Why Go Public . . . and to What Effect?

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Presidential appeals to the electorate have grown markedly over past decades. However, while insightful, empirical scholars have had difficulty establishing the impacts of such efforts. One possible reason is that microfoundations are underdeveloped. Hence, we analyze a model where the president can potentially raise the public profile of an issue and, contrary to past theoretical work, send a signal about the quality of one option relative to another while considering a variety of costs and benefits. Our results indicate that the president's going public is not always associated with observable success—indeed, sometimes failure is guaranteed—and, yet, better choices are likely given the existence of the going public option relative to a hypothetical world without it. Results are largely robust to allowing the chief executive to signal privately without public observance of information transmission. Our findings make sense of existing empirical scholarship and have important implications for future work.

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Introduction: A Rationale for Going Public

Students of the American presidency have spent decades analyzing the phenomenon of going public as part of the lawmaking process—the president attempting to move around legislators with whom he is bargaining and going directly to the people to state his case, presumably to make lawmakers more amenable.[1] There is little dispute that the president makes such choices instrumentally, and that there are correlates of when the chief executive goes public (such as divided government, gridlock, and presidential popularity; e.g., Kernell 1997). Yet, pinning down specific reasons for, and the subsequent effects of, such efforts has proven elusive.

A largely rejected possibility is changing public opinion, per se, so that the citizenry prefers one policy choice to another more than previously and, in the process, moves legislators toward the presidentially-preferred position.[2] Emblematic are the studies of going public by Edwards (e.g., 2003, 2009a, 2009b, 2016; see also Bond and Fleisher 1990); for example, in examining Clinton and Reagan's going public initiatives, he finds that:

[1] We later present conditions where the president goes public without such hope. Also, while some have discussed going public as a means of influencing others, such as the courts (e.g., Rogol, Montgomery, and Kingsland 2018), we follow the literature's principal focus by concentrating on the legislature.

[2] Admittedly, caveats arise from the literature (e.g., Tedin, Rottinghaus, and Rogers 2011; Cavari 2012; Cohen 2015; Miles 2016; Howell, Porter, and Wood 2017), but the inference that the public's policy views are relatively immutable to presidential appeals is well-supported.

> Those who are unaware of a message are unlikely to be know the president's positions. Moreover, many people who do pay attention miss the president's points. […] Those who pay close attention to politics and policy are likely to have well-developed views and thus be less susceptible to persuasion. Better-informed citizens possess the information necessary to identify and thus reject communications inconsistent with their values (Edwards 2009a, p.188-189).

Alternatively, scholars have highlighted going public as a means of raising an issue's salience. There is a selection process based on high congruence between the public and the president, with issues chosen having elevated importance, giving elected representatives a greater need to be responsive (e.g., Canes-Wrone 2001a,b; Clinton et al. 2004; Eshbaugh-Soha 2016). Thus, when Barack Obama stumps for a jobs bill in 2011 or Donald Trump goes public to ask for monies for immigration in 2019, it could be due to the belief that voter opinion on that issue matches the president's and, therefore, responsive legislators will tend to favor the position he advocates. As such, the president appeals to the public if existing public opinion is favorable.[3]

But the president sometimes goes public with an unpopular agenda (e.g., Rottinghaus 2006). For example, after his 1992 election, Bill Clinton pushed broad health care reform, and quintessentially went public by giving a September 1993 address to Congress. A standard depiction of the ensuing debacle was that the administration grossly misread public opinion on

[3] Indeed, public opinion was positively disposed regarding Obama's jobs bill and has been favorable toward spending more on borders (Newport 2011, 2019). Admittedly, neither corresponding bill passed, although public efforts possibly increased legislative support.

the issue (e.g., Clymer, Pear, and Toner 1994; Yankelovich 1995).[4]

Finally, in a related literature on presidential position-taking, some argue that the president desires a good reputation as a leader, so he only takes a clear public position on a policy if he expects it will be successful (Marshall and Prins 2007; Iaryczower and Katz 2016). While these studies typically deal with position-taking on specific bills destined for floor votes, the same logic is applicable to going public—a reputation-driven chief executive should invest a large amount of political capital in going public only if success is guaranteed. Again, however, this is not what we observe, as public efforts often fail.[5]

Then, why does the president sometimes go public with insufficient initial public support and little hope of changing public opinion? When will raising an issue's visibility be successful? When does the legislature yield to the president and why? Will the president deliberately go public knowing he is almost certain to fall statutorily short?

These questions are particularly noteworthy because, as implied, results of statistical analyses have been mixed, at best, regarding going public's impact. For instance, studies include Canes-Wrone (2001a, 2006), who finds a positive effect on budgets; Barrett (2004), who also discovers a positive effect, although only while looking at cases when a president goes public (variation involving the amount of public effort); Lee (2008), who claims that the president

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[4] As we will discuss, our model implies that the president may go public knowing that public opinion is against him, so an interpretation based on an administration being unable to read the numbers is not the only feasible explanation for Clinton going public on health care.

[5] Moreover, if voters are rational actors, they would understand that the president is backing assured winners and would not give him credit by updating positively.

undermines himself in going public by pushing those with a contrary bias to him away; Cameron and Park (2011), who find results similar to Lee when analyzing Supreme Court nominees, with going public leading those biased against the administration to become that much more opposed; Miles (2014), who produces evidence that public appeals are not designed to win over support for an issue but, instead, to crowd other concerns off the public agenda; and Lovett, Bevan, and Baumgartner (2015), who note very contingent and temporary effects on number of hearings (taking issues incorporated into the State of the Union as exogenously determined).

Especially given such murky empirical findings and that we are dealing with a complicated strategic situation, an obvious step forward is reconsidering going public's microfoundations. In other words, formally explicating the information, strategies, and choices of key actors may help make sense of qualitative and quantitative accounts of going public and, perhaps, suggest what might be missing from current empirical analyses, how to improve future studies, or what might explain otherwise head-scratching results.

To date, the only attempt to microfound going public is by Canes-Wrone (2001b, 2006).[6] Her model is in the Romer-Rosenthal agenda-setting (1978) tradition but allows the president to elevate public opinion's importance. While a crucial first step, a key element missing (noted by the author) is incorporating institutional players possibly having different knowledge about how effective policy alternatives would be if implemented. Rather than players just having contrasting ideal points, they may have information about which choices should be more effective than others. Though not built into models of going public, signaling has been

[6] See, also, Ingberman and Yao (1991), in which the president can exploit public attention to make a credible veto threat.

incorporated for decades in analyses of other institutional behavior (e.g., Gilligan and Krehbiel (1990) on Congress and committees, Gailmard and Patty (2012) on bureaucratic relationships, Cameron (2000) on veto politics, and Rogers (2001) on judicial review).

Given this, we specify and analyze a going public model with signaling. Specifically, we suppose that knowledge about the linkage between policy and outcomes varies for both chief executives and legislators and that the former may signal the latter about his information.[7] With voters punishing and rewarding the president and the legislature when a going public strategy is employed, we build in a more intuitive cost structure, in which both legislative and presidential political costs and benefits are raised with heightened issue salience.

In our base model, both the president and the legislature independently learn the state of the world with some probability. Subsequently, the president decides whether to go public (in an extended model the president can transmit information without public observation). If he does, the policy issue gains public attention and the legislature possibly accrues more information about the right policy match, changing potential costs and benefits. The legislature then tries to choose the policy matching the state while considering both its and the president's policy biases. Voters who have been made aware of the policy reward or punish the president if he advocates the right choice and do the same for the legislature if it makes the right choice as opposed to the president.

Thus, our analysis, includes the ability to raise an issue's prominence à la Canes-Wrone and each institutional actor's probability of knowing the proverbial state of the world, the

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[7] In the empirical literature, Eshbaugh-Soha (2006) is one discussion that talks of the president going public as a form of signaling (see, also, Edwards 2016).

[considerable] interactions between the two features, and a more intuitive cost structure that includes voters. The cost structure assumes not only a presidential cost of going public given limited time, resources, and public attention, but the likelihood that for more salient issues the potential rewards for getting a policy right or wrong are higher for both the legislature and the chief executive and that, with going public, the eyes of voters are upon them.

Our results are profoundly different from the extant literature's in three important ways:

(1) With respect to when the legislative choice is favorable to the president, while the political pressure on the legislature from the president going public indeed pushes the legislature to care more about choosing the constituent supported policy given the cost of voter punishment, it is not the exclusive factor for going public to be effective. For one thing, under some circumstances, the president can persuade the legislature by going public even when *not* greatly raising public attention, i.e., even with modest worries about voter attribution of credit or blame. Additionally, under other conditions the president may stay silent when public opinion strongly supports his position because the legislature will choose his favorite policy on its own—it is not just the president caring about public opinion, as the legislature chooses what the public wants when a policy is highly popular even without the additional prod of heightened voter attention;

(2) The president sometimes goes public even knowing that he *cannot* change the legislature's decision. If the legislature strongly disagrees with the president's position, the president is not particularly known to be an issue expert, and public opinion slightly leans to the president's side, the legislature will want to pursue its favorite policy while the president goes public to gain some political credit if he turns out to be right (with voters blaming the legislature, in turn); and

(3) The cost that the president faces sometimes enables him to persuade the legislature even when existing public opinion is *not* supportive of his policy position. By going public the president can credibly signal about the state of the world because the legislature knows that the president pays some cost if wrong and it, too, wants to match the state of the world. Put differently, while previous studies emphasized the political pressure or costs that the president can impose on the legislature by going public, we show that there are otherwise adverse conditions regarding public opinion where it is the cost that the president faces that enables him to persuade the legislature.

Our remaining analysis presents our going public model, states results in terms of influence over outcomes and implications for welfare, sketches an extended model where the president can engage in private legislative lobbying, and discusses our findings' ramifications for understanding public presidential efforts, with an emphasis on improving empirical analyses.

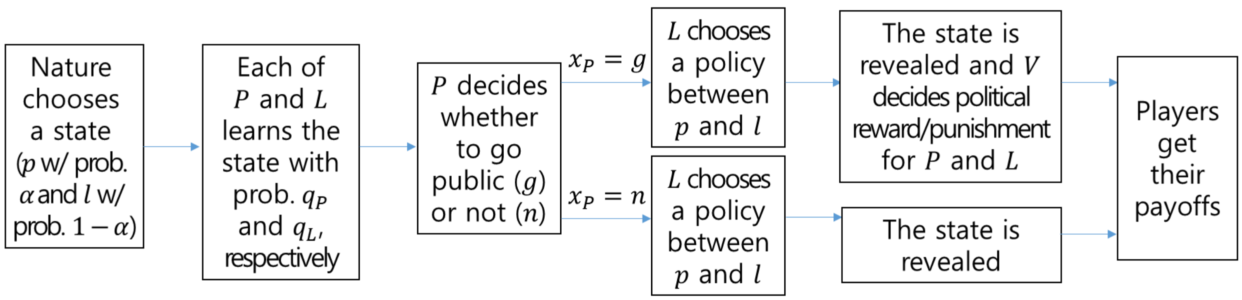
The Going Public Model

There are two states, $Z = \{p, l\}$, two policy options, $X = \{p, l\}$, and three players, the president (P), the legislature (L), and a representative electorate (V). When L chooses its policy, P may interfere in the policymaking process by going public, so that V becomes aware of the issue and can later reward or punish who is responsible for the policy implemented.

Figure 1 summarizes the game's structure. Initially, nature chooses a state $z \in Z$. State p is chosen with probability α and state l with probability $1 - \alpha$. After the state is chosen, P and L independently learn the state with probabilities q_P and q_L respectively, while V remains ignorant. We call a P or L learning the state a type-K player and not learning it a type-I player. Either's type is private information, whereas the prior α is common knowledge. P first decides whether to do nothing (n), or to go public by advocating his favorite policy (g). If P does nothing, L

chooses its policy $x_L \in X$. The policy is then implemented, the state is subsequently revealed to all, and the players receive their payoffs according to the policy choice and the state. If P goes public, V knows who is to blame or credit after L's chosen policy is implemented and the state is revealed. After V decides to reward or punish P and L politically, the players receive their payoffs.

FIGURE 1. SEQUENCE OF THE GOING PUBLIC GAME



Players' utilities have policy and political components. With respect to policy utility, all players prefer a policy that matches the state, but the politicians are weak partisans, each biased toward a different policy (p for the president, l for the legislature). Political utility arises when P goes public for his favorite policy p,[8] so that V decides the optimal amount of political approval/disapproval for P and L.

Specifically, V's utility is given by

[8] We assume that P does not go public for policy l. We consider the situation in which P and L have different policy preferences, and p and l are just labels for each player's favorite policy. Substantively, P would lack strong incentives for investing resources for l because L is already inclined to favor, and thus will likely select it without presidential intervention. P will eschew the option of a public appeal in favor of spending his limited resources on issues where he can actually affect L's incentives to choose his favorite policy.

$$U_V(d_P, d_L, x_P, x_L; z) = \begin{Bmatrix} 0 & if & z = x_L \\ -1 & if & z \neq x_L \end{Bmatrix}$$

$$-\mathbb{I}(x_P = g) * \begin{Bmatrix} |d_P - \bar{d}_P| + |d_L + \bar{d}_L * \mathbb{I}(x_L = l)| & if & z = p \\ |d_P + \bar{d}_P| + |d_L - \bar{d}_L * \mathbb{I}(x_L = l)| & if & z = l \end{Bmatrix},$$

where $\mathbb{I}$ is the indicator function; d_j denotes V's political approval for player $j \in \{P, L\}$; and $\bar{d}_j$'s are preference parameters $\in \mathbb{R}^+$. Thus, V rewards/punishes P whenever it knows that P's public assertion is right/wrong, and rewards/punishes L only if it chooses its favorite policy against the presidential appeal.[9] The magnitude of $\bar{d}_j$'s represents the extent to which V understands or is interested in the issue. The voter in our model is *rationally retrospective* as Groseclose and McCarty (2001) labels it, in that she decides her approval for politicians considering their policy preferences as well as the policy outcome.

Next, L's utility is given by

$$U_L(x_L, x_P, d_L; z) = \begin{Bmatrix} w_L & if & z = x_L = l \\ 0 & if & z = x_L = p \\ -1 & if & z \neq x_L \end{Bmatrix} + \mathbb{I}(x_P = g) * \mathbb{I}(x_L = l) * d_L,$$

where $w_L \geq 0$ is the policy utility that L accrues when it chooses its favorite policy l in state l. When P goes public, L needs to be more careful to choose its favorite policy since there will be political consequences, d_L, for ignoring P.

Similarly, P's utility is

[9] While we assume that V learns the politicians' policy positions as well as the state at the end of the game whenever P goes public, this is easily relaxed to involve some uncertainties. If V gets to decide the political rewards only probabilistically even when P goes public, the optimal political utilities for politicians are just scaled down and substantive results are unchanged.

$$U_P(x_P, x_L, d_P; z) = \begin{Bmatrix} w_P & if & z = x_L = p \\ 0 & if & z = x_L = l \\ -1 & if & z \neq x_L \end{Bmatrix} + \mathbb{I}(x_P = g) * (d_P - c),$$

where $w_P \geq 0$ is the policy utility that P receives when his favorite policy, p, is chosen by L and it matches the state; and $c > 0$ is a cost that P pays when going public, given limited presidential time and resources.[10]

Our model's unique feature is that the president decides whether or not to have an audience who observes the signaling game between him and the legislature and provides political payoffs.[11] Even though every player wants a policy matching the state, both the president and the legislature are incentivized to take a gamble to pursue their own particularistic interest, $w_j,\ j \in \{P, L\}$, which can be interpreted as their primitive ideological bias or any benefit that their core supporters, not the general public's, accrue. By going public, the president is choosing to invite

[10] Note that neither going public's cost (c) nor the political reward/punishment (d_L and d_P) need be big. Both in the model and the real world, cost c can be very small or big depending on how P makes his public appeals (e.g., via a tweet or a series of barnstorming stops). Likewise, even if P exerts great effort to gain public attention, V might not know well about the implemented policy (e.g., if the issue is very complicated or not of general interest). Hence, while the extent to which P affects the legislative outcome depends on the magnitude of these cost parameters, the model is applicable to the full gamut of cases, from those with costless public appeals or low public attention to those with extremely expensive outreach and a fully engaged public.

[11] This distinction is clearer in our extension where the president has an option to talk privately to the legislature. As such, therefore, the president chooses between playing a typical (costless) signaling game or a costly signaling game with an audience.

an audience who could possibly harm not only the legislature's utility but also his own in case he is gambling, so the legislature views his signal as more credible.

Analysis

The solution concept we use to solve the game is Perfect Bayesian Equilibrium. Specifically, P and L's strategies maximize their expected utility given the others' strategies and the beliefs, and the beliefs are consistent with the strategies and derived by Bayes' rule whenever possible. We also require strategies to be subgame perfect so that V optimally decides on political rewards for the politicians on the off-the-equilibrium path. We restrict our attention to those equilibria in which the president is not eager to lie publicly: the president is not more likely to go public when he learns the state is l than when he learns the state is p.

We start with V's equilibrium strategy. It can be shown that V's dominant strategy is to set $\begin{Bmatrix} d_P^* = \bar{d}_P \text{ and } d_L^* = -\bar{d}_L * \mathbb{1}(x_L = l) & if & z = p \\ d_P^* = -\bar{d}_P \text{ and } d_L^* = \bar{d}_L * \mathbb{1}(x_L = l) & if & z = l \end{Bmatrix}$. Given V's strategy, choosing the policy correctly matching the state no matter what P does is a dominant strategy for a K-type legislature. Thus, when stating our model's results, we omit what a type-K legislature does and focus exclusively on the type-I legislature's strategies. Let $\sigma_L(x_L|x_P)$ be the probability that the type-I legislature chooses policy $x_L \in \{p, l\}$ after observing P's action, $x_P \in \{g, n\}$. Differently from the legislature, the president may lack a dominant strategy depending on parameter values. Let $\sigma_P(x_P|K, z)$ denote the probability of a type-K president playing x_P in state z, and $\sigma_P(x_P|I)$ be the probability of a type-I president playing x_P.

We first show that, in equilibrium, the threshold of the posterior belief for which L chooses $x_L = p$ is lower if P goes public. Since L can receive a greater utility from l relative to p, there is a degree to which it is willing to take risk and opt for l even when p is more likely the correct policy. If P goes public, however, L must consider the possibility that P learned the true state and the political punishment it will suffer if P's public assertion proves right. Thus, L may pick policy p when it would have chosen l sans presidential action. Let $\mu(p|x_P)$ be L's posterior belief on the state being p when observing the president playing $x_P \in \{g, n\}$. Lemma 1 formally states that the threshold for L's beliefs on state p to choose policy p is lower when P goes public than when he remains silent.[12]

Lemma 1. *In equilibrium, when P plays* n, *L chooses* p *if* $\mu(p|n) > \frac{w_L+1}{w_L+2} \equiv \kappa$, l *if* $\mu(p|n) < \kappa$, *and is indifferent between* p *and* l *if* $\mu(p|n) = \kappa$. *When P plays* g, *L chooses* p *if* $\mu(p|g) > \kappa - \frac{\bar{d}_L w_L}{(w_L+2)(w_L+2+2\bar{d}_L)}$, l *if* $\mu(p|g) < \kappa - \frac{\bar{d}_L w_L}{(w_L+2)(w_L+2+2\bar{d}_L)}$, *and is indifferent between* p *and* l *if* $\mu(p|g) = \kappa - \frac{\bar{d}_L w_L}{(w_L+2)(w_L+2+2\bar{d}_L)}$.

Notice that, from the legislature's perspective, public presidential action has informational and political pressure components. In the extreme, with a completely unbiased legislature (i.e., if $w_L = 0$), only information transmission is relevant. If L simply cares about picking the correct policy and is not biased toward policy p, its threshold is $\frac{1}{2}$ regardless of the presidential action. Thus, L chooses the policy more likely matching the state and, as indicated, the president's going public plays an *exclusively* informational role, imposing no political burden on the legislature to change its decision.

Alternatively, the legislative bias level conditions the pressure that going public brings. The more L prefers l to p (i.e., the higher the value of w_L) the higher the threshold is above $\frac{1}{2}$. With a high threshold and presidential inaction, L needs to believe p is extremely likely to be correct to give up its big potential gain from selecting l if it matches the state of the world. When

[12] Proofs of all propositions and lemmas are in Appendix B.

the president goes public, the political benefit/cost comes in and the legislative support threshold is pushed down closer to $\frac{1}{2}$. Note that, no matter the extent of political pressure, given that $w_L > 0$ the threshold is still strictly over $\frac{1}{2}$.

Turning to the president, he strategically chooses what to do given his knowledge of the other players' incentives. Since going public can be costly, P goes public only if he expects either great political reward from V even after considering the related costs or L will more likely choose his favored policy, or both. As such, going public is an informative signal in equilibrium, implying that no pooling equilibrium in which P always goes public exists as stated in Proposition 1.

Proposition 1. *There is no pooling equilibrium in which P always goes public.*

Proposition 1 indicates that, depending on P's knowledge of the state, it is sometimes strictly better for him to remain silent even though he is biased toward policy p. Thus, going public can deliver information to L on what P knows about the state.

In contrast, under some circumstances P might be better off doing nothing *regardless* of his knowledge of the state. One obvious driver of inaction is when going public is too costly. Sometimes the public is disinterested in the issue (e.g., many foreign policy concerns) or the issue is so complicated that excessive time and resources to get public attention is required, resulting in P opting to give up on his favored policy. P may also lack incentive for going public when the legislature is almost certain to choose his preferred option without prodding. This might happen when α is high enough, creating sufficient consensus about p. Proposition 2 states conditions for such pooling formally.

Proposition 2. *A pooling equilibrium in which P always plays n exists if*

1) $c \geq \bar{d}_P$ *or*

2) $(1 - q_L)(w_P + 1) + c \geq \bar{d}_P > c$ *and* $\alpha \geq \kappa$.

If $c > \bar{d}_P + (1 - q_L)(w_P + 1)$*, this is the unique equilibrium.*

Thus, Proposition 2 states that if going public's cost, c, is too big to be compensated by the political and policy gain from it then P always stays silent, even when learning that the state is p. When c is modest, or even very small, P may still not go public if the prior belief is high enough (i.e., $\alpha \geq \kappa$) that L will choose policy p on its own. Note that threshold κ is increasing in w_L (i.e., $\frac{\partial \kappa}{\partial w_L} > 0$), implying a negative relationship between the likelihood of a pooling equilibrium and the extent of the legislature's bias toward l.

Additionally, while existing studies imply that P should go public only with enough public support, Proposition 2 shows this might not be the case due to L also caring about implementing the correct policy. When existing public opinion is favorable towards p, interpretable as the prior belief α is highly supportive of the president's favorite policy, the legislature also knows that policy p is likely correct and chooses it without additional pressure.[13] As his preferred policy is selected, the president might invest his limited resources on issues where he can potentially influence the outcome.

When going public's cost is not too big, other equilibria in which P makes such an appeal to persuade L also exist. To describe these equilibria, we define two thresholds:

[13] One interpretation of the model is that the politicians want to choose a policy preferred by the electorate, but that this preference depends on the state that is only revealed at the game's end once the chosen policy is implemented. As such, since α is the *ex-ante* probability that the public prefers policy p, it is interpretable as public support for policy p at the time of policymaking.

$$\theta_L = \frac{(1-q_P)(w_L+1+\bar{d}_L)}{(1-q_P)\left(w_L+1+\bar{d}_L\right)+1+\bar{d}_L}\text{, and}$$

$$\theta_P = \frac{(1-q_L)+\bar{d}_P+c}{(1-q_L)(w_P+2)+2\bar{d}_P}.$$

Threshold θ_L is the α level at which L is indifferent between p and l when observing g given that P goes public unless he learns that the state is l (i.e., if he learns the state is p or remains uninformed). Since P is biased toward policy p, L knows that a president failing to learn the state is incentivized to pretend that he knows the state is p. If P goes public both when learning that the state is p and not knowing the state, the legislature will believe his message only if α is over the bar defined by θ_L.

Conversely, threshold θ_P defines the α level where P is indifferent, given that L chooses p over l only when there is a presidential appeal, between going public and doing nothing when not knowing the state. Thus, when $\alpha < \theta_P$, P does nothing even if he knows it will result in L choosing l. Because p is highly likely to be wrong, the certain cost of going public, c, and the potential political blame from V if his policy endorsement proves erroneous, $\bar{d}_P$, are not worth risking.

We now present the equilibria in which P goes public upon learning that the state is p. As long as $c \leq \bar{d}_P + (1-q_L)(w_P+1)$ such an equilibrium exists for any α, although going public's effectiveness varies depending on the range in which α falls. As stated in the following proposition, with sufficiently high α, P goes public unless he is sure that the state is l, and L chooses p whenever observing g.

Proposition 3. *Suppose* $c \leq \bar{d}_P + (1-q_L)(w_P+1)$. *If* $\alpha \geq \max\{\theta_L, \theta_P\}$, *there is an equilibrium in which*

1) $\sigma_P(g|K,p) = \sigma_P(g|I) = 1, \sigma_P(n|K,l) = 1,$

2) $\sigma_L(p|g) = 1$, $\sigma_L(l|n) = 1$, *and*

3) $\mu(p|g) = \frac{\alpha}{\alpha+(1-q_P)(1-\alpha)}$, $\mu(p|n) = 0$.

Thus, when the prior belief on p is sufficiently high, going public is effective enough to change the legislative outcome from l to p. This is true even though L knows that P goes public both when he knows the state is p and when he fails to learn the state. Recall that in the pooling equilibrium in Proposition 2, L selects p on its own if $\alpha \geq \kappa$. When $\alpha < \kappa$, however, L needs presidential persuasion to choose p.

An important implication from Proposition 3 is that, in this equilibrium, L's policy choice changes not just because of the political pressure but as a function of the information garnered from P's going public. In fact, even if the political reward/punishment for L, $\bar{d}_L$, equals 0, there is a range of α smaller than κ allowing the equilibrium in Proposition 3.

Remark 1. *Suppose* $c \leq \bar{d}_P + (1-q_L)(w_P+1)$. *Then,*

$$\kappa - \theta_L = \frac{w_L(\bar{d}_L+q_P)+(1+\bar{d}_L)q_P}{(w_L+2)((1-q_P)(w_L+1+\bar{d}_L)+1+\bar{d}_L} > 0, \textit{ and } \kappa - \theta_P = \frac{(\bar{d}_P+(1-q_L)(w_P+1)-c)w_L+(1-q_L)w_P}{(w_L+2)\left((1-q_L)(w_P+2)+2\bar{d}_P\right)} > 0.$$

From Remark 1 we can easily see that $\kappa > \max\{\theta_L, \theta_P\}$ even if $\bar{d}_L = \bar{d}_P = 0$. This implies that, for a certain range of α, going public can persuade L even without raising public attention much. Of course, if $\bar{d}_L$ increases, P can persuade L for a wider range of α by pushing down the bar for L to give up its betting on l in the fear of potential political punishment.

As foreshadowed, P may also go public when L will be unaffected. When α is smaller than θ_L, under some parameter values there is an equilibrium in which P's strategy corresponds to Proposition 3—P goes public knowing the state is p or not knowing the state—but L is unresponsive. Per Proposition 4, this happens when θ_L is larger than $\frac{\bar{d}_P+c}{2\bar{d}_P}$ and α lies between.

Proposition 4. *If* $\frac{\bar{d}_P+c}{2\bar{d}_P} < \alpha < \theta_L$, *there is a unique equilibrium in which*

1) $\sigma_P(g|K,p) = \sigma_P(g|I) = 1, \sigma_P(n|K,l) = 1,$

2) $\sigma_L(l|g) = \sigma_L(l|n) = 1,$ *and*

3) $\mu(p|g) = \frac{\alpha}{\alpha+(1-q_P)(1-\alpha)},\ \mu(p|n) = 0.$

In Proposition 4, since α is smaller than the threshold θ_L, the presidential public message is insufficiently credible to persuade L. L would believe a message if it expects that P goes public less frequently when not knowing. But this is not the case, since α is large enough to guarantee a positive expected political gain for P who is ignorant (i.e., $\alpha\bar{d}_P - (1-\alpha)\bar{d}_P - c > 0$).[14] Thus, going public does not change the policy outcome in this equilibrium, but P can still expect to get political credit and to blame L for not listening when the state is revealed to be p.

Note that, for $\alpha \in \left(\frac{\bar{d}_P+c}{2\bar{d}_P}, \theta_L\right)$, this is the unique equilibrium and no pooling equilibrium exists. The range $(\frac{\bar{d}_P+c}{2\bar{d}_P}, \theta_L)$ is not empty only if $\bar{d}_P$ is larger than c and θ_L is relatively large.[15] Substantively, the political utility $\bar{d}_P$ would be large if the issue at stake is something about which V is genuinely interested. And the cost c would be relatively small if P can easily put out a public message. For example, c might be too high if P needed to spend much time and effort traveling to get his message out, c might be somewhat lower (but perhaps not sufficiently low) if the message could be delivered via nationally televised speeches or press conferences (particularly with viewership becoming more fragmented in modern times relative to decades

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[14] In fact, since $\frac{\bar{d}_P+c}{2\bar{d}_P} \geq \frac{1}{2}$, the prior α is larger than $\frac{1}{2}$, which implies p is still more likely the correct policy.

[15] To have $\alpha > \frac{\bar{d}_P+c}{2\bar{d}_P}$, it should be $\frac{\bar{d}_P+c}{2\bar{d}_P} < 1$, which implies $\bar{d}_P > c$.

ago), or c might be sufficiently low (e.g., if P can use social media to distribute his public position widely). Note that the threshold θ_L is large if the bias term, w_L, is large or P's competence (i.e., his probability of learning the state), q_P, is small.

Thus, Proposition 4 implies that P will speak out for his favorite policy whenever he can do so at a small cost if the public is highly interested. In this equilibrium public opinion leans slightly toward P's position, not enough to persuade L but sufficient to provide P with political gains even when not knowing the state. P goes public despite understanding that his message cannot change the legislative outcome given its strong preference on the issue and P is known to not be an expert. For example, if parameter values are $w_L = 1$, $q_P = 0.1$, $\bar{d}_P = \bar{d}_L = 0.5$, and $c = 0.01$, the equilibrium described in Proposition 4 is the unique equilibrium that we will observe for $\alpha \in (0.51, 0.6)$.

While the previous equilibrium exists only if $\theta_L > \frac{\bar{d}_P + c}{2\bar{d}_P} > \theta_P$, the next proposition presents an equilibrium that exists as long as $\theta_L > \theta_P$ (i.e., $\frac{\bar{d}_P + c}{2\bar{d}_P}$ can be unbounded). In this equilibrium, although α is even smaller than in the previous proposition, P can sometimes persuade L to choose p. Since L mixes between p and l when P goes public, we will observe a success or a failure under the same condition.

Proposition 5. *Suppose* $c \leq \bar{d}_P + (1 - q_L)(w_P + 1)$. *If* $\theta_P < \alpha < \min\{\frac{\bar{d}_P + c}{2\bar{d}_P}, \theta_L\}$, *there is an equilibrium in which*

1) $\sigma_P(g|K,p) = 1, \sigma_P(n|K,l) = 1,\ \sigma_P(g|I) = \frac{q_P}{1-q_P}\left(\frac{\alpha(1+\bar{d}_L)}{(1-\alpha)(w_L+1+\bar{d}_L)-\alpha(1+\bar{d}_L)}\right)$,

2) $\sigma_L(p|g) = \frac{\bar{d}_P(1-2\alpha)+c}{(1-q_L)(\alpha(w_P+2)-1)}$, $\sigma_L(l|n) = 1$, *and*

3) $\mu(p|g) = \kappa - \frac{\bar{d}_L w_L}{(w_L+2)(w_L+2+2\bar{d}_L)}$, $\mu(p|n) = \frac{\alpha(1-q_P)\,\sigma_P(n|I)}{\alpha(1-q_P)\,\sigma_P(n|I)+(1-\alpha)(q_P+(1-q_P)\,\sigma_P(n|I))}$.

Going public's cost is the essential element for persuasion in this equilibrium. How can P possibly persuade L even though α is smaller than θ_L? Since α is not big enough, going public is unattractive to P who does not know the state because of the related expected cost, $-\alpha\bar{d}_P + (1-\alpha)\bar{d}_P + c = \bar{d}_P(1-2\alpha) + c$, unless a chance to change L's policy choice exists. Thus, a president not learning the state goes public only with some probability. As L knows that P is more likely to go public when he knows that the state is p, it sometimes listens to him even though α is small.

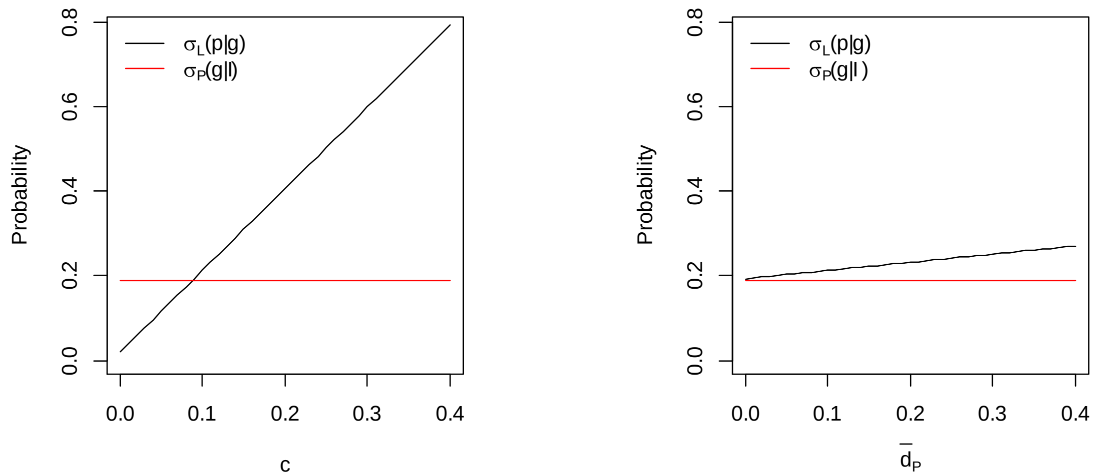
The importance of the cost of going public for the president is clearly shown in his likelihood of being successful when making a public appeal. The legislature's probability of choosing p after P plays g, $\sigma_L(p|g)$, increases as the expected cost of going public, $-\alpha\bar{d}_P + (1-\alpha)\bar{d}_P + c = \bar{d}_P(1-2\alpha) + c$, rises. Thus, when α is not big enough, P exercises more power to persuade L when going public has a higher than a lower expected cost.

Figure 2 provides an example of the equilibrium strategies in Proposition 5, fixing $\alpha = 0.45, w_P = 1.5, w_L = 1, q_P = 0.2, q_L = 0.1$, and $\bar{d}_L = 0.1$, and holding c and $\bar{d}_P$ at 0.1 when not of interest. In the left panel the legislature's probability of choosing policy p rapidly increases from 0 to 0.79 as c increases from 0 to 0.4. Likewise, in the right panel it increases from 0.19 to 0.27 as $\bar{d}_P$ increases from 0 to 0.4. The president's strategy, $\sigma_P(g|I)$, remains at 0.19 since the other parameters are fixed.

Finally, when $\alpha \leq \theta_P$, there is a more informative equilibrium in which P goes public only when knowing that the state is p. Hence, L learns that the state is p with certainty when P goes public. However, this case, in which P would be influential in moving policy in his preferred direction, is almost certainly rarely observed, as p is not likely to be the correct policy given that α is small and P must learn the state.

FIGURE 2. THE COST OF GOING PUBLIC AND THE PROBABILITY OF SUCCESS

(Legislature Prob. Choosing p after President Plays g [Black] given Presidential Strategy [Red])



Notes: We assume that $\alpha = 0.45, w_P = 1.5, w_L = 1, q_P = 0.2, q_L = 0.1$, and $\bar{d}_L = 0.1$. We also assume that $\bar{d}_P = 0.1$ and $c = 0.1$ in the left and right panels respectively.

Proposition 6. *Suppose $c \leq \bar{d}_P + (1 - q_L)(w_P + 1)$. If $\alpha \leq \theta_P$, there is an equilibrium in which*

1) $\sigma_P(g|K, p) = 1, \sigma_P(n|I) = \sigma_P(n|K, l) = 1$

2) $\sigma_L(p|g) = 1,\ \sigma_L(l|n) = 1$, *and*

3) $\mu(p|g) = 1, \mu(p|n) = \frac{\alpha(1-q_P)}{\alpha(1-q_P)+(1-\alpha)}$

Having examined the relevance of different public support levels, we are now positioned to take stock. To do so, we put our collective findings from Propositions 3-6 together in a series of examples with different biases and costs vis-à-vis the president and likelihoods that the legislature and the president know the state of the world. The key difference involves θ_L, which is the α level of legislative indifference between p and l given that the president goes public unless he learns that the state is l, particularly relative to the analogous measure for the president, θ_P, the threshold the president not knowing the state is indifferent between going public and doing nothing and having the legislature select l, and the president's threshold regarding costs, $\frac{\bar{d}_P+c}{2\bar{d}_P}$. In the three examples depicted by Figures 3-5, θ_L goes from being greater than θ_P and $\frac{\bar{d}_P+c}{2\bar{d}_P}$, to lying between them, to being less than both. Given each threshold level and each value of α, we present the probability of the president going public, $\Pr(x_P = g)$, and the corresponding probability of going public being successful, $\Pr(x_L = p|x_P = g)$.[16] Having purposefully chosen these examples, they demonstrate three distinct cases (despite some notable similarities) that depend on the magnitude of θ_L relative to $\frac{\bar{d}_P+c}{2\bar{d}_P}$ and θ_P.

Figure 3 shows when legislative indifference is high relative to the cost threshold, $\theta_L > \frac{\bar{d}_P+c}{2\bar{d}_P}$. As α increases, the equilibria specified in Propositions 3-6 are played in reverse order. In doing so, the probability of going public increases, though quite non-linearly, as α goes up (although this relationship will not necessarily hold empirically when $\alpha \geq \kappa$ because of the pooling equilibrium in which P always plays n). Conversely, the president's likelihood of success when going public is not monotonically increasing in α. Rather, when α lies in an intermediate range, $\alpha \in (\theta_P, \theta_L) = (0.34, 0.63)$, the probability of success declines as α

[16] The latter probability is calculated as $\Pr(x_L = p|x_P = g) = \alpha q_L + (1 - q_L)\sigma_L(p|g)$. That is, L might choose p not only when P persuades it but when it learns that it is the state. The two processes generating this choice are observationally equivalent. Note also, that while we only present the equilibria in which P sometimes goes public, there also exists a pooling equilibrium when $\alpha \geq \kappa$ in all three examples.

increases. Thus, there is a world where the president goes public more often despite the likelihood of failure rising.

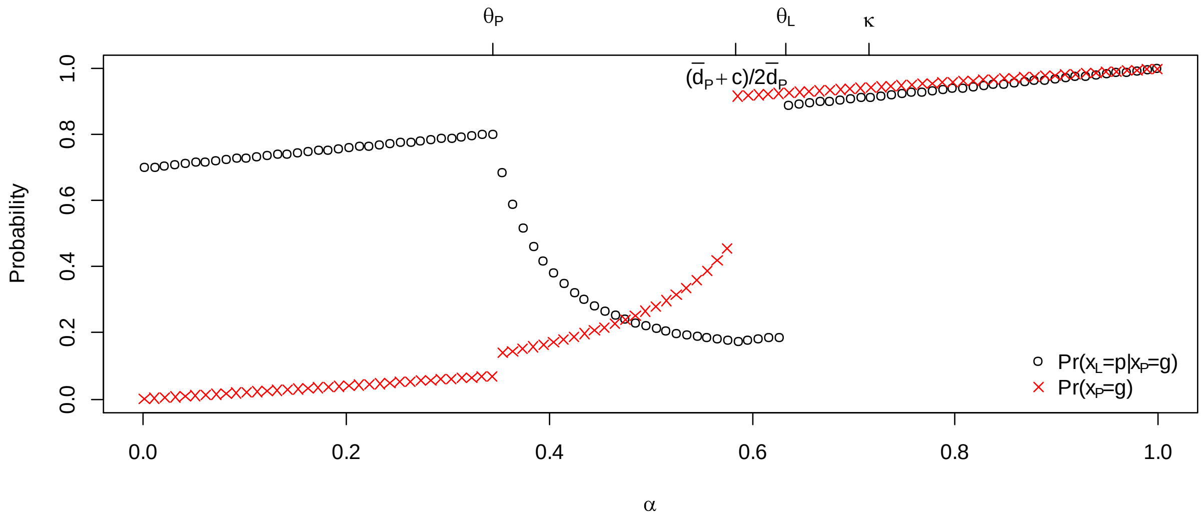
Figure 4 illustrates the case when the president's cost threshold is greater than θ_L, such that $\theta_P < \theta_L < \frac{\bar{d}_P + c}{2\bar{d}_P}$. The principal distinction in what we find relative to the previous case is a function of no equilibrium existing in which the president goes public and fails with certainty as specified in Proposition 4. This is due to going public now being too costly for a type-I president if the legislature will never choose p. However, the other equilibria all exist as in the first case, and the overall patterns are similar.

Finally, the last case, shown in Figure 5, is considerably different from the other two examples. As θ_L is now smaller than θ_P, the legislature chooses policy p if the president goes public. Consequently, only the equilibria in Propositions 6 and 3 are played in order as α increases. As depicted, the success probability as well as the going public probability increases as α increases, with the former increasing linearly and the latter having a break in level defined by θ_P. Note that the patterns in Figure 5 are only realized when (w_L, w_P) are small, and $(q_P, q_L, \bar{d}_P, \bar{d}_L, c)$ are big. In other words, the monotonic relationship between public opinion and presidential success conditional on going public holds if president-legislative preference divergence is not too great, both actors know the issue well, and the issue is popular among the people. However, such non-partisan issues with great public attention are likely scarce.

Our analysis, as the examples highlight, provides a means of understanding why previous empirical analyses, qualitative and quantitative, show mixed results about going public's efficacy: Going public is the outcome of a game where abstention may sometimes be a correlate of success and action may be a correlate of failure. Thus, while sometimes going public may result in a better outcome from the president's perspective, other times it may not. Key may be

FIGURE 3. PUBLIC OPINION AND GOING PUBLIC: LEGISLATIVE INDIFFERENCE GREATER THAN COST THRESHOLD

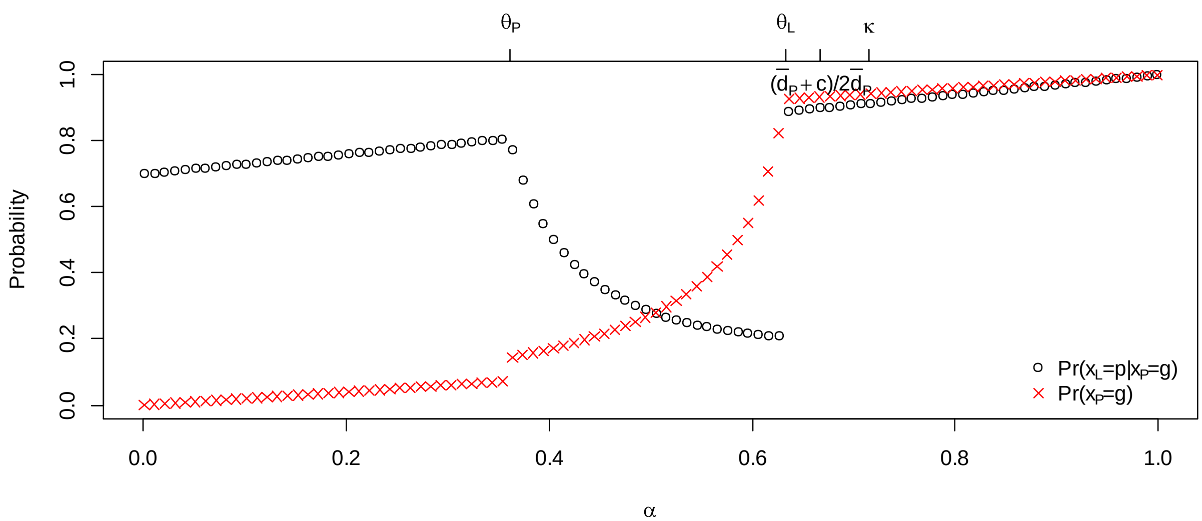
$$\left(\boldsymbol{\theta_L > \frac{\bar{d}_P + c}{2\bar{d}_P}}\right)$$



Notes: In this example, $w_L = w_P = 1.5, q_P = 0.2, q_L = 0.3, \bar{d}_P = \bar{d}_L = 0.3, c = 0.05$.

FIGURE 4. PUBLIC OPINION AND GOING PUBLIC: LEGISLATIVE INDIFFERENCE GREATER THAN COST THRESHOLD, LESS THAN PRESIDENTIAL INDIFFERENCE

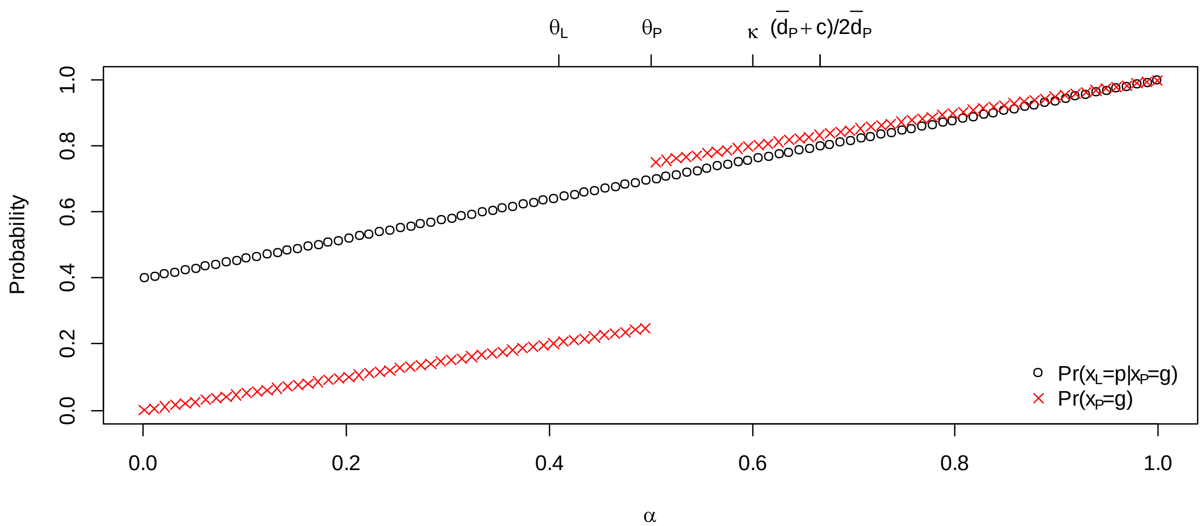
$$\left(\boldsymbol{\theta_P < \theta_L < \frac{\bar{d}_P + c}{2\bar{d}_P}}\right)$$



Notes: In this example, $w_L = w_P = 1.5, q_P = 0.2, q_L = 0.3, \bar{d}_P = \bar{d}_L = 0.3, c = 0.1$.

FIGURE 5. PUBLIC OPINION AND GOING PUBLIC WHEN LEGISLATIVE INDIFFERENCE LESS THAN PRESIDENTIAL INDIFFERENCE

$(\boldsymbol{\theta_L < \theta_P})$



Notes: In this example, $w_L = w_P = 0.5, q_P = 0.5, q_L = 0.6, \bar{d}_P = \bar{d}_L = 0.3, c = 0.1.$

what set of issues or concerns are examined.

To reiterate, in the going public model there are instances both where the president may not go public when he expects that the legislature chooses his favorite policy without such prompting and where he goes public when he sees considerable possibility, even high likelihood, of failure. Per the latter, our model indicates that there are conditions where the president may not expect to persuade the legislature from the start but, nevertheless, is motivated to appeal publicly to at least accrue some political credit when he must suffer from the legislature's wrong choice. Alternatively, there are conditions under which going public elevates an issue and raises the probability of his presidential success but, by no means, guarantees it. Thus, statistical work may be combining different kinds of cases, producing contrasting results depending on the sample. Qualitative work, as well as what is sometimes depicted in journalistic accounts, may be portraying the president as making grievous mistakes—by going public when the odds seem against him and the results appear not to his liking—when this behavior is consistent with utility-maximization in our model.

Our assessment does not indicate that scholars wishing to assess the impacts of going public are at a complete loss. While multiple equilibria make proving empirically whether presidential public appeals are unconditionally influential problematic, predictions are possible. We know when public appeals are more effective when they actually happen. Such conditions are stated in Lemma 2.

Lemma 2. *In equilibrium, the probability of presidential success,* $\Pr(x_L = p | x_P = g)$, *weakly increases in* c,q_P, *and* $\bar{d}_L$, *and weakly decreases in* w_P *and* w_L.

Lemma 2 indicates that, conditional on the president going public, he is [weakly] more likely to prevail legislatively if he must invest more resources, is known to be competent on the issue, the issue is popular with the electorate, and preference conflicts across the branches are smaller. It, in turn, suggests that a promising area for empirical studies is taking all occasions when the president goes public—rather than comparing when the chief does and does not make a mass appeal—and examining what increases his success probability.

Is Going Public a "Good Thing"? Implications for Policy Decisions

While, typical of analyses of going public, we have focused on issues of influence, we can also use our model to generate insights into how the presidential selection between action and silence impacts the quality of policy choices. Hypothetically, we can compare worlds where going public is possible to where it is forbidden.

However, whether the net effect of the going public option helps or hurts policy decisions is not immediately evident. Rather, having examined the equilibria in which the president sometimes or always goes public, we need to evaluate whether the president's doing so induces good legislative decisions more or less often than if going public was not an option.

We can make this assessment because, per propositions 3-6, for any α there is always an equilibrium in which the president sometimes goes public. In fact, for each case in each proposition there is no other equilibrium in which the president sometimes goes public. Thus, we can evaluate the equilibrium in these propositions to discern the impact on policy adoptions.

Recall that if the legislature chooses without considering the president, it selects p if $\alpha \geq \kappa$ and l otherwise. Let x_L^0 denote this policy choice. Then let x_L^g be the choice in the equilibrium in which the president sometimes goes public to affect the legislative decision. Also, to simplify explication, when $\theta_P < \alpha < \min\{\frac{\bar{d}_P + c}{2\bar{d}_P}, \theta_L\}$ denote the probability that the type-I legislature chooses the correct policy in state z by η_z, which can be specified for each state from Proposition 5 as follows:

$$\eta_p = \frac{\bar{d}_P(1-2\alpha)+c}{(1-q_L)(\alpha(w_P+2)-1)}\left(q_P + \frac{\alpha q_P\left(1+\bar{d}_L\right)}{(1-\alpha)\left(w_L+1+\bar{d}_L\right)-\alpha\left(1+\bar{d}_L\right)}\right), \qquad \text{and}$$

$$\eta_l = 1 - \frac{\bar{d}_P(1-2\alpha)+c}{(1-q_L)(\alpha(w_P+2)-1)}\frac{\alpha q_P\left(1+\bar{d}_L\right)}{(1-\alpha)\left(w_L+1+\bar{d}_L\right)-\alpha\left(1+\bar{d}_L\right)}.$$

Table 1 provides the probabilities of choices x_L^0 and x_L^g matching the state for each range of α.

As Table 1 shows, our results depend on whether state p or l holds and how often the right choices are made in each state. Key is that the probability of matching policy p to state p is always weakly higher when P can persuade L by going public in equilibrium, but the probability of choosing policy l in state l is equal or lower in the equilibrium with going public. Hence, the going public option's net impact depends on assessing whether its positive effect in matching state p is greater than its negative in missing on l.

TABLE 1. PROBABILITY OF CHOOSING THE CORRECT POLICY WITH AND WITHOUT ABILITY OF PRESIDENT TO GO PUBLIC (PROBABILITIES CONDITIONED BY STATES OF THE WORLD)

<table>
<tr><th>Range of α</th><th>$\Pr(x_L^0 = p \mid z = p)$</th><th>$\Pr(x_L^0 = l \mid z = l)$</th><th>$\Pr(x_L^g = p \mid z = p)$</th><th>$\Pr(x_L^g = l \mid z = l)$</th></tr>
<tr><td>$\alpha \geq \kappa$</td><td>1</td><td>q_L</td><td>1</td><td>$q_L + (1 - q_L)q_P$</td></tr>
<tr><td>$\max\{\theta_L, \theta_P\} \leq \alpha < \kappa$</td><td rowspan="4">$q_L$</td><td rowspan="4">1</td><td>1</td><td>$q_L + (1 - q_L)q_P$</td></tr>
<tr><td>$\frac{\bar{d}_P + c}{2\bar{d}_P} < \alpha < \theta_L$</td><td>$q_L$</td><td>1</td></tr>
<tr><td>$\theta_P < \alpha < \min\{\frac{\bar{d}_P + c}{2\bar{d}_P}, \theta_L\}$</td><td>$q_L + (1 - q_L)\eta_p$</td><td>$q_L + (1 - q_L)\eta_l$</td></tr>
<tr><td>$\alpha \leq \theta_P$</td><td>$q_L + (1 - q_L)q_P$</td><td>1</td></tr>
</table>

Doing so, as our next remark shows, indicates that we are weakly better-off with the president able to act. The gain in state a is the same or larger than the loss in state b, so the *ex-ante* probability of choosing the correct policy is weakly higher in the equilibrium in which the president goes public.

Remark 2. *The probability of* $x_L^0 = z$ *is weakly smaller than the probability of* $x_L^g = z$ *for all* $\alpha \epsilon (0,1)$. *That is,*

$$\alpha \Pr(x_L^0 = p \mid z = p) + (1 - \alpha)\Pr(x_L^0 = l \mid z = l) \leq \alpha \Pr\left(x_L^g = p \middle| z = p\right) + (1 - \alpha)\Pr\left(x_L^g = l \middle| z = l\right).$$

The equality holds only for $\theta_P < \alpha < \min\left\{\frac{\bar{d}_P + c}{2\bar{d}_P}, \theta_L\right\}$.

Therefore, the going public option is, on net, a positive for the quality of policy choices.[17] Not only does the president benefit by being able to go public because he gets policy l

[17] Some might argue (e.g., in the spirit of Edwards 2016) that the distractions of going public for the president (i.e., he spends less time on other important matters or means of influence) are such that the emergence of public appeals as a key part of the president's toolkit makes the option problematic. This possibility is not fully captured by our model despite our inclusion of costs.

implemented more often in state l, but at the same time the legislature chooses the correct policy at least as often.

Extension—Expanding the President's Choice Set

Of course, executive lobbying of the legislative branch is often done quietly rather than publicly, and one might wonder whether this option undermines our going public findings. Thus, as a final step we allow the president an additional option: talking privately to the legislature. For parsimony, we sketch this rather complicated extension, with details and formal results available in Appendix A.

Instead of talking out loud to mobilize people, the president might call legislators or otherwise contact them privately to explain his opinion (on presidential lobbying generally, see Beckmann 2010, Cohen 2019). In contrast to going public, we assume that engaging in private communication is costless and does not raise public attention. Thus, the president can now choose whether to play a costless signaling game privately with the legislature, or a costly one in public so that the electorate can learn whom to reward or punish for the policy outcome later.

Despite the president's broadened choices in our extended model our previous findings still hold: the president rationally goes public without strong public support and sometimes does so even when failure is guaranteed. Most notably, for a not-too-extreme α, in every equilibrium the president never talks privately but goes public unless he learns that the state is l although the legislature listens to the president only if $\alpha \geq \theta_L$.

Final Thoughts: Going Public—When and Where Effective

We began our analysis with two observations, one principally empirical and the other largely theoretical. Responding to the latter given the former, with the hope that empirical direction will emerge from our theoretical contribution, motivates our analysis.

The first observation revolved around a puzzle: Few observers dispute that both going public to effect legislative outcomes constitutes a presidential strategy—indeed, one that became increasingly common over the last decades (Cohen 2014)—and that its choice is a function of instrumental motivations. Yet, discerning why, and to what effect, chief executives go public has proven problematic. Numerous empirical studies have produced inconsistent and conflicting results. Neither claims about changing public preferences nor raising issue salience have won out. The seemingly misguided attachment by chief executives to going public has led leading scholars to conclude that, through some selection process or psychological bias, presidents believe that they are qualitatively more persuasive in a Neustadian sense than is possible given the nature of mass opinion and the political system's complexities (e.g., Edwards 2016).

The second noted that there has been modest formal theoretical attention provided to understanding public presidential appeals. Canes-Wrone represented an important step, but little work built on its insights, particularly for better understanding difficult to reconcile empirical results. Most notably (at least from our perspective), despite signaling models being pervasive in many analyses of institutional behavior over many years and the recognition by at least some empirical scholars that the president might be signaling about the quality of policy alternatives, such considerations have remained unintegrated into models of presidential public appeals.

Spurred by our observations, we provide new microfoundations for going public by melding the president's ability to raise an issue's visibility, the potential for him to signal the legislature, and the differential costs that may result from opting to go public. We analyze when presidents can exclusively either go public or be silent and when private lobbying is a possible intermediate action, finding that the results in the former largely carry over to the latter. We show instances where the president is incentivized to go public when knowing that the public is negatively disposed toward his position (and, at least per our model, that he cannot shift public opinion, only raise issue visibility), conditions when the president will go public with favorable public support and still fall short, and circumstances when going public helps produce the presidentially-desired effect. We build on these results by specifying factors for greater presidential success conditional on going public: the need to invest more resources so that greater costs can actually lead to more success, higher recognized issue competence, the issue being popular with the electorate, and when neither the president nor the legislature are strongly biased on the issue. We also find that, despite the frustrations often associated with going public and maintaining the assumption that the president cannot change underlying public opinion, from a welfare standpoint we are weakly better-off with the going public option.

Conceptually, our analyses offer a potential solution to the referenced puzzle, providing a meaningful understanding of what we observe in the real world. While presidents may be misguided and think they have greater persuasive power than is true, this need not be the case. For example, Bill Clinton's decision to go public to advance his ill-fated health care proposals, despite the negative attitudes of the relevant public, is generally consistent with our model.[18] The situation could be thought to correspond to Proposition 5, with α smaller than threshold θ_L, so going public might provide little chance to persuade the legislature, particularly those in the

[18] Although, as mentioned, while some claimed that the administration badly misread public opinion, others argued that Clinton believed he could change citizen views (e.g., Jacobs and Shapiro 2000). Our point is that his behavior could be consistent with our model integrating the conventional wisdom that the president cannot greatly move public opinion (and a complex issue like comprehensive health care reform represents a formidable issue on which to do so).

obstructionist Republican Senate party needed to provide a supermajority. We need not necessarily assume that the administration, so lauded in its effective campaign strategies, was unable to understand available polling data on its signature issue. Minimally, when we go to the Clinton presidential archives, it becomes obvious that the administration's key decision-makers had seemingly accurate and easy to digest public opinion polls at their fingertips, e.g., survey evidence that 8 in 10 Americans rated their own health care as excellent or good.[19]

Empirically, regardless of any given case, our analysis suggests that simply putting together instances where the president goes public and comparing them with those when he does not is unlikely to yield inferences in which we can have confidence.[20] Nor is there likely to be a monotonic relationship between public opinion and presidential success in going public. Rather, as we have suggested, it is likely that a better research strategy to assess presidential influence involves examining acts of going public to impact the legislature and mapping them to the features highlighted in our model to develop expectations about whether public appeals will positively influence outcomes. While we leave this for the future, our model's analytic foundations provide a blueprint for such progress.

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[19] From a Novalis Corporation survey, see https://clinton.presidentiallibraries.us/files/original/de77ec608b58ba692b94cae00c51c5f4.pdf.

[20] A fully structural model might do this, but such an endeavor constitutes an extremely formidable task to implement in practice. Alternatively, one could examine the internal validity of our model of what determines going public in an experimental laboratory setting.

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Why Go Public . . . and to What Effect?

Appendix A: Extension—Expanding the President's Choice Set

This appendix supplements the paper "Why Go Public…and to What Effect?" with the analysis of the extension that expands the president's choice set so that it is more consistent with reality. In our base model, we modeled and assessed the president choosing between going public and doing nothing. Obviously, there is a great deal of communication from the executive to legislators that is below the public radar, and one might question whether this impacts the results of our going public model.

To see whether this is the case, in our extended model we allow the president an additional option: talking privately to the legislature, which we denote by r. Instead of talking publicly to mobilize the electorate, the president might call legislators or otherwise contact them privately to explain his opinion.[1] The key difference between talking privately and going public in our extended model is that the president does not raise public attention when talking privately. Hence, there is no additional political pressure on either the president or the legislature. Moreover, we assume that engaging in private communication, r, is costless. Therefore, the president can choose between a costless signaling game just with the legislature, or a costly one in front of an audience who will reward or punish both the legislature and the chief executive when the policy outcome is realized.

Since the new option, r, involves no cost or public attention, the players' utility functions

[1] Obviously, this assumes that the lobbied legislator does not turn around and disclose the president's information in a manner akin to going public. While imaginable, it is unlikely that such an effort would be sufficient to get the public's attention analogous to going public.

remain the same as in the base model. That is, the policy utility comes from the policy decision by the legislature, and the political utility comes from the electorate's decision only if the president goes public. Note that, technically, r and n are just two distinct costless signals the president can choose between. Given this, we simplify exposition by only considering equilibria in which the president who learns that the state is l never plays r. Put differently, among the two different signals, we label the action as n if this strategy is played by the president knowing that the state is l.

Despite the broadened choices available to the president in our extended model, for each equilibrium in the base model there exists an essentially equivalent equilibrium in which the president never plays r.

Remark A.1. *For each of the equilibria specified in Propositions 2-6, there exists an essentially equivalent equilibrium in which the president uses the same strategy (never plays r), the legislature uses the same strategy for $x_P \in \{g, n\}$ and selects l for $x_P = r$ with $\mu(p|r) < \theta_P$.*[2]

Remark A.1 implies that the president will not necessarily go public less often even though he can talk privately to the legislature. Rather, whether the likelihood of going public is dampened depends on the mutual expectation on what needs to be done to believe and to be believed.

Certainly, and consistent with observable presidential efforts, among the many equilibria that the extended model allows, there are cases in which the president can persuade the

[2] The appropriate threshold for the off-the-equilibrium-path belief $\mu(a|r)$ varies over different equilibria. In Remark A.1 we use θ_P as an example because anything below it supports all the equilibria in Propositions 2-6. But $\mu(a|r)$ can be larger than θ_P in some equilibria.

legislature by talking privately. To describe such equilibria, we define two additional thresholds:

$$\theta_{L,r} = \frac{(1-q_P)(w_L+1)}{(1-q_P)(w_L+1)+1},$$

and

$$\theta_{P,r} = \frac{1}{w_L+2}.$$

Threshold $\theta_{L,r}$ is the level of α at which the legislature is indifferent between policies p and l when observing r given that the president plays r unless he learns that the state is l. Notice that $\theta_{L,r}$ is equal to θ_L if $\bar{d}_L = 0$ and is larger than θ_L if $\bar{d}_L > 0$. On the other hand, $\theta_{P,r}$ defines the level of α at which a president not knowing the state is indifferent between talking privately and doing nothing given the legislature chooses p over l if he talks privately. Since talking privately is costless, $\theta_{P,r}$ is smaller than θ_P.

Analogous to Propositions 3 and 6, Propositions A.1 and A.2 show that if $\bar{d}_P$ is not too big and α is very high or very low, the president can persuade the legislature by talking privately.

Proposition A.1. *Suppose $\bar{d}_P < (1-q_L)(w_P+1)+c$. If $\alpha \geq \max\{\theta_{P,r}, \theta_{L,r}\}$, there is an equilibrium in which*

1) $\sigma_P(r|K,p) = \sigma_P(r|I) = 1$, $\sigma_P(n|K,l) = 1$,

2) $\sigma_L(p|r) = 1$, $\sigma_L(l|g) = \sigma_L(l|n) = 1$, and

3)) $\mu(p|r) = \frac{\alpha}{\alpha+(1-q_P)(1-\alpha)}$, $\mu(p|n) = 0$, $\mu(p|g) < \kappa - \frac{\bar{d}_L w_L}{(w_L+2)(w_L+2+2\bar{d}_L)}$.

Proposition A.2. *Suppose $\bar{d}_P < (1-q_L)(w_P+1)+c$. If $\alpha \leq \theta_{P,r}$, there is an equilibrium in which*

1) $\sigma_P(r|K,p) = 1$, $\sigma_P(n|I) = \sigma_P(n|K,l) = 1$

2) $\sigma_L(p|r) = 1$, $\sigma_L(l|g) = \sigma_L(l|n) = 1$, and

3) $\mu(p|r) = 1$, $\mu(p|n) = \frac{\alpha(1-q_P)}{\alpha(1-q_P)+(1-\alpha)}$, $\mu(p|g) < \kappa - \frac{\bar{d}_L w_L}{(w_L+2)(w_L+2+2\bar{d}_L)}$.

Hence, when α is high enough, the president just needs to deliver information to get p chosen; imposing political pressure on the legislature is unnecessary. On the other hand, when α is very low, the type-I president prefers policy l because the state is highly likely to match that choice. Thus, the president's talking privately is very informative, as he only does it upon learning that the state is p.

Interestingly, however, when α is neither too high nor too low, private communication is not the president's best option. While an analogous equilibrium exists to those in Propositions 3 and 6 respectively, there is no such correspondence for Propositions 4 and 5 in which α is moderate.

Proposition A.3. *If* $\frac{\bar{d}_P+c}{2\bar{d}_P} < \alpha < \theta_{L,r}$, *in every equilibrium* $\sigma_P(g|K,p) = \sigma_P(g|I) = 1$ *and* $\sigma_P(n|K,l) = 1$. *That is, the president goes public unless he learns that the state is* l, *and never plays* r. *The legislature listens to the president when* $\alpha \geq \theta_L$ *and does not do so otherwise.*

Proposition A.4. *If* $\theta_{P,r} < \alpha < \min\{\frac{\bar{d}_P+c}{2\bar{d}_P}, \theta_{L,r}\}$, *there is no equilibrium in which the president can persuade the legislature by playing* r.

Proposition A.3 shows that the president argues for his position publicly, and not privately, to deliver information or gain some political credit for a moderately high α. Since $\alpha < \theta_{L,r}$, he cannot persuade the legislature by talking privately, while he can do so by going public for $\alpha \in [\theta_L, \theta_{L,r})$. For $\alpha \in [\frac{\bar{d}_P+c}{2\bar{d}_P}, \theta_L)$, persuading the legislature is impossible but the president can at least accrue some political credit if he goes public. Thus, talking privately cannot be an equilibrium strategy in this case.

When α is even smaller but is still bigger than $\theta_{P,r}$ as in Proposition A.4, the president is not credible when talking privately as the legislature is unconvinced by costless cheap talk. Since α is not high enough, to make his message more credible, the president should play r less frequently to persuade the legislature when not knowing the state analogously to Proposition 5. However, this cannot happen in equilibrium, as the type-I president strictly prefers r if he knows that the legislature would listen to him and given that he pays no cost. While the type-I president mixes between g and n (or r) in some equilibria, he never mixes between r and n in equilibrium, which makes r insufficiently informative. Again, as explained in Proposition 5, when α falls in this range the cost accrued by the president is an essential element in persuading the legislature.

To sum up, the existence of an additional, costless, option changes our results very little.[3] Our analysis shows that as long as c is not too big (smaller than $\bar{d}_P + (1 - q_L)(w_P + 1)$, to be exact), for any $\alpha \in (0,1)$ there is always an equilibrium in which the president sometimes goes public even when he can talk to the legislature privately. Moreover, it is the unique equilibrium when strong public opinion concerning the policy options is lacking. While the president is not guaranteed success when publicly appealing, he might be successful sometimes—or at least get some political credit from the voters upon the state being revealed.

[3] Our results about outcomes being weakly better with a going public option also hold.

Why Go Public . . . and to What Effect?

Appendix B: Proofs

This appendix contains proofs for Lemmas 1-2, Propositions 1-6, and Propositions A.1-A.4. Let $u_P(x_P|K,z)$ denote the type-K president's expected utility from playing $x_P \in \{g,n\}$ in state $z \in \{p,l\}$, and $u_P(x_P|I)$ be the type-I president's expected utility. Similarly, let $u_L(x_L|x_P)$ denote the legislature's expected utility from choosing $x_L \in \{p,l\}$ after observing x_P.

Proof of Lemma 1. If the president plays n, the (type-I) legislature's expected utilities are:

$$u_L(p|n) = \mu(p|n) \cdot 0 + (1-\mu(p|n))(-1)$$

and

$$u_L(l|n) = \mu(p|n)(-1) + (1-\mu(p|n)) \cdot w_L.$$

Thus, we have

$$u_L(p|n) \geq u_L(l|n)$$

if and only if

$$\mu(p|n) \geq \frac{w_L+1}{w_L+2} \equiv \kappa.$$

Next, if the president plays g, the legislature's expected utilities are:

$$u_L(p|g) = u_L(p|n)$$

and

$$u_L(l|g) = \mu(p|n)\left(-1-\bar{d}_L\right) + (1-\mu(p|n)) \cdot \left(w_L+\bar{d}_L\right).$$

Thus, we have

$$u_L(p|g) \geq u_L(l|g)$$

if and only if

$$\mu(p|n) \geq \frac{w_L + 1 + \bar{d}_L}{w_L + 2 + 2\bar{d}_L} = \kappa - \frac{\bar{d}_L w_L}{(w_L + 2)\left(w_L + 2 + 2\bar{d}_L\right)}.$$

$\square$

Proof of Proposition 1. It suffices to show that for any $\sigma_L(p|g)$ and $\sigma_L(p|n)$, we have either $u_P(g|K,l) < u_P(n|K,l)$ or $u_P(g|K,p) < u_P(n|K,p)$.

Note that since

$$u_P(g|K,l) = q_L(0) + (1-q_L)(\sigma_L(p|g)(-1) + (1-\sigma_L(p|g))(0)) - \bar{d}_P - c$$

and

$$u_P(n|K,l) = q_L(0) + (1-q_L)(\sigma_L(p|n)(-1) + (1-\sigma_L(p|n)) \cdot 0),$$

we have

$$\begin{aligned} & u_P(g|K,l) - u_P(n|K,l) \\ & = -(1-q_L)(\sigma_L(p|g) - \sigma_L(p|n)) - \bar{d}_P - c. \end{aligned}$$

If $\sigma_L(p|g) - \sigma_L(p|n) \geq 0$, we have $u_P(g|K,l) < u_P(n|K,l)$, as desired. If $\sigma_L(p|g) - \sigma_L(p|n) < 0$, it should be $\bar{d}_P < (1-q_L)(\sigma_L(p|n) - \sigma_L(p|g)) - c$ to have $u_P(g|K,l) \geq u_P(n|K,l)$. But then,
since

$$u_P(g|K,p) = (q_L + (1-q_L)\sigma_L(p|g))w_P + (1-q_L)(1-\sigma_L(p|g))(-1) + \bar{d}_P - c,$$

and

$$u_P(n|K,p) = (q_L + (1-q_L)\sigma_L(p|n))w_P + (1-q_L)(1-\sigma_L(p|n))(-1),$$

we have

$$
\begin{aligned}
&u_P\left(g|K,p\right)-u_P\left(n|K,p\right)\\
&=\left(1-q_L\right)w_P\left(\sigma_L\left(p|g\right)-\sigma_L\left(p|n\right)\right)+\left(1-q_L\right)\left(\sigma_L\left(p|g\right)-\sigma_L\left(p|n\right)\right)+\overline{d}_P-c\\
&=\left(1-q_L\right)\left(1+w_P\right)\left(\sigma_L\left(p|g\right)-\sigma_L\left(p|n\right)\right)+\overline{d}_P-c\\
&<-\left(1-q_L\right)\left(1+w_P\right)\left(\sigma_L\left(p|n\right)-\sigma_L\left(p|g\right)\right)+\left(1-q_L\right)\left(\sigma_L\left(p|n\right)-\sigma_L\left(p|g\right)\right)-c-c\\
&=-\left(1-q_L\right)\left(\sigma_L\left(p|n\right)-\sigma_L\left(p|g\right)\right)w_P-2c<0,
\end{aligned}
$$

as needed. □

Proof of Proposition 2. Since we look for equilibria in which the president is not more likely to go public when he learns the state is l than when he learns the state is p, it suffices to show that $u_P\left(g|K,p\right)\leq u_P\left(n|K,p\right)$ and $u_P\left(g|I\right)\leq u_P\left(n|I\right)$. Set $\mu\left(p|g\right)\leq\kappa-\frac{\bar{d}_L w_L}{(w_L+2)\left(w_L+2+2\bar{d}_L\right)}$ so that the legislature chooses l when observing $p=g$. Since

$$u_P\left(g|K,p\right)=q_L w_P+\left(1-q_L\right)\left(-1\right)+\bar{d}_P-c$$

and

$$u_P\left(n|K,p\right)=q_L w_P+\left(1-q_L\right)\left(\sigma_L\left(p|n\right)w_P+\left(1-\sigma_L\left(p|n\right)\right)\left(-1\right)\right),$$

we have

$$u_P\left(n|K,p\right)-u_P\left(g|K,p\right)=\left(1-q_L\right)\sigma_L\left(p|n\right)\left(w_P+1\right)+\left(c-\bar{d}_P\right). \tag{0.1}$$

Also, since

$$u_P\left(g|I\right)=q_L\left(\alpha w_P\right)+\left(1-q_L\right)\left(\alpha\left(-1\right)\right)+\alpha\bar{d}_P-\left(1-\alpha\right)\bar{d}_P-c$$

and

$$
\begin{aligned}
&u_P\left(n|I\right)=q_L\left(\alpha w_P\right)\\
&+\left(1-q_L\right)\left(\alpha\left(\sigma_L\left(p|n\right)w_P+\left(1-\sigma_L\left(p|n\right)\right)\left(-1\right)\right)+\left(1-\alpha\right)\left(\sigma_L\left(p|n\right)\left(-1\right)\right)\right),
\end{aligned}
$$

we have

$$
\begin{aligned}
&u_P\left(n|I\right)-u_P\left(g|I\right)\\
&=\left(1-q_L\right)\sigma_L\left(p|n\right)\left(\alpha\left(w_P+2\right)-1\right)-\left(2\alpha-1\right)\bar{d}_P+c.
\end{aligned}
\tag{0.2}
$$

Thus,

1) If $c \geq \bar{d}_P$, it is easy to see that both (0.1) and (0.2) are non-negative.

2) If $(1 - q_L)(w_P + 1) + c \geq \bar{d}_P > c$ and $\alpha \geq \kappa$, both (0.1) and (0.2) are non-negative because $\sigma_L(p|n) = 1$ by Lemma 1.

3) If $c > \bar{d}_P + (1 - q_L)(w_P + 1)$, we have $u_P(n|K, p) > u_P(g|K, p)$ for all $\sigma_L(p|g)$ and $\sigma_L(p|n)$. Thus, the president never plays g in equilibrium even when he knows that the state is p. $\square$

Before proceeding with proofs of Propositions 3-6, we establish some useful lemmas.

Lemma B.1. *Consider $\sigma_P(g|K, p) = \sigma_P(g|I) = 1$ and $\sigma_P(n|K, l) = 1$. When observing g, the legislature prefers p if $\alpha > \theta_L$, l if $\alpha < \theta_L$, and is indifferent between p and l if $\alpha = \theta_L$.*

Proof. Recall that $\theta_L = \frac{(1-q_P)\left(w_L+1+\bar{d}_L\right)}{(1-q_P)\left(w_L+1+\bar{d}_L\right)+1+\bar{d}_L}$. Given the president's strategy, $\mu(p|g) = \frac{\alpha}{\alpha+(1-\alpha)(1-q_P)}$ according to Bayes rule. When $\alpha = \theta_L$, simple algebra shows

$$\mu(p|g) = \frac{\theta_L}{\theta_L + (1 - \theta_L)(1 - q_P)} = \frac{w_L + 1 + \bar{d}_L}{w_L + 2 + 2\bar{d}_L} = \kappa - \frac{\bar{d}_L w_L}{(w_L + 2)\left(w_L + 2 + 2\bar{d}_L\right)}.$$

Since $\mu(p|g)$ is strictly increasing in α, the claim is proved by Lemma 1. $\square$

Lemma B.2. *If $\sigma_L(p|g) = 1$ and $\sigma_L(p|n) = 0$, a type-I president prefers g if $\alpha > \theta_P$, n if $\alpha < \theta_P$, and is indifferent between g and n if $\alpha = \theta_P$.*

Proof. Recall that $\theta_P = \frac{(1-q_L)+\bar{d}_P+c}{(1-q_L)(w_P+2)+2\bar{d}_P}$. Given the legislature's strategy, we have

$$u_P(g|I) = q_L(\alpha w_P) + (1 - q_L)(\alpha w_P + (1 - \alpha)(-1)) + \alpha \bar{d}_P - (1 - \alpha)\bar{d}_P - c$$

and

$$u_P(n|I) = q_L(\alpha w_P) + (1 - q_L)(\alpha(-1)).$$

Thus, if $\alpha \gtreqless \theta_P$,

$$u_P(g|I) - u_P(n|I) = \alpha\left((1 - q_L)(w_P + 2) + 2\bar{d}_P\right) - (1 - q_L) - \bar{d}_P - c \gtreqless 0,$$

as required. $\square$

Lemma B.3. *If $\sigma_L(p|g) = \sigma_L(p|n)$, a type-I president prefers g if $\alpha > \frac{\bar{d}_P + c}{2\bar{d}_P}$, n if $\alpha < \frac{\bar{d}_P + c}{2\bar{d}_P}$, and is indifferent between g and n if $\alpha = \frac{\bar{d}_P + c}{2\bar{d}_P}$.*

Proof. Given the legislature's strategy, we have

$$u_P(g|I) - u_P(n|I) = \alpha \bar{d}_P - (1-\alpha)\bar{d}_P - c.$$

Thus, $u_P(g|I) \gtreqless u_P(n|I)$ if $\alpha \gtreqless \frac{\bar{d}_P + c}{2\bar{d}_P}$. □

Lemma B.4. *When $c \leq \bar{d}_P + (1-q_L)(w_P + 1)$, if $\sigma_L(p|g) = 1$ and $\sigma_L(p|n) = 0$, the president strictly prefers g to n if he knows that the state is p.*

Proof. Since

$$u_P(g|K,p) = w_P + \bar{d}_P - c$$

and

$$u_P(n|K,p) = q_L w_P + (1-q_L)((-1)),$$

we have $u_P(g|K,p) - u_P(n|K,p) = (1-q_L)(w_P+1) + \bar{d}_P - c > 0$. □

Lemma B.5. If $\sigma_L(p|g) \geq \sigma_L(p|n)$, *the president prefers n to g if he knows that the state is l.*

Proof. Since

$$u_P(g|K,l) = q_L(0) + (1-q_L)(\sigma_L(p|g)(-1) + (1-\sigma_L(p|g))(0)) - \bar{d}_P - c$$

and

$$u_P(n|K,l) = q_L(0) + (1-q_L)(\sigma_L(p|n)(-1) + (1-\sigma_L(p|n)) \cdot 0),$$

we have

$$\begin{aligned} &u_P(g|K,l) - u_P(n|K,l) \\ &= -(1-q_L)(\sigma_L(p|g) - \sigma_L(p|n)) - \bar{d}_P - c < 0, \end{aligned}$$

as needed. □

Now, we prove Propositions 3-6 using the above lemmas. In the proofs, we do not repeatedly check the beliefs because in Propositions 3-6 both g and n are played in equilibrium and the beliefs are given by Bayes rule.

Proof of Proposition 3. We first check the president's incentives. Given the legislature's strategy and $\alpha \geq \theta_P$, the type-I president prefers g by Lemma B.2. By Lemma B.4, the type-K president goes public in state p. By Lemma B.5, the type-K president does nothing in state l.

Next, given the president's strategy and $\alpha \geq \theta_L$, the legislature prefers p when observing g by Lemma B.1. Moreover, it prefers l when observing n because the president plays n only if he learns that the state is l. □

Proof of Proposition 4. We show that the given set of strategies and beliefs is a PBE, and then prove that it is unique. By Lemma B.3, the type-I president strictly prefers going public. If the president learns that the state is p, he strictly prefers g as well because $\bar{d}_P - c > 0$. If the president learns that the state is l, he prefers n by Lemma B.5. Thus, the president has no incentive to deviate. Turning to the legislature, since $\alpha < \theta_L$ the legislature has no incentive to deviate from l by Lemma B.1.

To check whether there can be other equilibria, we need to consider two possible cases: 1) $\sigma_L(p|g) > \sigma_L(p|n)$ and 2) $\sigma_L(p|g) < \sigma_L(p|n)$. In the former case, going public is even more attractive and therefore, the president plays g unless he learns that the state is l. However, since $\alpha < \theta_L$, it should be $\sigma_L(p|g) = 0$ by Lemma B.1, a contradiction. In the latter case, it should be $\mu(p|n) \geq \kappa$ by Lemma 1. However, since $\sigma_P(n|K,p) < \sigma_P(n|K,l)$, we have $\mu(p|n) = \frac{\alpha(q_P\sigma_P(n|K,p)+(1-q_P)\sigma_P(n|I))}{\alpha(q_P\sigma_P(n|K,p)+(1-q_P)\sigma_P(n|I))+(1-\alpha)(q_P\sigma_P(n|K,l)+(1-q_P)\sigma_P(n|I))} \leq \alpha < \kappa$, which is a contradiction. □

Proof of Proposition 5. We start with the president's strategy. Given the legislature's strategy, the type-K president does nothing in state l by Lemma B.5. The strategy for the other types of the president can be proved as follows.

Part 1: $\sigma_P(g|K,p) = 1$

Given the legislature's strategy, note that

$$u_P\left(g|K,p\right) = q_L\left(w_P\right) + \left(1-q_L\right)\left(\sigma_L\left(p|g\right)w_P + \left(1-\sigma_L\left(p|g\right)\right)\left(-1\right)\right) + \bar{d}_P - c$$

and

$$u_P\left(n|K,p\right) = q_L\left(w_P\right) + \left(1-q_L\right)\left(-1\right).$$

Thus, we have

$$\begin{aligned}
u_P\left(g|K,p\right) - u_P\left(n|K,p\right) &= \left(1-q_L\right)\left(\sigma_L\left(p|g\right)w_P + \left(1-\sigma_L\left(p|g\right)\right)\left(-1\right)+1\right) + \bar{d}_P - c \\
&= \sigma_L\left(p|g\right)\left(1-q_L\right)\left(w_P+1\right) + \bar{d}_P - c \\
&= \frac{\bar{d}_P\left(1-2\alpha\right)+c}{\left(1-q_L\right)\left(\alpha\left(w_P+2\right)-1\right)}\left(1-q_L\right)\left(w_P+1\right) + \bar{d}_P - c \\
&= \frac{\left(1-\alpha\right)\left(\bar{d}_P w_P + c\left(w_P+2\right)\right)}{\left(\alpha\left(w_P+2\right)-1\right)} > 0,
\end{aligned}$$

where the inequality holds because $\alpha > \theta_P > \frac{1}{w_P+2}$.

Part 2: $\sigma_P\left(g|I\right) = \frac{q_P}{1-q_P}\left(\frac{\alpha\left(1+\bar{d}_L\right)}{\left(1-\alpha\right)\left(w_L+1+\bar{d}_L\right)-\alpha\left(1+\bar{d}_L\right)}\right)$

The type-I president mixes between g and n so that the legislature is indifferent between p and l. Since $\sigma_P\left(g|K,p\right)=1$ and $\sigma_P\left(n|K,l\right)=1$, Bayes rule gives $\mu\left(p|g\right) = \frac{\alpha\left(q_P+\left(1-q_P\right)\sigma_P\left(g|I\right)\right)}{\alpha\left(q_P+\left(1-q_P\right)\sigma_P\left(g|I\right)\right)+\left(1-\alpha\right)\left(1-q_P\right)\sigma_P\left(g|I\right)}$. Therefore, by Lemma 1 we should have $\mu\left(p|g\right) = \frac{w_L+1+\bar{d}_L}{w_L+2+2\bar{d}_L}$, which holds when $\sigma_P\left(g|I\right) = \frac{\alpha q_P\left(1+\bar{d}_L\right)}{\left(1-q_P\right)\left(\left(1-\alpha\right)\left(w_L+1+\bar{d}_L\right)-\alpha\left(1+\bar{d}_L\right)\right)}$. It is easy to check $\sigma_P\left(g|I\right)\in[0,1]$ when $\alpha<\theta_L$.

Now, we turn to the legislature's strategy.

Part 3: $\sigma_L\left(p|g\right) = \frac{\bar{d}_P\left(1-2\alpha\right)+c}{\left(1-q_L\right)\left(\alpha\left(w_P+2\right)-1\right)}$

The legislature mixes between p and l so that the type-I president is indifferent between between g and n. Since

$$\begin{aligned}
u_P\left(g|I\right) = {} & q_L\alpha\left(w_P\right) + \left(1-q_L\right)\left(\alpha\left[\sigma_L\left(p|g\right)w_P + \left(1-\sigma_L\left(p|g\right)\right)\left(-1\right)\right] + \left(1-\alpha\right)\sigma_L\left(p|g\right)\left(-1\right)\right) \\
& + \alpha\bar{d}_P - \left(1-\alpha\right)\bar{d}_P - c
\end{aligned}$$

and

$$u_P(n|I) = q_L\alpha(w_P) + (1-q_L)\alpha(-1),$$

we have

$$u_P(g|I) - u_P(n|I) = (1-q_L)\sigma_L(p|g)(\alpha(w_P+2)-1) + \alpha\bar{d}_P - (1-\alpha)\bar{d}_P - c = 0$$

if $\sigma_L(p|g) = \frac{\bar{d}_P(1-2\alpha)+c}{(1-q_L)(\alpha(w_P+2)-1)}$, as needed.

Part 4: $\sigma_L(l|n) = 1$

By Lemma 1, it suffices to show that $\mu(p|n) < \kappa$. Given the president's strategy, we have

$$\begin{aligned}\mu(p|n) &= \frac{\alpha(1-q_P)\sigma_P(n|I)}{\alpha(1-q_P)\sigma_P(n|I) + (1-\alpha)(q_P + (1-q_P)\sigma_P(n|I))} \\ &= \frac{\alpha}{\alpha + (1-\alpha)\left(1 + \frac{q_P}{(1-q_P)\sigma_P(n|I)}\right)} < \alpha < \kappa,\end{aligned}$$

as required. □

Proof of Proposition 6. Since $\alpha \leq \theta_P$, by Lemma B.2 the type-I president has no incentive to deviate from n. Also, since $\sigma_L(p|g) = 1$ and $\sigma_L(p|n) = 0$, by Lemmas B.4 and B.5 the president who knows that the state is p (l) strictly prefers g (n). Given this, the legislature strictly prefers p when observing g because the president plays g only if he learns that the state is p. When it observes n, the belief $\mu(p|n) = \frac{\alpha(1-q_P)}{\alpha(1-q_P)+(1-\alpha)}$ is smaller than κ. Therefore, the legislature chooses l by Lemma 1. □

Proof of Lemma 2. Note that from Propositions 3-6,

$$\begin{aligned}\Pr(x_L = p|x_P = g) &= \alpha q_L \\ &+ (1-q_L) \times \begin{pmatrix} I(\alpha > \max\{\theta_L, \theta_P\}) \\ + \frac{\bar{d}_P(1-2\alpha)+c}{(1-q_L)(\alpha(w_P+2)-1)} \cdot I\left(\theta_P < \alpha < \min\left\{\frac{\bar{d}_P+c}{2\bar{d}_P}, \theta_L\right\}\right) \\ + I(\alpha \leq \theta_P) \end{pmatrix}.\end{aligned}$$

To see whether $\Pr(x_L = p|x_P = g)$ is weakly increasing in c, consider any c' and c'' such that $c' < c''$. And let $\theta_P' = \frac{(1-q_L)+\bar{d}_P+c'}{(1-q_L)(w_P+2)+2\bar{d}_P}$ and $\theta_P'' = \frac{(1-q_L)+\bar{d}_P+c''}{(1-q_L)(w_P+2)+2\bar{d}_P}$. Then,

$$
\begin{aligned}
&\Pr(x_L = p|x_P = g)|_{c=c''} - \Pr(x_L = p|x_P = g)|_{c=c'} \\
&= (1-q_L) \\
\times &\left(\begin{array}{c} \frac{c''-c'}{(1-q_L)(\alpha(w_P+2)-1)} I\left(\theta_P'' < \alpha < \min\left\{\frac{\bar{d}_P+c'}{2\bar{d}_P}, \theta_L\right\}\right) \\ + \left(1 - \frac{\bar{d}_P(1-2\alpha)+c'}{(1-q_L)(\alpha(w_P+2)-1)}\right) I\left(\theta_P' < \alpha \leq \theta_P''\right) \end{array} \right) \geq 0,
\end{aligned}
$$

as needed.The remaining cases can be proved similarly. □

We now prove the results for our extended model in Appendix A. Note that Lemmas 1 and B.5 still hold in the extended model. Before proceeding with proofs of Propositions A.1-A.4, we establish some useful lemmas.

Lemma B.6. *Consider $\sigma_P(r|K,p) = \sigma_P(r|I) = 1$ and $\sigma_P(n|K,l) = 1$. When observing r, the legislature prefers p if $\alpha > \theta_{L,r}$, l if $\alpha < \theta_{L,r}$, and is indifferent between p and l if $\alpha = \theta_{L,r}$.*

Proof. Recall that $\theta_{L,r} = \frac{(1-q_P)(w_L+1)}{(1-q_P)(w_L+1)+1}$. Given the president's strategy, $\mu(p|r) = \frac{\alpha}{\alpha+(1-\alpha)(1-q_P)}$ according to Bayes rule. When $\alpha = \theta_{L,r}$, simple algebra shows

$$
\mu(p|r) = \frac{\theta_{L,r}}{\theta_{L,r} + (1-\theta_{L,r})(1-q_P)} = \frac{w_L+1}{w_L+2}.
$$

Since $\mu(p|r)$ is strictly increasing in α, the claim is proved by Lemma 1. □

Lemma B.7. *Suppose $\bar{d}_P < (1-q_L)(w_P+1) + c$. If $\sigma_L(p|r) = 1$ and $\sigma_L(p|g) = \sigma_L(p|n) = 0$, the type-I president never plays g. He plays r if $\alpha > \theta_{P,r}$, n if $\alpha < \theta_{P,r}$, and plays r or n if $\alpha = \theta_{P,r}$.*

Proof. Recall that $\theta_{P,r} = \frac{1}{w_L+2}$. Given the legislature's strategy, we have

$$
u_P(g|I) = q_L(\alpha w_P) + (1-q_L)(\alpha(-1)) + \alpha\bar{d}_P - (1-\alpha)\bar{d}_P - c,
$$

$$
u_P(r|I) = q_L(\alpha w_P) + (1-q_L)(\alpha w_P + (1-\alpha)(-1)),
$$

and

$$u_P(n|I) = q_L(\alpha w_P) + (1-q_L)(\alpha(-1)).$$

Note that $u_P(g|I) - u_P(n|I) = \alpha\bar{d}_P - (1-\alpha)\bar{d}_P - c$ is decreasing in α and is equal to zero at $\alpha = \frac{\bar{d}_P+c}{2\bar{d}_P}$. Therefore, it suffices to show that 1)$u_P(r|I) > u_P(g|I)$ if $\alpha \geq \frac{\bar{d}_P+c}{2\bar{d}_P}$ and 2) $u_P(r|I) \gtreqless u_P(n|I)$ if $\alpha \gtreqless \theta_{P,r}$.

Claim 1) $u_P(r|I) > u_P(g|I)$ if $\alpha \geq \frac{\bar{d}_P+c}{2\bar{d}_P}$

Note that

$$\begin{aligned} u_P(r|I) - u_P(g|I) &= (1-q_L)(\alpha(w_P+2)-1) - \big((2\alpha-1)\bar{d}_P - c\big) \\ &= \alpha\big((1-q_L)(w_P+2) - 2\bar{d}_P\big) - \big((1-q_L) - \bar{d}_P - c\big). \end{aligned}$$

If $(1-q_L)(w_P+2) - 2\bar{d}_P \geq 0$, we have

$$\begin{aligned} u_P(r|I) - u_P(g|I) =& \alpha\big((1-q_L)(w_P+2) - 2\bar{d}_P\big) - \big((1-q_L) - \bar{d}_P - c\big) \\ &\geq \frac{\bar{d}_P+c}{2\bar{d}_P}\big((1-q_L)(w_P+2) - 2\bar{d}_P\big) - \big((1-q_L) - \bar{d}_P - c\big) \\ &= (1-q_L)\left(\frac{\bar{d}_P+c}{2\bar{d}_P}w_P + \frac{c}{\bar{d}_P}\right) > 0. \end{aligned}$$

If $(1-q_L)(w_P+2) - 2\bar{d}_P < 0$,

$$\begin{aligned} u_P(r|I) - u_P(g|I) =& \alpha\big((1-q_L)(w_P+2) - 2\bar{d}_P\big) - \big((1-q_L) - \bar{d}_P - c\big) \\ &> \big((1-q_L)(w_P+2) - 2\bar{d}_P\big) - \big((1-q_L) - \bar{d}_P - c\big) \\ &= (1-q_L)(w_P+1) - \bar{d}_P + c > 0. \end{aligned}$$

Claim 2) $u_P(r|I) \gtreqless u_P(n|I)$ if $\alpha \gtreqless \theta_{P,r}$

The claim holds because

$$\begin{aligned} u_P(r|I) - u_P(n|I) &= (1-q_L)(\alpha w_P + (1-\alpha)(-1)) - (1-q_L)(\alpha(-1)) \\ &= (1-q_L)(\alpha(w_P+2)-1). \end{aligned}$$

□

Lemma B.8. *If $u_P(g|K,p) \leq u_P(r|K,p)$, then $u_P(g|I) < u_P(r|I)$.*

Proof. Note that

$$u_P(g|K,p) = q_L w_P + (1-q_L)(\sigma_L(p|g) w_P + (1-\sigma_L(p|g))(-1)) + \bar{d}_P - c,$$

$$u_P(r|K,p) = q_L w_P + (1-q_L)(\sigma_L(p|r) w_P + (1-\sigma_L(p|r))(-1)),$$

$$\begin{aligned} u_P(g|I) = {} & q_L \alpha w_P + (1-q_L)(\sigma_L(p|g)(\alpha w_P + (1-\alpha)(-1)) + (1-\sigma_L(p|g))\alpha(-1)) \\ & + \alpha \bar{d}_P - (1-\alpha)\bar{d}_P - c, \end{aligned}$$

and

$$u_P(r|I) = q_L \alpha w_P + (1-q_L)(\sigma_L(p|r)(\alpha w_P + (1-\alpha)(-1)) + (1-\sigma_L(p|r))\alpha(-1)).$$

Thus,

$$u_P(g|K,p) - u_P(r|K,p) = (1-q_L)(w_P+1)(\sigma_L(p|g) - \sigma_L(p|r)) + \bar{d}_P - c \leq 0. \tag{0.3}$$

Case 1: $\sigma_L(p|g) \leq \sigma_L(p|r)$

From (0.3), we have

$$\bar{d}_P \leq (1-q_L)(w_P+1)(\sigma_L(p|r) - \sigma_L(p|g)) + c. \tag{0.4}$$

Therefore,

$$\begin{aligned} u_P(g|I) - u_P(r|I) &= (1-q_L)(\alpha w_P + 2\alpha - 1)(\sigma_L(p|g) - \sigma_L(p|r)) + (2\alpha-1)\bar{d}_P - c \\ &\leq (1-q_L)(\alpha w_P + 2\alpha - 1)(\sigma_L(p|g) - \sigma_L(p|r)) \qquad (0.5) \\ &\quad + (2\alpha-1)((1-q_L)(w_P+1)(\sigma_L(p|r) - \sigma_L(p|g)) + c) - c \\ &= -(1-\alpha)((1-q_L) w_P (\sigma_L(p|r) - \sigma_L(p|g)) + 2c) < 0, \end{aligned}$$

where we have the inequality (0.5) by condition (0.4).

Case 2: $\sigma_L(p|g) > \sigma_L(p|r)$

From (0.3), we have

$$c \geq (1-q_L)(w_P+1)(\sigma_L(p|g) - \sigma_L(p|r)) + \bar{d}_P. \tag{0.6}$$

Therefore,

$$
\begin{aligned}
u_P(g|I) - u_P(r|I) &= (1-q_L)(\alpha w_P + 2\alpha - 1)(\sigma_L(p|g) - \sigma_L(p|r)) + (2\alpha-1)\bar{d}_P - c \\
&\leq (1-q_L)(\alpha w_P + 2\alpha - 1)(\sigma_L(p|g) - \sigma_L(p|r)) + (2\alpha-1)\bar{d}_P \qquad (0.7) \\
&\quad - (1-q_L)(w_P+1)(\sigma_L(p|g) - \sigma_L(p|r)) - \bar{d}_P \\
&= -(1-q_L)(\sigma_L(p|g) - \sigma_L(p|r))(1-\alpha)(w_P+2) - 2(1-\alpha)\bar{d}_P < 0,
\end{aligned}
$$

where we have the inequality (0.7) by condition (0.6). □

We now prove Propositions A.1-A.4 using the above lemmas.

Proof of Proposition A.1. We first check the president's incentives. Given the legislature's strategy, it is clear that $u_P(r|K,p) > u_P(n|K,p)$. Moreover,

$$u_P(g|K,p) = (1-q_L)(-1) + \bar{d}_P - c + q_L w_P,$$

and

$$u_P(r|K,p) = (1-q_L)w_P + q_L w_P.$$

Since $\bar{d}_P < (1-q_L)(w_P+1) + c$, we have

$$
\begin{aligned}
u_P(r|K,p) - u_P(g|K,p) &= (1-q_L)w_P + (1-q_L) - \bar{d}_P + c \\
&= (1-q_L)(w_P+1) - \bar{d}_P + c > 0.
\end{aligned}
$$

As $\alpha \geq \theta_{P,r}$, the type-I president also does not have an incentive to deviate by Lemma B.7. Also, as $\mu(p|g) = \mu(p|n)$, we have $u_P(n|K,l) = 1$ by Lemma B.5.

Turning to the legislature, since $\alpha \geq \theta_{L,r}$, the legislature chooses p if the president plays r by Lemma B.6. In case the president does not play r, since $\mu(p|n) = 0 < \mu(p|g) < \kappa - \frac{\bar{d}_L w_L}{(w_L+2)(w_L+2+2\bar{d}_L)}$, the legislature prefers l by Lemma 1, as required . □

Proof of Proposition A.2. When $\alpha \leq \theta_{P,r}$, the type-I president plays n by Lemma B.7. In case the president learns that the state is p, he plays r by the same logic in the proof of Proposition 6. If he learns that the state is l, since $\mu(p|g) = \mu(p|n)$, we have

$u_P(n|K,l) = 1$ by Lemma B.5. Given the president's strategy, the legislature chooses p when observing r because it can learn that the state is p. When observing g or n, since $\mu(p|g) < \kappa - \frac{\bar{d}_L w_L}{(w_L+2)\left(w_L+2+2\bar{d}_L\right)}$ and $\mu(p|n) < \kappa$, it chooses l by Lemma 1 as indicated.□

Proof of Proposition A.3. If we set $\mu(p|r) < \kappa - \frac{\bar{d}_L w_L}{(w_L+2)\left(w_L+2+2\bar{d}_L\right)}$, by Proposition 4 (or Remark A.1) there is an equilibrium in which $\sigma_P(g|K,p) = \sigma_P(g|I) = 1$ and $\sigma_P(n|K,l) = 1$. Thus, it suffices to show that the president uses the given strategy in every equilibrium.

If $\sigma_L(p|g) \geq \sigma_L(p|r)$, we have $u_P(g|K,p) > u_P(r|K,p)$ and $u_P(g|I) > u_P(r|I)$ as $\bar{d}_P > c$ and $\alpha > \frac{\bar{d}_P+c}{2\bar{d}_P}$ (and this is what actually happens in equilibrium stated above). Thus, for the president to use a different strategy, it should be $\sigma_L(p|g) < \sigma_L(p|r)$. Suppose this is so. First, the type-K president never mixes between g and r in state p because if he is indifferent between g and r, the type-I president strictly prefers r by Lemma B.8. Then $\mu(p|g) = 1$ by Bayes rule and $\sigma_L(p|g) = 1$ by Lemma 1, which makes the type-K president strictly prefer g in state p. Next, since the president never mixes between g and r when he knows the state is p, the only remaining possibility is $\sigma_P(r|K,p) = 1$. Since this implies $u_P(g|K,p) \leq u_P(r|K,p)$, we again have $\sigma_P(r|I) = 1$ by Lemma B.8. Then, however, since $\alpha < \theta_{L,r}$, we have $\sigma_L(p|r) = 0$ by Lemma B.6, which implies $\sigma_L(p|g) < \sigma_L(p|r)$ cannot hold. □

Proof of Proposition A.4. We show $\sigma_L(p|r) = 0$. Suppose not. Then, since $\sigma_L(p|r) > 0$, it should be $\mu(p|r) \geq \kappa$, which means the president plays r with positive probability when learning that the state is p. Thus, $u_P(g|K,p) \leq u_P(r|K,p)$. Then, Lemma B.8 implies $u_P(g|I) < u_P(r|I)$. However, since $\alpha < \theta_{L,r}$, $\sigma_P(r|K,p) \leq 1$, and $\sigma_P(r|I) = 1$, we have

$$
\begin{aligned}
\mu_L(p|r) &= \frac{\alpha(q_P\sigma_P(r|K,p) + (1-q_P))}{\alpha(q_P\sigma_P(r|K,p) + (1-q_P)) + (1-\alpha)((1-q_P) + q_P\sigma_P(r|K,l))} \\
&\leq \frac{\alpha}{\alpha + (1-\alpha)(1-q_P)} \\
&< \frac{\theta_{L,r}}{\theta_{L,r} + (1-\theta_{L,r})(1-q_P)} = \kappa,
\end{aligned}
$$

which is a contradiction. □