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Friendly Lobbying under Time Pressure

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Abstract: *Lobbyists often target legislators who are aligned with them rather than opponents. The choice of whom to lobby affects both what information becomes available to legislators and how much influence special interest groups exert on policies. However, the conditions under which aligned legislators are targeted are not well understood. We investigate how the pressure to conclude policies quickly affects the strategic decision of whom to lobby. We derive conditions on the cost of delaying policies and on the distribution of legislators' preferences for lobbyists to prefer targeting allies. We show that the use of allied intermediaries has important implications for the duration of policymaking and the quality of policies. Counterintuitively, an increase in time pressure can increase the duration of policymaking and a longer duration does not always lead to better informed policies.*

A growing empirical literature documents that lobbyists often target legislators who already support their preferred policies.[1] One of the reasons lobbyists target these "friends" is that they can serve as intermediaries to persuade other legislators (Schnakenberg 2017; Awad 2020). Strategically sharing information with selected allies impacts both lobbyists' influence on policies and what information is available to legislators. The decision of whom to lobby can be a significant source of political influence and thus it is vital to better understand its determinants.

We focus on an underexplored determinant of lobbying strategies: the time pressure faced by legislators and lobbyists. When information on a policy is not immediately available, lobbyists need to incentivize legislators to wait for new information before voting. Lobbyists must therefore promise to provide sufficiently precise information in the future to persuade impatient legislators to delay the vote. We show that, as a consequence, time pressure restricts the set of intermediaries that lobbyists can rely on. When waiting is too costly, lobbyists no longer benefit from lobbying legislators privately but lobby publicly instead.

Delaying a vote to obtain more information is a common concern for policy makers. However, legislators often disagree on the value of waiting for that information. For example, when the decision to grant a permanent license to the ride-sharing operator Uber was delayed by two months, London Assembly Members had diverging views on whether this would generate valuable information. Although some supported the extension to obtain additional data from the company, the Chair of the Assembly's transport committee argued that the delays would not generate valuable information: "What will [Transport for London] learn in two more months that it didn't learn in the last 15 months?" (Mathewson 2019).

In this case, the assembly members expected the information from the company to eventually be publicly available. In other cases, individual legislators are able to delay a vote because they expect to receive information from lobbyists privately. When a vote on the Biden administration's $3.5tn spending bill was delayed by a

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[1] Ainsworth (1997), Kollman (1997), Hojnacki and Kimball (1998), Hojnacki and Kimball (1999), Baumgartner and Mahoney (2002), Hall and Miler (2008), Igan and Mishra (2014), and Miller (2022).

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group of moderate Democrats in September 2021, one of them suggested the bill was moving too fast and that more information was needed: "Instead of rushing to spend trillions on new government programs and additional stimulus funding, Congress should hit a strategic pause on the budget-reconciliation legislation. [...] We must allow for a complete reporting and analysis of the implications a multitrillion-dollar bill will have for this generation and the next" (Manchin 2021). The media was quick to note that the legislators pushing to delay the bill, which included a reform of the drug pricing legislation, were some of the main recipients of funding from the pharmaceutical industry. They had regular direct interactions with the industry's lobbyists who could provide necessary information (Sirota and Perez 2021).

Both legislators and lobbyists are often under pressure to act quickly. In the spending bill example, one Democrat Representative pointed out that "the urgency is important, [...] We want to have it happen as soon as possible" (Kroll 2021). Chalmers (2013) witnessed the same urgency among lobbyists in the European Union: "Lobbyists [...] explain that there is an important premium on providing timely information in the EU. Information that is too late loses all of its value." The importance of timing in lobbying has been recently highlighted in empirical studies of dynamic lobbying (Kim, Stuckatz, and Wolters 2020; You 2017, 2020). Yet, most theories of informational lobbying are either static or do not consider that delaying policies can impose costs on both legislators and lobbyists.

We propose a dynamic model of informational lobbying to address two main questions. First, how does time pressure affect lobbyists' choices of intermediaries and their preferences for private versus public lobbying? Second, how does the use of intermediaries affect the duration and quality of policymaking?

In the model, a legislature decides between two policies. A lobbyist, who prefers one of the two policies, chooses how long to look for information and selects a legislator with whom to privately share that information. Information becomes more precise over time but waiting imposes a cost on the lobbyist and legislators. Legislators continuously choose whether to vote on the policy or to wait longer. Upon observing the lobbyist's verifiable information, the targeted legislator can share an unverifiable policy recommendation (an *endorsement*) with other legislators, thus acting as an intermediary between the lobbyist and the legislature. Other legislators draw inferences based on the targeted intermediary's endorsement and the time it took to obtain information. They form beliefs about the benefits of either policy, decide whether to hold a vote, and for which policy to vote.

In equilibrium, a majority of legislators either votes to stop the process immediately or waits until the lobbyist provides information. The lobbyist chooses a length of investigation and an intermediary such that the median legislator is exactly indifferent between stopping the process immediately and waiting for the lobbyist's information. The lobbyist faces a trade-off between choosing a more friendly intermediary and waiting longer. An intermediary who is more friendly to the lobbyist is more likely to be persuaded by the lobbyist's information, but makes a less persuasive recommendation from the median's perspective. The median thus requires more precise information to wait, forcing the lobbyist to run a longer investigation. This trade-off determines the equilibrium duration and choice of intermediary.

Our first result is that an increase in time pressure always induces the lobbyist to select an intermediary who is more aligned with the median. A more aligned intermediary's endorsement is more valuable to the median and makes waiting more beneficial. As time pressure increases, the lobbyist needs to compensate the median for waiting by selecting an increasingly moderate intermediary.

Our second result is that, when time pressure becomes sufficiently high, the lobbyist no longer uses an intermediary. Inducing the median legislator to wait for an endorsement becomes too costly, so the lobbyist provides the information directly to her. This suggests that private lobbying should only happen on policies where time pressure is not too strong.

Our third result relates the duration of policymaking to the cost of waiting. As time pressure increases, one would expect policies to conclude faster. However, because the lobbyist needs to incentivize the median to wait, he needs to promise sufficiently precise information. As time pressure increases, the lobbyist can therefore be forced to run a longer investigation, leading to a longer policy process.

Finally, we analyze how the quality of policymaking depends on time pressure. Absent lobbying, greater time pressure would induce legislators to rush the process and generate less informed policies. In the presence of lobbying, waiting costs have an ambiguous effect on policy quality. Higher waiting costs force the lobbyist to choose a more moderate intermediary and thus generate more precise information for the median legislator. On the other hand, higher waiting costs can decrease the duration of the investigation and reduce the information's accuracy. We find that, for sufficiently small or sufficiently large waiting costs, time pressure increases the quality of policymaking.

Our model provides a framework to interpret empirical patterns of lobbying strategies and legislative

behavior. When legislators face significant time pressure, lobbyists are forced to target more moderate allies. This is consistent with evidence suggesting that targeting allied legislators is a less valuable lobbying strategy for highly salient policies (Baumgartner and Mahoney 2002) or policies that are subject to more constituency pressure (Hall and Miler 2008). Although legislators tend to act faster on more salient issues (Spendzharova and Versluis 2013), salience and constituency pressure do not always correspond to time pressure. Our results reveal that time pressure is an important determinant of lobbying strategies, which is worth studying empirically. Political actors are under time pressure when delaying policies is costly, which can occur for a number of reasons. One reason delaying policies can be costly is that both legislators and lobbyists dislike the status quo. The longer they spend investigating the value of alternative policies, the longer they must endure the status quo, and the more pressure they face to replace it quickly. The source of pressure could also be different for legislators and lobbyists. Legislators might be under pressure because they face a crisis to resolve (such as responding to the COVID-19 pandemic) or because other interest groups are pressing them to quickly change the status quo (such as grassroots climate activists pressing for action on climate change). Lobbyists themselves can feel pressure to act quickly if they fear that legislators will obtain information internally or from a competing interest group. We study several extensions of our model to analyze these alternative sources of time pressure.

Related Literature

Our article relates to the interest group literature and in particular to studies of the determinants of legislator targeting with informational lobbying.[2] Several theories of lobbying assume that an interest group can only *publicly* provide information to a collective body. These theories mainly focus on how information transmission is shaped by the preferences of the legislature (Alonso and Câmara 2016; Schnakenberg 2015). A key takeaway is that interest groups have more influence the more aligned policy makers are to the lobbyist and the more disagreement there is among policy makers. In other models, interest groups can privately provide information to legislators (Bardhi and Guo 2018; Chan et al. 2019). Caillaud and Tirole (2007) study how the private provision of information can help achieve the interest group's goals by letting some legislators observe information, and subsequently rely on them to persuade their peers.

Within the lobbying literature, several papers have proposed to rationalize the empirical regularity that lobbyists frequently interact with aligned legislators. Austen-Smith and Wright (1994) suggest that lobbyists do this to counteract persuasion by competing interest groups. Hall and Deardorff (2006) argue that it is easier for lobbyists to help allies exert effort toward achieving a shared policy objective. Groll and Prummer (2016) show that both the ideological preferences of legislators and their position in a network affect whether they are targeted by lobbyists. In Ellis and Groll (2020), lobbyists' preferences for targeting allies depend on legislators' resource constraints. Schnakenberg and Turner (2021) show that, due to signaling effects, lobbyists contribute to the campaigns of allies when donations are sufficiently likely to affect the likelihood of winning the election. Schnakenberg (2017) shows that when access is costly, lobbyists send a cheap talk message to friendly legislators who then persuade a majority. Awad (2020) studies a model of cheap talk and verifiable evidence and focuses on the choice of allied intermediaries to improve presentation of information from the lobbyist's perspective. Minaudier (2022) shows that, in a static setting, lobbyists are more likely to lobby friends when legislators have access to internal information.

Unlike ours, these papers do not consider that information may take time to arrive. We show that this can restrict the possibility of targeting friends and is therefore crucial. Bennedsen and Feldmann (2002) and Dellis (2021) do allow the lobbyist to search for information as in our model, but this search is only costly for the lobbyist, not for the legislators. We show that, when legislators also bear this cost, lobbyists face additional constraints on the strategies they can choose.

From a technical perspective, our article also relates to the dynamic persuasion literature. The idea that an information provider needs to generate sufficient information to induce the receiver to wait has been explored in Che, Kim, and Mierendorff (2022). Our article studies a similar question with multiple receivers but restricts the sender to providing concealable information through an intermediary rather than allowing him to choose more general information structures.

Model

We consider a lobbyist L and a continuum of legislators indexed by $i \in [0, 1]$. Time is continuous and the game ends at some time, normalized to 1: $t \in [0, 1]$.

[2]There is also a literature on legislator targeting with other forms of lobbying, for example, Chen and Zápal (2022) and Judd (2022).

Legislators need to choose between two policies $x \in \{0, 1\}$. The relative value of each policy depends on a state of nature, ω, distributed uniformly between 0 and 1: $\omega \sim U[0, 1]$ and constant over time. The lobbyist can receive a signal s about ω, whose precision increases over time. That is, the longer the lobbyist waits before obtaining the signal, the more likely it is that it indicates the true state. If the signal is obtained at some time $t^* \in [0, 1]$, the signal is equal to the true state, $s = \omega$ with probability t^* and with probability $1 - t^*$ the signal is uninformative $s = \tilde{s} \sim U[0, 1]$, uncorrelated with the true state.

Actions. The lobbyist moves first and publicly chooses two actions at time $t = 0$. First, he chooses how long to carry out some research on ω. We denote by $\ell \in [0, 1]$ the length of time he decides to investigate. In addition, he chooses one legislator, $j \in [0, 1]$, as an intermediary and commits to transmitting information to only that legislator. We also allow the lobbyist to commit to share information publicly, which we denote $j = \emptyset$.

After the lobbyist moves, each legislator observes the lobbyist's choice of ℓ and j and votes at every instant $t \in [0, 1]$ on whether to delay the policy choice or to hold a vote on the policy. We call this first vote a *procedural vote* and denote $p_{it} \in \{0, 1\}$ legislator i's procedural vote at time t, with $p_{it} = 1$ denoting voting to stop. If a majority votes to stop, then the legislature holds a vote on the policy. Each legislator then votes for either option $x = 0$ or $x = 1$. Let $x_i \in \{0, 1\}$ denote legislator i's *policy vote*. The option that receives a majority of votes is then implemented.

Before the lobbyist's investigation ends ($t < \ell$), players have no information about ω. At $t = \ell$, the lobbyist observes the signal realization s and chooses whether to disclose it to the legislator j that he selected as an intermediary. The signal s is hard evidence so the lobbyist cannot lie about it, but can withhold it. Let $\hat{s} \in \{s, \emptyset\}$ be the evidence reported by the lobbyist to the intermediary. Legislator j observes $\hat{s}$, updates her beliefs about ω, and then sends a message to endorse either $x = 0$ or $x = 1$. Let $m_j \in \{0, 1\}$ be the endorsement shared by legislator j. The intermediary's endorsement is cheap talk and not verifiable.

Still at $t = \ell$, other legislators observe legislator j's endorsement, before voting on the procedural vote and on a policy vote, if it is held. If a policy vote is held at any time t, the chosen policy is then implemented, the game ends, and payoffs are realized. If no policy vote has been held at any $t < 1$, the legislature holds a policy vote at $t = 1$.

To summarize, the timing is as follows:

1. Nature draws ω from the uniform distribution over $[0, 1]$.
2. The lobbyist publicly chooses a length of investigation $\ell \in [0, 1]$ and an intermediary $j \in [0, 1] \cup \{\emptyset\}$.
3. At every $t \in [0, 1]$, the legislators hold a procedural vote. If a majority agrees to hold a policy vote, the policy vote is held and a policy is chosen.
4. At time ℓ, if a policy vote has not been held before, the lobbyist observes s, and shares $\hat{s} \in \{s, \emptyset\}$ with legislator j.
5. Legislator j observes $\hat{s}$, and publicly endorses $m \in \{0, 1\}$.
6. Every other legislator $i \neq j$ observes m but not $\hat{s}$, chooses whether to hold a vote on the policy $p_i \in \{0, 1\}$ and if a majority votes to stop, votes for policy $x \in \{0, 1\}$.

Preferences. Each legislator i is identified by a parameter $\hat{x}_i \in [0, 1]$ distributed according to some distribution with full support on the interval $[0, 1]$. The median legislator's preference parameter is denoted by $\hat{x}_M > \frac{1}{2}$. Legislator i's payoff from policy $x \in \{0, 1\}$ is given by:

$$u_i(x, \omega) = \begin{cases} 1 & \text{if } x = 1 \text{ and } \omega \geq \hat{x}_i, \\ 1 & \text{if } x = 0 \text{ and } \omega < \hat{x}_i, \\ 0 & \text{otherwise.} \end{cases} \quad (1)$$

Therefore, legislator i prefers policy $x = 1$ if the state is at least $\hat{x}_i$ and policy $x = 0$ otherwise. By contrast, the lobbyist prefers policy $x = 1$ independently of the state: his payoff is $v(x) = x$.

In addition, both the legislators and the lobbyist bear a cost k proportional to the time spent before choosing the policy.[3] Therefore, if at time t, some legislator i and the lobbyist expect policy x to be chosen at time $t' > t$, then their expected utilities are:

$$U_{it}(x, t') = \mathbb{E}_\omega[u_i(x, \omega)] - k(t' - t) \quad \text{and}$$
$$V_t(x, t') = x - k(t' - t).$$

Equilibrium and strategies. We look for weak perfect Bayesian equilibria in pure strategies. This requires sequentially rational strategies and beliefs that satisfy Bayes rule wherever possible. To rule out unintuitive equilibria, we make several assumptions, which are standard in the lobbying and bargaining literature.

[3]The assumption that the lobbyist and legislators face the same cost k is effectively a normalization of the lobbyist's benefit from policy $x = 1$ as noted in Che, Kim, and Mierendorff (2022).

1. *Sincere voting on the policy vote.* Each legislator votes for the policy that maximizes her expected utility given her beliefs. This rules out, for example, equilibria where legislators always vote for the same policy because none of them are pivotal.
2. *As-if pivotal voting on procedural votes.* Legislators vote as if they are pivotal on the current and all future procedural votes. Legislators anticipate the outcome of any current or future policy vote given point 1. above and optimally choose when to hold this vote.
3. *Sincere endorsements.* When an intermediary is selected to make an endorsement, she does so sincerely. That is, the intermediary makes endorsement $m = 0$ if she prefers policy $x = 0$ and endorsement $m = 1$ otherwise.[4]

A formal definition of our equilibrium concept is provided in the Supporting Information (SI, p. 1).

Discussion of Assumptions

Commitment. We assume that the lobbyist can commit both to a choice of intermediary and to a length of investigation before information is generated. These assumptions are often consistent with the behavior of lobbyists. For example, lobbyists gain access to legislators through campaign donations (see, e.g., Kalla and Broockman 2016; Fouirnaies and Hall 2018) before policies are tabled, thus committing to interact with specific legislators.[5] Moreover, lobbyists often commission reports or surveys from lawyers or consultancy firms or might request data from their clients Chalmers (2011). This requires them to set a deadline to obtain the information and prevents them from learning new information until then. In other cases, these assumptions might not be realistic. We discuss how they affect our results in section "Extensions."

Legislators' preferences. The legislators' preferences have a stark structure: They prefer one policy over the other as soon as the underlying state is above a threshold. Above that threshold, a higher state does not make their preferences for that policy stronger. In this sense, their preferences are similar to those assumed in case-base models of judicial politics (see, e.g., Lax 2011). However, these preferences can still be interpreted as spatial preferences where legislators with a lower threshold are more aligned with the lobbyist, and those with a higher threshold are on the opposite side of the ideological spectrum.

Time-independent state of nature. We assume that the state remains constant over time. In the real world, the state of nature can change over time in some policy areas. If the values of the state are sufficiently correlated over time, allowing the state to change would simply dampen the incentives to investigate for both players. If instead the state changes drastically, the information provided by the lobbyist might become irrelevant by the time the decision is made. This would effectively increase the cost of delaying the end of the investigation and would be factored into the cost k. In the extreme, if the state is constantly changing, the legislators would need to update the policy constantly. Our results apply to policies that are difficult to reverse and whose consequences can be predicted to some degree.

Other means of information acquisition. In practice, waiting longer is not the only way for lobbyists to increase the precision of information. Lobbyists can also use monetary resources to acquire information. In the SI (p. 21), we show that the model can be extended to allow the lobbyist to invest resources to accelerate information acquisition. As long as the marginal cost of doing so is not too large, the lobbyist would invest resources which would allow him to choose a friendlier intermediary. However, our main results remain unchanged.

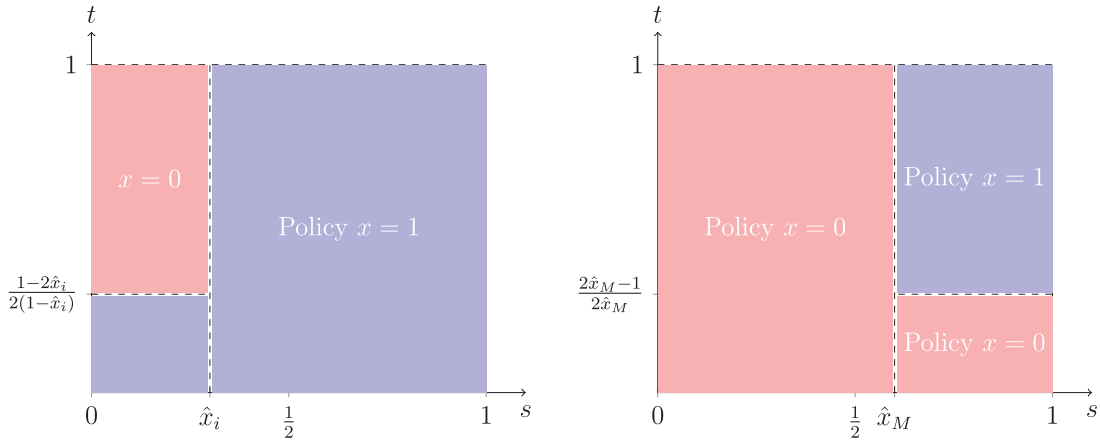
Intermediary's communication. We restrict the intermediary to make a binary cheap talk recommendation through her endorsement. Upon seeing some evidence $\hat{s}$, the intermediary is strictly in favor of either policy 1 or policy 0. As a result, the intermediary could not gain from using a larger set of messages. We also show in the SI (p. 22) that if the intermediary could share the hard evidence, she obtained from the lobbyist, she would prefer not to share it or would share it in a way that is outcome-equivalent to the binary endorsement.[6]

[4]Assuming sincere endorsements is not necessary for the strategy profile we characterize to be an equilibrium. However, babbling equilibria are also possible if we do not assume that intermediaries are restricted to sincere endorsements.

[5]We do not allow the lobbyist to target several legislators. This is without loss of generality as Awad (2020) shows that lobbyists cannot gain from targeting multiple legislators when preferences are "nested."

[6]However, relaxing this assumption would allow for other equilibria, including ones in which the intermediary is forced to disclose all the lobbyist's evidence and the lobbyist no longer gains from private lobbying.

FIGURE 1 Optimal Policies Given Signal *s* and Precision *t*



Notes: The left panel shows the set of signal realizations for which a legislator with threshold $\hat{x}_i < \frac{1}{2}$ chooses policy $x = 1$ given duration t. The right panel shows this set for a legislator with $\hat{x}_i > \frac{1}{2}$.

Equilibrium Behavior

Our objective is to understand how time pressure affects the lobbyist's strategy. As a first step, it is helpful to understand how the legislators would structure information acquisition themselves. We begin by characterizing the duration that the median legislator would set if she were an agenda setter. The second step is to derive the duration that the lobbyist would choose if he were constrained to publicly sharing information. Finally, we characterize equilibrium strategies when the lobbyist can choose both the duration of the investigation and the intermediary.

Legislature's Preferred Duration

If the median chooses the investigation's duration, she trades off more precise information with the cost of delaying policymaking. The precision of information affects legislators differently depending on their preferences. A legislator with threshold $\hat{x}_i > \frac{1}{2}$ chooses policy $x = 0$ by default because it is more likely that the state is below her threshold than above it and instead, a legislator with threshold $\hat{x}_i \leq \frac{1}{2}$ chooses policy $x = 1$ by default.

When the legislators in favor of policy $x = 0$ observe a signal s, they switch to policy $x = 1$ if they observe a sufficiently high signal ($s \geq \hat{x}_i$) and the information is sufficiently precise ($\ell \geq \frac{2\hat{x}_i - 1}{2\hat{x}_i}$). Similarly, a legislator in favor of policy $x = 1$ switches to supporting policy $x = 0$ if she sees a signal below her threshold that is sufficiently precise ($\ell > \frac{1-2\hat{x}_i}{2(1-\hat{x}_i)}$). Figure 1 illustrates the set of signals and lengths of investigation for which legislators switch their policy choice. Crucially, without a sufficiently long investigation, a legislator does not switch her vote.

Anticipating this voting behavior, the median chooses the duration ℓ to maximize the probability of making the correct policy decision net of the waiting cost. The median knows that for any $\ell \in [0, \frac{2\hat{x}_M - 1}{2\hat{x}_M})$, she (and therefore a majority of legislators) would still vote for policy $x = 0$ independently of the signal s, so her expected utility is strictly decreasing in that region. For $\ell \in [\frac{2\hat{x}_M - 1}{2\hat{x}_M}, 1]$, her expected utility is linear in ℓ and increasing as long as the cost of waiting (k) is not too large. As a result, the optimal length of investigation is either $\ell_M^* = 0$ or $\ell_M^* = 1$. Waiting till the deadline is optimal if the marginal gain of waiting is above the marginal cost, k, and if the net expected utility at $\ell = 1$ is larger than the expected utility at $\ell = 0$.

Remark 1. *In equilibrium, the majority's optimal policy duration is $\ell_M^* = 1$ if the cost of waiting is sufficiently low: $k < 1 - \hat{x}_M$, and $\ell_M^* = 0$ otherwise.*

Public Disclosure

If the lobbyist must provide information publicly, he faces two constraints. First, when the information arrives, it must persuade the median to support policy $x = 1$. Second, he needs to persuade the median to wait long enough for the information to arrive.[7]

The lobbyist chooses the duration of the investigation to maximize the probability that the median chooses

[7]We show in the SI (p. 2) that there is always a majority of legislators that supports the median's votes on the procedural and policy decisions so we can focus on the median's behavior.

policy $x = 1$, net of the cost of waiting. When information is generated, the lobbyist needs to ensure that the information is sufficiently precise that the median is persuaded by a favorable signal ($s \geq \hat{x}_M$).

In addition, the lobbyist faces a constraint at the start of the game. He needs to provide sufficiently precise information that the median legislator is willing to wait. Because the median legislator expects policy $x = 0$ to be chosen if the process stops immediately, her expected payoff equals the probability that the state is below her cutoff: $\mathbb{P}(\omega < \hat{x}_M) = \hat{x}_M$. Therefore, the lobbyist needs to promise to wait long enough that the median legislator's expected utility at ℓ^* is at least $\hat{x}_M$.

When these two constraints are satisfied, the probability of persuading the median is simply the probability that the signal s exceeds the threshold $\hat{x}_M$, which is equal to $1 - \hat{x}_M$ and is independent of the duration. Therefore, as soon as a duration ℓ satisfies both constraints, the lobbyist has no reason to investigate longer because waiting is costly. When waiting is so costly that the median is never willing to wait, the process stops immediately.

Remark 2. *When the lobbyist publicly provides information, the optimal ℓ^* is given by:*

1. $\ell_P^* = \frac{(1-\hat{x}_M)(2\hat{x}_M-1)}{2\hat{x}_M(1-\hat{x}_M)-k}$ *if* $k \leq 1 - \hat{x}_M$.
2. $\ell_P^* = 0$ *if* $k > 1 - \hat{x}_M$.

When time pressure is not too high, the median would run the longest possible investigation if she could choose the duration herself. Instead, when the lobbyist chooses the duration, he chooses the shortest duration such that the median is willing to wait and the endorsement is persuasive.

Selective Disclosure through Intermediaries

We now analyze the case where the lobbyist can choose both the duration of the investigation and an intermediary with whom to share the information. We begin by deriving the set of intermediaries and duration such that the median follows the intermediary's endorsement and is willing to wait for that endorsement. We then solve for the optimal duration and choice of intermediary for the lobbyist within this set.

Persuading the Legislature to Support the Lobbyist's Policy. For a given duration of investigation, the set of intermediaries that can help the lobbyist achieve his preferred policy is determined by two requirements. First, the intermediary needs to find the information sufficiently precise that she chooses (and endorses) policy $x = 1$ when the signal is high enough and policy $x = 0$ otherwise. Second, the intermediary needs to have preferences sufficiently similar to those of the median that the median follows the intermediary's endorsement. In other words, the intermediary herself needs to be persuadable, and her subsequent endorsement must be persuasive.

Intermediary's endorsements. Suppose the lobbyist has access to legislator j with threshold $\hat{x}_j$. For the intermediary's endorsement to be informative, it is necessary that she sometimes prefers policy $x = 0$ and sometimes policy $x = 1$ upon observing evidence $\hat{s} \in [0, 1]$. If, for instance, she preferred policy $x = 1$ no matter the signal $\hat{s}$ she observed, she would always make the endorsement that leads the legislature to choose policy $x = 1$ and information transmission would break down. Upon observing a signal s, legislator j prefers policy $x = 1$ if the signal is sufficiently high and precise. She therefore gives endorsement $m_j = 1$ when she observes evidence above her threshold $s \geq \hat{x}_j$ and the investigation lasted sufficiently long. Otherwise, she gives endorsement $m_j = 0$.[8]

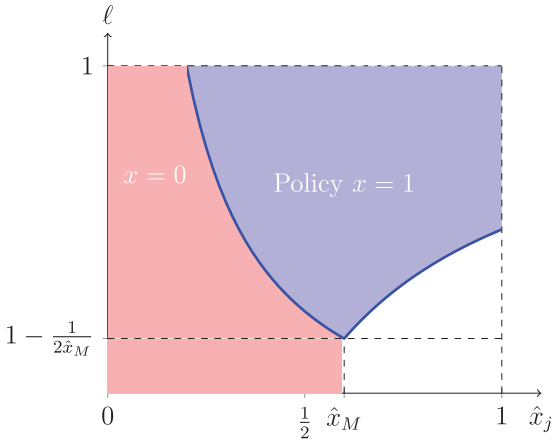
Following the intermediary's endorsement. Suppose that the intermediary gives an endorsement $m_j = 1$ if and only if $s \geq \hat{x}_j$ and the investigation lasted sufficiently long. What is the set of intermediaries j and duration ℓ that leads a majority to follow the intermediary's endorsement? Because all legislators other than the intermediary observe the same information, the median is decisive. Therefore, we focus on the inferences drawn by the median legislator and her decision following an endorsement. Upon endorsement $m_j = 1$, the median infers that the signal belongs to the interval $[\hat{x}_j, 1]$, so the probability that the state is above $\hat{x}_M$ is $\mathbb{P}(\omega \geq \hat{x}_M | s > \hat{x}_j)$. The median prefers policy $x = 1$ if that probability is above $\frac{1}{2}$. This is the case provided that the intermediary's threshold is not too far from the median's threshold and the information is sufficiently precise. Endorsement $m_j = 1$ from an intermediary with threshold $\hat{x}_j \leq \hat{x}_M$ after an investigation of length ℓ persuades the median legislator to vote for $x = 1$ if

$$\ell \geq \frac{(2\hat{x}_M - 1)(1 - \hat{x}_j)}{2(1 - \hat{x}_M)\hat{x}_j}. \tag{2}$$

If this condition does not hold, the median and all legislators to her right vote for policy $x = 0$ for any endorsement. Finally, if the legislator's threshold is less than that of the median, $\hat{x}_j \leq \hat{x}_M$, the median legislator

[8]Given this strategy, the lobbyist knows that the intermediary will not endorse $x = 1$ when she observes evidence $s < \hat{x}_j$. In that case, the lobbyist prefers to conceal his evidence. Therefore, the lobbyist's strategy is simply to disclose the signal, $\hat{s} = s$, if $s \geq \hat{x}_j$ and to conceal it, $\hat{s} = \emptyset$, if $s < \hat{x}_j$.

FIGURE 2 Persuasive Intermediaries and Duration



Notes: The median is persuaded by an intermediary's recommendation if the intermediary's threshold and the duration are above the solid line.

always prefers policy $x = 0$ when the intermediary gives endorsement $m_j = 0$.

An intermediary with a threshold larger than that of the median ($\hat{x}_j > \hat{x}_M$) can also make endorsements that persuade the median. Because the intermediary is harder to persuade than the median, the median always follows the intermediary's endorsement in favor of policy $x = 1$. The necessary condition to persuade the median is therefore that the intermediary is persuaded to support policy $x = 1$: $\ell \geq \frac{2\hat{x}_j - 1}{2\hat{x}_j}$.

Figure 2 illustrates the set of intermediaries $\hat{x}_j$ and lengths of investigation ℓ that satisfy these conditions. As the duration increases, the set of intermediaries that can be used by the lobbyist (the blue area) expands. A longer duration means that the information is sufficiently precise that an intermediary with a threshold far below that of the median is persuasive and an intermediary with a threshold far above that of the median is persuadable.

Using intermediaries has two effects. First, it increases the likelihood that the lobbyist finds persuasive evidence. When the lobbyist must disclose information publicly, he only obtains his preferred policy when his investigation generates evidence $s \in [\hat{x}_M, 1]$. When the lobbyist can use an intermediary with threshold $\hat{x}_j < \hat{x}_M$, he increases the set of persuasive signal realizations to $[\hat{x}_j, 1] \supset [\hat{x}_M, 1]$. Second, using an intermediary garbles the information available to the other legislators. This makes them more likely to choose the wrong policy and therefore decreases the value of information. For instance, the median would choose policy $x = 1$ following $s \in [\hat{x}_j, \hat{x}_M)$ with an intermediary, but not when s is public.

Persuading the Legislature to Wait. The lobbyist needs to choose ℓ and j such that a majority is willing to wait until the end of the investigation. The duration of the investigation affects the total waiting cost that the legislators expect to face and therefore their decision whether to start the process at all. The choice of intermediary affects the value of the information that is generated at the end of the process and therefore the benefit of waiting for that information.

Each legislator faces the following choice. If the investigation stops immediately, they anticipate that a majority of legislators would vote for policy $x = 0$, because the state is more likely to be below the median's threshold than above it ($\hat{x}_M > \frac{1}{2}$). Legislator i's expected payoff from stopping immediately is therefore the probability that the state is below her threshold, which equals $\hat{x}_i$. Stopping at any point between time $t = 0$ and the time at which the lobbyist is expected to share information with the intermediary is worse than stopping immediately, as the legislature would still vote for policy $x = 0$, but the legislators would bear the cost of waiting.

At the end of the investigation, when the lobbyist shares information, the legislators expect two possible scenarios: either the lobbyist has observed evidence above the intermediary's threshold $s \geq \hat{x}_j$ and the intermediary endorses policy $x = 1$, or $s < \hat{x}_j$ and the intermediary endorses policy $x = 0$. Because the legislators do not expect any additional information to arrive after that point, all legislators would vote to stop the process.

Hence, at time $t = 0$, legislators anticipate that if they do not stop the process immediately, it will continue until the end of the investigation ℓ^*, at which point, policy $x = 1$ will be chosen with probability $\mathbb{P}(s \geq \hat{x}_j)$ and policy $x = 0$ with probability $\mathbb{P}(s < \hat{x}_j)$. In addition, all legislators to the left of the median anticipate that they will prefer policy $x = 1$ when it is chosen, and all legislators to the right of the median anticipate that they will prefer policy $x = 0$ when it is chosen. Therefore, it is sufficient to persuade the median to wait until time $t = \ell^*$ for a majority of legislators to vote to continue at every point until ℓ^*.

The median votes to continue the process until time $t = \ell^*$ if the utility she expects to get from the information at ℓ^* net of the cost of waiting is greater than the expected utility she expects to get if policy $x = 0$ is chosen immediately. She is therefore willing to wait if:

$$\mathbb{P}(m_j = 1)\mathbb{P}(\omega \geq \hat{x}_M | m_j = 1) + \mathbb{P}(m_j = 0)$$
$$\mathbb{P}(\omega < \hat{x}_M | m_j = 0) - k\ell \geq \hat{x}_M.$$

This condition requires a sufficiently long investigation given the choice of intermediary:

$$\ell \geq \frac{(2\hat{x}_M - 1)(1 - \hat{x}_j)}{2(1 - \hat{x}_M)\hat{x}_j - k}. \tag{3}$$

Optimal Lobbying Strategies. For a given choice of intermediary, the probability of persuading the median to choose policy $x = 1$ is independent of the duration as long as the duration is above the minimum threshold defined by inequality (2). Similarly, persuading the legislature to wait does not depend on duration as long as inequality (3) is satisfied. However, increasing the duration allows the lobbyist to choose an intermediary with a lower threshold who is easier to persuade. A longer duration, however, decreases the lobbyist's utility through the cost of waiting. The lobbyist therefore faces a trade-off between selecting an intermediary who is easier to persuade and running a shorter investigation. All else equal, the lobbyist would prefer a lower duration and an intermediary with a lower threshold. However, the lobbyist also needs to promise sufficiently precise information to ensure that legislators wait. The lobbyist can achieve this by either increasing the duration or choosing a more moderate intermediary.

Our first main result is to characterize the choice of intermediary and duration that optimally resolves this trade-off for the lobbyist. We use the following definitions to characterize equilibrium strategies.

Definition 1. *An investigation is* thorough *if* $\ell = 1$ *and is* rushed *otherwise.*

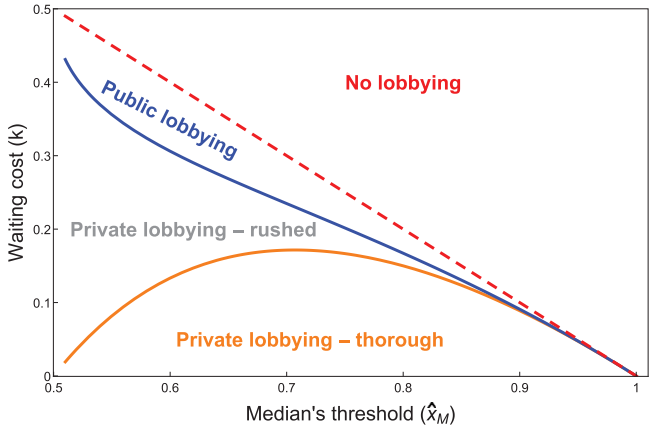
Definition 2. *Lobbying is* private *if the lobbyist shares the information privately with a selected intermediary with threshold* $\hat{x}_j \neq \hat{x}_M$. *Lobbying is* public *if* $\hat{x}_j = \hat{x}_M$.

Proposition 1 below summarizes the lobbyist's optimal choice. Figure 3 depicts the equilibrium lobbying strategy as a function of the cost of waiting and the median's threshold and Figure 4 illustrates the equilibrium duration in these strategies.

Proposition 1. *Given a median ideal point* $\hat{x}_M \in (\frac{1}{2}, 1)$, *there exist three thresholds* $k_1(\hat{x}_M) < k_2(\hat{x}_M) < k_3(\hat{x}_M)$, *such that, in equilibrium, the lobbyist chooses* ℓ^* *and* $\hat{x}_j^*$ *as follows:*

1. *If* $k \leq k_1(\hat{x}_M)$, *the lobbyist runs a thorough investigation and engages in private lobbying.*
2. *If* $k \in (k_1(\hat{x}_M), k_2(\hat{x}_M))$, *the lobbyist runs a rushed investigation and engages in private lobbying.*
3. *If* $k \in [k_2(\hat{x}_M), k_3(\hat{x}_M)]$, *the lobbyist runs a rushed investigation and engages in public lobbying.*
4. *If* $k > k_3(\hat{x}_M)$, *the lobbyist does not lobby* ($\ell^* = 0$).

FIGURE 3 Equilibrium Lobbying Strategies

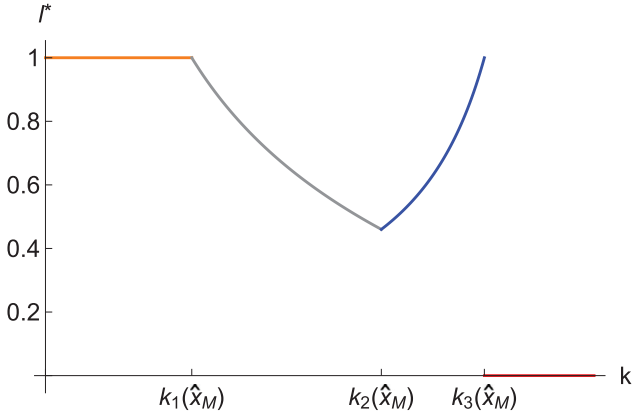


Notes: Different combinations of median threshold and waiting cost induce the lobbyist to choose different strategies.

Proposition 1 identifies four cases depending on the level of time pressure. When waiting is not very costly, the lobbyist prefers a longer duration to select a more friendly intermediary. As a result, the optimal duration of the investigation is the maximum possible duration ($\ell^* = 1$), which allows the lobbyist to choose an intermediary with a low threshold.

When the cost is higher but not too high, the lobbyist finds it too costly to wait until the deadline and rushes the investigation. This forces him to choose a more moderate intermediary. As the cost becomes high, the lobbyist

FIGURE 4 Equilibrium Duration Given Waiting Costs



Notes: The duration is nonmonotonic in the waiting cost. This figure is drawn for $\hat{x}_M = 0.6$.

runs out of intermediaries to use and switches to public lobbying. Using intermediaries would require such a long duration to induce the median to wait that the lobbyist is happy to send the information directly to the median or, equivalently, to share it publicly.

Finally, if the cost is too high, the lobbyist cannot persuade her to wait and gives up on persuasion.

Time Pressure, Intermediaries, and Duration

Proposition 1 establishes that the lobbyist uses different strategies when the cost of waiting and the median voter's threshold change. In this section, we look at how time pressure affects the choice of intermediary, the equilibrium duration, and how well-informed policies are. Our main result is that higher time pressure always induces the lobbyist to choose a more moderate intermediary. However, we also show that higher time pressure can lead to both longer or shorter equilibrium duration.

Choice of Intermediary

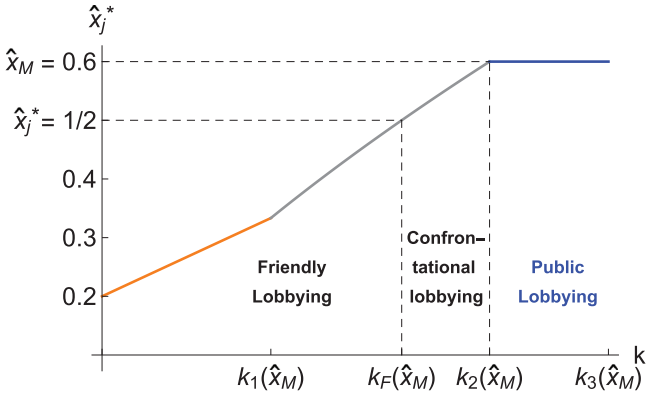
To illustrate the role of time pressure, consider first a situation without waiting costs ($k = 0$). In this case, the lobbyist no longer needs to persuade the legislators to wait. He is still constrained to choose a sufficiently large duration because a message that is not sufficiently precise will not persuade the intermediary to ever change her preferred policy. He is also constrained to choose a sufficiently moderate intermediary whose endorsement persuades the median. The optimal strategy in this case is a special case of Proposition 1.

Corollary 1. *Without waiting costs ($k = 0$), the lobbyist selects intermediary $\hat{x}_j^* = 2\hat{x}_M - 1$ and the longest feasible investigation $l^* = 1$.*

With $k > 0$, the median is no longer willing to wait for information if she does not expect that information to be sufficiently precise. Therefore, the lobbyist must promise more information, which can be achieved by sharing information with an intermediary closer to the median. We call such an intermediary more moderate. A friendly intermediary is one who would have chosen the lobbyist's preferred policy in the absence of information. Instead, the lobbyist engages in confrontational lobbying when he targets a legislator who needs additional information to be persuaded.

Definition 3. *An intermediary is more moderate if her threshold is closer to that of the median. Lobbying is* friendly *if the lobbyist targets an intermediary with a threshold below $\frac{1}{2}$ and is* confrontational *if he targets an intermediary with a threshold above $\frac{1}{2}$.*

FIGURE 5 Equilibrium Intermediary Given Waiting Costs



Notes: The intermediary becomes more moderate as the waiting cost increases. This figure is drawn for $\hat{x}_M = 0.6$.

Proposition 2 shows that the more pressing a policy matter is, the more aligned the intermediary will be with the median, as illustrated in Figure 5.

Proposition 2. *As the waiting cost $k \in (0, k_3(\hat{x}_M))$ increases, the intermediary becomes weakly more moderate. When waiting costs are low, the lobbyist engages in friendly lobbying. For intermediate waiting costs, he engages in confrontational lobbying. For sufficiently large waiting costs he engages in public lobbying.*

As time pressure increases, the median requires more surplus to be willing to wait. The lobbyist can achieve that in two ways. Either by increasing the duration of the investigation or by choosing a more moderate intermediary. Increasing the duration imposes a cost on both the lobbyist and the legislator. Therefore, the marginal cost of increasing the duration to persuade the legislators to wait is higher than that of choosing a more moderate intermediary.

Duration

The model also generates predictions about the duration of policymaking. When waiting costs are not too high, the equilibrium duration is positive. When costs are sufficiently low ($k \leq k_1(\hat{x}_M)$), the lobbyist finds it optimal to wait until the deadline ($\ell^* = 1$) so the equilibrium duration corresponds to the duration that would have been chosen by the median. The equilibrium duration also corresponds to that chosen by the median when the

costs are very high, because the median is never willing to wait. However, for intermediate costs, the lobbyist's investigation is rushed. A majority prefers to obtain more information but the lobbyist only promises just enough information to ensure the median waits.

This conflict of interest between the lobbyist and the legislators generates a nonmonotonic effect on equilibrium duration. In particular, the duration may increase as time pressure increases. Proposition 3 summarizes the effect of time pressure on duration. This effect is illustrated in Figure 4.

Proposition 3. *If the equilibrium duration of policymaking ℓ^* is either 0 or 1, then it is independent of the waiting cost k. Otherwise, as the waiting cost k increases, the equilibrium duration of policymaking ℓ^* initially decreases in k and then increases in k.*

Intuitively, the increase in duration occurs because the legislature needs to be persuaded to wait. The lobbyist would like to stop as early as possible to avoid additional waiting costs, but if the investigation is not long enough, a majority would stop immediately and choose policy $x = 0$. As waiting costs increase, the surplus that needs to be promised to the legislators becomes higher, so the lobbyist must investigate longer to make information more precise.

The decreasing region is due to the lobbyist's tradeoff when choosing whether to target a more moderate intermediary or to run a longer investigation. In that region, the marginal cost of a more moderate intermediary is lower than the marginal cost of a longer investigation. Hence, the lobbyist runs a shorter investigation and persuades the median to wait by committing to target a more moderate legislator. Eventually, the lobbyist can no longer persuade the median to wait by targeting a more moderate intermediary, and therefore runs a longer investigation.

Implications for Policymaking

The model also generates implications about how well-informed policies are. If information takes time to generate, one would expect that the longer a policy takes to conclude, the more information is available, and the less likely the median is to choose the wrong policy. As a result, the more patient legislators are, the higher the quality of policymaking should be. However, we show that when information is generated by lobbyists this is not necessarily true. A longer duration can correspond to less well-informed policies, and higher waiting costs can lead to better informed policies.

We measure the quality of a policy, how well-informed it is, as the probability that it is the *correct policy* for a majority. Policy $x = 1$ is the *correct policy* for legislator i if the state exceeds her threshold: $\omega \geq \hat{x}_i$, whereas policy $x = 0$ is the correct one otherwise. Let $F(k, \hat{x}_M)$ denote this probability. Proposition 4 summarizes the nonmonotonic relationship between time pressure and the quality of policy, illustrated in Figure 6.

Proposition 4. *When waiting costs are sufficiently low ($k \leq k_1(\hat{x}_M)$) or sufficiently high ($k > k_2(\hat{x}_M)$), the quality of policy is weakly increasing in the waiting cost. For intermediate waiting costs ($k \in (k_1(\hat{x}_M), k_2(\hat{x}_M))$), the quality of policy can be increasing or decreasing in the waiting cost, depending on the median's preferences.*

When the lobbyist provides information, the length of the investigation is not the only determinant of the quality of policymaking. As information is provided through an intermediary, the median observes garbled information. If the intermediary and the median are less aligned, the median observes less precise information. Therefore, the quality of policy increases as the intermediary becomes more moderate. Because higher waiting costs force the lobbyist to select a more moderate intermediary, it can increase the amount of available information.

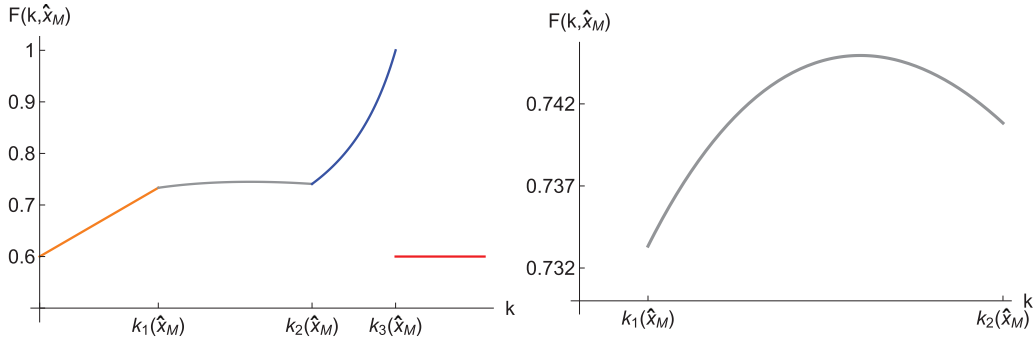
When higher waiting costs lead to a weakly longer policy duration (if $k \leq k_1(\hat{x}_M)$ or $k > k_2(\hat{x}_M)$), higher waiting costs unambiguously lead to better policies. When higher waiting costs lead to a shorter policy duration, however, the quality of policy can increase or decrease depending on which of the two effects—more moderate intermediary or shorter duration—dominates.

Extensions

We now discuss the robustness of our results to relaxing some of our assumptions. In particular, we analyze the case where the lobbyist cannot commit to a length of investigation or to an intermediary. We then explore two potential sources of endogenous time pressure: the possibility for legislators to obtain their own information and the interest group competition.

Commitment to duration. Lobbyists cannot always publicly commit to a length of investigation. Without commitment, the lobbyist would stop investigating as soon as he has acquired enough information to persuade the median. Anticipating this, the median would prefer to stop immediately. In the SI (p. 13), we show that, to

FIGURE 6 Policy Quality Given Waiting Costs



Notes: The quality of policy is nonmonotonic in the waiting cost. The right panel zooms in on the region of $k \in (k_1(\hat{x}_M), k_2(\hat{x}_M))$. The figure is drawn for $\hat{x}_M = 0.6$.

solve this commitment problem, the lobbyist can seek access to a legislator who is *harder* to persuade than the median ($\hat{x}_j > \hat{x}_M$). Recall that any legislator needs an investigation that lasts at least $\ell \geq \frac{2\hat{x}_j - 1}{2\hat{x}_j}$ to find a signal $s \geq \hat{x}_j$ persuasive. Therefore, committing to intermediary $\hat{x}_j > \hat{x}_M$ prevents the lobbyist from deviating to a shorter investigation. If he did, he would always fail to generate a favorable endorsement from that intermediary. By choosing a sufficiently extreme intermediary, the lobbyist convinces a majority that he will generate enough information to make it worth their wait. Without commitment, the lobbyist can therefore still benefit from private lobbying and time pressure still increases both duration and policy quality. However, the intermediary now becomes more extreme as time pressure increases.[9]

Commitment to intermediary. Lobbyists are not always able to commit to a given intermediary at the start of the legislative process. Without commitment, the lobbyist could, in principle, choose a different intermediary once he observes the evidence. Whether such a deviation is profitable depends on the beliefs that the legislators form about the signal observed by the lobbyist upon hearing an unexpected endorsement. We show in the SI (p. 14) that the equilibrium characterized in Proposition 1 remains an equilibrium in this modified game. In this game, the legislators can form beliefs that lead a majority of them to vote in favor of policy $x = 0$ whenever they observe an endorsement made by a different legislator than the one with whom they expected the lobbyist to share information. As a result, it is unprofitable for the lobbyist to deviate to sharing evidence with any other legislator. Although it coexists with other equilibria, the equilibrium we characterized is the lobbyist-preferred equilibrium, and is payoff-equivalent to any other equilibria for the median legislator.

Pressure from legislators' internal information. One reason lobbyists feel under pressure to share information early is that legislators could be running a parallel internal investigation. In the SI (p. 17), we analyze how this affects the lobbyist's strategy. We assume that there is no cost of waiting but instead allow the legislators to run an investigation. The longer they investigate, the more likely they are to discover the state. Legislators can stop their investigation at any time before ℓ. The lobbyist's equilibrium strategy depends on how quickly the legislators can obtain internal information. In particular, we show that when they can obtain this information not too fast or too slowly, the lobbyist shortens his investigation and chooses a more moderate intermediary. In this case, the legislators are likely to learn the state from their own information. The lobbyist therefore needs to move earlier to reduce the chances that the legislators discover the true state and ensure that they use his information instead. As a result, the legislature's ability to acquire information creates an endogenous form of time pressure, which also leads the lobbyist to run a shorter investigation and target a more moderate intermediary. Another implication is that higher time pressure does not necessarily generate more incentives for the legislature to acquire its own information because acquiring internal information affects the information provided by the lobbyist.[10]

[9]This commitment problem would also arise if the lobbyist could observe and disclose information before the end of the investigation (at some $t < \ell^*$). A potential benefit of observing early information would be for the lobbyist to stop a hopeless investigation. The lobbyist would only gain from obtaining early information if that benefit outweighs the cost from losing commitment power.

[10]Minaudier (2022) shows that internal and external information can be either strategic complements or substitutes in a static setting, even without explicit costs of acquiring information.

Pressure from competing interest groups. One source of pressure for lobbyists is the presence of competing interest groups. A competing lobbyist could provide information early on to induce the legislature to stop the process and prevent the other lobbyist from sharing its own biased information. We show in the SI (p. 20) that, with two opposed lobbyists who face no time pressure, (1) if a lobbyist chooses the same duration and intermediary as without competition, the competing lobby would have an incentive to preempt this information provision; and (2) both lobbyists choosing the maximum duration and targeting the median legislator is always an equilibrium. Like time pressure, competition forces the lobbyist to choose a more moderate intermediary. Just like time pressure in the main model, however, competitive pressure does not necessarily lead to a shorter process.

Alternatively, competing interest groups not represented by professional lobbyists may put pressure on the legislators to act quickly. Consider a group of citizens who prefer policy $x = 0$ but do not have the resources to collect information like the lobbyist in our model. Instead, this group might be able to pressure the legislators by organizing grassroots activities such as protests or media campaigns until the government acts. In our model, this would correspond to increasing k. Because in equilibrium a higher k forces the lobbyist to choose a more moderate intermediary, it increases the probability that policy $x = 0$ is enacted. Therefore, competing interest groups with no resources to lobby the government would have incentives to endogenously generate this sense of urgency. However, note that if the interest group does not prefer policy $x = 0$ over policy $x = 1$ but simply wants the status quo changed as soon as possible, our model suggests that increasing the pressure k on legislators to act quickly could backfire, because it can lead to a longer duration in equilibrium.

Empirical Implications

Implications for lobbying studies. Scholars have mostly focused on two policy dimensions: the ideological preferences of legislators and the need for expertise. This is the case in studies measuring lobbying returns (de Figueiredo and Silverman 2006; Richter, Samphantharak, and Timmons 2009; Goldstein and You 2017), lobbying connections and revolving doors (Blanes I Vidal, Draca, and Fons-Rosen 2012; Bertrand, Bombardini, and Trebbi 2014; Shepherd and You 2020; Miller 2022), and campaign donations (Bombardini and Trebbi 2011; Kim, Stuckatz, and Wolters 2020).

Our results show that time pressure is another important dimension of policies affecting lobbying decisions. Two policies facing the same distribution of legislator preferences and need for expertise can induce different lobbying strategies depending on the pressure to act quickly and the time it takes to obtain information. Proposition 2 generates testable predictions relating how pressing a policy matter is and the lobbying strategies that one should expect. Less pressing issues are more likely to involve private lobbying, whereas more pressing issues are more likely to involve open lobbying or lobbying of more moderate and pivotal legislators. Propositions 2 and 3 taken together also generate testable predictions about the type of information that different legislators receive. Counterintuitively, a more friendly legislator—who is easier to persuade—receives more precise information. This occurs because of the subtle tradeoffs involved when more precise information takes time to gather but delaying decisions is costly.

Measuring time pressure. There can be various sources of time pressure, which, in our model, corresponds to the cost of delaying policies. First, some policies might face inherent urgency. This is the case for crisis legislation such as during the COVID-19 pandemic or the Michigan water contamination crisis. Both the lobbyist and the legislators agree that it is better to resolve the crises sooner rather than later, but disagree on how to resolve it. Second, some policies might not be inherently urgent but both the lobbyist and the legislators might dislike the status quo more than either version of a reform. The longer the delay in agreeing on a reform, the longer all parties have to endure the status quo. Finally, time pressure might arise endogenously because of interest group competition or because the legislature acquires information internally, as we showed in the section "Extensions."

Our model suggests that time pressure is an important determinant of lobbying strategies. When it is an exogenous feature of policies, it could be measured based on the ideological preferences of lobbyists and legislators for new policy proposals over the status quo. Other institutional features such as the number of key policies that legislators want to address in priority during their mandate could also proxy for time pressure. Measuring time pressure is more challenging when it is generated endogenously but our results show the importance of accounting for competing lobbies and the capacity of legislatures to generate internal information.

Finally, our model suggests that for a given level of urgency, the cost of delaying policy decisions should be assessed in relation to the speed of obtaining information. For a given level of time pressure, information that

takes more time to arrive is effectively equivalent to increasing the cost of waiting. We should therefore expect relatively new and complex policy areas such as nanotechnologies or artificial intelligence to put legislators under more time pressure than issues where more information is already available, such as the health impact of smoking even if legislators faced the same urgency to resolve them.

Conclusion

This article proposes a theory of informational lobbying in which lobbyists can use allied legislators as intermediaries but in which information acquisition takes time. We characterize the lobbyist's equilibrium strategy and generate testable predictions about the choice of intermediaries and policy duration.

Our results show that policies in which legislators face higher time pressure force the lobbyist to target more moderate intermediaries. However, more time pressure does not necessarily lead to more expedited policies. Both the time pressure faced by legislators and their policy preferences affect the long-run quality of policies. More patient legislators do not necessarily obtain more information as they allow the lobbyist to target more extreme intermediaries. More time pressure, rather than leading to rushed deliberations, can lead to better informed policies.

Time pressure is therefore an important consideration in the debate about the influence of special interest groups. Time pressure affects who lobbyists talk to, whose campaign lobbies donate to, and whom to hire when engaging in revolving-door lobbying.

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Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Appendix A: Proofs of Propositions in the text.

Appendix B: Proofs of extensions and robustness.