

# Information & Contestation: A Formal Model of Notice and Comment\*

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## Abstract

We develop a formal model of notice and comment rulemaking. An agency investigates a state of the world with some effort of its choosing, then proposes a policy and may or may not reveal its information about the state. A group, which is biased toward one of the agency's possible choices, then investigates the state as well, and may or may not reveal its information. A reviewing court may uphold or reverse the agency's policy, depending on the proposal made and information revealed. The analysis focuses in particular on the effect of judicial review on the incentives of the agency and group to assemble evidence justifying a rule, and on the content of the agency's policy proposal. We show that notice and comment leads to unambiguous increases in information supporting agency rules, but also often induces a bias in favor of groups into agency decisions. In addition, socially optimal judicial review may be "legally irrational" in the sense of depending on political factors besides the depth of the agency's supporting evidence, and it may be optimal for courts to be deferential to agencies even with weak evidence substantiating their regulations.

Work in Progress. Comments and complaints welcome.

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Modern government is bureaucratic government. But bureaucrats face only indirect and limited forms of popular accountability, and yet they also lack the independence of the judiciary. Thus their discretion over public policy has the potential to threaten cherished principles of both representative government and due process. Essentially, bureaucrats are not political enough to fall directly under conventional sanctions of democratic accountability, but are too political to guarantee observance of due process on their own.

As the reach and importance of bureaucratic government has grown in the United States, Congress and courts have responded with legislation and doctrines of judicial review to constrain bureaucratic discretion. The Administrative Procedure Act of 1946 is a watershed of such legislation at the federal level. The APA defined presumptively binding procedural requirements that federal agencies must satisfy when taking several distinct kinds of policy action. One of the hallmarks of the APA (and its successors and amendments) is the process it specifies for agencies when they engage in rulemaking, or issue regulations pursuant to legislation that stipulate what the effects and requirements of the law actually are.

Of several types of rulemaking, the most common is informal, or “notice and comment,” rulemaking.<sup>1</sup> Notice and comment rulemaking involves internal analysis by the agency culminating in the proposal (*i.e.*, notice) of a policy (*i.e.* rule) by the agency for public comment. Following a fixed period of (receiving) comment, the agency then responds to those comments and promulgates a final, possibly revised rule.<sup>2</sup> Groups or individuals affected by these rules can, of course, petition federal courts for their review. Judicial review of agency rules includes analysis of the agency’s findings of fact, *i.e.* the agency’s assessment of information — including information from public comment — that putatively justifies the particular content of the rule on which the agency settled. If reviewing courts find the agency’s finding of fact deficient in light of court-defined standards, they can void the rule, essentially vetoing it.

Rulemaking, as the articulation of policies having general application and force of

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<sup>1</sup>Formal rulemaking under the APA requires a more elaborate and cumbersome process for the agency to build a record of its proceedings, and is rarely used.

<sup>2</sup>Congress and the President have, of course, layered other requirements on agencies before a rule can be proposed or take effect, *e.g.* review by the Office of Information and Regulatory Affairs under Executive Order 12,291 and its successors, and review by Congress under the Congressional Review Act of 1996. In this paper we more or less ignore these channels of review and focus on the “standard” notice and comment process, though one could interpret the “court” in our model as some other external reviewer with veto power over agency regulations.

law, is a quasi-legislative activity. Legal scholars have traditionally<sup>3</sup> interpreted the notice and comment process as one which requires an agency to institute a stylized version of legislative proceedings, including prior solicitation of input from affected parties, before determining a final policy. As for judicial review, the traditional interpretation idealizes courts as a backstop to prevent agency decisions that are arbitrary, capricious, unsubstantiated, or otherwise in violation of due process.

Social scientists in the “structure and process” school (McCubbins, Noll and Weingast (1987), McCubbins, Noll and Weingast (1989)) have pioneered an alternative, political rationale for these procedures, arguing that they ensure that bureaucratic decisions respond to the preferences and priorities of legislators — even after those legislators fade from power. In essence, this school of thought holds that administrative procedures are devices for “making the deal stick” after it is struck in Congress and handed over to bureaucrats for implementation. Notice and comment is an effective means for ensuring that agencies respond to input but legislatively favored interest groups; this process as well as court review are simple devices for Congress to “outsource” oversight over agency actions.

In this paper we take a different tack, focusing on strategic issues facing the agency and interest groups. We analyze the effects of notice and comment proceedings, combined with judicial review, on incentives for an agency to “produce” information in the first instance, and subsequently on incentives for interest groups to reveal their information. Specifically, we posit a formal model of notice and comment rulemaking in which an agency investigates relevant facts and proposes a rule tailored to its findings. Following this an interested group independently investigates the relevant facts as well, and may or may not reveal its information. A reviewing court can then either uphold or reverse the agency’s proposal. To focus on the incentive effects of the notice and comment process itself, we model the agency as indifferent about policy as such (so it has no intrinsic motivation to exert investigative effort), and assume that both the agency and group incur costs from investigating that increase with the thoroughness of the investigation. However, the agency dislikes court reversal, which opens a channel for court review doctrines to affect agency actions.

We model an idealized court that wishes to maximize social welfare by making agency policy respond to some state of the world<sup>4</sup> (*e.g.*, the siting of a freeway by the Department

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<sup>3</sup>See *e.g.* Aman and Mayton (2001) for an actual textbook expounding the “textbook” interpretation.

<sup>4</sup>See section 1 for substantive motivation of our payoff assumptions.

of Transportation should depend on land costs, engineering challenges of alternative sites, and social disruptions caused by paving over public spaces). Absent notice and comment (and assuming the cost of court reversal is not “too high”), the agency would not investigate the state of the world at all. Instead it would propose the policy option most likely to maximize social welfare given (commonly held) prior beliefs about the state of the world, and the court, lacking any independent information, would uphold the agency’s action. In this way, the agency obtains the best possible outcome for itself by incurring no investigation cost or judicial reversal.

However, with notice and comment, the agency must consider that, if it promulgates a rule without strong evidence in support of its decision, an interest group might adduce information that shows the agency’s rule to be clearly in error. This would lead to sure judicial reversal, which in turn creates an incentive for the agency to investigate the state of the world. In this respect, notice and comment procedures lead to a clear increase in the information produced in support of agency actions — not just because groups add information that would otherwise be ignored, but because group participation followed by judicial review gives agencies incentives to investigate the state of the world in the first place.

Despite this incentive, an agency investigation might not turn up clear evidence justifying its decision (or any particular decision), in which case the interest group has an incentive to investigate on its own and present its evidence on the record. (In our model, if the agency’s investigation does turn up hard evidence, it is decisive in defense of its chosen rule). However, unlike the agency, which has every incentive faithfully to report any and all hard information, the interest group only reports information supporting its preferred policy choice; if the group reports evidence contraindicating its preferred policy choice, it is sure to fare poorly in judicial proceedings.

This bias of the group in submitting information on the record implies that, while agency and group investigations are both socially valuable, agency investigations are more valuable. Furthermore, the group’s bias implies that the court should interpret a “thin” evidentiary record differently, depending on rule the agency promulgated. If the agency’s rule is “anti-group” and the record of evidence is thin, the court can infer that the interest group definitely does not have hard information about the state of the world: if it did have information, it would report it on the record to undermine the agency’s rule. But if the agency’s rule is “pro-group” and the record of evidence is thin, it is possible that the group obtained information contraindicating this policy but declined to include

it in the record.

The model sharpens this intuition into some of our major results, which turn on socially optimal judicial review doctrines to induce investigatory effort from the agency and the interest group.<sup>5</sup> First, it may be socially optimal for reviewing courts to uphold agency regulations even if the evidentiary basis for them is very thin. Second, it may be socially optimal for judicial review to be legally “irrational” in the sense that reviewing courts should not treat all records of a given depth or quality in the same way. Instead, in some cases, optimal judicial review requires courts to consider the *politics* of the policymaking environment — the distribution of benefits and costs in society resulting from agency regulations. Third, therefore, optimal judicial review can demand that courts be political actors — even if the court seeks only the Herculean pursuit of social welfare. Finally, the model also implies that *if* optimal judicial review is legally “rational” in the sense of disposing of all decisions supported by records of a given quality in the same way, then it can also induce agency capture in the sense that agencies presume “pro-group” policies should be promulgated in the absence of hard evidence contraindicating them.

## 1 The Model

**Players and Structure of Play.** We model a simplified version of the notice and comment process as a sequential game of asymmetric information in which players may

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<sup>5</sup>In this respect, our model is substantively most closely related to Stephenson (2006) and Stephenson (2008). In these papers Stephenson explores the effect of various postures of judicial review on exertion of investigatory effort by agencies. The most important difference between these models and ours is that Stephenson considers only an agency and court in his models, so does not capture the incentive effects of notice and comment proceedings, or the leverage that notice and comment offers to reviewing courts in extracting effort from agencies and interest groups. In addition, there are substantive differences in the tenor of the results. In Stephenson (2006), “hard look” judicial review elicits agency effort that signals the benefits of the policy to the agency — which are assumed to be correlated with its benefits to the court. In Stephenson (2008), court preferences over various judicial review postures hinge on a dynamic consistency problem for the reviewing court. By sidestepping this issue we uncover an even more fundamental, entirely *ex ante* tension in optimal judicial review.

invest costly effort in uncovering verifiable and welfare-dispositive information.<sup>6,7,8</sup> There are three players, an agency  $A$ , group  $G$ , and court  $C$ . There are three possible policies  $x \in \{0, 1, \varphi\}$ , where  $x = \varphi$  is a status quo policy and  $x = 0$  and  $1$  denote alternatives. Additionally, there is a state of nature  $\omega \in \Omega = \{0, 1\}$ . The common prior belief is that  $\omega = 1$  with probability  $p \in (0, 1)$ .

A statute requires  $A$  to choose either policy  $x = 0$  or  $x = 1$ . This reflects a type of regulatory legislation in which an agency is charged with gathering information and issuing a regulation from some set of options, but regulatory inaction is not permitted. For instance, under specific conditions the Clean Air Act Amendments of 1977 required the Environmental Protection Agency to identify a “best available control technology” for reducing air pollutants from electric utilities, and lack of pollution control was not among its options.

Given this requirement, notice and comment rulemaking proceeds as follows. First  $A$  chooses how much effort to exert in investigating the state,  $e_A \in [0, 1]$ . With probability  $e_A$ ,  $A$  (privately) learns the true state  $\omega$ ; with probability  $1 - e_A$ , the agency (privately) learns nothing about the true state and retains its prior beliefs. We denote the signal observed by  $A$  by  $s_A \in \{\phi, \omega\}$ , where  $s_A = \phi$  represents the uninformative signal.

After observing  $s_A$ ,  $A$  promulgates a policy  $x \in \{0, 1\}$  and chooses a message  $m_A$  from  $M(s_A) = \{\phi, s_A\}$ .<sup>9</sup> Note that this choice is trivial if  $s_A = \phi$ . It merely allows  $A$  to either reveal or conceal its signal.<sup>10</sup> Thus, we are assuming that  $A$ ’s investigation uncovers “hard” evidence, which may be excluded from the justification that  $A$  builds, but must

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<sup>6</sup>The approach is very similar to that utilized recently by Warren (2009) and Ashworth and Shotts (2011), both of whom are interested in questions more closely tied to electoral accountability, but whose insights seem portable to the realm of administrative policymaking (*i.e.*, bureaucratic accountability) as well. A key difference between our model and theirs is the motivation of the auditors/challengers/regulated interests — auditors in general (including journalists, bureaucrats, and political opposition parties) are the focus in Warren’s work, while Ashworth & Shotts focus on the special and important case of electoral challengers as a specially-motivated auditor. The analogue in this paper are regulated interests.

<sup>7</sup>The information environment and court’s problem in our model also bear some similarity to Dewatripont and Tirole (1999). The biggest differences from our model turn on agent preferences and the involvement of multiple agents obtaining information on one issue.

<sup>8</sup>The model also relates to Prendergast (2007). The main differences are in the preference conflict between bureaucrats and the “principal” (court, in our case), and that we consider an endogenous probability that the overseer obtains independent information about the state of the world.

<sup>9</sup>While  $A$  does not have a choice in whether to promulgate, incorporating such discretion is a natural next step. We conjecture that it will be an important one, as it will reduce the effects of court reversal on  $A$ ’s incentive to exert effort.

<sup>10</sup>This construction is adopted for symmetry: given the preferences,  $A$  never has a strict incentive in equilibrium to conceal  $s_A \neq \phi$ .

be reported truthfully if  $A$  includes it. Substantively, if the policy choice is about, say, passive restraint systems in cars, the agency can decline to include evidence on some type of system if it wishes, but it cannot claim that a system traps passengers in their seats in the event of an accident if in fact it does not.

Next  $G$  observes  $x$  and  $m_A$ , and chooses its own investigative effort level  $e_G \in [0, 1]$ . With probability  $e_G$ , the group (privately) observes  $s_G = \omega$  and, with probability  $1 - e_G$ , the group (privately) observes an uninformative signal,  $s_G = \phi$ . (Note that, if  $m_A \neq \phi$ , the group has no need to exert investigative effort.) After observing  $s_G$ , the group chooses a message,  $m_G \in \{\phi, s_G\}$ , which represents its input into the notice and comment process. As with  $m_A$ , this is “hard” information that may either be concealed or reported truthfully.

Finally,  $C$  observes  $(x, m_A, m_G)$  and decides whether to reverse or uphold  $x$ , which determines the final policy, denoted by  $y \in \{0, 1\}$ . If  $C$  reverses  $x$ , denoted by  $r = 1$ , then the final policy outcome is  $y = \varphi$ . Otherwise,  $C$  upholds the policy, denoted by  $r = 0$ , and the final policy outcome is  $y = x$ . Substantively, this reflects a judicial review process in which the court examines the record and justification for  $A$ 's policy choice assembled during the rulemaking process. The court then either upholds agency action, or determines that agency action does not satisfy some doctrinal standard of justification and remands the case to the agency for further analysis — during which time the status quo policy remains in effect. The court does not itself choose policy, however.

**Payoffs: Formal Structure.** Here we define payoffs for players  $A$ ,  $G$ , and  $C$ , as well as Society  $S$  — a non-strategic actor that serves as a normative benchmark. We offer a substantive rationale for our assumptions after laying out the formalities.

All actors' policy utilities are normalized so that the status quo guarantees a payoff of zero in all states of nature. Policy payoffs  $v_i(x, \omega)$  for  $i \in \{A, G, C, S\}$  are as follows:

|               | Agency       |              | Group        |              | Court        |              | Society      |              |
|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|               | $\omega = 0$ | $\omega = 1$ | $\omega = 0$ | $\omega = 1$ | $\omega = 0$ | $\omega = 1$ | $\omega = 0$ | $\omega = 1$ |
| $x = \varphi$ | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            |
| $x = 0$       | 0            | 0            | -1           | -1           | 0            | 0            | 1            | 0            |
| $x = 1$       | 0            | 0            | $\beta$      | $\beta$      | 0            | 0            | 0            | 1            |

Additionally,  $G$  and  $A$  both have non-policy components of their utility. First, both  $G$  and  $A$  incur costs to investigate  $\omega$ ; these costs are  $\frac{\kappa}{2}e_A^2$  for  $A$  and  $\frac{\epsilon}{2}e_G^2$  for  $G$ . Second, if  $C$  reverses  $A$ 's policy ( $r = 1$ ),  $A$  incurs a cost  $k$ .

Players' overall utilities are as follows:

$$\begin{aligned} u_A(y, e_A, r) &= v_A(y, \omega) - \frac{\kappa}{2}e_A^2 - kr, \\ u_G(y, e_G) &= v_G(y, \omega) - \frac{c}{2}e_G^2, \\ u_C(y, r) &= v_C(y, \omega), \end{aligned}$$

The parameters  $\beta$ ,  $\kappa$ ,  $c$ , and  $k$  are strictly positive, exogenous, and common knowledge.

We impose the following (related) restrictions liberally in the analysis. Collectively, they imply that various first order conditions are “well behaved,” as we will note when the assumptions are invoked. The first ones relate to lower bounds on  $G$ 's investigation cost parameter  $c$ . It might seem “cleaner” simply to invoke the greatest lower bound in one assumption rather than list multiple separate ones, but each restriction binds at a different point. To identify the role that each restriction plays in the analysis, we keep them separate.

**Assumption 1 (Costly Group Investigative Efforts)**  $c > p$ .

**Assumption 2 (Interior Optimal Group Effort)**  $c > \beta p$ .

**Assumption 3 (Agency Choice of  $x_\phi = 0$ )**  $c > (1 + \beta)p^2$ .

**Assumption 4 (Interior Optimal Agency Effort)**  $k < \kappa$ .

Assumption 4 means that  $A$  does not fear reversal sufficiently to discover  $\omega$  with certainty. This restriction not only obviates some algebraic difficulties with comparative statics analysis, it also ensures that there will always be a positive probability that  $G$ 's investigative efforts might be dispositive—if  $A$  always discovers  $\omega$ , then in this setting, optimal judicial review will never overturn  $A$ 's recommendation.<sup>11</sup>

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<sup>11</sup>Clearly, this conclusion no longer holds if we allow for the Agency to have nontrivial policy preferences involving the possibility of preferring to not choose policy in accord with Society's preferences even when the Agency is informed. This interesting case is much more difficult to analyze for a variety of reasons and left for future work.



**Payoffs: Substantive Motivation.** Social welfare is maximized when the policy matches the state,<sup>12</sup> and  $S$  is presumed to weakly prefer action by the Agency.<sup>13</sup> Note that the prior  $p$  that  $\omega = 1$  represents the *ex ante* probability of alignment of the interests of the Group and society.

For its part,  $C$  is a cipher. Since it is indifferent about its actions in all histories of play,  $C$  can credibly commit to follow any strategy that maximizes *ex ante* social welfare. We will assume that it does so. Therefore, the analysis will identify doctrines of judicial review that are maximally effective at eliciting informed policymaking through the notice and comment process. We take this approach because it is normatively the most interesting in light of actual doctrines of judicial review. In addition, in light of our results, this assumption is more interesting than the assumption that judges are ideological preference maximizers like any other political actor. One may also note that this mythical “Herculean judge” posture is not far from one mere mortals have assumed in seminal cases on judicial review of agency rules; *e.g.* “[A]gencies and courts together constitute a partnership in furtherance of the public interest” as Judge Harold Leventhal put it in *Greater Boston Television Corp. v. FCC* (1970, DC Circuit) (articulating the “hard look” standard of judicial review).

While  $C$ ’s (and  $S$ ’s) utility for a given policy  $x$  depends on  $\omega$ ,  $A$ ’s and  $G$ ’s utilities do not.  $G$ ’s payoffs are motivated by seminal cases on judicial review such as *Citizens to Preserve Overton Park, Inc. v. Volpe* (1971). In that case, the Secretary of Transportation chose to site a freeway through a public park. Citizens to Preserve Overton Park challenged this action. One may suppose from the group’s name that it was not particularly concerned with agency cost or engineering data showing that this site was in some sense socially beneficial; the group wanted the freeway sited elsewhere regardless of the state of these facts.

For another example, suppose that  $A$  can promulgate one of two safety standards for an industry ( $x = 0$  or  $x = 1$ ), and the safety effects on consumers depend on  $\omega$ . One standard ( $x = 1$ ) has the side effect of raising barriers to entry in the industry (*e.g.*, high fixed cost technologies that require access to imperfect capital markets), which raises

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<sup>12</sup>This simply reflects the assumption that expertise is desirable. It is of course possible that this is not the case (*e.g.*, expertise may not be particularly important for choosing the “right” policy on issues of fundamental community values), but then there are at best tenuous grounds for including bureaucrats in policymaking.

<sup>13</sup>This assumption leads to the interesting implication that society’s optimal scheme involves committing to a weakly dominated strategy (striking down regulations) in pursuit of higher effort levels by the Agency.

profits for incumbent firms; the other standard ( $x = 0$ ) is costly to implement but does not raise barriers to entry, and so is costly to incumbent firms. The group  $G$  represents incumbent firms that care about profits but not consumer safety.

The agency  $A$  is an archetype of Niskanen (1971) bureaucracy: status-conscious (so dislikes reversals) and cost-minimizing (so, for a given budget constraint, budget maximizing), but indifferent about policy as such. We analyze this case not for its verisimilitude (see Gailmard and Patty (2007) on bureaucratic policy motivations), but because  $A$  has no intrinsic motivation to learn  $\omega$  so the incentive effects of notice and comment are most interesting and normatively important.

## 2 Analysis

The analysis identifies perfect Bayesian equilibria in which  $C$ 's strategy maximizes  $S$ 's *ex ante* utility.  $C$ 's implicit commitment power turns this effectively into a mechanism design problem, where the mechanism specifies a probability of judicial reversal in each history of the game (*i.e.*, following each possible message from  $A$  and  $G$  and each possible policy choice  $x$ ).

As a preliminary to further analysis, note that  $C$ 's equilibrium behavior involves overturning any regulation that is inconsistent with a hard signal, and upholding any regulation that is consistent with a hard signal.<sup>14</sup> In other words,  $C$  overturns agency decisions that are “clearly in error” (*cf.* *Citizens to Preserve Overton Park, Inc. v. Volpe* (1971)).  $C$  thus engages in some degree of substantive (not merely procedural) review in the optimal mechanism, in the sense that it examines the linkage between the sum total of evidence and  $A$ 's policy choice. Furthermore, we will restrict attention to equilibria in which the Agency always reveals its signal when it obtains one.<sup>15</sup>

Thus, the only question as to  $C$ 's behavior is what it does when it has no information about the policy (*i.e.*, neither  $A$  nor  $G$  sends an informative signal). In this case,  $C$  may condition only on the policy choice itself (*i.e.*,  $x = 0$  or  $x = 1$ ). The probability that  $C$  overturns ( $r = 1$ ) regulation  $x$  in the absence of information is denoted by  $\rho_x \in [0, 1]$ .

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<sup>14</sup>We will presume that  $C$  does this off the equilibrium path as well.

<sup>15</sup>In this setting—where the Agency is presumed to be indifferent about the policy outcome and incur no direct cost from revealing its signal—this is not a restrictive assumption, but obviously would be quite strong in other preference environments.

## 2.1 Group Behavior

It is useful to note at this point that, if  $A$  reveals a hard signal of  $m_A = \omega$ ,  $G$ 's dominant action is to set  $e_G = 0$ , as  $C$ 's subsequent behavior is independent of  $G$ 's message  $m_G$ . Accordingly, we ignore these subgames when discussing the Group's incentives.<sup>16</sup> The only subgames in which the Group has a nontrivial choice about  $e_G$  are those in which  $A$  has revealed no signal (*i.e.*,  $m_A = \phi$ ).

Accordingly, conditional on  $m_A = \phi$ ,  $x \in \{0, 1\}$ , and  $\rho$ ,  $G$ 's (conditional) expected payoff from effort  $e_G$  is

$$U_G(x, e_G) = \begin{cases} (\rho_0 - 1) ((1 - p) + p(1 - e_G)) - \frac{c}{2} e_G^2 & \text{if } x = 0, \\ e_G p \beta + ((1 - p) + (1 - e_G)p) (1 - \rho_1) \beta - \frac{c}{2} e_G^2 & \text{if } x = 1. \end{cases} \quad (1)$$

The first order conditions for the Group imply the following effort levels:

$$e_G^*(x) = \begin{cases} \min[p(1 - \rho_0)/c, 1] & \text{if } x = 0, \\ \min[p\beta\rho_1/c, 1] & \text{if } x = 1. \end{cases} \quad (2)$$

Assumption 2 obviates the need to carry around the “min” operator.

The Group's effort is maximized when  $\rho_0^{G^*} = 0$  and  $\rho_1^{G^*} = 1$ : the Court is deferential to an “anti-group” policy in the absence of contradictory information, and skeptical of a “pro-group” policy in the absence of confirmatory information. The first part means that  $x = 0$  will stay in force, even without good justification from  $A$ , unless  $G$  adduces evidence to undermine it. This in turn gives  $G$  strong incentives to uncover any available information. The second part means that  $x = 1$  will not stay in force, absent good justification from  $A$ , unless  $G$  adduces information justifying it. This gives  $G$  strong incentives to investigate.

With an understanding of the Group's strategic calculus in hand, we now turn to the Agency's incentives and the effect of judicial review on the Agency's investigative efforts.

## 2.2 Agency Behavior: Investigation

The Agency's choice of policy is simple when it receives an informative signal (*i.e.*,  $s_A \neq \phi$ ): set  $x = s_A$  and reveal its signal. When the Agency is not informed, its incentives

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<sup>16</sup>Of course, these subgames are relevant and given full consideration when we turn our attention to the incentives of the Agency and the Court.

are more complicated and we defer detailed consideration of this until Section 2.3. For the time being we simply denote  $A$ 's policy choice when uninformed by  $x_\phi \in \{0, 1\}$ .<sup>17</sup> Given this, we can identify  $A$ 's optimal level of investigative effort.

$A$ 's expected payoff from  $(x_\phi, e_A)$  is given by the following:

$$U_A(x_\phi, e_A) = \begin{cases} (e_A - 1)(e_G^*(0)p + (1 - e_G^*(0) + e_G^*(0)(1 - p))\rho_0)k - \frac{\kappa}{2}e_A^2 & \text{if } x_\phi = 0, \\ (e_A - 1)(1 - e_G^*(1) + e_G^*(1)(1 - p))\rho_1 k - \frac{\kappa}{2}e_A^2 & \text{if } x_\phi = 1. \end{cases}$$

This yields the following equation for the equilibrium effort levels:

$$e_A^*(x_\phi) = \begin{cases} (e_G^*(0)p + (1 - pe_G^*(0))\rho_0)k/\kappa & \text{if } x_\phi = 0, \\ (1 - pe_G^*(1))\rho_1 k/\kappa & \text{if } x_\phi = 1, \end{cases}$$

which, once we substitute equation (2), equates to

$$e_A^*(x) = \begin{cases} (k(p^2(1 - \rho_0)^2 + c\rho_0))/(c\kappa) & \text{if } x = 0, \\ (c - p^2\beta\rho_1)\rho_1 k/(c\kappa) & \text{if } x = 1. \end{cases} \quad (3)$$

To highlight the effect of notice and comment requirements vs. a procedure with no option for public comment, consider what happens to equation 3 as  $c \rightarrow \infty$  — essentially, a case where no input from  $G$  is possible. The limiting values of  $e_A$  are  $\frac{k\rho_0}{\kappa}$  for  $x = 0$  and  $\frac{k\rho_1}{\kappa}$  for  $x = 1$ . When  $e_A$  is above these levels, it is monotone decreasing in  $c$  for each value of  $x$ . Thus, as  $c$  grows,  $A$ 's investigatory effort declines because  $A$  does not face a threat of being “caught out” by  $G$ 's hard information. Note also that even as  $c \rightarrow \infty$ , it is still possible that  $A$ 's reversal cost  $k$  is large enough that  $c$  can optimally set nonzero values of  $\rho$  and thereby induce  $e_A > 0$ .

For  $x = 0$ , equation 3 is strictly convex for  $p \in (0, 1)$ . Accordingly, the value of  $\rho_0$  that maximizes Agency effort is a corner solution, satisfying

$$\rho_0^{A*} \in \{0, 1\}.$$

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<sup>17</sup> $A$ 's choice of  $x_\phi$  is crucial to both  $A$  —in spite of our assumption that  $A$  is indifferent about the match between the policy chosen and the underlying state of nature—and the society. This is because of  $G$ 's bias:  $G$  will not submit evidence to overturn  $x = 1$  and will not submit evidence to uphold  $x = 0$ . Thus,  $x_\phi$  will have welfare effects above and beyond that captured by the distribution of  $\omega$  (*i.e.*,  $p$ ).

The first order conditions for minimization yield the following minimum:

$$1 - \frac{c}{2p^2}$$

Accordingly, leveraging the symmetry of parabolas, it follows that

$$\rho_0^{A*} = \begin{cases} 1 & \text{if } p^2 < c, \\ 0 & \text{if } p^2 > c. \end{cases}$$

Since we have assumed that  $0 < p < c$  (Assumption 1), it follows that  $\rho_0^{A*} = 1$ . When contrasted with the optimal review strategy in terms of maximizing the Group's efforts ( $\rho_0^{G*} = 0$ ), this encapsulates the tension faced by the Court – the Agency will exert more effort conditional on promulgation of  $x = 0$  when  $s_A = \phi$  if the Court is more likely to *reverse*  $x = 0$  in the absence of confirmatory information, but the Group's incentives are opposed to this, as it will exert more effort if the Court is more likely to *uphold*  $x = 0$  in the absence of contradictory information.

For  $x = 1$ , equation 3 is strictly concave for  $p \in (0, 1)$ . The value of  $\rho_1$  that maximizes Agency effort is

$$\rho_1^{A*} = \frac{c}{2\beta p^2}.$$

In spite of this interior solution for maximizing Agency effort, we will see that maximizing social welfare generally involves a deterministic judicial review strategy, where the Court either upholds all policies in the absence of dispositive information or reverses all such policies.

### 2.3 Agency Behavior: Policy Choice

Thus far we have analyzed the choice of  $e_A$  and  $e_G$  induced by any judicial review doctrine  $(\rho_0, \rho_1)$  and agency policy  $x$ . We have also covered  $A$ 's incentives for determining  $x$  in case  $A$  obtains any strong evidence,  $s_A = \omega$ . Before we can determine the optimal judicial review doctrine, we must also identify the equilibrium policy choice  $x_\phi$  induced by a doctrine  $(\rho_0, \rho_1)$  in case  $s_A = \phi$ .

The Agency's optimal policy choice  $x_\phi^*$  in this event is determined as follows:<sup>18</sup>

$$x_\phi^*(\rho_0, \rho_1) = \begin{cases} 0 & \text{if } (1 - pe_G^*(0, \rho_0))\rho_0 + pe_G^*(0, \rho_0) < (1 - pe_G^*(1, \rho_1))\rho_1, \\ 1 & \text{if } (1 - pe_G^*(0, \rho_0))\rho_0 + pe_G^*(0, \rho_0) > (1 - pe_G^*(1, \rho_1))\rho_1. \end{cases} \quad (4)$$

Equation 4 is  $A$ 's incentive compatibility constraint.

Restricting attention to  $C$ 's pure strategies, so that  $\rho_0 \in \{0, 1\}$  and  $\rho_1 \in \{0, 1\}$ , there are eight unique triples  $(x, \rho_0, \rho_1)$ , but not all eight are incentive compatible. In analyzing optimal judicial review, we can restrict attention to triples such that  $x$  satisfies equation 4, given  $(\rho_0, \rho_1)$ . Other triples are strategically irrelevant in the sense that they include strategies that cannot occur together in any equilibrium.

**Lemma 1** *If  $\rho_1 = 0$ , then  $x_\phi = 1$  is  $A$ 's strict best response.*

The lemma follows by substituting  $e_G^*$  from equation 2 into equation 4. If  $\rho_1 = 0$ , the right hand side of equation 4 is 0. The left hand side is strictly positive for  $\rho_0 \in \{0, 1\}$ . Intuitively,  $\rho_1 = 0$  means that  $C$  will uphold a pro-group policy even when  $A$  lacks good justification for it. In that case,  $A$  can promulgate  $x = 1$  and set  $e_A = 0$ , knowing that  $G$ 's best response is  $e_G = 0$ . Thus  $A$  guarantees success in court without incurring any investigation cost.

The non-trivial arrangement ruled out by this lemma<sup>19</sup> is  $x = 0$  with  $\rho_0 = 1$  and  $\rho_1 = 0$ . It is impossible to simultaneously induce the Agency to promulgate the anti-Group policy while adopting a stance of extreme skepticism toward that policy. In such a situation,  $x_\phi = 0$  will be overturned with probability 1 (either the group will learn nothing, will uncover supporting evidence that it conceals, or will uncover contradictory evidence that it presents), whereas there is positive probability that the Agency will be upheld if it chooses  $x_\phi = 1$ .

**Lemma 2** *If  $\rho_0 = \rho_1 = 1$ , then  $x_\phi = 1$  is  $A$ 's strict best response.*

<sup>18</sup>For reasons of space, we do not consider the possibility of setting a judicial review strategy so as to make the Agency indifferent between  $x_\phi = 0$  and  $x_\phi = 1$ . However, note that *ex ante* expected social welfare can not be strictly improved by such a review strategy. This conclusion might fail to hold, of course, if there were *ex ante* incomplete information about the Agency's policy preferences.

<sup>19</sup>The lemma also rules out  $x = 0$  with  $\rho_0 = \rho_1 = 0$ , which is trivial in that it requires  $C$  to uphold all regulations that are unsupported by any evidence. Obviously, this cannot maximize social welfare in our model, and (relatedly) is substantively absurd.

The lemma follows by evaluating the left and right hand sides of equation 4. When  $\rho_0 = \rho_1 = 1$ ,  $x_\phi = 1$  is strictly optimal if  $1 > 1 - \frac{p^2\beta}{c}$ , which is always true given Assumption 1.

While technically simple, lemma 2 captures an important idea. When  $C$  rejects all rules lacking convincing justifications,  $A$ 's only chance to be upheld in court comes from choosing the pro-group policy  $x = 1$  when  $s_A = \phi$ . It is at least possible in this case that  $G$  adduces evidence that saves  $A$ 's rule from judicial nullification. Indeed, when  $x = 1$  and  $\rho_1 = 1$ ,  $G$  has strong incentives to investigate — because it knows the only way to preserve the beneficial rule promulgated by  $A$  is to present evidence justifying it. On the other hand, if  $x_\phi = 0$ , there is no chance for  $A$  to be upheld in court. Either  $G$  will present hard evidence that  $\omega = 1$ , contraindicating  $x = 0$ ; or  $G$  will conceal hard evidence that  $\omega = 1$ ; or  $G$  will obtain no information. In all cases,  $C$  overturns  $A$ 's regulation.

Even more striking, this judicial review posture is a clear case satisfying a standard of “legal rationality.” The court decides the fate of regulations based solely on the depth of evidence supporting them. If a regulation is supported by hard evidence, it is upheld. If a regulation is contradicted by hard evidence — a “clear error” by the agency in light of the facts — it is nullified. If there is no conclusive evidence about the social value of the agency's action, again it fails to pass judicial scrutiny.

Yet, this clear case of legal rationality, where court judgment is based solely on evidence and reasoning, induces an equally obvious political bias in the agency. Under this judicial review doctrine, the agency is biased in favor of prominent interest groups, in the sense that it regulates in such a group's favor when it lacks strong evidence to the contrary.

**Lemma 3** *If  $\rho_0 = 0$  and  $\rho_1 = 1$ , then  $x_\phi = 0$  is  $A$ 's best response.*

Given equation 4, this follows immediately from Assumption 3. Essentially the assumption means that the marginal cost of  $G$ 's investigation increases fast enough, given the prior  $p$  that the pro-group policy is socially desirable and  $G$ 's benefit  $\beta$  from  $x = 1$ , that  $A$  cannot count on  $G$  marshaling strong evidence in its favor if  $x_\phi = 1$ . Put differently, if  $A$  were to make that choice with a thin record, the parameters  $\beta$  (importance to  $G$  of sustaining  $A$ 's action) and  $p$  ( $G$ 's belief that evidence it obtains will support its position) are such that record would likely remain thin after  $G$ 's investigation — and  $C$  would reject  $A$ 's regulation. By the same token, when  $x_\phi = 0$ ,  $A$  knows that  $G$ 's investigation cost and the prior  $p$  are such that  $G$ 's investigation is not excessively threatening

to  $A$ 's presumed judicial support of a thin record.

Lemmas 1, 2, and 3 imply that only three of the (non-trivial) triples  $(x, \rho_0, \rho_1)$  are incentive compatible.<sup>20</sup> Additionally, it is difficult, in a sense, to sustain  $x_\phi = 0$ . It can only be incentive compatible if  $\rho_0 = 0$  and  $\rho_1 = 1$ , and eliciting this policy choice also requires special values of other parameters. The dependence of lemma 3 on Assumption 3 implies that there is no judicial review doctrine  $(\rho_0, \rho_1)$  alone that is sufficient to induce  $x_\phi = 0$ . This highlights a fundamental pro-group bias in notice and comment proceedings (one very much in line with McCubbins, Noll and Weingast (1987)): with a reversal-averse agent, a biased group, and a court exercising non-trivial review of evidence presented to it, it is difficult to induce an agent to challenge the interests of privileged groups.

## 2.4 *Ex Ante* Optimal Doctrines of Judicial Review

*Ex ante* social welfare from the three (non-trivial) incentive compatible judicial review doctrines is as follows:

$$\begin{aligned} W(\rho_0 = 0, \rho_1 = 1 | x_\phi = 0) &= 1 - p + \frac{kp^3}{c\kappa}, \\ W(\rho_0 = 1, \rho_1 = 0 | x_\phi = 1) &= p, \\ W(\rho_0 = 1, \rho_1 = 1 | x_\phi = 1) &= \frac{p^2\beta}{c} + \left(1 - \frac{p^2\beta}{c}\right) \frac{k(c - p^2\beta)}{c\kappa}. \end{aligned} \tag{5}$$

First, comparing the use of deferential treatment to obtain  $x_\phi = 0$  with the use of a deferential treatment to obtain  $x_\phi = 1$ , eliciting  $x_{\phi=0}$  is optimal according to the following relationship:

$$W(\rho_0 = 0, \rho_1 = 1 | x_\phi = 0) > W(\rho_0 = 1, \rho_1 = 0 | x_\phi = 1) \Leftrightarrow \frac{k}{\kappa} > p.$$

Accordingly, a necessary condition for eliciting the anti-Group policy is the optimal strategy *only if*  $p$  is sufficiently low.

Similarly, comparing the use of deferential treatment to obtain  $x_\phi = 0$  with the use of a skeptical review strategy to obtain  $x_\phi = 1$ , deference is optimal according to the

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<sup>20</sup>Another triple,  $x = 1$  and  $\rho_0 = \rho_1 = 0$ , was not covered by the lemmas, but it is trivial because (like the  $(0, 0, 0)$  case addressed in a previous footnote) it cannot be socially optimal and is not substantively meaningful.



following relationship:

$$W(\rho_0 = 0, \rho_1 = 1 | x_\phi = 0) > W(\rho_0 = 1, \rho_1 = 1 | x_\phi = 1) \Leftrightarrow 2ck > c\kappa + \beta kp^2.$$

These findings are summarized in the following result.<sup>21</sup>

**Proposition 1** *Social welfare is maximized by committing to a judicial review strategy that is deferential to, and elicits, the anti-Group policy ( $x_\phi = 0$ ) only if  $p < \frac{k}{\kappa}$ , whereas elicitation of  $x_\phi = 1$  in the face of judicial skepticism ( $\rho_0 = \rho_1 = 1$ ) is optimal if*

- *the Agency’s marginal cost of collective information increases quickly enough (large enough  $\kappa$ ), and*
- *the Group’s valuation of its favored policy is large enough ( $\beta$  sufficiently large)*

The third potentially optimal judicial strategy, characterized by extreme skepticism of anti-Group policies and extreme deference to pro-Group policies ( $\rho_0 = 1, \rho_1 = 0$ ),<sup>22</sup> is optimal whenever  $p$  is large enough and neither  $\kappa$  nor  $\beta$  are sufficiently large to require (or, in the case of  $\beta$ , allow) judicial review to motivate the Group to collect information. This is an extreme version of court-induced agency capture: not only is  $A$  deferential to  $G$  in the absence of hard information to the contrary, and not only does  $C$  sanction this stance, but  $C$  looks with extreme skepticism at anti-group policies unless they are supported by strong information.

The proposition, and analysis of optimal judicial review in general, has several important implications. First, though the court is explicitly modeled as a faithful maximizer of social welfare and not a narrow political actor, the *ex ante* optimal mechanism is politically sensitive: courts are attentive to the distribution of interests within the electorate. A necessary condition for optimal Court deference to anti-Group policies is that the Group’s interests are (in *ex ante* terms) relatively unlikely to be aligned with the interests of Society. By taking this review posture, the Court is giving the Group a strong incentive to “prove its case,” for the Group knows in this regime that if  $A$  has thin evidence, it will choose  $x = 0$ , and the only way for the group to obtain a preferred policy choice given  $\rho_0 = 0$  is to prove conclusively that the agency’s choice is mistaken.

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<sup>21</sup>We hope to have a richer description of the optimal mechanism in the near future (in particular, we hope to relax the assumptions and deal in more detail with the parameter regions in which the Group might exert maximum effort levels).

<sup>22</sup>As above with deferential elicitation of  $x_\phi = 0$ , there are multiple payoff equivalent review strategies that elicit  $x_\phi = 1$  and involve  $\rho_1 = 0$ . This extreme version is most clear to consider.

Furthermore, when  $\rho_0 = 0$  and  $\rho_1 = 1$  is optimal, the Court will affirm anti-Group policies even when the Agency produces a “thin” record in support of its proposal. This posture is in contrast to standard doctrines of judicial review of agency findings of fact in rulemaking. The most recent authoritative Supreme Court case on this issue (Manning and Stephenson (2010)) is *Motor Vehicle Manufacturers Association v. State Farm Mutual Automobile Insurance Co.* (1983), in which Justice White noted that “an agency rule would be arbitrary and capricious [and therefore in violation of the Administrative Procedure Act] if the agency has...offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to...the product of agency expertise.” Here the agency’s policy choice  $x = 0$  is unsubstantiated by any expertise or factual basis, yet the court optimally defers to its decision. The reason is that such a choice gives groups strong incentives to adduce information invalidating the agency’s choice, and if they do not present any, that in itself provides evidence consistent with the agency’s choice.

Moreover, in cases where the court upholds regulations with weak support, the optimal mechanism necessarily involves differential treatment of the policies. For example, when optimal, this regime can be supported by deference to  $x_\phi = 0$  and extreme skepticism toward  $x_\phi = 1$  ( $\rho_0 = 0$  and  $\rho_1 = 1$ ).<sup>23</sup> This is, in a sense, legally “irrational”: the court in these cases is not focusing solely and even-handedly on the depth of the record and quality of agency reasoning from it, or even merely the procedures used to assemble it. It is, nevertheless, maximizing expected social welfare due to the incentives it creates for  $A$  and  $G$  to investigate.

Of course, deference to the anti-Group policy may not be the optimal mechanism. As Proposition 1 makes clear, the pro-Group strategy may be the optimal policy choice to elicit from an uninformed Agency. And, to boot, the elicitation of this policy choice might be accomplished through extreme judicial skepticism. In particular, a judicial review strategy that is dubious of either policy when accompanied by a thin record will result in promulgation of the pro-Group strategy by the Agency when the Agency is uninformed. The scenarios in which the use of judicial skepticism to support (in equilibrium) the appearance of a pro-Group bias is optimal are exactly those in which the Group will be incentivized by judicial skepticism to collect information to bolster its case in court.

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<sup>23</sup>There are multiple payoff equivalent review strategies that elicit  $x_\phi = 0$  and involve  $\rho_0 = 0$ . This extreme version is most clear to consider. Given our informational framework, one would never observe the actual review strategy for  $x_\phi = 1$  in this regime.

Thus, somewhat ironically, these cases may be described as judicial skepticism of the Group engendering behavior consistent with an agency “captured” by the Group.<sup>24</sup>

In sum, there are three judicial review stances that can potentially maximize social welfare. All of them are extreme, either in according deference to, or expressing skepticism toward, proposals that reach the Court accompanied by a thin record. Two of them require differentiated review, according different degrees of deference to pro- and anti-Group policies.

### 3 Negotiated Rulemaking and *Ex Parte* Contacts

In this section, we focus on the effect of  $p$  on the difference in Society’s expected payoff between skepticism and deference when  $x_\phi = 1$ . The first derivative of this difference with respect to  $p$  is:

$$\frac{\partial[W(\rho_0 = 1, \rho_1 = 1|x_\phi = 1) - W(\rho_0 = 1, \rho_1 = 0|x_\phi = 1)]}{\partial p} = \frac{4kp^3\beta^2}{c^2\kappa} + \frac{2p\beta(\kappa - 2k)}{c\kappa} - 1$$

Even after imposing Assumptions 2 and 4, the first term can be arbitrarily close to  $4p$ , while the second term would then be approximately  $-2\kappa^{-1}$ , so that the derivative can be positive. This implies that the expected social payoff from skepticism of  $G$ ’s favored policy might be increasing as  $G$ ’s interests and those of Society become more closely aligned.

Indeed, even in the limiting case of  $p \approx 1$ , skepticism is optimal after  $x_\phi = 1$  when the following holds:

$$0 < \frac{k\beta}{c} + (\kappa - 2k). \tag{6}$$

Inequality (6) can be valid even when any or all of Assumptions 1 ( $p < c$ ), 2 (*i.e.*,  $p\beta \leq c$ ), and 4 ( $k < \kappa$ ) hold.

The meaning of the possibility that increases in  $p$  can increase Society’s expected payoff from judicial skepticism is admittedly abstract at first. However, the design of administrative procedure, particularly beginning in the mid-1970s and accelerating in the 1980s and 1990s, has focused increasingly on the *pre-promulgation* elicitation of

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<sup>24</sup>The theory of agency, or regulatory, capture is a venerable one. The two seminal works on the topic are Huntington (1952), Bernstein (1955). A more formal treatment is offered by Laffont and Tirole (1991), and a recent historical study of capture as it affected federal judicial review in the late 20th century is presented in Merrill (1996).

information from regulated and other relevant interests. Such information can, for a variety of reasons, be potent from the view of both social welfare and reelection-motivated legislators and executives.<sup>25</sup>

There are two (related) substantive design issues that relate to the judiciary’s beliefs about  $p$ : negotiated rulemaking and *ex parte* contacts. Before discussing these, however, it is important to note the limitations of the current model in terms of offering more than a speculative view on the broader issues.

Our theory assumes that  $p$  is common knowledge. In this case, the real import of this is that the judiciary’s knowledge of  $p$  is commonly known by the players. In other words, we have assumed away the possibility of a signaling game between either the Agency or the Group with the Court.<sup>26</sup> However, it is not too far of a bridge to cross to consider for a moment an extension of the model in which the Group can attempt to persuade, in an informationally-relevant-but-imperfect fashion, the Agency prior to the Agency’s choice of which policy to promulgate. In such a model, it is clear that—under some parameter alignments—the Agency would defer to the Group when otherwise indifferent. In this case, that would entail the Agency choosing to promulgate  $x_\phi = 1$  when it does not have dispositive evidence in support of its policy choice.

Our model indicates that, when the “notice and comment/judicial review” subgames of such an extended model are equivalent to the more limited model presented above and the parameters are such that inequality (6) holds, the Group may have a strict incentive to foreclose/avoid pre-promulgation opportunities to influence the Agency, due to the commensurate increase in the Court’s post-promulgation beliefs about  $p$ . There are at least two substantively important examples of such opportunities in the federal rulemaking process, and the anecdotal, case-based evidence regarding the behaviors of both regulated interests *and agencies* in those cases is at the very least suggestive.

Negotiated rulemaking is a process through which an Agency may invite interested individuals to participate in an advisory committee that will draft, *through consensual procedures*, a proposed rule that is then forwarded to the convening agency for publication in the Federal Register.<sup>27</sup> While members of the advisory committee do not have true,

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<sup>25</sup>Boehmke, Gailmard and Patty (2006) present a formal theory of this dilemma within a principal-agent/institutional design context.

<sup>26</sup>Not to mention ruling out the intriguing possibility of a signaling game between the Agency and the Group.

<sup>27</sup>For more details on negotiated rulemaking and advisory panels, see Harter (1982), Coglianese (1997), Balla and Wright (2001), Kerwin and Furlong (2011), pp. 205-210. For a discussion of the agency’s choice of negotiated rulemaking from among several means of rulemaking from a public choice perspective, see

instrumental veto rights—the agency can act unilaterally even after the convening of an advisory panel—they do clearly have some instrumental power with respect to the ultimate *forwarding* of a proposed rule by the convening agency. Any rule forwarded with the (public and explicit) countenance of an advisory committee would in pursuit of ultimate judicial affirmation should, in equilibrium, be believed to be *no less likely* to be in alignment with the committee’s participants’ policy interests.

What is key here in terms of the informational dynamics of notice and comment sketched in this article is that the proposed rule that is ultimately produced by the concurrence of the advisory committee and the agency is itself nonetheless subject to the notice and comment process. Accordingly, a Group considering whether to voluntarily involve itself in a negotiated rulemaking process need make a calculation as to whether the advisory committee/negotiation process itself will generate sufficiently dispositive information to obviate worries about judicial review. To the degree that there is uncertainty about this outcome of the process, the Group must weigh the costs of the increase in the Court’s increased posterior estimate of  $p$  on the Group’s subsequent and sequentially rational level of investment in information collection in pursuit of judicial confirmation of the (presumably favored-by-the-Group) proposed policy. Put another way, there exist situations in which the pre-promulgation involvement of the Group with the Agency will increase the Court’s post-promulgation estimate of  $p$  by an amount sufficient to justify judicial skepticism as opposed to judicial deference.

Empirical evidence regarding the use of negotiated rulemaking and other similar “consensual” rulemaking procedures is suggestive. Specifically, neither agencies nor regulated interests appear to be enthusiastic about pursuing administrative policy through these channels. In spite of bipartisan support from both congress and presidents,<sup>28</sup> use of the process has been relatively rare and, when used, tends to be utilized for rules that officials at the agency in question regard as unimportant.<sup>29</sup>

The tepid response by both agencies and regulated interests to negotiated rulemaking has been a disappointment to both policy experts and administrative law scholars.<sup>30</sup> As one scholar describes the motivations behind the formalization of the negotiated rulemaking process, “[t]he interest in negotiated rulemaking arose out of a desire to avoid

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Morriss, Yandle and Dorchak (2005).

<sup>28</sup>For example, Negotiated Rulemaking Act of 1990, 104 Stat. 4970 (1990) & Executive Order 12866 of September 30, 1993.

<sup>29</sup>Coglianesse (1997), Lubbers (2008), and Funk (2009).

<sup>30</sup>For example, Coglianese (2002), Funk (2009), and Kerwin and Furlong (2011), pp. 205-210.

this adversary judicial model.”<sup>31</sup> Regardless of whether such desires are laudable,<sup>32</sup> the theory presented in the previous section indicates the importance of remembering that, while negotiated rulemaking and similar processes might tend to produce “better” or “less contentious” regulations, the mere possibility of *ex post* judicial oversight may ironically undermine the pursuit of a reduced need for this oversight through the inclusion of a pre-promulgation negotiation phase.

The same reasoning suggests, in an admittedly Kolkovian sense,<sup>33</sup> an argument for “Group-based” support for a prohibition on *ex parte* contacts between the Group and the Agency prior to the publication of the Agency’s final rule. The issue of the optimal procedural controls of the nature and frequency of contacts between regulators and the regulated is clearly bigger than the spartan informational model we offer here.<sup>34</sup> Nonetheless, a full model of the informational effects of *ex parte* contacts between the Group and Agency on the Court’s beliefs would arguably offer predictions that mirror those sketched out above for the case of negotiated rulemaking. Accordingly, there is at least the hint in this theory of a rationale for the Group to lobby for stiff penalties for transparency and *ex parte* contacts. The interaction of our theoretical conclusions with this admittedly-at-first-quite-arcane aspect of administrative law become more intriguing when contemplating, for example, claims of executive privilege as asserted by Vice-President Richard Cheney when confronted with queries about the participants in the Energy Task Force in 2001.<sup>35</sup> This conclusion holds even more generally when one considers the delicate institutional and constitutional position occupied by “preclearance” of proposed regulation by the Office of Information and Regulatory Affairs (OIRA).<sup>36</sup>

The parameter  $p$  is the heart of the incomplete information in our model. As such, it is a central figure in a traditional argument in favor of notice-and-comment and other

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<sup>31</sup>Funk (2009), p. 180.

<sup>32</sup>Consider the arguments of Fiorino (1988), Coglianese (1997), and Freeman and Langbein (2000) regarding whether the use of negotiated rulemaking potentially entails a loss of “legitimacy” due to its obfuscation of some of the traditional tenets of administrative due process.

<sup>33</sup>In the spirit of the “regulation as cartel/price-protection” revisionist history of the ICC forwarded by Kolko (1965).

<sup>34</sup>For example, even more than with procedures such as negotiated rulemaking, questions about the legitimacy of administrative policymaking are clearly relevant in a way that can not be captured by (*i.e.*, are orthogonal to the primitives of) our theory.

<sup>35</sup>Among others, see Michael Abramowitz and Steven Mufson, “Papers Detail Industry’s Role in Cheney’s Energy Report,” *Washington Post*, Wednesday, July 18, 2007.

<sup>36</sup>See, for example, the discussion by Strauss (2006) and a formal treatment of preclearance (and the seemingly counterintuitive countenance and sustenance of unilaterally asserted presidential authority) offered by Wiseman (2009).

participatory forms of administrative policymaking: eliciting the provision of information that enables government officials to choose policies that better match the underlying facts on the ground. In the next section, we discuss a direction in which the model can and should be extended: including the possibility of agency-directed revision of the policy after the Group offers comments and prior to judicial review.

## 4 Process and Information: Revision

One of the key elements of the notice and comment process that our theory does not include is the possibility of Agency revision after receiving comments from the Group. In particular, the notice and comment process involves a relatively unstructured pre-proposal process carried out within the Agency,<sup>37</sup> after which the Agency issues at least one notice of a proposed rule, following which interested parties are invited to submit comments to the Agency regarding the proposed rule.

We now briefly consider a structural alteration of the baseline model (maintaining the same assumptions about preferences) in which the Agency is allowed to revise its proposal after the Group submits a (possibly untruthful) message and, following that, the Group can reveal its signal if it did not reveal it at the first opportunity. In order to keep the analysis as simple as possible, we do not allow the Agency or the Group to exert investigative efforts after their first respective opportunities to reveal their respective signals.<sup>38</sup> We also assume that it is costless for the Agency to modify its proposal.

Suppose, as in the earlier analysis of the baseline model, that the Court affirms any policy accompanied by a dispositive justifying message and overturns any policy accompanied by a dispositive contraindicating message. Under this supposition, it is clear that the Group’s incentives to reveal its signal (which depend on the signal’s content) are unchanged in subgames in which the Group has an informative signal but did not reveal it at the first opportunity. Given this, it is clear that, in any subgame perfect equilibrium

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<sup>37</sup>There are approaches to pre-proposal idea generation and analysis that do have some structural requirements imposed through either statute or executive order. One such example, discussed earlier, is negotiated rulemaking, the moving parts of which may be started very early in the policy process. Others center on various “preclearance” processes that have been imposed by presidents from both parties since the Carter Administration. Wiseman (2009) considers these features in some detail—we leave the question of the effects of the interaction between such procedures and the possibility of *ex post* judicial review for future work.

<sup>38</sup>We conjecture (1) that this restriction for the Group is unimportant, but (2) the Agency may in some (many?) cases strictly prefer to shirk at the first opportunity to collect information and attempt to free ride on any information collected (and, in the case of  $s_g = 1$ , revealed) by the Group.

in weakly undominated strategies of this modified game, the Agency will modify its policy in any subgame in which the Group’s message is informative and indicates that the Agency’s original proposal is incorrect.

The Group’s incentives to reveal its signal at its first opportunity are similar to its incentives at the second round.<sup>39</sup> We consider them in turn, based on the content of the Group’s signal.

If the Group’s signal is pro-Group ( $s_G = 1$ ), then the Agency will respond to the revelation of this signal by ensuring that the final policy is  $x = 1$ , which will be upheld by the Court. Accordingly, the Group’s best response is to reveal  $s_G = 1$ . On the other hand, revealing  $s_G = 0$  will ensure that the final policy is  $x = 0$  and is upheld by the Court.

Now it is hopefully clear that the incentives of the Agency with respect to the choice of which policy to (initially) propose when the Agency is uninformed are altered from those in the baseline model in an important way. Now, even if the anti-Group policy is greeted by the Court with extreme skepticism (*i.e.*,  $\rho_0 = 1$ ), the Agency in this extended setting can propose  $x_\phi = 0$  and still avoid reversal with positive probability (unlike in the baseline model). The Agency’s expected payoff function in this model is

$$U'_A(x, e_A) = \begin{cases} (e_A - 1)(1 - e_G^*(0) + e_G^*(0)(1 - p))\rho_0 k - \frac{\kappa}{2} e_A^2 & \text{if } x = 0, \\ (e_A - 1)(1 - e_G^*(1) + e_G^*(1)(1 - p))\rho_1 k - \frac{\kappa}{2} e_A^2 & \text{if } x = 1, \end{cases}$$

so that one of the structural “kinks” confronting the Agency in the baseline model is removed here by including the opportunity for the Agency to respond to the Group’s comments. That kink (which occurs with probability  $pe_G^*(0)$ , the equilibrium probability that the Group will obtain the signal  $s_G = 1$ ) would of course partially reemerge if the Agency bore a cost of revision, as the Agency knows that it will *never* need to revise  $x = 1$  and would, on the margin, prefer to avoid revision.

While a richer model of notice and comment is clearly desirable before suggesting any firm conclusion about the optimal structure (in particular, length) of the participation process, it is interesting to note at this early point that the possibility of revision—namely, of allowing the Group’s comments to be taken into account by the Agency prior to the Court providing a final judgment affirming or reversing the policy—does not reduce the

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<sup>39</sup>It is worth noting that this is partly due to both the binary state/policy structure and the preference alignment we have assumed. In richer settings, the Group’s incentives at the two opportunities will in general differ.



need for judicial review (represented in this framework as the probability that the Court encounters a contested proposal accompanied by a thin record). This is due to the fact that, even in the extended process, the Group’s bias in terms of what information it will willingly provide remains unchanged.

## 5 Conclusion

Notice and comment rulemaking followed by judicial review is the bedrock of procedural legitimacy in agency policy making. Our model shows that this procedure can have important and subtle effects on the incentives of both agencies and interested parties to investigate the issues surrounding a policy and build a record rationalizing their decisions. While the actors’ preferences in our model are stylized — in particular, groups are unconditionally biased in favor of one policy and against another; agencies have no policy preferences and simply want to avoid reversal (and costly effort) — they capture a situation in which standard rulemaking procedures have interesting effects.

Naturally, in light of the agency’s desire to avoid reversal, the court’s posture of skepticism toward the agency can induce it to investigate the issues it faces more deeply. But the incentives and bias of interested groups imply that the socially optimal judicial posture is not necessarily skeptical of the agency. Rather, in some situations courts should be deferential to agency policy choices even if the evidence supporting the agency’s policy is meager — because those decisions give groups biased against them strong incentives to provide hard contradictory information when they can. When courts are deferential to such agency decisions, interested groups know they cannot count on skeptical courts to hold agencies in check. In this way, socially optimal judicial review is sensitive to the politics surrounding agency regulation — the benefits and costs it imposes on favored groups — even though courts in our model are, by design, wholly apolitical. Moreover, the model straightforwardly implies that optimal judicial review is not simply a function of the quality or depth of the record adduced by the agency in support of its decision; it also depends on the policy content of the decision. In other words, even when agencies select from a statutorily-defined and sanctioned set of policy options, optimal judicial review implies that courts should be more deferential to some policy decisions — particularly those unfavorable to interested parties — than others.

While it presents some insights about judicial review, the restrictiveness of the model calls for a number of extensions. Many have been discussed above, but those we see

as particularly important are more realistic specifications of agency preferences, agency discretion over whether to propose a policy, incorporating agency revision of its initial policy in light of comments from interested parties, and allowing for multiple groups.

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