# Advice and Consent

## UNITARY ACTORS, ADVISORY MODELS, AND EXPERIMENTAL TESTS

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This research explores two approaches to modeling decisions about when to resort to conflict. The authors begin from a model of a single actor making unilateral decisions for her or his nation-state. That model is expanded to incorporate advisors who make recommendations to the unitary actor. Those recommendations can be accepted or rejected as the leader sees fit. The authors' concern is to explore the robustness of the unitary actor model when others are added to the decision process. The authors rely on theoretical findings from social choice theory to develop the model. Laboratory experiments are then used to test the predictions from their model.

Those who study international conflict split into two groups when deciding how to model decisions about when to resort to conflict. One group contends that employing a unitary actor provides sufficient leverage with which to model decisions about going to war. A second group questions the conceptual soundness of that approach, arguing that decision making is part of a complex process and if this complexity is ignored then the models can only be

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misleading. In this article, we assume a unitary actor and then embed that actor in a complex decision process. We do this both within a theoretical and an empirical context. As such, our concern is with disentangling whether a unitary actor model is inherently limiting or whether a complex decision process is too complicated.

Our focus is with a leader who makes a final policy choice. This falls squarely in line with those who propose that understanding a nation's choice is best represented by the choice of a single actor. However, we complicate the setting by including "advisors" who bring policy initiatives before the leader. These advisors must reach agreement among themselves before proposing a policy to the leader. This requires not only that they solve a collective-choice problem, but that the leader accedes to their proposal. This yields a far more complex decision setting and one in which we can probe the extent to which leaders or advisors affect the final policy choice.

We rely on well-developed models in social choice theory to incorporate a role for both leaders and advisors. In addition we examine distinct institutions that characterize how advice is given. Our model provides a set of predictions that are then empirically tested using laboratory experiments. Before elaborating our model and results, we characterize some of the issues at stake in the literature. The second section details our theoretical model. The third section elaborates our experimental design, and the fourth section analyzes the data collected from that experiment. The final section concludes with some cautionary notes about the data and the model.

## TWO POSITIONS

Bueno de Mesquita presents, in *The War Trap* (1981), an expected-utility theory of conflict. Several assumptions are central to his model, two of which are important for our purposes: (1) that decisions about conflict are dominated by a single, strong leader and (2) that leaders act as if they are rational, expected-utility maximizers (Bueno de Mesquita 1981, 20). He does not deny that decisions about war are made by groups of decision makers, as he argues "no decision is precisely determined by one individual . . . but I assume that ultimate responsibility rests in the hands of a single policymaker charged with the final duty of approving a decision to wage war" (Bueno de Mesquita 1981, 20). Leaders act as gatekeepers, able to turn the nation away from initiating war. According to his assumptions, it is a necessary, but not sufficient, condition that for a nation to go to war its leader must calculate it to be in his or her interest to do so; this leader has a veto power, in essence, over decisions to wage war.

> All such leaders are dictators in the sense that all war-or-peace decisions must be approved by them. This should be construed to mean, not that these actors may start wars whenever they want to, but that they may stop policies leading to war if they want to. In that sense, the approval of the key leader is necessary for war, while his disapproval is sufficient to prevent his nation from starting a war. (Bueno de Mesquita 1981, 20-21)

Although Bueno de Mesquita clearly recognizes that decision making about the use of force is a process of social choice, he adopts a simplifying assumption that collapses the process into the hands of a single dominant leader. This is not a new position; indeed, it is entirely consistent with the traditions of classical realism and neorealism, which explicitly view nation-states as single, unitary, rational actors.

We are sympathetic to Bueno de Mesquita's approach, but we are concerned about the strong assumption of a single dominant leader and its effect on decisions to resort to force. Bueno de Mesquita directly tackles this concern by applying Arrow's logic to decision making about the use of force. He argues that because agendas are open to manipulation, nation-states cannot be said to act purposively unless there is consensus in the group or unless there is a single, individual decision maker. Because decisions about going to war are rarely consensual, Bueno de Mesquita focuses on decision making as if there is a dominant leader present (1981, 13-18). We find this unsatisfactory and explore the extent to which this strong assumption matters. The fact that no interest can be defined as a "national interest" does not mean that a group cannot act purposively. But more to the point, the fact that an agenda is open to manipulation by a dominant leader does not necessarily mean that the leader will choose to manipulate the agenda. And the fact that a leader has the formal power to reject advice does not in itself establish his primacy or dominance (Burke and Greenstein 1989, 580). Leaders often are open to, if not captives of, their advisors. If this is so, then the utility of treating a nation-state as a unitary actor, accounting for only the leader's preferences, is diminished. Bueno de Mesquita acknowledges that leaders do not always get what they want, but persuasively argues that they embody the desires of the nation. Adding complexity to his decision problem, we explore the robustness of relying on a unitary actor model.

We conceptualize decision making as a process of collective choice in which the decision is the *end* of the story, not the beginning; our interest is with understanding how decisions are reached and how the process may be manipulated. Some work recognizes this point (Putnam 1988; McGinnis and Williams 1989; Morgan and Campbell 1991; and Morgan and Bickers 1992), but little has been done to build domestic-level constraints into models of decision making.

The decision-making approach draws on a variety of sources and perspectives in understanding how human actors make decisions. Of particular interest to us is the focus on what might be called "institutions" (March and Olsen 1989; Shepsle 1989; Krasner 1988); that is, how institutions intervene in decision making. The way in which institutions structure decisions is crucial. In part we draw inspiration from Allison's (1971) focus on organizational and conceptual models and their effect on decision making. More to the point, the research by Johnson (1974) and George (1980), C. Hermann, M. Hermann, and Hagan (1987), Burke and Greenstein (1989), and Morgan and Bickers (1992) focuses our attention on the importance of advisory institutions for decision making.

The research that focuses, explicitly and implicitly, on decision-making institutions highlights two points that are crucial to our argument: (a) leaders are constrained by the advisors they select, and (b) different advisory arrangements have different effects on the decision-making process and on the decisions that result from that process. We question whether it is useful to place advisors into the realm of the important and then jump to treating a leader as a single, dominant, unitary actor. This may be understandable on grounds of parsimony if such an omission does not seriously undermine predictions about choices.

## THEORETICAL UNDERPINNINGS

The model presented here focuses on whether a leader is captive or independent of her advisors. Looking at the problem in this way cuts to the heart of assumptions concerning a unitary state actor and to criticisms of that assumption. As with every model, what we do here greatly simplifies the decision setting. In particular we consider a setting in which a single individual (a leader) is charged with making a decision from a complex policy space. A leader rarely bears the information search costs for various courses of action. Instead that task is delegated to a group of advisors. They sift through various proposals on behalf of the leader, acting as her agents. Proposals brought forward to the leader are considered with respect to some status quo and then accepted or rejected by the leader. Any proposal accepted by the leader replaces the status quo and this process continues until she unilaterally halts consideration. Consequently, the leader is free to accept or veto proposals brought by her advisors and does not bear the cost for searching among alternatives. Likewise, the leader decides when the decision process is brought to a halt.

The model that we have in mind has a relatively long tradition in the formal literature. It stems from models of weighted voting and has flowered into an analysis of structurally stable voting rules. Such a rule amounts to the following. Suppose among a set of autonomous agents, one is singled out and assigned a position such that she must always be included in any winning coalition. Such a setting is considered a *collegial voting setting*. The mechanism grants that actor (we will call her a leader) veto power over any alternative. Whenever she does not prefer a proposal, the leader simply refrains from joining a potentially winning coalition. Without her support, no proposal is winning. A good deal of theoretical work in the 1970s and 1980s was concerned with establishing when a game-theoretic core could be induced in such a decision setting. A recent survey of these results has neatly packaged them, characterizing most of the results as a variant of weighted voting games (Schofield, Grofman, and Feld 1988). We follow the lead set by Schofield, Grofman, and Feld (1988) and treat the cases discussed below as variants of that model.

Much of the theoretical discussion is geometrically based. In order to expedite this discussion we introduce a small amount of notation to help characterize several examples and to tie our theoretical propositions to the experimental results. All of the theoretical results are easily derived from the special cases presented in Schofield, Grofman, and Feld (1988). Where general results are applicable we note them in the text.

## DEFINITIONS AND ASSUMPTIONS

Let $N = \{1, 2, \ldots, n\}$ be the $n$-membered (odd) set of policy advisors charged with selecting a single alternative, x, from a convex policy space X $\subseteq R^m$ for consideration by a leader, $l$. The leader, $l$, and each member i $\in N$ has strictly quasi-concave binary preference relations (Type One, Euclidian preferences). Utility declines as a function of distance away from i's ideal point, $x^i$, so that the *set of alternatives preferred to x by player i* is defined as

$$P_i(x) = \{x' \in X \mid \|x^i - x'\| < \|x^i - x\|\}$$

and for the leader

$$P_l(x) = \{x' \in X \mid \|x^l - x'\| < \|x^l - x\|\}.$$

The decision mechanism used here involves actors making choices between pairs of alternatives. Typically, this means that a status quo, $x^0 \in X$, is paired with some other alternative in X. The social relation is defined by a set of decisive coalitions preferring one alternative to another by a decision rule. We define two characteristics for coalitions of advisors. We first assume that a leader takes advice only from a decisive coalition of advisors. Decisiveness is given by some $\alpha$-majority rule that defines when a coalition of advisors has "won" and carries forward a proposal to the leader, subject to the restriction that $1/2 < \alpha \leq 1$.[1] Second, we assume the advisors are weighted differently, that is, for each $i \in N$ there is a weight $\beta i$ such that $0 \leq \beta_i \leq 1$, with

$$\sum_{i=1}^{n} \beta_i = 1.$$

An advisory coalition is given by a "weight" for the collection of individuals in it with the coalition represented by the tuple $S_j = \{B_j, i \in S_j\}$. For the advisors we define a set of decisive coalitions $S = \{S_i, S_2, \ldots, S_k\}$ where $S_j \in S$ if and only if $B_j \geq \alpha$. For the case of simple majority rule among *equally weighted* advisors, the $\alpha$ rule is given by: $N + \frac{1}{2}N$. The set of alternatives preferred to x by some decisive coalition of advisors, a particular $S_j \in S$, is given by

$$\mathbf{P}_j(x) = \bigcap_{i \in S_j} P_i(x).$$

What happens when differing types of decision rules are used for advisors? This question is of crucial interest because leaders adopt many different types of advisory schemes. Some leaders require that a simple majority (of equally weighted advisors) is sufficient to bring a proposal forward. Some leaders rely extensively on the advice of one or two advisors (differentially weighting advisors). By contrast, other leaders require that their advisors be unanimous in their proposal. The degree of consensus required by the leader is, of course, an open matter. However, the extent to which consensus among advisors is used matters a great deal for the choice of outcomes. Of interest here is whether changes in the size of the $\alpha$-rule affect the choice of alternatives proposed by advisors. Obviously as the advisor's decision rule increases, so too does the size of the weights defining a decisive coalition. If

1. Throughout we will be concerned only with "proper" games among advisors. This means that for $\alpha$-majorities, the complement of any decisive coalition is losing. Therefore we restrict our attention to settings in which the rule must be greater than one half. Similar results could be defined for less than minimum winning coalitions. In just such a variant, Wilson and Herzberg (1987) treat a game with a single player holding veto power and requiring (effectively) a two-fifths majority.

the weights defining any decisive coalition become large enough, then the core for the game will be nonempty. Theorem 5 in Schofield, Grofman, and Feld (1988) characterizes a set of conditions defining when the core is nonempty. Central to this characterization is the Nakamura number (Nakamura 1979), which is the smallest set of decisive coalitions for which there is an empty intersection. If the Nakamura number exceeds the number of dimensions plus two, then it has been shown that the core is nonempty. Typically, as $B_j$ (the weight for a decisive coalition) increases, the size of the Nakamura number increases.[2] What this means is that the larger the degree of consensus required by the leader, the more likely that a core for advisors will be introduced. Below we explore what effect this has for outcomes.

To this point we have only characterized a set of preferred alternatives for advisors. However, a leader has a special role in this process. She has the right of veto, making this a *collegial* game. This means the leader must be included in every decisive coalition of advisors in order for an alternative to successfully supplant the status quo. Borrowing notation used by Shepsle and Weingast (1984) and others we define the set of *all* socially preferred alternatives as the win set of $x^0$, or

$$W(x^0) = \{x \in X \mid \bigcup_{\forall s_j \in S} P_j(x^0) \cap P_l(x^0)\}.$$

By simple application of general results reviewed by Schofield, Grofman, and Feld (1988), we state the following theorem.

> Theorem: In the *collegial* setting detailed here, for at least one status quo, $x^0$, $W(x^0) = \varnothing$. (For discussion and proofs see Schofield, Grofman, and Feld 1988, Theorem 4 and Schofield 1985, Corollary 4.3.8. Also see Herzberg 1985)

The theorem points out that an equilibrium exists for any *collegial* setting. If there is no $x \in X$ that defeats the status quo, $x^0$, by a decisive coalition of advisors *and* the leader, then that alternative is in equilibrium and the win set of $x^0$ is empty.

We now explore several examples to illustrate the power of veto. At the same time we illustrate that the type of advisory scheme used by a leader affects *which* outcomes are chosen. Although there are many different ways to organize advisors, we point out that under differing decision rules, we

2. A number of theorists have dealt with the conditions under which a core exists as the size of a majority for a proper game increases. Greenberg (1979) proved an earlier conjecture by Kramer (1977) concerning the dimensionality required to ensure a core under varying super majority voting rules. Schofield (1985) offers the most complete statement of many of these results.

derive different equilibria. All of our examples are tied to the general statement in the theorem. Each of the specific cases illuminates how the leader can be advantaged or disadvantaged by the type of advisory structure used.

### CASE 1: ADVISORS WITHOUT A PIE

For the sake of simplicity throughout we assume that advisors are equally weighted. We begin with the case where advisors have conflicting preferences, a simple majority of advisors is required, and there exists no preference-induced equilibrium (PIE) among the advisors (for such conditions, see Plott 1967; Cox 1987). One representation is given by Figure 1. In this case there are three advisors (with ideal points at $x^1$, $x^2$, and $x^3$, respectively) and a leader (whose ideal point is given by L). Suppose the current policy is located at $x^0$. The three petals describe $\mathbf{P}_j(x^0)$, or the set of points that each decisive coalition prefers to $x^0$. These petals constitute the intersection of member preferred sets to the status quo. From the standpoint of the advisors, any points contained in these petals can defeat the status quo. Also represented on the figure is the preferred set for the leader, $P_L(x^0)$. In this instance the leader's ideal point is somewhat removed from his advisors, so that only part of the indifference curve passing through $x^0$ is displayed. Finally, $W(x^0)$ is nonempty. It is comprised of the shaded portions of the petals passing through $x^0$. Any of the points in these shaded petals are preferred by both some simple majority of advisors *and* the leader.

To understand how constraining the leader's veto power can be in this setting, consider advisors 2 and 3 proposing alternative y on Figure 1. While both advisors would vote in favor of such a proposal over $x^0$, it would be opposed by the leader. Alternative y is outside the leader's preferred-to set, and consequently is less valued than $x^0$. The result is that y would be vetoed, even though preferred by a decisive coalition of advisors. The effect of a veto is to require that the leader be included in each coalition. However, the leader is not completely advantaged by this arrangement. The heavy line segment extending to the southwest from the leader's ideal point denotes the equilibrium for this example. It includes a set of points, none of which can be defeated by any other point. Although including the leader's ideal point, so too is a point that lies on the contract locus of players 1 and 2. Consequently, depending on how the agenda unfolds, the leader can always get what she desires (her ideal point) or may obtain an alternative at some remove from her ideal point. What a leader gains is a function of exercising negative (veto) rather than positive agenda power. This point is a common theme throughout

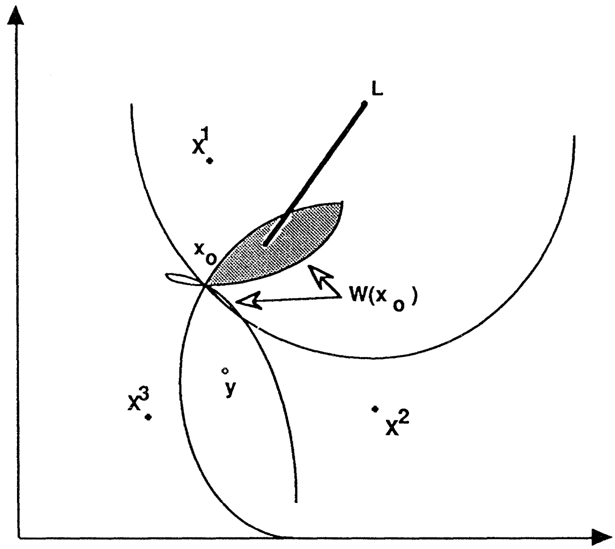


**Figure 1: Status Quo in Equilibrium with No PIE for Advisors**

our examples. The special powers of leaders are substantial powers indeed. Yet leaders are constrained by their advisors.

## CASE 2: ADVISORS WITH A PIE

We now take an example where the advisors have a preference-induced equilibrium. This example is given in Figure 2. Again there are three advisors and a leader. The primary difference in this case is that member 2's ideal point is a median on each dimension, and consequently it is the unique equilibrium outcome for the advisors. However, this is only true in the absence of a leader. Suppose the status quo, $x^0$, on the figure is challenged. The circle, with its center at member 2's ideal point, represents those alternatives preferred by decisive majorities of advisors to the status quo. In fact the set of points defined by the lens within the circle are *unanimously* preferred. However, note the location of the preferred-to set of the leader. It does not intersect any of the points in $P_j(x^0)$. Therefore $W(x^0)$ is empty. This is because the only points preferred by a majority of advisors point in the direction of member

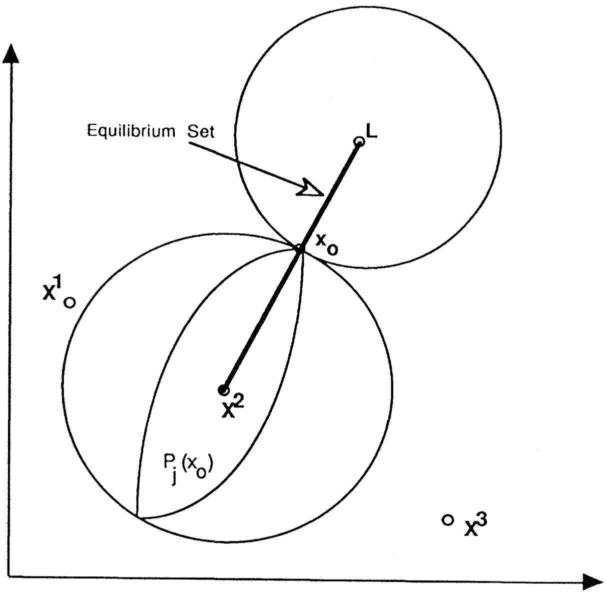


**Figure 2: Status Quo in Equilibrium with a PIE for Advisors**

2's ideal point. However, the leader prefers only alternatives lying in the direction of her ideal point.

As with the first case, the equilibrium is defined by the heavy line segment. It extends from the leader's ideal point to the ideal point of the PIE for the advisors. For our example, $x^0$ is an element of that set. Once again, the leader is advantaged by her formal veto position. However, the advantage is not complete, because outcomes near the advisors are also in equilibrium. If the PIE for the advisors represents an obvious focal point during discussions, it can easily be the only proposal brought before the leader. If so, the advisors can offset the advantage wielded by the leader.

### CASE 3: ADVISORS WITH A CONSENSUAL RULE

The final case allows us to consider what happens if the leader relies on a rule requiring substantial consensus among advisors before they offer their advice. In this case, rather than using simple majority rule among advisors a variant of a super majority rule is imposed. In Figure 3 there are five advisors (with ideal points denoted $x^1$, $x^2$, $x^3$, $x^4$, and $x^5$) and a leader. Four of five advisors must agree in order to bring a proposal to the leader. Suppose we begin from the status quo, $x^0$. Several points are in order. First, the four petals located on the figure constitute the preferred-to sets for simple majorities of advisors. Second, under a four-fifths rule *only* the shaded petal denotes alternatives that are winning for a super majority of advisors. Finally, the preferred-to set for the leader passing through $x^0$ illustrates that it has no common intersection with $P_j(x^0)$. Therefore $W(x^0)$ is empty and the status quo is in equilibrium.

The large, pentagonal shaped object on the figure represents the set of alternatives in equilibrium for this example. The set encompasses the leader's ideal point, but it also contains a substantial portion of the policy space. To gain some sense of the size of this equilibrium set, compare it with the equilibrium under a three-fifths rule for the advisors. It is given by the line extending to the southwest quadrant from the leader's ideal point. In both instances the leader's ideal point is included in the set of equilibrium.

## CAUTIONARY NOTES

To this point we have considered particularly odd cases, but cases that allow us to make several points. In each instance the leader's ideal point is removed from the preferences of her advisors. This is particularly strange, given that the advisors are usually the agents of the principal. It is unlikely that a leader would purposely appoint advisors with whom she is at odds. Most likely a leader is surrounded by advisors who are closer to her own concerns and interests. In some way the more typical case might be that captured by Figure 2, except with the leader's ideal point overlapping the position of $x^2$. In that instance the core for the advisors and the equilibrium for the veto game would be identical.

A second oddity is that the advisors tend to have opposed preferences across the two dimensions represented here. It is unlikely that a leader would appoint advisors who are completely different from one another. Instead, they are more likely to occupy positions quite close to one another. Therefore, the nature of appointments is an important consideration but one not treated here.

The primary aim in discussing these cases, and with the experimental tests offered below, is to present a difficult test for the model. We are interested in the extent to which a leader enjoys an advantage when faced with the policy inputs of advisors. Taking the extreme case, where a leader is far removed from her advisors, seems the most plausible point of departure. If a leader

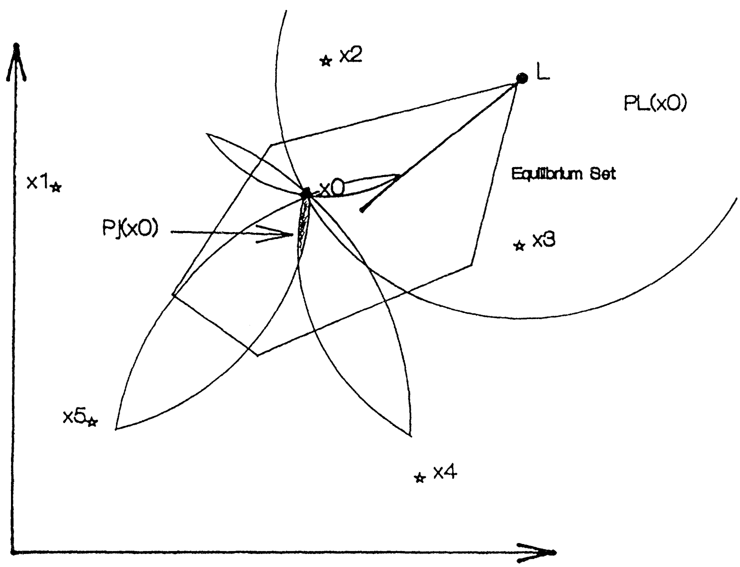


**Figure 3: Status Quo in Equilibrium under Super Majority Rule**

gains some advantage in that setting, she will gain an even greater advantage when strategically appointing those who will advise her.

Several theoretical conclusions regarding the advisory game may be drawn. First, the introduction of a leader with veto control over advisory group decisions induces additional stability in the decision process. By the theorem a core always exists. This allows us to observe stability over outcomes, whereas in the absence of such an arrangement instability is expected to be the rule (Riker 1980). Second, whenever an independent advisory arrangement exists, it serves as a constraint on the leader's ability to obtain her most preferred outcome. Whenever her preferences are opposed to her advisory group, the leader's preferred outcome is (usually) only one element of a set. Third, as the degree of consensus required among advisors increases, so too does the size of the predicted equilibrium set. This serves to further constrain the leader in obtaining her preferred alternative. Taken together, these results suggest that models stressing a unitary actor will not accurately predict outcomes. However, given the caveats suggested above, leaders will certainly enjoy an advantage in the policies selected. We now turn from the theoretical to the empirical.

## EXPERIMENTAL DESIGN

In order to test the effects of an executive veto under differing advisory schemes, we turn toward laboratory experiments. Our empirical design allows us to control the distribution of advisors and leaders, detail the advising schemes, and generate explicit equilibrium predictions. By moving to experimental laboratory procedures, we trade off generalizability to complex natural settings for control over specific variables of interest. It is important to note that our concern in these experiments is with testing key features of our theoretical model. Experimental methods enable us to focus on a subset of key variables and provide precision in measurement. We do not aim to replicate natural processes with these experiments. Instead, we aim to test the robustness of a theoretical model. If these theoretical propositions are supported by our data, then the next step, applying this model to complex natural settings, is warranted.

### PROCEDURE

We rely on six-person committee experiments in which five subjects assume the role of advisor and choose proposals to bring before a leader. As such, it resembles experiments conducted by Fiorina and Plott (1978), McKelvey, Ordeshook, and Winer (1978) and Herzberg and Wilson (1991).[3] The sixth subject fills the role of leader, and is empowered to accept or reject the advisors' proposal. Only "naive" participants were used in the experiment – individuals who had not previously participated in a spatial voting experiment. Subjects were recruited through advertisements posted around the campus and in the student newspaper at Indiana University. Subjects volunteered to participate at a particular time and date, and experimental manipulations were randomly assigned to each group. All participation in these experiments took place at computer terminals that were physically separated. Players could not see one another's terminals and their identities were randomized and kept anonymous during the experiment. This minimized the possibility that groups of players successfully colluded using prearranged coalition strategies. In addition, the position of the leader, who was referred to as a "monitor," was randomly assigned.

3. Unlike the committee experiments by Fiorina and Plott (1978) and McKelvey, Ordeshook, and Winer (1978) that were conducted in face-to-face settings, these experiments used computer-controlled settings to mediate all player interaction. The experiments were conducted on Macintosh computers connected over a local area network. Source code for these computer programs is available from the third author. Interested readers are referred to Herzberg and Wilson (1991) for discussion of the generic version of this spatial experiment.

Participants were given both oral and machine-based instructions designed to familiarize them with the experiment and test their comprehension.[4] Each individual was then assigned an ideal point in the two-dimensional space and was given a payoff function. In the experiment, participants were to collectively choose an alternative from a two-dimensional policy space. Alternatives were represented as Cartesian coordinates from orthogonal dimensions labeled X and Y. All experiments used an open agenda procedure in which proposing alternatives and voting was governed under a modified version of *Robert's Rules of Order*. At the outset of the experiment a fixed status quo was introduced by the experimenter. Two distinct stages were used in the decision process, the first belonging to the advisors and the second to the leader. First, any advisor could place a proposal on the floor; once proposed, it remained there throughout the decision period. A vote to amend the status quo was not considered unless a proposal was "seconded" by another advisor. Once a proposal was seconded, a vote by the advisors was called between the amendment and the status quo. All amendments were treated as an amendment in the nature of a substitute. When voting, subjects considered whether to retain the status quo or substitute the amendment for the status quo. Subjects were equally weighted in their votes. If a decisive majority of the advisory group voted to retain the status quo, the experiment continued, with the floor open to new amendments and the second decision stage with the leader bypassed. If a majority voted for the amendment, it went forward to the second decision stage. If the leader vetoed the amendment, the previous status quo was retained. All advisors were informed that the amendment had been vetoed by the leader, and the floor was opened to new amendments. If the leader ratified the proposed change, the amendment became the new status quo and was open to further amendment under the same rules. The experiment continued in this fashion until the leader chose to adjourn the meeting. Once the leader chose adjournment, the decision period came to an end and subjects were paid their value for the current status quo.

In these experiments, subjects participated in three distinct periods, with each period constituting a distinct decision. All subjects were told the number of periods in which they would participate. The first was always a "practice" period, and subjects were assigned to a preference configuration that would not be used in the remaining two periods. In both the second and third periods, subjects earned the value of the committee's final choice. Their money was tallied and they were paid at the conclusion of the experiment. Between each period, subjects were given new instructions by the computer, detailing the

4. These instructions are available from the authors upon request.

design and manipulation for the subsequent period. In the results discussed below, we treat each decision as an independent decision. Statistical tests were run to determine whether there were any period effects. None were found, so we do not differentiate across periods.

EXPERIMENTAL MANIPULATIONS

In this experiment four distinct conditions, under two manipulations, were explored. The first manipulation was composed of two treatments that switched the distribution of ideal points of subjects. The second manipulation, also made up of two treatments, switched the size of the majority needed by advisors. These manipulations were crossed to yield a 2 × 2 factorial design.

Under the first manipulation, one distribution of preferences was the *star configuration*. Here advisors were arrayed nearly symmetrically around the center of the alternative space and the leader was located outside the advisors' Pareto set. In the absence of a leader's veto there exists no simple majority rule equilibrium among the advisors. This configuration was chosen for its property of opening simple majority rule cycling among advisors. The second distribution of preferences, a *core configuration*, has a simple majority preference-induced equilibrium for advisors located at one subject's ideal point. Table 1 lists the ideal points and payoff functions of all players under this manipulation.

The second manipulation switched the size of the majority required for advisors to pass a proposal on to the leader. The first treatment requires only that a *simple majority* of advisors vote to change the status quo. This means that a decisive coalition needs three advisors to agree to change the status quo. The second treatment within this manipulation requires a *super majority* be assembled to amend the status quo. This is implemented as four out of five advisors agreeing before the status quo is changed. This manipulation allows us to assess how requirements for greater or less consensus among advisors affects final outcomes.

These two manipulations, each with a pair of treatments, yield four experimental conditions. These conditions are displayed on Table 2. From the table, condition 1 crosses the star configuration of preferences with a simple majority rule for advisors. Each condition, in combination with the leader's power to veto, yields a distinct equilibrium prediction. Because these predictions are different, each condition is analyzed separately. Later we turn to relative comparisons of outcomes across the size of the advisor's decision rule, but within the same type of preference configuration.

TABLE 1
Parameters Used in Experiments

| *Member* | *Ideal Points* | *Maximum Value* | *Loss Rate* ($\gamma$) |
|---|---|---|---|
| Star Preferences | | | |
| A | (22, 214) | $25.00 | –.013 |
| B | (171, 290) | $25.00 | –.013 |
| C | (279, 180) | $25.00 | –.013 |
| D | (225, 43) | $25.00 | –.013 |
| E | (43, 75) | $25.00 | –.013 |
| L | (280, 280) | $25.00 | –.013 |
| Core Preferences | | | |
| A | (120, 125) | $9.00 | –.019 |
| B | (34, 168) | $13.00 | –.009 |
| C | (242, 247) | $14.00 | –.007 |
| D | (222, 74) | $12.00 | –.007 |
| E | (30, 35) | $11.00 | –.008 |
| L | (175, 265) | $13.00 | –.008 |

Utility for any **X** and for the ith's member's ideal point, $\mathbf{X}_i$, is given by:
$U_i = (\text{Maximum Value}) \times \exp[\gamma \times (\|\mathbf{X} - \mathbf{X}_i\|)]$

## ANALYSIS

### CONDITION 1

The first experimental condition employs a *star configuration* of preferences and requires that advisors amend the status quo under *simple majority* rule. Under this condition, the predicted equilibrium is given by the heavy line extending from the leader's ideal point to the southwest corner of the policy space on Figure 4. Any point lying on that line has an empty win set, and consequently, there is no coalition of advisors *plus* the leader preferring some other point. The point located in the southwest corner of the alternative space indicates the initial status quo for this condition. That point was selected to initially disadvantage the leader. Also plotted on the figure are outcomes for the experiment. Key elements from trials under this condition are detailed on Table 3.

The first point to note from these results is that only one of the eight outcomes falls directly on the equilibrium set. One other is so close that subjects would have had a difficult time building an agenda leading to a point in the equilibrium set. The second point to note is that just because outcomes did not fall in the predicted equilibrium set, this does not mean that the leader

TABLE 2
Experimental Conditions

| Advisor Decision Rule | Preference Manipulations: Star Configuration | Preference Manipulations: Core Configuration |
|---|---|---|
| Simple majority | Condition 1 ($n$ = 8) | Condition 2 ($n$ = 8) |
| Super majority | Condition 3 ($n$ = 8) | Condition 4 ($n$ = 8) |

NOTE: Number in parentheses indicates number of replications of experimental condition.

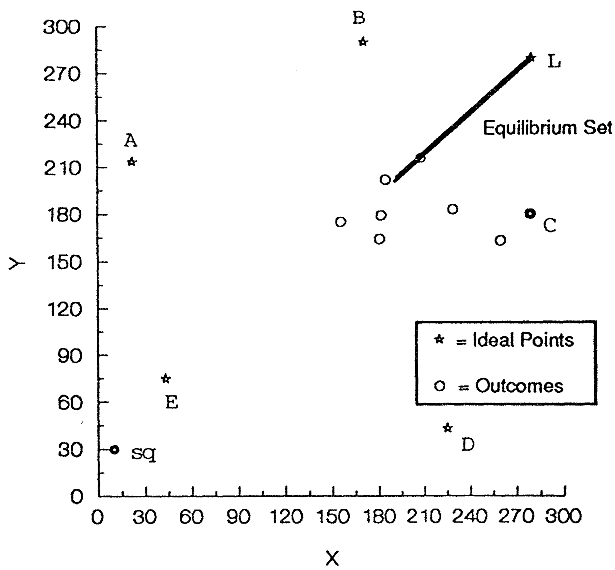


**Figure 4: Outcomes under Condition 1**

exerted no influence on outcomes. On average, each of the outcomes are closer to the leader and her closest advisors (B and C) than to a majority coalition made up of {A, D, C} (a means-difference test gives t = 4.85, $p$ = .002). This illustrates that these outcomes are *pulled to* the leader's position. The third point to note is that in six of eight trials, there were *no* proposals

TABLE 3
Outcomes for Experiments with Star Preference Configurations

| *Name* | *Period* | *Outcome* | *Time (Seconds)* | *Vote Total* |
|---|---|---|---|---|
| Condition 1 | | | | |
| TRT1A | 1 | (185, 202) | 1,050 | 27 |
| TRT1B | 1 | (260, 163) | 1,557 | 64 |
| TRT1C | 1 | (229, 183) | 598 | 19 |
| TRT1D | 1 | (156, 175) | 204 | 6 |
| TRT1E | 2 | (182, 179) | 489 | 18 |
| TRT1F | 2 | (279, 180) | 827 | 30 |
| TRT1G | 2 | (208, 216) | 237 | 7 |
| TRT1H | 2 | (181, 164) | 682 | 27 |
| Condition 3 | | | | |
| TRT3A | 2 | (190, 147) | 587 | 14 |
| TRT3B | 1 | (156, 107) | 1,189 | 27 |
| TRT3C | 1 | (191, 193) | 1,819 | 54 |
| TRT3D | 1 | (213, 216) | 203 | 6 |
| TRT3E | 2 | (113, 151) | 715 | 19 |
| TRT3F | 2 | (113, 186) | 580 | 20 |
| TRT3G | 1 | (65, 128) | 222 | 8 |
| TRT3H | 2 | (126, 158) | 1,147 | 45 |

SOURCE: Data collected by the authors.

on the floor that could have successfully defeated the final outcome by a combination of a majority of advisors and acceptance by the leader. In a seventh trial, only 1 of the 40 proposals on the floor could have defeated the status quo, but the advisors never brought that proposal to a vote. In the remaining trial, TRT1B, 5 of 46 proposals were able to defeat the final outcome. However, this was due primarily to the idiosyncratic actions of the leader selected for this period.

Rather than focus only on outcomes, it is important to note what transpired during these trials. One crucial consideration is whether or not the leader exercised the veto. Vetoes were used in 60 of 90 instances (66.7%) where the status quo was amended. The extent to which vetoes were used varied by trial. For instance, the leader in experiment TRT1D never used the veto, only two successful amendments were made, and the leader adjourned the round in less than three and one-half minutes. By contrast, the leader in experiment TRT1B cast a total of 29 vetoes out of 37 successful amendments and this experimental trial lasted almost twenty-six minutes. In fact the agenda for this trial is instructive. The first successful amendment moved from the initial status quo to a point near member C's ideal point. The leader then vetoed the next nine amendments that were passed by the advisors. Subsequent non-vetoed amendments improved the payoff to the leader, until by the fifth successful amendment the status quo was practically at the leader's ideal point. In general most of the trials resembled the process up to this point. Through a judicious use of the veto, the agenda trajectory moved toward the leader's ideal point. In this particular case, the leader then cast 15 successive vetoes. For whatever motives, on the sixth vote the leader acceded to an amendment that a majority of advisors preferred. This moved the status quo far from the leader's position and represented a substantial monetary loss to him ($11.62). This was an unusual strategy to say the least, and it points out how individual idiosyncrasies can dramatically upset these processes.

Examining the agenda process is also instructive for pointing out how little control leaders had over the agenda. In these trials, the leader could not propose amendments. Instead, consistent with our view that leaders use advisors to offset information costs, leaders were forced to wait to see which amendments were brought to them. First, the advisors were not always successful in passing amendments. Only 45.5% of their votes on amendments were passed by a majority of the advisors. Second, amendments brought forward to the leader often had been vetoed. For example, in experiment TRT1C, seven of the eight vetoes were cast on the same amendment. This was common in other experiments where one or two proposals could always defeat the status quo by a majority of advisors. Even though the proposal was blocked by a veto, the advisors continued to bring it up. This may have been a signal by the advisors that those proposals were strongly preferred. Whatever the intent, the result was that few other alternatives were considered. This severely constrained the way agendas were built, and usually resulted in outcomes outside the predicted equilibrium set. However, the fact that the agenda was outside the leader's grasp is a reality in almost any decision-making setting.

The results under this experimental condition indicates that leaders are not all powerful. They are constrained in distinct ways by their own concerns and by their advisors. Our data show that some leaders stopped short in the experiment, and one other gave up large gains. Whether leaders are altruists seeking some ill-defined common good or simply clumsy politicians, their idiosyncrasies importantly affect outcomes. These data also point out that veto power is not the same as controlling the agenda. The leader was always left to the mercy of the amendments brought forward by advisors. In each trial there were always proposals on the floor preferred by the leader to the status quo, but in almost every instance there was no simple agenda, given

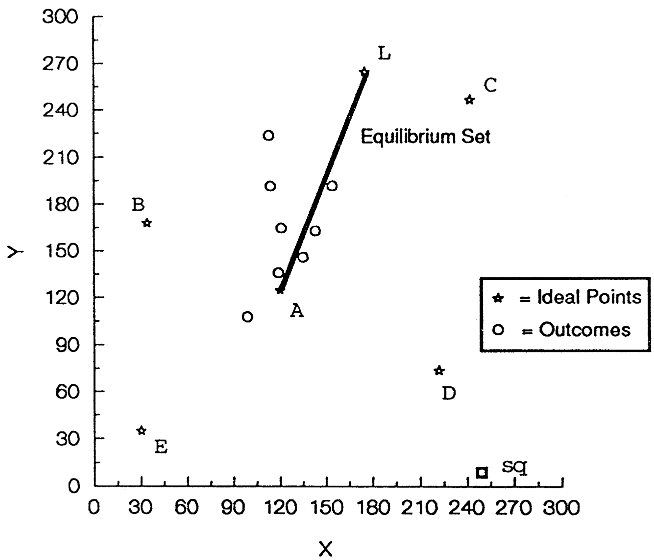


**Figure 5: Outcomes under Condition 2**

the proposals on the floor, that improved the leader's position. In this setting leaders exert a discernible effect on outcomes. However, they do not always get what they want.

## CONDITION 2

The second experimental condition uses a *core configuration* of preferences and again requires that a *simple majority* of advisors vote to amend the status quo before it is brought to the leader. Under this condition the predicted equilibrium is given by the heavy line on Figure 5 extending from the leader's ideal point to member A's ideal point. Included in this set is the point located at member A's ideal point, which is an equilibrium for the advisors alone. Moreover, once the agenda moves toward that alternative, the set of amendments that can defeat it decreases. This is because, for the advisors, that core is both attractive and retentive. The initial status quo for this condition is located in the southeast corner of the alternative space, an alternative that is far removed from the leader's ideal point. Also plotted on the figure are

TABLE 4
Outcomes for Experiments with Core Preference Configurations

| *Name* | *Period* | *Outcome* | *Time (Seconds)* | *Vote Total* |
|---|---|---|---|---|
| Condition 2 | | | | |
| TRT2A | 1 | (114, 192) | 81 | 2 |
| TRT2B | 2 | (119, 136) | 431 | 14 |
| TRT2C | 2 | (154, 192) | 66 | 3 |
| TRT2D | 2 | (99, 108) | 1,383 | 57 |
| TRT2E | 1 | (143, 163) | 216 | 6 |
| TRT2F | 1 | (113, 224) | 46 | 2 |
| TRT2G | 1 | (135, 146) | 1,170 | 33 |
| TRT2H | 2 | (121, 165) | 138 | 6 |
| Condition 4 | | | | |
| TRT4A | 2 | (158, 154) | 297 | 8 |
| TRT4B | 1 | (132, 149) | 694 | 23 |
| TRT4C | 2 | (120, 125) | 401 | 13 |
| TRT4D | 2 | (119, 132) | 423 | 13 |
| TRT4E | 1 | (149, 179) | 568 | 23 |
| TRT4F | 1 | (100, 173) | 637 | 19 |
| TRT4G | 1 | (120, 126) | 1,273 | 24 |
| TRT4H | 1 | (119, 189) | 146 | 6 |

SOURCE: Data collected by the authors.

outcomes for this experimental condition. Key variables associated with this condition are detailed in Table 4.

The results from this condition support a claim that leaders matter. Although outcomes do not appear on the predicted equilibrium set, they are certainly shifted from the advisor's majority rule equilibrium (located at member A's ideal point) and in the direction of the leader. Moreover, these outcomes were about the best that the leaders could have obtained. In six of eight trials, there were *no* proposals on the floor that could have successfully defeated the final outcome by a combination of a majority of advisors and acceptance by the leader. In a seventh trial only one of the five proposals on the floor could have defeated the status quo, but the advisors never brought that proposal to a vote. In the remaining trial, TRT2D, 55 of 96 proposals were able to defeat the final outcome. However, this outlier was due to a combination of the leader's actions and the agenda control wielded by a single subject. Outcomes, then, although not at the predicted equilibrium set for this condition, were in equilibrium in six of eight cases given the proposals on the floor.

As with leaders in the first condition, vetoes were often used, at least when measured as a percentage of the total successful amendments. Two-thirds of the amendments brought forward were vetoed. However, far fewer successful amendments were made under this condition. Advisors passed only a total of 15 amendments in these trials (compared with 90 under condition 1). This low number of amendments is coupled with the small number of votes taken in these trials. In five of eight trials, six or fewer votes were taken. In four of those cases the first successful amendment by the advisors became the status quo. In large part, because the status quo was so far removed from all the advisors (except D), the first agenda step was usually quite large. Typically the agenda would lead to a point in the policy space between the leader and member A's ideal points. Once lodged there, the win set collapsed to a small lens characterized by the common intersection of those two players' indifference curves through that status quo. The closer amendments were to the equilibrium set, the smaller that lens and, consequently, the more difficult it was for members to uncover an alternative in the win set. In experiment TRT2F, one such proposal was on the floor, but it was not called to a vote, and the leader adjourned the experiment after less than a minute.

Experiment TRT2D represents a peculiar trial under this condition. In this instance the leader never exercised a veto. Three successful amendments were brought forward, the first two of which improved the leader's position. The second of those amendments was at a point – (122, 125) – quite close to the advisors' majority rule equilibrium. The third amendment, however, moved away from that point, with member D joining in to vote against the status quo. Such a move made both D and the leader worse off (and the latter failed to veto the change). Although there were 41 subsequent votes, none gained a majority. Immediately after the point (99, 108) was selected, member E, who was favored by the movement, took over by setting the agenda. That subject brought 39 of the 41 subsequent votes to the floor. All represented improvements for member E and none could have defeated the status quo by a majority of the advisors. In the experiment, motions to amend were not queued, so following each vote the first person to make such a motion was recognized by the computer. Following the vote to amend the status quo with the point (99, 108), member E brought 31 consecutive votes to the floor. Others also tried to bring proposals to a vote, but it was not until vote 47 that member D was finally able to beat E to a motion to amend. Interestingly, although 55 different alternatives on the floor could have defeated the status quo, only this proposal was brought to a vote, but it failed because of the vote cast by subject A. After more than 23 minutes, the leader finally adjourned the experiment.

In general these findings support our model that points out that a leader will be advantaged with respect to her advisors. In six of eight cases, outcomes are in equilibrium, *given the set of proposals on the floor*. Although outcomes do not lie at the predicted equilibrium set, in almost every instance they are skewed toward the leader's ideal point. What is apparent from these data is that the leader exercises strong control over the agenda path. Vetoes often are used. However, the leader is not unconstrained. The agenda powers wielded by others are central for deciding which proposals get on the floor and for the way in which they are brought to a vote. These constraints are quite strong and certainly prevent the leader from attaining her most preferred alternative.

### CONDITION 3

The third experimental condition uses a *star configuration* of preferences and requires that a *super majority* of advisors agree to amend the status quo. Under this condition the predicted equilibrium expands to incorporate a large portion of the alternative space in Figure 6. It is made up of the set of points contained within and on the boundary of the odd shaped pentagonal figure with one vertex at the leader's ideal point. By requiring that four out of five advisors agree to amend the status quo before passing the proposal on to the leader, a core is also introduced among the advisors. It is given by the smaller pentagon located in the center of the alternative space, with two of its sides composed of dotted lines. The initial status quo is located at the lower left corner of the alternative space. The outcomes from trials under this condition are plotted on the figure and outcomes and key variables are listed on Table 3.

The results under this condition support our predictions. Six of eight outcomes are located in the predicted equilibrium set. However, it is not clear that the leader's power of veto has much effect on those outcomes. Two of the eight outcomes lie outside the advisor's core and in the direction of the leader. However, by the same token, two outcomes are outside the core with the leader and removed from the leader. To what extent, then, does the leader play a role in these experiments?

On the one hand, the final outcome in these experiments was in equilibrium for seven out of eight trials. That is, given the set of proposals on the floor, in seven of the eight trials, no proposal could defeat the final outcome. This is out of 306 distinct proposals made in these trials. In an eighth trial, one proposal could have defeated the status quo, but it was not brought to a vote. As with trials in the other conditions, around two-thirds (67.6%) of the successful votes were vetoed by the leader. But the pattern is different for

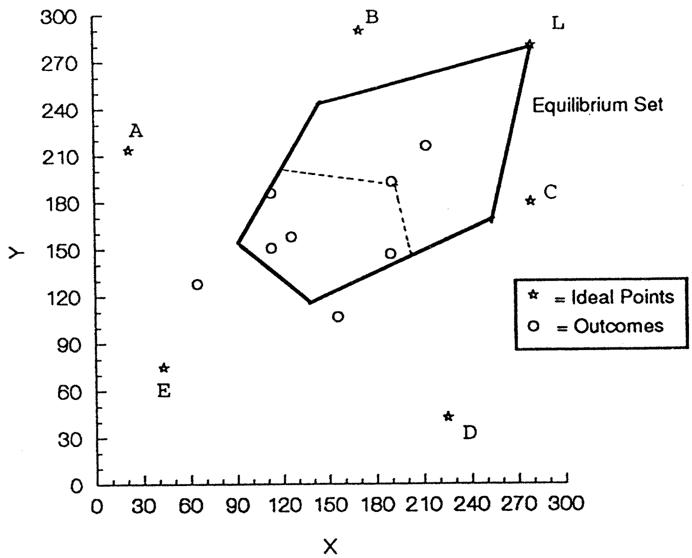


**Figure 6: Outcomes under Condition 3**

this condition. Vetoes were cast in only two of the trials. By contrast, in five of the eight trials a single successful vote was made and the group remained locked onto the amended status quo. Typical of these trials, then, is that the first amendment on the floor easily defeated the status quo. Moreover, such a move usually ended up in the core. Although subjects continued to make proposals and call votes (they averaged 24.1 votes in this condition) further moves were impossible. Even for the two outcomes outside the core, building an agenda leading into the core was difficult, given the need for agreement by four of five advisors *and* the leader.

These findings do not mean that the leader is powerless. In experiment TRT3H the leader blocked the first 14 successful votes to amend the initial status quo. Part of this subject's strategy was to hold off moving from the status quo until the advisors brought forward an alternative with a high payoff to himself. Because the initial status quo was so bad for the advisor, the temptation to accept the first amendment is very high. In this case, the leader waited, finally choosing the most preferred amendment among those proposed over the first 15 successful votes. However, on the 18th successful vote, the leader acceded to an amendment that left him worse off. This might have been a strategic ploy in which the leader anticipated that a subsequent vote would amend the status quo and leave him even better off. However, this leader did not understand that the status quo was now located in the advisor's core, and that any subsequent motion would fail.

What is striking about these results is the extent to which the shift in the size of the voting rule constrains the leader. If a super majority rule is used among advisors in order to insure consensus, it undermines the ability of a leader, who in this case is an outlier, to get what she wants. The difference in the rules is nontrivial. Taking a simple measure of the distance of the final outcome from the leader's ideal point, we find that there is a significant difference between conditions. Under the star preference configuration outcomes are closer to the leader when simple majority rule is used ($t = 2.68$, $p = .02$). Although outcomes are dependent, as usual, on the advisors' agenda, the need for substantial agreement among those advisors also ensures that the leader is limited. In these experiments the first move is key. Consensus weighs so heavily on the process that the leader gains little advantage from the right to veto. The power of veto is very weak in this case, unless used in a foresighted manner whereby every amendment is vetoed until the leader gets exactly what she desires. However, there are enormous costs accompanying such a strategy. Continually rejecting advisor's advice and asking for new advice takes time, and time is usually a scarce commodity. Constantly brushing aside advisor's advice also is costly, because it is debilitating for those advisors. In all, requiring consensus among advisors severely constrains the leader, even when coupled with a powerful veto mechanism.

## CONDITION 4

The fourth experimental condition has a *core configuration* of preferences and requires that a *super majority* of advisors agree to amend the status quo. Under this condition the predicted equilibrium expands to incorporate the four-sided figure displayed on Figure 7. Any point located within or on the boundaries of that object has an empty win set, and consequently is in equilibrium. Separately, the alternative located at member A's ideal point is an equilibrium for the advisors. The status quo is located in the lower southeast corner of the alternative space, a point that is far removed from that preferred by the leader. Finally, the outcomes from trials under this figure are plotted on the figure and also listed in Table 4.

The results from this series of trials are quite interesting. Five of eight outcomes fall in the predicted equilibrium set. What is different about these outcomes is that three of the five fall either at the core for the advisors or nearby. Obviously the leader has some impact on choices since all of the

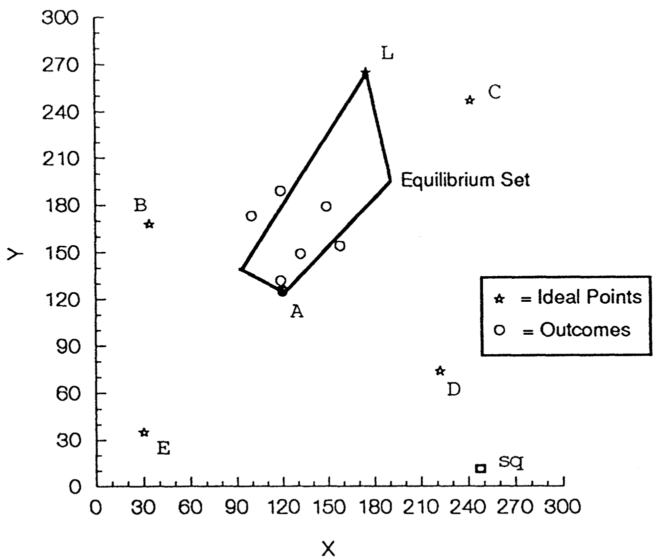


**Figure 7: Outcomes under Condition 4**

outcomes are located in the direction of the leader when taking a hyperplane running through players A, B, and D. However, the leader's influence is not all that different from that exercised by leaders in the condition 2 trials. Taking the difference of means based on the distance of outcomes from the leader's ideal point, we find no statistically significant difference across those conditions ($t = .66$, $p = .52$). In this setting, the preference configuration of the advisors overwhelms the independent effect of the type of decision rule.

Although a few outcomes did not fall into the predicted equilibrium set, *in every trial* the final outcome was in equilibrium given the proposals on the floor when the leader chose to adjourn. Leaders used the veto in these trials, but it was rarely applied. Vetoes were used only 36.8% of the time. However, this is misleading because only seven vetoes were cast and this happened in only two of the eight trials (TRT4A and TRT4F). In both instances, the amendment accepted by the leader was outside the predicted equilibrium set. But, because no proposal was made that could obtain a super majority *and* survive the leader's veto, the vetoes were used appropriately. In another five cases a veto was unnecessary because subjects proposed very few proposals that were capable of sustaining a super majority. Of a total of 307 proposals, only six (in five trials) could have gained a super majority. But, with the exception of two trials, those amendments were not brought forward. Again this points to how crucial the agenda is for the leader, especially when she has no positive control over it.

The leader's negative agenda powers were much less useful in these trials. Very few amendments were made requiring that the leader exercise such power. On the other hand, lacking the power to make proposals or to set the agenda constrains the leader far more than does a shift in the decision rule.

## SUMMARY OF RESULTS

The findings from our different experimental conditions illustrate the point that leaders are advantaged with respect to their advisors. These findings are more impressive when we consider two factors built into these experiments. First, the leader did not have positive power to propose alternatives or to call votes. Second, the leader was always located at a distance from the advisory group's Pareto set so as to provide separation over outcomes. Given its location relative to the advisors, the leader's ideal point was unlikely to be proposed and seconded by any of the advisors. Under such a circumstance, the dispersion of outcomes near the leader's ideal point provides confirmation of her control. In part such findings tend to support the simplifying assumption made by Bueno de Mesquita (1981) among others, that treating leaders as unitary actors is not too far from the mark. Indeed, our results point out that when leaders use a very simple device, a veto over their advisors, outcomes are skewed in their direction. In almost every instance, even though outcomes did not fall directly in the equilibrium set predicted under the model, the final outcomes were in equilibrium. *Those outcomes were the best that leaders could get, given the proposals that were on the floor.*

This last point, however, supports those who criticize the simplicity of models that depend on a unitary actor. Our results consistently show that leaders do not automatically gain their most preferred position. Instead, they are constrained in part by how the agenda unfolds and in part by the distribution of their own advisor's preferences. In numerous instances, leaders were constrained by what their advisors placed on the floor for consideration and what they brought forward for a vote. For the handful of outcomes that were not in equilibrium, the small subset of proposals that could have defeated the status quo (and been accepted by the leader) were simply not brought to a vote. In a more subtle sense the configuration of the advisor's preferences also constrains the leader. The existence of a core among the advisors limited what the leader obtained by imposing a drag on the agenda process. Certainly for trials where subjects faced a core configuration of preferences, in which the core was both attractive and retentive, the set of initial moves limited what the leader could get. Both the distribution of advisor's preferences and limitations on the positive use of agenda power served to constrain the leader's power. This translated to the fact that leaders could not unilaterally impose their most preferred position.

Finally, the results for condition 2 show the effect of imposing consensus on advisors. When shifting from a simple majority to a super majority rule among advisors, if the leader is an outlier, she is left worse off. Requiring an extraordinary majority, and the ensurance of considerable consensus among advisors, dampens changes to the status quo. As such, changes to the status quo will tend to be few. By the same token the leader will be disadvantaged in the sense that advisors will not play one another off at their own expense. This point, however, does not hold for trials in which subjects faced a core configuration of preferences. In those cases the shift in the decision rule was secondary to the distribution of preferences. The advisor core remained attractive and we find no difference as to outcomes across either condition 3 or 4. In general, however, the greater the degree of consensus, the more difficult a time a leader will have in getting advisors to recommend what she prefers. This is especially true the further the leader's ideal point is located from the advisors.

## CONCLUSION

We now return to the larger question of what a unitary actor model buys us when studying decisions about conflict. Our focus remains on the type of decisions made and not their consequence in the larger sphere. Our theoretical and empirical results are unambiguous in one sense. If the unitary actor model is broadened to include advisors who bear the information search costs for the leader, that leader no longer enjoys a complete advantage in the choices she makes. That is, rather than the leader always obtaining her most preferred outcome, the presence of advisors upsets that advantage. Depending on the distribution of advisor's preferences and the type of decision rule used to solicit advice, the use of advisors will expand the size of the equilibrium set. Although the leader's ideal point will *always* be an element of the equilibrium set, other alternatives will also be in equilibrium and they may be removed from the leader's preferred position. On the other hand, the leader is not powerless. Outcomes, almost invariably, will be shifted in her direction. Wielding negative agenda power (veto power) has a noticeable impact on the decision process, sufficient to ensure that her interests are not slighted.

There are several cautionary points to take into account. First, the model presented here focuses on a stylized version of the way in which leaders solicit and take advice. However, we think that the model (and the empirical results) capture key features of decision making at the executive level. Leaders confront a myriad of issues on a daily basis. Although decisions about resorting to conflict are critical decisions, leaders seldom have the time or expertise to search for their own set of options. Instead, they are dependent on the experts and advisors that they have assembled. This makes a leader dependent on her advisors for what advice they offer. However, a leader need not take the advice offered. This contributes to a leader's own powers. Although our model is an abstraction, we view it as a useful extension for bringing others into the decision process leading up to the leader's choice.

A second cautionary point pertains to the distribution of advisor's preferences. For purposes of discussion and for empirical reasons, the leader's preferred position has been removed from the advisors. This makes the leader an outlier. Both our model and empirical work shows how important the distribution of advisor's preferences, relative to the leader, is for the predicted (and observed) outcomes. We think that it is unlikely a leader will choose advisors that are at extreme variance from her own position. Instead, in any setting with a leader and advisors, we expect the leader to stack the deck by picking advisors with similar interests. Consequently the choices of the advisors will likely converge on the leader's preferred position. In such settings, although the process will work differently, the results will be indistinguishable from those generated under a unitary actor model. The complications added by our model, then, may be unnecessary.

The third cautionary point relates to agenda control. All decision-making settings with more than a single actor must be concerned with agenda power. In our model, so long as a leader is unwilling to bear the information search costs required to dredge up different alternatives, the leader will be forced to rely on her advisor's agenda. Positive agenda power is quite powerful indeed. If exercised by the advisors, this certainly places the leader at a disadvantage. The negative agenda power granted to the leader (the right of veto), although crucial, does not determine which alternatives make it onto the agenda. Our theoretical model is silent about this aspect of agenda power (it assumes some agenda leads to an alternative in equilibrium), but our experimental data show rather clearly how critical the agenda is for the final outcome. In almost every instance, the final outcome was in equilibrium *given the proposals on the floor*. In large part this was due to the powerlessness of the leader in making proposals and bringing them to a vote. In natural settings, the size of the information search costs facing the leader is likely to determine how involved the leader is in setting the agenda.

Our results are not crystal clear. They neither side with those espousing a unitary actor model nor those criticizing the simplicity of such a model. Our results are midway in between. There is no doubt that leaders hold an advantage with respect to their advisors. From this we infer that a unitary actor model is on the right track. Such a model does not do great harm when trying to model the larger questions of when a nation-state goes to war. On the other hand, the advantage held by a leader is not perfect. Advisors exert some influence and this places a drag on the choice that a leader makes. Therefore, to properly understand the calculus of when to turn to conflict, the impact of others needs to be taken into account. Adding additional decision makers when modeling the decision process is not difficult. Social choice theorists have a variety of tools to aid in model development and to accommodate such additional complexity. Although such tools are not a panacea, they are easily injected into current unitary actor models, and they provide a rich set of directions for further exploration of the limits and constraints on leaders.

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