Transparency and Policymaking with Endogenous Information Provision

Hanzhe Li*

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Abstract

How does a biased lobbyist disclose information to a career-concerned politician? I develop a model to study this problem and show that the answer depends on the design of lobbying protocol: if the lobbying protocol reveals the lobbyist’s preference, career concerns benefit the public by inducing the lobbyist to provide more information; but if the lobbyist’s preference is concealed, career concerns can discourage information provision. The spillover effect of lobbying protocol is also explored. In particular, the result highlights a novel conflict that the transparency of the lobbyist’s intent crowds out potential positive effects of the transparency of decision consequences.

Keywords: Transparency, information provision, policymaking, career concerns, lobby register, reputation

“Whenever you do a thing, act as if all the world were watching.”

- Thomas Jefferson, 1785

*PhD student. The University of Hong Kong. Email: hanzhe.li@connect.hku.hk. I am very grateful for the advice and encouragement of Jimmy Chan and Jin Li. I also thank Yue Han, Wei He, Duozhe Li, and Wing Suen for their helpful suggestions.
1 Introduction

The desire of politicians to appear competent is an important driving force behind their decisions. Scholars have demonstrated this point on US congressmen (Fenno, 1973) and even conceived of the congressional office as an “enterprise” in which the member seeks potential issues to build a good reputation (Salisbury and Shepsle, 1981). However, this leads to the career-concern problem studied by economists, that is, politicians accumulate reputation rather than do the right thing.

In most models of the career concern of politicians, it is assumed that the information that politicians receive is exogenously given. In practice, however, the information is often endogenously provided to the politician by special interest groups. For example, Baumgartner et al. (2021) documented that lobbyists use different arguments dependent on different intents. Nevertheless, most papers that combine concern for reputation with endogenous information have focused on the sender’s reputation issue. My goal is to shed some light on the strategic behavior of the information provider who keeps in mind the receiver’s career concerns.

To this end, I consider a persuasion game (Kamenica and Gentzkow, 2011), detailed in Section 2, in which a biased lobbyist designs an experiment for a politician who cares about both decision quality and the reputation for being informed a priori. The persuasion is private as the experiment and the realized recommendation are both unknown to the public, and it targets the low-ability politician because the high-ability politician knows the state. I focus on three questions: (i) how does the lobbyist disclose information to the career-concerned politician, (ii) what is the role of lobbying protocol in the lobbying process, and (iii) what is the effect of the transparency of decision consequences given different designs of lobbying protocol?

For the first two questions, Section 3 shows that if the lobbying protocol reveals the

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1See Harris and Holmstrom (1982), Prendergast and Stole (1996), Holmström (1999), Levy (2004), and Fu and Li (2014).
2See Morris (2001), Gentzkow and Shapiro (2006), Ottaviani and Sørensen (2006a,b), Alizamir et al. (2020), and Balmaceda (2021). One exception is Salas (2019), who studies public persuasion of a career-concerned politician. His model is related more to persuasion of a privately informed agent (Kolotilin et al., 2017; Kolotilin, 2018) because of the assumption of unobservable ability. The paper does not talk about transparency.
lobbyist’s preference, career concerns incentivize the politician to disobey the lobbyist, and hence, discipline the lobbyist to provide more information; in contrast, Section 4 shows that if the lobbying protocol does not reveal the lobbyist’s preference, career concerns may become an incentive for obedience and discourage information provision. Consequently, it is in the public’s interest to make the lobbyist’s intent transparent (see the rows in Figure 1).

The reason is as follows. Because the low-ability politician is short of prior information and susceptible to persuasion, she, out of career concerns, seeks to mimic the high-ability type by choosing the action that the public regards as disliked by the lobbyist. If the preference is not revealed, the public’s perception of the lobbyist-preferred action is imperfect. Career concerns may incentivize the politician to obey the lobbyist’s recommendation. However, if the lobbyist’s preference is revealed, the public knows the lobbyist-preferred action, and career concerns always incentivize the politician to disobey the corresponding recommendation. By comparison, the transparency of the lobbyist’s intent gives the politician a stronger incentive to disobey. Hence, the lobbyist has to provide more information to persuade the disobedient politician.

Concerning the last question, Section 5 investigates the spillover effect of lobbying protocol and highlights that the transparency of the lobbyist’s intent crowds out potential positive effects of the transparency of decision consequences. In particular, the transparency of the consequences can benefit the public only when the lobbyist’s preference is concealed.

To see the results, note that when the lobbyist’s preference is revealed, career concerns incentivize the politician to disobey the lobbyist’s recommendation, and it is riskier to disobey than to obey in terms of the possibility of making a wrong decision. However, as the transparency of decision consequences is imposed, the politician can earn a positive reputation only if she makes the correct decision. The transparency of the consequences therefore reduces the politician’s incentive to disobey and the information provided by the lobbyist. It cannot be beneficial if the lobbyist’s preference is revealed (see the right column in Figure 1).
In contrast, when the public is uncertain about the lobbyist’s preference, career concerns may incentivize the politician to excessively obey the lobbyist’s recommendation. The low-ability politician may choose the lobbyist-preferred action even if it is hardly correct. In this case, the transparency of decision consequences can encourage the provision of information by mitigating the politician’s incentive to obey excessively. As a result, the transparency of consequences can be beneficial if the lobbyist’s preference is concealed (see the left column in Figure 1).

My findings shed light on transparency regulations in reality. One crucial aspect of such regulations is the design of the lobby register. Many countries, including the US, have limited the mandatory disclosure of lobbyists to their identities and the fields or offices targeted (OECD, 2021). However, in 2019, the European Parliament adopted a mandatory lobby register that requires lobbyists to disclose their policy preferences. This paper provides a rationale for this reform. The reform can benefit the public by enhancing the lobbyist’s provision of information and helping formulate appropriate policies. I clarify the difference between the transparency of the lobbyist’s intent and some other kinds of transparency of lobbyists in Section 7.

The findings also highlight a novel conflict between conventional transparency of decision consequences and the transparency of intent. When a politician needs to make a decision but relies on an external information source, a subsequent public evaluation
of the politician’s performance can be beneficial only if the intent behind the information input is difficult to reveal. In case the intent is easily transparent, it is preferable to privately evaluate the politician’s performance in encouraging information inputs from the external information source.

1.1 Literature review

This paper is closely related to the literature on career concerns and transparency (Levy, 2007; Ashworth and Shotts, 2010; Bar-Isaac, 2012). Prat (2005) shows that the transparency of politicians’ actions can be detrimental because such transparency incentivizes the career-concerned politician to disregard useful information. By considering asymmetric loss from actions, Fox and Van Weelden (2012) demonstrate that implementing both the transparency of actions and the transparency of decision consequences is never optimal for the public. My paper contributes to the aforementioned literature by considering policymaking in an endogenous information environment and studying a new type of transparency—the transparency of the lobbyist’s intent. It is also novel that the transparency of the lobbyist’s intent has a negative spillover effect on the desirability of the transparency of decision consequences.

The fundamental intuition underlying the results is that the lobbyist is incentivized to provide more information when the politician tends to disobey informative recommendations. It demonstrates a point that can also be found in other incentive problems: ex-post suboptimal choices can be optimal by providing ex-ante incentives (Che and Kartik, 2009; Stepanov, 2020; Frankel and Kartik, 2021). I show that the design of lobbying protocol determines whether the intuition materializes between the politician’s career concerns and the lobbyist’s provision of information.

This paper abstracts from several features of real-world interactions. One such feature is the lack of commitment power (Crawford and Sobel, 1982). Li and Madarász (2008) shows that the disclosure of preferences can impede information transmission because it tightens the credibility constraint. Instead, I examine the transparency of the lobbyist’s intent based on the best outcome that the lobbyist can achieve for himself.
The exercise can be viewed as a “robust approach” to evaluating the influence of the lobbyist. Any direct cost for lobbying is also abstracted away. Unlike papers pertaining to costly lobbying (Potters and van Winden, 1992; Ball, 1995; Lohmann, 1995), the lobbyist always participates in the persuasion game. This feature allows me to focus on the transparency of the lobbyist’s intent rather than the transparency that is already guaranteed by most lobby registers, i.e., letting the public know whether the lobbyist has lobbying contacts with the politician.

2 Baseline Model

A politician (“she”) decides between two actions, \( a \) and \( b \). Correspondingly, a state of world, \( \omega \in \{A, B\} \), determines the correct action with \( P(\omega = A) = \mu_0 \in (0, \frac{1}{2}) \): \( a \) for \( A \) and \( b \) for \( B \). The politician knows the state if she has high ability, but she is uninformed if she has low ability. The ability is the politician’s private information. The prior belief that the politician has high ability is denoted by \( \tau \in (0, 1) \).

A lobbyist (“he”), who prefers \( a \) regardless of the state, designs and commits to an experiment. It sends a recommendation \( s \in \{\tilde{a}, \tilde{b}\} \) to the politician according to the designed probabilities \( \{\pi(s|\omega)\} \) before the politician makes the decision. The politician’s strategy \( \beta \) is a contingent plan, which assigns a possibly randomized action to each combination of recommendations, experiments, and prior information.

The politician’s reputation refers to her ability perceived by the public after the policymaking process. For belief updating about the ability, the public knows the action taken and its consequence (i.e., whether the action is correct), and forms beliefs about the two players’ strategies, denoted as \( \beta' \) and \( \pi' \). I denote the reputation for action \( x \in \{a, b\} \) as \( \tau(x, \omega, \beta', \pi') \) and write it as \( \tau(x, \omega) \) if no confusion is created.

The politician’s payoff consists of two parts, the decision quality and the reputation payoff:

\[
u(x, \omega) = 1_{(x, \omega) \in \{(a, A), (b, B)\}} + \theta \tau(x, \omega)\]

in which the indicator function shows whether the action is correct, and \( \theta > 0 \) captures
to what extent the politician cares about her reputation. The lobbyist and the politician are both risk neutral. The public’s welfare is defined *ex ante* as the probability of correct decisions by the politician.

I solve the game with Perfect Bayesian Equilibrium. An equilibrium is a profile \((\pi, \pi', \beta, \beta')\) in which \(\pi\) and \(\beta\) are the best responses, and \(\pi'\) and \(\beta'\) are consistent as \(\pi' = \pi, \beta = \beta'\). The equilibrium concept also applies when the experiment is fixed for a special focus. I eliminate those equilibria in which the high-ability politician may make a mistake to focus on the more interesting case in which the politician signals ability through correct decisions. Hence, the lobbyist can influence the behavior only of the low-ability politician. Unless otherwise specified, the "politician" refers to the low-ability type throughout this paper.

The discussion on the assumptions of the model can be found in Section 6.

3 Basic Results

Let \(\mu_s := P(\omega = A|s)\) denote the politician’s posterior about the state after observing a recommendation, \(s \in \{\tilde{a}, \tilde{b}\}\). Without loss of generality, assume that \(\mu_{\tilde{a}} \geq \mu_{\tilde{b}} \geq \mu_{\tilde{c}}\). I first characterize the politician’s response and then the equilibrium experiment designed by the lobbyist.

3.1 The politician’s response

Suppose that the experiment is fixed. After a recommendation, \(s \in \{\tilde{a}, \tilde{b}\}\), the probability of being correct by choosing \(a\) and the expected quality of choosing \(a\) are both equal to \(\mu_s\). Note that the politician has to be correct to gain a positive reputation because a high-ability politician never makes mistakes. By choosing \(a\) rather than \(b\), the politician gains

\[
\text{(quality gain)} = 2\mu_s - 1
\] (1)
in decision quality but forgoes the reputation loss,

\[(\text{reputation loss}) \quad \theta \left[ (1 - \mu_s)\tau(b, B) - \mu_s \tau(a, A) \right]. \quad (2)\]

I call them “quality gain” and “reputation loss” herein even if they are less than zero.

A fixed-point problem emerges as to pin down the payoffs and behavior of the politician. The politician optimally choose \(a\) if the quality gain is larger than the reputation loss, and vice versa; but reversely, the reputation depends on her behavior. Hence, both the politician’s behavior and the payoffs are determined only in equilibrium.

First, I show that if the experiment is informative (i.e., \(\mu_{\tilde{a}} > \mu_{\tilde{b}}\)), the politician obeys at least one recommendation either by choosing only \(a\) after \(\tilde{a}\) or by choosing only \(b\) after \(\tilde{b}\). Note that the quality gain after \(s \in \{\tilde{a}, \tilde{b}\}\) must equal the reputation loss if the politician optimally randomizes her action after \(s\). Because the quality gain increases in \(\mu_s\), the reputation loss decreases in \(\mu_s\), and \(\mu_{\tilde{a}} > \mu_{\tilde{b}}\), the quality gain cannot equal the reputation loss after both \(\tilde{a}\) and \(\tilde{b}\). Moreover, it is unlikely that the politician optimally chooses only \(b\) after \(\tilde{a}\) but chooses only \(a\) after \(\tilde{b}\). The proof is completed.

Then, consider that the politician obeys recommendation \(\tilde{b}\), and denote the probability of choosing \(a\) after \(\tilde{a}\) as \(p \in [0, 1]\). According to Bayes’ rule,

\[
\tau(a, A) = \frac{\tau}{\tau + (1 - \tau)\pi(\tilde{a}|A)p}, \quad \tau(b, B) = \frac{\tau}{\tau + (1 - \tau)[\pi(\tilde{a}|B)(1 - p) + \pi(\tilde{b}|B)]}. \quad (3)
\]

There are three possibilities about the politician’s behavior. If the quality gain after \(\tilde{a}\) is smaller than the reputation loss with \(p = 0\), this corner solution solves the fixed-point problem. Similarly, \(p = 1\) solves the problem, if, given the strategy, the quality gain after \(\tilde{a}\) is larger than the reputation loss. In between, there exists some \(p \in (0, 1)\) such that the quality gain after \(\tilde{a}\) equals the reputation loss. This equality is expressed as

\[
2\mu_{\tilde{a}} - 1 = \theta \left[ (1 - \mu_{\tilde{a}})\tau(b, B) - \mu_{\tilde{a}} \tau(a, A) \right]. \quad (4)
\]

Similarly, the case in which the politician obeys recommendation \(\tilde{a}\) can be solved.
Equation 4 has a unique solution that belongs to \((-\tau/(1-\tau)\pi(\tilde{a}|A), 1/(1-\tau)\pi(\tilde{a}|B))\).

Let \(p^*\) be the solution if it is between 0 and 1, or let \(p^*\) be 0 if the solution is smaller than 0 and be 1 if the solution is greater than 1. If the politician randomizes her action after \(\tilde{b}\), \(p^*\) is defined in the same manner, but the posterior about the state and the reputations in Equation 4 need changing accordingly.

The next lemma summarizes the optimal response of politicians with different ability. It is without loss of generality to assume that the politician’s behavior is also captured by the lemma when the experiment is uninformative (i.e., if \(\tilde{\mu}_a = \tilde{\mu}_b\)).

**Lemma 1.** The high-ability politician chooses the correct action. The low-ability politician

1. chooses \(a\) with probability \(p^*\) after \(\tilde{a}\), and chooses only \(b\) after \(\tilde{b}\); or,

2. chooses \(a\) with probability \(p^*\) after \(\tilde{b}\), and chooses only \(a\) after \(\tilde{a}\).

In particular, for \(s = \tilde{a}\) in the first case and \(s = \tilde{b}\) in the second case, \(p^*\) decreases in \(\theta\) if \(\mu_s \in (\frac{1}{2}, 1)\) and increases in \(\theta\) if \(\mu_s \in (0, \frac{1}{2})\).

Intuitively, once the politician has a stronger intensity of career concerns (i.e., a higher \(\theta\)), the absolute value of the reputation loss will increase. Given Equation 4, the reputation loss is positive if \(\mu_s > 1/2\) and negative if \(\mu_s < 1/2\). To avoid a larger loss or to gain a larger benefit (when the reputation loss is negative), the politician tends to disobey the lobbyist’s recommendation, although it is inefficient in utilizing available information.

### 3.2 The equilibrium experiment

Now, consider that the lobbyist is free to design any experiment for his interests. Will the politician randomize her action in any equilibrium? In the following, I first show that the answer is no (Lemma 2), and then, characterize the lobbyist’s equilibrium experiment (Proposition 1).

Suppose that the politician optimally randomizes her action after \(\tilde{a}\) given an experiment, \(\pi_0\), and the public’s beliefs about the strategies are correct, as \(\pi_0' = \pi_0\) and
Let \( p \in (0, 1) \) denote the probability of choosing \( a \) after \( \bar{a} \), and let \( \mu_{\bar{a}}^0 \) be the posterior about the state. The optimality requires that the quality gain after \( \bar{a} \) is equal to the reputation loss:

\[
2\mu_{\bar{a}}^0 - 1 = \theta \left[ (1 - \mu_{\bar{a}}^0) \tau(b, B, \beta', \pi_0') - \mu_{\bar{a}}^0 \tau(a, A, \beta'_0, \pi_0') \right].
\]  

Figure 2: The politician chooses only \( a \) after \( \bar{a} \) if the lobbyist deviates from \( \pi_0 \) to \( \pi_1 \). It can bring a strictly positive benefit to the lobbyist.

Then, consider another experiment, \( \pi_1 \), which induces a higher posterior after \( \bar{a} \) and tells the true state with \( \bar{b} \), i.e., \( \mu_{\bar{a}}^1 > \mu_{\bar{a}}^0 \) and \( \mu_{\bar{b}}^1 = 0 \leq \mu_{\bar{b}}^0 \). Note that the public does not observe the experiment. If the lobbyist deviates from \( \pi_0 \) to \( \pi_1 \), the reputation for each action is constant because the public’s beliefs do not change. This more informative experiment yet tilts the balance in Equation 5 towards the quality gain. Formally,

\[
2\mu_{\bar{a}}^1 - 1 > \theta \left[ (1 - \mu_{\bar{a}}^1) \tau(b, B, \beta'_0, \pi_1') - \mu_{\bar{a}}^1 \tau(a, A, \beta'_0, \pi_1') \right]
\]

in which \( \beta' \) and \( \pi' \) are inconsistent with the actual strategies. Hence, the politician optimally chooses only \( a \) after \( \bar{a} \) (Figure 2). The deviation to \( \pi_1 \) changes the lobbyist’s payoff by

\[
\Delta(\mu_{\bar{a}}^1, \mu_{\bar{a}}^0) := \frac{\mu_0}{\mu_{\bar{a}}^1} - p \frac{\mu_0 - \mu_0^0}{\mu_{\bar{a}}^1 - \mu_{\bar{b}}^0}.
\]

Because \( \lim_{\mu_{\bar{a}}^1 \to \mu_{\bar{a}}^0} \Delta(\mu_{\bar{a}}^1, \mu_{\bar{a}}^0) > 0 \), we can construct \( \pi_1 \) as a profitable deviation for the lobbyist. The construction is symmetric if the politician randomizes her action after \( \bar{b} \) given \( \pi_0 \). Consequently, the experiment \( \pi_0 \), which leads to the randomized action after \( \bar{a} \), cannot be an equilibrium experiment.

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\(^3\)The change of payoff is defined as \( \mu_0 / \mu_{\bar{a}}^1 - p \) if \( \mu_{\bar{a}}^0 = \mu_0 = \mu_{\bar{b}}^0 \).
On the other hand, because $\mu_0 \in (0, \frac{1}{2})$, the lobbyist cannot persuade the politician to choose only $a$ after both $\tilde{a}$ and $\tilde{b}$. In summary, we have the following result about the equilibrium experiment.

**Lemma 2.** The lobbyist must design an experiment such that the low-ability politician obeys both recommendations in equilibrium: the low-ability politician chooses only $a$ after $\tilde{a}$ and chooses only $b$ after $\tilde{b}$.

Let $\pi^*$ be an equilibrium experiment with which the politician is obedient. To increase the probability of recommending action $a$, the lobbyist lets the politician know from $\tilde{b}$ that the true state is $B$, i.e., $\pi(\tilde{a}|A) = 1$ and $\mu_0 = 0$. In addition, the politician must be indifferent between $a$ and $b$ conditional on $\tilde{a}$. Otherwise, by decreasing $\mu_0$, the lobbyist can increase the probability of recommending action $a$ without affecting the politician’s obedience. We can write down the equations that give the posterior about the state conditional on $\tilde{a}$, denoted by $\mu^*$:

$$
\mu^* = \frac{\mu_0}{\mu_0 + (1 - \mu_0)\pi^*(\tilde{a}|B)}
$$

(8)

$$
2\mu^* - 1 = \theta \left[ (1 - \mu^*) \cdot \frac{\tau}{\tau + (1 - \tau)\pi^*(\tilde{b}|B)} - \mu^* \tau \right].
$$

(9)

These equations have a unique solution, and the equilibrium experiment $\pi^*$ is also uniquely determined.

**Proposition 1.** The lobbyist designs $\pi^*$ in equilibrium, which induces two possible posteriors about the state, $P(A|\tilde{a}) = \mu^* \in (1/2, 1)$ and $P(A|\tilde{b}) = 0$.

Intuitively, compared with the high-ability politician, the low-ability politician is susceptible to persuasion and chooses $a$ more frequently. From the public’s perspective, the politician is more likely to be low-ability when she chooses $a$. Hence, the low-ability politician tends to disobey recommendation $\tilde{a}$ to reduce such a reputational disadvantage. The lobbyist in turn has to provide more information to achieve the politician’s obedience.
This feature explains why $\mu^*$ has to be greater than $1/2$ to make the low-ability politician indifferent between $a$ and $b$. It also suggests that the equilibrium experiment should increase in the Blackwell order (Blackwell, 1951, 1953) if the politician’s cares more about her reputation. Meanwhile, the public’s welfare also increases as the obedient politician receives more information.

**Proposition 2.** An increase in $\theta$ increases the equilibrium experiment $\pi^*$ in the Blackwell order, and thus, improves the public’s welfare.

Fundamentally, it is the politician’s incentive to disobey that requires the lobbyist to provide more information in the lobbying process. **Proposition 1** and **Proposition 2** together demonstrate that when the lobbying protocol reveals the lobbyist’s intent, the politician’s career concerns incentivize her to disobey the recommendation, and thus, discipline the lobbyist.

### 4 (Non)transparency of The Lobbyist’s Intent

This section studies how the nontransparency of the lobbyist’s intent affects information provision in lobbying and compares it within the transparent case. Suppose *ex ante* the lobbyist prefers $a$ with probability $\gamma \in (0, 1)$ and prefers $b$ with probability $1 - \gamma$, independently of the state. I call them “lobbyist A” and “lobbyist B.” The preference is the lobbyist’s private information, but its distribution is publicly known.

The nontransparency of the lobbyist’s intent does not bother the politician, since she observes the experiment. However, if the lobbyist’s preference is not revealed, it cannot be used by the public for updating the politician’s perceived ability. Hence, the reputation for an action does not change with the lobbyist’s actual preference.

This feature has impacts on the provision of information. If in equilibrium, the quality gain after $\tilde{a}$ merely equals the reputation loss conditional on lobbyist A’s experiment (*Equation 9*), the quality gain after $\tilde{a}$ must be strictly smaller than the reputation loss conditional on no information disclosure. Therefore, an uninformative experiment will enable lobbyist B to persuade the politician to choose only $b$. In the same manner,
if lobbyist B’s experiment makes the quality gain after $\tilde{b}$ just equal to the reputation loss, lobbyist A optimally designs an uninformative experiment.

Denote the equilibrium experiments of lobbyist A and lobbyist B as $\pi^*_A$ and $\pi^*_B$, respectively. We know that at least one of them is uninformative (i.e., $\pi^*_A(\tilde{a}|A) = \pi^*_B(\tilde{b}|B) = 1$, or $\pi^*_A(\tilde{a}|A) = \pi^*_B(\tilde{b}|B) = 1$) from the above discussion. This result combined with the obedience result (Lemma 2) implies that the politician with $\pi^*_A$ must choose only $a$ after $\tilde{a}$, and the politician with $\pi^*_B$ must choose only $b$ after $\tilde{b}$. Moreover, it is optimal for lobbyist A to set $\pi^*_A(\tilde{a}|A) = 1$ and for lobbyist B to set $\pi^*_B(\tilde{b}|B) = 1$. The reputation for each action becomes:

$$
\tau(a, A) = \frac{\tau}{\tau + (1 - \tau)[\gamma + (1 - \gamma)\pi^*_B(\tilde{b}|A)]}, \quad \tau(b, B) = \frac{\tau}{\tau + (1 - \tau)[\gamma \pi^*_A(\tilde{a}|B) + 1 - \gamma]}.
$$

The next proposition characterizes the possible status of information provision in equilibrium.

**Proposition 3.** Suppose that the lobbying protocol does not reveal the lobbyist’s preference.

1. The experiment $\pi^*_A$ is informative but $\pi^*_B$ is uninformative, if $(\ast)$ is strict.

2. The experiment $\pi^*_B$ is informative but $\pi^*_A$ is uninformative, if $(\ast)$ is violated.

3. Both $\pi^*_A$ and $\pi^*_B$ are uninformative if $(\ast)$ is binding.

$$
2\mu_0 - 1 \leq \theta \left( (1 - \mu_0) \cdot \frac{\tau}{\tau + (1 - \tau)(1 - \gamma)} - \mu_0 \cdot \frac{\tau}{\tau + (1 - \tau)\gamma} \right). \quad \text{(\ast)}
$$

Intuitively, $(\ast)$ compares the quality gain and the reputation loss when lobbyist A and lobbyist B do not disclose any information, and the public believes that the politician facing lobbyist A chooses only $a$ and that the politician facing lobbyist B chooses only $b$. If $(\ast)$ is binding, the quality gain equals the reputation loss. The lobbyist attains full persuasion because the politician will not deviate unilaterally. In contrast, if $(\ast)$ is strict, the quality gain is smaller than the reputation loss. The politician facing lobbyist A can profitably deviate to choosing $b$. Therefore, lobbyist A has to provide some information to persuade the politician to take $a$, which indicates that $\pi^*_A$ is informative.
To facilitate the comparison between the baseline model and the model with preference uncertainty, I use as an example the case when $(\ast)$ is strict. In equilibrium, lobbyist A provides information but lobbyist B adopts the uninformative experiment. Other cases follow the same logic and convey the same economic message.

First, suppose that lobbyist A sticks to the equilibrium experiment $\pi^*$ (Proposition 1) as if the lobbyist’s preference were revealed. The reputation loss is smaller in the non-transparent case because the public is unsure which action is truly lobbyist-preferred:

$$\theta \left[ \frac{(1 - \mu^*)\tau}{\tau + (1 - \tau)[\gamma\pi^*(\tilde{b}|B) + 1 - \gamma]} - \frac{\mu^*\tau}{\tau + (1 - \tau)\gamma} \right] < \theta \left[ \frac{(1 - \mu^*)\tau}{\tau + (1 - \tau)\pi^*(\tilde{b}|B)} - \mu^*\tau \right].$$

Hence, in the nontransparent case, lobbyist A can design an experiment less informative than $\pi^*$ to make the politician obedient.

Let $\mu_A^{**}$ denote the posterior induced from $\tilde{a}$ and $\pi_A^{**}$, similar with Equation 8. Lobbyist A’s experiment makes the politician just indifferent between $a$ and $b$ after $\tilde{a}$:

$$2\mu_A^{**} - 1 = \theta \left[ (1 - \mu_A^{**}) \cdot \frac{\tau}{\tau + (1 - \tau)[\gamma\pi_A^{**}(\tilde{b}|B) + 1 - \gamma]} - \mu_A^{**} \cdot \frac{\tau}{\tau + (1 - \tau)\gamma} \right].$$

In particular, $\mu_A^{**} < \mu^*$, which suggests that $\pi_A^{**}$ is less informative than $\pi^*$ according to the Blackwell order.

Consider some $\gamma$ such that for any $\theta > 0$, $(\ast)$ is strict, and $\mu_A^{**} < 1/2$. That is, the politician chooses $a$ even if the posterior $\mu_A^{**}$ suggests that action $b$ is more likely to be correct. In this case, if $\theta$ increases, $\mu_A^{**}$ has to be even smaller to sustain Equation 12. This case shows that career concerns can encourage the politician to excessively obey the lobbyist’s recommendation if the lobbyist’s preference is not revealed. The disciplining effect of career concerns also disappears: instead of inducing more information, career concerns switch to incentivizing the lobbyist to withhold information.

Let $\pi_A^*$ and $\pi_B^*$ denote the equilibrium experiments when the lobbyist’s preference is revealed. Recall that $\pi_A^{**}$ and $\pi_B^{**}$ are the equilibrium experiments when the preference is concealed. The following proposition does the comparison. In particular, the public’s welfare may decrease in career concerns, which significantly differs from the
Proposition 4. The nontransparency of the lobbyist’s intent, compared with the transparent case (Proposition 2), results in less information provision and worse welfare of the public: $\pi_A^{**} \leq \pi_A^*, \pi_B^{**} \leq \pi_B^*$ in the Blackwell order, and at least one of the inequalities is strict. Moreover, if $\gamma \in ((\mu_0 - \tau + \tau\mu_0)/(1 - \tau), 1 - \mu_0)$, an increase in $\theta$ decreases $\pi_A^{**}$ in the Blackwell order while keeping $\pi_B^{**}$ constant, and thus, undermines the public’s welfare.

The intuition behind the proposition is as follows. When the lobbyist’s preference is concealed, the public only has imperfect information about the lobbyist-preferred action. Career concerns are less effective in incentivizing the politician to disobey and may even incentivize the politician to obey excessively. Hence, the nontransparency of the lobbyist’s intent diminishes information provision as it diminishes the politician’s incentive to disobey. It may also transform the politician’s career concerns into a hurdle that discourages information provision.

Endogenous information provision is crucial for Proposition 4. If the information available to the politician is exogenously fixed, the politician’s incentive to disobey only leads to inefficient use of the information. Reducing the transparency of the lobbyist’s intent may therefore be beneficial. An example of this case follows. Note that in this example, lobbyist B provides no information, and the politician facing lobbyist B chooses only $b$, even if the lobbyist’s preference is revealed.

Example 1. The politician only cares about her reputation, i.e., $\theta = +\infty$. The priors are $\mu_0 = \frac{1}{3}$, $\tau = \frac{1}{2}$, and $\gamma = \frac{8}{9}$. The experiment that lobbyist A uses is fixed as $\pi(\hat{a}|A) = 1$, $\pi(\hat{b}|B) = \frac{4}{7}$.

For the example, the posterior about the state is $7/13$ conditional on $\hat{a}$ and the experiment. We can find from Equation 12 that the politician facing lobbyist A chooses only $a$ after $\hat{a}$. This strategy is efficient in utilizing information because $7/13 > 1/2$.

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Note that $\mu_0 - \tau + \tau\mu_0 < (1 - \tau)(1 - \mu_0)$.

One can find that the politician always chooses $b$ if lobbyist A chooses no information disclosure over the fixed experiment $\pi$.

When $\theta = +\infty$, Equation 12 is written as $(1 - \mu_A^*)/[(\tau + (1 - \tau)(\gamma\pi_A^*(\hat{b}|B) + 1 - \gamma))] = \mu_A^*/[(\tau + (1 - \tau)\gamma)]$. Equation 4 extends to the case of $\theta = +\infty$ in a similar way.
However, if the public observes the preference of lobbyist A, from Equation 4, the politician chooses \( a \) only with probability \( \frac{8}{9} \) after \( \tilde{a} \), which causes welfare loss.

5 The Spillover Effect of Lobbying Protocol

This section explores the spillover effect of lobbying protocol. Specifically, I investigate how the transparency of the lobbyist’s intent influences the effect of the transparency of decision consequences.

Suppose that the lobbyist prefers action \( a \), and this preference is revealed. Let \( \hat{\pi}^* \) denote the experiment used by the lobbyist in equilibrium, when the consequence is concealed, and let \( \hat{\mu}^* \) be the posterior about the state conditional on \( \tilde{a} \) and \( \hat{\pi}^* \), similar with Equation 8. As we know from Lemma 2, the equilibrium experiment makes the politician obedient to the recommendations. Moreover, the politician is just indifferent between \( a \) and \( b \) after \( \tilde{a} \) and knows that the true state is \( B \) after \( b \) (i.e., \( \hat{\pi}^*(\tilde{a} | A) = 1 \)).

If the decision consequence is nontransparent, the politician’s reputation for each action becomes

\[
\tau(a) = \frac{\tau \mu_0}{\tau \mu_0 + (1 - \tau)[\mu_0 + (1 - \mu_0)\hat{\pi}^*(\tilde{a} | B)]}, \quad \tau(b) = \frac{\tau(1 - \mu_0)}{\tau(1 - \mu_0) + (1 - \tau)(1 - \mu_0)\hat{\pi}^*(b | B)}.
\]

(13)

Note that the state is omitted in the reputation because of the nontransparency. The experiment \( \hat{\pi}^* \) and the posterior \( \hat{\mu}^* \) are determined by the Bayesian updating formula for \( \hat{\mu}^* \) and the following equation,

\[
2\hat{\mu}^* - 1 = \theta \left[ \frac{\tau}{\tau + (1 - \tau)\hat{\pi}^*(b | B)} - \frac{\tau}{\tau + (1 - \tau)/\hat{\mu}^*} \right].
\]

(14)

Consider the comparison between disclosing and concealing the consequence. Intuitively, if the consequence is kept secret, the politician does not need to be correct to gain a positive reputation. In contrast, the politician, who takes a wrong action, loses all reputation if the consequence is revealed. Such a risk is particularly higher for the disobedient politician because she does not fully utilize available information. Hence,
the reputation loss (gain) from obeying (disobeying) the lobbyist’s recommendation is smaller if the consequence is made transparent:

\[
\theta \left[ (1 - \hat{\mu}^*) \cdot \frac{\tau}{\tau + (1 - \tau)\hat{\pi}^*(\tilde{b}|B)} - \hat{\mu}^* \right] - \theta \left[ \frac{\tau}{\tau + (1 - \tau)\hat{\pi}^*(\tilde{b}|B)} - \frac{\tau}{\tau + (1 - \tau)/\hat{\mu}^*} \right] \\
\leq \theta \left[ \hat{\mu}^* \cdot \frac{\tau}{\tau + (1 - \tau)\hat{\pi}^*(\tilde{b}|B)} - (1 - \hat{\mu}^*)\tau \right] - \theta \left[ \frac{\tau}{\tau + (1 - \tau)\hat{\pi}^*(\tilde{b}|B)} - \frac{\tau}{\tau + (1 - \tau)/\hat{\mu}^*} \right] \\
< 0 \text{ for } \hat{\mu}^* > 1/2.
\]

The comparison shows that the transparency of decision consequences reduces the politician’s incentive to disobey. In turn, it induces the lobbyist to provide less information.

Recall that the equilibrium experiment is denoted by \(\pi^*\) in the baseline model. The next proposition essentially compares \(\hat{\pi}^*\) with \(\pi^*\).

**Proposition 5.** Suppose that the lobbyist’s preference is revealed. The transparency of decision consequences, compared with the nontransparent case, reduces information provision and undermines the public’s welfare: \(\pi^* < \hat{\pi}^*\) in the Blackwell order.

However, the proposition may fail to hold if the lobbyist’s preference is not publicly known. As can be seen in Proposition 4, in such a case, career concerns may incentivize the politician to choose the lobbyist-preferred action even if the posterior about the state instead favors the other action. To contain the politician’s incentive to obey excessively, it may be better to impose the transparency of decision consequences.

In the following, let us introduce the same uncertainty about the lobbyist’s preference within Section 4. Assume that

\[
2\mu_0 - 1 < \theta \left[ \frac{\tau(1 - \mu_0)}{\tau(1 - \mu_0) + (1 - \tau)} - 1 \right]. \tag{**}
\]

This assumption ensures that for any \(\gamma \in (0, 1)\), it is lobbyist A who provides information in equilibrium, and lobbyist B just designs an uninformative experiment. It allows us to examine the transparency of the consequences through lobbyist A’s experiments.

Denote the equilibrium experiment of lobbyist A and lobbyist B with \(\hat{\pi}^{\ast\ast}_A\) and \(\hat{\pi}^{\ast\ast}_B\)
when the decision consequence and the lobbyist’s intent are both nontransparent. Recall that the equilibrium experiments are otherwise \( \pi_A^{**} \) and \( \pi_B^{**} \) if the decision consequence is transparent. The following proposition is a counterpart to Proposition 5.

**Proposition 6.** Suppose that the lobbyist’s preference is concealed. There exists \( \gamma > 0 \) such that if \( \gamma \in (0, \gamma_c) \), the transparency of decision consequences, compared with the nontransparent case, increases information provision and improves the public’s welfare: \( \pi_A^{**} > \hat{\pi}_A^{**} \) in the Blackwell order while \( \pi_B^{**} = \hat{\pi}_B^{**} \).

Proposition 5 and Proposition 6 together highlight the conflict between the transparency of the lobbyist’s intent and the transparency of decision consequences. The transparency of the lobbyist’s intent crowds out potential positive effect of the transparency of the consequences, as the transparency of the consequences can be beneficial only when the lobbyist’s preference is not revealed. The results caution us on the negative spillover effect of the lobbying protocol that requires public knowledge of the lobbyist’s preference.

The results also caution us against adopting the transparency of decision consequences in case the lobbyist’s intent is naturally transparent. From Proposition 4, 5, and 6, we can conclude that the public’s welfare is maximized by revealing the lobbyist’s preference but keeping secret the decision consequence.

### 6 Discussion

This section discusses two model assumptions in the paper.

**Nonlinear Payoff from Reputation.** The baseline model assumes that the politician’s reputation payoff is linear in the reputation. All the results in the paper, however, accommodate nonlinear reputation payoffs. Formally, assume that the politician’s reputation payoff is given by \( \theta f(\tau) \) where \( f(\tau) : [0, 1] \rightarrow [0, 1] \) is strictly monotone with \( f(0) = 0, f(1) = 1 \). In equilibrium, the reputation loss still decreases in the posterior about the state as we take \( \pi(\hat{\theta}|B) \) as a function of the posterior (see Equation 9, Equation 12, and Equation 14). Hence, if the reputation loss somehow becomes larger, the
posterior must increase accordingly to balance the quality gain against the reputation loss, and then, the experiment becomes more informative. In other words, the lobbyist provides more information to make the politician obedient if the politician’s incentive to disobey the recommendation is stronger. This intuition is precisely the fundamental logic that underpins all the results.

**General Recommendation Space.** The assumption of a binary recommendation space is also without loss of generality. Suppose that the experiment can admit any (finite) set of signals as the recommendations. In equilibrium, we can order the recommendations according to the posterior each induces about the state and further classify them as follows: the maximal recommendation after which the politician chooses only \( a \) and is just indifferent between the two actions, and the other recommendations which induce the politician to choose only \( b \). Garbling the second part of recommendations into a single recommendation does not affect the equilibrium outcome but results in an experiment that only sends binary recommendations.

7 Conclusion

In this paper, I show that the transparency of the lobbyist’s intent can enhance information provision by giving the politician a stronger incentive to disobey the lobbyist’s recommendation. The transparency determines whether career concerns incentivize the politician to disobey and discipline the lobbyist to provide more information. My findings help understand the rise of transparent lobby registers in reality and emphasize a new type of transparency that is often neglected in practice.

I also point out a novel conflict that the transparency of the lobbyist’s intent crowds out potential positive effects of the transparency of decision consequences. In fact, the optimal transparency design is to reveal the lobbyist’s preference but to conceal the politician’s decision consequences. The transparency of the consequences is helpful only if the lobbyist’s preference is hard to verify and disclose.

I conclude by clarifying the difference between the transparency of the lobbyist’s
intent and some other kinds of transparency of lobbyists. First, Proposition 3 shows that lobbyists with different preferences may pool together on the same experiment. Hence, the transparency of the intent is different from the transparency of the lobbyist’s action (i.e., the experiment designed).

More importantly, is it sufficient to infer the lobbyist’s preference from his contact with politicians? The answer hinges on whether the lobbyist’s contact depends on his preference. Let us consider a repeated game in which a lobbyist has different policy objectives across stages. At each stage, the lobbyist first decides whether to engage in lobbying, and if he engages, he will contact the most related politician and design an experiment to disclose policy-relevant information. The transparency of lobbying contacts allows the public to observe whether a politician is lobbied by the lobbyist.

Proposition 4 implies that the lobbyist can gain a benefit from concealing the preference. Hence, the lobbyist can be optimal to engage in lobbying at every stage even if he incurs exogenous cost for lobbying, and even if the politician already agrees with him. Indeed, repeated interactions between lobbyists and legislators are common in reality (Groll and McKinley, 2015; Groll and Ellis, 2017). The lobbyist’s contact will not signal his preference in such situations.

Therefore, the transparency of lobbying contacts, as most lobby registers are confined to, can fail to reveal the lobbyist’s preference. It is the transparency of the intent that can fill the gap and further enhance information provision.

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A  Proofs

A.1  Proof of Lemma 1

We already know that the politician obeys at least one recommendation if \( \bar{a} \neq \bar{b} \).
Consider the case in which the politician obeys recommendation \( \bar{b} \) but does not obey recommendation \( \bar{a} \). The argument for the other case is similar to the following.

Define the reputation loss as a function of \( \mu, \theta \):

\[
H(p, \theta) = \theta \left[ (1 - \mu) \cdot \frac{\tau}{\tau + (1 - \tau)(1 - \pi(\bar{a}|B)p)} - \mu \cdot \frac{\tau}{\tau + (1 - \tau)\pi(\bar{a}|A)p} \right],
\]

where \( \mu, \pi(\bar{a}|A), \pi(\bar{a}|B) \) are taken as parameters. Equation 4 is equivalent to:

\[
2\mu - 1 = H(p, \theta). \tag{16}
\]

Note that \( H(p, \theta) \) increases in \( p \), \( \lim_{p \to \underline{p}} H(p, \theta) = -\infty \), and \( \lim_{p \to \overline{p}} H(p, \theta) = +\infty \), where \( \underline{p} = -\tau/(1 - \tau)\pi(\bar{a}|A), \overline{p} = 1/(1 - \tau)\pi(\bar{a}|B) \). There must exist a unique solution \( p' \) to Equation 16 in \( (\underline{p}, \overline{p}) \). If \( p' \in [0, 1] \), it of course represents the politician’s optimal response to \( \bar{a} \). If \( p' > 1 \), \( H(1, \theta) \) is strictly smaller than \( 2\mu - 1 \). The reputation loss is still smaller than the quality gain even if the politician chooses only \( a \) after \( \bar{a} \). Hence, choosing \( a \) with certainty after \( \bar{a} \) is optimal for the politician. If \( p' < 0 \), similarly, it is optimal for the politician to choose \( b \) with certainty after \( \bar{a} \). As a result, \( p^* \) defined after Equation 4 describes how likely the low-ability politician chooses \( a \) after \( \bar{a} \) in equilibrium.

On the other hand, \( H(p, \theta) \) increases in \( \theta \) if the value of the function is positive, and vice versa. The implicit function \( p^*(\theta) \) defined by Equation 16 suggests that for \( \theta' > \theta \),

\[
H(p^*(\theta), \theta', \mu) > H(p^*(\theta), \theta, \mu) \text{ if } \mu > 1/2, H(p^*(\theta), \theta', \mu) < H(p^*(\theta), \theta, \mu) \text{ if } \mu < 1/2.
\]

Hence, if \( \theta \) increases, \( p^* \) decreases or increases correspondingly to retain Equation 16.
A.2 Proof of Lemma 2

For any experiment $\pi$ which induces two possible posteriors $\mu_\alpha$ and $\mu_\beta$, $t = \frac{\mu_0 - \mu_\beta}{\mu_\alpha - \mu_\beta} \in [0, 1]$ solves

$$t \mu_\alpha + (1 - t) \mu_\beta = \mu_0$$

if $\mu_\alpha \neq \mu_\beta$. Let $t = 1$ if $\mu_\alpha = \mu_\beta$. This probability captures how likely the politician is recommended $\tilde{a}$ given the experiment. The lobbyist gains a payoff of $tp$ if the politician chooses $a$ only after $\tilde{a}$ with probability $p \in [0, 1]$. Then, we can derive the change of payoffs from $\pi_0$ to $\pi_1$ as Equation 7. We have $\lim_{\mu_\alpha \rightarrow \mu_0} \Delta(\mu_\alpha, \mu_0) > 0$ because $\mu_0/\mu_\alpha \geq (\mu_0 - \mu_\beta)/(\mu_\alpha - \mu_\beta)$ and $\mu_0/\mu_\alpha > p(\mu_0 - \mu_\beta)/(\mu_\alpha - \mu_\beta)$ for $p \in (0, 1)$. Because the lobbyist has profitable deviations if the politician randomizes her action after some recommendation, the lobbyist’s experiment must make the politician obedient in equilibrium.

A.3 Proof of Proposition 1

Here, I show that there exists a unique solution to Equation 8 and Equation 9. Substituting $\mu^*$ with Equation 8, the right-hand side of Equation 9 (the reputation loss) can be taken as a decreasing function of $\pi(\tilde{b}|B)$, but the left-hand side (the quality gain) increases in $\pi(\tilde{b}|B)$. The quality gain minus the reputation loss equals $2\mu_0 - 1 - \theta(1 - \mu_0 - \mu_0\tau) < 0$ when $\pi(\tilde{b}|B) = 0$, and it equals $1 + \theta\tau > 0$ when $\pi(\tilde{b}|B) = 1$. From continuity and monotonicity, we know that there exists a unique $\pi^*(\tilde{b}|B)$ that solves Equation 9. Since $\tau/[\tau + (1 - \tau)\pi^*(\tilde{b}|B)] > \tau$, $\mu^*$ must be larger than $1/2$ to validate Equation 9.

A.4 Proof of Proposition 2

Substituting $\pi(\tilde{b}|B)$ as a function of $\mu$ according to Equation 8, the implicit function $\mu^*(\theta)$ defined by Equation 9 is monotone. Given the common prior $\mu_0$, a distribution of posteriors on $\mu_1^*$ and 0 strictly dominates another distribution on $\mu_2^*$ and 0 in the Blackwell order if and only if $\mu_1^* > \mu_2^*$. Therefore, an increase in $\theta$ increases $\pi^*$ in the
Blackwell order. The public’s welfare also improves as the obedient politician has more information.

A.5 Proof of Proposition 3

Let \( D(\mu, \theta) = \)

\[
2\mu - 1 - \theta \left[ \frac{(1 - \mu)\tau}{\tau + (1 - \tau)[\gamma \pi_A^{**}(\tilde{b}|B) + 1 - \gamma]} - \frac{\mu \tau}{\tau + (1 - \tau)[\gamma + (1 - \gamma)\pi_B^{**}(\tilde{a}|A)]} \right].
\]

For the first part of the proposition, we can take \( \pi_B^{**}(\tilde{a}|A) = 0 \) and substitute \( \pi_A^{**}(\tilde{b}|B) \) with \( 1 - \mu_0(1 - \mu)/(1 - \mu_0)\mu \). It suffices to show that there exists a solution to the equation \( D(\mu, \theta) = 0 \) with \( \mu > \mu_0 \). Note that \( D(1, \theta) = 1 + \theta \tau / [\tau + (1 - \tau)\gamma] > 0 \), and \( D(\cdot) \) is monotone in \( \mu \). Hence, the equation \( D(\mu, \theta) = 0 \) has a solution of \( \mu \) greater than \( \mu_0 \) if and only if \( D(\mu_0, \theta) < 0 \), which is equivalent to a strict (\( * \)). The solution is unique if it exists. Other parts of the proposition can be proved in the same manner.

A.6 Proof of Proposition 4

I still use \( D(\cdot) \) defined in last proof and focus on the case in which lobbyist A provides information, i.e., when (\( * \)) is strict. Then, \( D(\mu_A^{**}, \theta) = 0, \pi_A^{**}(\tilde{a}|A) = 0, \) and \( \pi_A^{**}(\tilde{b}|B) = 1 - \mu_0(1 - \mu_A^{**})/(1 - \mu_0)\mu_A^{**} \).

Because the right-hand side of Inequality 11 equals \( 2\mu^{*} - 1 \) as described in Equation 9, the inequality implies that \( D(\mu^{*}, \theta) > 0 \) and \( \mu_A^{**} < \mu^{*} \) for any \( \gamma \in (0, 1) \). Hence, \( \pi_A^{**} < \pi^{*} \) in the Blackwell order. Lobbyist B obviously provides no more than he would provide in the transparent case because \( \pi_B^{**} \) is uninformative.

For the second part of the proposition, note that if \( \gamma < 1 - \mu_0 \),

\[
D(\frac{1}{2}, \theta) = -\frac{\theta}{2} \left[ \frac{\tau}{\tau + (1 - \tau)[1 - \frac{\mu_0}{1 - \mu_0} \gamma]} - \frac{\tau}{\tau + (1 - \tau)\gamma} \right] > 0.
\]

Furthermore, (\( * \)) is strict if \( \gamma > \mu_0 - \tau + \tau \mu_0/(1 - \tau) \). We know from Proposition 3 that the equation \( D(\mu_A^{**}, \theta) = 0 \) has a unique solution with \( \mu_A^{**} > \mu_0 \). More importantly, \( \mu_A^{**} < 1/2, \)

26
and $\mu_A^*(\theta)$ is decreasing on the implicit surface of $\left(\mu_A^*, \theta\right)$ defined by $D(\mu_A^*, \theta) = 0$. In turn, an increase in $\theta$ decreases $\pi_A^*$ in the Blackwell order and undermines the public’s welfare.

### A.7 Proof of Proposition 5

The existence of the equilibrium can be proved in a way that is similar to section A.3. Indeed, $\hat{\mu}^*$ has to be greater than $1/2$; otherwise, the left-hand side would be strictly smaller than the right-hand side in Equation 14. That the transparency of the consequences discourages information provision follows the argument shown in Section 5. Specifically, Equation 9, Equation 14, and Inequality 15 together imply that $\mu^* < \hat{\mu}^*$.

### A.8 Proof of Proposition 6

Following an argument similar to section A.5, one can show that under (**), lobbyist A provides information but lobbyist B discloses no information when the consequence is concealed. The same is true when the consequence is revealed, because (*) is strict under that assumption. Denote the posterior about the state induced from $\hat{\pi}^*$ and $\tilde{a}$ as $\hat{\mu}_A^*$. It suffices to show that sometimes $\hat{\mu}_A^* < \mu_A^*$ to prove the proposition.

Because both the consequences and the lobbyist’s preference cannot be used for updating the politician’s reputation, the reputation for each action becomes

$$
\tau(a) = \frac{\tau\mu_0}{\tau\mu_0 + (1 - \tau)\gamma[\mu_0 + (1 - \mu_0)\hat{\pi}_A^*(\tilde{a}|B)]'}
$$

$$
\tau(b) = \frac{\tau(1 - \mu_0)}{\tau(1 - \mu_0) + (1 - \tau)[\gamma(1 - \mu_0)\hat{\pi}_A^*(\tilde{b}|B) + 1 - \gamma]}.
$$

The experiment $\hat{\pi}_A^*$ makes the politician just indifferent between $a$ and $b$ conditional on $\tilde{a}$. That is, the quality gain after $\tilde{a}$ is equal to the reputation loss,

$$
2\hat{\mu}_A^* - 1 = \theta \left[ \frac{\tau}{\tau + (1 - \tau)\left(\gamma\hat{\pi}_A^*(\tilde{b}|B) + \frac{1 - \gamma}{1 - \mu_0}\right)} - \frac{\tau}{\tau + (1 - \tau)\hat{\mu}_A^*} \right].
$$
Note that in the equation, $\hat{\pi}^{**}(\tilde{b}|B) = 1 - (1 - \hat{\mu}^{**})\mu_0 / \hat{\mu}^{**}(1 - \mu_0)$. We have $\hat{\mu}^{**} < 1/2$ if $\gamma < 1/2$. On the other hand, when the decision consequence is revealed, $\mu_A^{**}$ satisfies Equation 12:

$$2\mu_A^{**} - 1 = \theta \left[ \frac{\tau(1 - \mu_A^{**})}{\tau + (1 - \tau)[\gamma \pi_A^{**}(\tilde{b}|B) + 1 - \gamma]} - \frac{\tau \mu_A^{**}}{\tau + (1 - \tau)\gamma} \right].$$

Let $R(\mu)$ be the difference between the reputation losses without and with the transparency of the consequences when the posteriors conditional on $\tilde{a}$ are the same as $\mu$. For any $\mu \in (\mu_0, 1/2)$,

$$R(\mu) \leq \theta \left[ \frac{\tau}{\tau + (1 - \tau)(1 - \gamma)} - \frac{\tau/2}{\tau + (1 - \tau)(1 - \gamma)} - \frac{\tau}{\tau + (1 - \tau)\gamma} + \frac{\tau/2}{\tau + (1 - \tau)\gamma} \right].$$

Hence,

$$\limsup_{\gamma \to 0^+} R(\mu) \leq -\frac{\theta(1 - \tau)(1 + \tau\mu_0)}{2(1 - \tau\mu_0)} < 0,$$

and there exists $\gamma \in (0, 1/2)$ such that $R(\hat{\mu}_A^{**}) < 0$ for $\gamma < \gamma'$. We know $\hat{\mu}_A^{**} < \mu_A^{**}$ in such a case by comparing Equation 12 and Equation 18.