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Nominations for Sale¹

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Abstract

Models of nomination politics in the US often find “gridlock” in equilibrium because of the supermajority requirement in the Senate for the confirmation of presidential nominees. A blocking coalition often prefers to defeat any nominee. Yet empirically nominations *are* successful. In the present paper we explore the possibility that senators can be induced to vote contrary to their nominal (gridlock-producing) preferences through contributions from the president and/or lobbyists, thus breaking the gridlock and confirming the nominee. We model contributions by the president and lobbyists according to whether payment schedules are conditioned on the entire voting profile, the vote of a senator, or the outcome. We analyze several extensions to our baseline approach, including the possibility that lobbyists may find it more productive to offer inducements to the president in order to affect his proposal behavior, rather than trying to induce senators to vote for or against a given nominee.

1. INTRODUCTION

Models of preference-based voting in committees and elections have a long history and distinguished pedigree. The spatial model of majority rule, borrowed from Hotelling (1929) and popularized by Downs (1957) and Black (1958), is now well established in the political economy lexicon. Their well-known convergence-to-the-median equilibrium result – Black’s Median Voter Theorem – is a staple of the literature on majority rule.

Institutional features, however, may constrain or alter the convergence logic of simple majority rule. In the present paper we take up the use of supermajority procedures in legislatures like the U.S. Senate. From the seminal work of Krehbiel (1998) it is well known that when a motion requires a supermajority to pass, it may not be possible to alter an existing status quo. If, for example, 60 votes are required in a 100-person legislature to pass a particular motion, then any coalition of 41 may block this motion. For some status quo positions, even those not at the median ideal point, there may exist *no* motion able to overcome this obstacle. Krehbiel calls the *gridlock region* the range of prospective status quo points which cannot be dislodged when a specific supermajority rule is in effect. We are interested in what happens when gridlock is imminent. Are there ways in which enough agents can be induced to vote contrary to their nominal preferences to break out of the gridlock?

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1.1. Context

This question may be posed in general settings, but we have a specific one in mind. The Supreme Court is one of the three branches of government that make policy in the US, not through legislation or executive edicts but rather through its rulings. On a case before the Court, each justice makes two decisions. The first, called the *vote on the merits*, is a decision on whether to affirm or reverse a ruling from a lower court. A strict plurality in favor of reversal is decisive; a tie or smaller vote affirms the earlier ruling. The vote on the merits affects only the parties in dispute and, for this reason, is often of little importance for public policy.² The second decision is each justice's *opinion*, giving the statutory or constitutional rationale for his or her vote on the merits. In principle, each justice may write a separate opinion. Often, groups of justices sign a common opinion after having bargained over opinion language. The Court's rationale becomes binding on lower courts, affecting their disposition of similar cases in the future and hence taking on public policy significance, if there is majority agreement.³ Thus, the question arises of whether there exists a majority consensus on moving the status quo to some new policy. Inasmuch as the Court is a nine-person body, if policy may be represented as unidimensional, and if justices have single-peaked preferences, then the policy preference of the median justice (that is, his or her ideal language and rationale for a majority opinion) will prevail.

Imagine, now, a death or retirement of a justice. The eight-person Court continues to function, but without a unique median. If the status quo policy lies in the interval between the ideal points of the fourth and fifth justices on this eight-member Court, the policy cannot be revised since no coalition of five justices will agree to a change; if it lies outside this interval, on the other hand, bargaining is assumed to bring it inside the interval (Snyder and Weingast, 2000; Krehbiel, 2004, ²⁰⁰⁵, 2007a; Rohde and Shepsle, 2007).

While this is what we would expect for the surviving eight-person Court, this is not the end of the story. The departure of a justice is a *nomination inducing event* in which the president may propose a new justice to the Court who, if confirmed, will generate a newly defined median in the full-complement, nine-person Court. Confirmation requires the "advice and consent" of the Senate. Nominally, this is a simple majority requirement. But the U.S. Senate operates according to the principle of unlimited debate. In order to end debate on a motion—in this case the motion to confirm a presidential nominee—and move directly to a vote, *cloture* must be secured, and this requires an absolute supermajority of sixty votes.⁴ Any group of 41 senators may keep the Senate from voting on confirmation by blocking cloture. This leads to the possibility of gridlock in which any nominee preferred by the president (because of the policy forecast for the full nine-member Court) is opposed by at least 41 senators.

There are several models of this strategic interaction between president, Senate, and Court. We shall elaborate one by Rohde and Shepsle (2007) shortly. Many of these models find that gridlock obtains under a wide range of conditions. *A fortiori*, as politics in America has grown more polarized (in a manner that will be made precise), the set of circumstances in which gridlock prevails has grown wider. In the present paper we explore a set of options available to the president and special interest groups to offer inducements to senators to vote contrary to their nominal preferences, thereby cutting the Gordian knot and breaking the gridlock.

²However, when the United States is a party to the suit, a decision on the merits can have significance, even if a Court majority does not agree on a constitutional rationale.

³This occurs if a majority of justices sign the same opinion. It also occurs, even if separate opinions are drafted, if a majority of them share common agreements (though they may differ in other respects).

⁴This rule (Senate Rule 22) has been in effect since 1975. Between 1917 and 1975 cloture was obtained with the support of two-thirds of those present and voting. Before 1917, there was no rule to end debate short of unanimous consent.

1.2. Model of Supreme Court Appointments

Rohde and Shepsle (2007) begin with a policy space, $[0,1]$, along which are arrayed the ideal points of the one hundred senators, S_s . The ideal point of the president, P , is placed at an extreme location, mainly for ease of presentation. (All results, appropriately adjusted, apply for a more moderate president.) The senators and the president possess symmetric, strictly single-peaked utility functions on $[0,1]$. Some of their ideal points are displayed in Figure 1. In particular, S_{41} and S_{60} define the *gridlock region*. For any status quo located in $[S_{41}, S_{60}]$, no alternative is preferred to it by 60 or more senators. If R is such a status quo (or reversion point), then any move to the left is opposed at a minimum by all senators at or to the right of S_{60} —forty-one in all—and any move to the right is opposed at a minimum by all senators at or to the left of S_{41} .

A Court resignation or death – a nomination-inducing event – leaves an eight-person Court in place. Let R be the policy position of this Court; we assume this is the commonly known outcome of bargaining (the details of which we suppress here).⁵ Any nomination by the president, if confirmed by the Senate, produces a nine-person Court with a well-defined median whose ideal point will be the new Court policy position. Label this E . In Figure 1, E is to the right of R , but its exact location is a function of the position of the justice nominated by the president. The cut point between R and E , labeled X , partitions senators into those who prefer R to E and those who prefer E to R . In effect, in voting on whether to confirm a presidential nominee, policy-motivated senators compare R and E . They should not be seen as expressing a preference on the nominee's ideology except as it determines the new Court's policy equilibrium, E . Since R lies in the gridlock region in Figure 1, the nominee cannot secure the sixty votes necessary for confirmation. Fewer than sixty votes lie on E 's side of the cutpoint.

From the analysis in Rohde and Shepsle (2007), the conditions for gridlock would appear to be a commonplace. As American politics has become more polarized –this is reflected in a “stretching” of the gridlock region with S_{41} pulled to the left and S_{60} to the right with the disappearance of moderate senators –situations like that depicted in Figure 1 become potentially more common.

But presidents are not limited to proposing nominees. In addition, they may be thought to possess an *inducements budget* consisting of divisible, targetable payments to senators in exchange for their support. (We have in mind here earmarked appropriations for state-specific projects, campaign contributions, presidential endorsements of incumbents up for reelection, presidential support for pet bills of senators, etc.) And the president is not the only agent with an inducements budget and an interest in influencing support for (or opposition to) a nominee. Special interests with resources valuable to senators are active in the process. The availability of inducements means that nominations effectively are for sale. We propose an approach, borrowed from models of special interest lobbying (especially Grossman and Helpman 1994), that provides conditions in which the gridlock may be mitigated. Special interests, including the president himself, provide the lubricant that “greases the skids” for successful nomination results.

1.3. Overview of Results

We introduce a model in which both local lobbies and the president can offer inducements. In particular, we will assume that the president is a general lobbyist free to offer inducements to any senator, while lobbies are local and thus senator-specific. The president and local lobbies, of course, may be competing against each other. Groseclose and Snyder (1996) have shown

⁵See Snyder and Weingast (2000) and Krehbiel (2005) on how such bargaining takes place. This outcome serves as the reversion point (hence R) if the Senate does not approve a ninth justice.

that buying a super-majority might be cheaper than buying a strict majority because doing so discourages counteractive lobbying. Taking a different modeling path, applying the methodology of Console-Battilana (2005, ²⁰⁰⁷) and Dal Bo (2007), we find that when inducements can be made conditional on the entire voting profile, the president can defeat any competing lobbies and secure the confirmation of his nominee by targeting a supermajority of votes, and can do so at no cost, i.e., no contributions are paid in equilibrium. In Dal Bo's model a single lobby is able to create a prisoners' dilemma among voters by locking them into an equilibrium in which no one is pivotal, and hence every voter will be willing to vote against her preferred outcome for an infinitesimally small contribution. (Since she is not pivotal, she cannot affect the outcome however she votes. Thus, it would be irrational for her not to vote against her preferred outcome, since she would then forego the small contribution with no compensating benefit.) In addition to extending these results, we explore other alternatives that still allow the president to overcome the gridlock.

In section 2 we describe the conventions and maintained assumptions of our analysis. In section 3 we present our main results in which the president and interest groups may offer inducements to senators to vote in particular ways, where the inducements schedule is conditioned on the entire voting profile. In section 4 we extend these results in two ways. We constrain inducement schedules to those that only may be conditioned on an individual senator's vote (rather than the entire voting profile)⁶. We also examine the possibility of interest groups focusing inducements on the nomination by the president rather than on the votes of senators. In section 5 we comment on the robustness of our model and suggest future research paths. Section 6 relates our work to the existing literature and section 7 concludes. All proofs of results are found in the Appendix.

2. CONTRIBUTIONS MODELS

2.1. Motivation

From casual empiricism, the hypothesis of pure policy voting by senators on Supreme Court nominations appears to produce "too many" instances of gridlock in which no nominee passes the confirmation test. Gridlock theories imply that, following the departure of a justice from the full Court, an eight-member Court remains in place. Yet, a reduced Court is typically a temporary circumstance. So we want to identify mechanisms by which the gridlock is overcome.⁷

2.2. Conventions

To proceed we specify the notation and conventions to be used in the theoretical development. Senators are labeled by their ideal points, S_s , and ordered from left to right. The filibuster gridlock region is $[S_{41}, S_{60}]$ —there are 41 senators at or to the left of S_{41} and there are 41 senators at or to the right of S_{60} . Throughout we assume, without loss of generality, that the president's ideal policy lies to the right of the gridlock region. A symmetric set of conventions may be written for a left-wing president and, with small modifications, for a moderate president. Nothing of substance is sacrificed by restricting things as we do. The original nine-person Court is described by a left-to-right ordering of the ideal points of the justices, $\{J_1, \dots, J_9\}$. The eight-person Court resulting from a departure of one of the justices is an order-preserving relabeling,

⁶Snyder (1991) is an early attempt to model lobbyists buying legislative votes. He models the lobbyist bribe function as contingent on a legislator's vote, not the entire distribution of votes. His results are a special case of ours. We will review the relevant literature more systematically below. Inducement schedules restricted to be conditioned on the final *outcome*, rather than the entire vote profile or the individual vote of a senator, are explored in a separate appendix available upon request.

⁷Although a reduced court is a temporary aberration in the case of the Supreme Court, it is not at all uncommon for vacancies in the lower federal courts to remain unfilled, sometimes for years at a time, owing to gridlock in the Senate (which must confirm such appointments).

$\{J_1^*, \dots, J_8^*\}$. R represents the commonly known reversion policy of the eight-person Court after the departure of a justice from the original nine-person Court. J_N is the president's nominee. E is the equilibrium policy of the nine-person Court resulting from the confirmation of the president's nominee. X is the cut point between R and E : senators to the left of X prefer R to E whereas senators to the right of X prefer E to R . $s = x$ is the first senator with an ideal point to the left of or equal to X , i.e. $S_x \leq X$ and $S_{x+1} > X$. Finally, the president is a "he," a senator is a "she," and an interest group is an "it."

In words, there is a retirement on the Court. The remaining eight-member Court produces policy at R . If R is in the filibuster gridlock region, any change from R (through a new appointment) will be opposed by at least 41 senators –so the filibuster prevents a vote on any presidential nominee.

In order for the (conservative) president to succeed in having the Senate confirm a nominee, producing new policy $E (> R)$, he must induce each senator in $\{S_{41}, \dots, S_x\}$ to vote contrary to her policy preferences. If successful, the president can overcome the filibuster and move the policy outcome to the pivotal justice in the new nine-person Court. As shown in Rohde and Shepsle (2007), regardless of how extreme the *nominee* is, the most extreme *pivotal justice* will be the fifth justice in the pre-confirmation eight-person Court.⁸

Two classes of agents may attempt to influence senatorial voting. The president, in addition to nominating a candidate of a particular type, may offer compensation to any of the one hundred senators. Special interest groups (lobbyists), on the other hand, are assumed to be *senator-specific* in the sense that each of them may attempt to influence a specified senator only.

The form that their respective offers take, to be made precise below, is a menu of payments to senators (Bernheim and Whinston, 1986). A menu offers contingent payments. Contingent on what? We consider two alternatives: payments conditional on the *entire profile of votes by all senators* or on the *actual vote* of a senator. The first takes the form "if senator s votes v_s and the remaining profile of votes is $v_{-s} = (v_1, \dots, v_{s-1}, v_{s+1}, \dots, v_{100})$, then her compensation is $c_s(v)$, where $v = (v_s, v_{-s})$." The second takes the form "if senator s votes v_s then her compensation is $c_s(v_s)$." We organize the analysis in terms of two considerations: (1) upon which of these conditions the offer of compensation is contingent, and (2) on whether the president alone or the president together with special interest groups may offer inducements to senators for their votes. As is seen below, we emphasize conditioning on the entire profile in the main part of the analysis, developing the other possibilities as extensions. We will also explore in the section on extensions the possibility that interest groups offer inducements to the *president* to nominate in a manner they prefer, instead of bribing senators to vote as they prefer.

2.3. Maintained Assumptions

In order to avoid repeating contextual details of our models, we will maintain the following unless explicitly revised:

- There are three types of agents: a president (P), one hundred senators (S_s), and one hundred lobbies (L_s), where $s \in \{1, \dots, 100\}$.
- Each lobby is associated with a specific senator (hence we refer to it as a *local* lobby). It may offer contributions to at most its own senator. (In some models below lobbies are inactive and thus offer no contributions.)

⁸See proposition 0 of Rohde-Shepsle (2007).

- The president proposes a nominee (J_N) and may also offer contributions to any senator. (In some models below the president nominates only and may not offer contributions.)
- The policy outcome is assumed to be a point in $\mathbb{R}$. Each agent derives utility from this outcome according to a symmetric and strictly single-peaked utility function on $\mathbb{R}$, written $P(\cdot)$, $S_s(\cdot)$, and $L_s(\cdot)$, for the president P , senator S_s , and lobbyist L_s , respectively.⁹
- Each agent values policy and contributions additively. (In some models, senators also value the way they cast their vote.)
- Every senator votes for or against the nominee. If sixty or more vote in favor, the nominee is confirmed.
- The reversion policy outcome, upon a rejection of the president's nominee, is R . We normalize utilities so that $P(R) = S_s(R) = L_s(R) = 0$. We assume, without loss of generality, that the president's ideal policy lies to the right of R . This implies that the most extreme *pivotal justice* of any new nine-member Court will be the fifth justice in the pre-confirmation eight-person Court (J_5^*). If $R < P \leq J_5^*$, then the president may nominate a justice at P so that he or she becomes the new median, $J_5 = P$. If $R < J_5^* < P$, then the president will want to nominate any candidate to the right of J_5^* , since this will yield $J_5 = J_5^*(<P)$. We define $\bar{E}$ to be $\min\{J_5^*, P\}$ —this is the best outcome a president can achieve.
- For the confirmation outcome $E \geq R$, if $S_s(E) > 0$ or $L_s(E) > 0$, we say that the senator or the lobby, respectively, prefers E to R . If $S_s(E) < 0$ or $L_s(E) < 0$, we say the senator or the lobby prefers the reversion policy. If $S_s(E) = 0$ or $L_s(E) = 0$, we say the senator or the lobby is indifferent. (We do not assign any indifference-breaking rule.)
- Unless otherwise noted, senators are numbered in the order of their ideal points, so that $S_s \leq S_{s+1}$.
- An alternative ranking will occasionally be used. It is defined by the mapping $LS_s(E) = L_s(E) + S_s(E)$. This is the sum of normalized utilities of the s^{th} senator and lobbyist. For each E , number senators so that $LS_s(E) \leq LS_{s+1}(E)$. Note, for $E' \neq E''$ and two particular senators i and j , that we can have $LS_i(E') < LS_j(E')$ and $LS_i(E'') > LS_j(E'')$, i.e., the ordering is not necessarily preserved over E .¹⁰ Furthermore, by the earlier normalization assumption, $LS_s(R) = 0$.
- We assume that the functions $P(\cdot)$, $S_s(\cdot)$, and $L_s(\cdot)$ are common knowledge, as well as the location of the reversion point R and the policy E resulting from confirmation of the nominee J_N .

3. CONTRIBUTIONS CONDITIONAL ON ENTIRE VOTING PROFILE

3.1. Both Lobbyists and President Offer Inducements

In our most general case, we allow each senator to receive contributions from a local lobby and the president. In this subsection we assume contribution schedules are conditional on the entire voting profile. Each senator observes the contributions offered to her by her local lobby

⁹The *name* of a generic senator is either senator s or S_s . The *ideal point* of senator s is also S_s . The *utility function* of senator s is $S_s(\cdot)$. Context should clear up any ambiguities.

¹⁰Consider $LS_{41}(E)$, the function that maps E to the sum of the payoffs of the forty-first senator and associated lobbyist. The identity of the forty-first senator and her lobbyist associated with different elements of the domain of E may vary, so the function $LS_{41}(E)$ is not necessarily continuous.

and by the president. (She does not observe offers made to other senators.) Her objective is to maximize the sum of personal policy utility plus contributions received.¹¹

The Game

Stage 1: Given a commonly known reversion policy R , the president proposes a nominee that, if approved, will lead to commonly known Court policy E .

Stage 2: Simultaneously and without coordination, the president and the local lobbies offer contributions. The president offers c_{ps}^v to senator s , conditional on the entire voting profile, $\mathbf{v}$, while each local lobby L_s contributes only to its corresponding senator, c_{ls}^v , also conditional on the entire voting profile.

Stage 3: Each senator observes the president's nominee and the contributions offered to her to vote for or against the nominee, and then votes. If more than 40 senators vote against J_N , then R is sustained. Otherwise, E results.

We focus on subgame perfect pure Nash equilibrium. We define the following

Definition 1: A contribution schedule is said to be *consequential* if non-pivotal legislators are offered zero contributions, both on and off the equilibrium path.¹²

Claim 1: *If local lobbies and the president condition their respective contributions on the entire voting profile, there exists an equilibrium in which (i) a nominee yielding the policy outcome preferred by the president, $\bar{E}$, is proposed and approved, and (ii) the president pays zero contributions on the equilibrium path of play. Furthermore, all equilibria in which consequential strategies are used must have these two properties.*¹³

The formal proof is found in the Appendix, but we provide some intuition here. Since we are looking for subgame perfect Nash equilibria, we solve the game backwards. For any nomination that yields $\bar{E}$ if confirmed, there is always an equilibrium in which at least sixty-one senators vote in favor of the proposal, each local lobby offers zero to its senator for any such voting profile, and the president offers zero contribution to any senator for any such voting profile. It is easy to see that this is an equilibrium. No senator is pivotal, and thus no senator has an incentive to deviate at stage 3; the outcome from such a deviation would not change and her contributions would still be zero. No local lobby can influence the outcome, since its corresponding senator is not pivotal; hence no local lobby has an incentive to deviate at stage 2. The president is obtaining $\bar{E}$, his preferred policy, for free; so the president has no incentive to deviate at stage 1. Thus, in stage 1 the president would not deviate by proposing some other nominee. Any such deviation would involve proposing a nominee yielding a policy he would not find superior.¹⁴

Although an equilibrium in which the president obtains his preferred policy for free may seem a very peculiar case, we show that all possible equilibria possess this property if consequential strategies are used. Consider any potential equilibrium in which, contrary to our result, the president either pays positive contributions or he does not obtain his preferred policy or both.

¹¹The strategy sets of the president and lobbyists consist of mappings from the set of voting profiles to a payment to a senator. A senator's strategies map the payments received plus the policy utility to a yea or nay vote.

¹²Requiring contributions to be consequential is equivalent to using an equilibrium refinement. We are not restricting the set of strategies, but rather choosing a subset of all possible equilibria.

¹³Note that the latter property does not say anything about off-the-equilibrium-path offers. The contributions paid on the equilibrium path of play are the action taken in equilibrium, but there are different strategies consistent with the same action.

¹⁴While we do not eliminate weakly dominated strategies from the possible strategies a priori, no weakly dominated strategy is ever played in equilibrium.

The president has a deviation. He can play a *pivot strategy* (defined below) to induce strictly more than sixty senators to vote for his proposal, and pay each one of them only a vanishingly small $\varepsilon > 0$. Note, first, that for any potential equilibrium, E , each senator is offered no contribution from her local lobby whenever she is not pivotal. (Otherwise the lobby has a deviation: why should it pay anything to its senator if she does not affect the result?) Second, note that since no senator is pivotal, if the president induces sixty-one senators to vote for the proposal, then each one of these senators need only be paid $\varepsilon > 0$. If she is offered ε by the president to vote $v_s = 1$, senator s will do so since she receives ε more in contributions than if she voted $v_s = 0$. (Her personal utility from the outcome itself is $S_s(E)$ regardless of her vote since she is not pivotal.) In effect, as long as the president can construct a contribution schedule for s such that $v_s = 1$ is a dominant strategy for any possible voting profile, then he can create a prisoners' dilemma by offering this schedule to sixty-one senators. Accordingly, the president will prevail, *even if all lobbies and all senators are against his proposal*.¹⁵

We now show that for any potential outcome not satisfying either property described in Claim 1, the pivot strategy (employed in Console Battilana 2007) constitutes a deviation; it thus rebuts the equilibrium claim for this prospective outcome. The pivot strategy for the president targets a group of sixty-one senators. Given any senator s , denote $\widehat{c}_{ls}^{0,v-s}$ as the contribution offered by lobby L_s to senator s in the candidate equilibrium when $v_s = 0$ and the other ninety-nine senators vote according to profile v_{-s} . The president can play the following pivot strategy of offers to sixty-one senators:

Informally, the president is constructing a schedule that says “No matter what you are receiving to vote 0, I am always going to offer you ε more to vote 1, and I will also compensate you for your personal outcome-dependent utility loss if you are pivotal.” Here is the intuition for each circumstance displayed in table ??:

- a. If strictly less than 59 other senators vote 1, then senator s is non-pivotal. Regardless of her vote, the outcome will be R and her personal outcome-dependent payoff will be $S_s(R) = 0$. If she votes 0 the contribution offered to her from lobby L_s is $\widehat{c}_{ls}^{0,v-s}$. The president however offers $\widehat{c}_{ls}^{0,v-s} + \varepsilon$; hence voting 1 is indicated when strictly less than 59 others vote 1.
- b. If exactly 59 other senators vote 1, senator s is pivotal. If she votes 0 her payoff is $S_s(R) = 0$ plus any contribution she might receive from lobby L_s . If she votes 1, her personal payoff is given by $S_s(E)$ plus any contribution she might receive. The president offers $\widehat{c}_{ls}^{0,v-s} + \max[0, -S_s(E)] + \varepsilon$ for any voting profile with exactly 59 others voting 1. If $S_s(E) < 0$, that is, if the senator prefers R to E , then she would have a net gain of ε if she votes 1 rather than voting 0. If $S_s(E) \geq 0$ she would have a net gain of $S_s(E) + \varepsilon > 0$ by voting 1 instead of 0. Hence, when exactly 59 other senators vote 1, senator s 's best response is to vote 1.
- c. If strictly more than 59 senators other than s vote 1, i.e. at least 60 senators vote 1, then senator s is not pivotal, and the outcome is E regardless of her vote. If she votes 0, senator s has a personal outcome-dependent utility $S_s(E)$ and is offered $\widehat{c}_{ls}^{0,v-s}$ in contributions to vote 0. If she votes 1, the personal outcome utility will still be $S_s(E)$ and the president additionally offers $\widehat{c}_{ls}^{0,v-s} + \varepsilon$. Her net benefit will be ε higher if she votes 1.

¹⁵This remarkable conclusion follows from the capacity of the president to condition his offers to senators on the *entire voting profile* (and the inability of senators to cooperate among themselves). As we shall see, the president is not afforded this free ride when these assumptions are relaxed.

Therefore, given any voting profile, senator s 's best response is to vote 1.

We had started by assuming, contrary to our result, that there was a prospective equilibrium in which the president either paid positive contributions or the president did not obtain his most-preferred outcome. We have shown that the president's "pivot strategy" offer to senator s produces a dominant strategy for s —always vote with the president. Now we note that since the president can deviate from the prospective equilibrium by playing the pivot strategy targeted toward 61 senators, the president will actually have to pay only what he offered in the case in which strictly more than 59 senators vote 1 (row c in the table above). That is, since more than 59 other senators will vote 1, senator s is not pivotal. By consequentiality, the local lobbies do not pay any contributions in this voting profile. Therefore, when playing the pivot strategy with 61 senators, the president obtains the approval of any proposed policy at a cost of 61ϵ (vanishingly small).

We have thus shown that the president has a deviation from an alleged equilibrium that would either have cost him something in payments or prevented him from obtaining his preferred outcome. But if this deviation by the president is possible, then no such prospective equilibrium exists. If it were an equilibrium, then there could have been no deviation for the president.

Substantively, then, even if we allow for the possibility of local lobbies, there always exists an equilibrium in which the president proposes any nominee resulting in his preferred policy E and it is approved at essentially no cost to the president. Any nominee J_N to the right of the fifth justice in the current eight-member Court produces this outcome. Furthermore, from the assumption of consequential strategies, we obtain that all equilibria possess these properties.

This is a counter-intuitive result. Even if *all* lobbies and *all* senators dislike the president's nominee, the president can still manipulate the votes so that no one is pivotal, and hence deny influence to any local lobby or senator. The president will be able to impose his preferred nominee at essentially no cost.¹⁶ This raises an interesting possibility.¹⁷ It would pay the lobbyists to focus on offering inducements to the *president* to refrain from offering a nominee who would impose large costs on them. We address this possibility in the extensions section below.

We have demonstrated the power of the president when both he and local lobbyists may offer inducements to senators. The key feature is that each agent's promises may be made contingent on the *entire voting profile*. Before examining how this strong result weakens as specific assumptions are relaxed, we first complete this analysis by characterizing other lobbying scenarios—no inducements from any outside agent, only the president offers inducements, and only lobbyists offer inducements. Some turn out to be special cases of the result just established.

3.2. Neither Lobbies nor the President Offer Contributions

Consider the setting in which no contributions are possible from any agent. This is simply the original Rohde-Shepsle (2007) model. There the president proposes a nominee to fill a vacancy, and senators vote according to their preferences between R and E , the latter the median of the new nine-member Court determined by confirmation of the presidential nomination. As observed earlier, in this case there is often gridlock—whenever $R \in [S_{41}, S_{60}]$ there is insufficient support to confirm the nominee.¹⁸ When no inducements are available to senators, then they simply play their dominant (gridlock-producing) strategies.

¹⁶Note that we are assuming a non-binding budget constraint. If a senator is pivotal in equilibrium, the president can credibly commit to offer her more than the local lobby contribution plus her welfare loss in order to vote 1.

¹⁷We thank Torsten Persson for raising this possibility.

¹⁸here are other cases as well in which presidential preferences between E and R conflict with those of sixty or more senators for any choice of J_N .

3.3. Only the President Offers Contributions

Now assume only the president offers inducements; thus there are no local lobbyists. The president proposes a nominee that results in policy E if approved. In addition, the president may offer contributions to any senator s , conditional on the entire voting profile. Each senator votes in favor or against the proposal, $v_s = 1$ and $v_s = 0$, respectively. The stages of the game are the same as in subsection 3.1 (except now without lobbyists).

We look for subgame perfect pure Nash equilibria. Our next claim follows directly from Dal Bo (2007):

Claim 2—*If the president conditions contributions on the entire voting profile, there are multiple equilibria but all share the following characteristic: the president obtains his preferred policy $\bar{E}$ at zero cost.*

3.4. Only Local Lobbyists Offer Inducements

We have also examined the case in which only local lobbies may offer inducements (to their respective senators) to vote for or against the president's nominee. The president has the power to propose a nominee only. We show that in equilibrium the president nominates a candidate that produces the policy outcome E closest to his ideal that leaves senator 41 and her lobbyist with positive joint utility ($L_s + S_s > 0$). Thus 60 lobbies pay positive contributions to their senators (if required to induce that senator to vote in favor), while all other lobbies pay nothing. This nominee is confirmed.¹⁹

3.5. Ideological Cost

For the case of the president conditioning contributions on the entire voting profile, we have established that he can nominate any candidate, no matter how extreme, and obtain his preferred outcome $\bar{E}$. We have suggested that this counter-intuitive result is modified as we introduce more realism. Consider one such realistic modification.

Suppose senators bear an ideological cost for supporting the president's nominee. That is, quite apart from their valuation of the policy outcome on the Court (J_s^*), constituents may disapprove of their agent supporting a nominee (J_N) not to their liking, even if their senator were not pivotal. In effect, constituents assess *agent actions* as well as final outcomes. Moreover, the senator herself may find it ideologically distasteful to support an extreme nominee. We call the prospective penalty that she suffers, either electoral or psychological, *ideological cost*, defining it as $I(J_N - S_s)$. Each senator to the left of the cut-point X between R and E (hence $S_s(E) < 0$) incurs this ideological cost whenever she votes for the nominee. This cost is directly proportional to the distance between the ideal point of the proposed nominee and the ideal point of senator s . (The latter may be taken as a measure of median constituent preferences and/or the senator's own preferences.) The factor of proportionality is I .²⁰

We argue that the recruitment by the president of 61 votes will not come for free anymore; the president will have to compensate senators in $\{S_{40}, \dots, S_x\}$ for their ideological loss $-I(J_N - S_s)$.²¹

¹⁹A precise statement of this claim and its proof are available from the authors on request.

²⁰For tractability we assume that an ideological cost is borne only if a senator votes *contrary* to her constituency's preference between R and E (and then it is proportional to the distance between the nominee and the constituency ideal); no ideological cost is borne by senators who vote *with* their constituency on this pairwise decision (even if the option voted for is not very attractive to constituents). Thus, ideological cost *raises the price* for a senator's vote when she is being asked to vote against her (and her constituents') preferences.

²¹We assume here that it is up to the president to compensate senators for the ideological costs they bear. (If lobbyists could also do this, there are coordination issues that must be addressed, something beyond the scope of the present paper.)

Rather than targeting 61 senators and compensating them for their ideological loss (if any), the president could choose instead to recruit only 60 votes. In this case, each of the 60 senators would be pivotal and thus each of them would have to be compensated for ideological loss (if any), outcome-related utility loss (if any), and the contributions (if any) offered by local lobbyists for a vote against the proposal (holding the remainder of the voting profile fixed). There are multiple equilibria. To keep things straightforward, we focus on a plausible circumstance:

Assumption H1—It is cheaper to compensate the 61 cheapest senators for their ideological cost (if any) rather than compensating 60 pivotal senators for their ideological cost, their utility loss, and their contributions loss.

As before, each senator derives utility from contributions received from her lobbyist and the president given the equilibrium voting profile (c_{ls} and c_{ps}), as well as from the personal utility that depends on the outcome ($S_s(E)$). However, in addition senators in $\{S_1, \dots, S_x\}$ face an ideological cost of $-I(J_N - S_s)$ when voting in favor of J_N .

We look for subgame perfect Nash equilibria with the refinement that no contributions are offered to non-pivotal legislators by local lobbies.

Claim 3—Under Assumption H1, in equilibrium the president proposes

$J_N = \text{argmax}_j [P(E(j)) - \sum_{s=40}^x I(J - S_s)]$, senators $\{S_{40}, \dots, S_{100}\}$ vote for the proposal, senators $\{S_1, \dots, S_{39}\}$ vote against, the president pays $I(J_N - S_s)$ to each senator in $\{S_{40}, \dots, S_x\}$, and zero to all other senators. No nominee to the right of J_5^* will ever be proposed by the president.

There exists an equilibrium in which the president pays $I(J_N - S_s)$ to senators in $\{S_{40}, \dots, S_x\}$, J_5^* is the Court outcome, and no one has an incentive to deviate. No senator has an incentive to deviate in the voting stage since none is pivotal. The lobbies have no incentive to deviate in the prior stage, because no senator is pivotal and therefore no lobby can influence the outcome. The president also has no incentive to deviate at this point because each senator incurring an ideological cost from voting $v_s = 1$ must be compensated for that loss. The president targets the cheapest 61 senators $\{S_{40}, S_{100}\}$. If the president deviates to offer a payment schedule in which he zeroes out one of these 61 senators, then that senator would not support the president and thus only 60 senators are voting for the proposal. In this circumstance, every senator would be pivotal, and the president would have to compensate each one of them for ideological loss, contribution loss, and personal utility dependent on the outcome. But then the president would be spending more in contributions by Assumption H1 – hence he has no incentive to deviate. Finally, at the nomination stage the president has no deviation. He is proposing the nominee that maximizes his utility, net of contributions paid. He will never propose a candidate to the right of J_5^* because that would increase the contributions paid to cover additional ideological costs without shifting the equilibrium policy outcome any further to the right.²²

4. EXTENSIONS

In this section we explore two variations on our model. Our main results allow the president and lobbyists to condition their contributions on the entire voting profile. This is unrealistic. So, first we instead allow the president or special interest groups to condition their contributions

²²There is no other equilibrium that contradicts Claim 3. This and other features of Claim 3 are proved in the Appendix.

on the *vote* of a senator.²³ Then we examine the possibility of lobbyists making contributions directly to the president in exchange for a nominee they prefer.

4.1. Contributions Conditional on a Senator's Vote Only

Here contributions to a senator may only be conditioned on her vote. We focus on the circumstances of section 3 in which we have both local lobbies and the president attempting to influence senatorial votes (since the instances where one or the other of these do not make contributions are special cases). Given that there is a coordination problem between the president and the local lobbies sharing his preference, resulting in multiple equilibria, *we focus attention on the equilibria in which the president coordinates with the local lobbies that prefer his proposal to the reversion policy, and he extracts the full surplus resulting from this coordination.* In other words, multiple equilibria exist, but we discuss only a subset of them. For example, suppose there were a case in which the president alone were unwilling (i.e., it would cost him more than his benefit) to recruit the necessary number of votes, but the president together with the local lobbies could jointly recruit a sufficient number of votes in a manner making all of them better off. In this instance there are multiple equilibria (involving the various ways for the president and supporting lobbyists to share inducement costs). In one equilibrium the president and all the lobbies offer zero contributions for votes in favor of the nominee and the nomination is rejected.²⁴ In another equilibrium both the president and the local lobbies with a preference for the nominee offer sufficient positive contributions to a decisive subset of senators. If these contributions do not exceed each lobby's and the president's willingness to pay, they are all better off in this equilibrium. If the lobbies and the president were able to coordinate, they would actually be able to switch to this from the first equilibrium. Our justification for looking at equilibria in which coordination arises is based on the president's focal agenda-setting position. We assume his asymmetric position allows him to take the lead in solving the coordination problem among lobbies (and also allows him to extract all the surplus arising from the coordination).

The game proceeds as follows:

Stage 1—The president nominates a candidate, J_N , that will result in policy E if confirmed.

Stage 2—The president and the local lobbies simultaneously offer contributions to each senator s conditional on her vote.²⁵ While the local lobbies cannot coordinate among themselves, the president can impose coordination among the local lobbies sharing his preferences. The president is free to offer contributions c_{ps} to any senator, while each local lobby L_s can only offer contributions to its corresponding senator s .

Stage 3—Each senator observes the proposal and the contributions offered to her only and casts a vote. If the number of senators voting in favor of the proposal is sixty or more, E is the final outcome. Otherwise, the reversion policy R results.

Our equilibrium concept, as before, is pure subgame perfect Nash. We refine equilibria to allow the president to coordinate local lobbies in order to extract the maximum surplus. The following claim characterizes our results.

²³An analysis of offers contingent on the *final outcome* is available from the authors on request.

²⁴This is an equilibrium because no one has an incentive to offer more: a local lobby cannot influence the outcome alone and the president's benefits from the success of the nominee are lower than the contributions he would have to pay to achieve this result.

²⁵When writing out contributions offered to a single senator, we order them with the contribution offered for $v_s = 1$ first; for example, $c_{ps} = \{5, 0\}$ means the president offers 5 for $v_s = 1$ and 0 for $v_s = 0$.

Claim 4—Order all senators according to $LS_s(E)$, where $LS_s(E) = L_s(E) + S_s(E)$. Given a reversion policy R and a generic nomination yielding E , ($R \leq E \leq J_s^*$), there exists an

equilibrium in which a nomination yielding E is approved if $P(E) \geq \sum_{s=41}^{100} \max[0, -LS_s(E)]$. If the president can impose coordination and extract the full surplus from the lobbies, the reversion policy R can never arise when this sufficient condition is satisfied. Then, in the first

stage, the president proposes $\operatorname{argmax}_j \{P(E) - \sum_{s=41}^{100} \max[0, -LS_s(E)]\}$.²⁶

The proof of this is in the Appendix. To see the logic of our result, consider a status quo and a proposal yielding $E \geq R$. In stage 3 there is always an equilibrium in which strictly more than 60 senators vote in favor of the proposal, and no contributions are offered. This is an equilibrium in which no senator is pivotal, hence no senator has an incentive to deviate and no local lobby can influence the outcome. The president obtains his preferred policy for free, so he has no deviation. However, this equilibrium may entail some senators playing weakly dominated strategies.

Another potential equilibrium is one in which senators are pivotal. Can the president and the local lobbies (who prefer E over R) jointly recruit 60 senators? Absent contributions from the president, each senator would vote based on her own preferences and the contributions received from the corresponding local lobby. If a given senator is against the proposal ($S_s(E) < 0$) but the corresponding local lobby is in favor ($L_s(E) \geq 0$) and is willing to offer contributions up to its maximum benefit, then the president needs to contribute only $\max[0, -S_s(E) - L_s(E)]$ to secure senator s 's vote. Absent coordination, the local lobby might not be willing to offer any contribution. However, if the president can impose coordination on his supporting lobbies, then each lobby will contribute a positive amount for a vote in favor of outcome E , since the contributions offered are not wasted in a coordination failure. For those senators with $S_s(E) + L_s(E) \geq 0$, the president offers no contribution. (Either the senator prefers E and votes for it without inducement, or the lobby prefers it even after netting out the inducement it must offer to garner its senator's vote.) For those senators with $S_s(E) + L_s(E) < 0$, the president needs to contribute $-[S_s(E) + L_s(E)] = -LS_s(E)$. In order for such an equilibrium to be sustainable, the president must be willing to compensate the cheapest necessary senators that would otherwise vote against the proposal. Given the proposal E , senators are ranked according to $LS_s(E)$. Then, senators in $\{S_{41}, \dots, S_{100}\}$ are the cheapest to recruit. The condition for E to result in equilibrium

will thus be $P(E) \geq \sum_{s=41}^{100} \max[0, -LS_s(E)]$. In stage 1, the president applies constrained maximization and chooses the nominee yielding the best E among those that would be

approved, namely $\operatorname{argmax}_j \{P(E) - \sum_{s=41}^{100} \max[0, -LS_s(E)]\}$. Recall that the composition of the set $\{S_{41}, \dots, S_{100}\}$ may vary with E .

Claim 4 may be extended to incorporate ideological cost as defined previously: each senator with $S_s(E) < 0$ faces an ideological cost of $-I(J_N - S_s)$ when voting for the president's nominee.

Intuitively, the difference here is that the president will have to compensate each senator with $S_s(E) < 0$ for both the outcome related loss and the ideological loss in order to obtain her vote. In section 3.5 the president was able to limit his payment to cover only the ideological cost, $-I(J_N - S_s)$ by locking the senators into the voting profile in which no senator was pivotal.

²⁶Recall that E depends on J .

Senators thus did not have to be compensated for any outcome-related loss. *However, the pivot strategy cannot be played when contributions are conditional on the vote rather than the entire voting profile*; the president cannot force an equilibrium in which no one is pivotal. Therefore we focus on the equilibrium in which everyone is pivotal because this equilibrium gives us a sufficient condition: if there exists an equilibrium in which everyone is pivotal and a certain outcome $\hat{E}$ is achieved, then no $E < \hat{E}$ can result in any equilibrium. We argue that a modification of claim 4 holds. To facilitate this let

$$d = \begin{cases} 1 & \text{if } S_s(E) < 0 \\ 0 & \text{otherwise} \end{cases}.$$

The next claim now follows from claim 4:

Claim 5—Order all senators so that $LS_s(E) + dI(J_N - S_s) < LS_{s+1}(E) + dI(J_N - S_{s+1})$. Then, given a reversion policy R and a generic proposal yielding E , ($R \leq E \leq \bar{E}$), there exists an equilibrium in which E is approved if

$$P(E) \geq \sum_{s=41}^{100} \{ \max[0, -LS_s(E)] + dI(J_N - S_s) \}.$$

If the president can impose coordination and extract the full surplus from the lobbies, the reversion policy R can never arise when this condition is satisfied. The president proposes:

$$\operatorname{argmax}_J \left\{ P(E) - \sum_{s=41}^{100} \{ \max[0, -LS_s(E)] + dI(J_N - S_s) \} \right\}.$$

4.2. Lobbies Contribute to the President

When both the president and local lobbies can make contributions conditional on the entire voting profile, we found that the local lobbies have no influence. The president can propose his preferred policy and obtain his preferred outcome for free. What, however, would happen if the local lobbies chose to contribute to the president instead?

Given that the president is able to impose his preferred outcome for free, the lobbies might be better off trying to influence the president directly. In this event it is possible that the equilibrium policy outcome is to the left of $\bar{E}$. There is however a lower bound on how much the policy might be moved to the left. According to Proposition 0 of Rohde and Shepsle (2007), all possible policy outcomes lie between the preferred point of the fourth (J_4^*) and the fifth (J_5^*) justice of the eight-member Court, regardless of the nominee.

The timing is as follows:

Stage 1—Everyone observes R . Lobbies, simultaneously offer a contribution schedule to the president, $c_{ls}(E)$.

Stage 2—The president observes the contribution schedule and proposes a nominee J_N with resulting policy E , and offers a contribution schedule c_{ps}^v to each senator conditional on the vote profile.

Stage 3—Each senator observes E and the contributions offered to her only, and then casts a vote.

This model can have multiple equilibria, and describing them is beyond the scope of this paper. However, we are interested in knowing if there are some equilibria in which the Court policy is to the left of $\bar{E}$. We know already that in stage 3 the president's proposal will be approved for free: he can play the pivot strategy described earlier. Stages 1 and 2 constitute the description of a *first price menu auction*. The whole game can be seen as one in which multiple bidders (the lobbies) make offers to a single auctioneer (the president), who has decision power over the final outcome. Since the set of possible outcomes $[J_4^*, J_5^*]$ is compact, and the utility functions of lobbies and president are continuous over this set, we can apply Theorem 2 of Bernheim and Whinston (1986).²⁷ Theorem 2 tells us that, in any Nash equilibrium in which lobbies play a truthful strategy, the auctioneer will select a policy that maximizes the joint utility of all players.²⁸ In other words, the equilibrium outcome will be

$$E = \arg \max_{[J_4^*, J_5^*]} \{P(E) + \sum_s L_s(E)\} \text{ for any truthful strategy by the lobbies.}^{29}$$

Depending on the shape of $P(\cdot)$ and $L_s(\cdot)$ and on the relative location of the preferred point of each lobby, it is possible for the outcome to be to the left of $\bar{E}$. For example, suppose that a) preferences are Euclidean, b) the president's preferred point $P = J_5^* = \bar{E}$ and c) all lobbyist preferred points are equal to J_4^* . In other words, $P(E) = -|J_5^* - E|$ and $L_s(E) = -|J_4^* - E|$. Then, in equilibrium, the outcome would equal $\arg \max_{[J_4^*, J_5^*]} \{-|J_5^* - E| + 100[-|J_4^* - E|]\}$. This is less than $J_5^* = \bar{E}$. Note that, if the lobbies had chosen to influence the senators instead, as in section 3.1, they could not have affected the outcome in any way. In lobbying the president on the other hand, the lobbies might be able to influence the outcome.

5. FUTURE RESEARCH AND DISCUSSION

The model may be extended by relaxing some of our assumptions.

First, we have focused throughout on local lobbies that have a direct influence only on the senators of their district. What we have in mind is an interest group located in the state, like a local union or a company headquarters. We think of contributions as having a direct effect on re-election prospects, and comes in the form of campaign contributions, endorsements, or promises of votes in the state. Other authors, however, have allowed for lobbies that can influence multiple senators. Segal, Cameron and Cover (1992), for example, measure lobbying activity on the basis of testimony in favor or against a nominee in Senate Judiciary Committee hearings. Caldeira and Wright (1998) also analyze grassroots-level lobbying, and empirically test its effects on the Supreme Court nominations of Bork, Souter, and Thomas. Both papers analyze informational lobbying that has a direct and simultaneous effect on the preferences of

²⁷For the reader familiar with Bernheim and Whinston (1986): the set of bidders $\{i\}_{i=1}^M$ is our set $\{L_s\}_{s=1}^{100}$, the set S is $[J_4^*, J_5^*]$, the payoff function g_i is our $L_s(E)$ and the payoff function d is our $-P(E)$. The strategy f_i corresponds exactly to our $c_{L_s}^v$ and the lower bound k_i is equal to zero.

²⁸See definition 1 of Bernheim and Whinston (1986).

²⁹Intuitively, a contribution profile is truthful if contributions correctly reflect the relative value of preferences over the elements in the set $[J_4^*, J_5^*]$.

multiple legislators. In our paper, we take the legislators' preference as given and hence to have already incorporated the effects of informational lobbying. In the future, we wish to allow lobby influence to extend to multiple senators. This significantly complicates the game, and we believe that a pure strategy Nash equilibrium may not exist.

Second, we focus on a single nomination event. Extending Rohde and Shepsle (2007), in our paper a nomination matters to the extent that it creates a new median in the Supreme Court, and thus influences policy. However, as shown in Krehbiel (2005), who studies the patterns over four decades, presidents move court policy through multiple nominations. We envision the use of our model to analyze multiple rounds of nomination politics by modifying the utility functions: senators, lobbies and presidents have a direct utility from the policy implications in the short term (as in the current model) and a discounted utility from longer-term effects. One possibility for modeling the latter is to consider nomination-inducing events of various types (depending upon which justice leaves the court) as occurring each year probabilistically. When this occurs a president of one of two types (left or right), in office with a probability β and $1 - \beta$, respectively, offers a nomination. The game takes place over an infinite horizon with our model characterizing the stage game.

Third, in this paper we have assumed that the president's offers are always credible. The president could however be limited by a budget constraint, B_p . In section 3 the president pays zero in equilibrium but the equilibrium is sustained by an off-the-equilibrium path offer compensating the senator for her vote switch in any voting profile in which she is pivotal:

$\widehat{c}_{ls}^{0,v-s} + \varepsilon + \max[0, -S_s(E)]$ (see Table 1). The budget constraint affects our results when a set of 61 senators such that $B_p > \sum_{61} \widehat{c}_{ls}^{0,v-s} + \varepsilon + \max[0, -S_s(E)]$ does not exist. In this case the budget constraint becomes binding on our strategy set. In fact, if there is no supermajority of senators the president can convince to vote in favor of his nominee by using the pivot strategy, the president will have to compensate a strict majority of senators and pay them a positive amount. Notice however that $\widehat{c}_{ls}^{0,v-s} + \varepsilon + \max[0, -S_s(E)]$ is a function of the president's nominee. We conclude that a budget constraint can affect our results if it is binding and might limit the president's ability to nominate an extreme nominee for free. The less extreme the nominee, the lower the likelihood that the budget constraint becomes binding. That is, the president will pick his preferred E such that a set of 61 senators exists for which $B_p = \sum_{61} \widehat{c}_{ls}^{0,v-s} + \varepsilon + \max[0, -S_s(E)]$ (unless there is an extreme nominee for which positive contributions are worth paying).

Fourth, we briefly discuss what would happen if lobbies could offer contributions to multiple senators at the same time. In a simultaneous move game as in our approach, a pure strategy Nash equilibrium might not exist. A well-known game-theoretic literature on "Colonel Blotto" games establishes this (see McCarty and Meirowitz, 2007). Suppose for example the president is paying no contributions on the alleged equilibrium path of play and obtaining approval of the nominee. Then one lobby could deviate by contributing epsilon to all senators. Suppose instead the president was giving positive contributions to a set of pivotal senators. Then one lobby could implement the pivot strategy with all senators. Consider, finally, the president offering positive contributions to non-pivotal senators. In this case the president would have a deviation. Hence, from all these possibilities it follows that there is no pure strategy equilibrium. The solution is a very complicated mixed strategy equilibrium that is beyond the scope of this paper.

We would, however, like to comment on a modification inspired by Groseclose and Snyder (1996). Suppose the lobbies and the president move sequentially, contributions are conditional on the vote only, the president moves first, and the lobbies do not collaborate with each other.

In this case our intuition is that a pure strategy equilibrium exists so long as there is a set of $(59 + X)$ senators, $X \in [1, 41]$, such that two conditions hold: (1)

$\sum_X [c_{ps}(1) + S_s] > \max[0, -L_s] \forall I_s^{30}$ and (2) $\sum_{[59+X]} c_{ps}(1) \leq P(E) - P(R)$. In words, if the president moves first, he will have to compensate a majority or a supermajority of senators for their personal loss if any ($S_s < 0$) plus any anticipated contribution from lobbies in the next stage. How much is a lobby willing to contribute on the second stage? A total of $\max[0, -L_s]$. To how many senators does it have to contribute to change the outcome? X senators. If the senator has a preference for the nominee ($S_s > 0$), this decreases the contributions the president has to pay. The lobby will naturally pick the set of X senators that is cheapest. The president has to hedge against this move, and choose a leveling strategy to make every senator in the coalition that needs contributions equally expensive (see Groseclose and Snyder, 1996). The president will undergo this expense only if the total contributions paid are less than the benefits from the new nominee (condition 2 above). In the equilibrium we have in mind, no lobby contributes in the second round and no lobby has an incentive to deviate because of (1). We have only established a condition for existence of one pure strategy equilibrium; we do not claim uniqueness.

Lastly, we don't model parties and other forms of cooperation among legislators. The president would be disadvantaged if coordination through a legislative party were part of the model. Consider this simple example. Holding the president's strategy fixed as in section 3, suppose all senators are voting for a nominee when contributions are conditional on the entire voting profile. Assume 40 of these senators personally prefer the status quo and can cooperate among themselves. As individuals these 40 senators have no deviation in our model because each is non-pivotal; hence her vote does not matter. With group coordination, they become pivotal and thus require compensation for their votes. We claim the following is true: If the number of senators who can coordinate does not exceed 39, our results hold and the president can obtain his preferred policy for free when conditioning contributions on the entire voting profile. The intuition is simple: Treat a coalition of coordinated senators as a player. The game we described earlier now takes place among players as coalitions, each weighted by their membership. These coalitions may be treated as unified actors in our proofs, and the previous results carry over to this setting if coordination never involves more than 39 senators because no player is ever pivotal. If instead there is a block of 40 or more senators that are opposed to the president's nominee, it is a pivotal block and the president has to compensate each senator for her personal loss. This suggests a role for political parties and coalitions, as it increases the bargaining power of senators and restricts executive power.

6. RELATION TO LITERATURE ON DISTRIBUTIONAL LOBBYING

We have made only occasional references to the work of others. The theoretical literature on the subject of lobbying in general, and distributional (as opposed to informational) lobbying in particular, is quite sophisticated. We briefly examine how our approach compares with others in this literature. We do this by suggesting a number of distinctions that have (implicitly) arisen in grappling with lobbying phenomenon. Since each paper we discuss differs on more than one of these, we cannot systematically draw out differences (but will make occasional remarks):

- number of lobbyists
- scope of lobbying
- sequential versus simultaneous offers

³⁰This expression and the subsequent argument assume that senators vote as if pivotal.

- bribe schedules as common knowledge or private information
- condition for the bribe schedule –vote distribution, individual vote, outcome
- legislator utility –do they care about outcome, their own vote, both?
- agenda power
- budget constraint –are lobbyists budget constrained?
- credibility of lobbyist offers

6.1. Number of lobbyists

Snyder (1991) is one of the earliest explicitly game-theoretic models of distributional lobbying. His “lobbyist” (a single coalition builder) is akin to our president – someone who can contribute “bribes” to all legislators. There are no other competing lobbyists. The bribe schedule is *contingent on the vote of each legislator* and each legislator *cares about her vote* (equivalent to our “ideological cost”). Thus this model is a special case of ours (one general lobbyist, no local lobbies, bribe schedule contingent on vote, ideological cost) and Snyder’s Proposition 1 is a special case of our Claim 3. Dal Bo (2007) –one of the seminal papers in this literature – likewise considers one lobbyist.

Groseclose and Snyder (1996) – another seminal paper in this literature – explores two-sided lobbying. Lobbyists move sequentially (ours move simultaneously); both lobbyists are general (we assume a single general lobbyist and n local lobbyists); legislators care only about their vote (our “ideological cost”). The main focus here is the set of conditions in which one side has a strategy that prevents successful counter-active lobbying by the other side.

Our approach has $n+1$ lobbyists – one general lobbyist who may offer a schedule of bribes to all n legislators and n local lobbyists restricted to lobbying only their own legislator. Helpman and Persson (2001) have n local lobbyists but no general lobbyist. Baron (2006) models many general lobbyists (a major advance in our judgment) each of whom, like the president in our model, may offer contribution schedules to all legislators. However, in our model there is a unique agenda setter, determined *ex ante* – the president. Baron’s model has an agenda setter selected randomly after contribution schedules have been offered. The objective of Baron’s lobbyists thus is not only to buy votes, but to buy the consideration of the potential agenda setter –a different conception of *pivotality* than ours. Other models are variants on these in the matter of the number of lobbyists. We will mention some of these below.

6.2. Scope of lobbying

Closely related to the number of lobbyists is *whom* they may lobby. General lobbying allows a lobbyist to offer contributions to many legislators; local lobbying restricts the scope of offers. Snyder (1991), Groseclose and Snyder (1996), Baron (2006), Dekel, Jackson, and Wolinsky (2008), and Dal Bo (2007) allow lobbyists to make contributions to all legislators. (Snyder and Dal Bo have only a single lobbyist.) Helpman and Persson model n local lobbyists. We model one general lobbyist and n local lobbyists.

6.3. Timing of offers

Contributions schedules may be offered simultaneously or sequentially when there is more than one lobbyist. (Hence the issue is moot for Snyder (1991) and Dal Bo (2007) who model a single lobbyist.) Most of the literature opts for the sequential assumption –Groseclose and Snyder (1996), Baron (2006)³¹, Dekel, Jackson, and Wolinsky (2008). Helpman and Persson (2001) share our assumption of simultaneous offers. Although in real time lobbyists make offers and counter-offers, so that sequentiality is the nominal practice, we believe that

simultaneity makes more sense in an equilibrium context, for it identifies the set of offers that “hang together” in the sense that no agent has an incentive to deviate. The kinds of sequentiality employed in the models noted above imagine an orderliness to the sequential process that strike us as arbitrary and, in any case, weak approximations of the real-time unfolding of events.

6.4. Common knowledge of contributions schedules

We assume that legislators know only the offer made to them, not those made to other legislators. This means that each legislator may condition her vote only on the offer on the table for her. None of the other papers discussed assume the lobbying offers are private; some explicitly assume the contributions schedule to each legislator is public information, while others make no assumption on this because it doesn’t affect their analysis.

6.5. Condition on which contribution schedule is predicated

In our main analysis we assume a lobbyist’s contribution schedule is predicated on the entire vote distribution. Dal Bo (2007) joins us in this assumption. The other papers focus on bribes conditional on how a legislator votes. (We extend our analysis to this condition, as does Dal Bo.)

6.6. Legislator utility

We assume a legislator cares about the outcome, the contributions she receives, and, in some models, the vote she casts. The legislators in the Helpman-Persson model care only about contributions. Other models fall in between with all possessing legislators who care about the contributions they receive, but some also caring either about the final outcome or how they voted.

6.7. Agenda power

Our model has an agenda setter, the President, who both makes a substantive proposal and offers a general contributions schedule to legislators. Baron (2006), in a manner consistent with much of the legislative bargaining literature, assumes an agenda setter with proposal power is selected randomly from among the legislators (as do Helpman and Persson). This agenda setter may propose the option preferred by one of the lobbyists. Dal Bo (2007) shares our assumption of a fixed proposer who is also a lobbyist. (In the Dal Bo model, he is the only lobbyist.)³²

6.8. Contributions budget constraint

Groseclose and Snyder explicitly focus on the budget constraint of each of two lobbyists. For them the question is whether the limitation on one is so constraining that the other has the means to distribute contributions in a way that secures a majority that is unassailable through counter-lobbying. Dekel, Jackson, and Wolinsky generalize this. The other papers, including our own, assume implicitly (and, in Dal Bo’s case, explicitly) that lobbyists have deep enough pockets to make offers in an unconstrained manner. In our case, we simply assume that the president has enough resources to pay a pivotal legislator at least as much as her lobbyist can over and above her utility loss from producing her less desirable outcome. (A slight extension is offered in the previous section.)

³¹There are several twists in this paper. First, after one lobbyist makes his offers, the game can end with acceptance before the second lobbyist can move. Second, it is possible for neither lobbyist’s position to be accepted in which case the game goes to another round of offers.

³²Groseclose and Snyder do not have an explicit agenda-setting stage. There are two interest groups, each with a proposal, that are pitted against each other.

6.9. Credibility

This point just made is relevant if a legislator is to take a contributions schedule seriously. All the papers, including our own, assume not only that the contributions schedules are believable, but also that they are enforceable. Dal Bo explicitly notes that long-lived organizations, like interest groups but (in our case) especially the president, have reputational reasons for not wishing to be perceived as having reneged. In our case, however, there are two forces pushing in the opposite direction. First, we assume that contributions schedules are private information, so only the “victim” will know that she has been cheated. Second, the real test of credibility comes in off-the-equilibrium-path circumstances, so it only arises in equilibrium when the schedule requires a positive payment by a lobbyist to a legislator. As we have seen, in some theoretical circumstances credibility is not tested because payments are essentially zero.

We have hardly given these factors broad treatment. Our purpose has been two-fold –to show how very complex and multifaceted the modeling of multi-person lobbying situations turn out to be, and second to survey, broadly if superficially, the several variants on this theme that appear in the literature.³³

7. CONCLUSION

We started with an observation following from Rohde and Shepsle (2007) that a reversion policy, R , in the gridlock region is an equilibrium when no contributions are permitted. This means that no presidential nomination is confirmable by a policy-oriented Senate, and thus that the existing eight-member Court will remain in place. We then examined a world in which political agents (local lobbyists, the president) could offer inducements to legislators to vote contrary to their initial preferences. What would happen if the president and local lobbyists could offer contributions conditional on the voting profile? We found a very counter-intuitive result: in equilibrium, the president can propose any nominee, no matter how extreme, and his preferred Court policy E is an equilibrium with zero contributions. Furthermore, this result holds *a fortiori* if there are no local lobbies. That is, even if all senators and all lobbies prefer the reversion policy to any nominee the president prefers, the president is still able to obtain his preferred policy essentially for free. This result is very strong. It relies, on the one hand, on the capability of one agent (the president) to influence a group of legislators by creating a prisoners’ dilemma that locks them into an equilibrium in which none of them is pivotal. (This, in turn, depends on the president’s ability to condition on the entire voting profile.) It also relies on the assumption that legislators are unable to cooperate among themselves. Our results are summarized in Table 2.

We then explored other possibilities, also noted in Table 2. What if senators bear an ideological cost for voting against their constituency? In that case, they must be compensated to do so even if they are not pivotal. We found that presidentially most-preferred nominees will no longer be proposed – in particular no nominee to the right of the fifth justice in the eight-member Court will ever be nominated. Depending on the shape of the indifference curves and on the distribution of senators’ ideal points, the nominee proposed by the president in the first stage might yield a policy to the left of E . However, local lobbies still have no impact, regardless of their willingness to contribute.

³³We should also note here how closely related our analysis is to that of Dal Bo (2007). When we began our project, Dal Bo’s paper was circulating as a 2000 working paper and, in the intervening years, it has been considerably enriched. During that time one of us (Console-Battilana, 2005) began working on a closely related problem as applied to international trade while the other of us was interested in a similar problem as it applied to Supreme Court nominations (Rohde and Shepsle, 2007). The use of “pivot strategies” (Dal Bo calls them “pivotal bribes”), and our intuition about general lobbyists inducing dominant strategies for legislators in which contributions approach zero, are aspects shared by each paper. In the sense that we allow not a single general lobbyist, but also n local lobbyists, ours is an extension of Dal Bo. However, because the models differ in other specifics, we cannot claim to have generalized it.

Conditioning on the entire voting profile is certainly first-best for the president; however, in the real world, this might either be too complex or simply implausible. Senators might not respond favorably to contributions conditional on events outside their control, such as the votes of other senators. We thus explored the effect of conditioning contributions on the actual vote of each senator. While multiple equilibria can arise, we found that the president can be sure to have his nominee pass the filibuster hurdle as long as he proposes

$\arg \max \left\{ P(E) - \sum_{s=41}^{100} \max[0, -LS_s(E)] \right\}$. If the distribution of preferred points of senators and lobbyists is sufficiently biased towards the left, the president will not be able to impose his preferred policy and will have to pay positive contributions in equilibrium.³⁴

Finally, we explored another strategic option for lobbyists when contributions are conditioned on the entire voting profile. Given that a local lobby never manages to have an impact on the outcome when lobbying its senator under this assumption, we examined whether the lobby might be better served by offering inducements to the president instead. In the case in which the president conditions his contributions to senators on the entire voting profile, we found that the outcome might be moved to the left of $\bar{E}$.

We started from a pivotal-politics literature that uncovered “too much gridlock.” As American politics has become more polarized, this gridlock problem has been exacerbated. Yet a regularity of nominees routinely blocked when R is in the gridlock region is not consistent with our casual empirical impressions. Our paper has provided several instances in which, through lobbying, the too-much-gridlock problem is mitigated. However, we have replaced one anomaly with another –solving the problem of too much gridlock (in the case of conditioning on the entire voting profile) but producing a world with too much presidential power. Nevertheless, it is striking empirically how much deference is accorded many presidential nominees, so perhaps we have in our results the kernel of an explanation for such deference.

The nomination process described here provides a description of politics more subtle than one limited to a president merely exercising proposal power followed by senatorial preference revelation in a super-majority decision making context. The politics of Supreme Court appointments involves strategic attempts by a variety of agents, including the president himself, to influence senators faced with accepting or rejecting nominees. We expect further development of models integrating proposing, influencing, and voting to occupy us and others in the future.

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³⁴We noted that there always exists an equilibrium in which no senator is pivotal and everyone votes for the proposal, regardless of how extreme this is. However, this is an equilibrium over which the president has no control (it results from each senator voting in favor of the proposal when indifferent, even if this might be weakly dominated). We have also explored the circumstance in which contributions are conditioned only on the outcome. The president is worse off; he can not ensure that any policy satisfying

$P(E) \geq \sum_{s=41}^{100} \max[0, -LS_s(E)]$ is approved, unless we restrict equilibria to the ones in which no senator plays a weakly dominated strategy.

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Appendix

Proof of claim 1

Existence of equilibrium

The following is an equilibrium. In stage 1 the president proposes a J_N yielding $\bar{E}$. In stage 2 each lobby L_s offers $c_{ls} = 0 \forall v \in V$, the president offers $c_{ps} = \max[0, -S_s(E)]$ for all voting profiles in which senator s is pivotal and votes for the proposal, and offers $c_{ps} = 0$ for all other voting profiles. In stage 3 all senators vote for the proposal. No senator has an incentive to deviate. Suppose senator s deviates to $v_s = 0$. Since 99 senators continue to vote $v_s = 1$, the outcome will still be $\bar{E}$. But, since s is receiving no contributions either when voting for or against the nominee (since she is not pivotal), she would not be better off by deviating.

No local lobby has an incentive to deviate. Suppose lobby L_s deviated by offering a positive amount to senator s under certain voting profiles $v^* \in V^* \subset V$. If in any v^* the remaining 99 senators do not all vote $v_s = 1$, this schedule is off the equilibrium path. (Each lobby can only influence the vote of her own senator, and deviations are holding everything else constant.) It does not affect the equilibrium outcome or payments; hence there is no gain in this deviation. If in any v^* the remaining 99 senators all vote $v_s = 1$, then the outcome will still be $\bar{E}$ and lobby L_s would be paying positive contributions, denoted as c_{ls}^* . Lobby L_s would gain

$S_s(\bar{E}) + 0 - S_s(\bar{E}) - c_{ls}^* < 0$; hence it would be worse off. Therefore local lobbies have no deviation.

The president has no profitable deviation in stage 2, since he is obtaining his preferred outcome for free. Likewise, the president has no profitable deviation in stage 1. If he nominates a J_N yielding outcome $E < \bar{E}$, given the continuation game, this will be approved at no cost and the utility change for the president would be $P(E) - P(\bar{E}) < 0$. Since $\bar{E}$ is the upper bound, there is no profitable deviation for the president at all. Note that we have not used the consequential equilibrium refinement for the existence part.

Uniqueness under consequentiality

Suppose there were an equilibrium with either positive payments by the president or outcome R . This candidate equilibrium would be characterized by a voting profile $\hat{v}$, a contribution schedule for each local lobby $\hat{c}_{ls}$, and a contribution schedule for the president $\hat{c}_{ps}$. We show there is a pivot strategy that the president can play, with the result of having his proposal E approved at a cost of 61ε , with $\varepsilon > 0$ arbitrarily small. If we show such a strategy exists, then no equilibrium with (a) positive payments by the president or (b) E rejected could exist. That is, for any candidate equilibrium satisfying property (a) or (b), the president could deviate and play the pivot strategy. This deviation would reduce his payments by choosing ε to be smaller than previous payments and would sustain E as the outcome, where $P(E) - 61\varepsilon > P(R) = 0$.

We are left to prove such a pivot strategy exists. Consider a generic senator s . Define $\hat{c}_{ls}^{0, v_{-s}}$ to be the contribution schedule offered to senator s by lobby L_s whenever $v_s = 0$ and the remaining 99 senators vote according to voting profile v_{-s} . (The profile v_{-s} has 99 elements, each an element of the set $\{0, 1\}$. The set of profiles $(0, v_{-s}) \in V$ has 2^{99} elements.) The president can offer the following schedule to senator s :

v_{-s}	v_s	Contributions c_{ps}
(a) If v_{-s} has strictly less than 59 voting 1	1	$\hat{c}_{ls}^{0,v_{-s}} + \varepsilon$
(b) If v_{-s} has exactly 59 voting 1	1	$\hat{c}_{ls}^{0,v_{-s}} + \varepsilon + \max[0, -S_s(E)]$
(c) If v_{-s} has strictly more than 59 voting 1	1	$\hat{c}_{ls}^{0,v_{-s}} + \varepsilon$
(d) For any other v_{-s}	0	0

Senator s has a dominant strategy, $v_s = 1$. In (a), the outcome is R regardless of the vote of senator s , and his net utility from choosing action $v_s = 1$ rather than $v_s = 0$ is at least

$S_s(R) + \hat{c}_{ls}^{0,v_{-s}} + \varepsilon - S_s(R) - \hat{c}_{ls}^{1,v_{-s}} = \varepsilon > 0$. It might be more if $\hat{c}_{ls}^{1,v_{-s}} > 0$. In (b) senator s is pivotal. If she votes 0, her utility is $S_s(R) (= 0) + \hat{c}_{ls}^{0,v_{-s}}$. If she votes 1, her utility is at least

$S_s(E) + \hat{c}_{ls}^{0,v_{-s}} + \varepsilon + \max[0, -S_s(E)] = \begin{cases} S_s(E) + \hat{c}_{ls}^{0,v_{-s}} + \varepsilon & \text{if } S_s(E) \geq 0 \\ \hat{c}_{ls}^{0,v_{-s}} + \varepsilon & \text{if } S_s(E) < 0 \end{cases}$. Her net utility from voting 1 as opposed to voting 0 will be at least $\varepsilon > 0$. In (c) the outcome is E regardless of the vote of senator s . Her net utility from voting 1 as opposed to 0 is at least

$\hat{c}_{ls}^{0,v_{-s}} + \varepsilon - \hat{c}_{ls}^{1,v_{-s}} = \varepsilon > 0$. Therefore, under any possible voting profile of the other senators, senator s has a higher payoff if she chooses action $v_s = 1$. Suppose the president plays the pivot strategy with 61 senators. For 61 senators it will dominant to vote $v_s = 1$; therefore the president will only have to offer each one of them $\hat{c}_{ls}^{0,v_{-s}} + \varepsilon$, with v_{-s} having strictly more than 59 voting in favor. However, when strictly more than 59 senators other than s vote in favor, a majority of senators is already voting 1, hence the vote of senator s is not relevant – senator s is not pivotal.

By the refinement, $\hat{c}_{ls}^{0,v_{-s}} = 0$ for any such voting profile. Therefore, the president would be playing the pivot strategy with 61 senators and obtain his preferred outcome for 61ε .

Proof of claim 3

We use many of the arguments proved in claim 1; therefore we avoid repetition of the same arguments, giving a more synthetic proof.

Existence of equilibria

The following set of strategies is an equilibrium. For any voting profile in stage 3, each senator casts the vote that gives a higher utility. If the utility is the same, she is indifferent. In stage 2, the following strategies are an equilibrium. The president offers $c_{ps} = I(J_N - S_s)$ to senators $\{S_{40}, \dots, S_x\}$ in all voting profiles in which they vote $v_s = 1$ and are not pivotal; $I(J_N - S_s) + \max[0, -L_s(E) - S_s(E)]$ to senators $\{S_{40}, \dots, S_x\}$ in all voting profiles in which they vote $v_s = 1$ and are pivotal; $\max[0, -L_s(E) - S_s(E)]$ to senators $\{S_{x+1}, \dots, S_{100}\}$ in all voting profiles in which they vote $v_s = 1$ and are pivotal; and zero in all other voting profiles for all other senators. The lobbies play the following strategies. Lobbies with $L_s(E) \geq 0$ offer $c_{ls} = \min[L_s(E), \max[0, -S_s(E)]]$ in all voting profiles in which their senator is pivotal and votes $v_s = 1$, zero in all other voting profiles. Lobbies with $L_s(E) < 0$ offer $\min[-L_s(E), \max[0, S_s(E)]]$ in all voting profiles in which their senator is pivotal and votes $v_s = 0$, and zero for all other voting profiles.

In stage 1, the president proposes the policy that maximizes his utility, net of contributions paid.

Equilibrium actions: senators $\{S_{40}, \dots, S_{100}\}$ vote $v_s = 1$ and senators

$\{S_1, \dots, S_{39}\}$ vote $v_s = 0$; the president pays $I(J_N - S_s)$ to senators $\{S_{40}, \dots, S_x\}$ and zero to all others; and each local lobby pays zero.

No one has an incentive to deviate. In stage 3, no senator will deviate: senators $\{S_{40}, \dots, S_{100}\}$ are made exactly indifferent between $v_s = 1$ and $v_s = 0$, while senators $\{S_1, \dots, S_{39}\}$ are not pivotal and hence cannot affect the outcome. They receive zero contributions for either vote, and they do not incur an ideological cost when voting in accord with their constituency.

In stage 2, no lobby has an incentive to deviate. Since each lobby can influence only its senator and no senator is pivotal, no lobby can affect the outcome. Therefore, since no lobby is paying positive contributions, no lobby has a deviation. The president has no incentive to deviate. If he deviates to contribute less to one of the pivotal senators than in the equilibrium voting profile, the senator will switch her vote, only 60 senators will vote for the proposal, and the president will have to spend more in contributions by assumption H1.

Uniqueness

The president chooses $J_N = \arg \max P(E(J_N)) - \sum_{40}^x I(J_N - S_s) > 0$.³⁵ (If no J_N yields a positive result, the president proposes the reversion policy point.) We argue that, given a proposal E that respects maximization in stage 1, there is no equilibrium in which either the president pays

$$\sum_{40}^x I(J_N - S_s) + z, \quad z > 0 \text{ or the proposal is rejected.}$$

Suppose there were one, called the *candidate equilibrium*. Consider a generic senator s . The candidate equilibrium includes an offer $\hat{c}_{ls}$ for any possible voting profile. Define $\hat{c}_{ls}^{0, v_{-s}}$ to be the contribution schedule offered to senator s by lobby L_s whenever $v_s = 0$ and the remaining 99 senators vote according to voting profile v_{-s} . The president can offer the following schedule to senator s , a pivot strategy creating a deviation from the *candidate equilibrium*:

³⁵Note that x is a function of J_N .

To senators	v_{-s}	v_s	Contributions c_{ps}
(a) $\{S_{40}, \dots, S_x\}$	$\sum_{i \neq s} v_i \leq 59$	1	$\hat{c}_{ls}^{0, v_{-s}} + \varepsilon + I(J_n - S_s)$
(b) $\{S_{x+1}, \dots, S_{100}\}$	$\sum_{i \neq s} v_i < 59$	1	$\hat{c}_{ls}^{0, v_{-s}} + \varepsilon$
(c) $\{S_{40}, \dots, S_x\}$	$\sum_{i \neq s} v_i = 59$	1	$\hat{c}_{ls}^{0, v_{-s}} + \varepsilon + \max[0, -S_s(E)] + I(J_n - S_s)$
(d) $\{S_{x+1}, \dots, S_{100}\}$	$\sum_{i \neq s} v_i = 59$	1	$\hat{c}_{ls}^{0, v_{-s}} + \varepsilon + \max[0, -S_s(E)]$
(e) $\{S_1, \dots, S_{39}\}$	$\forall v_{-s}$	1, 0	0
(f) $\{S_{40}, \dots, S_{100}\}$	$\forall v_{-s}$	0	0

with $\varepsilon < \frac{1}{61}$.

By the same argument as in the proof of claim 1, senators $S_s \in \{S_{40}, \dots, S_{100}\}$ have a dominant strategy, $v_s = 1$. Since no senator is pivotal in this deviation, $\hat{c}_{ls}^{0, v_{-s}} = 0$ in equilibrium by the refinement. Therefore, the president has a profitable deviation from the *candidate*

equilibrium. Thus, he can obtain his preferred outcome for $61\varepsilon + \sum_{40}^x I(J_N - S_s)$.

Proof of claim 4

We first establish three additional claims, used in the proof.

Claim 6

In equilibrium,

1. neither the president nor a lobby makes a positive payment if the preferred outcome is not chosen; and
2. neither a lobby nor the president makes a payment exceeding the net benefit it (he) gets from the outcome it (he) likes most if the preferred outcome is chosen.

These results are apparent from a consideration of the motivation of any agent to deviate. No agent has such a motivation in the circumstances given in this claim.

Claim 7

In equilibrium, a non-pivotal senator receives no contributions.

Suppose not. Any lobby L_s (or the president) contributing to its non-pivotal senator could eliminate the contribution without affecting the outcome. She is not pivotal, and other senators observe only the contributions offered to them; hence their votes are not affected. The contributing agent is better off deviating.

Claim 8

Given a nomination J_N yielding outcome E ($R \leq E \leq \bar{E}$), there always exists a continuation equilibrium in which the proposal is approved by at least sixty-one senators and no contributions are offered.

Given J_N and resulting outcome E , suppose $v_s = 1$ for sixty-one senators, each lobby offers $c_{ls} = (0, 0)$, and the president offers $c_{ps} = (0, 0) \forall s$. No senator has an incentive to deviate since she neither receives a positive contribution no matter what vote she casts, nor is she pivotal. Hence her vote cannot influence her personal outcome-dependent utility. No local lobby has an incentive to deviate, since its corresponding senator is not pivotal. The president is obtaining his preferred outcome for free and, since $P(E) \geq P(R)$, he has no deviation.

We now prove claim 4.

Existence of the continuation game equilibrium—Order senators according to $L_s(E)$. Given a reversion policy R and a generic nomination yielding E s.t. $R \leq E \leq \bar{E}$, and

$P(E) \geq \sum_{s=41}^{100} \max[0, -S_s(E) - L_s(E)]$, there exists a continuation equilibrium in which each player plays the following strategies:³⁶

The president offers $c_{ps} = \{\max[0, -S_s(E) - L_s(E)], 0\}$ to senators $S_s \in \{S_{41}, \dots, S_{100}\}$ and $c_{ps} = \{0, 0\}$ to senators $S_s \in \{S_1, \dots, S_{40}\}$.

Each lobby with $L_s(E) > 0$ and $L_s \in \{L_{41}, \dots, L_{100}\}$ offers

$c_{ls} = \{\min[L_s(E), \max[0, -S_s(E)]], 0\}$.

Each lobby with $L_s(E) < 0$ and $L_s \in \{L_{41}, \dots, L_{100}\}$ offers $c_{ls} = \{0, -L_s(E)\}$.

Each lobby with $L_s \in \{L_1, \dots, L_{40}\}$ offers $c_{ls} = \{0, 0\}$.

Each senator plays the following strategy: whenever she is pivotal, she votes $v_s = 1$ ($v_s = 0$) if $S_s(E)$ plus the total contributions offered to vote for J_N is strictly higher (lower) than $S_s(R)$ plus the total contributions offered to vote against J_N . If the sums are equal, the senator is indifferent, and she can vote either way. Whenever she is not pivotal, she votes $v_s = 1$ ($v_s = 0$) if the total contributions offered to vote for J_N are strictly higher (lower) than the total contributions offered to vote against J_N . If the contributions are equal, she is indifferent.

In equilibrium, the following actions are played. Senators $S_s \in \{S_1, \dots, S_{40}\}$ play $v_s = 0$, senators $S_s \in \{S_{41}, \dots, S_{100}\}$ play $v_s = 1$. The president pays $\max[0, -S_s(E) - L_s(E)]$ to senators $S_s \in \{S_{41}, \dots, S_{100}\}$ and pays zero to all others. Lobbies $L_s \in \{L_1, \dots, L_{40}\}$ pay zero contributions and lobbies $L_s \in \{L_{41}, \dots, L_{100}\}$ pay $\min[L_s(E), \max[0, -S_s(E)]]$ if $L_s(E) \geq 0$ and zero if $L_s(E) < 0$. To see that this is an equilibrium, consider each stage of the game.

Stage 3: In stage three, no senator has an incentive to deviate:

- Senators $S_s \in \{S_1, \dots, S_{40}\}$ are not pivotal and thus cannot affect the outcome; therefore, they have a personal outcome dependent utility of $S_s(E)$ regardless of their vote. They are offered zero contributions for any vote; hence they have no deviation from $v_s = 0$.

³⁶Recall that c_{ps} and c_{ls} are ordered pairs with the first element the contribution if $v_s = 1$ and the second element the contribution if $v_s = 0$.

- Each senator $S_s \in \{S_{41}, \dots, S_{100}\}$ is pivotal, but she has no incentive to change her vote since she is exactly compensated for any outcome-dependent utility loss and lobbyist contribution (if any).

Stage 2: In stage two, the president has no incentive to deviate. He has a positive benefit of

$P(E) - \sum_{s=41}^{100} \max[0, -S_s(E) - L_s(E)]$; therefore he prefers the equilibrium to paying nothing and obtaining R . Furthermore, he cannot reduce his contributions:

- Senators $S_s \in \{S_1, \dots, S_{40}\}$ are not pivotal, therefore, by claim 7, they are paid no contributions for equilibrium action $v_s = 0$. Furthermore, the president has no incentive to offer positive contributions for action $v_s = 1$. If the senator deviates, and supports the president's nominee, the outcome is unchanged and the president wastes the contribution paid.
- Senators $S_s \in \{S_{41}, \dots, S_{100}\}$ are all pivotal. The president is paying $\max[0, -S_s(E) - L_s(E)]$. If $\max[0, -S_s(E) - L_s(E)] \leq 0$, then the president is obtaining the vote of the senator for free, therefore he has no deviation. If $\max[0, -S_s(E) - L_s(E)] > 0$ – i.e., if $-S_s(E) > L_s(E)$ – positive contributions are paid. Suppose the president deviated to offer $\{\max[0, -S_s(E) - L_s(E)] - \varepsilon, 0\}$. There are two cases: (a) $L_s(E) \geq 0$ and $S_s(E) < 0$ and (b) $L_s(E) < 0$. (a) Contributions offered by the lobby are $\{\min[L_s(E), \max[0, -S_s(E)]], 0\} = \{L_s(E), 0\}$. Therefore the senator has a utility of $S_s(E) - S_s(E) - L_s(E) + L_s(E) - \varepsilon = -\varepsilon$ if she votes $v_s = 1$ and a utility of 0 if she votes $v_s = 0$. The senator would deviate to vote $v_s = 0$ and the nominee would be rejected. (b) Contributions offered by the local lobby are $\{0, -L_s(E)\}$. The benefit of the senator from voting $v_s = 1$ would be $S_s(E) - S_s(E) - L_s(E) - \varepsilon = -L_s(E) - \varepsilon$. The benefits from voting $v_s = 0$ would be $-L_s(E) > 0$. Therefore, the senator would deviate to $v_s = 0$ and the nominee would be rejected.
- The president would never deviate to contribute more, since these contributions would be wasted. Furthermore, the president cannot recruit a cheaper set of senators, since he is already recruiting the cheapest set by our ranking of senators.
- No lobby has an incentive to deviate. Each lobby $L_s \in \{L_1, \dots, L_{40}\}$ is paying zero contributions and cannot affect the outcome, because its senator is not pivotal. Therefore, it has no deviation – any positive contributions could only reduce its welfare.
- Each lobby $L_s \in \{L_{41}, \dots, L_{100}\}$ has no incentive to deviate either. There are three cases:
 - $L_s(E) > 0$ and $-S_s(E) > L_s(E)$, therefore $c_{ls} = \{\min[L_s(E), \max[0, -S_s(E)]], 0\} = \{L_s(E), 0\}$;
 - $L_s(E) > 0$ and $-S_s(E) \leq L_s(E)$, therefore $c_{ls} = \{\min[L_s(E), \max[0, -S_s(E)]], 0\} = \{\max[0, -S_s(E)], 0\}$; and
 - $L_s(E) < 0$, therefore $c_{ls} = \{0, -L_s(E)\}$.
 - The lobby does not deviate to offer more by claim 6. The lobby would be worse off by deviating to offer less, say $L_s(E) - \varepsilon$. If it deviated, the senator would have a benefit of $S_s(E) - S_s(E) - L_s(E) + L_s(E) - \varepsilon = -\varepsilon < 0$ from voting $v_s = 1$ and a benefit of 0 from voting $v_s = 0$. Therefore, the senator would deviate and the lobby would not be better off.
 - There are two subcases: $\max[0, -S_s(E)] = 0$ and $\max[0, -S_s(E)] > 0$. If $\max[0, -S_s(E)] = 0$, then no contributions are offered by the lobby and the

preferred outcome is obtained; therefore no deviation is profitable. If $\max[0, -S_s(E)] = -S_s(E)$, then $S_s(E) < 0$ and $S_s(E) + L_s(E) > 0$; therefore the president's contributions are $\{\max[0, -S_s(E) - L_s(E)], 0\} = \{0, 0\}$. If the lobby deviates to offer $\{-S_s(E) - \varepsilon, 0\}$, then the senator deviates and the outcome changes: the payoff from voting $v_s = 1$ is $S_s(E) - S_s(E) - \varepsilon < 0$, while the payoff from voting $v_s = 0$ is zero. Thus the lobby does not have a profitable deviation.

- c. The lobby does not obtain its preferred outcome. Given the president's offer, the lobby would have to offer strictly more than $-L_s(E)$ to induce its senator to vote $v_s = 0$. But then, even though the senator would deviate, the lobby would be worse off. Therefore, the lobby has no deviation.

Uniqueness of the continuation game outcome—No equilibrium with outcome R can

arise if $P(E) > \sum_{s=41}^{100} \max[0, -S_s(E) - L_s(E)]$. Suppose there were a candidate equilibrium in which the outcome were R . But then the president could offer $\max[0, -S_s(E) - L_s(E)] + \varepsilon$ to

$S_s \in \{S_{41}, \dots, S_{100}\}$, picking ε such that $P(E) \geq \sum_{s=41}^{100} \max[0, -S_s(E) - L_s(E)] + 60\varepsilon$. But then, $S_s \in \{S_{41}, \dots, S_{100}\}$ would vote for the proposed policy. The benefits from voting for the proposed policy would be at least $\max[-S_s(E) - L_s(E), 0] + \varepsilon + S_s(E)$. There are two cases: (a) $L_s(E) \geq 0$ and (b) $L_s(E) < 0$

- a. If $L_s(E) \geq 0$, then, by the assumption that the president can extract the full surplus from the local lobbies, a contribution of $\min[L_s(E), \max[0, -S_s(E)]]$ is added to vote for the proposal.

If the senator is pivotal, the benefits from voting for the proposal are $\max[-S_s(E) - L_s(E), 0] + \varepsilon + S_s(E) + \min[L_s(E), \max[0, -S_s(E)]] > 0$, while the benefits from a vote in favor of R are zero. If the senator is not pivotal, the gain from voting E as opposed to R is $\max[-S_s(E) - L_s(E), 0] + \varepsilon + \min[L_s(E), \max[0, -S_s(E)]] > 0$. Hence, it is a dominant strategy for the senator to vote $v_s = 1$. (Note that, if the president had not extracted the full surplus from the local lobbies in the candidate equilibrium, the candidate equilibrium itself would not have been an equilibrium.) (b) If $L_s(E) < 0$, then, by claim 6, the most that the senator could be offered to vote $v_s = 0$ would be $-L_s(E)$. Given the offer of the president, if the senator is pivotal and votes for the proposal, her benefit is $\max[-S_s(E) - L_s(E), 0] + \varepsilon + S_s(E)$ which is strictly higher than the benefit from voting $v_s = 0$, $-L_s(E) + 0$; therefore the senator would vote for the proposal. If the senator is not pivotal and votes for the proposal, his benefit is $\max[-S_s(E) - L_s(E), 0] + \varepsilon$, which is still strictly higher than $-L_s(E) + 0$. Therefore, it is a dominant strategy for the senator to vote for the proposal. Therefore, at least 60 senators would be voting for the proposal and the proposal would result in equilibrium. The president would be better off since

$P(E) > \sum_{s=41}^{100} \max[0, -S_s(E) - L_s(E)]$. Hence, R can never result in equilibrium because the president has a strategy that makes him better off and results in the proposal being approved. Given the continuation equilibrium described above, in stage 1 the president chooses the policy

that maximizes his utility net of contributions, $\arg \max_J P(E) - \sum_{s=41}^{100} \max[0, -S_s(E) - L_s(E)]$ (recalled that E is a function of J).

Figure 1.
Gridlock Region

TABLE 1

Pivot Strategy

v_{-s}	v_s	President's Contribution c_{ps}
a) v_{-s} has strictly less than 59 voting 1	1	$\hat{c}_{ls}^{0,v_{-s}} + \varepsilon$
b) v_{-s} has exactly 59 voting 1	1	$\hat{c}_{ls}^{0,v_{-s}} + \varepsilon + \max[0, -S_s(E)]$
c) v_{-s} has strictly more than 59 voting 1	1	$\hat{c}_{ls}^{0,v_{-s}} + \varepsilon$
d) For any v_{-s}	0	0

TABLE 2

Lobbying and Equilibrium: Results.

Lobbying Conditions	Equilibrium
No lobbying	R
Only president contributes conditional on v	E . Any J_N
Both president and lobbies contribute conditional on v	E . Any J_N
Both contribute conditional on v with ideological cost	$J_N = \operatorname{argmax} P(E) - \sum_{s=40}^x I(J_N - S_s)$ $J_N \leq J_5^{\square}$
Both contribute conditional on v_s	$\operatorname{arg max}_{[J_4^{\square}, J_5^{\square}]} P(E) - \sum_{s=41}^{100} \max[0, -L S_s(E)]$
Lobbies contribute to P (cond on E) and P to S_s (cond on v)	$\operatorname{arg max}_{[J_4^{\square}, J_5^{\square}]} P(E) + \sum_s L_s(E)$