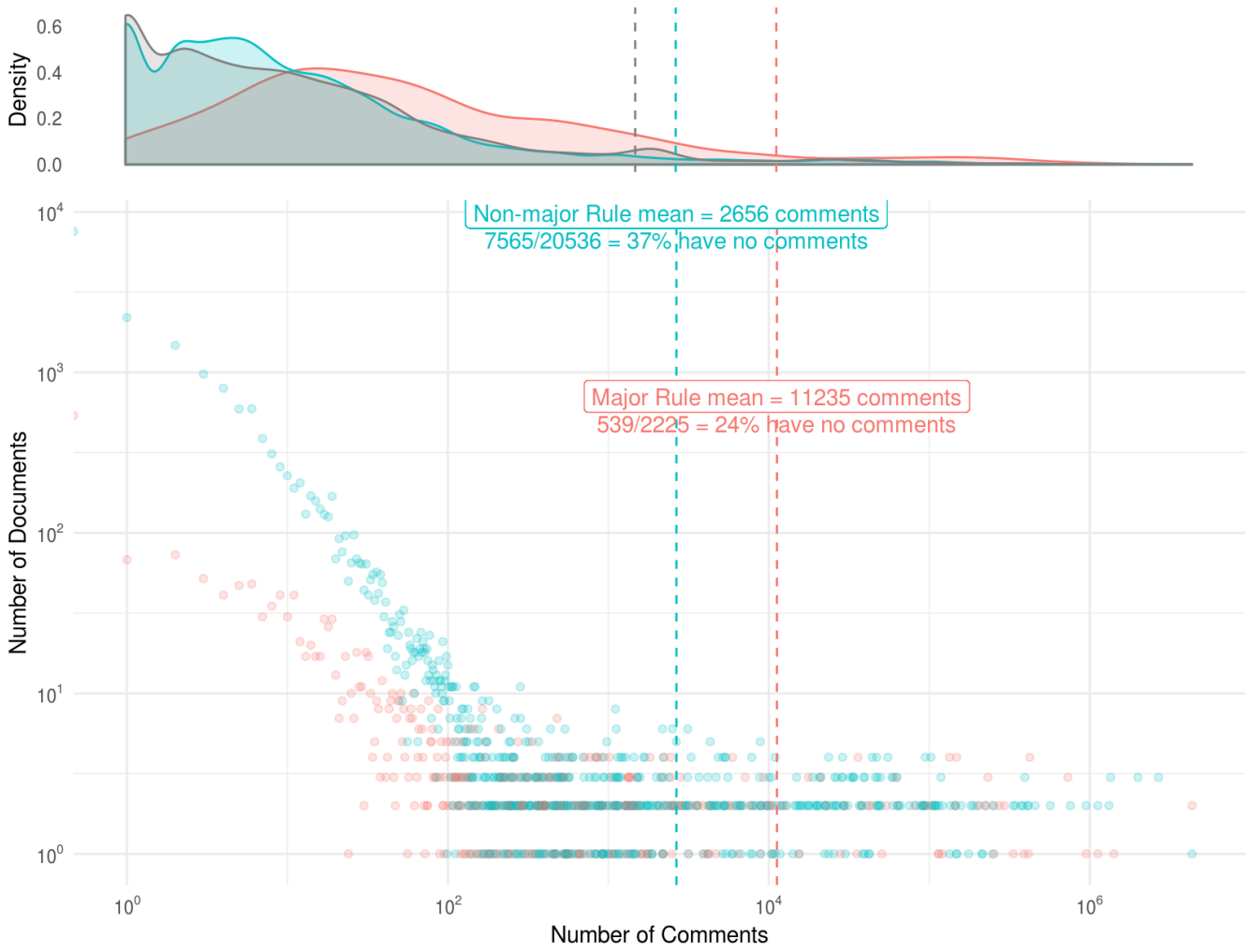
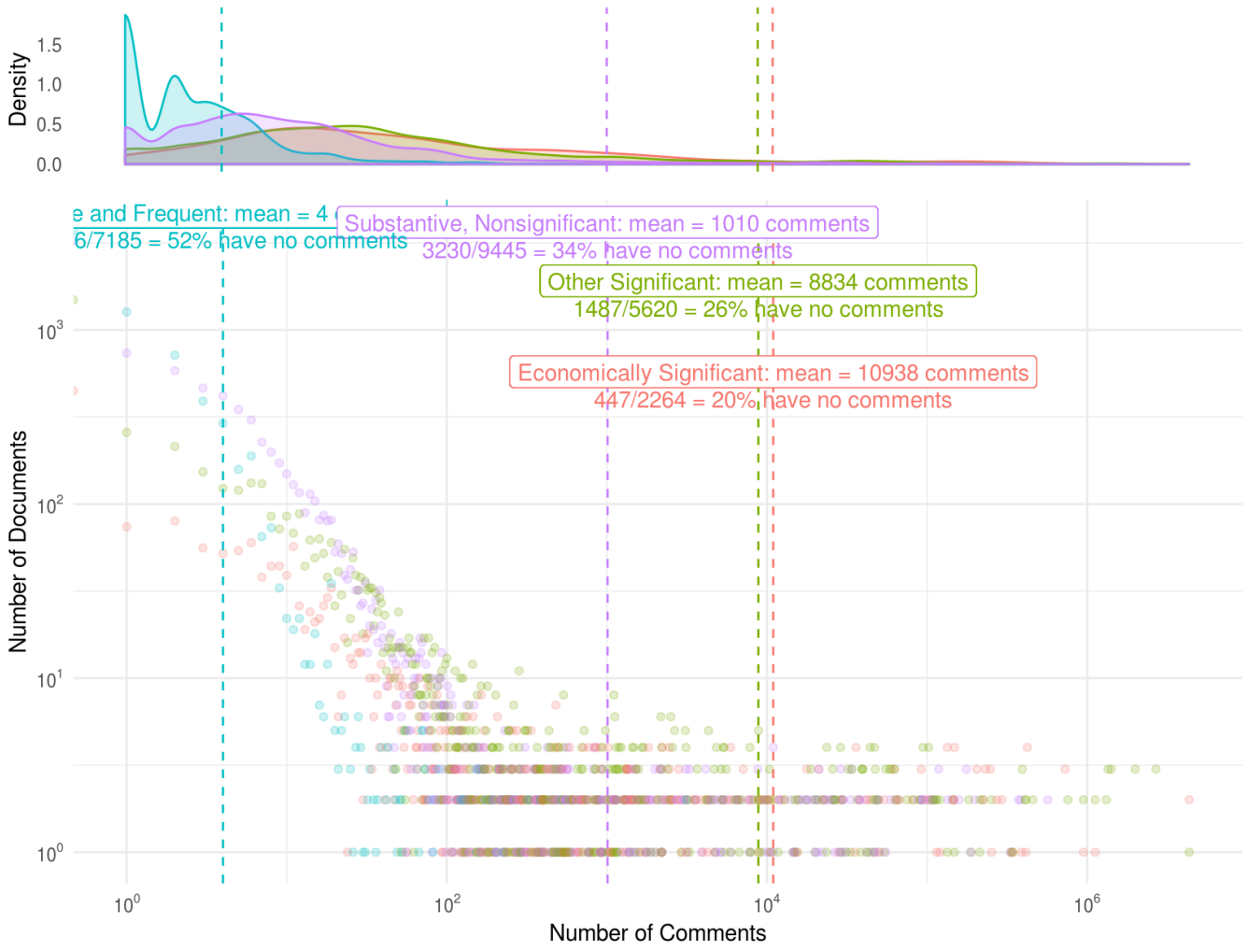


Figure 15: Rules on regulations.gov by priority level



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