Three Essays on Executive Action

by

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Abstract

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I argue that understanding executive action requires examining the conditions that precede and motivate that action. In a series of three papers, I explore those conditions. The first paper studies how Congressional anticipation of presidential unilateralism conditions the production of legislation. If members of Congress can anticipate unilateral action, their failure to legislate cannot be explained by "gridlock intervals" in a standard spatial model. I argue instead that they may willingly surrender authority to the president to head off potential attacks from voters or interest groups. This helps to explain the president's accumulation of authority over time. More broadly, I argue that just as a large literature has examined outside pressure on Congress in isolation, we should examine its influence in the presence of the president's unilateral powers.

The second paper examines credible political communication, which may include symbolic executive orders. I present a cheap talk model in which a politician (sender) is aligned with one of two opposed groups (receivers) and seeks to communicate her preferences to win support. An increase in the weaker group's capacity may enable credible communication by the opposed type of politician, ironically making the weaker group worse-off. I illustrate the model with the case of the 2016 presidential campaign in the United States, in which Donald Trump credibly communicated alignment with anti-immigration groups through harsh messaging against immigrants, whose power was increasing. More broadly, the model and case show how shifts in relative group power can enable politicians to use messaging to assemble novel political coalitions.

The third paper (coauthored with Joseph Warren) presents a novel explanation for the origins of bureaucratic agencies, which are an important venue for executive action. Early support for expert policymaking through administrative agencies was rooted in concerns over political power. We argue that potential policy feedback effects made an anti-business coalition between liberals and populists in the late 19th-century United States unachievable.

However, agencies diminished feedback effects and facilitated a successful progressive-liberal coalition. The strategic dilemma created by a changing distribution of power thus explains the development of broad political support for bureaucratic agencies.

Introduction

Contemporary American politics is characterized by gridlock at the federal level. Yet while opportunities to pass legislation in Congress have shrunk, policy-making has not completely disappeared. Rather, it has increasingly taken new forms. One such form is the president's pursuit of unilateral action, whether through an executive order, memorandum, or other instrument. My view is that to understand some important cases of unilateral action, we must first understand why some alternative policy-making avenue is foreclosed. I argue, though, that a proper analysis of this foreclosure must itself incorporate the ability of the president to pursue unilateral action. This work elucidates an increasingly significant form of policymaking while uniting disparate literatures previously seen as unrelated, with important substantive consequences for American politics. It also underscores the importance of looking to the role of private actors in the policymaking process.

In the first paper, I set the stage for the dissertation. I contend that understanding unilateral action requires examining the conditions that precede and motivate the president's action. But when members of Congress can anticipate unilateral action, their failure to act cannot be explained by "gridlock intervals" in a standard spatial model. I argue instead that the prospect of group or public pressure may lead Congress to decline to pass legislation because doing so transfers authority to the president, thus heading off potential attacks from policy-motivated voters or interest groups. This helps to explain the president's accumulation of authority over time. The broader implication of this paper is that we should examine the role of outside pressure when presidents can issue executive orders, just as a large literature has already examined its effect on Congress in isolation.

The second paper has implications for credible political communication, which may include symbolic executive orders. Recent politics has been characterized by politicians' overt anti-immigrant appeals and backlash against immigrant groups. I present a novel explanation for this backlash that hinges on politicians' ability to make such appeals credible. The starting point is a cheap talk model in which a politician (sender) is aligned with one of two opposed groups (receivers) and seeks to communicate her preferences to win support. Importantly, an increase in the weaker group's capacity may enable credible communication by the opposed type of politician, ironically making the weaker group worse-off. I present the case of the 2016 presidential campaign in the United States, in which Donald Trump credibly communicated alignment with anti-immigration groups through harsh messaging against immigrants, whose power was increasing. More broadly, the model and case show how the behavior of strategic actors can underpin realignments, with shifts in relative group power proving crucial in enabling politicians to assemble novel political coalitions.

The third paper (coauthored with Joseph Warren) explores the origins of bureaucratic agencies, which are an important venue for presidential executive action. Early support for expert policymaking through administrative agencies was rooted in concerns over political power. In a context of formal universal male suffrage, late 19th-century liberals (typically well-educated, urban professionals) opposed policies to regulate business out of fear of working-class radicalism. Yet by the 1910s, liberals supported redistributive policies—

through administrative agencies. We use a formal model to argue that potential policy feedback effects made an anti-business coalition between liberals and populists unachievable, and how, by diminishing feedback effects, agencies facilitated a successful progressive-liberal coalition. Because administrative agencies guaranteed a central policymaking role for credentialed urban professionals, liberals could support farmers and industrial workers against big business while no longer fearing the rising power of their coalition partners. In this way, the strategic dilemma created by a changing distribution of power among social groups explains the development of broad political support for bureaucratic agencies.

This work has taken on new importance in contemporary politics. Presidential executive orders are increasingly visible and consequential, whether for actual policy or for voters' and groups' perceptions of politics. President Trump increasingly relied on executive orders following Democratic control of the House. And President Biden has continued to make extensive use of them. The theoretical focus of my research helps put extensive empirical investigation into context and provide understanding of trends in a mode of policymaking that continually encroaches on the authority of Congress. More generally, it motivates broader insights about the ability of presidential systems to keep their executive in check, as considered by Juan Linz (1990).

Paper I

Anticipating unilateralism[1]

This paper explores Congress's anticipation of presidential unilateral action. There are numerous instances in which the president expressed an intention to act unilaterally if Congress failed to legislate. And in many of those cases, Congress indeed failed to do so, with unilateral action following as anticipated.

For example, in 1942, President Franklin D. Roosevelt gained unilateral power to impose price controls through the Emergency Price Control Act, but this excepted agricultural products. Believing that such authority was essential to checking inflation, Roosevelt threatened to act unilaterally. Congress acceded to the president's demands and passed legislation (Mayer 2002, 52-3). In 1997, "just days after the Senate abandoned major tobacco legislation, [President] Clinton imposed smoking limits on buildings owned or leased by the executive branch and ordered agencies to monitor the smoking habits of teenagers" (Howell 2003, 5).

More recently, after President Obama's proposed American Jobs Act stalled, Obama unveiled his "We Can't Wait" initiative (Calmes 2011). As White House Communications Director Dan Pfeiffer explained, "the President is kicking off a new effort to urge Congress to pass the American Jobs Act, piece by piece, to put folks back to work and strengthen the economy. Using the mantra 'we can't wait,' the President will highlight executive actions that his Administration will take. He'll continue to pressure Congressional Republicans to put country before party and pass the American Jobs Act, but he believes we cannot wait, so he will act where they won't" (Pfeiffer 2011). (The legislation ultimately failed to advance).

Even more cases fit this pattern: one may examine President Obama's DACA order after the failure of immigration reform, Clean Power Plant plan after the failure of Cap and Trade, and executive order on gun control following the 2015 San Bernardino mass shooting, and President Trump's 2019 national emergency declaration following repeated refusals by Congress to provide significant money for a wall along the southern border.[2]

However, upon careful consideration, legislation's failure proves puzzling. A pivotal member of Congress who is opposed to policy change has two choices: support legislation, so policy change occurs legislatively, or oppose legislation, so policy change occurs unilaterally. Importantly, policy change happens either way. The puzzle persists even if unilateral action is less effective than legislation. This would imply that the prospect of the president's action

1. *The Journal of Politics*, forthcoming.

2. Some studies find fewer executive orders under divided government (see the literature review in Bolton and Thrower 2016). This can comport with the present story. First, we cannot observe orders that were implicitly threatened but legislatively averted. Second, if more orders are issued under unified government, there must exist some purpose for them other than circumvention, perhaps complementary to legislation. (While even unified governments may disagree, this itself once again implies circumvention). In particular, some orders may implement legislation, which plausibly is more likely under unified government; indeed, legislative success or potential thereof predicts an increase in orders (Krause and Cohen 1997; Shull 2006; Young 2013). Third, case evidence strongly implies circumvention on important policies.

is less threatening. But it also means that, in equal measure, the president should be willing to accept a compromise more favorable to the member of Congress.[3]

A natural question to ask next is whether dynamic considerations may explain the member's refusal to permit legislation. Perhaps it would lock in the undesirable policy, while forcing the president to rely on unilateral action would allow policy to be reversed more easily later. Even allowing legislation to be harder to reverse, I demonstrate that this intuition is wrong whether the member is relatively centrist or extreme. Indeed, if the member is relatively centrist, then she strictly prefers legislation precisely *because* it is harder to reverse. Centrists benefit from legislation fixing policy at a moderate compromise between other actors sitting at opposite extremes. In contrast, easily reversed unilateral action exposes centrists to extreme policy on one side now and the possibility of extreme policy on the other side later under a different president. These results are robust to unilateral action being probabilistic or subject to a "discretion" bound. Given this, I conclude that gridlock intervals alone cannot explain the failure of Congress to legislate when the president stands ready to issue an executive order.

Although this is a contribution in itself, it sets up the question for the second part of the paper. Namely, if gridlock intervals cannot explain failure to legislate, then what does? I show how a member can use their rejection or acceptance of legislation to signal the position of their ideal point to an "outside actor" that can influence their probability of reelection, which one may interpret as a voter, donor, social group, or activist (Patty 2016).[4] Informative signaling is possible because only centrist members of Congress benefit from legislation (as demonstrated in the first part of the paper), with the presence of a right-leaning outside actor inducing even centrist members to reject legislation when the actor is sufficiently strong.[5]

In this context, rejecting legislation does not only send a signal to the outside actor but

3. Although not presently a key mechanism, one might imagine that members should strictly prefer legislation, as it allows them to wield proposal power. This may hold under quadratic utility (see Appendix B) or if the president faces costs of issuing an order (Rudalevige 2015; Christenson and Kriner 2015, 2017a, 2017b; Lowande and Gray 2017; Reeves and Rogowski 2016, 2018) (see Appendix A).

4. This is compatible with a story of collective action problems. For example, Anzia and Moe (2016) explore how misalignment of individual incentives with long-term partisan collective good can explain seemingly paradoxical votes. Relatedly, I examine how individuals' policy incentives seemingly imply legislation, but signaling considerations make it individually costly for a veto player. Endogenous variation in this cost will explain the conditions under which such collective action problems prove prohibitive. Alternatively, the problem may be the individual investment of time drafting legislation and constructing a coalition. This often does not satisfactorily explain legislative failure. Congress abandoned tobacco legislation in 1998 only after significant time drafting and debating (Rosenbaum 1998). And quite famously, immigration reform efforts saw large investments of time and effort during the Bush II and Obama presidencies (Nakamura and O'Keefe 2014; MacGillis 2016). Furthermore, the predominant model of unilateral action itself predicts Congressional action if the aggregation of individual policy preferences admits it, once the president has taken action or declined to do so (Howell 2003). For further discussion, see Appendix A.

5. While signaling impulses may explain the failure of legislation more generally, there are two reasons why they are specifically relevant to unilateral action. First, as just claimed, rejecting legislation when unilateral action is anticipated imposes differential costs on members as a function of their policy preferences, with centrists suffering the most. Second, the fact that a policy shift is guaranteed to occur even without members' cooperation makes their failure to do so particularly striking.

also eliminates the underlying reason for the actor to intervene in the member's election: the member's influence over policy. This complements the results of Howell and Wolton (2018), who argue that the president may accumulate authority to motivate voters to turn out and avoid an opponent's reversal. Rounding out their story, I thus argue that members of Congress may willingly surrender that authority to avoid electoral intervention.

To summarize, the broader contribution of this paper is twofold. First, I show that understanding unilateral action may require examining the conditions that precede and motivate the president's action. While other literature has focused more on the president as the first mover, a unique contribution of this paper is to imagine the president as the second mover, with "advantage" stemming from other players' anticipation of unilateral action should they fail to legislate first. Unilateral action can thus partly be understood as a response to legislative failure, which itself demands explanation.

Second, demonstrating that "gridlock intervals" alone cannot explain Congress's failure to anticipate unilateral action, I argue that the prospect of group or public pressure may lead Congress simply to relinquish policy-making to the president, shifting the target of outside actors' attention. This may help explain the president's accumulation of authority over time. In looking beyond formal constitutional elements to explain why the president may issue orders, the present work relates to a nascent empirical literature examining the public opinion influences on the president's use of unilateralism (Rudalevige 2015; Christenson and Kriner 2015, 2017a, 2017b; Reeves and Rogowski 2016, 2018; Judd 2017). In complement, I argue that scholars should apply to the study of unilateralism the same insights that have emerged from a large literature examining interest group influence on Congress (Schlozman and Tierney 1986; Hall and Wayman 1990; Walker 1991; Hall and Deardorff 2006).

Prior literature

Prior literature has explored a tradeoff between achieving preferred policy and exposure to variance. Buisseret and Bernhardt (2017) present a model of policymaking in which the policy passed in the first stage becomes the status quo in the second stage. They show that a proposer may decline to fully exploit policy opportunities today in order to foreclose opponents from reaping even greater policy opportunities in the future. Relatedly, Judd and Rothenberg (2020) show that supermajoritarian institutions may be welfare-improving because of policy stability's positive effect on private investment. The present theory exhibits three important differences. First, policy is not only inherited from the first stage; how policy can be moved in the second stage is a function of which of two different policy-making means was used to enact it in the first stage. Second, the first part of the paper demonstrates the expansive conditions under which there is no such tradeoff and players should always prefer to reduce variance, i.e. pass legislation. Third, I argue for a tradeoff arising from signaling incentives, with single crossing arising endogenously from features specific to unilateral action.

A novel implication specific to unilateral action is that members of Congress may decline to pass legislation because it transfers authority to the president, thus heading off potential attacks from policy-motivated voters or interest groups. This relates to a growing literature

on executives' accumulation of authority over time (Howell and Wolton 2018; Howell, Shepsle, and Wolton 2020). Most relatedly, Howell and Wolton argue that presidents may accumulate authority precisely because it frees potential successors to undo the policy more easily, thus motivating voters to turn out for the incumbent. Similarly, I show how members of Congress may give up authority to the president to avoid punishment. Key theoretical differences in this paper are the presence of imperfect information and an explicitly modeled legislature.

This paper also relates to literature on position-taking and signaling by members of Congress. Groseclose and McCarty (2001) show how Congress may send legislation to the president to reveal the president's extremism to a voter. Similarly, I study the relationship between seemingly paradoxical Congressional behavior given what the president will do and signaling to an outside audience, but I focus on legislation's ability to signal information about the preferences of members of Congress. Whereas Groseclose and McCarty explain why Congress might send a bill to the president that it knows will be vetoed, I explain why Congress may fail to send a bill whose policy consequences will be realized anyway and with greater variance. Patty (2016) studies how, even when a policy outcome is assured, members of Congress who are recalcitrant can signal this quality to constituents through imposing costly and inefficient delay. The present model also hinges on members' heterogeneous costs of obstruction to imply the ability to signal to constituents. In contrast with Patty, though, heterogeneity in costs is derived endogenously from heterogeneity in ideal points, as obstruction has direct consequence for the utility of centrist members. And obstruction does not exactly delay what is going to happen anyway, but rather leads to the implementation of an alternative that is utility-equivalent for only some of the players.

Literature on policy drift has also explored some similar ideas. Callander and Martin (2017) examine the ability of external policy shifts to motivate legislative action and break gridlock. They explore exogenous valence policy decay, i.e. policy drift "downward" that equally hurts all players arrayed on a left-right dimension. This provides the player with proposal power the opportunity to "upend the classic notion of gridlock" and extract surplus from other players. Consequently, they predict constant legislation. The present model also demonstrates that gridlock should break when policy change is imposed externally. In contrast with Callander and Martin, though, the "external" policy change is strategically imposed by the president on members of Congress, occurs within what would normally be considered the "gridlock interval," and can be averted in advance.

I proceed as follows. First, I present a baseline model without an outside actor. This makes clear the absence of gridlock. Next, to resolve this puzzle, I modify the game to allow signaling to an outside actor. Finally, I provide empirical implications and conclude.

Baseline model

The baseline model shows that when Congress can anticipate unilateral action, standard gridlock results break down. This is because members of Congress realize that policy is going to move with or without their action. In fact, centrist members of Congress will strictly prefer legislation. This is due to 1. unilateral action's inability to reverse legislation

and 2. the probability that the president's ideal point will shift to the opposite extreme. A centrist member therefore prefers that legislation be enacted as protection against policy volatility. Strikingly, though, these elements also do nothing to stop extremists from agreeing on some legislative compromise, a puzzle that the second part of the paper resolves.[6]

Formal Definition

Players consist of an incumbent president P^L, a challenger P^R, and two members of Congress M (the "median") and V (the "veto player"). Policy will be a point in the policy space $\mathbb{R}$. The status quo is a parameter x_0. Policy at the end of Stage $i \in \{1, 2\}$ shall be denoted x_i.

Sequence of Moves

Stage 1

1. M decides whether to propose legislation $\ell_1 \in \mathbb{R}$ moving x_0, with V deciding whether to approve it if proposed.
2. If legislation passes, P^L decides whether to sign it.
3. If no legislation passes or P^L vetoes it, P^L decides whether to move x_0 with an executive action $e_1 \in \mathbb{R}$.

Stage 1A

4. A presidential election occurs. With probability θ, P^R wins; otherwise, P^L wins.

Stage 2

5. Stage 1 repeats, with legislation denoted ℓ_2, executive action denoted e_2, and the status quo inherited from the result of play in Stage 1 (x_1). If x_1 yielded from legislation, the president may not move it with an executive order.
6. The game ends and payoffs are realized.

Utility functions

Let $\delta \in (0, 1)$ discount Stage 2 utility. Utility to player I with ideal point i shall be

$$U^I(x_1, x_2) = -|i - x_1| + \delta(-|i - x_2|).$$

6. This continues to hold even if unilateral action is additionally constrained or probabilistically implemented. See Appendices A and C for details.

Summary

The exogenous parameters are x_0, p^L, p^R, m, and θ. The endogenous choices are ℓ_1 and ℓ_2, V's decisions in each Stage to approve legislation, P^L or P^R's decisions in each Stage to sign legislation, and e_1 and e_2. The random variable is the outcome of the presidential election. The game has exogenous uncertainty only. Therefore, the natural equilibrium concept is subgame perfect Nash equilibrium (SPNE). I focus exclusively on pure strategy SPNE.

Discussion

This order of moves resembles the basic setup present in Howell (2003), with two key changes. First, consistent with my interest in examining unilateral action as the consequence of other individuals' failure to act, I allow the median and veto player the chance to offer legislation *before* P decides whether to move policy unilaterally. This will allow us to examine the circumstances under which members of Congress will offer legislation preempting the unilateral action that they must otherwise anticipate. Second, I introduce a dynamic element. As Buisseret and Bernhardt (2017) argue, the fact that today's policy may become tomorrow's status quo can have important implications for how actors weigh the benefit of policy opportunities today against the risk of unfavorable shifts in the future.

Yet unlike Buisseret and Bernhardt—and specific to a setting with unilateral action—I do not merely assume that the status quo is inherited. I also suppose that the way in which it was enacted in Stage 1 has implications for how it can be changed in Stage 2. Importantly, if policy was enacted unilaterally in Stage 1, it can be changed either unilaterally or legislatively in Stage 2. But if policy was enacted legislatively in Stage 1, it can only be changed legislatively in Stage 2. This will allow us to dissect the commonly held belief that members of Congress may prefer an executive order because it is more transitory.

The assumption is also well-supported in the literature. Scholars of presidential politics have clearly documented the relative ease with which presidents may reverse prior executive orders. As discussed by Thrower (2017), Warber (2006) details the numerous ways in which a president can modify or nullify previous executive orders with a new order. Thrower thus argues that executive orders are "transitory" instruments that "future regimes can easily change..., particularly presidents who can act independently from other political actors through unilateral action." Of course, in reality this assumption need not hold in its most extreme form. Indeed, the rulemaking process mandated by the Administrative Procedure Act imposes some constraint on the president's ability to revoke some executive orders, as do the courts. And unilateral action can tinker with some legislative laws at times. However, the important empirical feature captured by this assumption is that it is *easier* to modify legislative laws with additional legislation. For example, the courts may be more skeptical of an attempt to move policy when it lacks legislative approval, holding fixed the nature of the underlying policy shift.[7]

7. This discussion equally applies to the implicit assumption that within any given Stage, the president is preempted from issuing an executive order if legislation has already been signed. Indeed, some legislation has explicitly limited future executive authority (Dodds 2013, 212). See Appendix A for further discussion.

Assumptions

First, I suppose that the president and veto player advance legislation when indifferent:

Assumption 1 (Breaking indifference)**.** *If ever indifferent, P and V advance legislation.*

Next, the main focus of the paper is policy that should be gridlocked in the absence of unilateral action. I therefore make the following assumption:

Assumption 2 (Ideal point and status quo locations)**.** $p^L \leq v \leq m$ *with at least one inequality strict, and* $p^L < x_0 < m = p^R$.

The first part of this assumption only loses trivial generality. Given equilibrium play in the game, we will see that $v < p^L$ and $v > m$ are not functionally different from $v = p_L$ and $v = m$, respectively, and the fact that $p^L < m$ can equally represent its mirror image. In the next part, the fact that the status quo x_0 is gridlocked allows us to examine the case of interest. The assumption that $m = p^R$ also corresponds to the case of interest, that in which M faces potential future exposure to an opposed president.

Results

Stage 2

Proceeding backward, suppose first that P^L has won reelection. If x_1 yielded from legislation, no further policy shift will occur: unilateral action is precluded and legislation cannot be agreed upon by both P^L and M (due to the fact that players in Stage 1 will never move policy extreme to both P^L and M). If x_1 yielded from unilateral action, P^L declares $e_2 = p^L$.

If instead P^R has won, then x_1 yielding legislatively implies that Stage 2 legislation is

$$\ell_2^*(x_1; v) = \begin{cases} m & x_1 \leq v - (m - v) \\ v + (v - x_1) & v - (m - v) \leq x_1 \leq v \\ x_1 & v \leq x_1 \end{cases}.$$

If x_1 yielded from unilateral action, P^R declares $e_2 = p^R$.

Stage 1

First, it is necessary to determine what P^L will do should no acceptable legislation be offered. Remembering that $m = p^R$, expected utility from unilateral action is

$$\mathbb{E}U_1^{P^L}(e_1) = -|e_1 - p^L| + \delta\theta\big(-(m - p^L)\big). \tag{1}$$

Clearly P^L's optimum is $e_1^* = p^L$ (which dominates taking no action), yielding a payoff of $\delta\theta\big(-(m - p^L)\big)$.

To know if P^L and M can agree on any legislation, we must now determine if legislation exists that gives P^L utility equal to $\mathbb{E}U_1^{P^L}(e_1^*)$. Because policy in both Stages will be confined to $[p^L, m]$ in equilibrium, the game is effectively constant-sum between P^L and M. This implies that if P^L receives utility equal to that from unilateral action, so must M.

P^L's expected utility from legislation ℓ_1 is as follows:

$$\mathbb{E}U_1^{P^L}(\ell_1) = -(\ell_1 - p^L) + \delta\big(\theta\big(-(\ell_2^*(\ell_1) - p^L)\big) + (1-\theta)\big(-(\ell_1 - p^L)\big)\big).$$

Then equating this to $\mathbb{E}U_1^{P^L}(e_1^*)$ and solving for ℓ_1, we reach the following result:

Lemma 1 (Existence of a unique certainty equivalent)**.** *There always exists a unique policy ℓ_1^* such that P^L and M are both indifferent between enacting ℓ_1^* legislatively and failing to do so (such that P^L issues an executive order $e_1 = e_1^*$). Specifically,*

$$\ell_1^*(v) = \begin{cases} p^L + \frac{\delta}{1+\delta}\theta(m - p^L) & v \leq p^L + \frac{\delta}{1+\delta}\theta(m-p^L) \text{ (“}v \text{ left-leaning”)} \\ p^L + \frac{\delta\theta(m-v-(v-p^L))}{1+\delta(1-2\theta)} & p^L + \frac{\delta}{1+\delta}\theta(m-p^L) \leq v \leq \frac{p^L+m}{2} \text{ (“}v \text{ centrist”)} \\ p^L & \frac{p^L+m}{2} \leq v \text{ (“}v \text{ right-leaning”)} \end{cases}.$$

Proof. All proofs are in Appendix I. □

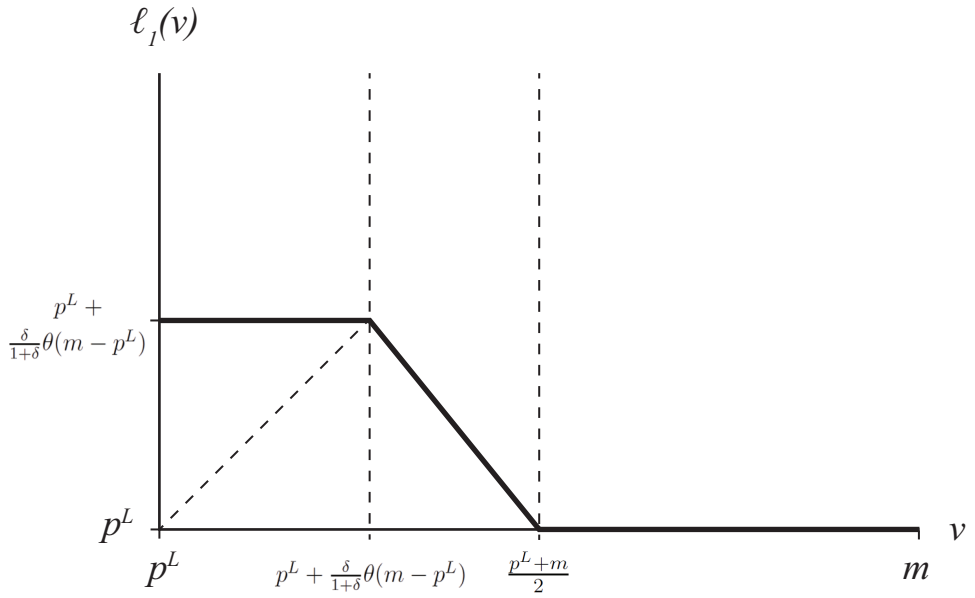


Figure 1: Equilibrium legislation as a function of v. The farther right v is, the farther left legislation must be for P^L to accept it.

The intuition behind this result is as follows. P^L wields an implicit threat of unilateral action against M. Should this threat be carried out, then given equilibrium play in Stage 2,

it implies a specific expected division of the two policy pies up for grabs, i.e. those in Stages 1 and 2, respectively. In particular, expected policy across both Stages (weighting Stage 2 by δ as always) must equal $p^L + \frac{\delta}{1+\delta}\theta(m - p^L)$. Depending on the position of v, this division can be replicated with appropriately chosen legislation. Unilateral action's reversibility merely moves the legislative compromise farther right, toward m and away from p_L.

A more mathematical intuition behind existence is as follows. It should be clear that in Stage 1, P^L will prefer legislation implementing p^L over unilateral action implementing p^L, because legislation will be more difficult to reverse. And P^L will prefer unilateral action implementing p^L over legislation implementing m. Because P^L's expected utility from legislation is continuous in x_1, then by the intermediate value theorem, there must exist legislation providing P^L with utility equal to that from unilateral action. And because conflict between P^L and M is constant-sum, the same legislation will also provide M with utility equal to that from P^L taking unilateral action.[8]

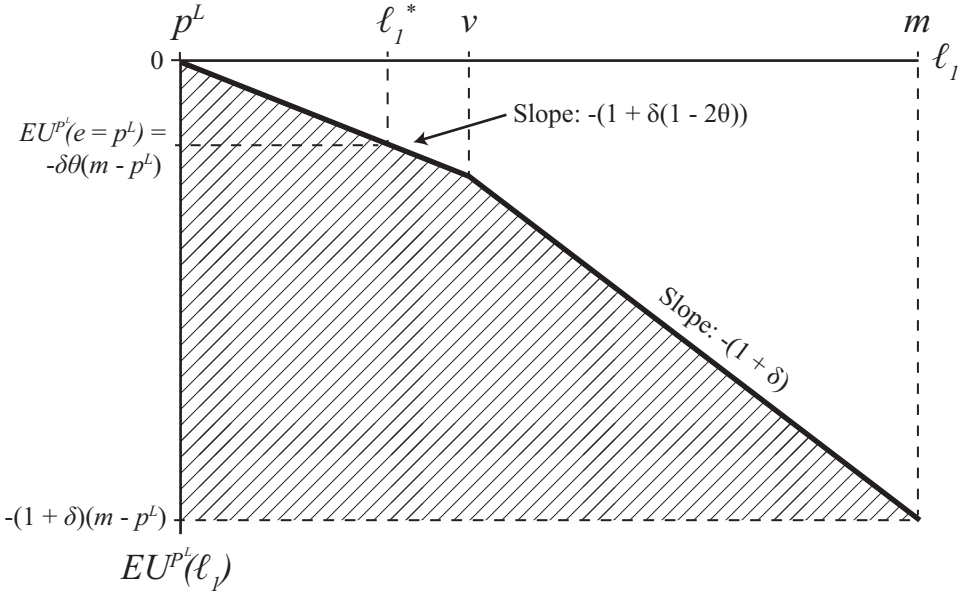


Figure 2: P^L's expected utility as a function of ℓ_1 in an example in which v is centrist. The figure's height corresponds to the amount of surplus to be divided, with P^L receiving the shaded portion and M receiving the unshaded portion. For any division, there always exists corresponding legislation implementing it.

So far then, we see that P^L and M always have the ability to enact a legislative compromise that leaves both indifferent. But what about V? We of course assumed that v is interior to p^L and m, but if it were not, we would merely have replicated the preferences of a player already empowered to stop legislation. With a relatively centrist V, though, we reach the following surprising conclusion:

8. Uniqueness follows from $\delta < 1$: in Stage 1, P^L will always prefer more proximate legislation over strategic moderation to prevent the legislation's reflection over v in Stage 2.

Lemma 2 (V's preference for legislation)**.** *If v is left-leaning or centrist (as defined in Lemma 1), V strictly prefers to approve ℓ_1^*. Otherwise, V is indifferent to approving ℓ_1^*.*

Not only does V not want to block legislation, it strictly prefers it whenever its ideal point is closer to p^L than m. This arises from V's desire to reduce the variability of policy. For P^L and M, there need not be a difference between policy being relatively fixed at a moderate point and movable between two extreme points. If policy is very far away now, there may be an opportunity to move it very close later, and the other way around. Then policy being somewhat close and relatively fixed can be equally good as it being distant and movable. Yet V's preference should be clear: a fixed moderate policy will always beat the possibility of extreme policy now followed by extreme policy on either the left or the right.

Combining the insights so far, the following result summarizes equilibrium outcomes:

Proposition 1 (Equilibrium outcomes)**.** *There are two possible equilibrium outcomes in Stage 1. First, M fails to offer legislation (or offers legislation that P^L will veto) and P^L issues $e_1 = p^L$. Second, M proposes $\ell_1 = \ell_1^*$, V approves it, and P^L signs it.*

Then I have demonstrated that an equilibrium with legislative compromise always exists. And we have reason to prefer this equilibrium: the fact that V benefits from legislation means that it Pareto-dominates the equilibrium in which unilateral action is issued.[9]

9. Under quadratic utility, legislation may generate surplus for M to extract. Then only the legislative equilibrium may exist. Importantly, an analogue to Lemma 2 would hold. V's preference for legislation being a function of v plays a crucial role in the second half of the paper. See Appendix B for details.

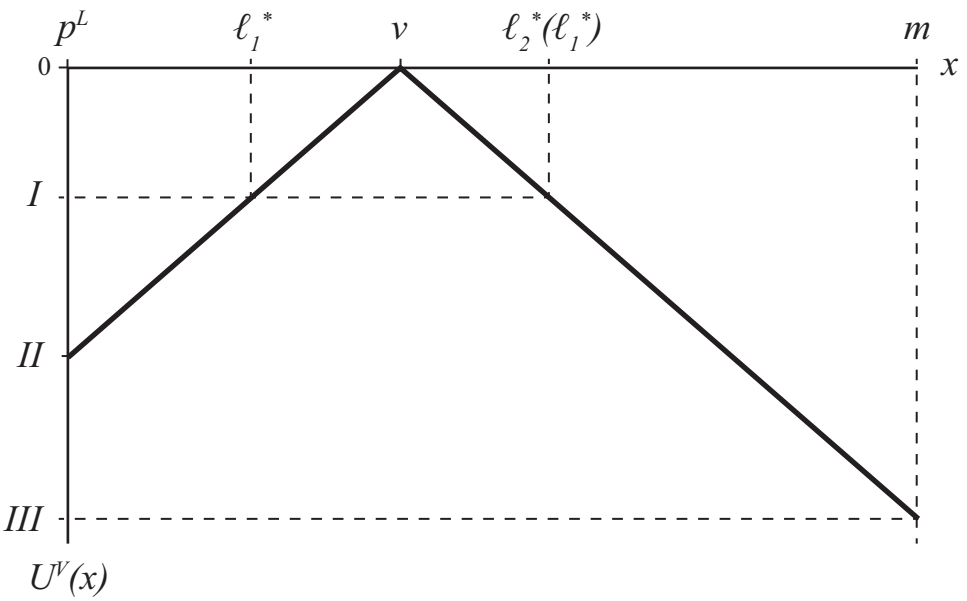


Figure 3: Graphical derivation of centrist V's expected utility. While P^L and M may be indifferent between ℓ_1^* and a mix of p^L and m, V does strictly worse under the latter. Rather than receiving the utility level at I, V receives a mix of the utility levels at II and III.

Summary

Far from finding an explanation for the failure of legislative compromise, I have not only demonstrated that Stage 1 legislation could always be part of an equilibrium but also noted in some cases a reason to prefer such an equilibrium: its Pareto dominance over that in which unilateral action occurs. Even if P^L and M are indifferent between unilateral action and an appropriately chosen legislative proposal, policy volatility stemming from unilateral action can hurt V, who would prefer a relatively fixed moderate policy over extreme policy on either side of v. Simply put, if the president is sure to move policy, everyone else should at a minimum be indifferent to moving it themselves first—and taking action may strictly improve their utility. As has been demonstrated, this observation is robust to a number of potential differences between unilateral action and legislation. Even if unilateral action can be reversed more easily, for example, a new compromise can be found that takes this into account. And the ability to reverse unilateral action more easily is why legislation can make a centrist strictly better off.

Given these benefits of legislation and the fact that a compromise always exists, why then do we not observe much more legislation in practice? Notably, in only one of the motivating anecdotes at the beginning of this paper did Congress preempt unilateral action with equivalent legislation. Why has compromise proved so elusive?[10] In the above analysis,

10. A naïve answer might be that unsophisticated voters simply punish behavior that appears to support an unaligned president. This argument would not apply to sophisticated actors such as donors and activists. And the signaling model to be introduced next rationalizes such behavior.

we have indeed found a key to unlocking this puzzle. In particular, notice that when V is right-leaning, it stands to gain nothing from legislation. But when V is left-leaning or centrist, it strictly prefers legislation. Correspondingly, I will next explore how this fact is relevant when V faces incentives to signal to an actor such as a voter, donor, or interest group. We will see that because V gains from legislation only when it is left-leaning or centrist, rejecting legislation can signal that it is right-leaning. Approving legislation may not only signal that V is not right-leaning; it also maintains V's relevance to future policy. This can make V a target of policy-motivated actors with influence over election outcomes. If this threat is large, all types of V may instead prefer to surrender authority to the president.

Signaling model

A key result I reached is that centrists stand to gain the most from legislation, because legislation yields more moderate policy now while protecting against an extreme policy shift in the future. To resolve the puzzle of legislation's seeming rarity, I now explore the role that signaling to an outside actor plays. I shall now suppose that there are two types of V: centrist (denoted V^C and with ideal point v^C) and right-leaning (denoted V^R and with ideal point $v^R = m$). In each stage, one of these two types yields probabilistically.[11] An "actor" A has utility over policy outcomes and can exert costly effort to influence V's probability of staying in office, but A is unsure which type has yielded. As already demonstrated, only a centrist type of V incurs an inherent cost from failing to approve legislation. Because of this, when A is also centrist, both types may offer legislation. In contrast, when A is right-leaning, types may separate when A is weak or pool on no legislation when A is strong. In the latter case, rejecting legislation allows V to surrender policy authority to the president and avoid electoral intervention.

Formal Definition

Players now additionally consist of an Actor A.

Sequence of Moves

Stage 1

1. V's type is drawn: with probability γ, $v = v^R(= m)$, and with probability $1 - \gamma$, $v = v^C$. V's type is revealed to all players except A.

2. V publicly commits to approve or reject legislation (irrespective of its location).

3. If V commits to approve legislation, then

11. In Appendix D, I show that the baseline model's results continue to hold with these two types.

(a) Simultaneously, P^L and M each report what legislation would be acceptable, with the set acceptable to both denoted $\mathbb{L}_1$, and A selects a sanction $s \geq 0$ to impose on V.

(b) If $\mathbb{L}_1 \neq \varnothing$, some $\ell_1 \in \mathbb{L}_1$ becomes law. Otherwise, P^L decides whether to issue an executive action $e_1 \in \mathbb{R}$.

4. If V commits to reject legislation, then

   (a) A selects a sanction $s \geq 0$ to impose on V.

   (b) P^L decides whether to issue executive action $e_1 \in \mathbb{R}$.

Stage 1A

5. Elections are held for both the president and veto player. With probability θ, P^R wins; otherwise, P^L wins. If V_R (V_C) is the incumbent, it wins with probability $\gamma - s$ ($(1-\gamma) - s$), with V_C (V_R) winning otherwise.

Stage 2

6. The baseline model's Stage 2 moves are played.

Utility functions

First, I define utility for A nearly analogously to that of players in the baseline model:

$$U^A(s) = -|a - x_1| + \delta(-|a - x_2|) - \frac{\kappa}{2}s^2.$$

Here, a is A's ideal point and κ is the cost coefficient on the sanction selected. It will be convenient to denote A's utility experienced in Stage 2, $-|a-x_2|$, as $U_2^A(x_2)$. Going forward, A will have two possible policy preferences, namely it agrees with V^C (i.e. $a = v^C$, denoted by labeling it A^C) or it agrees with V^R (i.e. $a = m$, denoted by labeling it A^R).

Next, I modify V's utility to include a Stage 2 office-holding benefit $\beta \geq 0$ given reelection.

Equilibrium

The equilibrium concept that I use is perfect Bayesian equilibrium (PBE). I apply the D1 refinement. To break indifferences specific to this game, I apply an additional refinement. In particular, when multiple equilibria satisfy D1, I rule out any that would not survive should V receive an arbitrarily small benefit from convincing A that V shares A's ideal point.

Summary

The new player is A. New exogenous parameters are v^C, γ, a, and κ. Previously an exogenous parameter, v is now a random variable. As this is a sequential games of imperfect information, I apply PBE, which is a standard equilibrium concept. I restrict attention to pure-strategy PBE and apply the refinements described above.

Discussion

I first discuss the order of moves. Most importantly, it is modified in a way that would leave all outcomes from the baseline model unchanged (removing A and reverting to a single type of V, of course). The purpose is to avoid technical complications specific to signaling.

First, sequencing the moves of A, P_L, and M would introduce one of two possible problems. If A were to move first, P_L and M would then adjust the compromise legislation to exactly negate the sanction's policy effects; because the sanction is costly to impose, A would therefore never do so. But if P_L and M were to move first, the content of legislation itself would reveal to A which type had yielded, somewhat artificially precluding the possibility of V^C and V^R pooling on approving legislation. Eliminating A, it should be clear that having P_L and M simultaneously report what legislation is acceptable does not change the outcome, namely the unique legislation that makes both weakly better off.

Second, while the ability of players to intercept the sender's signal before it reaches the receiver may be theoretically interesting (and is explored in Groseclose and McCarty 2001), it would be a needless distraction here. Having V move before P_L and M in Stage 1 avoids this problem. Because V will only ever anticipate the unique legislation to which P_L and M can agree, general commitment in advance is no different from approval after the fact except as it pertains to the technical signaling considerations discussed.[12] In Stage 2, P^R might have won election, so V committing in advance (whether generally or specific to legislation's location) may change the baseline's outcome. But no further election will occur and signaling considerations are moot, enabling us simply to revert to the baseline's form of Stage 2.

Next, I justify the assumption that $s \geq 0$. Restricting A from imposing a negative sanction only eliminates uninteresting cases. If A would grant assistance following legislation, all types would have approved legislation anyway, since it is weakly welfare-improving for V. And A would never intervene (positively or negatively) following rejection of legislation, since V is then no longer relevant to policy. Assuming $s \geq 0$ allows clear analysis of the trade-off between a benefit of legislation (variance reduction) and a cost (A's punishment).

Finally, I discuss V's utility function. The only change is the introduction of β. We will see that should $\beta = 0$, the prospect of A's sanction would never induce V^C to reject legislation. Doing so would effectively guarantee the policy outcome that the sanction threatens to make more likely. Office-holding benefit makes pooling on rejecting legislation possible.

In summary, the focus is on how V's decision of whether to approve legislation communicates its type. Calculating its tradeoff between a reduction in policy variance and a sanction

12. Allowing V to make the commitment specific to the location of legislation would also leave analysis of the baseline's Stage 1 unchanged, but it significantly complicates analysis of the signaling game.

from A, V decides whether to allow legislation. Observing V's choice, A decides whether to exert effort to reduce V's probability of reelection.

Assumptions

The assumptions of the baseline model are maintained, except I modify Assumption 1:

Assumption 3 (Breaking indifference)**.** *If ever indifferent, P and M enable legislation.*

It was already established in the baseline model that there exists an equilibrium in which M fails to offer legislation because of its indifference. I now focus instead on V's choice.

Next, I make the following assumption regarding V^C's ideal point:

Assumption 4 (V^C's ideal point)**.** *v^C satisfies* $\frac{p^L+\delta\left(\theta(1-\gamma)m+(1-\theta)p^L\right)}{1+\delta(1-\theta\gamma)} < v^C < \frac{p^L+m}{2}$.

With our two types of V, this is the analogue to Lemma 1's sense of v being centrist. If v^C were farther right, then even if (equilibrium) legislation had passed previously, P^R could achieve its ideal point. The sense of V^C being centrist is that it provides some protection against P^R and M pushing through right-leaning legislation in Stage 2. If v^C were farther left, the equilibrium compromise legislation would sit to its right. This creates a subtle problem. Suppose that A is right-leaning and believes that $V = V^C$. Then A will want to sanction V. But for P^L and M to be able to agree on legislation, they must anticipate the sanction and move the legislation leftward to compensate—i.e. toward v^C. It turns out that on balance, V^C would be *better* off for having been sanctioned. This assumption therefore ensures instead that V^C never wants to lose its own election. I argue that the assumption is substantively plausible not only in its effects but also on its face. In a conservative party, for example, it may be reasonable to suspect a member of being either centrist or right-leaning but not left-leaning.

Finally, we require that A not have too high a capacity to impose a sanction:

Assumption 5 (Lower-bound on A's cost)**.** *A's cost coefficient κ is sufficiently large such that the equilibrium sanction s^* is interior, and v^C remains in the "centrist" range.*

That is, A must not be too powerful. We need A not to want to zero out V's probability of victory, and we require Assumption 4 to continue to hold when accounting for s^*. (A formal statement is in Appendix E).

Results

I first analyze Stage 2, showing where policy goes as a function of the veto player's identity, the location of Stage 1 policy, and the means by which it was enacted. I then find the Stage

1 sanction by A and legislation by P^L and M that are consistent given that V approved legislation. Finally, I present equilibrium results on V's decision to approve legislation.

Stage 2

Analysis of Stage 2 is straightforward. As this is the final stage and no further election occurs, players consider only immediate policy implications. Suppose first that no legislation was enacted in Stage 1. Then absent legislation in Stage 2, the election winner, denoted P^W, would want to declare $e_2 = p^W$. This is therefore the legislation that M would propose. V would approve, and P^W would sign (unless perhaps we already had $x_1 = p^W$).

Suppose instead that legislation was enacted in Stage 1. P^W may no longer move policy unilaterally. Then whenever P^L has won, no further policy shift will occur and $x_2 = x_1$. Suppose instead that P^R has won. If $v \leq x_1$, no further policy shift can occur. If $v > x_1$, M will propose $\ell_2 = \min\{2v - x_1, m\}$, v will approve the legislation, and P^R will sign.

The best response of P^L and M in Stage 1

It was just demonstrated that the Stage 2 identity of V would be irrelevant to policy outcomes if V rejected legislation. Because A's utility is over policy outcomes, this implies that the equilibrium value of s would equal zero. As a shorthand going forward, let s therefore represent the sanction that is imposed conditional on legislation.

Suppose that V has committed to approve legislation. Given A's choice of s, we must find the legislation that would make each of P^L and M indifferent between legislation and unilateral action—no other legislation would be mutually agreeable. Relative to $s = 0$, let $\Delta_\gamma(s)$ represent the change in V^R's probability of winning. (Then $\Delta_\gamma = s$ when $v = v^C$, and $\Delta_\gamma = -s$ when $v = m$). The following lemma summarizes this legislation, denoted ℓ_1°:

Lemma 3. *The best response of P^L and M, denoted $\ell_1^\circ(\Delta_\gamma)$, is* $\frac{p^L+\delta\left(\theta(1-(\gamma+\Delta_\gamma))(m-2v^C)+(1-\theta)p^L\right)}{1+\delta\left(1-\theta\left(1+(1-(\gamma+\Delta_\gamma))\right)\right)}$.

Importantly, notice that ℓ_1° is decreasing in Δ_γ. That is to say, when V^R's election becomes more (less) likely, legislation must move leftward (rightward) to compensate.

A's best response in Stage 1

The problem for A is that it does not know if its sanction increases or decreases the probability of its preferred type. Let μ denote A's belief that $v = m$, and let $\tilde{s}$ represent the value of s that A believes that P^L and M will expect A to have selected. Given A's anticipation of $\tilde{s}$, let $s^\circ(\tilde{s})$ denote A's optimum. We reach the following result:

Lemma 4. *A's best response, denoted $s^\circ(\tilde{s})$, is*

$$\max\left\{\frac{\delta\theta}{\kappa}\left(\mu\Big(U_2^A\big(2v^C-\ell_1^\circ(-\tilde{s})\big)-U_2^A(m)\Big)+(1-\mu)\Big(U_2^A(m)-U_2^A\big(2v^C-\ell_1^\circ(\tilde{s})\big)\Big)\right),0\right\}.$$

Intuitively, this expression implies that A^C wants to sanction when it believes that $V = V^R$, and A^R wants to sanction when it believes that $V = V^C$ (as guaranteed by Assumption 5).

Mutual best response

In any equilibrium, A must prefer to carry out the sanction that is anticipated. Lemma 4 then implies that

(2)
$$s = \max\left\{\frac{\delta\theta}{\kappa}\left(\mu\Big(U_2^A\big(2v^C - \ell_1^\circ(-s)\big) - U_2^A(m)\Big) + (1-\mu)\Big(U_2^A(m) - U_2^A\big(2v^C - \ell_1^\circ(s)\big)\Big)\right), 0\right\}.$$

Letting $s^*(\mu)$ denote the value of s that solves (2), the following holds:[13]

Lemma 5 (Optimal sanction)**.** *s^* exists and is unique. Whenever $a = v^C$ and $\mu \leq 1/2$, or $a = m$ and $\mu \geq 1/2$, then $s^* = 0$. Elsewhere, $s^{*\prime}(\mu) > 0$ if $a = v^C$, and $s^{*\prime}(\mu) < 0$ if $a = m$.*

The intuition behind this is clear. If A believes that the type that it likes is at least equally as probable, A does not sanction, and P^L and M make no strategic adjustment. Otherwise, A's sanction increases the more that it believes that V is the type that it dislikes.

V's preference over s^*

Before characterizing the equilibrium, we must establish V's preferences over s^* along with the corresponding ℓ_1^* (which I define as $\ell_1^\circ(s^*)$ when $v = v^C$ and $\ell_1^\circ(-s^*)$ otherwise). This is important in determining whether being sanctioned reduces V's benefit from legislation. If ℓ_1^* were not a function of s^*, this would obviously hold, but we must take into account the strategic adjustment of P^L and M. The following lemma summarizes the result:

Lemma 6 (V's preference over s^*)**.** *When $s^* = 0$, V^C strictly benefits from legislation, while V^R is indifferent. Starting from any value of s^*, any strict increase (thus also affecting ℓ_1^*) strictly decreases V^C's expected policy utility and office-holding benefits, while for V^R the decrease is limited to the latter and in equal measure.*

The important takeaway from this lemma is that when s^* is small, V^C benefits more from legislation compared to V^R. Once again, this is because approving legislation can hold policy fixed close to a moderate compromise that may be near V^C's ideal point, while unilateral action may lead to highly variable policy. But if V^C knows that approving legislation means that a large sanction is forthcoming, this undermines the very rationale behind approving legislation. Should legislation imply that V^R is likely to win the election, then legislation itself is likely to be able to be reversed as well. If the sanction becomes sufficiently strong, V^C may conclude that any supposed benefit from legislation is rendered moot and that it

13. One may solve explicitly and find a unique real solution, though the expression is unenlightening.

may as well try to preserve office-holding benefits. By effectively giving up its authority over policy to the president, it can guarantee that A no longer wishes to impose a sanction.

Equilibrium

We are now ready to characterize the equilibria. First, consider the case in which $a = a^C$, i.e. A is the centrist type. Suppressing a description of Stage 2 behavior and the actions of P^L and V^R, the following proposition summarizes the PBE:

Proposition 2 (PBE with A^C)**.** *Suppose that $a = a^C$ and $\beta > 0$. If $\gamma < 1/2$, then in the unique PBE, types pool on approving legislation, A never sanctions in any circumstance, and the off-path belief is $\mu = 1$. If $\gamma > 1/2$, then in the unique PBE, V^C approves legislation, V^R rejects it, and A^C never sanctions in any circumstance.*

When A is centrist and the prior belief is that V is more likely to be centrist, both types are willing to offer legislation. In particular, V^C benefits from it, and V^R is willing to break its indifference in favor of offering it. Of course, an interesting feature here is that the "bad" signal—rejecting legislation—neutralizes A's rationale for intervening in the election. Hence, when the prior belief is instead $\gamma > 1/2$, i.e. the "bad" type is more likely, pooling on approving cannot be an equilibrium because A would want to sanction everyone.[14]

The main case of interest is the one in which A is right-leaning, leading to this result:

Proposition 3 (PBE with A^R)**.** *Suppose that $a = m$. There exists a $\tilde{\beta} > 0$ such that: 1. If $\beta < \tilde{\beta}$, then in the unique PBE, V^C approves legislation, V^R rejects it, and A sanctions precisely if legislation occurs. 2. If $\beta > \tilde{\beta}$, then in the unique PBE, types pool on rejecting legislation, A sanctions precisely if legislation occurs, and the off-path belief is $\mu = 0$.*

When pressure on V comes from a right-leaning type of A, the right-leaning V never faces any trade-off and always rejects legislation. In contrast, whether the centrist type of V rejects legislation depends on its relative trade-off between reducing policy variance and staying in office. Then when V^C's office-holding benefit increases, it becomes more willing to reject legislation. As observed above, the way that sanctions operate is by undermining V^C's very justification for approving legislation in the first place. If V^C expects a strong sanction following approval of legislation, this means that V^R is very likely to be the veto player in Stage 2. And should P^R win, this implies that they will most likely be able to undo the legislation, just as undoing unilateral action depends primarily on P^R winning. In this case, V^C may conclude that it would rather simply protect office-holding benefits than chase ever-diminishing benefits from legislation. And in failing to approve legislation, it not

14. Relative to these outcomes, A^C could never improve its utility by paying to learn V's type. In those cases in which legislation would be approved, A^C's utility no longer varies in V's identity, as depicted in Figure 3. In the case in which legislation would not be approved, then upon A^C learning that $v = v^R$, V would still prefer to reject legislation.

only sends a favorable signal. It also relinquishes its authority over policy to the president. In so doing, it eliminates A's underlying interest in V's election.[15]

The following comparative statics on $\tilde{\beta}$ help us to understand the factors that determine whether legislation occurs (an explicit expression for $\tilde{\beta}$ is in the proof):

Proposition 4 (Comparative statics)**.** *The threshold $\tilde{\beta}$, below which V^C approves legislation, increases in the cost of sanctioning (κ) and decreases in M's ideal point (m), the probability that P^R wins (θ), the discount factor (δ), and the initial probability that V^R wins (γ).*

All of these forces except γ operate through A's willingness to impose sanctions. Remember that m is the ideal point of A^R and V^R, so the farther m is from v^C, the more that A^R benefits from sanctioning. Next, increasing P^R's probability of winning increases sanctioning because V^R's presence only benefits A^R if P^R has also won. Next, A^R's actions are an investment in future policy, so naturally it exerts greater negative influence over legislation when δ is larger. Finally, the more likely V^R is to win, the less likely that legislation is to stick in the first place, which undermines V^C's underlying rationale for wanting to approve legislation. If γ becomes too large, V^C may decide to give up on policy and try to preserve office-holding benefit instead.

The next section explores empirical implications.

Empirical implications

In thinking about empirical implications, it helps to imagine that the type of A itself has a distribution. Suppose then that before the start of the game, A^R appears with probability ρ, with A^C appearing otherwise, and A's type is revealed to all players. The following implication is immediate:

Implication 1 (Actor polarization)**.** *An increase in the prevalence of the right-leaning type of A (ρ) leads to a weakly lower probability of legislation.*

This follows straightforwardly from the fact that Proposition 3 will be increasingly likely to apply. This result relates to the question of whether donors contract or simply give favorable treatment to friends (Fox and Rothenberg 2011). As is well-known in signaling games, a "low" type's ability to pool with a "high" type can make it more difficult for the receiver to determine type but less necessary to do so in the first place (Fearon 1999, 83). Then even if A cannot contract with V, it may potentially carry out A's wishes so as to signal favorably and avoid A's punishment. While not necessarily denying the existence of contracting, this may outwardly resemble an exchange of policy for favorable treatment and

15. As with A^C, A^R would not pay to learn V's type. If $\beta < \tilde{\beta}$, then A^R already learns V's type (and if A^R already knew V's type, it would not change V's behavior in a way that affected A^R's utility). If $\beta > \tilde{\beta}$, then should A^R learn V's type in advance, V^C would then prefer to approve legislation, knowing that it would be sanctioned either way. But legislation would take into account A^R's sanction given its knowledge of V's type. A^R's policy gains would be exactly negated, but it would additionally incur a cost of sanctioning.

bear a superficial resemblance to contracting. This also reinforces the notion that off-path threats may explain the "missing money" puzzle, in which aggregate donations appear low given the enormous implications of public policy, and empirically demonstrating money's influence on politics is therefore difficult (Chamon and Kaplan 2013).

An increase in A's capacity may also lead to less legislation:

Implication 2 (A's capacity)**.** *An increase in A's capacity (a decrease in κ) leads to a weakly lower probability of legislation.*

Letting Actor cost (κ) go to infinity recovers the results from the baseline model. But when A participates more actively, V^C becomes increasingly concerned about the signaling costs of allowing legislation. Corresponding this to empirical applications of interest, when A is thought of as a contributor of campaign funds, one might imagine that these contributors have become more relevant in a changing campaign environment that increasingly permits and requires expending large sums (Gilens, Vavreck, and Cohen 2007; Biersack 2018). If one instead imagines A as an activist or member of the public, these actors have become only become more influential during the twentieth century, especially following the McGovern-Fraser reforms (see e.g. Layman and Carsey 2002; Miller and Schofield 2003; Layman et al. 2010; Abramowitz 2011). In either application, an increase in κ arguably occurred.

However, A must find a susceptible target for legislation to fail:

Implication 3 (Donor and legislator polarization)**.** *Polarization of the outside actor (i.e., A^R's prevalence, ρ) and polarization of the veto player (i.e., V^R's prior probability, γ) are weak complements for legislative failure.*

For legislation to fail, it is not sufficient to have an extreme outside actor. We also need a veto player who is vulnerable to A^R's influence. Clearly this includes V^R, the right-leaning veto player. Note though that when office-holding benefits are sufficiently large, this may also include V^C.

Finally, the probability that V^R appears has a negative effect on legislation:

Implication 4 (Likelihood of extremists)**.** *The probability of legislation is weakly decreasing in γ, the prior probability of the right-leaning type of V.*

This is because if V^C and V^R separate, the probability of legislation equals $1-\gamma$, while if they pool, the probability of legislation is not a function of γ. When A is right-leaning, a sufficient increase in γ may move us from separation to pooling on rejecting legislation.

Policy variance

We can additionally look at factors affecting policy variance, which is both inherently interesting and relevant to the behavior of different types of V. "Variance" is understood in the usual sense, with policy in Stage 2 weighted by δ. I reach the following result:

Proposition 5 (Policy variance)**.** *Policy variance is (weakly) increasing in the prevalence of the right-leaning Actor (ρ) and the prior probability of the right-leaning veto player (γ) and is decreasing in the cost of sanctioning (κ).*

The probability of legislation is a key link between these parameters and policy variance. Intuitively, legislation reduces policy variance, which is precisely why V^C prefers it. For a voter, say, whose ideal point lies close to v^C but who does not share V^C's concern for holding office, those factors leading to less legislation will consequently decrease welfare.

Conclusion

This paper has argued that unilateral action cannot be understood without asking why the president is in a position to take unilateral action in the first place. And as was demonstrated in the baseline model, why members of Congress would fail to act when they should anticipate that the president will act without them—thus imposing costs on centrist members—cannot be explained by "gridlock intervals" in a standard spatial model.

Given this, I argue that just as a large literature has examined the influence of outside pressure on legislative production alone, we should examine its influence when policy-making includes the possibility that the president will issue an executive order. The signaling model demonstrated that legislation may fail to be approved even though it would otherwise Pareto-dominate no legislation. The centrist type's fear of pressure from A can preclude it from approving a legislative compromise, even though extremists should be indifferent to compromise on policy merits. The signaling model straightforwardly resolves the initial puzzle and generates intuitive comparative statics.

These results have clear implications. Particularly, they help explain the president's accumulation of authority over time. Prior work has argued that the president may seek additional authority precisely because unilateral policy can be easily reversed by a successor, enabling the president to motivate the electorate (Howell and Wolton 2018). Complementing this picture, I have argued that members of Congress may voluntarily surrender authority to the president to avoid pressure from interest groups or the public. Consequently, the results point in the direction of looking to the role of public opinion and interest group politics in explaining the production of executive orders. Scholars should continue exploring the role of public opinion in constraining unilateral action. Additionally, future work should examine how interest groups and activists condition it, with shifts in power potentially playing an interesting role (Powell 2006).

Paper II

Credibility and backlash

In the standard narrative of political backlash, a disadvantaged social group makes incremental gains, winning small increases in rights and power. But an advantaged group subsequently feels threatened by its relative loss of status. Motivated by a perception of threat, the advantaged group fights to reverse the gains made by its opponent. Where the disadvantaged group achieves "two steps forward," the advantaged group fights to push it "one step back" (Klarman 1994; Alter and Zürn 2019). This story has intuitive plausibility, and it seemingly has recurred numerous times in American political history (Klinkner and Smith 2002, 324).

Yet a key piece is missing. Most immediately, where does the sense of threat come from? One story about backlash against immigration—the present substantive focus—holds that voters' personal exposure to increasing numbers of immigrants creates a sense of threat. Some work seems to support this hypothesis (Hawley 2011; Enos 2014, 2016; Mayda, Peri, and Steingress 2018). But other work shows no relationship between exposure to minorities and attitudes and behavior. Though Abrajano and Hajnal (2015, ch.4) find an effect of state-level Latino population on political views, they fail to find an effect of zip code-level Latino population. Jardina (2019, 97-9) suggests a weak relationship between geography and white identity. Reny, Collingwood, and Valenzuela (2019) use survey data to show no effect of an increase in the Latino population on shifts to Republicans from 2012 to 2016. Finally, Hill, Hopkins, and Huber (2019) use precinct-level data to examine the effect of changing demographics on pro-Republican shifts in voting patterns from 2012 to 2016. They find that an increase in the Hispanic population led to *less* support for the Republican candidate, as did an increase in the non-citizen foreign-born population. At best then, the evidence for local demographics leading to a backlash is mixed, with Hill, Hopkins, and Huber suggesting that the immigration issue may be nationalized.

To the extent that voters are not reacting to local demographic shifts, they likely rely on political elites to shape their perception of demographic change or sense of threat. Recent work convincingly argues that elites play a key role in shaping voters' views (Lenz 2012; Flynn, Nyhan, and Reifler 2017). Indeed, the literature on backlash emphasizes the importance of elites and institutions in making race or immigration a political issue (Frymer 2005; Weaver 2007; Abrajano and Hajnal 2015, 35), with experimental work suggesting that elites may do so by raising the prospect of increasing diversity (Outten et al. 2012; Craig and Richeson 2014a, 2014b; Danbold and Huo 2015). These elites may include not only politicians but also the media. Exerting great influence over voters (Gilliam and Iyengar 2000; Kellstedt 2000), media companies' motivations increasingly reflect partisan political priorities (Levendusky 2013; Hedding et al. 2019). Yet whether politicians or media, when strategic actors are key to exploiting voters' potential for backlash, the standard story now exhibits an inconsistency. If such an actor knew that an opponent was about to achieve policy victories, why not activate sympathetic voters *before* the opponent succeeded and became at least partially entrenched? In other words, why not zero steps forward?

I argue that a key challenge faced by politicians seeking to stop opposed groups' victories is credibly communicating their alignment with allied groups. I first present a baseline model in which a politician sends a public cheap talk message that communicates alignment with one group by communicating opposition to the other. Concretely, when a presidential candidate expresses concerns about Medicare for All, she may communicate alignment with insurance companies, specifically because doing so alienates more radical reformers. Or when a governor issues an order directing a committee to study bathrooms, for example, he may communicate that his top priority is social conservatism, specifically because doing so alienates business interests. Following this, groups may decide whether to offer support to the politician. Finally, the politician uses this support to implement policy.

Importantly, the presence of the second group allows for mutual discipline and enables credible communication from the politician to both groups. In plain language, the politician can earn one group's support by repudiating that of the other group. But for this to be credible, we need each type of politician to benefit most from the support of the aligned group (the *single-crossing property* in this setting); otherwise, all politician types would always express alignment with the higher-capacity group. This may hold when two conditions coincide. First, a group's support and the specific goals of the type of politician with which it is aligned are complementary. Second, the two groups are relatively close in their capacity to provide resources to the politician.

This second condition underlies the connection between shifts in power and backlash. If one group is much weaker, all politicians want to express alignment with the stronger group irrespective of the truth. But should the capacity of the weaker group increase moderately, politicians may separate, with the stronger group thus able to identify its allies to promote policies that hurt the weaker group. Ironically then, the weaker group's increase in capacity may actually make it worse off. This result may be surprising, but it constitutes a fully strategic explanation for important aspects of backlash politics. To the extent that strategic elites generate voters' backlash, this theory provides a clear resolution to the initial puzzle while incorporating the central role of political communication.

Normatively, there is some cause for pessimism. Weaker groups may face backlash should their power grow. And when groups are allowed to invest in capacity, the threat posed by backlash may stop a weaker group from doing so even when capacity is free. More broadly, though, one may interpret this paper's argument as a challenge to fatalism about immigration's political consequences. Such fatalism is exemplified by Hillary Clinton, who said of European immigration, "[T]hat is what lit the flame.... Europe has done its part, and must send a very clear message—'we are not going to be able to continue provide refuge and support'—because if we don't deal with the migration issue it will continue to roil the body politic" (Wintour 2018). Similarly, in his book *Melting Pot or Civil War?*, Reihan Salam (2018) argues that if the immigration system is not reformed to emphasize high-skilled immigration and promote assimilation, the presence of low-skilled immigrants necessarily leads to racial polarization. This paper's argument suggests that negative consequences may be caused not by immigrants (unavoidably) interacting with their neighbors, but rather by particular strategic behavior of elites.

I illustrate the theory with a case study of US immigration politics. Following the enactment of the Immigration and Nationality Act of 1965, Republican politicians almost uniformly promised increased enforcement but also gestured toward sympathy for immigrants. In 1986, President Reagan signed the Immigration Reform and Control Act, which was to increase enforcement of immigration laws, yet the number of undocumented immigrants later spiked. Elite immigration hardliners blamed insufficient commitment by Reagan, George H.W. Bush, and others, and they expressed skepticism of the motives of subsequent Republicans pursuing other reform efforts. Years later, the picture changed. The country's continued diversification allowed immigrant groups to organize more effectively, enabling 2016 presidential candidate Donald Trump's strident repudiation of them to be meaningful. This sent a credible message to elite immigration foes, whose support helped propel him to the White House to pursue draconian immigration policies. Immigrants' increasing strength thus enabled credible messaging and mobilization against them.

Prior work

The most closely related theoretical article is Farrell and Gibbons (1989), who study a cheap talk model with one sender and two receivers. Equilibrium play in my baseline model yields a structure of payoffs that can be mapped to their case of $v_1 < 0$ and $v_2 > 0$, with w_2 negative. As depicted in their Figure 2, either mutual discipline or no communication may result. Other work similarly explores this logic in distinct settings. In an example pertaining to campaign credibility, Harrington (1992) features a set of voters and two candidates, with all three holding private information about their own preferences. Each candidate values policy and holding office, and holding office is worth more when the voters agree with the candidate's policies. This enables candidates to separate and credibly communicate their policy intentions.[16] In an example pertaining to campaign finance, Schnakenberg and Turner (2021) examine whether a campaign contribution can signal private information about policy to a politician through its effect on the probability that the politician is re-elected. When a donor gives to a potentially misaligned moderate, it signals to the moderate that the donor has learned that light regulation of its industry is socially optimal; this is made credible by forgoing the opportunity to support the electoral prospects of the moderate's opponent, who is an ideological ally of the donor.

In contrast, this paper examines where the payoff structures that imply either mutual discipline or no communication ultimately come from as they specifically pertain to politicians' communication to groups offering support. Studying this setting leads to novel theoretical insights. To give one example, I consider an extension to the baseline model in which groups may choose to invest in capacity before playing the moves of the baseline game. Essentially, before playing a two-receiver cheap talk game together, the two receivers strategically interact to determine the inputs into the cheap talk game. The closest theoretical analogue in the literature is Antic and Persico (2020), though they study endogenous conflict of interest

16. Harrington (1993) extends this argument to a repeated setting in which players have heterogeneous beliefs about the most effective policy.

between a single sender and receiver under the canonical preference structure of Crawford and Sobel (1982).[17] I show that one receiver may decline free capacity in order to prevent the other's credible communication. This is reminiscent of some results on credible delegation (Gailmard and Patty 2012a, 368, 374), particularly if there is a sense of capacity to review and revise the decisions of an agent (Aghion and Tirole 1997). Of course, this is distinct from capacity's present role in conditioning credible communication.

This paper's substantive contribution is to show how backlash against shifts in group power may be rooted in the strategic behavior of political elites, with elite communication playing a key role. This contrasts with some existing work on backlash in American politics, which is centered around lay people's myopia (Ura 2014) and direct observation of diversification (Abrajano and Hajnal 2015).[18] However, my theory complements and extends work that has seen backlash as a product of the actions of the media (Gilliam and Iyengar 2000; Kellstedt 2000) and political elites (Weaver 2007).[19]

The model

I present a model in which a politician communicates her preferences to two groups. Following this, the groups can grant support to help the politician implement policy. Two key aspects of the model can make the politician's communication credible. First, there is an aligned group as well as an opposed group. When the official's message signifies alignment with one group, it simultaneously signifies disagreement with the other group. Second, a group's effort to help the politician implement policy is more effective when the politician agrees with the group. Otherwise, the politician would always want to express alignment with the group facing an arbitrarily lower cost of effort, regardless of actual alignment.

Formal definition

Preliminaries

A policy x lies in a policy space $\mathbb{R}$. Players consist of a politician P and two groups A and B. Policy is initially be located at $x = 0$. P has one of two types corresponding to sharing preferences with either A or B. P first sends a cheap talk message. Next, groups A and B can

17. Related work endogenizes information acquisition (Austen-Smith 1994; Argenziano, Severinov, and Squintani 2016; Deimen and Szalay 2019), which is distinct from what is explored presently.

18. Studying a slum neighborhood in Uganda, Habyarimana et al. (2007) relatedly argue that ethnic diversity undermines public goods provision specifically because of how lay coethnic and non-coethinic individuals interact. The present theory may alternatively suggest a role for elites.

19. Other theoretical work seeks to explain populist backlashes against economic shifts, with voters specifically reacting either to international trade (Grossman and Helpman 2018; Karakas and Mitra 2020), potential corruption by politicians and elites (Acemoglu, Egorov, and Sonin 2013), or both (Pastor and Veronesi 2018). By contrast, this paper is concerned with conflict between social groups. Additionally, unlike this paper, much of this literature assumes preferences that are nonstandard in various ways. For example, voters in Pastor and Veronesi derive utility not only from consumption but also from low inequality itself, and Grossman and Helpman incorporate social-psychological considerations.

grant nonnegative support to P to enable P to move policy. An exogenous fraction $\phi \in [0, 1)$ of each level of support must either be used to move policy in the direction preferred by the group or disposed, while the remaining fraction $1 - \phi$ may be used however P prefers. The distance that P may move policy is be equal to the amount of support available and usable for a given direction.

Utility functions

Players shall have the following utility functions:

$$\begin{aligned} U_P(x) &= \sigma x, \\ U_A(x) &= -x - \frac{{s_A}^2}{2\psi_A}, \\ U_B(x) &= x - \frac{{s_B}^2}{2\psi_B}, \end{aligned}$$

where $\sigma \in \{-1, 1\}$ is P's type, s_I is Group I's level of support for P, and ψ_I is Group I's "capacity" or inverse marginal cost of granting support. Notice that P does not have direct utility over support; P's concern for it follows from its necessity to shift policy.

Sequence of moves

The sequence of moves is as follows:

1. P's type $\sigma \in \{-1, 1\}$ is drawn and revealed to P. With probability $p \in (0, 1)$, $\sigma = -1$ and P agrees with A. Otherwise, P agrees with B.
2. P sends a message $m \in \{L, R\}$.
3. Each group $I \in \{A, B\}$ chooses a level of support $s_I \in \mathbb{R}^+$.
4. P selects policy x subject to $x \in \big[-\big(s_A + (1 - \phi)s_B\big), \big((1 - \phi)s_A + s_B\big)\big]$.
5. The game ends and payoffs are realized.

Assumptions

The following assumption is without loss of generality:

Assumption 6 (Relative group capacity)**.** $\psi_A \leq \psi_B$.

That is to say, Group A faces a higher cost of granting support.

Summary

The exogenous parameters are p, ϕ, ψ_A, and ψ_B. The endogenous choices are m, s_A, s_B, and x. The random variable is σ. As a sequential game of imperfect information, the natural equilibrium concept is perfect Bayesian equilibrium (PBE).

Discussion

The message can represent a politician taking a symbolic action, such as the president issuing a substantively meaningless executive order, or it can represent a politician's campaign communications, such as an expression of support for a policy priority. Subsequent real-world political support (in its various forms) corresponds to the level of support in the model, and a real-world politician later issuing consequential executive orders or pushing for consequential legislation corresponds to policy implementation in the model.

A key assumption is that support from a group exhibits complementarity with the goals of the politician type who is aligned with that group; similar assumptions appear in related work (Harrington 1992, 1993; Schnakenberg 2014).[20] The degree of complementarity is represented by the parameter ϕ. If political support took the form of money or one's own individual vote, ϕ would equal zero, as money and votes can be immediately and perfectly repurposed for whatever end is desired. Yet this is often not the form that it takes. Achieving policy goals can require mobilizing outside forces such as activists, interest groups, and lay people (Andrews 2001; Edwards III 2009; Bueno de Mesquita 2010). These outside forces may be better-equipped to achieve policies that they support, as achieving specific goals can mean being embedded in the right policy, donor, or activist network (Plehwe 2014; Skocpol and Hertel-Fernandez 2016; Hertel-Fernandez, Skocpol, and Sclar 2018) as well as understanding how to talk to and motivate would-be allies (Lilleker 2006, 186). If these groups' goals are actually not aligned with those of the politician, their efforts to help the politician achieve her preferred policy are likely to be ineffective. For example, it may be futile for a politician to misrepresent as an immigration opponent and subsequently call on immigration opponents to push for more lax immigration laws.[21]

Analysis

I first examine how A and B should support P as a function of their posterior belief about the probability that $\sigma = -1$, which I denote μ. Expected utility to A as a function of s_A is

20. Relatedly, Ting (2011) and Hirsch and Shotts (2012) study the ability of a bureaucrat, legislature, or committee to learn "policy-specific" information, which can only be used to implement a specific policy.

21. An alternative interpretation of ϕ is as a reduced-form reputational cost of misrepresentation (Schnakenberg and Turner 2019, 770). Immigration opponents may refuse to carry out pro-immigration commands, and immigration supporters may not reemerge either, doubting that someone who was actually committed to their cause would ever have expressed opposition to it.

as follows:

$$\mathbb{E}U_A(s_A) = \mu\big(s_A + (1-\phi)s_B\big) + (1-\mu)\big(-(1-\phi)s_A - s_B\big) - \frac{{s_A}^2}{2\psi_A}.$$

In mirror image, the following holds for B:

$$\mathbb{E}U_B(s_B) = \mu\big(-s_A - (1-\phi)s_B\big) + (1-\mu)\big((1-\phi)s_A + s_B\big) - \frac{{s_B}^2}{2\psi_B}.$$

As we see, support helps P to move policy. But if P is the "wrong" type, she cannot perfectly repurpose support, as reflected by $\phi < 1$. The respective first-order conditions imply the following optima (with second-order conditions satisfied):

$$s_A^*(\mu) = \max\big\{\big(-(1-\phi) + \mu(2-\phi)\big)\psi_A, 0\big\},$$
$$s_B^*(\mu) = \max\big\{\big(1-\mu(2-\phi)\big)\psi_B, 0\big\}.$$

As μ increases, A becomes more willing to support, because P is more likely to be aligned, and likewise for B given a decrease in μ. Of course, both A and B are willing to support more when ϕ increases, as their support becomes more specific to their objectives and only helps move policy in their respective preferred directions.

We may now analyze the equilibria. As with a canonical cheap talk game, a pooling equilibrium always exists. The first proposition summarizes when separation is possible:

Proposition 6 (Separation)**.** *A separating equilibrium exists whenever* $1-\phi \leq \frac{\psi_A}{\psi_B} \leq \frac{1}{1-\phi}$.

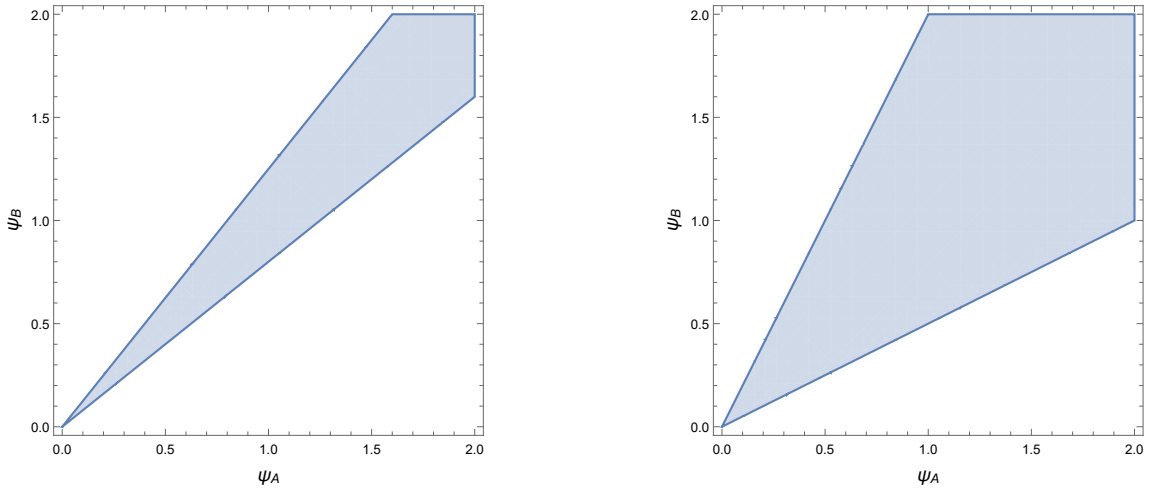
Proof. All proofs are in Appendix I. □

To gain intuition, this condition can be re-expressed as the intersection of two conditions: $(1-\phi)\psi_B \leq \psi_A$ and $(1-\phi)\psi_A \leq \psi_B$. That is to say, the amount that A wants to offer an aligned type of P must exceed the amount that P could gain by misrepresenting herself as aligned with B, and the other way around. This allows separation to occur. See Figure 4.

Two parameter shifts that can bring the separating equilibrium into existence are of interest. First, increasing ϕ helps both of these conditions to be satisfied. Intuitively, the less that P can use support for purposes contrary to the intentions of the groups, the less incentive P has to misrepresent and take help from an opponent. Second, making ψ_A and ψ_B sufficiently close also helps satisfy the conditions. Intuitively, when the two groups have close to equal capacity, P no longer has an incentive to communicate that she is aligned with a group solely because it has higher capacity.

Equilibrium selection

Farrell and Gibbons (1989, 1220) demonstrate that whenever a separating equilibrium exists in a cheap talk game with one sender and two receivers, the pooling equilibrium fails the



(a) $\phi = 1/5$ (b) $\phi = 1/2$

Figure 4: The region in (ψ_A, ψ_B)-space in which separation is possible.

criterion of *neologism-proofness* as long as the receivers' mappings from beliefs to actions satisfy a type of consistency with one another (*coherence*). The idea behind neologism-proofness is that the sender and receivers have access to a rich language with common and literal meaning. Essentially, the pooling equilibrium is selected against because of the idea that the sender would be able to make a speech like "I really am of type 1, and you should believe me because only a type 1 sender would have an incentive to convince you so" (Farrell 1993). While coherence is defined in a setting in which receivers have binary actions, its purpose is to ensure that the sender prefers separation. This holds presently:

Lemma 7 (Politician preference for equilibrium)**.** *When the separating equilibrium exists, the politician prefers it to the pooling equilibrium.*

Under pooling, both groups may grant support when it is hard enough to repurpose and when their prior belief that the politician is aligned is sufficiently great. But the inability to identify friends and enemies leaves this a speculative exercise, reducing the total amount that the politician receives in aggregate as well as the amount that the politician can use to achieve preferred objectives. For this reason, each politician type does better when she can credibly identify herself to both groups.[22] Given this, I reach the following result:

Proposition 7 (Equilibrium selection)**.** *When the separating equilibrium exists, the pooling equilibrium fails neologism-proofness.*

22. This is distinct from a main result of this paper, which is that separation is not necessarily better for a group. This stems from an asymmetry: for the politician, separation assures her of finding an ally. But for a group, separation might only find its opponent an ally. The inclusion of multiple politicians with independently-drawn types would not change this, as it is not clear that they would interact in any way, and whether any given politician separated would be independent of that same question for any other politician.

Consequently, I shall select the separating equilibrium when it exists.[23]

Capacity shifts and backlash

We can now look at how an exogenous shift in group I's capacity, ψ_I, affects policy outcomes. Importantly, this may have two different effects.

First, holding fixed whether A and B have been able to learn the type of P, a group's increase in capacity straightforwardly gives it greater ability to provide support when it deems doing so to be helpful. Consider two different *informational baselines*: one in which communication is prohibited, and another of perfect information. Outcomes under the former correspond to those in the pooling equilibrium, while outcomes under the latter correspond to those in the separating equilibrium when supportable. I reach the following conclusion:

Proposition 8. *Within each informational baseline, expected policy* $\mathbb{E}[x]$ *weakly decreases with an increase in* ψ_A*, with the decrease strict whenever* $s_A^* > 0$*.*

That is to say, if A's capacity does not determine what P is able to learn, then increasing that capacity always causes policy to move in A's preferred direction.

But second, a group's increase in capacity may change whether A and B are able to learn P's type in the first place. Recalling that A is the disadvantaged group, I shall examine how expected policy behaves around the value of ψ_A at which separation becomes possible. Specifically, recall that A's capacity has increased enough to admit separation when $\psi_A = (1-\phi)\psi_B$. At the instant that ψ_A reaches this level, what happens to expected policy? Before answering this question, I establish some definitions:

Definition 1. *If* $p > \frac{1-\phi(1-\phi)}{2-\phi(3-\phi)}$*, then* ***separation strongly favors A****.*

Definition 2. *If* $p < \frac{1-2\phi}{2-\phi(3-\phi)}$*, then* ***separation strongly favors B****.*

Figure 5 illustrates where in the parameter space each of these conditions is satisfied. Roughly, when separation strongly favors A, p is large and ϕ is small. And when separation strongly favors B, p and ϕ are both small. I now reach the following result:

Proposition 9. *Suppose that separation does not strongly favor A. As a function of* ψ_A*, expected policy* $\mathbb{E}[x]$ *exhibits a positive jump discontinuity at* $\psi_A = (1-\phi)\psi_B$*.*

When separation does not strongly favor A (as in most of (p,ϕ)-space), A experiences a *backlash jump* in expected policy; this is illustrated in Figure 6.[24] Policy's sharp rightward

23. Alternatively, Harrington (1992, 265-7) adapts the equilibrium refinement of *announcement-proofness* (Matthews, Okuno-Fujiwara, and Postlewaite 1991) to a setting with multiple senders and receivers. It is straightforward to demonstrate that this refinement also selects the separating equilibrium presently.

24. If separation *had* strongly favored A, we would have concluded that p is large and ϕ is small. Under such case, policy actually exhibits a *negative* jump (benefiting A) at $\psi_A = (1-\phi)\psi_B$. That is because it is

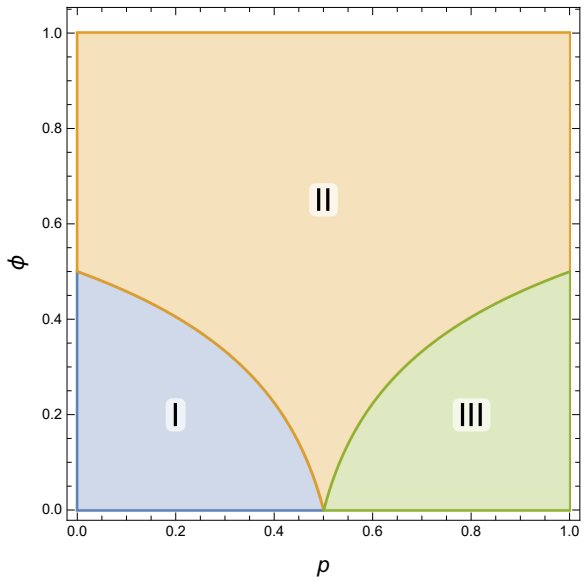


Figure 5: In region I, separation strongly favors B. In region II, separation strongly favors neither. In region III, separation strongly favors A.

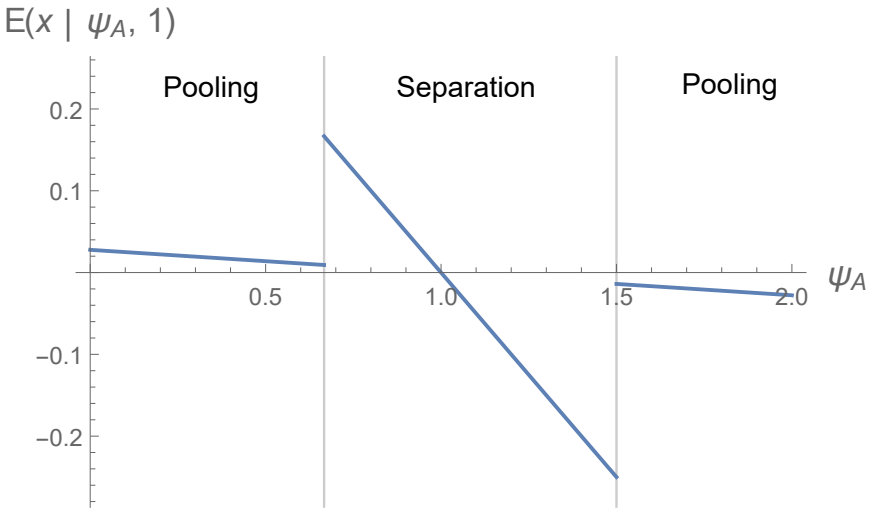


Figure 6: Expected policy as a function of A's capacity ψ_A, with $p = 1/2$, $\phi = 1/3$ and $\psi_B = 1$. Starting from $\psi_A < 2/3$, increasing ψ_A to $2/3$ brings the separating equilibrium into existence. This allows the type of P that agrees with B to identify herself, motivating B's support and shifting expected policy rightward against A's interests. Increasing A's capacity only benefits it when the increase is sufficiently large.

jump at $\psi_A = (1-\phi)\psi_B$ hurts A's policy goals. This happens because when separation becomes possible due to the increase in ψ_A, A is nevertheless still weaker than B. Although both are now able to identify when the politician is an ally, B's still greater capacity allows it to take better advantage of this information. Only if A's capacity sufficiently increases beyond $(1-\phi)\psi_B$ is A actually better off.

In fact, when separation strongly favors B, the only way that A is able to get policy back to where it was before separation became possible is for its capacity to increase so much that pooling occurs due to B being comparatively low-capacity:

Proposition 10. *Suppose that separation strongly favors B. Then*

$$\lim_{\psi_A \uparrow (1-\phi)\psi_B} \mathbb{E}[x] < \lim_{\psi_A \uparrow \frac{1}{1-\phi}\psi_B} \mathbb{E}[x].$$

In plain language, the best policy for A under pooling (when separation is impossible because of A's low capacity) is better than the best policy for A under separation (when admitted). The backlash jump is not rectified until A's capacity ψ_A increases beyond $\frac{1}{1-\phi}\psi_B$. This happens because separation strongly favoring B means that p and ϕ are small. Then it is difficult to grant support that only the aligned type of politician can use, but the probability of agreement with B is high. Separation therefore has a large negative effect on A's utility.

I conclude that unless separation strongly favors a weaker group, increased capacity can actually hurt it. The presence of a sufficiently strong opponent, and consequently the opportunity to repudiate its support in a meaningful way, enables allies of the still stronger group to credibly identify themselves. This motivates the stronger group to support the allied politician, who uses it to undermine the weaker group's goals. Thus, strengthening the weaker group can cause a policy shift against its preferences, constituting a backlash.

Extensions

Extending the baseline model yields additional insights into credibility's role in backlash politics. I summarize the most important results here, with formal analyses in the appendices.

Endogenous capacity (ψ_I)

So far, I have assumed that ψ_A and ψ_B are exogenous. Yet arguably, groups have the ability to invest in capacity. Given the results I have reached so far, how might this investment actually play out? In an extension, I investigate this question by supposing the existence of a group that initially has relatively low capacity (call it A) and another that has relatively high capacity (call it B). The lower-capacity group can choose to invest in capacity, followed by the ability of the higher-capacity group to respond with its own investment. Subsequently,

difficult to grant support that only the aligned type of politician can use, but the probability that any given politician agrees with A is high.

the baseline model plays out as before. I show that in most of the parameter space, the prospect of backlash leads the disadvantaged group to forgo a free increase in capacity. This is because while increased capacity may allow A to find and help its friends, this allows B to increase its own capacity more than it otherwise would have while still preserving separation. As a consequence, an even higher-capacity B is also able to find and help *its* friends. See Appendix F for full details.

Endogenous complementarity (ϕ)

We may be interested in ϕ being selected either by P or by the groups. Substantively, this may correspond to a player's choice between building different sorts of campaign infrastructure, emphasizing either donations (low ϕ) or activist organizing (high ϕ). This question relates to work on the nature of the relationship between groups and parties, with groups supplying not only money but also services and expertise (Skinner 2007).

Each group I chooses ϕ_I

Let each group I have its own complementarity of support, ϕ_I. While it may seem plausible that each I would want ϕ_I to be as large as possible, this ignores strategic interactions. When the prior probability of a politician type aligned with a lower-capacity group A is sufficiently high, a higher-capacity group B may choose ϕ_B sufficiently small so as to jam the ability of A to identify friends, since those friends would now be tempted to communicate allegiance to B. Remarkably, B's equilibrium support is then zero, as only pooling is possible and its prior belief is that the politician is unlikely to be a friend. This therefore provides an alternative theoretical account of the "missing money" phenomenon, in which, given the enormous financial stakes of public policy, the aggregate amount of campaign donations appears smaller than it should (Chamon and Kaplan 2013). It also suggests that a stronger group may specialize in granting funds, while a weaker group may specialize in activism. See Appendix G for full details.

P chooses ϕ

Suppose that before the baseline model plays out, the politician can determine the value of ϕ, with a value admitting separation feasible. To rule out a trivial and implausible case, assume that the choice of ϕ is observable. We then have a multi-stage signaling game, to which I apply the *never dissuaded once convinced* refinement (Osborne and Rubenstein 1990, 96-8). I find that one politician type must strictly prefer separation.[25] That politician type may select a corresponding value of ϕ. Then the other type can either select a different value of ϕ, separating immediately, or the same value of ϕ, only deferring separation until later. Thus, separation always occurs; see Appendix H for full details. However, there may still be a role for increasing a weaker group's capacity in enabling backlash: the minimum value of ϕ admitting separation in the baseline model is a decreasing function of ψ_A when $\psi_A < \psi_B$.

25. This is distinct from the result of Lemma 7, which held ϕ fixed.

Polarization

One way of examining the role of polarization would be to specify two ideal points, one for each politician-group type pair. The farther apart these ideal points are, the more the environment is polarized. Then of course the position of the status quo becomes relevant. If the status quo lies sufficiently external to both ideal points, there is no longer any conflict and therefore no benefit to sending informative messages. Both groups would want to select maximum support knowing that the status quo is assured to move closer to them. And obviously there would be little sense of backlash. Greater polarization means that this situation occurs less often. The effect of increasing polarization, then, may be to increase informative messages, decrease the degree to which policy moves, and increase the possibility that a group's shift in power may lead to backlash.

What about the case in which policy lies in-between the two ideal points? If the status quo were interior but sufficiently close to one of them, the group whose ideal point was far away could only benefit from granting a lot of support. If the aligned type has arisen, policy can move a far distance favorably, while the misaligned type's potential to inflict damage would be limited. This would be reversed for the other group. So one group would want to support a lot, and the other would want to support very little. And consequently, all politician types would want to communicate alignment with the former, preventing separation from being possible. However, in the specific case in which the status quo is close to the midpoint of the ideal points *and* groups have disparate levels of capacity, sufficiently strict bounds on how far support may move policy may bring each group's effective support close to equality and enable separation when not previously possible. Of course, the finite distance between ideal points would be an upper-bound on how far policy could actually move.

In summary, while there are some ambiguities, greater polarization mostly implies more credible communication. And while in some cases this may have led to greater policy shifts, we must remember that increasing polarization decreases the measure of policies over which everyone would have agreed such that credible communication was not even necessary; in such a case, both groups would have granted support to help move policy. Therefore, for the most part, greater polarization may imply more backlash.

The case of backlash against immigration in the US

I now illustrate the model with a case pertaining to immigration policy. To summarize, elite immigration foes long mistrusted Republican politicians' commitment to the anti-immigration cause, with politicians' communications about their preferences uninformative. But due to a recent increase in pro-immigration groups' capacity, their support became increasingly consequential. Now, a politician would be able to show alignment with anti-immigration groups by repudiating the support of pro-immigration groups. Donald Trump did exactly this with his harsh messaging, which won over elite immigration foes. This helped

Trump win the election and ultimately led to a policy backlash against immigrants.[26]

Pooling equilibrium

For years, Republican politicians promised increased enforcement but also gestured toward sympathy for Mexican migrants. For example, in a 1980 primary debate between George H.W. Bush and Ronald Reagan, Bush stated, "[A]s we have made illegal some types of labor that I would like to see legal, we're doing two things. We're creating a whole society of really honorable, decent, family-loving people that are in violation of the law, and second we're exacerbating relations with Mexico. These are good people, strong people—part of my family is Mexican." The ostensibly more conservative Reagan nevertheless felt compelled to echo Bush, stating, "Rather than talking about putting up a fence, why don't we work out some recognition of our mutual problems, make it possible for them to come here legally with a work permit" (Lee 2017). This corresponds to the pooling equilibrium.

In 1986, President Reagan signed the Immigration Reform and Control Act, whose authors had "gutted the employer sanctions"; following this, Border Patrol's staff remained relatively constant until 1993 (Plumer 2013). Jerry Kammer of the anti-immigration Center for Immigration Studies believed that this was because "Reagan was never committed to the worksite regulation that was essential to the effort to control the border" (2019). The 1986 law was followed by a sharp increase in the population of undocumented immigrants, going from 3.5 million in 1990 to about 11 million in 2005 (Passel and Cohn 2019). This perceived failure led hardliners to be skeptical of subsequent attempts to reform immigration. Writing in the conservative *American Interest*, Gallagher (2016) wrote, "[T]he 2007 Comprehensive Immigration Reform Act and the 2013 Gang of Eight bill were the same basic compromise, with tweaks and a 'trust us, this time we mean it.' Only, many people don't." Conservative columnist and strident immigration opponent Ann Coulter was blunter, writing,

> The amnesty came, but the border security never did. Illegal immigration sextupled. There have been a half dozen more amnesties since then, legalizing millions more foreigners who broke our laws. Perhaps we could have trusted Washington's sincerity thirty years ago, but Americans have already been fooled once—then, six more times. They aren't stupid. (Coulter 2015a, 8)

Once again, this corresponds to pooling in the model, with politicians unable to credibly communicate their opposition to immigration.

26. Admittedly, some recent Republican candidates preceding Donald Trump have been unquestionably opposed to immigration, such as Tom Tancredo and Pat Buchanan. However, even if elite immigration foes of the past may have been convinced of their alignment, immigration foes faced a steeper task in elevating these less visible candidates in the absence of a diversity of social media, fund-raising platforms, and partisan news organizations outside the control of the establishment (Steger 2016; Greenfield 2016). These candidates' lack of viability itself may have enabled them to credibly communicate their opposition to immigration.

Moderate increase in ψ_A

Soon enough though, a rising proportion of Latino immigrants led to an increase in their political capacity (corresponding to an increase in ψ_A). This occurred through a number of causal channels. Ramírez (2013) credits the rise of a Latino voting bloc and an increase in Latino elected officials (Zepeda-Millán 2017, 38); more specifically, Zepeda-Millán (183-4) describes efforts by Latino political organizations to encourage naturalization and voter registration. Additionally, both Ramírez (30-53) and Zepeda-Millán (67-100) point to the central role of Spanish-language media, whose existence and influence depends on a critical mass of consumers, in organizing political action. And Zepeda-Millán (127-8) notes that in cities with higher foreign-born and undocumented Mexican populations, these media's calls to political action have been more effective, specifically during the 2006 immigration reform protests. Coordinated by pro-immigration groups and the Spanish-language media, millions of people protested against the anti-immigration Sensenbrenner bill, which sought to make undocumented status a felony, among other things (11).

These protests were an important milestone in pro-immigration forces' increase in capacity, and their efforts helped to defeat the bill. Yet they had only attained intermediate capacity. As the head of a DC-based pro-immigration group summarized it, "We were strong enough to collectively stop Sensenbrenner, but not strong enough to pass comprehensive immigration reform" (174). As predicted in the model, the moderate increase in capacity marked the beginning of a backlash against immigration reform efforts. Fox News took the opportunity to stir up fear of immigrants (142). And according to activists, the protests had a polarizing effect on members of Congress, with anti-immigration groups using them to raise money (172-3). Pro-immigration activists later expressed doubt about the wisdom of these protests, concluding that they had hurt their chances at achieving comprehensive immigration reform (171). This suggests support for the endogenous capacity extension's result that a weaker group might decline to invest in capacity because it anticipates a backlash.

Separating equilibrium

As late as 2012, even conservative television personality Sean Hannity was saying that he had "evolved" on immigration and supported a pathway to citizenship for undocumented immigrants without criminal records (Weiner 2012). Yet in this new separating equilibrium, the role of politicians' credible communication in producing backlash became clear just a few years later. In 2015, Donald Trump shattered the old messaging at his campaign announcement, famously stating that "[w]hen Mexico sends its people, they're not sending their best.... They're bringing drugs. They're bringing crime. They're rapists" (Burns 2015). After the San Bernardino mass shooting that December, he called for "a total and complete shutdown of Muslims entering the United States" (Wolf 2018). The following June, Trump claimed that a federal judge presiding over lawsuits against Trump University had "an absolute conflict" because of his "Mexican heritage" (Kendall 2016). These are only a few examples.

Contemporaneous observers argued that this strategy was costing Trump the potential support of moderates (Berenson 2016). It also appeared to hurt Trump with more diverse

groups: as Greenfield (2016) noted at the time, "Trump's loaded, inflammatory language about immigration, biased 'Mexican' judges, women and the African-American experience have him polling at historically low levels with minorities and women." But enraging these constituencies was precisely what helped Trump's message resonate with elite immigration opponents. According to Coulter, "When someone like Trump comes along and is actually serious about winning the very causes the GOP purportedly seeks to advance, he is seen as a disruptive force" (Coulter 2015b). Immigration hardliners, who up to this point had failed to find traction with political leaders, thus now saw in Trump a committed immigration opponent. As Coulter later wrote, "[Y]ou know [Trump] will do what no other Republican will: Go to Washington, kick ass, mock political correctness, build a wall, [and] deport illegals" (Coulter 2016a); her book *In Trump We Trust* came out soon after (Coulter 2016b).

Winning over figures like Coulter importantly allowed Trump to influence voters (Levitsky and Ziblatt 2019, 58). The far-right website Breitbart led a network of conservative news organizations in influencing the broader media agenda (Benkler et al. 2017; Faris et al. 2017). And partisan media messages can spread even to those who do not consume them directly (Druckman, Levendusky, and McLain 2018). With evidence suggesting that exposure to partisan media has a large effect on political behavior (DellaVigna and Kaplan 2007; Martin and Yurukoglu 2017), it is likely that Trump's ability to credibly communicate his preferences to prominent anti-immigration elites ultimately moved erstwhile supporters in the public.

Indeed, this campaign messaging turned out to be largely credible: Trump's election enabled draconian immigration policies, including the travel ban on many majority-Muslim countries and the policy of separating families at the Mexican border. Intermediated by elite immigration foes, the anti-immigration support that Trump earned during the campaign proved crucial in helping to shield such policies from opposition, at times enabling him to neutralize Republican critics. For example, Arizona Senator Jeff Flake wrote a New York Times editorial in August 2017 specifically criticizing Trump's immigration stances and arguing that the U.S. benefits from unskilled laborers coming from Mexico (Flake 2017). Quickly enough, supporters' response to Trump's withering criticism of "flake Jeff Flake" reinforced Flake's difficulties with the primary electorate, leading him to announce in October that he would not seek re-election (Gay Stolberg 2017).

New coalitions

Republican priorities did not merely shift under everyone's feet. Rather, the possibility of separation allowed Republican politicians such as Trump to credibly communicate the Republican Party's commitment to opposing immigration. This may have precipitated activation of certain types of Republican voters (Sides, Tesler, and Vavreck 2018) or sorting across the parties (Cohn 2017; Sides, Tesler, and Vavreck 2017, 42). In 2002, for example, 62% of Democrats agreed in a survey that "large numbers of immigrants and refugees coming into the US" posed a "critical threat" to the country, more than the 58% of Republicans who agreed (Kafura and Hammer 2019). But by 2019, 78% of Republicans agreed while only 19% of Democrats agreed. Ultimately then, the rise of pro-immigration groups' power enabled credible messaging by Republican politicians against immigrants, thus strengthening

the association between the Republican Party and restrictionism.

This case has thus demonstrated how the increasing capacity of a lower-capacity group can bring about a shift in political messaging. This messaging credibly communicates policy commitments in a way that was previously impossible, enabling political elites to construct new political coalitions that move policy against the interests of the lower-capacity group.

Conclusion

This paper has started from the premise that a key problem for groups is credibly identifying allied politicians. One way for a politician to communicate her alignment with a group is through repudiation of an opposed group. Yet credibility requires that the two groups be close enough to one another in their capacity to offer support to an ally. When pro-immigration groups are so weak that no one would ever prefer their help over that from their opponents, neither pro- nor anti-immigration groups can believe messages from any politician. But when pro-immigration groups become stronger, repudiating them becomes meaningful. And when an opposed politician thus earns the support of anti-immigration groups, this can turn policy against the preferences of the pro-immigration groups, constituting a backlash.

I have thus emphasized the role of elites in producing backlash, particularly that against immigrants. Rather than looking to lay people's direct perception of demographic shifts, I have examined elites' role in shaping this perception. Such a perspective demands a model that satisfies two criteria. First, elite actors are strategic and forward-looking. Second, elite communication plays a key role. The model that I have presented satisfies these criteria. An anti-immigration group may anticipate that its opponents are about to achieve policy victories, but the group's ability to stop its opponents may be limited by the aligned type of politician's inability to credibly communicate her preferences. When opponents' capacity increases, communication becomes credible and policy victories may reverse.

More broadly, the model's focus on elites helps us to understand how the behavior of strategic actors can underpin realignments, with shifts in relative group power proving crucial in enabling politicians to assemble novel political coalitions. The success of Donald Trump's anti-immigration campaign was made possible by an increase in the capacity of pro-immigration groups. And following his campaign and presidential actions, the Republican Party has become inextricably associated with opposition to immigration. Future work should inquire further about how group power and political communication determine the shape that party coalitions take.

Paper III

From classical to progressive liberalism: Ideological development and the origins of the administrative state (with Joseph Warren)

In the classic model of delegation to a bureaucratic agency, a politician grants discretionary policymaking authority to a bureaucrat because the bureaucrat has expertise, or information about policy effects, that the politician lacks (Holmström 1984). In American politics, delegation to expert bureaucrats tends to be associated with policies to redistribute wealth or regulate business. The first federal agencies, starting with the Interstate Commerce Commission (ICC), were established to constrain business power (Sanders 1999). Since the early 20th century, the association between left-wing economic policies and administrative expertise has been central to American liberalism.

Yet in the 19th century, expert agencies were one of several means by which liberal reformers *opposed* redistributive demands. While farmers and industrial workers generally supported substantive statutory rules or public ownership, alongside increased farmer or worker representation in government, classical liberals feared working-class majorities in a context of expanded suffrage. They sought to constrain legislative politics through various policy mechanisms, including expert agencies, civil service reform, laissez-faire economic policies, and the gold standard. For this reason, classical liberals are often sharply contrasted with modern American liberals, who support redistribution and regulation.[27] Strikingly, both classical and progressive liberals supported the same institutions—administrative agencies staffed by experts with discretionary policy authority—for seemingly opposite ends.

Why did American liberalism develop a political commitment to economic redistribution through expert policymaking by administrative agencies?[28] Other scholars have argued that agencies provided a compromise between liberal reformers and agrarian populists (Sanders 1999; James 2006). But why administrative agencies and not legislation as a vehicle for such a compromise? We argue that the key political difference between agencies and statutory reforms was the difference in implications for the future distribution of power. Liberal reformers feared that legislation countering business would increase the power of working-class movements and thereby increase the likelihood of radical reforms that liberals opposed. Administrative agencies limited these feedback effects. Staffed by credentialed urban professionals, agencies enhanced liberal political power and restricted increases in working-class power produced by reforms. Thus, bureaucratic agencies ameliorated a bargaining problem between populists and liberals in a way that statutory regulation could not.

27. In this paper, we use the term "progressive liberalism". See Rossinow (2009) or Rosenblatt (2018) for two recent discussions of "the two liberalisms".

28. Rather than analyzing how institutions function for making policy, we investigate how political groups historically perceived institutional alternatives. For a discussion of more recent literature on policymaking through administrative agencies, largely building on the basic setup of Holmström (1984), see Gailmard and Patty (2012b).

We present a formal model to analyze this bargaining problem. In the model, there are mutual policy gains available for liberals and populists (reflecting a pro-business status quo in the late 19th century). But while a coalition could form to change policy in their shared interest, the resulting shift in power means that the distribution of future policy gains within the coalition becomes too skewed in favor of one side. For this reason, the coalition fails to form in the first place. Establishing a bureaucracy creates a third actor with some degree of political power and shared preferences with liberals, which relaxes conditions for the coalition to form. The model elucidates this strategic dilemma and connects the historical context we analyze to other models of bargaining amid shifting power.

More broadly, this paper explores one mechanism through which institutions provide the "glue" to unite political coalitions despite divergent interests. Because institutions with different structures of decision-making and personnel shape the distribution of power in different ways, advancing policy goals through alternative institutions can either resolve or exacerbate bargaining problems within a (prospective) coalition. Empowering administrative agencies, courts, legislatures, private companies, or other organizations to enact policy has important implications for the power of social groups. This affects which political coalitions are able to form, even holding constant the policy goals of potential coalition members.

Related Literature

While the role of policymaking expertise within bureaucratic agencies may have had important effects on American state development (see, e.g., Gailmard and Patty 2013), our argument focuses on the historical origins of bureaucratic agencies in the US.[29] In this way, our argument relates to work on the origins of civil service reforms. Huber and Ting (2021) argue that civil service reforms are expected when parties value public goods. Ting et al. (2013) provide empirical evidence from US states for a positive association between party competition and civil service reforms. In contrast, we look at the development of political preferences for insulated bureaucracies directly.

As in Skowronek's (1982) classic account of the origins of the federal bureaucracy, we start from the classical liberals and civil service reformers of the 1860s and 1870s. However, whereas Skowronek presents these reformers as "basically correct" (p. 83) in their analysis of what the American polity required amid the Industrial Revolution, we emphasize the range of reform alternatives and how concerns over the power of social groups shaped support for specific types of reform.[30] Ultimately, Skowronek's key mechanism to entrench support for the bureaucracy in the 1890s is a party realignment reducing electoral pressure on officials in government (pp. 167-9). In contrast, we argue that the key factor in the 1890s was the

29. Gailmard and Patty (2013) focus on institutional effects and do not purport to explain the origins of the federal bureaucracy (p. 19). However, comparative statics of the model in Part 1 point to the degree of uncertainty or complexity of a policy leading to delegation (see pp. 52, 63). Other analyses of the choice of regulation through administrative agencies versus courts also focus on functional characteristics of policymaking through either institution (Glaeser and Shleifer 2003; Stephenson 2005).

30. In emphasizing reform alternatives, our argument aligns with that of Berk (1997). However, Berk focuses on alternative economic institutions, whereas we focus on alternative regulatory institutions.

changing power of working-class movements and big business. Finally, we highlight the importance of racial fears among classical liberals. It is no coincidence, we argue, that liberals came to support reform just as disfranchisement laws were being implemented.

We contribute to arguments (e.g., Sanders 1999; James 2006) that see bureaucratic agencies as a compromise, in particular by explaining how they ameliorated the bargaining problem created by policy feedback effects. In this way, we build on arguments by Shefter (1993) that political coalitions seek to restructure the state to build in the power of their group and Carpenter (2001) on the political influence of bureaucrats beyond direct policymaking. Notably, in our model, the underlying policy preferences of liberals remain the same, but their political demands shift based on coalitional choices. Thus, we emphasize the ideological consistency of liberal reformers across the 19th and 20th centuries. In so doing, we also explain the timing of the shift among liberal reformers in the 1890s in response to the changing distribution of power among business and working-class groups.

Our model elucidates a mechanism through which administrative agencies are empowered even without consideration of public goods or expertise (conceptualized as information about the state of the world).[31] In modeling bureaucratic agencies as something other than a strategic response to an informational problem, our argument relates to that of Fiorina (1982). But while Fiorina looks at incentives for members of Congress, we investigate group demands for institutions. Unlike De Figueiredo (2002), actors in our model are concerned about the rising power of one's coalition partner, not the rotation of groups in an election. Moe (1990) argues that political coalitions structure bureaucracies in order to preserve their policy preferences into the future, but Moe's argument is in the context of contemporary agency design, whereas we are looking at the development of political support for the bureaucracy in the first place. We also do not view bureaucratic agencies as inefficient, as do Moe and De Figueiredo. In fact, by limiting feedback effects and thereby solving a commitment problem, bureaucratic agencies are efficiency-enhancing in our model.

Our explanation for the historical origins of bureaucratic agencies answers two questions. First, what is the nature of the coalitional problem that bureaucratic agencies solved? Second, how did agencies operate as an effective commitment device for that coalition?

Our argument

In the late 19th century, liberals repeatedly expressed fears of the rising power of farmers and industrial workers. Liberals anticipated that policies to regulate business would increase the power of these movements, and they therefore opposed such policies despite otherwise having a shared interest in business regulation. Implementing regulation through bureaucratic agencies solved this coalitional problem. By increasing the political power of credentialed urban professionals, who tended to support liberal policies, agencies altered the distribution of power among groups pressuring Congress. Since liberals now had less to fear from the

31. Were the canonical additive shock framework for expertise to be incorporated into the present model, the results would be qualitatively similar. Expertise at most functions as a valence characteristic, increasing the benefit of a bureaucracy for both P and L.

rising power of their coalition partners, agencies operated as an effective commitment device for a coalition to regulate business.

Liberal reformers saw themselves facing two threats. On one hand, newly powerful corporations used their concentrated wealth to corrupt politics. On the other hand, the expansion of suffrage meant that efforts to constrain corporate power risked empowering a newly assertive and racially heterogeneous working class. The gradual removal of property requirements for suffrage prior to the Civil War and the 15th Amendment afterward meant that voting rights had never been as expansive as in the 1870s. With a pro-business status quo, liberals had potential policy gains from aligning politically with industrial workers and agrarian populists, yet liberals feared their political power.

For their part, agrarian populists and industrial workers predominately did not express a preference for expert policymaking through bureaucratic agencies. Fundamentally, 19th-century labor and farmer movements aimed to increase working-class power (in conflict with liberal goals). While these movements reflected a rhetorical deference to science and progress common at the time, their central goal was to enhance democracy across economic and political spheres. The political vision preserved in farmer and worker publications and speeches of political leaders was not a democracy fixed by granting policymaking power to experts. To the extent possible, these movements sought to increase worker and farmer representation in government, restructure institutions to embed their policy goals in the normal operations of government, and pass clear statutory rules through Congress or state legislatures in order to directly achieve their ends.[32]

In our model, two players choose to form a coalition or not. Forming the coalition makes it more likely that they successfully pressure a legislator to act on their behalf. The legislator then chooses to move policy based on the utility of each player. With two policymaking periods, the location of policy in the first period influences the weights that the legislator places on the utility of each group when choosing policy in the second period. This represents the feedback effect of policy on group power. In forming the coalition, players choose to press for establishment of a bureaucracy to which to delegate policy. A bureaucracy is modeled as a third actor with the ability to influence Congress, which aligns with how 19th-century liberals anticipated bureaucratic agencies working.

Nineteenth century liberals, who advocated expert administration and believed that it would improve government, saw expert commissions as an opportunity to lead public opinion. Bureaucratic experts would make policy recommendations and influence the public (McCraw 1984). When one prominent reformer advocated to "clothe this tribunal with all necessary power and dignity, and delegate to it that discretion, necessarily left somewhere, in the application of general laws to monopolies", he imagined that agencies would influence the public and Congress so as to inspire Congress to accept the agency's policies (Adams 1871). In the debate over federal railroad regulation, which resulted in the passage of the Interstate Commerce Act in 1887, various parties expressed their expectations for how a potential regulatory commission would affect future policymaking. Proponents argued that "honest,

32. For descriptions of worker and farmer goals, see Berk (1997), Fink (1983), Goodwyn (1976), Montgomery (1967), or Postel (2007). We provide further evidence in the historical section below.

intelligent" men on the commission would provide recommendations to Congress for future legislation, making "radical legislation" less likely (Cushman 1941, 47).

We conceptualize this public pressure on Congress in terms of interest groups politics. The credentialed professionals staffing bureaucratic agencies have political power in their own right to pressure elected officials, as documented empirically. From the beginning, federal civil servants have operated as an interest group and sought to influence Congress, both on their own and in alliance with other groups such as consumers or labor unions (Skowronek 1982, 180-2; Johnson and Libecap 1994; Carpenter 2001). At the state level as well, bureaucrats frequently influence legislative policymaking (Kroeger 2020). Importantly, this power is not limited to formal policymaking authority, which would be revocable by a future legislative majority.

In a simple way, the model captures the problem facing a potential coalition to regulate business. Moving policy, which would be in the interests of liberal reformers, empowers their coalition partners and thereby harms liberals in the future. This commitment problem caused by the effect of policy change on future power relates to theories of inefficient conflict in which actors divide a pie (Fearon 1995; Powell 2004). Our model shows how a parallel problem occurs in a legislative policymaking environment with a single policy dimension. The model also shows how support for expert agencies ameliorates this problem. By empowering a third actor who influences the legislator in the following period, the coalition diminishes the policy feedback effect that otherwise blocks the coalition from forming. This allows the coalition to form, giving both actors an interest in supporting regulation through bureaucratic agencies.

Understood in these terms, this dilemma explains the historical timing of the liberal shift toward support for regulation in the 1890s. As the status quo policy increasingly favors business interests against farmers and workers, the threshold for liberal reformers to join a coalition to regulate business decreases. This aligns with historical events of the 1890s—including the Great Merger Wave of business consolidation, the Pullman strike, the presidential election of 1896, and Southern disfranchisement—shifting the coalitional calculus for liberals. In the model, when policy feedback effects are sufficiently large and starting from a point in the parameter space at which no coalition forms, these sorts of parametric shifts cause the game to enter a region in which a coalition forms around support for a bureaucracy.

A model of political support for expert agencies

We present a bargaining model with players corresponding to political groups in the late 19th-century United States. Player P ("populists") represents groups of farmers or industrial workers.[33] Player L ("liberals") represents the classical liberals, who were predominately urban professionals. We focus on the shared potential gains of these two groups in a coalition against big business. Should this coalition incorporate support for a bureaucracy, this

33. We use the term "populists" out of convenience and because the alliance between middle-class urban professionals and agrarian populists was most relevant in supporting administrative agencies at the national level. Of course, there were significant divisions between farmers and industrial workers.

represents the development of a "constituency for bureaucratic autonomy" (Shefter 1977).

In this section, we formalize these elements in a bargaining game. In each of two stages, there is a member of Congress M who lives for a single stage and holds utility over contributions from L and P. L and P can decide whether to cooperate to help achieve legislative change. The weight that M places on each group is a function of where the status quo policy sits, representing the role of policy feedback effects. To mitigate this policy feedback, L and P may choose to organize their coalition around the establishment of a bureaucracy to set policy. In analyzing this game, we focus on a region of the parameter space that corresponds to our substantive historical argument.

Formal definition

Players and preliminaries

In Stage 1, P and L make contribution offers to a member of Congress M contingent on M's choice of policy on the real line. P and L choose whether or not to form a coalition to increase the probability that their contingent offers are transmitted to M. P and L also choose whether or not to organize their coalition around empowerment of a bureaucrat B. Stage 2 is the same, except B also makes a contribution offer if P and L chose to empower B in Stage 1.

When a bureaucracy is established, M weighs B's preferences along with those of P and L, with ϕ being the weight placed on B. This corresponds to bureaucrats' ability to pressure elected officials once established. While we take ϕ to be exogenous, other actors would never have any motivation to establish a bureaucracy for which ϕ was sufficiently small to subject its policy choice to rescission.

In this dynamic game, the status quo is inherited from play in the previous stage. Specifically, in Stage 1, policy reverts to an exogenous status quo (denoted x_0) should no action be taken, whereas in Stage 2, policy reverts to the outcome of policymaking in the previous stage (denoted x_1) should no action be taken.

Sequence of moves

The following sequence plays out:

Stage 1

1. P and L simultaneously decide whether a coalition implies that offers to M are conditioned on empowerment of B.
2. P and L simultaneously decide whether or not to enter a coalition.
3. P and L independently make contingent offers to M.
   (a) If a coalition is present, both offers are transmitted to M (and M is *activated*) with certainty.

(b) If a coalition is not present, both offers are transmitted to M with probability q.

4. If activated, M selects policy. Otherwise, the status quo holds.

Stage 2

5. If M was not previously activated, Stage 1 repeats.

6. If M was previously activated, L and R (and I if active) make contingent offers and M sets policy with certainty.

7. The game ends and payoffs are realized.

Utility functions

Each player has a utility function indexed by the Stage t. The member of Congress M has the following utility function in Stage t:

$$U_t^M = \gamma(x_{t-1}) \cdot \chi_P + \big(1 - \gamma(x_{t-1})\big) \cdot \chi_L$$

where χ_I is the contribution from player I and γ gives the relative importance of a player's contribution as a function of policy in the previous stage, x_{t-1}.

Next, player $I \in \{P, L, B\}$ has the following utility function in Stage t:

$$U_t^I(x_t) = -|i - x_t| - k_I + (2 - t)\big(-\delta|i - x_{t+1}|\big)$$

where i is I's ideal point. That is, I is concerned with policy and contributions now, and policy in the future if $t = 1$.

The policymaking environment

We assume that the policy feedback function $\gamma(x_i)$ is a linear function of policy and normalize $\gamma(0) = 0$:

Assumption 7. *$\gamma(x_i) = -\beta x_i$ with $\beta > 0$ and x_i such that $0 < \gamma(x_i) < 1$.*

Hence, when $x = 0$, M places a weight of 1 on contributions from L and 0 on contributions from P. As policy moves leftward toward P, the weight placed on P increases linearly at the expense of L.

We show that M's concern for P and L is equal when $x_{t-1} = -\frac{1}{2\beta}$. This is an important cutoff value in the analysis of the model, so we define it as follows:

Definition 3. *The **pivot policy** is $k \equiv -\frac{1}{2\beta}$.*

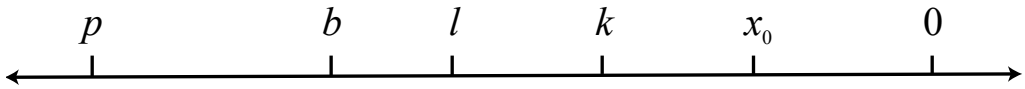


Figure 7: There are three players, P, L, and B, with ideal points p, l, and b, respectively, in a linear policy space. The point k represents the pivot policy, and x_0 represents the status quo policy.

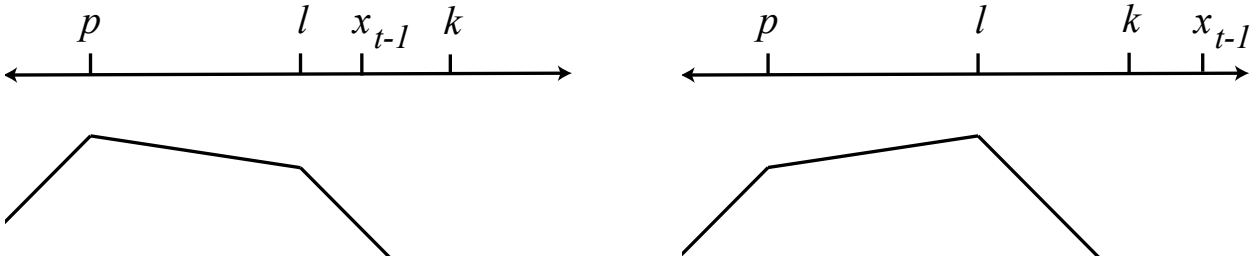


Figure 8: Player M's utility function in period t for different values of policy in the previous period x_{t-1}. When x_{t-1} is relatively far left (left panel), feedback effects favor P, and M's ideal point in t is at p. When x_{t-1} is relatively far right (right panel), feedback effects favor L, and M's ideal point in t is at l.

With the pivot policy defined, we make the following assumptions on player ideal points in order to analyze the bargaining problem relevant to the historical context of interest:

Assumption 8. *The ideal points, pivot policy, and status quo satisfy*

$$p < b < l < k < x_0 < 2l - p.$$

See Figure 7. These assumptions on player ideal points are justified below. Figure 8 illustrates the effect on M's utility of x_{t-1} being to the left or right of k.

Summary

To summarize, the exogenous parameters are x_0, β, q, p, l, b, and ϕ. The endogenous choices in each stage may consist of the amounts of contributions to M, the location of policy, whether to join a coalition, and whether such a coalition is formed around legislative or bureaucratic policymaking. Since this is a sequential game with only exogenous uncertainty, subgame perfect Nash equilibrium (SPNE) is the natural equilibrium concept. We focus exclusively on pure-strategy SPNE.

Comments on model assumptions

Player ideal points and the status quo

That players P and L have different ideal points represents the conflict of interest between them. Additionally, the pivot policy sits to the right of L's ideal point. This implies that L starts out as the more powerful player, so that M has greater concern for L's utility. But if L gets its ideal point in Stage 1, it will be less powerful than P in Stage 2. Thus, assuming $l < k < x_0$ gives us the relevant case in which L faces a trade-off. In the 1870s and 1880s, liberal reformers had influential voices in newspapers, academic institutions, and policymaking (McCraw 1984; Cohen 2002), and they risked losing this influence with the rising power of working-class movements. Hence, the model setup reflects the historical context in which liberals would benefit from moving policy leftward but feared that doing so would empower the populists. Next, the assumption that $x_0 < 2l - p$ simply says that l is closer to x_0 than it is to p. L therefore prefers the status quo to policy at P's ideal point. Finally, we assume that the bureaucrat's ideal point b is interior to p and l, so that the bureaucracy institutes an efficient division of pie between P and L. This is consistent with bureaucrats historically having similar preferences to liberal reformers, but being perhaps somewhat more favorable toward redistribution.

The roles of M and B

The member of Congress M aggregates preferences within the coalition in a way that weighs more "powerful" players more heavily. This avoids difficulties of who is the proposer, both within the coalition and between the coalition and Congress. The presumption is that greater power means more ability to win intra-coalitional battles and pressure Congress to pass one's preferred policy. The parameter $q < 1$ captures the increased chance of victory in a coalition, where victory means making an issue salient and commanding M's policymaking attention (in which case we say that M is *activated*).[34] While it is a simplification that a coalition wins for sure, we interpret this to represent that the populists and liberals together have a large, politically powerful majority that is *more likely* to win compared to each group on its own.

Next consider B. It is immaterial whether B sets policy itself. Its key feature is that it has independent power to influence M's preferences over policy. This could equivalently affect policy through inducing M either to prefer not to rescind B's direct authority over policy or to select a particular legislative policy itself. As we contend, bureaucrats exercised influence over policy not only by setting it themselves but also by accruing power to pressure other political actors. For convenience and to correspond to this argument, we employ the latter approach. In contrast with McNollgast (1999), who omit consideration of why a subsequent Congress may not simply revisit a bureaucrat's authority and directives in the future, a bureaucracy in our model serves as an effective commitment device through its ability to alter the preferences of future Congresses.

34. It is intuitive and convenient to assume that if M is activated in Stage 1, then M remains activated in Stage 2. This can be interpreted to represent that a recently raised but unsettled issue remains salient.

The policy feedback function

The two-period structure of the model introduces the potential for a bargaining failure. The policy feedback function links the power of each group to policy across periods. For convenience, we assume the policy feedback function to be linear. This allows us to examine the effect of shifting the rate at which moving current policy affects future power, but none of our results requires this linearity.[35] The feedback function represents how radical policies (more in favor of populists) were historically perceived as increasing populist power in the future. For this reason, groups are not only concerned about the effects of policies in the present but also how today's policies affect likely future policies.

Sequence of moves

Players decide whether or not to form a coalition before the possibility of either direct policymaking or the establishment of a bureaucracy.[36] Having P and L mutually decide whether a coalition implies a bureaucracy (i.e., both must agree) *before* mutually deciding whether to join a coalition avoids a technical problem. If players first decide whether to form a coalition and next decide whether the coalition supports a bureaucracy, there might be no coalition at all even if a coalition in support of a bureaucracy were mutually agreeable. In this circumstance, once players have entered a coalition, nothing stops one player from vetoing the bureaucracy to ensure that there is a coalition supporting legislative policy. This is substantively implausible, as in reality the other player would likely drop out of the coalition in response. By avoiding this issue, our analysis focuses specifically on the coalition's commitment problem arising from policy feedback effects.

Model analysis without a bureaucracy

As a baseline, we first analyze policymaking when players cannot form a bureaucracy (i.e., Step 1 is deleted from the sequence of moves).

Stage 2

If M moves policy, it selects the policy maximizing the weighted joint utility of P and L, and B if active.[37] We will refer to this policy as x_t^*. If M were to select any other policy,

35. As an alternative, one could let there be a connected one-dimensional policy space $\mathbb{P} \subseteq \mathbb{R}$ and assume that $\gamma(x') > \gamma(x'')$ whenever $x' < x''$, that $\gamma(x_0) \geq 0$, that $0 \leq \gamma(x) \leq 1$ for all $x \in \mathbb{P}$, and that there exists an $\tilde{x} : l < \tilde{x} < 2l - p$ such that $\gamma(\tilde{x}) = 1/2$. The steepness of the function γ would then determine whether a bargaining failure occurs.

36. The assumed inability to establish a bureaucracy in Stage 2 is without consequence. Either $x_2 = p$ or $x_2 = l$ would maximize joint utility (as maximized by M), so bringing about a bureaucrat who would set $x_2 = b$ would be counterproductive.

37. The process by which P and L make contribution offers to M is a menu auction. We suppose that they use *truthful* strategies, i.e., the difference between any two points in contribution offered (when nonzero) equals the change in utility experienced by the player (accounting for M's weights on contributions). Such strategies always constitute an equilibrium and are coalition-proof (Bernheim and Whinston 1986).

some set of players would have been willing to pay M more to select x_t^* than M would forgo by deviating.

Next, we characterize the values that x_2^* takes:[38]

Lemma 8. *The optimal policy x_2^* is as follows:*

$$x_2^* = \begin{cases} p & x_1 < k, \\ l & x_1 \geq k. \end{cases}$$

Proof. All proofs are in Appendix I. □

This constitutes part of the bargaining problem faced by P and L. Because moving policy in Stage 1 affects the policy that M chooses to implement in Stage 2, this may lead to P and L inefficiently failing to induce policy somewhere within $[p, l]$ in Stage 1, either through the optimum that M implements or through L's failure to join a coalition.

The last question to analyze in Stage 2 is whether P and L can agree to form a coalition to increase the probability that M attends to policy and implements x_2^* rather than allowing x_1 to prevail (given that M was not already activated in Stage 1). It should be clear that if $x_2^* = l$, both players benefit from moving policy and will want to join a coalition. But if $x_2^* = p$, Assumption 8 ensures that L will not benefit from shifting policy, in which case there is no coalition. Stage 2 outcomes can therefore be summarized as follows:

Lemma 9. *Suppose that M was not previously activated. When $x_1 \geq k$, a coalition forms. When $x_1 < k$, no coalition forms.*

When policy is to the right of k, L is relatively powerful, so if policy change happens, it moves to L's ideal point. And P prefers this over the status quo. So in this last stage of play, L and P are able to come together and form a coalition. When instead policy is to the left of k, P is more powerful, and policy change means that p is implemented. This makes L worse off, so L refuses to join a coalition to help move policy.

Stage 1

Continuing the analysis in the absence of an option for a bureaucracy, we now analyze Stage 1. We first determine what policy maximizes weighted joint utility. We then determine if players wish to join a coalition.

We can significantly narrow down the policies that may be optimal:

Lemma 10. *In any equilibrium, at least one of p, l, or k will be an element of x_1^*.*

38. To avoid technical complications, we assume that M selects l when indifferent.

The points p and l may be optimal because except in a knife-edge case, one group will have a larger weight than the other, so setting policy equal to its ideal point may maximize joint surplus right now. But the prospect of shifting power, and therefore continuing shifts in policy in the future, creates the possibility that even if M is most concerned about L, M may set $x_1 = k$, anticipating that policy will subsequently move leftward to l rather than to p.

We are now ready for a proposition summarizing Stage 1 outcomes:

Proposition 11. *There exists a threshold T such that a coalition forms if and only if $x_0 > T$.*

When the status quo policy sits to the left, P does not benefit enough from shifting policy to join the coalition, as it will subsequently empower L and enable a further shift away from P's ideal point. Only when policy sits sufficiently far to the right of L's ideal point does it become worthwhile for L to endorse a policy shift.

Player L's failure to join a coalition produces a *bargaining failure*, meaning that there is a positive probability that $x_t \notin [p, l]$ for some $t \in \{1, 2\}$. The status quo policy is extreme to both players, so if they could only join together and push for policy change, they could fully take advantage of their potential for shared gains. But exploiting these shared gains now necessarily implies that P enjoys greater policy benefits than L in future periods. Fearful of a future shift in power, L declines to join the coalition, which makes it possible that shared gains are forgone.[39] Inefficiency arises because the location of policy in Stage 1 is unavoidably tethered to a specific location of policy in Stage 2.[40] As in Fearon (1996), there is a commitment problem, with P unable to commit not to pay M to move policy to p in the future. But we show how this problem plays out when the object that players are bargaining over is policy, the division of which need not be bounded by zero below and its value above. This unboundedness produces a particular kind of inefficiency associated with a legislative policymaking environment.

Model analysis with a bureaucracy

We now examine when this bargaining failure leads P and L to form their coalition around a bureaucracy. In the model, a bureaucracy is only useful because it is able to perpetuate itself

39. In another potential type of bargaining failure, P and L do form a coalition, but the result is policy that remains extreme to both players' ideal points. Specifically, L is sufficiently powerful to force a policy of k now to ensure that it receives its ideal point in the next stage. But both players would have gained if P could have committed not to attempt to move policy to p in Stage 2. For parsimony and to correspond to the substantive case of interest, our proceeding analysis of empowering a bureaucracy sets this possibility aside, assuming formally that $x_0 < T'$ (as defined in the proof to Proposition 11).

40. The inefficiency need not depend on our use of negative absolute value utility; this merely simplifies our presentation of results. Presently, there is a jump discontinuity in $\max x_2^*(x_1)$ at $x_1 = k$, where $x_2^*(x_1)$ is the set of M's optimal equilibrium choices of x_2 given x_1. But even if $x_2^*(x_1)$ were a continuous (and increasing) function, a bargaining failure may occur if $\frac{d}{dx_1} x_2^*(x_1)$ is sufficiently large (in the differentiable case). Endowing L and P with quadratic utility, for example, admits this possibility when the policy feedback function is sufficiently steep.

through exerting pressure on the policy that M wants to implement in the future. Therefore, while ϕ is exogenous in our analysis, players only benefit from it being sufficiently large to provide protection against later reversal. The question of empowering a bureaucracy is thus only interesting under the following additional assumption:

Assumption 9. *The utility weight that M places on B satisfies $\frac{-1-\phi}{2\beta} < b$, i.e., $\phi > -1-2\beta b$.*

We are now ready for a result showing when a coalition between P and L forms and whether this coalition supports empowering a bureaucracy:

Proposition 12. *There exists a threshold T^B such that the following holds:*

- *When $x_0 < \min\left\{T^B, T\right\}$, no coalition forms.*
- *When $T^B < x_0 < T$, a coalition forms around establishing a bureaucracy.*
- *When $T < x_0$, a coalition forms without a bureaucracy.*

This proposition states that the option for the coalition to support a bureaucracy expands the region in which a coalition forms. In part of the space in which no coalition was previously forming, it is now possible for the coalition to form. While L otherwise would have needed to worry that policy at L's ideal point would subsequently run away to p, the ability to empower B ensures that P and L can join together to achieve an efficient outcome. This result is illustrated in Figure 9.

If we imagine the status quo x_0 changing over time, we can map the different regions of Proposition 12 onto historical development. When policy feedback effects are sufficiently large (β is high), a rightward shift in x_0 in Figure 9 moves the outcome of the game from no coalition (Region I) to a coalition with a bureaucracy (Region II). This rightward shift in x_0 corresponds to an increasingly pro-business status quo. In the next section, we relate this rightward shift in x_0 to the historical context of the late 19th century. Multiple events in the 1890s contributed to move the status quo in a pro-business direction, and liberals correspondingly increasingly supported business regulation. As the model shows, implementing regulation through bureaucratic agencies relaxes the constraint on liberals to join a coalition to regulate business, which helps to explain why bureaucratic agencies were a central part of the political response to rising business power.

Historical perspective

This section provides historical information on the players and strategic context represented by the formal model. We describe the historical context in which expert agencies were first proposed and the motivations of the classical liberals who supported expert agencies in the late 19th century. We contrast liberal reforms with reform proposals by working-class

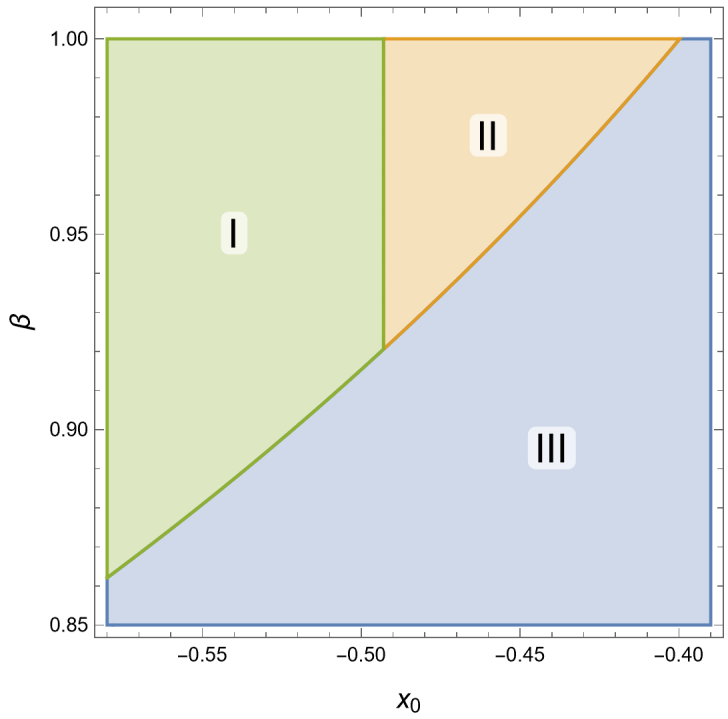


Figure 9: An illustration of Proposition 12. In Region I, $x_0 < \min\left\{T^B, T\right\}$ and no coalition forms. In Region II, $T^B < x_0 < T$ and a coalition forms around establishing a bureaucracy. In Region III, $T < x_0$ and a coalition forms without a bureaucracy. In this example, $p = -1$, $b = {}^{-33}/_{50}$, $l = {}^{-29}/_{50}$, $\delta = {}^{19}/_{20}$, and $q = {}^{1}/_{2}$.

movements of farmers and industrial workers. working-class movements tended to support substantive statutory rules, not expert agencies. This historical summary supports our argument that agencies were supported by liberals due to their effects on the distribution of political power. Given this motivation, changing factors in the 1890s (corresponding to a rightward shift in x_0) explain the development of the coalition between liberals and populists in favor of business regulation through expert agencies.

The classical liberals

> Two enemies, unknown before, have risen like spirits of darkness on our social and political horizon—an ignorant proletariat and a half-taught plutocracy.
>
> —Francis Parkman (1878, 4)

An identifiable political group called "liberals" first coalesced on the national political scene in the late 1860s as a faction of the Republican party opposed to the Reconstruction policy of Radical Republicans. The Liberal Republican movement advocated ending federal efforts to protect Black rights in the South in order to focus on economic issues such as civil service reform and free trade. Socially, liberal reformers tended to come from the emerging urban

middle, professional class and were connected through a network of organizations (Free Trade League, Civil Service Reform League) and publications (*The Nation*, *North American Review*, *The Atlantic*).[41]

The classical liberals faced a dilemma. One one hand, farmers and industrial workers were seen as demanding "class legislation" to benefit themselves at the expense of the public interest. One the other hand, the postbellum period saw the emergence of the first national corporations, and alongside these institutions came extensive and blatant corruption. Business corruption gained national attention with scandals of the 1860s and 1870s such as Crédit Mobilier, and liberals staunchly condemned these business abuses (Foner 1988; McCormick 1981). Nonetheless, liberals of the late 19th century predominately opposed business regulation out of concern that it would encourage working-class radicalism.

Liberal support for the pro-business status quo despite their unhappiness with business corruption corresponds to Region I of Figure 9. In what follows, we show how liberal fears of policy feedback effects kept them from joining a coalition to regulate business and how their reform proposals (including expert agencies) sought to address these feedback effects.

The "dangerous classes": In the 1870s, liberals expressed alarm at rising political activities of farmers and industrial workers. Liberals opposed efforts by farmers to regulate railroads and reform the currency (Sproat 1968, 223-4). E.L. Godkin, editor of *The Nation*, characterized proposed reforms to regulate railroad rates as "spoilation pure and simple" with "the security of all property" at stake (1873). Additionally, after the Civil War draft riots and the Great Strikes of 1877, as well as the Paris Commune in 1871, liberals feared revolutionary violence among industrial workers. The predominant labor organization of the 1880s, the Knights of Labor—which officially opposed the wage system—grew rapidly from 28,000 members in 1880 to about 800,000 in 1886 (Fink 1983).

For liberal reformers, class and racial fears were linked. Charles Francis Adams Jr. wrote that "Universal suffrage can only mean in plain English the government of ignorance and vice:—it means a European, and especially Celtic, proletariat on the Atlantic coast, an African proletariat on the shores of the Gulf; and a Chinese proletariat on the Pacific" (quoted in Foner 1988). In a speech regarded as inaugurating the Liberal Republican movement, Carl Schurz argued that ending federal Reconstruction would allow government by the "best men" (Foner 1988). Alongside "depredations of Negro government" in the South, Francis Parkman (1878) bemoaned the "hordes of native and foreign barbarians, all armed with the ballot."

Given the threat posed by expanded suffrage, liberals feared that supporting any labor legislation would produce a slippery slope. As Godkin wrote in *The Nation*, policies supporting labor "may not do much harm in themselves, but their effect on the mind of the poor is to keep alive the vague hopes and the confusion about the nature and duties of government out of which Communism springs" (quoted in Sproat 1968).[42] Indeed, local victories by the Knights of Labor became mobilizing tools among workers (Fink 1983, 189). Hence, liberals opposed policies in favor of workers or farmers because they feared increasing working-class political power and thereby making future radical policies more likely.

41. See Cohen (2002), Foner (1988), Sproat (1968), and Wiebe (1967) for accounts of classical liberalism.
42. Sproat provides further examples of liberal fears of revolution (pp. 163, 211, 220, 229, 231, 238).

Business power: The other horn of the liberals' dilemma was the rising power of business. In the 1870s, liberal reformers and intellectuals across the country expressed concern about growing corporate power, particularly that of the railroads (Miller 1971, 80). In the model, liberals' concern about business is represented by x_0 being to the right of L. Nonetheless, liberals generally supported pro-business policies until the 1890s (Cohen 2002).

In myriad cases, liberals characterized the status quo as overly favorable to business. Charles Francis Adams Jr. and his brother Henry Brooks Adams wrote a book published in 1871, *Chapters of Erie*, about the corruption of Jay Gould (McCormick 1981). Adams condemned "the sturdy corporate beggars who infested the lobby" of legislatures. Carl Schurz expressed alarm at business power in the Senate, as did Godkin in *The Nation* (Sproat 1968, 151, 248). Henry Brooks Adams wrote, "the day is at hand when corporations...—having created a system of quiet but irresistible corruption—will ultimately succeed in directing government itself" (quoted in McCormick 1981, 255). Henry Carter Adams (1888) opposed railroad pooling because it would "merely strengthen their malign power...[and] would constitute a power which might defy the government itself or illicitly control it." Adams specifically referred to fear of "money control of politics." Henry Demarest Lloyd detailed business abuses by Standard Oil and others in his 1894 book *Wealth Against Commonwealth*.

Liberal reform: In response to the dilemma created by expanded suffrage and corporate power, liberal reformers advocated policies to increase the power of "honest and intelligent men" in government. Liberals generally viewed disfranchisement to be politically infeasible: "Universal suffrage is a fixed fact; there is no possibility of disfrachising the ignorant, and making the suffrage the reward and the badge of intelligence, except in a limited degree" (Godkin 1879; see also Sproat 1968, 255).[43] Liberal reformers therefore advocated other policy reforms to reduce working-class power. These policies included civil service reform, municipal reform, laissez-faire, the gold standard, free trade, and expert administration.

The central institutions that liberals saw as problems were legislatures and parties, and therefore their reforms aimed to curtail the power of these institutions or restrict access to them. Free trade, gold, and laissez-faire did so by denying the right of policies (through legislatures) or the distribution of economic benefits (for partisan interests) that protectionism, flexible monetary policy, and economic regulation allowed.[44] Civil service reform and municipal reform aimed at excluding undesirable groups from political influence. In an era when government administrators came from a wide variety of backgrounds, ethnicities, and educational attainments, well-educated, generally Anglo-Saxon liberals felt their loss of influence (Hoogenboom 1968, 197).[45] Municipal reform likewise sought to exclude the working class from government, in this case by restricting suffrage in municipal elections to taxpayers.

Liberal support for expert administration was of a piece with these other policies. In an 1870 essay, Godkin bemoaned the ignorance and corruption of legislatures, arguing that

43. Clearly, those expressing this view underestimated the prospects for disfranchisement in the South.

44. Bensel (2000, ch. 6) shows that support for the gold standard in Congress was associated with areas of higher economic development. In particular, business interests strongly supported the gold standard because it benefited creditors and international trade.

45. Notably, it was recognized at the time that civil service reform would exclude Black people from government (Foner 1988, 507).

government had not advanced with science and industry. Godkin advocated empowering the "intellectual state" to preserve civilization against barbarians and cited agencies as a promising innovation to this end. Charles Francis Adams Jr., a prominent liberal reformer, was central to establishing and leading the Massachusetts railroad commission.[46] Adams's commission influenced other state-level railroad commissions as well as the Interstate Commerce Commission and later federal regulatory agencies (Miller 1971; McCraw 1984). By the late 1860s, Adams envisioned and advocated discretionary policymaking by expert agencies, writing that "[t]he legislature should enact its general laws...and discretionary action under the general law should be devolved upon tribunals specially created to take cognizance of them" (Adams 1871, 56; see Cohen 2002, 104). Adams contrasted legislative incompetence, irresponsibility, and corruption with a tribunal of members bearing "an experience and ability, a knowledge of details, and a zeal in their occupation" (pp. 59-60).

Importantly, liberal reformers of the 19th century advocated laissez-faire and expert administration for the same reasons. Both policies aimed to counter corruption from above and below in a context of formal universal male suffrage. Liberal reform efforts sharply contrasted with reform proposals associated with farmers and industrial workers, who generally sought legislative action or representation in government, not expert administration.

The working-class reform movements

In general, 19th-century working-class reformers did not link economic redistribution to expert administration. In the model, player P, corresponding to working-class movements, has no reason to support empowering the bureaucrat B except as a device to make a coalition possible. As a matter of history, proposals for expert agencies were presented by liberal reformers but were largely absent from reform plans of industrial workers and farmers.

Industrial workers: In the late 19th century, labor activists sought to expand democracy and increase the political power of workers. For instance, writing in the *Journal of United Labor* (the Knights of Labor publication), one commentator argued that the combination of all workers into a single organization, like what capital was doing, was necessary to counteract their power in the market. The commentator continued, "The principle, however, must be carried further, and applied in political life to the ballot, representation and legislation. It must be carried further still, and applied to trade itself; the masses must institute and *own their own industries*" (Fales 1883, emphasis in original). The Knights formally declared "an inevitable and irresistible conflict between the wage-system of labor and republican system of government" (quoted by Fink 1983, 4).

Terence Powderly, leader of the Knights of Labor in the 1880s, argued that inevitably each class makes legislation to serve its own interests, and hence workers need representatives of their own class in government. After arguing that lawyers dominate legislatures, who typically make laws for their own benefit, he stated, "I would not deny the lawyer the right to take his seat in Congress or in the State Legislature, but side by side with him should

46. Senator Carl Schurz, a leader of the Liberal Republican movement, favored Adams to be the Liberal Republican presidential nominee in 1872 (Foner 1988).

sit the representatives of other professions and callings according to the number of those who follow those callings and professions" (1890, 152). This is the opposite aim of liberal reformers, who sought to diminish working-class power and representation.

Rather than envisioning a restructured state with expert administrators, 19th-century labor reform proposals emphasized "specific correctives on the operation of the free market" (Fink 1983, 7). A clear example is the eight-hour day—the central demand of the labor movement in the 1870s and 1880s, which clearly did not need expertise to be implemented. Another historian writes that the labor movement in this period "had no conception of an active role for the machinery of the state... [beyond] enacting just and general laws applying impartially to all citizens" (Montgomery 1967, 259).

Labor support for the Bureau of Labor Statistics (BLS), created by Congress in 1884 within the Department of the Interior, fits this general mold. In the earliest known address advocating a labor bureau, at the 1867 National Labor Union convention, William Sylvis presented the case in terms of the prestige owed to labor, hence their (unsuccessful) aim for a cabinet-level department (Goldberg and Moye 1985).[47] Labor groups envisioned the BLS investigating corporate profits as an educational and mobilizing tool.[48] Furthermore, advocates hoped that the BLS would provide worker representation and opportunities to advise the president and Congress. Labor groups therefore sought representation through leadership of the bureau and pushed to have Terence Powderly appointed rather than Carroll Wright, a leading liberal reformer. Labor groups did not intend labor bureaus to move policymaking from elected institutions to experts, but rather to strengthen workers' capacity to change policy through legislative institutions.

Agrarian populists: As with industrial workers, the reform demands of agrarian populists were "anti-statist" (Sanders 1999; James 2006).[49] Rather than seeking expert administration, populists primarily sought clear statutory rules and greater representation of farmers in government. These elements can be seen in two of the most prominent populist policies: the subtreasury system to provide a fiat currency and railroad regulation.

Populist advocates of the subtreasury system, such as Harry Tracy (1894), emphasized its local, public, and democratic character.[50] In a lengthy description of the proposal, Tracy includes a central bureau but describes it very briefly and wholly as an information clearinghouse and coordinating device. The determination of how much money to issue is presented as a simple algebraic problem based not on expertise but on how much produce farmers

47. Powderly (1890, 164-5) later offers the same argument.

48. Powderly (1890, 160) wrote that the goal of a labor bureau would be "to ascertain beyond the shadow of a doubt what the earnings of labor and capital are in order that justice may be done to both, in order that unscrupulous employers will not have it in their power to rob labor of its just dues and take all the profits of the combination of labor and capital for their own aggrandizement."

49. The paradigmatic example is the Sherman Antitrust Act, set up to operate entirely through courts (Sanders 1999, ch. 8). Postel (2007) challenges Sanders's anti-statist interpretation by arguing that many populist proposals called for large expansions of federal power. However, Postel underplays how populists perceived and argued for these proposals. Populist advocates almost always emphasized the local, democratic, and public character of their proposals, not centralization or state administration.

50. Tracy, a prominent populist in the 1890s, provides the most detailed elaboration of the subtreasury proposal of which the authors are aware.

bring to subtreasury warehouses. Local officials are directly elected, and the system is entirely public, with no role for private bankers. Two decades later, these aspirations remained recognizable during debates over the Federal Reserve Act.[51]

The first of the "Granger commissions" to regulate railroads was the Illinois Railroad and Warehouse Commission, established in 1871.[52] Yet farmers were not the only group involved in crafting the Illinois "Granger law". Moreover, the Illinois State Farmers' Association, a political organization of farmers which formed in 1873, supported "strict legislative regulation" (Miller 1971, 90-1). Some farmer leaders in the legislature vocally opposed the commission, arguing that it was too easily co-opted by railroad corporations: "Farmer conventions, although far from consistent in this matter, tended to support bills that provided for schedules without reference to the board of commissioners" (Miller 1971, 92). The legislature simultaneously passed detailed rate regulations for railroads and grain elevators (Miller 1971, 87), and the Illinois commission only developed its own rate schedule in response to a court decision as a way to defend the "reasonableness" of legislative rate-setting. The purpose of the commission was not to have an expert make policy, but rather for information and enforcement. Additionally, farmers sought representation on the commission (Buck 1913).[53]

That farmers generally favored statutory regulation by legislatures is also evident in debates over federal railroad legislation. In the House of Representatives, the prominent populist proposal of John Reagan (D-TX) excluded any commission. Reagan simply proposed

51. For instance, Rep. Oscar Callaway (D-TX) argued for a money supply that would "answer automatically to the demands of commerce. . . not subject to the control of any individual or board, safe from the domination of any coterie of financiers" (quoted in Sanders 1999, 259 fn. 132).

52. The idea of boards or commissions as supplements to the executive or legislative branches (especially for information gathering) was not new in the 1870s (Mashaw 2012). Yet the activities of prior commissions are distinct from policymaking by credentialed experts, which is the focus of this paper.

53. We can contrast the support of Illinois farmers for strong statutory regulation with the attitude of Charles Francis Adams:

> Should the Illinois legislature undertake to deal otherwise than by general laws with the innumerable discretionary questions involved in every railroad system, then, in so far as the present discussion is concerned, the new constitution is a predestined failure. Should it, however, carry on the work in an intelligent spirit ; should it do, what has never yet been done in America, create an able and experienced tribunal to stand between the community and its railroads ; should it clothe this tribunal with all necessary power and dignity, and delegate to it that discretion, necessarily left somewhere, in the application of general laws to monopolies ; should it declare its decisions final on all points upon which no appeal lay to the courts of law by constitutional right ; should it then sternly refer its railroad corporations to this tribunal, and bid them wholly begone from the lobby, or to come there only as petitioners for general legislation ;—then, when all this is done, and not until that time, shall we know whether anything is to result from the Illinois experiment. The whole country cannot but watch it with eager curiosity. (Adams 1871)

Adams's optimism would not be rewarded. Reflecting on the Granger laws a few years later, he calls them on the whole "preposterous". Adams writes, "If ever a problem called for wise legislation, founded upon careful and patient study, this one certainly did. The Granger Legislatures, however, went at it like so many bulls at red rags." Adams identifies Wisonsin's 1874 "Potter law"—the most detailed of the Granger laws—as "the most ignorant, arbitrary, and wholly unjustifiable law to be found in the history of railroad legislation" (1875, 408, 416, 423).

to regulate rates by statute (Berk 1997; Sanders 1999). As Sanders quotes the head of the National Grange, in advocating specific statutes to regulate railroads, "The people... want no board of railroad commissioners. They want just and wholesome laws, with well defined provisions for enforcing them" (1999, 457 fn. 52). During the ICC debates, Reagan declared that he had no need for a commission or "the opinion of [a] railroad expert". Liberal reformers favored commissions during these debates, but for the most part, populists did not.

The changing strategic context

As we can see, multiple groups of reformers favored business regulation in the late 19th century, but in contradictory ways. Liberal reformers, corresponding to L in the model, largely maintained support for the pro-business status quo out of fear of working-class radicalism. Yet they envisioned restructuring the state to build in a greater role for experts in order to counter perceived legislative corruption. In contrast, groups of industrial workers and farmers, corresponding to P in the model, demanded statutory rules as strong as possible but largely did not envision restructuring the state to establish expert agencies.

Understanding the coalitional problem in this way points to multiple historical shifts to explain the development of a coalition to regulate business through expert agencies. Historians point to the period around 1900 as pivotal in the development of broad support for business regulation through expert agencies (McCormick 1981; Wiebe 1967). In the model, the absence of a coalition between liberal reformers and populists corresponds to Region I of Figure 9. As the status quo increasingly favors business interests (so that x_0 moves right) while liberal reformers remain concerned about policy feedback effects (so that β remains high), the outcome of the game moves from Region I to Region II. Now, a coalition between liberals and other reform advocates forms to regulate business, and it does so around support for a bureaucracy. Therefore, the model implies that the status quo shifting in favor of business explains the development of a coalition for expert agencies around 1900.

Historically, a series of business consolidations known as the Great Merger Wave transformed the American economy between 1895 and 1904 (Lamoreaux 1985). In this ten-year period, business combinations eliminated over 1,800 firms. Lamoreaux documents that "more than half of the consolidations absorbed over 40 percent of their industries, and nearly a third absorbed in excess of 70 percent" (1985, 2). What had been defensibly "a nation of freely competing, individually owned enterprises" was increasingly viewed to be "a nation dominated by a small number of giant corporations" (Lamoreaux 1985, 159). The Great Merger Wave constituted a shift of the status quo in favor of business interests.

At the same time, by the late 1890s, both industrial workers and agrarian populists had suffered a series of political setbacks. By 1890, the Knights of Labor had severely declined in membership and been superseded by the more conservative American Federation of Labor (Fink 1983). In 1894, the US army violently suppressed the Pullman strike, with its leaders, including Eugene Debs, imprisoned (Cohen 2002). These events reduced the role of mass-based unionism in newly dominant industrial corporations. Furthermore, the relatively populist Democratic Party nominee in 1896, William Jennings Bryan, lost the election by a large margin. In the South, substantial numbers of working-class voters of both races were

disfranchised between 1890 and 1910, eliminating the Southern populist challenge to the planter-dominated political order (Perman 2003).

Conclusion

The ideological meaning of expert agencies has varied over time and across groups of reformers. In the 19th century, expert agencies were one mechanism among others, including laissez-faire and the gold standard, for liberal reformers to limit democratic politics in response to working-class demands for economic redistribution. Yet in the 20th century, populists and liberals achieved redistributive policies and constrained business power through expert agencies. By limiting feedback effects that liberals feared would increase working-class power, agencies facilitated the formation of the progressive-liberal coalition to regulate business. This explains the development of an ideological connection between support for economic redistribution and expert policymaking through bureaucratic agencies.

To explain the development of bureaucratic agencies, our argument emphasizes competition for power among social groups rather than strategies of political actors in formal institutions. Whereas prior scholars emphasize party competition or support for public goods, we show that the earliest advocates of expert agencies were highly concerned by threats to the political power of educated professionals—concerns that combined class and racial fears. Expert agencies solved a strategic problem for these liberal reformers. Since agencies empowered credentialed urban professionals, liberals could support policies to restrain big business while no longer fearing the rising power of their coalition partners.

The development of a coalition around expert agencies provides one example of how institutional demands shape political coalitions. Governments can distribute resources to different social groups through a variety of institutional forms: expert administration, financial markets, local democratic institutions, etc. But to the extent that political actors form alliances with an eye toward the future distribution of power (and by extension, resources), the institutions to implement a coalition's policy demands can have an important effect on whether or not that coalition is able to form in the first place.

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Appendices

A Outline of extensions to the baseline model

I sketch the implications of various possible extensions and variations.

The president may influence legislative laws unilaterally

It might be possible that the president has some room to shape laws once they have passed legislatively, despite Congress's efforts to the contrary. Suppose that immediately following the passage of legislation, the president may additionally shift policy by some distance d (with d sufficiently small so that the boundedness of the policy space does not come into play) and that this additional shift would inherit legislation's persistence. Then M would be willing to propose and V willing to approve legislation enacting $\ell_1^* + d$. They would anticipate the actions of P^L, who would sign the legislation and use unilateral action to shift legislation's location to ℓ_1^*, the point that gives P^L and M utility equal to that under pure unilateral action. If however a future president could unilaterally undo the tinkering within these bounds (but not the entirety of the legislation), there would nevertheless exist a compromise, though the exact expression for ℓ_1^* would need to be adjusted. The magnitude of d would trace a continuum from legislation requiring additional legislation for reversal (as is modeled) to legislation being no different from unilateral action. Should the latter hold, it is even clearer that players should be indifferent to approving it.

Players have quadratic utility

A legislative compromise always exists. Under some cases, players' risk aversion leads legislation to generate surplus, eliminating the equilibrium in which legislation does not occur. As before, left-leaning and centrist types of V benefit from legislation, while the right-leaning type is indifferent. See Appendix B for full details.

Legislation and unilateral action are exogenously costly

If legislation is exogenously costly for M to offer, this need not imply that legislation will fail to be offered if unilateral action is exogenously costly for P^L to enact. There are reasons to believe the latter. First, experimental literature examines the public opinion cost that the president may incur by pursuing unilateral action (Christenson and Kriner 2017a, 2017b; Lowande and Gray 2017; Reeves and Rogowski 2016, 2018). Second, as Rudalevige (2015) argues, "the issuance of executive orders is a process rife with transaction costs." Allocating executive branch staff to learn about policy and write regulations, navigating the lengthy rule-making process, tangling with the courts, and so on can be a costly process. In many cases, then, Congress may want to take advantage of these costs, using its proposal power

to extract ideological surplus. Then in the game, M would strictly prefer legislative compromise and P^L would be indifferent (though would strictly prefer it if M were to move the compromise leftward by any $\epsilon > 0$). As before, V benefits from fixing policy in some central location as opposed to having policy sit at either extreme in each stage. Thus, unless P^L's exogenous costs are so large such as to move a potential compromise almost entirely to M's ideal point m, the benefits of more certain policy still compel V to approve legislation.

These benefits may continue to exceed costs for V even when V itself also incurs the cost of offering legislation, leaving us once again with the puzzle presented in the baseline model. It is possible, though, that they could be sufficiently large to preclude legislation, even when exceeding the cost of unilateral action that would be incurred by P^L. It is worth asking from where these costs for V would originate in the first place, though. Two likely candidates are administrative expense and a public opinion cost. As for administrative expense, this is possible, but given that M now strictly benefits from legislation, it may plausibly want to incur more of the burden of preparing legislation and building a coalition so as to reduce V's cost and win approval. As for a public opinion cost, the signaling model explicitly derives an endogenous source of such a cost and explicates the consequences.

P^L's capacity to issue executive orders is further limited

These results continue to hold (with different specific values for ℓ_1^*) even if P^L's unilateral action is further limited beyond its vulnerability to reversal, given two specific forms of limitation. First, following Howell (2003), we might assume that P^L cannot move policy all the way to p^L but rather can only move it to $x_0 - d$ for some $d : 0 < d < x_0 - p^L$. If $p_l < v \leq x_0 - d$, V's preferences are aligned with those of P^L over the relevant part of the policy space such that V is indifferent between legislation and unilateral action. If instead $v > x_0 - d$, all above results would continue to hold if each instance of "p^L" were to be replaced with "$x_0 - d$."

Second, unilateral action might face uncertain prospects for implementation before the Supreme Court or bureaucracy. Allowing that an executive order by P^L might fail with some exogenous probability, thus leaving the status quo in place, all substantive results continue to hold; see Appendix C for full details.

Two types of V

Explicitly to build a bridge to the signaling model, I suppose that there are two types of V as later introduced in the signaling model. This is equivalent to analyzing the signaling model in the absence of A. I find that Lemma 2 continues to hold, of course with a different exact expression for the equilibrium legislation. The analogue to Lemma 2 that holds is that V^C (the centrist type) always strictly prefers legislation, whereas V^R (the right-leaning type) is indifferent. Finally, Proposition 1 continues to hold. See Appendix D for full details.

B Baseline model with quadratic utility

I now let utility to player I with ideal point i be

$$U^I(x_1, x_2) = -(i - x_1)^2 + \delta\big(-(i - x_2)^2\big).$$

For simplicity, I fix $p^L = 0$ and $m = 1$. I reach the following result:

Lemma B1. *The rightmost legislation that M can propose to induce P^L to accept is*

$$\ell_1^*(v) = \begin{cases} \sqrt{\frac{\delta}{1+\delta}\theta} & v \leq \sqrt{\frac{\delta}{1+\delta}\theta} \text{ (“}v\text{ left-leaning”)} \\ \frac{2v\delta\theta + \sqrt{\delta\Big(1+\delta-4v^2\big(1+\delta(1-\theta)\big)\Big)\theta}}{1+\delta} & \sqrt{\frac{\delta}{1+\delta}\theta} \leq v \leq \frac{1}{2} \text{ (“}v\text{ centrist”)} \\ 0 & \frac{1}{2} \leq v \text{ (“}v\text{ right-leaning”)} \end{cases}.$$

When v is left-leaning or centrist, this legislation makes M strictly better off compared to unilateral action. When v is right-leaning, M is indifferent.

Proof. Proceeding backward through the game, analysis of Stage 2 is as before. In Stage 1, P^L's optimal unilateral action is $e_1^* = 0$, earning expected utility of $-\delta\theta$.

First conjecture that $\ell_1^* \leq v - (m - v)$. Then expected utility to P^L from legislation is

$$\mathbb{E}U_1^{P^L}(\ell_1) = -{\ell_1}^2 + \delta\big(\theta(-1) + (1-\theta)(-{\ell_1}^2)\big). \tag{3}$$

Equating $-\delta\theta$ and the right-hand side of (3), we find that the rightmost policy that M could propose is $\ell_1^* = 0$. To be consistent with the initial conjecture, we would then require $\frac{1}{2} \leq v$.

Now conjecture that $v - (m - v) \leq \ell_1^* \leq v$. Expected utility to P^L from legislation is

$$\mathbb{E}U_1^{P^L}(\ell_1) = -{\ell_1}^2 + \delta\Big(\theta\big(-(2v - l)^2\big) + (1-\theta)(-{\ell_1}^2)\Big). \tag{4}$$

Equating $-\delta\theta$ and the right-hand side of (4), we find that the rightmost policy that M could propose is $\ell_1^* = \frac{2v\delta\theta + \sqrt{\delta\Big(1+\delta-4v^2\big(1+\delta(1-\theta)\big)\Big)\theta}}{1+\delta}$. To be consistent with the initial conjecture, we would then require $\sqrt{\frac{\delta}{1+\delta}\theta} \leq v \leq \frac{1}{2}$.

Finally conjecture that $v \leq \ell_1^*$. Then expected utility to P^L from legislation is

$$\mathbb{E}U_1^{P^L}(\ell_1) = (1+\delta)(-{\ell_1}^2). \tag{5}$$

Equating $-\delta\theta$ and the right-hand side of (5), we find that the rightmost policy that M could propose is $\ell_1^* = \sqrt{\frac{\delta}{1+\delta}\theta}$. To be consistent with the initial conjecture, we would then require $v \leq \sqrt{\frac{\delta}{1+\delta}\theta}$.

Then given any value of v, we have found the rightmost legislation that P^L will accept (which corresponds to the best possible proposal for M). We must now verify that this

proposal would make M weakly better off. M's expected utility from unilateral action is $-1+\delta\big(-(1-\theta)\big)$.

Suppose first that $\frac{1}{2} \leq v$. M's expected utility from ${\ell_1}^* = 0$ is $-1+\delta\big(-(1-\theta)\big)$. This equals expected utility from unilateral action.

Suppose next that $\sqrt{\frac{\delta}{1+\delta}\theta} \leq v \leq \frac{1}{2}$. M's expected utility from ${\ell_1}^* = \frac{2v\delta\theta+\sqrt{\delta\Big(1+\delta-4v^2\Big(1+\delta(1-\theta)\Big)\Big)\theta}}{1+\delta}$ is $-{\ell_1}^* + \delta\Bigg(\theta\Big(-\big(1-(2v-{\ell_1}^*)\big)^2\Big) + (1-\theta)\Big(-(1-{\ell_1}^*)^2\Big)\Bigg)$. This is strictly greater than $-1+\delta\big(-(1-\theta)\big)$.

Finally, suppose that $v \leq \sqrt{\frac{\delta}{1+\delta}\theta}$. M's expected utility from ${\ell_1}^* = \sqrt{\frac{\delta}{1+\delta}\theta}$ is $(1+\delta)\Bigg(-\Big(1-\sqrt{\frac{\delta}{1+\delta}\theta}\Big)^2\Bigg)$. This is strictly greater than $-1+\delta\big(-(1-\theta)\big)$. □

Next, I present a result on V's preference:

Lemma B2. If v is left-leaning or centrist (as defined in Lemma B1), V strictly prefers to approve ℓ_1^*. Otherwise, V is indifferent to approving ℓ_1^*.

Proof. V's expected utility from e_1^* is as follows:

$$\mathbb{E}U_1^V(e_1 = e_1^*) = (1+\delta)(-v^2) + \delta\theta\big(-(1-2v)\big). \tag{6}$$

Meanwhile, its expected utility from ℓ_1^* is as follows:

$$\mathbb{E}U_1^V(\ell_1 = \ell_1^*) = \begin{cases} (1+\delta)\Big(-\Big(v-\sqrt{\frac{\delta}{1+\delta}\theta}\Big)^2\Big) & v \text{ left-leaning} \\ -\dfrac{\Big(\sqrt{\delta\theta\Big(1+\delta-4v^2\Big(1+\delta(1-\theta)\Big)\Big)}-v\Big(1+\delta(1-2\theta)\Big)\Big)^2}{1+\delta} & v \text{ centrist} \\ (1+\delta)(-v^2) + \delta\theta\big(-(1-2v)\big) & v \text{ right-leaning} \end{cases}. \tag{7}$$

Observe that V's excess utility from legislation compared to unilateral action (i.e. [7] − [6]) is strictly positive when v is left-leaning or centrist and zero when v is right-leaning. □

These two lemmas immediately imply the following proposition:

Proposition B1. When v is left-leaning or centrist, then in the sole equilibrium outcome, M proposes $\ell_1 = \ell_1^*$, V approves it, and P^L signs it. When v is high, this may be an equilibrium outcome, as may the following: M fails to offer legislation (or offers legislation that P^L will veto), and P^L issues $e_1 = p^L$.

The fact that M strictly benefits from legislation when v is left-leaning or centrist eliminates the possibility that legislation does not occur. When v is right-leaning, M is indifferent, and either legislation or no legislation may be the outcome.

C Baseline model with probabilistic unilateral action

In this extension, I allow for the possibility that in Stage 1, unilateral action by P^L might fail with some exogenous probability, call it t. I assume that if P_L attempts unilateral action in Stage 1 and fails, it is not available to P_L to attempt in Stage 2 (or would fail with certainty). To focus on impairments to P^L's Stage 1 unilateral powers that may alter other actors' impetus to offer compromise legislation, and for simplicity of analysis, no such complication is assumed for P^R.

Proceed backward through the game. The analysis of Stage 2 remains the same except in the event that P_L previously attempted unilateral action and it failed, the policy x_1 remains in place.

Now consider Stage 1. P^L's expected utility from unilateral action (or taking no action, should the argument equal x_0) is

$$\begin{aligned}\mathbb{E}U_1^{P^L}(e_1) = t\big(&-|e_1 - p^L| + \delta(\theta(-(m-p^L)) + (1-\theta)(-|e_1-p^L|))\big)\\ &+ (1-t)\big(-|e_1-x_0| + \delta(\theta(-(m-p^L)) + (1-\theta)(-|e_1-x_0|))\big).\end{aligned}$$

Observing that $e_1 < p^L$ and $e_1 > x_0$ can never be optimal, we find that $\frac{d\mathbb{E}U_1^{P^L}}{de_1} = -t(1+\delta(1-\theta)) < 0$. Then P^L's optimum given unilateral action is $e_1^* = p^L$, with corresponding expected utility as follows:

$$\begin{aligned}\mathbb{E}U_1^{P^L}(e_1 = p^L) = r\delta\theta(-(m-p^L))&\\ + (1-t)\big(-(p^L - x_0) + \delta(\theta(-(m-p^L)) + (1-\theta)(-(x_0-e_1)))\big).&\end{aligned}$$

This exceeds utility from taking no action.

P^L's expected utility from legislation ℓ_1 is as before. Then equating this to expected utility from unilateral action and solving for ℓ_1, we reach the following result:

Lemma C1. *There always exists a unique policy ℓ_1^* such that P^L and M are both indifferent between enacting ℓ_1^* legislatively and failing to do so (such that P^L issues an executive order $e_1 = e_1^*$). Specifically,*

$$\ell_1^* = \begin{cases} tp^L + (1-t)x_0 + \frac{\delta\theta(m-(tp^L+(1-t)x_0))}{1+\delta} & v \le tp^L + (1-t)x_0 + \frac{\delta\theta(m-(tp^L+(1-t)x_0))}{1+\delta} \\ \frac{(1+\delta)(tp^L+(1-t)x_0)-\delta\theta(2v-m+tp^L+(1-t)x_0)}{1-\delta(2\theta-1)} & tp^L + (1-t)x_0 + \frac{\delta\theta(m-(tp^L+(1-t)x_0))}{1+\delta} \le v \le \frac{tp^L+(1-t)x_0+m}{2} \\ tp^L + (1-t)x_0 & \frac{tp^L+(1-t)x_0+m}{2} \le v \end{cases}.$$

Proof. Analogous to that of Lemma 2. □

Next, Lemma 2 and Proposition 1 continue to hold as before, with their proofs analogous.

D Baseline model with two types of V

To build a bridge from the baseline model to the signaling model, I analyze a variant of the baseline model with two types of V. Specifically, I suppose those types of V assumed in the signaling model. Namely, there is a centrist veto player V^C with an ideal point v^C such that $\frac{p^L+\delta\left(\theta(1-\gamma)m+(1-\theta)p^L\right)}{1+\delta(1-\theta\gamma)} < v^C < \frac{p^L+m}{2}$ and a right-leaning veto player V^R with an ideal point $v^R = m$. Unlike in the signaling model, whether V's type is drawn probabilistically before Stage 1 is moot, and both cases will be analyzed. But V will be subject to election between Stages 1 and 2. In Stage 2, then, we will have $v = m$ with probability γ and $v = v^C$ with probability $1-\gamma$, just as in the signaling model (fixing $s = 0$).

The analogue to Lemma 2 is now as follows:

Lemma D2. *There always exists a unique policy ℓ_1^* such that P^L and M are both indifferent between enacting ℓ_1^* legislatively and failing to do so (such that P^L issues an executive order $e_1 = e_1^*$). Specifically, $\ell_1^* = \frac{p^L+\delta\left(\theta(1-\gamma)(m-2v^C)+(1-\theta)p^L\right)}{1+\delta\left(1-\theta\left(1+(1-\gamma)\right)\right)}$.*

Proof. Analogous to that of Lemma 2 in the case in which v is centrist, irrespective of whether v^R or v^C has yielded in Stage 1 herein. This follows from the fact that the future location of v is now not a function of its current location. □

Next, Lemma 2 continues to hold, with v^C being centrist and v^R being right-leaning and the proof presented in that to Lemma 6. Proposition 1 continues to hold as before, with its proof analogous.

E Formal statement of Assumption 5

The assumption is stated formally as follows:

Assumption 5 (Lower-bound on A's cost)**.** The cost coefficient κ satisfies the following:

$$\kappa > \max\left\{\frac{\delta\theta}{1-\gamma}\big(m - v^C - (v^C - p^L)\big), \right.$$
$$\left. \frac{\delta^2\theta^2\big(1+\delta(1-\theta)\big)\big(m-v^C\big)^2\big(m-v^C-(v^C-p^L)\big)}{\big((1+\delta)(v^C-p^L)-\delta\theta((1-\gamma)m+\gamma v^C-p^L)\big)\big((1+\delta)(m-p^L)+\delta\theta((2\gamma-3)m+p^L+2(1-\gamma)v^C)\big)}\right\}.$$

Specifically, we will see that the equilibrium sanction s^* will be guaranteed to be interior (i.e. the probabilities upon which it may act will remain interior) as long as $\kappa > \frac{\delta\theta}{1-\gamma}\big(m - v^C - (v^C - p^L)\big)$. Next, v^C remaining in the centrist range means that κ is sufficiently large such that $\frac{p^L+\delta\left((\theta-s^*)(1-\gamma)m+(1-(\theta-s^*))p^L\right)}{1+\delta(1-(\theta-s^*)\gamma)} < v^C$. That is, the equilibrium sanction, should it be imposed upon v^R, must leave Assumption 4 preserved given the adjusted probability that v^R wins election (imposing it upon v^L only slackens the constraint). This corresponds to $\kappa > \frac{\delta^2\theta^2\left(1+\delta(1-\theta)\right)\left(m-v^C\right)^2\left(m-v^C-(v^C-p^L)\right)}{\left((1+\delta)(v^C-p^L)-\delta\theta((1-\gamma)m+\gamma v^C-p^L)\right)\left((1+\delta)(m-p^L)+\delta\theta((2\gamma-3)m+p^L+2(1-\gamma)v^C)\right)}$. Because the constraint pertains to v^C's optimum behavior given its anticipation of A's behavior rather than A's behavior itself, and A's expected utility exhibits no kinks with respect to s as long as s is interior, we need not worry that an additional candidate to solve A's optimization problem exists.

F Endogenous capacity extension

I endogenize each ψ_I, allowing group I to choose to increase it from an initial value. Building on the results of the baseline model, I demonstrate that a weaker group may decline a free increase in capacity.

Preliminaries

In Stage 2, the baseline model plays out as before. In Stage 1, each $I \in \{A, B\}$ starts with an initial level of capacity $\underline{\psi}_I$. At no exogenous cost, I may later choose to increase ψ_I up to a maximum of $\overline{\psi}_I$ (but may not decrease it).

Sequence of moves

The sequence of moves is as in the baseline model, except preceding them is the following:

Stage 1

1. A selects its capacity $\psi_A \in [\underline{\psi}_A, \overline{\psi}_A]$.
2. B selects its capacity $\psi_B \in [\underline{\psi}_B, \overline{\psi}_B]$.

Subsequent moves shall collectively comprise Stage 2.

Utility functions

In Stage 2, P, A, and B shall have the same utility functions as before. In Stage 1, A and B shall have the following utility functions (P's Stage 1 utility is inconsequential):

$$U_A^1(x) = -x,$$
$$U_B^1(x) = x.$$

Assumptions

The following assumption concerns the initial capacity of the groups:

Assumption 10 (Initial group capacity)**.** $\underline{\psi}_A < (1-\phi)\underline{\psi}_B$.

Corresponding to the case of interest, this simply states that A starts off with lower capacity compared to B, such that only the pooling equilibrium is admitted.

Next, I assume the following:

Assumption 11 (Intermediate initial capacity for B)**.** $(1-\phi)\overline{\psi}_A < \underline{\psi}_B < \frac{1}{1-\phi}\overline{\psi}_A$.

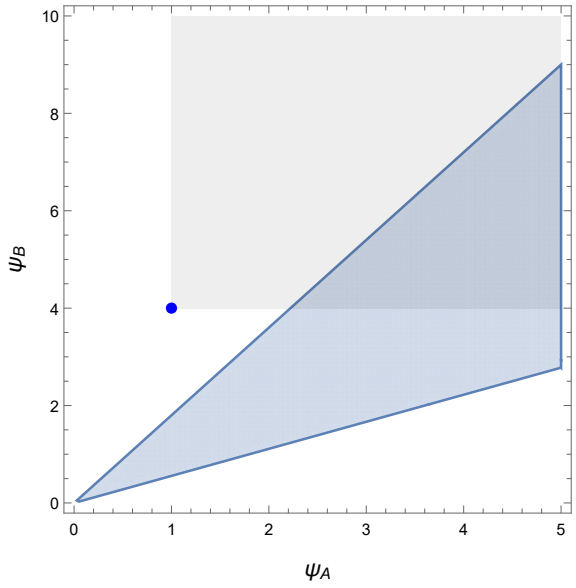

Figure F.1: An example fitting the assumptions. In particular, $\underline{\psi}_A = 1$, $\underline{\psi}_B = 4$, $\overline{\psi}_A = 5$, $\overline{\psi}_B = 10$, and $\phi = 4/9$. As before, the cone is the region in which separation occurs. The dot shows initial capacity, and the rectangle shows the set of points to which players may move capacity.

The first part of this, $(1-\phi)\overline{\psi}_A < \underline{\psi}_B$, simply states that no matter B's choice of investment, A cannot induce pooling by becoming sufficiently higher-capacity than B. The second part of this, $\underline{\psi}_B < \frac{1}{1-\phi}\overline{\psi}_A$, ensures non-triviality; it would otherwise be impossible for any strategy profile to lead to separation in equilibrium.

Finally, I assume the following:

Assumption 12 (High potential capacity for B)**.** $\frac{1}{1-\phi}\overline{\psi}_A < \overline{\psi}_B$.

This simply states that no matter how much A invests, B can always induce pooling with sufficient investment. Results are similar without this assumption, but it greatly simplifies the analysis while corresponding substantively to the case of interest.

Summary

The exogenous parameters are $\underline{\psi}_A$, $\overline{\psi}_A$, $\underline{\psi}_B$, $\overline{\psi}_B$, p, ϕ, ψ_A, and ψ_B. The endogenous choices are ψ_A, ψ_B, m, s_A, s_B, and x. The random variable is σ. As a sequential game of imperfect information, the natural equilibrium concept is perfect Bayesian equilibrium (PBE). I continue to apply the equilibrium selection criterion described previously.

Discussion

I comment briefly on the assumptions. First, consider the order of moves. Allowing A to move first corresponds to the backlash dynamics that I explore. The question is, in anticipation of a higher-capacity group's strategic response, how does a lower-capacity group make decisions about building its capacity? The assumed order of moves fits this question.

Next, the assumption that increasing capacity is free only strengthens the results. Strikingly, we shall see that A may still decline to do so.

Finally, consider the utility functions. In Stage 2, A and B incur a cost of supporting P. Yet in Stage 1, A and B are unconcerned with these future costs. This can be justified substantively. One can imagine the groups in Stage 1 as representing different actors compared to those in Stage 2. Donors or activists making decisions about how to build their organizations may care about policy but not about the effort that bureaucrats in the future will have to exert. Alternatively, the costs of granting support can capture a notion of constraint at the moment that it is granted rather than a source of negative utility to an institutional designer. While this assumption simplifies the analysis, it also allows us to continue to focus on the substantively interesting question of how policy actually moves.

Analysis

Stage 2 plays out as before. In Stage 1, there are three cases. Under pooling, when $p < \frac{1-\phi}{2-\phi}$, only B supports (*Case 1*), when $\frac{1-\phi}{2-\phi} < p < \frac{1}{2-\phi}$, both support (*Case 2*), and when $\frac{1}{2-\phi} < p$, only A supports (*Case 3*).

A key observation is that once A has made a choice of ψ_A, only two things can be optimal for B: choose ψ_B just small enough such that a separating equilibrium continues to be possible, or choose ψ_B as large as possible. In Cases 1 and 2, which option B prefers is a function of ψ_A (while in Case 3, B grants zero support under pooling, so that its only consideration in selecting ψ_B is which equilibrium it wishes to induce; we shall see that this is not a function of ψ_A). For a small value of ψ_A, B would need to forgo a large potential increase in ψ_B to maintain separation. As ψ_A increases, though, this sacrifice diminishes, and setting $\psi_B = \frac{1}{1-\phi}\psi_A$ (the largest value of ψ_A compatible with separation) becomes relatively more attractive. This is summarized in the following lemma:

Lemma F.1 (B's best response)**.** *Suppose that Case 1 or 2 holds. There exists a threshold value of ψ_A, call it $\tilde{\psi}_A$, such that $\psi_A \leq \tilde{\psi}_A$ implies that B will induce pooling by setting $\psi_B = \overline{\psi}_B$, while $\psi_A > \tilde{\psi}_A$ implies that B will induce separation by setting $\psi_B = \frac{1}{1-\phi}\psi_A$.*

Suppose instead that Case 3 holds. Then B either always prefers pooling or always prefers separation irrespective of ψ_A. If B always prefers pooling, it sets $\psi_B = \overline{\psi}_B$. If B always prefers separation, it sets $\psi_B = \frac{1}{1-\phi}\psi_A$.

See Figure F.2 for an illustration of this result.[54] Effectively, when ψ_A is chosen to be small,

54. To guarantee equilibrium existence, and because A can move ψ_A rightward or leftward from $\tilde{\psi}_A$ by any

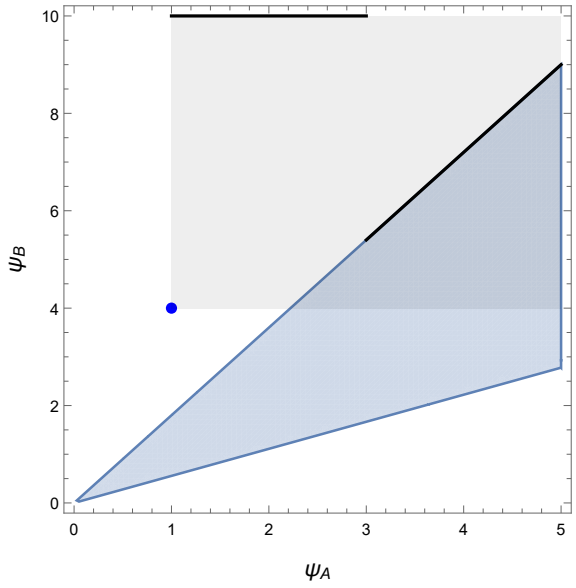

Figure F.2: Maintaining the parametric assumptions of Figure F.1 and fixing $p = \frac{207}{700}$ (so Case 1 holds), the black line is B's optimal choice of ψ_B given ψ_A. The discontinuity is at $\tilde{\psi}_A = 3$.

B would need to set ψ_B much smaller than $\overline{\psi}_B$ to allow for separation, i.e. $\frac{1}{1-\phi}\psi_A$ is small. In such case, B does better to increase capacity as much as possible and give up on separation. Yet when ψ_A becomes larger, setting $\psi_B = \frac{1}{1-\phi}\psi_A$ becomes relatively more attractive, such that B eventually prefers to sacrifice some capacity to allow separation to happen.

Given B's best response, we shall see that A's optimum can be one of two things. First, A may seek to avoid separation by setting $\psi_A = \tilde{\psi}_A$. That is to say, A chooses the largest ψ_A compatible with pooling. Second, A may select ψ_A as large as possible, with either separation or pooling resulting depending on B's best reply.

To help characterize equilibrium outcomes, I define cutoff values of p. Letting

$$T_p \equiv \frac{\overline{\psi}_A - \sqrt{t\overline{\psi}_A\left(\overline{\psi}_A - 4(1-\phi)^2\underline{\psi}_B\right)}}{2(1-\phi)^2(2-\phi)\underline{\psi}_B} + \frac{1-\phi}{2-\phi},$$

I shall say that p is *low* when $p < \frac{1}{2-\phi}$, *intermediate* when $\frac{1}{2-\phi} < p < \min\left\{T_p, \frac{1-\phi(1-\phi)}{2-\phi(3-\phi)}\right\}$, *high* when $T_p < p < \frac{1-\phi(1-\phi)}{2-\phi(3-\phi)}$, and *very high* when $\frac{1-\phi(1-\phi)}{2-\phi(3-\phi)} < p$. These regions are illustrated in Figure F.3. We are now ready for the following result:

Proposition F.1. *When p is low, A sets $\psi_A = \max\{\tilde{\psi}_A, (1-\phi)\underline{\psi}_B\}$, B sets $\psi_B = \overline{\psi}_B$, and pooling occurs. When p is intermediate, A sets $\psi_A = (1-\phi)\underline{\psi}_B$, B sets $\psi_B = \overline{\psi}_B$, and*

$\epsilon > 0$, I assume that A can break B's indifference whichever way A prefers when $\psi_A = \tilde{\psi}_A$.

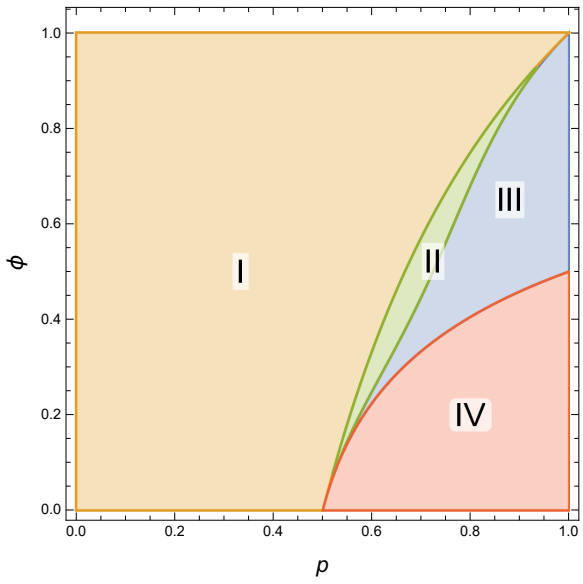

Figure F.3: In regions I, II, III, and IV, p is low, intermediate, high, and very high, respectively. Very high p coincides with separation strongly favoring A. In this example, $\overline{\psi}_A = \underline{\psi}_B = 8$.

pooling occurs. When p is high, A sets $\psi_A = \overline{\psi}_A$, B sets $\psi_B = \frac{1}{1-\phi}\overline{\psi}_A$, and separation occurs. Finally, when p is very high, A sets $\psi_A = \overline{\psi}_A$, B sets $\psi_B = \overline{\psi}_B$, and pooling occurs.

When p is low, A holds back on increasing ψ_A too far because it fears the consequences of separation. This is because p is simply too small, such that when friends and enemies can be identified, this more often benefits the higher-capacity B.

Next, when p is intermediate, B always wants to separate: it grants zero support under pooling, while p is tilted enough in A's favor that it grants positive support. If separation were instead to occur, the higher-capacity B would identify and support more friends than A would like, relative to A's benefit of identifying its own friends.

Next, when p is high, B still always wants to separate. What has changed is A's calculation. Now, p has become sufficiently large such that A's benefit of identifying its friends improves relative to the cost of B being able to identify its friends. While B still does better under separation, it has become relatively attractive to A compared to the alternative of keeping ψ_A so small that for B it is infeasible to induce separation.

Finally, when p is very high, separation strongly favors A in the sense defined above. Large p and small ϕ means that most politicians are likely to be A's friend. Yet without the ability to identify friends or grant support that can only be used for agreeable purposes, there is a high potential for A's support to be repurposed. Therefore, B always wants to induce pooling, so both players increase their capacity as far as possible.

A comparative static implication we thus see is that increasing p sufficiently may make it larger than T_p, implying that A comes to prefer separation. That is to say, when A is more

likely to identify a friend, it becomes more valuable for it to try to do so. Of course, increasing p too much may therefore lead B to induce pooling. I additionally find the following:

Proposition F.2 (Comparative statics)**.** *The measure of ϕ in which separation occurs is increasing in $\overline{\psi}_A$ and decreasing in $\underline{\psi}_B$.*

These comparative statics essentially reflect a change in various forms of relative capacity of A compared to B. When A's maximum potential capacity decreases, separation becomes less desirable to A. And when B's initial capacity is greater, this gives A room to increase its capacity more while still not triggering separation, making pooling relatively attractive. In summary, then, increasing B's relative current and potential capacity leads A to be increasingly wary of choosing to increase its own capacity to the maximum that is feasible.

G Group selection of complementarity extension

I extend the baseline model to examine how groups might endogenously choose complementarity ϕ. I therefore relax the assumption that there is a common value of ϕ and instead allow it to be specific to each player, i.e. ϕ_I is the fraction of I's support that cannot be repurposed, with $I \in \{A, B\}$. Additionally, selection of each ϕ_I occurs simultaneously before the baseline model plays out.

Formal definition

Preliminaries are as in the baseline model, except an endogenously chosen fraction ϕ_I of the support granted by group $I \in \{A, B\}$, must either be used to move policy in the specified direction or disposed. The sequence of moves is as before, except preceding them is the following:

Stage 1

1. Each group $I \in \{A, B\}$ simultaneously selects $\phi_I \in [\underline{\phi}_I, \overline{\phi}_I]$.

Subsequent moves shall collectively comprise Stage 2. Utility functions are as in the endogenous capacity extension. Assumption 6 is maintained. Next, to analyze a non-trivial case, I assume the following:

Assumption 13 (Non-triviality)**.** $\underline{\phi}_B \leq 1 - \frac{\psi_A}{\psi_B} < \overline{\phi}_B$.

This ensures that B (who we shall see holds the keys to separation) actually has a choice of inducing pooling or separation.

Summary

The exogenous parameters are p, $\underline{\phi}_A$, $\underline{\phi}_B$, $\overline{\phi}_A$, $\overline{\phi}_B$, ψ_A, and ψ_B. The endogenous choices are ϕ_A, ϕ_B, m, s_A, s_B, and x. The random variable is σ. As a sequential game of imperfect information, the natural equilibrium concept is perfect Bayesian equilibrium (PBE). I focus exclusively on pure-strategy PBE.

Analysis

In Stage 2, from an analysis that is analogous to that in the baseline model, we have

$$s_A^*(\mu; \phi_A) = \max\big\{\big(-(1-\phi_A) + \mu(2-\phi_A)\big)\psi_A, 0\big\},$$
$$s_B^*(\mu; \phi_B) = \max\big\{\big(1-\mu(2-\phi_B)\big)\psi_B, 0\big\}.$$

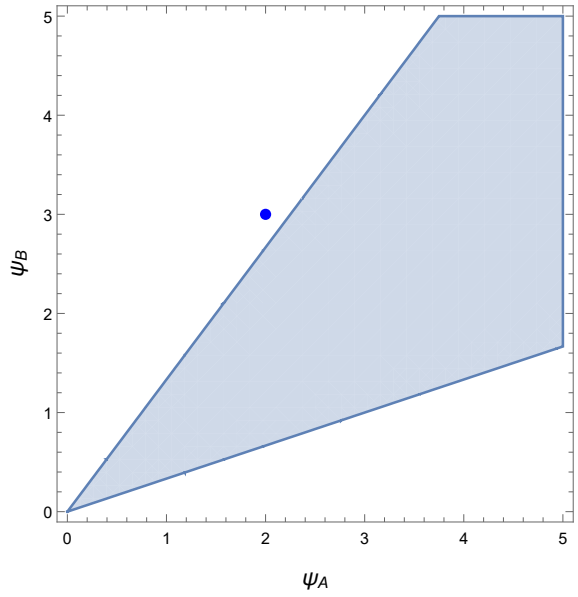

Figure G.1: An example in which $\psi_A = 2$, $\psi_B = 3$, $\phi_A = 1/4$, $\phi_B = 2/3$, and pooling occurs. Because B can move the upper boundary of the cone, $\psi_B > \psi_A$ implies that B is in control of whether separation is possible.

Then the conditions required by a separating equilibrium are as follows:

$$(1 - \phi_B)\psi_B \leq \psi_A, \tag{8}$$

$$(1 - \phi_A)\psi_A \leq \psi_B. \tag{9}$$

Because $\psi_A \leq \psi_B$, it is immediate that Condition 9 is always satisfied. That is to say, A's choice of ϕ_A never determines whether the separating equilibrium is possible. We therefore see that it is always a weakly dominant strategy for A to select ϕ_A as large as possible. Whether we are in the separating or pooling equilibrium is in B's hands, with separation occurring whenever ϕ_B is selected to satisfy Condition 8.[55] Analogous to A's choice, then, selecting $\phi_B = 1 - \frac{\psi_A}{\psi_B}$ weakly dominates any $\phi_B < 1 - \frac{\psi_A}{\psi_B}$. That is to say, if pooling is going to happen, better that ϕ_B be as large as possible. This is summarized in the following lemma:

Lemma G.1 (Player strategies)**.** *It is a weakly dominant strategy for A to set $\phi_A = \overline{\phi}_A$. For B, setting $\phi_B = 1 - \frac{\psi_A}{\psi_B}$ weakly dominates setting ϕ_B smaller.*

However, B also realizes that ϕ_B even larger may bring about separation, at which point the specific choice of ϕ_B otherwise does not matter. Therefore, in determining the equilibrium, I consider B's two candidates for optimal play. First, B can select the largest ϕ_B that is

55. To ensure that an equilibrium exists, I assume that on the boundary at which the separating equilibrium comes into existence, the pooling equilibrium is still played.

still compatible with pooling. Second, B can select anything larger than that to induce the separating equilibrium. Define

$$T'_p \equiv \frac{\psi_A\big(1-(2-\overline{\phi}_A)\overline{\phi}_A\big)+\psi_B}{\psi_A(2-\overline{\phi}_A)^2}.$$

We are now ready for the main result of this analysis:

Proposition G.1 (Equilibrium outcomes)**.** *When $p \leq T'_p$, there exists a PBE in which A sets $\phi_A = \overline{\phi}_A$, B sets $\phi_B = \overline{\phi}_B$, and separation occurs. When $p \geq T'_p$, there exists a PBE in which A sets $\phi_A = \overline{\phi}_A$, B sets $\phi_B = 1 - \frac{\psi_A}{\psi_B}$, pooling occurs, and $s^*_B = 0$.*

A small value of p, then, means that B prefers separation. That is, when P is not overwhelmingly likely to be aligned with A, it benefits B's policy goals more for both players to be able to identify their friends and enemies. And in keeping with B having more capacity than A, notice that $T'_p \geq 1/2$, so even if P is somewhat more likely to be aligned with A, it may still benefit B to separate. When p is large, it is remarkable that B can induce pooling by setting ϕ_B sufficiently small but then does not end up having to grant any support at all. The mere presence of its superior, nonspecific resources proves tempting enough to opposition politicians such as to destroy any possibility for a separating equilibrium, thus preventing A from being able to identify its friends and enemies.

I now look at comparative statics on T'_p. An increase in T'_p means separation becomes more desirable for B, while a decrease means that pooling becomes more desirable:

Proposition G.2 (Comparative statics)**.** *T'_p increases in $\overline{\phi}_A$ and ψ_B and decreases in ψ_A.*

Intuitively, as B's capacity increases more relative to A, separation comes to benefit B more. Finally, as $\overline{\phi}_A$ increases, A is able to do increasingly well under pooling, eventually inducing B to want to bring about separation.

H Politician selection of complementarity extension

I extend the baseline model to examine how the politician might endogenously choose complementarity ϕ. Selection of ϕ occurs before the baseline model plays out.

Formal definition

Preliminaries are as in the baseline model. The sequence of moves is as follows:

Stage 1

1. P's type $\sigma \in \{-1, 1\}$ is drawn and revealed to P. With probability $p \in (0, 1)$, $\sigma = -1$ and P agrees with A. Otherwise, P agrees with B.
2. P selects $\phi \in [\underline{\phi}, \overline{\phi}]$.

Moves 2-5 from the baseline model shall comprise Stage 2. Utility functions are as in the baseline model. Assumption 6 is maintained. Next, I assume the following:

Assumption 14. $\underline{\phi} \leq 1 - \frac{\psi_A}{\psi_B} < \overline{\phi}$.

This ensures that P has a choice of values of ϕ that, given pooling in Stage 1, may correspond either to pooling or separation in Stage 2.

Summary

The exogenous parameters are p, $\underline{\phi}$, $\overline{\phi}$, ψ_A, and ψ_B. The endogenous choices are ϕ, m, s_A, s_B, and x. The random variable is σ. As a sequential game of imperfect information, the natural equilibrium concept is perfect Bayesian equilibrium (PBE). I focus exclusively on pure-strategy PBE. I further apply the *never dissuaded once convinced* refinement (Osborne and Rubenstein 1990, 96-8): once a group assigns probability one to any type, it does not engage in any further updating regardless of P's subsequent actions.[56]

56. In the present setting, this appears to be a more reasonable refinement than that of Vincent (1998). Suppose instead that groups continue to update after the selection of ϕ. Consider the case in which the prior probability of a politician aligned with group I is small, and the capacity of I is low. If the politician aligned with I does appear, she would be able to select a small value of ϕ to ensure that she receives support from group J under a subsequent pooling equilibrium, which may exceed the support that she would receive from I under a subsequent separating equilibrium (this does not contradict Lemma 7, which relied on ϕ being fixed). But then it would have been sensible for both groups to continue to rely on the politician's selection of ϕ small to infer her type, given that only the politician aligned with I has an incentive to do so.

Analysis

Analysis of Stage 2 is analogous to that in the baseline model. In the overall game, pooling may only occur if both types of P would select the same value of ϕ and that value implies pooling in the baseline model.

Recalling Assumption 6, by Proposition 6 a value of ϕ implies pooling in the baseline model if and only if $(1-\phi)\psi_B \leq \psi_A$. This can be rearranged as $\phi \leq 1 - \frac{\psi_A}{\psi_B}$. Considering this along with expressions for optimal support s_A^* and s_B^* in the baseline model, the following cases yield (presently setting aside the possibility of separation in Stage 1):

$$p \leq 1/2 : \begin{cases} \phi \leq \min\left\{1 - \frac{p}{1-p}, 1 - \frac{\psi_A}{\psi_B}\right\} & \text{Pooling; } 0 = s_A^* < s_B^* \\ 1 - \frac{p}{1-p} < \phi \leq 1 - \frac{\psi_A}{\psi_B} & \text{Pooling; } 0 < s_A^*, s_B^* \\ 1 - \frac{\psi_A}{\psi_B} < \phi & \text{Separation} \end{cases},$$

$$p \geq 1/2 : \begin{cases} \phi \leq \min\left\{2 - \frac{1}{p}, 1 - \frac{\psi_A}{\psi_B}\right\} & \text{Pooling; } 0 = s_B^* < s_A^* \\ 2 - \frac{1}{p} < \phi \leq 1 - \frac{\psi_A}{\psi_B} & \text{Pooling; } 0 < s_A^*, s_B^* \\ 1 - \frac{\psi_A}{\psi_B} < \phi & \text{Separation} \end{cases}.$$

I reach the following result:

Proposition H.1. *One type of P strictly prefers to select a value of ϕ that implies separation in Stage 2, such that separation in the overall game is guaranteed.*

I Formal proofs

Proof of Lemma 1. First conjecture that $\ell_1^* \leq v-(m-v)$. Then expected utility to P^L from legislation is

$$\mathbb{E}U_1^{P^L}(\ell_1) = -(\ell_1 - p^L) + \delta\big(\theta\big(-(m-p^L)\big) + (1-\theta)\big(-(\ell_1 - p^L)\big)\big). \tag{10}$$

Equating the right-hand sides of (1) and (10), we find that $\ell_1^* = p^L$. To be consistent with the initial conjecture, we would then require $\frac{m+p^L}{2} \leq v$.

Now conjecture that $v-(m-v) \leq \ell_1^* \leq v$. Then expected utility to P^L from legislation is

$$\mathbb{E}U_1^{P^L}(\ell_1) = -(\ell_1 - p^L) + \delta\big(\theta\big(-((v+(v-\ell_1))-p^L)\big) + (1-\theta)\big(-(\ell_1 - p^L)\big)\big). \tag{11}$$

Equating the right-hand sides of (1) and (11), we find that $\ell_1^* = p^L + \frac{\delta\theta(m-v-(v-p^L))}{1+\delta(1-2\theta)}$. To be consistent with the initial conjecture, we would then require $p^L + \frac{\delta}{1+\delta}\theta(m-p^L) \leq v \leq \frac{m+p^L}{2}$.

Finally conjecture that $v \leq \ell_1^*$. Then expected utility to P^L from legislation is

$$\mathbb{E}U_1^{P^L}(\ell_1) = -(\ell_1 - p^L) + \delta\big(\theta\big(-(\ell_1 - p^L)\big) + (1-\theta)\big(-(\ell_1 - p^L)\big)\big). \tag{12}$$

Equating the right-hand sides of (1) and (12), we find that $\ell_1^* = p^L + \frac{\delta}{1+\delta}\theta(m-p^L)$ (which is clearly less than m). To be consistent with the initial conjecture, we would then require $v \leq p^L + \frac{\delta}{1+\delta}\theta(m-p^L)$.

Then given any value of v, we have found exactly one value of ℓ_1 that makes P^L (and therefore M as well, as explained in text) indifferent between legislation and P^L's optimal unilateral action. □

Proof of Lemma 2. V's expected utility from e_1^* is as follows:

$$\mathbb{E}U_1^V(e_1 = e_1^*) = -(v-p^L) + \delta\big(\theta(-(m-v)) + (1-\theta)(-(v-p^L))\big). \tag{13}$$

Meanwhile, its expected utility from ℓ_1^* is as follows:

$$\mathbb{E}U_1^V(\ell_1 = \ell_1^*) = \begin{cases} (1+\delta)(-(\ell_1^* - v)) & v \text{ left-leaning} \\ (1+\delta)(-(v-\ell_1^*)) & v \text{ centrist} \\ -(v-\ell_1^*) + \delta\big(\theta(-(l_2^*(l_1^*)-v)) + (1-\theta)(-(v-\ell_1^*))\big) & v \text{ right-leaning} \end{cases}.$$

(In the centrist case, this holds because either P^L wins, in which case policy remains in place, or P^R wins, in which case policy is reflected over v and provides equal utility). Then we have

$$\mathbb{E}U_1^V(\ell_1 = \ell_1^*) = \begin{cases} (1+\delta)(-((p^L + \frac{\delta}{1+\delta}\theta(m-p^L)) - v)) & v \text{ left-leaning} \\ (1+\delta)(-(v-(p^L + \frac{\delta\theta(m-v-(v-p^L))}{1+\delta(1-2\theta)}))) & v \text{ centrist} \\ -(v-p^L) + \delta\big(\theta(-(m-v)) + (1-\theta)(-(v-p^L))\big) & v \text{ right-leaning} \end{cases}. \tag{14}$$

Then V's excess utility from legislation compared to unilateral action (i.e. [14] − [13]) is

$$\mathbb{E}U_1^V(\ell_1=\ell_1^*)-\mathbb{E}U_1^V(e_1=e_1^*)=\begin{cases}2(v-p^L)\big(1+\delta(1-\theta)\big) & v \text{ left-leaning}\\ \frac{2\delta\theta(p^L+m-2v)\left(1+\delta(1-\theta)\right)}{1+\delta(1-2\theta)} & v \text{ centrist}\\ 0 & v \text{ right-leaning}\end{cases}. \tag{15}$$

Based on conditions of each case and initial assumptions on parameters, it is thus clear that for v left-leaning or centrist, we have the right-hand side of (15) greater than zero, while for v right-leaning, it equals zero. □

Proof of Proposition 1. Follows immediately from Lemmas 1 and 2. □

Proof of Lemma 3. As before, P^L's expected utility from unilateral action is given by (1). Now conjecture that $\ell_1^\circ < v^C < \frac{p^L+m}{2}$. Recalling that Δ_γ represents the change in V^R's probability of winning, such that $\Delta_\gamma = s$ if the veto player is centrist and $\Delta_\gamma = -s$ if it is right-leaning, expected utility to P^L from legislation is

$$\mathbb{E}U_1^{P^L}(\ell_1)=-(\ell_1-p^L)+ \tag{16}$$
$$\delta\bigg(\theta\cdot\Big((\gamma+\Delta_\gamma)\big(-(m-p^L)\big)+\big(1-(\gamma+\Delta_\gamma)\big)\big(-((2v^C-\ell_1)-p^L)\big)\Big)+(1-\theta)\Big(-(\ell_1-p^L)\Big)\bigg).$$

Equating the right-hand sides of (1) and (16), we find that $\ell_1^\circ=\frac{p^L+\delta\left(\theta(1-(\gamma+\Delta_\gamma))(m-2v^C)+(1-\theta)p^L\right)}{1+\delta\left(1-\theta\left(1+(1-(\gamma+\Delta_\gamma))\right)\right)}$. Consistency with the initial conjecture is then guaranteed by Assumptions 4 and 5. □

Proof of Lemma 4. Omitting A's Stage 1 utility already realized, A's expected utility is

$$\mathbb{E}U_2^A(s)=\delta\cdot\bigg(\mu\cdot\Big(\theta\cdot\big((\gamma-s)\cdot U_2^A(m)+(1-(\gamma-s))\cdot U_2^A(2v^C-\ell_1^\circ(-\tilde{s}))\big)+(1-\theta)U_2^A(\ell_1^\circ(-\tilde{s}))\Big)$$
$$+(1-\mu)\Big(\theta\cdot\big((\gamma+s)\cdot U_2^A(m)+(1-(\gamma+s))\cdot U_2^A(2v^C-\ell_1^\circ(\tilde{s}))\big)+(1-\theta)U_2^A(\ell_1^\circ(\tilde{s}))\Big)\bigg)-\frac{\kappa}{2}s^2.$$

Remembering that we restrict $s\geq 0$, the FOC implies

$$s^\circ(\tilde{s})=\max\left\{\frac{\delta\theta}{\kappa}\Big(\mu\Big(U_2^A\big(2v^C-\ell_1^\circ(-\tilde{s})\big)-U_2^A(m)\Big)+(1-\mu)\Big(U_2^A(m)-U_2^A\big(2v^C-\ell_1^\circ(\tilde{s})\big)\Big)\Big),0\right\}$$

with the SOC satisfied. □

Proof of Lemma 5. For the moment, consider a modification of the condition that excludes the maximum operator, i.e.

$$s=\frac{\delta\theta}{\kappa}\Big(\mu\Big(U_2^A\big(2v^C-\ell_1^\circ(-s)\big)-U_2^A(m)\Big)+(1-\mu)\Big(U_2^A(m)-U_2^A\big(2v^C-\ell_1^\circ(s)\big)\Big)\Big).$$

Denote the right-hand side of this expression as $\zeta(s)$, with $\zeta^C(s) \equiv \zeta(s)$ when $v = v^C$ and $\zeta^R(s) \equiv \zeta(s)$ when $v = m$.

To show existence and uniqueness, there are two cases to consider. First, $a = v^C$, and second, $a = m$. Suppose first that $a = v^C$. We find that $\zeta^{C\prime}(s) > 0$. Then existence and uniqueness are demonstrated by solving explicitly, which yields one real solution (whose expression is too lengthy to present). Suppose instead that $a = m$. We find that $\zeta^{R\prime}(s) < 0$. Then because the left-hand side (s) is increasing and unbounded, existence and uniqueness are guaranteed.

Next, it is clear that $s = 0$ solves (2) when $\mu = 1/2$ (implying that $\zeta = 0$) and that if ever the intersection of s and $\zeta(s)$ would occur at a negative value, the original equilibrium condition (2) would be satisfied at $s = 0$.

Next, I note that as ζ is a linear combination parameterized by μ, it is strictly monotonic in μ, with strictness arising from the fact (following from Assumption 5) that we must have $U_2^A(2v^C - \ell_1^\circ(-s))$ strictly greater than or less than $U_2^A(m)$ but not equal, corresponding to $a = v^C$ and $a = m$, respectively. Specifically, when $v = v^C$, ζ^C is increasing in μ, and when $v = m$, ζ^R is decreasing in μ.

In the case in which $v = m$, the fact that $\frac{\partial}{\partial \mu}\zeta^R(s) < 0$ is sufficient to demonstrate that $\frac{\partial}{\partial \mu}s^* < 0$ when $\mu < 1/2$ with $s^* = 0$ otherwise. For the case in which $v = v^C$, in order to show that $\frac{\partial}{\partial \mu}s^* > 0$ when $\mu > 1/2$ with $s^* = 0$ otherwise, we must additionally demonstrate that $\zeta^C(s)$ crosses s from above. This follows from the fact that $\lim_{s\to\infty}\big(s - \zeta^C(s)\big) = \infty$ (equivalently for our purposes, $\lim_{s\to-\infty}\big(s - \zeta^C(s)\big) = -\infty$). □

Proof of Lemma 6. First let us demonstrate results for V^R. It is immediate that when $s^* = 0$, V^R is indifferent. ℓ_1^* is constructed specifically to make M indifferent; because V^R shares M's preferences over policy, V^R must also be indifferent. For $s^* > 0$, the same logic implies that V^R is indifferent as it pertains to policy. Obviously, for some change in s^* of Δ_{s^*}, V^R's expected office-holding benefit changes by $-\delta\Delta_{s^*}\beta$.

Now consider V^C. Its expected utility from e_1^* is

(17)
$$\mathbb{E}U_1^V(e_1 = e_1^*) = -(v^C - p^L) + \delta\Big(\theta\big(-(m - v)\big) + (1-\theta)\big(-(v^C - p^L)\big)\Big) + \delta(1-\gamma)\beta.$$

Meanwhile, its expected utility from ℓ_1^* is

(18)
$$\mathbb{E}U_1^{V^C}\big(\ell_1 = \ell_1^*(s^*)\big) = \Big(1 + \delta\cdot\big(1 - \theta\cdot(\gamma + s^*)\big)\Big)\Big(-\big(v^C - \ell_1^*(s^*)\big)\Big) + \delta\theta(\gamma + s^*)\cdot\big(-(m - v^C)\big) + \delta\big(1 - (\gamma + s^*)\big)\beta.$$

This holds because as long as P^R and V^R do not both win, in Stage 2 policy will either stay in place or reflect over v^C and remain an equal distance from it. Finally, office-holding benefits are earned now and if winning reelection, in the future.

First, let us establish V^C's strict preference for legislation when $s^* = 0$. The difference $\mathbb{E}U_1^{V^C}\big(\ell_1 = \ell_1^*(0)\big) - \mathbb{E}U_1^{V}(e_1 = e_1^*)$ equals $\frac{2\delta\theta\left(m - v^C - (v^C - p^L)\right)(1+\gamma)(1+\delta(1-\theta))}{1+\delta\left(1-(2-\gamma)\theta\right)}$, which Assumption 4 implies is strictly positive.

Next, to establish that V^C's utility from legislation strictly decreases in s^*, observe that

$$\frac{d}{ds^*}\mathbb{E}U_1^{V^C}\big(s^*, \ell_1^*(s^*)\big) = \overbrace{\frac{\partial \mathbb{E}U_1^{V^C}}{\partial s^*}}^{<0} + \overbrace{\underbrace{\frac{\partial \mathbb{E}U_1^{V^C}}{\partial \ell_1^*}}_{>0} \cdot \underbrace{\frac{\partial \ell_1^*}{\partial s^*}}_{<0}}^{<0} < 0. \tag{19}$$

As with V^R, for some change in s^* of Δ_{s^*}, V^C's expected office-holding benefit changes by $-\delta\Delta_{s^*}\beta$. But (19) continues to hold even when $\beta = 0$, implying that unlike V^R, V^C additionally experiences a reduction in policy utility. □

Proof of Proposition 2. Suppose first that $\gamma < 1/2$. First hold fixed A's behavior and consider the calculation of V^C and V^R. V^C does not receive a sanction under either circumstance, so it strictly prefers to approve legislation, which by Lemma 6 provides it with a benefit. V^R is indifferent and is therefore willing to approve legislation.

Next, holding fixed the behavior of V^C and V^R, A's behavior is optimal by Lemma 5 and the fact that s^* must equal zero if legislation was not approved. Finally, because V^C loses the most from rejecting legislation, the D1 refinement rules out any off-path belief other than $\mu = 1$.

Finally, I rule out other candidate equilibria. Pooling on rejecting legislation cannot be an equilibrium, because the D1 refinement would require the off path belief be $\mu = 0$, which would induce V^C to deviate. Separation with V^C approving legislation and V^R rejecting it is ruled out by the additional refinement. Finally, separation with V^C rejecting legislation and V^R approving it would lead V^R to want to deviate since $\beta > 0$.

Suppose next that $\gamma > 1/2$. First hold fixed A's behavior and consider the calculation of V^C and V^R. V^C does not receive a sanction under either circumstance, so it strictly prefers to approve legislation, which by Lemma 6 provides it with a benefit. V^R is indifferent and is therefore willing to reject legislation.

Next, holding fixed the behavior of V^C and V^R, A's behavior is optimal by Lemma 5 and the fact that s^* must equal zero if legislation was not approved.

Finally, I rule out other candidate equilibria. Pooling on rejecting legislation cannot be an equilibrium, because the D1 refinement would require the off path belief be $\mu = 0$, which would induce V^C to deviate. Pooling on approving legislation cannot be an equilibrium, since A's prior belief implies that it would impose a positive sanction; this would induce V^R to deviate. Finally, separation with V^C rejecting legislation and V^R approving it would lead V^R to want to deviate since $\beta > 0$. □

Proof of Proposition 3. Notice first that if $\beta = 0$, V^C would always approve legislation regardless of the magnitude of the sanction. This follows because while a sanction reduces

the relative benefit of legislation compared to unilateral action by increasing policy variance under legislation, rejecting legislation guarantees maximum policy variance. This implies the existence of a continuum of strictly positive values of β such that for any possible change in A's willingness to sanction (with the maximum being the difference between that when A believes $\mu = 0$, and that when either A believes $\mu = 1$ or legislation has been rejected), V^C would at least weakly prefer to approve legislation; let $\tilde{\beta}$ denote the maximum such value of β. (An explicit expression for $\tilde{\beta}$ is derived in the proof of Proposition 4).

Suppose that $\beta < \tilde{\beta}$. First hold fixed A's behavior and consider the calculation of V^C and V^R. As just argued, V^C prefers to approve legislation, as its benefit exceeds the cost imposed by the sanction. V^R enjoys no inherent benefit from legislation and weakly prefers to reject it.

Next, holding fixed the behavior of V^C and V^R, A's behavior is optimal by Lemma 5.

Finally, I rule out other candidate equilibria. Pooling on rejecting legislation is not an equilibrium, because we have already assumed β sufficiently small such that even if V^C reveals its type, its benefit from legislation exceeds the cost from being sanctioned. Pooling on approving legislation cannot be an equilibrium, because the D1 refinement would require that the off-path belief be $\mu = 1$. When $\beta > 0$ and $\gamma < 1/2$, this would induce V^R to deviate; otherwise, the additional refinement would rule out this equilibrium. Finally, separation with V^C rejecting legislation and V^R approving it would lead V^C to want to deviate, since it could enjoy the benefits of legislation without receiving any sanction at all.

Suppose next that $\beta > \tilde{\beta}$. First hold fixed A's behavior and consider the calculation of V^C and V^R. V^C must decide between rejecting legislation and receiving no sanction or approving legislation and receiving the sanction commensurate with $\mu = 0$. By the definition of $\tilde{\beta}$, V^C prefers to reject legislation. V^R is indifferent to legislation inherently and at least weakly prefers not to receive a sanction, such that it is willing to reject legislation.

Next, holding fixed the behavior of V^C and V^R, A's behavior is optimal by Lemma 5 and the fact that s^* must equal zero if legislation was not approved. Finally, because V^C gains the most from approving legislation, the D1 refinement rules out any off-path belief other than $\mu = 0$.

Finally, I rule out other candidate equilibria. Pooling on approving legislation cannot be an equilibrium, because the D1 refinement would require that the off-path belief be $\mu = 1$. When $\gamma < 1/2$, this would induce V^R to deviate; otherwise, the additional refinement would rule out this equilibrium. Separation with V^C approving legislation and V^R rejecting it cannot be an equilibrium, as V^C would want to deviate given the definition of $\tilde{\beta}$ and our assumption that $\beta > \tilde{\beta}$. Finally, separation with V^C rejecting legislation and V^R approving it would lead V^C to want to deviate, since it could enjoy the benefits of legislation without receiving any sanction at all. □

Proof of Proposition 4. Given the results of Proposition 3, V^C may choose either to reject legislation and receive no sanction or approve legislation and receive a sanction commensurate with $\mu = 0$. First we write an explicit expression for $s^*(0; v = m)$. Letting $a = m$ and $\mu = 0$,

the solution to (2) is

$$s^*(0; a = m) = \frac{\sqrt{R} - \kappa\Big(1 + \delta\big(1 - \theta(2 - \gamma)\big)\Big)}{2\delta\theta\kappa} \tag{20}$$

with

$$R \equiv \kappa\Bigg(\kappa\Big(1 + \delta\big(1 - \theta(2 - \gamma)\big)\Big)^2 + 4(\delta\theta)^2\big(1 + \delta(1 - \theta)\big)\big(m - v^C - (v^C - p^L)\big)\Bigg).$$

This is interior (i.e. $s^*(0; a = m) < 1 - \gamma$) when $\kappa > \frac{\delta\theta}{1-\gamma}\big(m - v^C - (v^C - p^L)\big)$, as discussed in Appendix E. Substituting $s^*(0; a = m)$ into the right-hand side of (18) and equating to the right-hand side of (17) implies that

$$\tilde{\beta} = \frac{\big(1 + \delta(1 - \gamma\theta)\big)\kappa - \sqrt{\kappa\Big(2^3\Big(\frac{p^L+m}{2} - v^C\Big)(\delta\theta)^2\big(1 + \delta(1 - \theta)\big) + \kappa\Big(1 + \delta\big(1 - \theta(2 - \gamma)\big)\Big)^2\Big)}}{\delta^2\theta}.$$

Given Assumptions 4 and 5, this is strictly positive. Furthermore, $\frac{\partial\tilde{\beta}}{\partial\kappa} > 0$, $\frac{\partial\tilde{\beta}}{\partial m} < 0$, $\frac{\partial\tilde{\beta}}{\partial\theta} < 0$, $\frac{\partial\tilde{\beta}}{\partial\gamma} < 0$, and $\frac{\partial\tilde{\beta}}{\partial\delta} < 0$. □

Proof of Proposition 5. Recognize first that in any equilibrium, average policy (weighing Stage 2 policy by δ) must equal that given that P^L issues an executive order $e_1 = p^L$ in Stage 1. Denoting this $\overline{x}$, we must have

$$\overline{x} = \frac{p^L + \delta\big(\theta m + (1 - \theta)p^L\big)}{1 + \delta}.$$

Inspecting this expression, it is clear that $\overline{x} < \frac{p^L+m}{2}$. Additionally, because there is always a positive probability that legislative policy shifts rightward and zero probability that it shifts leftward in Stage 2, we must have $\ell_1^* < \overline{x}$. And recall that $\ell_1^* < v^C$.

Now we compare variance under unilateral action to that under legislation. Variance under unilateral action (denoted $\mathbb{V}^e$) is

$$\mathbb{V}^e = \frac{\big(1 + \delta(1 - \theta)\big)(\overline{x} - p^L)^2 + \delta\theta(m - \overline{x})^2}{1 + \delta}. \tag{21}$$

while (noticing that in equilibrium sanctions are only ever imposed on V^C and allowing $\Delta_\gamma^* = s^*$) variance under legislation (denoted $\mathbb{V}^\ell$) is

$$\mathbb{V}^\ell = \frac{\big(1 + \delta(1 - \theta)\big)(\overline{x} - \ell_1^*)^2 + \delta\theta\Big((\gamma + s^*)(m - \overline{x})^2 + \big(1 - (\gamma + s^*)\big)\big((2v^C - \ell_1^*) - \overline{x}\big)^2\Big)}{1 + \delta}. \tag{22}$$

Because $|\overline{x} - \ell_1^*| < |\overline{x} - p^L|$ and $|(2v^C - \ell_1^*) - \overline{x}| < |m - \overline{x}|$, we must conclude that $\mathbb{V}^\ell < \mathbb{V}^e$.

Having demonstrated that policy variance under unilateral action exceeds that under legislation, we now turn our attention to unconditional policy variance. Because this is constant with respect to the parameters of interest in an equilibrium in which both types reject legislation, suppose that this is not the case. For some parameter η, to show that policy variance increases (decreases) in η, it is sufficient to show both of the following:

1. The probability of legislation is weakly decreasing (increasing) in η
2. Policy variance conditional on legislation is weakly increasing (decreasing) in η

First consider ρ. As Propositions 2 and 3 demonstrate, there is never a circumstance in which V^R would approve legislation but V^C would not. Yet the reverse may hold. Increasing ρ increases the probability of legislation while leaving policy variance conditional on legislation unaffected, thus increasing unconditional policy variance, i.e. $\frac{\partial \mathbb{V}^\ell}{\partial \rho} > 0$.

Next consider κ. For an instantaneous change, the probability of legislation is constant. Then inspecting (20), notice that we have $\frac{\partial s^*}{\partial \kappa} < 0$. Because $\frac{\partial \ell_1^*}{\partial s^*} < 0$, we have $\frac{d\ell_1^*}{d\kappa} > 0$. There are two cases to consider. First, suppose that $2v^C - \ell_1^* \geq \overline{x}$. Allow some instantaneous increase in κ. Then $|\overline{x} - \ell_1^*|$ and $\left|(2v^C - \ell_1^*) - \overline{x}\right|$ decrease, with the weight on $(m - \overline{x})^2$ relative to $\left((2v^C - \ell_1^*) - \overline{x}\right)^2$ also decreasing (i.e. $\gamma + s^*$ compared to $1 - (\gamma + s^*)$). Because $|(2v^C - \ell_1^*) - \overline{x}| < |m - \overline{x}|$, we must conclude that $\frac{\partial \mathbb{V}^\ell}{\partial \kappa} < 0$.

Next suppose that $2v^C - \ell_1^* < \overline{x}$. Allow some instantaneous increase in κ. While $|\overline{x} - \ell_1^*|$ decreases as before, $\left|(2v^C - \ell_1^*) - \overline{x}\right|$ increases. But recalling that $\ell_1^* < v^C$, we can conclude that $|\overline{x} - \ell_1^*| > |(2v^C - \ell_1^*) - \overline{x}|$. Noticing also that the instantaneous decrease in $|\overline{x} - \ell_1^*|$ equals the instantaneous increase in $|(2v^C - \ell_1^*) - \overline{x}|$, we conclude by convexity that the instantaneous decrease in $(\overline{x} - \ell_1^*)^2$ must exceed the instantaneous increase in $\left((2v^C - \ell_1^*) - \overline{x}\right)^2$. And the weight on the former exceeds the weight on the latter. Finally, the argument pertaining to the weight on $(m - \overline{x})^2$ relative to $\left((2v^C - \ell_1^*) - \overline{x}\right)^2$ continues to hold, such that we conclude that $\frac{\partial \mathbb{V}^\ell}{\partial \kappa} < 0$.

Finally consider γ. For an instantaneous change, the probability of legislation is constant in the equilibrium in which types pool on legislation and decreasing in every other equilibrium with which we are presently concerned. Next, notice that the quantity of interest in determining ℓ_1^* is $\gamma + s^*$ rather than s^*; denote this γ^*. Referring to (20), notice that $\frac{\partial \gamma^*}{\partial \gamma} > 0$. Then because $\frac{\partial \ell_1^*}{\partial \gamma^*} < 0$, we conclude that $\frac{d\ell_1^*}{d\gamma} < 0$. Taking into account the reversed sign, the same arguments as those that applied to a shift in κ apply equally to a shift in γ, and we conclude that $\frac{\partial \mathbb{V}^\ell}{\partial \gamma} > 0$. □

Proof of Proposition 6. Denote P of type $\sigma = -1$ as P_L and P of type $\sigma = 1$ as P_R. A separating equilibrium takes the following form:

- Strategy for P_L: set $m = L$.
- Strategy for P_R: set $m = R$.

- Strategy for $I \in \{A, B\}$: grant $s_I^*(1)$ if $m = L$ and grant $s_I^*(0)$ otherwise.
- Beliefs: $\mu_L = 1$ and $\mu_R = 0$.

Holding fixed the behavior of groups, I check when both politician types have no incentive to deviate. The utility to P_L from setting $m = L$ is ψ_A while the utility to P_L from misrepresenting and setting $m = R$ is $(1-\phi)\psi_B$. Then the utility of being truthful exceeds that of misrepresenting when $\frac{\psi_A}{\psi_B} \geq 1 - \phi$. Next, the utility to P_R from setting $m = R$ is ψ_B while the utility to P_R from misrepresenting and setting $m = L$ is $(1-\phi)\psi_A$. Then the utility of being truthful exceeds that of misrepresenting when $\frac{\psi_B}{\psi_A} \geq 1 - \phi$ or equivalently, $\frac{\psi_A}{\psi_B} \leq \frac{1}{1-\phi}$. Taken together, this is $1 - \phi \leq \frac{\psi_A}{\psi_B} \leq \frac{1}{1-\phi}$. Given this, beliefs are consistent. Finally, $s_I^* : I \in \{A, B\}$ was already constructed to be optimal. □

Proof of Lemma 7. Denote P of type $\sigma = -1$ as P_L and P of type $\sigma = 1$ as P_R. Let superscript $\mathbb{S}$ denote separation and superscript $\mathbb{P}$ denote pooling. Expected utilities from separation are $\mathbb{E}U_{P_L}^{\mathbb{S}} = \psi_A$ and $\mathbb{E}U_{P_R}^{\mathbb{S}} = \psi_B$. Expected utilities from pooling are

$$\begin{aligned}
\mathbb{E}U_{P_L}^{\mathbb{P}} &= s_A^*(p) + (1-\phi)s_B^*(p) \\
&= \max\big\{\big(-(1-\phi) + p(2-\phi)\big)\psi_A, 0\big\} + (1-\phi)\big\{\big(1 - p(2-\phi)\big)\psi_B, 0\big\}, \\
\mathbb{E}U_{P_R}^{\mathbb{P}} &= (1-\phi)s_A^*(p) + s_B^*(p) \\
&= (1-\phi)\max\big\{\big(-(1-\phi) + p(2-\phi)\big)\psi_A, 0\big\} + \max\big\{\big(1 - p(2-\phi)\big)\psi_B, 0\big\}.
\end{aligned}$$

Recall the initial assumptions that $\psi_A \leq \psi_B$, $0 \leq t < 1$, and $0 < p < 1$. Next, by Proposition 6 and the hypothesis that separation is possible, it follows that $\psi_B \leq \frac{1}{1-\phi}\psi_A$. There are six possible cases: the Cartesian product of types of P with contribution behavior under pooling ($p \leq \frac{1-\phi}{2-\phi}$ and only receiver B contributes, $\frac{1-\phi}{2-\phi} < p < \frac{1}{2-\phi}$ and both receivers contribute, and $\frac{1}{2-\phi} \leq p$ and only receiver A contributes). In each case, application of the assumptions along with $\psi_B \leq \frac{1}{1-\phi}\psi_A$ implies that $\mathbb{E}U_{P_I}^{\mathbb{S}} > \mathbb{E}U_{P_I}^{\mathbb{P}}$, with I the corresponding type of P. □

Proof of Proposition 7. Follows from Proposition 4 of Farrell and Gibbons (1989) taken together with the present Lemma 7 (which substitutes for their Proposition 2, allowing application of the logic of Proposition 4 to the present case of continuous actions).

Proof of Proposition 8. Let $\mathbb{E}^{\tilde{\mathbb{S}}}[x|\psi_A, \psi_B]$ denote expected policy under a perfect information baseline and $\mathbb{E}^{\tilde{\mathbb{P}}}[x|\psi_A, \psi_B]$ denote expected policy when P is banned from communicating. Notice of course that $\mathbb{E}^{\tilde{\mathbb{P}}}[x|\psi_A, \psi_B] = \mathbb{E}^{\mathbb{P}}[x|\psi_A, \psi_B]$, and $\mathbb{E}^{\tilde{\mathbb{S}}}[x|\psi_A, \psi_B] = \mathbb{E}^{\mathbb{S}}[x|\psi_A, \psi_B]$ when the separating equilibrium is supportable.

Expected policy under the perfect information benchmark is as follows:

$$\mathbb{E}^{\tilde{\mathbb{S}}}[x|\psi_A, \psi_B] = p(-\psi_A) + (1-p)\psi_B.$$

Expected policy under the no-communication benchmark is as follows:

$$\mathbb{E}^{\tilde{\mathbb{P}}}[x|\psi_A,\psi_B] = \begin{cases} (1-p(2-\phi))^2\psi_B & p \leq \frac{1-\phi}{2-\phi} \\ -(1-p(2-\phi)-\phi)^2\psi_A + (1-p(2-\phi))^2\psi_B & \frac{1-\phi}{2-\phi} \leq p \leq \frac{1}{2-\phi} \\ -(1-p(2-\phi)-\phi)^2\psi_A & \frac{1}{2-\phi} \leq p \end{cases}.$$

First observe that $\frac{\partial}{\partial \psi_A}\mathbb{E}^{\tilde{\mathbb{S}}}[x|\psi_A,\psi_B] = -p$. Next,

$$\frac{\partial}{\partial \psi_A}\mathbb{E}^{\tilde{\mathbb{P}}}[x|\psi_A,\psi_B] = \begin{cases} 0 & p \leq \frac{1-\phi}{2-\phi} \\ -(1-p(2-\phi)-\phi)^2 & \text{o/w} \end{cases},$$

so the proposition follows. □

Proof of Proposition 9. We must ask the conditions under which $\mathbb{E}^{\tilde{\mathbb{S}}}[x|(1-\phi)\psi_B,\psi_B] > \mathbb{E}^{\tilde{\mathbb{P}}}[x|(1-\phi)\psi_B,\psi_B]$. There are of course three cases: $p < \frac{1-\phi}{2-\phi}$, $\frac{1-\phi}{2-\phi} \leq p < \frac{1}{2-\phi}$, and $\frac{1}{2-\phi} \leq p$. In Cases 1 and 2, reduction of the system of inequalities consisting of the initial hypothesis and case (and basic initial assumptions of the model) demonstrates that the former always holds. In Case 3, the same process demonstrates that the initial hypothesis holds if and only if $p < \frac{1-\phi(1-\phi)}{2-\phi(3-\phi)}$. Because Cases 1 and 2 always imply $p < \frac{1-\phi(1-\phi)}{2-\phi(3-\phi)}$, the proposition follows. □

Proof of Proposition 10. The condition

$$\lim_{\psi_A \uparrow (1-\phi)\psi_B} \mathbb{E}[x] < \lim_{\psi_A \uparrow \frac{1}{1-\phi}\psi_B} \mathbb{E}[x]$$

is equivalent to

$$\mathbb{E}^{\tilde{\mathbb{P}}}[x|(1-\phi)\psi_B,\psi_B] < \mathbb{E}^{\tilde{\mathbb{S}}}\left[x \middle| \frac{1}{1-\phi}\psi_B,\psi_B\right].$$

There are three cases to consider: $p < \frac{1-\phi}{2-\phi}$, $\frac{1-\phi}{2-\phi} \leq p < \frac{1}{2-\phi}$, and $\frac{1}{2-\phi} \leq p$. In Cases 2 and 3, reduction of the system of inequalities consisting of the initial hypothesis and case (and basic initial assumptions of the model) demonstrates that the former never holds. In Case 1, the same process demonstrates that the initial hypothesis holds if and only if $p < \frac{1-2\phi}{2-\phi(3-\phi)}$. This is precisely the definition of separation strongly favoring B. Because each step in the chain of logical relationships was biconditional, the proposition follows. □

Proof of Lemma F.1. Notice first that within pooling or separation, only the largest ψ_B compatible with said equilibrium can be optimal.

In any Case, if B cannot induce separation (i.e. $\psi_A < (1-\phi)\underline{\psi}_B$), it is clear that setting $\psi_B = \overline{\psi}_B$ is optimal. Suppose instead that $\psi_A \geq (1-\phi)\underline{\psi}_B$. Then B's expected utility from separation (setting $\psi_B = \frac{1}{1-\phi}\psi_A$) is $\mathbb{E}U_B^{\mathbb{S}} = \frac{((1-p(2-\phi))\psi_A}{1-\phi}$.

Suppose that Case 1 holds. B's expected utility from pooling (setting $\psi_B = \overline{\psi}_B$) is $\mathbb{E}U_B^{\mathbb{P}} = (1-p(2-\phi))^2\overline{\psi}_B$. Then $\mathbb{E}U_B^{\mathbb{S}} \geq \mathbb{E}U_B^{\mathbb{P}}$ implies (and is implied by) $\psi_A \geq (1-p(2-\phi))(1-\phi)\overline{\psi}_B$. Because $\psi_A < (1-\phi)\underline{\psi}_B$ makes separation infeasible for B so that setting $\psi_B = \overline{\psi}_B$ must be optimal, it therefore follows that

$$\tilde{\psi}_A = \max\{(1-p(2-\phi))(1-\phi)\overline{\psi}_B, (1-\phi)\underline{\psi}_B\}.$$

Now suppose that Case 2 holds. B's expected utility from pooling (setting $\psi_B = \overline{\psi}_B$) is

$$\mathbb{E}U_B^{\mathbb{P}} = -(1-p(2-\phi)-\phi)^2\psi_A + (1-p(2-\phi))^2\overline{\psi}_B.$$

Then $\mathbb{E}U_B^{\mathbb{S}} \geq \mathbb{E}U_B^{\mathbb{P}}$ implies (and is implied by)

$$\psi_A \geq \frac{(1-p(2-\phi))^2(1-\phi)}{(1-p)(2-\phi)(1-p(2-\phi)(1-\phi)-t(1-\phi))}\overline{\psi}_B, \tag{23}$$

so analogously to Case 1 it follows that

$$\tilde{\psi}_A = \max\left\{\frac{(1-p(2-\phi))^2(1-\phi)}{(1-p)(2-\phi)(1-p(2-\phi)(1-\phi)-t(1-\phi))}\overline{\psi}_B, (1-\phi)\underline{\psi}_B\right\}.$$

Suppose that Case 3 holds. B's expected utility from pooling (setting $\psi_B = \overline{\psi}_B$) is

$$\mathbb{E}U_B^{\mathbb{P}} = -(1-p(2-\phi)-\phi)^2\psi_A.$$

Then $\mathbb{E}U_B^{\mathbb{S}} \geq \mathbb{E}U_B^{\mathbb{P}}$ is equivalent to $p \leq \frac{1-\phi(1-\phi)}{2-\phi(3-\phi)}$, a condition unrelated to ψ_A. □

Proof of Proposition F.1. Given what we know from Lemma F.1 about B's choice of ψ_B, A's expected utility from separation in any Case is $\mathbb{E}U_A^{\mathbb{S}} = \frac{(p(2-\phi)-1)\psi_A}{1-\phi}$. Then $\frac{d\mathbb{E}U_A^{\mathbb{S}}}{d\psi_A} = \frac{p(2-\phi)-1}{1-\phi}$, so it follows that $\frac{d\mathbb{E}U_A^{\mathbb{S}}}{d\psi_A} < 0$ in Cases 1 and 2, and $\frac{d\mathbb{E}U_A^{\mathbb{S}}}{d\psi_A} > 0$ in Case 3. Therefore, I conclude that if A were to induce separation, in Cases 1 and 2, A would set $\psi_A = \tilde{\psi}_A$ (if B were ever so averse to separation such that $\tilde{\psi}_A > \overline{\psi}_A$, then A simply cannot induce separation and sets $\psi_A = \overline{\psi}_A$). In Case 3, A would set $\psi_A = \overline{\psi}_A$.

Note also that whenever A desires pooling, A sets ψ_A as large as is compatible with this.

Suppose that Case 1 or 2 holds. Suppose first that $\tilde{\psi}_A \geq (1-\phi)\underline{\psi}_B$. Then at $\psi_A = \tilde{\psi}_A$, A can induce either pooling or separation. But recall that $\tilde{\psi}_A$ is defined as the value of ψ_A such that B is indifferent between pooling and separation, and because the game in Stage 1 is constant-sum, this implies A's indifference between pooling and separation (of course B would not prefer separation with ψ_A even greater). I conclude that A sets $\psi_A = \tilde{\psi}_A$ and can assume that when indifferent, A induces pooling.[57] Suppose instead that $\tilde{\psi}_A < (1-\phi)\underline{\psi}_B$. Because it was just demonstrated that A's Stage 1 utility under separation is

57. A lexicographic preference relation for A by which A first maximizes what is presently given as its Stage 1 utility function and next minimizes its Stage 2 cost of granting support would yield this as the optimum.

strictly decreasing in ψ_A, this implies that, since at $\tilde{\psi}_A$ A is indifferent between pooling and separation, at $(1-\phi)\underline{\psi}_B$ A must strictly prefer pooling. Then A sets $\psi_A = \tilde{\psi}_A$ and induces pooling.

Suppose that Case 3 holds. Suppose that B prefers pooling, i.e. $p \geq \frac{1-\phi(1-\phi)}{2-\phi(3-\phi)}$. Then B always sets $\psi_B = \overline{\psi}_B$ regardless of ψ_A, so A sets $\psi_A = \overline{\psi}_A$. Suppose instead that B always prefers separation, i.e. $p \leq \frac{1-\phi(1-\phi)}{2-\phi(3-\phi)}$. Then A can either induce pooling by setting $\psi_A = (1-\phi)\underline{\psi}_B$ or induce separation by setting $\psi_A = \overline{\psi}_A$. A's utility from pooling is

$$\mathbb{E}U_A^{\mathbb{P}}\big((1-\phi)\underline{\psi}_B\big) = (1-p(2-\phi)-\phi)^2(1-\phi)\underline{\psi}_B,$$

while its utility from separation is $\mathbb{E}U_A^{\mathbb{S}}\big(\overline{\psi}_A\big) = \frac{\overline{\psi}_A(p(2-\phi)-1)}{1-\phi}$. Then $\mathbb{E}U_A^{\mathbb{S}} \geq \mathbb{E}U_A^{\mathbb{P}}$ implies (and is implied by)

$$\overline{\psi}_A \geq \frac{(1-p(2-\phi)-\phi)^2(1-\phi)^2}{p(2-\phi)-1}\underline{\psi}_B. \tag{24}$$

Then clearly A induces separation by setting $\psi_A = \overline{\psi}_A$ if this condition holds and induces pooling by setting $\psi_A = (1-\phi)\underline{\psi}_B$ otherwise. Recalling that we are in Case 3 and B always prefers separation, the condition can be rearranged as

$$p \geq \frac{\overline{\psi}_A - \sqrt{t\overline{\psi}_A\left(\overline{\psi}_A - 4(1-\phi)^2\underline{\psi}_B\right)}}{2(1-\phi)^2(2-\phi)\underline{\psi}_B} + \frac{1-\phi}{2-\phi}\ (=T_p). \tag{25}$$

Examining the right-hand side of Condition 24, observe that whenever $\phi > 0$, it follows that

$$\lim_{p\downarrow\frac{1}{2-\phi}} \frac{(1-p(2-\phi)-\phi)^2(1-\phi)^2}{p(2-\phi)-1}\underline{\psi}_B = \infty.$$

implying that approaching the boundary of Case 3 from within the case, Condition 24 is never satisfied. Next, if $\phi = 0$, to be in Case 3 we must have $p \geq 1/2$. Given this, B is indifferent to separation rather than strictly dispreferring it (implying that A is indifferent) only when $p = 1/2$. These observations imply that the right-hand side of Condition 25 must be greater than or equal to $\frac{1}{2-\phi}$. The proposition follows. □

Proof of Proposition F.2. The Condition 24 LHS increases in $\overline{\psi}_A$ and RHS increases in $\underline{\psi}_B$. □

Proof of Lemma G.1. As discussed, A's choice of ϕ_A cannot determine whether pooling or separation occurs. If pooling occurs, A's Stage 1 expected utility is

$$\mathbb{E}U_A^{\mathbb{P}} = \left((1-p)\phi_A - (1-2p)\right)s_A^*(p;\phi_A) - \left(p\phi_B - (2p-1)\right)s_B^*(p;\phi_B).$$

Suppose $p \leq 1/2$ and $\phi_A < \frac{1-2p}{1+p}$. Then $\frac{\partial \mathbb{E}U_A^{\mathbb{P}}}{\partial \phi_A} = 0$. Suppose instead that either $\phi_A > \frac{1-2p}{1+p}$ or $p \geq 1/2$ (or both). We have $\frac{\partial \mathbb{E}U_A^{\mathbb{P}}}{\partial \phi_A} = 2(1-p)((1-p)\phi_A - (1-2p))\psi_A > 0$. Then given that pooling occurs, $\phi_A = \overline{\phi}_A$ is always optimal. Given that separation occurs, A's expected utility is not a function of ϕ_A and similarly, $\phi_A = \overline{\phi}_A$ is always optimal. A symmetric argument applies to B, except any $\phi_B > 1 - \frac{\psi_A}{\psi_B}$ leads to separation in Stage 2. □

Proof of Proposition G.1. Analysis of the Stage 2 subgame is as before. Next, Lemma G.1 tells us 1. $\phi_A = \overline{\phi}_A$ is always optimal for A and 2. given that B chooses to induce pooling, the largest such value of ϕ_B is selected, namely $1 - \frac{\psi_A}{\psi_B}$. We are left to determine which of two candidates is optimal for B: pooling with $\phi_B = 1 - \frac{\psi_A}{\psi_B}$ or separation with $\phi_B = \overline{\phi}_B$.

Utility to B from separation is $\mathbb{E}U_B^{\mathbb{S}} = -p\psi_A + (1-p)\psi_B$. To determine utility to B from pooling, allow two cases: $p \leq 1/2$ and $p > 1/2$. Suppose first that $p \leq 1/2$. Then utility from pooling is

$$\mathbb{E}U_B^{\mathbb{P}} = \frac{(-p\psi_A + (1-p)\psi_B)^2}{\psi_B} - c_A^*(p; \overline{\phi}_A)\big((1-p)\overline{\phi}_A - (1-2p)\big).$$

Given the assumed constraints on possible parameter values, $\mathbb{E}U_B^{\mathbb{S}} \geq \mathbb{E}U_B^{\mathbb{P}}$ must follow.

Suppose instead that $p > 1/2$. Then utility from pooling is

$$\mathbb{E}U_B^{\mathbb{P}} = \frac{(-p\psi_A + (1-p)\psi_B)c_B^*\big(p; 1 - \frac{\psi_A}{\psi_B}\big)}{\psi_B} - \psi_A\big((1-p)\overline{\phi}_A - (1-2p)\big)^2.$$

Then $\mathbb{E}U_B^{\mathbb{S}} \geq \mathbb{E}U_B^{\mathbb{P}}$ implies (and is implied by) $p \leq T'_p$.

Suppose that $p \geq T'_p$ and B induces pooling. To see that $c_B^* = 0$, observe that $c_B^*\big(p; 1 - \frac{\psi_A}{\psi_B}\big) > 0$ implies $p < \frac{\psi_B}{\psi_A + \psi_B}$, which contradicts $p \geq T'_p$.

Finally, observing that $T'_p > 1/2$, I find that T'_p is always the threshold dividing the region of p in which the specified separating equilibrium exists from that in which the specified pooling equilibrium exists. □

Proof of Proposition G.2. We have $\frac{\partial T'_p}{\partial \psi_A} = -\frac{\psi_B}{\psi_A^2(2-\overline{\phi}_A)^2} < 0$, $\frac{\partial T'_p}{\partial \psi_B} = \frac{1}{\psi_A(2-\overline{\phi}_A)^2} > 0$, and $\frac{\partial T'_p}{\partial \overline{\phi}_A} = \frac{2(\psi_B - (1-\overline{\phi}_A)\psi_A)}{\psi_A(\overline{\phi}_A - 2)^3} > 0$. □

Proof of Proposition H.1. **Case 1:** $p \leq 1/2$**.** Suppose that P_B selects $\phi \leq \min\Big\{1 - \frac{p}{1-p}, 1 - \frac{\psi_A}{\psi_B}\Big\}$. Expected utility to P_B is

$$\mathbb{E}U_{P_B} = \big(\phi p + (1-2p)\big)\psi_B,$$

which is maximized at $\phi = \min\Big\{1 - \frac{p}{1-p}, 1 - \frac{\psi_A}{\psi_B}\Big\}$. Suppose next that P_B selects $\phi \in \Big(1 - \frac{p}{1-p}, 1 - \frac{\psi_A}{\psi_B}\Big]$. Expected utility to P_B is

$$\mathbb{E}U_{P_B} = (1-\phi)\big((1-p)\phi + 2p - 1\big)\psi_A + \big(\phi p + (1-2p)\big)\psi_B. \tag{26}$$

This has a critical point at

$$\phi^* = \frac{(2-3p)\psi_A + p\psi_B}{2(1-p)\psi_A}. \tag{27}$$

The second derivative test demonstrates that this is globally concave in ϕ. But notice that $\phi^* > 1 - \frac{\psi_A}{\psi_B}$, such that if any value of $\phi \in \left[0, 1 - \frac{\psi_A}{\psi_B}\right]$ were optimal, it must be $1 - \frac{\psi_A}{\psi_B}$. Then we are left to compare expected utility from pooling at $1 - \frac{\psi_A}{\psi_B}$ to that from separation. The former is Expression 26 setting $\phi = 1 - \frac{\psi_A}{\psi_B}$. The latter is simply ψ_B. The latter is strictly greater than the former, such that separation is always strictly preferred.

Case 2: $p \geq 1/2$**.** Suppose that P_B selects $\phi \leq \min\left\{2 - \frac{1}{p}, 1 - \frac{\psi_A}{\psi_B}\right\}$. Expected utility to P_B is

$$\mathbb{E}U_{P_B} = (1-\phi)\big((1-p)\phi + 2p - 1\big)\psi_A.$$

This has a critical point at

$$\phi^* = \frac{2-3p}{2(1-p)}.$$

The second derivative test demonstrates that this is globally concave in ϕ, but note for later that $\phi^* < 2 - \frac{1}{p}$ coincides with $p > 2 - \sqrt{2}$.

Suppose next that P_B selects $\phi \in \left(2 - \frac{1}{p}, 1 - \frac{\psi_A}{\psi_B}\right]$. Expected utility to P_B is as in Expression 26, and so the critical point is as in Expression 27. But as before, $\phi^* > 1 - \frac{\psi_A}{\psi_B}$.

We are left to perform three expected utility comparisons: separation vs. 1. pooling at $\phi = \frac{2-3p}{2(1-p)}$ (when $p > 2 - \sqrt{2}$), 2. pooling at $\phi = 2 - \frac{1}{p}$ (when $p \leq 2 - \sqrt{2}$), and 3. pooling at $1 - \frac{\psi_A}{\psi_B}$. The third comparison was already performed in Case 1, demonstrating that separation is strictly preferred. Performing the second comparison also shows that separation is strictly preferred. The first comparison implies that pooling is preferred if and only if $\psi_B \leq \frac{p^2}{4(1-p)}\psi_A$.

The final step, then, is to determine what P_A prefers to do when $\psi_B \leq \frac{p^2}{4(1-p)}\psi_A$ and $p > 2 - \sqrt{2}$. Suppose that P_A selects $\phi \leq \min\left\{2 - \frac{1}{p}, 1 - \frac{\psi_A}{\psi_B}\right\}$. Expected utility to P_A is

$$\mathbb{E}U_{P_A} = \big((1-p)\phi + 2p - 1\big)\psi_A,$$

which is clearly increasing in ϕ, implying a maximum at the upper corner. Suppose next that P_A selects $\phi \in \left(2 - \frac{1}{p}, 1 - \frac{\psi_A}{\psi_B}\right]$. Expected utility to P_A is

$$\mathbb{E}U_{P_A} = \big(p - (1-\phi)(1-p)\big)\psi_A + (1-\phi)\big(1 - p(2-\phi)\big)\psi_B. \tag{28}$$

This has a critical point at

$$\phi^* = \frac{(1-p)\psi_A + (3p-1)\psi_B}{2p\psi_B}. \tag{29}$$

The second derivative test demonstrates that this is globally concave in ϕ. But notice that $\phi^* > 1 - \frac{\psi_A}{\psi_B}$, such that if any value of $\phi \in \left[0, 1 - \frac{\psi_A}{\psi_B}\right]$ were optimal, it must be $1 - \frac{\psi_A}{\psi_B}$. Then we are left to compare expected utility from pooling at $1 - \frac{\psi_A}{\psi_B}$ to that from separation. The former is Expression 28 setting $\phi = 1 - \frac{\psi_A}{\psi_B}$. The latter is simply ψ_A. The latter is strictly greater than the former, such that separation is always strictly preferred.

Then one type of P always strictly prefers separation. This can always be induced by selecting ϕ sufficiently large, such that failure to do so is informative in itself. □

Proof of Lemma 8. First, it is clear that nothing outside of $[p, l]$ can be optimal. Next observe that p will be optimal if and only if $\frac{d}{dx_2} U_2^M(x_2) < 0$, with l optimal otherwise. This condition corresponds to $x_2 < -\frac{1}{2\beta}$. □

Proof of Lemma 9. Follows from Lemma 8 and in-text analysis. □

Proof of Lemma 10. It is clear that utility for both L and P (and therefore willingness to pay M) is higher at $x_1 = p$ compared to $x_1 < p$ and at $x_1 = -\frac{1}{2\beta}$ compared to $x_1 > -\frac{1}{2\beta}$. Next, within $[p, -\frac{1}{2\beta}]$, the utility of L and P will be linear with the exception of a kink at l. It follows that one of p, l, and $-\frac{1}{2\beta}$ must be optimal. □

Proof of Proposition 11. Define

$$T' \equiv -\frac{1}{\delta(l-p)} k^2 + \left(1 + \frac{l}{\delta(l-p)}\right) k$$

and conjecture

$$T = \min\left\{l + \delta(l-p), T'\right\}.$$

By Lemma 10, we need only consider policy at p, l, and k. Expected policy utility to I from M implementing p in Stage 1 is $\mathbb{E}U_1^I(p) = -|i-p| + \delta(-|i-p|)$, such that

$$\begin{aligned} \mathbb{E}U_1^L(p) &= (1+\delta)\big(-(l-p)\big), \\ \mathbb{E}U_1^P(p) &= 0. \end{aligned}$$

Next, expected utility to I from M implementing l in Stage 1 is $\mathbb{E}U_1^I(l) = -|i-l| + \delta(-|i-p|)$, such that

$$\begin{aligned} \mathbb{E}U_1^L(l) &= \delta\big(-(l-p)\big), \\ \mathbb{E}U_1^P(l) &= -(l-p). \end{aligned}$$

Finally, expected utility to I from implementing k in Stage 1 is $\mathbb{E}U_1^I(k) = -|k-i| +$

$\delta\left(-|i-l|\right)$, such that

$$\mathbb{E}U_1^L(l) = -\Big(k-l\Big),$$
$$\mathbb{E}U_1^P(l) = -\Big(k-p\Big) + \delta\big(-(l-p)\big).$$

Recall of course that $U^M = \big(1-\gamma(x_0)\big)\cdot U^L + \gamma(x_0)\cdot U^P$. Applying this fact, if $x_0 < T'$, then l is optimal. If instead $T' < x_0$, then k is optimal.

Our final task is to determine when a coalition forms. Notice first that P would always benefit from a coalition, so we ask only when L benefits from it. For comparison's sake, we must write L's expected utility from the status quo. We have $\mathbb{E}U_1^L(x_0) = -(x_0 - l)$. Now if $x_0 < T'$, then l is preferable to the status quo if and only if $l + \delta(l-p) < x_0$. If $T' < x_0$, then k is preferable to the status quo. That is to say, L is willing to join a coalition (and it forms) if and only if $x_0 > T$. The proposition follows. □

Proof of Proposition 12. Define

$$T_P^B \equiv \frac{q(b-l) + (1-q)b + \delta\big(q(b-p) + (1-q)(b-l)\big)}{1-q},$$
$$T_L^B \equiv \frac{q(l-b) + (1-q)\big(l-(b-p)\big) + \delta\big(q(p-b) + (1-q)(l-b)\big)}{1-q}.$$

In Stage 1, expected utility to I from a bureaucracy will be $\mathbb{E}U_{1B}^I = (1+\delta)(-|i-b|)$. As policy will go to l if M is activated (given the proof to Proposition 11 and assumption in footnote 39), expected utility to I from no bureaucracy is

$$\mathbb{E}U_1^I = q\big(-|i-l| + \delta(-|i-p|)\big) + (1-q)\big(-|i-x_0| + \delta(-|i-l|)\big).$$

Recalling the expression for U^M, we find that $\mathbb{E}U_{1B}^I > \mathbb{E}U_1^I$ coincides with $x_0 > T^I$. As a coalition forms when both players are able to agree to it, we have $T^B = \max\left\{T_P^B, T_L^B\right\}$.

Finally, observe that if a coalition forms without the creation of a bureaucracy, one player must be weakly worse off from allowing it. □