CAMPAIGN COMPETITION AND POLICY RESPONSIVENESS IN DIRECT LEGISLATION ELECTIONS

Elisabeth R. Gerber and Arthur Lupia

Many scholars, pundits, and reform advocates argue that more competitive elections are needed to produce policy outcomes that better reflect voter interests. We challenge this argument. Using a model of direct legislation elections, we prove that greater electoral competition is neither necessary nor sufficient for more responsive postelection policy outcomes. Instead, we find that more competition increases responsiveness *only if* the additional competitors are both sympathetic to voter interests and sufficiently credible to affect voter behavior. If either condition fails to hold, then increasing competition will make voters *worse off*, if it affects them at all. We conclude that enhanced voter competence, and not more competition, is the key to greater responsiveness.

Wealthy interest groups regularly use initiatives and referenda to pursue their policy agendas.[1] In recent years, their presence and success in direct legislation elections has generated serious concern. Many observers express dismay at the growing trend toward expensive, highly professional, and often one-sided direct legislation campaigns.[2] Although previous empirical research on direct legislation finds only weak associations between spending and electoral success, massive and one-sided spending gives the impression that wealthy interest groups use direct legislation to buy policy outcomes (see Lowenstein, 1982). Such impressions lead some to conclude that direct legislation elections produce policy outcomes that do not reflect citizen interests (see Magleby, 1984, for a review of such arguments).

In response, scholars, pundits, and activists in many states have called for changes to the direct legislation process. These include proposals to institute campaign spending limits and provide free or low-cost media access for cash-poor campaign organizations.[3] Like calls for term limits and campaign finance

Elisabeth R. Gerber and Arthur Lupia, Department of Political Science, University of California–San Diego, La Jolla, CA 92093–0521.

reform in candidate-centered elections, these proposals are intended to in-
duce policymakers to be more responsive to voter interests by increasing the
likelihood that they face serious electoral competition.

We argue that such changes are unlikely to lead to more responsive policy
outcomes. In fact, we conclude that enhanced voter competence, and not
electoral competition, is a sufficient condition for direct legislation to produce
greater responsiveness. To support this argument, we use a spatial model of
direct legislation elections that is based largely on insights from empirical and
theoretical studies of political behavior. As in actual direct legislation elec-
tions, voters in the model are poorly informed about certain ballot measure
characteristics, but may be able to gather relevant information from a cam-
paign.

We identify a relationship between competition and responsiveness by ex-
amining the model with and without the presence of a ballot measure oppo-
nent (a player who runs a campaign against the ballot measure). If adding the
opponent produces an outcome that is better for a voting majority, then we
say that competition increases responsiveness.[4] By contrast, if adding the op-
ponent leads to an outcome that is worse for a voting majority, then we say
that competition decreases responsiveness.[5]

We find that competition is neither necessary nor sufficient to make post-
election policy outcomes more responsive to voter interests. In fact, *competi-
tion induces responsiveness* only if *the opponent has interests that are similar
to those of the voting majority* and *is sufficiently credible to affect voter be-
havior.* If the opponent lacks either characteristic, then her presence either
has no effect or actually decreases responsiveness.

We conclude that more responsive policy outcomes require enhanced voter
competence. This follows because a ballot measure proposer's incentive to
consider voter interests when drafting a measure depends, in part, on the
extent to which voters can credibly threaten to reject unresponsive policy
proposals. To make such a threat, voters must have reliable information about
the measure that is easy to obtain and simple to use. Competition is neither
necessary nor sufficient to provide such information.

Our findings imply that reforms such as rigorous disclosure of campaign
receipts and expenditures or well-enforced truth-in-advertising laws are bet-
ter suited to increasing responsiveness than reforms that increase competi-
tion. Like party labels, brand names, and interest group endorsements, these
reforms alert voters to the interests aligned on one or both sides of an issue
and make it easier for them to determine where their own interests lie.[6] Our
findings also imply that survey researchers who can identify the types of cues
that allow voters to overcome electoral information shortcomings can and
should play an important role in future reform debates. Such knowledge is
the key to understanding which types of electoral reform will allow voters to

better monitor and control the direct legislation process, in particular, and the actions of government, in general.

In the next section, we describe the direct legislation process, focusing on its structure, voter information problems, and campaign dynamics. We then develop a spatial model of direct legislation that is based on these three characteristics. In the Results section, we use the model to reveal the relationship between competition and responsiveness. Then, we conclude with the implications of our research for current and future electoral reform debates. A brief appendix contains formal statements of our model and results.

A MODEL OF DIRECT LEGISLATION ELECTIONS

Motivation

Our model of direct legislation elections is built upon a foundation of empirically verifiable premises. To motivate these premises, we provide a brief description of features common to direct legislation elections.[7]

The two most common types of direct legislation are the initiative and the referendum. The initiative and referendum differ in two basic ways. First, initiatives are ballot measures that are drafted by citizens, whereas referendums are ballot measures that are drafted by legislatures. Second, putting an initiative on the ballot requires that its proponents collect signatures from many registered voters, whereas putting a referendum on the ballot typically requires legislative approval. These basic differences expose two important facts that influence our model. First, a proponent's success at placing a measure on the ballot is a prerequisite for a direct legislation election. Second, it takes considerable effort to place a measure, either initiative or referendum, on the ballot.

Direct legislation elections have three stages. In the *proposal stage*, proponents of a policy change draft a ballot measure and qualify the measure for the ballot. In the *campaign stage*, proponents and opponents of the ballot measure attempt to influence voter behavior by taking certain actions. In the *voting stage*, voters vote for either the ballot measure or for the existing status quo policy and their decision determines the future policy of the government.[8] Notice that actions taken in one stage of a direct legislation election can affect the behavior of actors in the other two stages. For example, expectations about what will happen in the campaign and voting stages may affect behavior in the proposal stage. Similarly, reforms that change the range of actions available in the campaign stage can be anticipated in the proposal stage and responded to in the voting stage.

Another important feature of direct legislation elections is that ballot measures are often complex. As a result, voters may be uncertain about whether

the ballot measure or the status quo will produce a better postelection policy outcome for them. Thus, voter uncertainty plays a central role in our model. The net effect of voter uncertainty is that the policy outcome that a direct legislation election produces may be quite different than the policy outcome that voters would have chosen had they been better informed. This possibility implies that ballot measure proponents who anticipate voter confusion may lack an incentive to make proposals that respond to voter interests. Such a dynamic also suggests that direct legislation campaigns can be influential.

A related feature of direct legislation elections is that partisan cues are usually absent. As a result, campaigns are typically run by organizations that have different incentives than traditional political parties. Such incentives may make it more difficult for them to gain credibility but easier for them to mislead voters.[9] An implication of this feature is that all campaign statements will not be equally informative. For instance, the inference that a person draws from the statement "Trust me" is likely to differ depending on whether it is made by her mother or by a used car salesman. Similarly, how campaign statements affect a voter's beliefs depends on her assessment of the campaigner's incentive to tell the truth. To capture such effects in our model, we do not force campaigners to tell the truth and examine communication dynamics under different assumptions about the campaigner's credibility.

Basic Premises

We model a direct legislation election as a game between three players: a *proposer*, an *opponent*, and a decisive *voter*. (We provide a technical statement of our model and results in the appendix.)[10] The proposer represents a group that drafts a ballot measure and qualifies it for the ballot. The opponent represents a group that runs a campaign against the ballot measure.[11] The median voter represents the voting majority.[12]

The object of the game is to select one of two policies, called the *status quo* (S) and the *ballot measure* (B). We denote each policy as a point on the interval $[0,1]$.[13] The location of the status quo is determined exogenously, while the location of the ballot measure is determined during the game's play. Unless stated otherwise, all aspects of the game are common knowledge.

Each player has three relevant attributes: their interests, the costs they face, and their information.

Interests

We represent each player's interests by an ideal point and a linear, symmetric, and single-peaked utility function.[14] So, if $x \in \{B,S\}$ is the postelection policy outcome, then $-|x - P|$ is the proposer's utility from that outcome,

$-|x - O|$ is the opponent's utility, and $-|x - V|$ is the voter's utility.[15] Stated another way, players prefer the alternative whose location is the minimum distance from their ideal point.

Costs

We assume that the proposer and opponent must pay to participate in the electoral process. Our motivation for these costs are the time and effort required to draft a ballot measure, qualify it for the ballot, and/or run a campaign about it. We assume that the magnitude of each player's cost is determined exogenously and represents the (common belief about the) amount it will cost the player to run a winning campaign.[16] By contrast, we treat voting as a costless activity.[17]
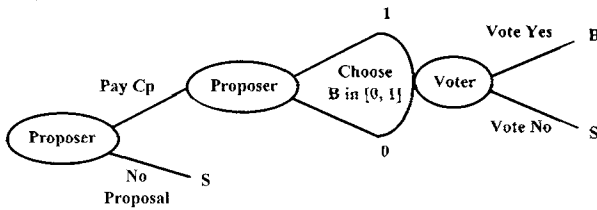
Knowledge

The most relevant source of complexity in a direct legislation election is the policy consequences of the ballot measure. We represent this complexity as the voter's uncertainty about whether the status quo or the ballot measure is closer to her ideal point.[18] Specifically, we represent the voter's initial beliefs about the location of the ballot measure as a common knowledge distribution over $[0,1]$.[19] While different distributions represent different voter prior beliefs, our results do not depend on the particular distribution used. Such an assumption allows us to portray voters as very knowledgeable, quite ignorant, or somewhere in between.

Extensive Form

The sequence of events is depicted as an extensive form game in Figure 1. The proposer moves first by choosing a strategy that has up to two components. The proposer first decides whether or not to propose a ballot measure. To propose a ballot measure, the proposer must pre-commit to pay a cost $c_p (\geq 0)$. If the proposer chooses not to pay this cost, then no election takes place, the game ends, and each player's payoff is based on the distance between the status quo and his or her own ideal point. Otherwise, the game continues.

If the proposer chooses to pay c_p, then the game continues with the proposer choosing the ballot measure's content. We model this choice as the selection of a single point B on $[0,1]$. We assume that, once it is chosen, the proposer and opponent know the location of the ballot measure, while voters do not. We justify this assumption with the assertion that people who run

Without Competition

```
                                              1
                                                        Vote Yes    B
                              Choose
         Pay Cp    Proposer   B in [0, 1]  Voter
                                                        Vote No     S
   Proposer
                                              0
           No      S
        Proposal
```

```
                                                        Make         Yes   B
With Competition                       1               Statement  Voter
                                                                         No    S
                              Choose
         Pay Cp    Proposer   B in [0, 1]  Opponent
                                                        Do Not        Yes   B
   Proposer                                             Make       Voter
                                       0               Statement
           No      S                                                     No    S
        Proposal
```
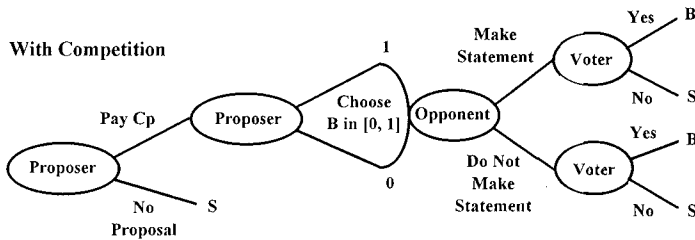
FIG. 1. The extensive form.

direct legislation campaigns typically know more about the ballot measure's postelection policy consequences than does the typical voter.

In the version of the game that includes an opponent, the opponent moves next by deciding whether or not to wage a campaign against the ballot measure. To participate, the opponent must pay the exogenously determined cost c_o. If the opponent pays this cost, then she makes the campaign statement: "The ballot measure is worse for the voter than the status quo."[20] If the opponent does not pay this cost, or in the noncompetitive version of the model, the game continues without the opponent.

Finally, the voter, who may be uncertain about the spatial location of the ballot measure and the reliability of the opponent's message, either approves the ballot measure or rejects it in favor of the status quo.[21] After the voter chooses her strategy, payoffs to all players are determined and the game ends.

While it is beyond the focus of this article to derive the determinants of a statement's credibility, we recognize that a campaigner's ability to affect the strategy of other players depends on her persuasiveness.[22] Therefore, we present our results about competition and responsiveness with reference to the range of effects that a campaign statement can have on voter beliefs. In one

of the two cases we examine, the voter believes that the opponent has an incentive to mislead and is making a totally uninformative statement (the statement is *not credible*). In the other case, the voter believes that the opponent is telling the truth (the statement is *credible*).[23]

RESULTS

In this section, we first describe the basic determinants of equilibrium player behavior in the model. We then use these behaviors and comparative statics to identify a relationship between competition and responsiveness. The equilibria and proofs upon which our claims are based are provided in the appendix.

Determinants of Player Behavior

Voter

The decisive voter chooses the electoral alternative whose postelection policy outcome provides the highest expected utility. The voter bases this expectation on her beliefs about the ballot measure's proximity to her own ideal point. The proposer and opponent can affect these beliefs by exerting observable and costly effort. The opponent may also affect these beliefs by making a campaign statement.[24]

The voter may learn (update her beliefs) about the location of the ballot measure by observing costly effort by either the proposer or opponent. Since the proposer and the opponent each face costs to participate in the electoral process, this discussion applies to observable expenditure by either player.[25]

Neither the proposer nor the opponent are forced to participate in the election. Therefore, the fact that they pay to do so can convey information to the voter. The information provided by this type of action is that the campaigner believes that she can recover (at least) her costs.

Consider the example of Figure 2. Figure 2(a) depicts a set of voter prior beliefs for the case where the status quo is located at .7 and the voter is uncertain about the location of the ballot measure (it is actually .2). Let $c^* \in \{c_p, c_o\}$ be the cost that the voter observes a campaigner paying to affect the electoral outcome. Figure 2(b) depicts how the voter's beliefs about the ballot measure change as a result of observing expenditure c^*. If, for example, the voter knows that only a policy change of at least distance .15 makes an expenditure of c^* worthwhile, then, after observing such an expenditure, she can correctly infer that B is not located between .55 and .85. Such an inference can be made because the campaigner would be better off keeping c^* and accepting the status quo policy if B were in this range (i.e., the policy change
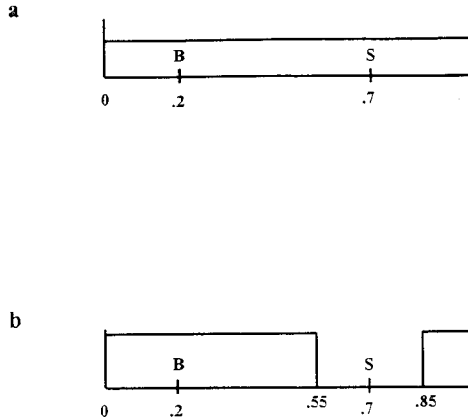
a

b

FIG. 2. Costly effort.

is too small to justify the cost). If the voter updates her beliefs accordingly, then (in the absence of other information) she necessarily assigns a higher probability to the true location of the ballot measure than she did before she observed the costly effort. In general, the observation of costly effort improves the accuracy of the voter's inference about the content of the ballot measure.[26]

What the voter learns from the observation of costly effort is independent of what she can learn from the content of a campaign statement. Figure 3 depicts an example of the effect of credible and noncredible statements on voter beliefs. In Figure 3(a), we reintroduce the example where the voter knows that the status quo is located at .7, but is initially uncertain about the location of the ballot measure (it is actually .2). We also assume that the voter's ideal point is located at .5. If the opponent makes the credible statement "The ballot measure is worse for the voter than the status quo," the voter can infer that B must be farther away from her ideal point than S, as Figure 3(b) shows. Like many campaign advertisements, such a statement does not reveal the exact postelection policy consequences of approving the ballot measure. If, however, the voter's belief about the statement's veracity is correct, then this statement is sufficient for the voter to cast the same vote she would have cast if she was well informed. By contrast, a statement that is not credible has no such effect, as Figure 3(c) shows. In this case, the voter disregards the content of the statement and does not update her beliefs. Figure 3(d) shows the combined effect of an observable costly effort of c^* and the opponent's credible statement on voter beliefs.
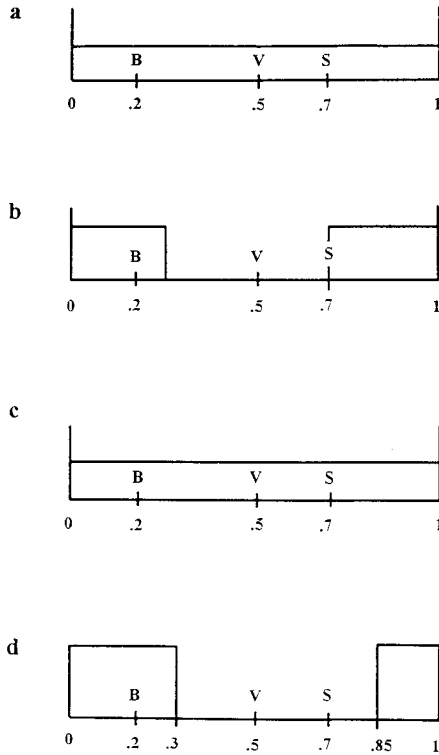
FIG. 3. Campaign statement.

Proposer

The proposer chooses whether or not to propose a ballot measure and, if he does, where to position the measure on the policy continuum. In making this decision, the proposer is constrained by the cost of participating as well as the opponent's and voter's responses to his proposal. A necessary condition for the proposer to make a proposal is that he expects his ballot measure to win the election and that the utility from defeating the status quo outweighs his personal costs of participation (see Theorems 1 and 2). This implies that when the cost of participation is high, only ballot measures that bring significant changes to the status quo should be proposed.

Using a model without competition, Lupia, 1992, proved that when voters are sufficiently uncertain about the content of the ballot measure, the pro-

poser can propose his ideal point, even if it leads to a postelection policy outcome that is much worse for the voter than the status quo (this result is presented in the appendix as Theorem 1). The proposer takes such an action when he anticipates that voters will not figure out that the ballot measure is bad for them. When the voters have access to informative cues about the ballot measure, however, the proposer may be induced to consider preferences other than his own when drafting his proposal. These results hold in our model as well.

Opponent

The opponent makes a statement if and only if she believes that doing so is necessary for inducing the voter to vote against the ballot measure and the difference in her utility from the status quo winning the election, instead of the ballot measure, outweighs her personal costs of participation.[27]

Competition and Responsiveness

We now argue that increasing electoral competition is neither necessary nor sufficient to make postelection policy outcomes more responsive to voter interests. We first show that competition is not a sufficient condition for greater responsiveness because adding the opponent is not sufficient to affect the proposer's or the voter's behavior and can actually lead to decreased responsiveness. We then show that competition is not a necessary condition for greater responsiveness because greater responsiveness can be generated in other ways.

Competition Is Insufficient

Competition is not a sufficient condition for greater responsiveness because it can lead to either decreased responsiveness or have no effect. For instance, competition has no effect on responsiveness when the opponent cannot affect the electoral outcome. If the opponent is unable to convince the voter that the ballot measure is very far away from the voter's ideal point, then she cannot influence voter behavior (see Theorem 2 for an example). If the opponent cannot influence voter behavior, then she cannot affect the electoral outcome and, as a result, competition will not affect responsiveness.

More alarming is the fact that competition is not only insufficient for greater responsiveness, but it can also lead to decreased policy responsiveness (see Corollary 1). This occurs when the proposer looks into the future; anticipates that the opponent can convince the voter to reject the ballot measure; reacts by changing his own behavior in an attempt to placate the opponent; and, in so doing, ignores voter interests. To see how this chain of events can occur, we consider two cases.

In the first case, competition induces the proposer to change the content of the ballot measure he proposes. Recall that when a proposer is certain that the election will be noncompetitive, and expects voters to be sufficiently uninformed about the ballot measure, he considers only his own preferences when choosing ballot measure content—in fact, he locates the ballot measure at his ideal point. By contrast, a proposer who believes that his choice of ballot measure content will affect the opponent's participation decision can be induced to consider the opponent's preferences when drafting his ballot measure. The intuition behind this reaction is straightforward: if the proposer believes the opponent can cause a ballot measure's defeat, then he may be willing to give up some policy utility in order to dissuade the opponent from participating.[28] The proposer will take such actions if the opponent can cause the ballot measure's defeat (i.e., the opponent's credible statement or costly effort is sufficient to convince the voter to reject the ballot measure); drafting the ballot measure to more closely reflect the opponent's interests dissuades her from defeating the ballot measure; and such a move still leaves the proposer better off than if he had not proposed a ballot measure.

When the opponent's ability to affect the electoral outcome depends on her ability to mislead the voter (i.e., when the voter perceives the message as credible, but is incorrect in her perception), then the proposer's reaction leads to a decrease in responsiveness.[29] While it may seem distasteful to consider the effects of competition under the assumption that campaigners mislead, the brutal truth of politics is that the set of people who have an incentive to convince you that "your interests are theirs" is typically larger than the set for whom this is actually true. Thus, as long as the possibility of deception exists, so does the likelihood that competition can decrease responsiveness to the voter's real interests.

In the second case, competition induces a proposer to propose no ballot measure at all. When anticipated competition has this effect, it increases responsiveness only if the voter's ideal point is near the status quo. When voter and proposer interests are actually similar, the introduction of a credible opponent that can mislead the voter is sufficient to both prevent a proposal from being made and decrease responsiveness.[30] In short, when the opponent is sufficiently credible to affect both voter and proposer behavior, competition increases responsiveness only if voter and opponent interests are actually similar—otherwise it decreases responsiveness.

Competition Is Unnecessary

Increased competition is also not a necessary condition for greater responsiveness (see Theorem 1 and Corollary 3). For instance, observable and costly campaign effort by the proponent can allow the voter to draw more accurate

inferences about the postelection policy consequences of the ballot measure. Comparative statics reveal that exogenous changes to the magnitude of this cost lead to different voter inferences. In some cases, making it easier or more difficult for a proposer to qualify his ballot measure (raising or lowering c_p) allows the voter to better distinguish whether the ballot measures that are ultimately proposed are better or worse for her than the status quo. Such information allows her to cast a more informed vote and might also allow the voter to make more accurate judgments about the reliability of campaign statements (the cause of the voter's earlier problems). Since variations in proposal costs do not require an increase in competition, competition is not necessary for greater responsiveness.

In sum, it is enhanced voter competence, and not electoral competition, that is a sufficient condition for direct legislation to produce greater responsiveness. Competition affects responsiveness if and only if the added competitor has characteristics that allow it to affect the electoral outcome. When the voter believes that the competitor has these characteristics, and opponent and voter preferences are actually similar, then competition increases responsiveness. When the voter believes that the opponent has these characteristics, but the opponent's interests are adversarial to those of the voter, then competition can decrease responsiveness. Finally, when the opponent lacks the ability to affect voter behavior, then competition does not affect responsiveness.

IMPLICATIONS FOR ELECTORAL REFORM

We conclude with a discussion of the implications of our analysis for the effectiveness of electoral reform. Our analysis supports the claim that simply increasing the number of opponents is neither necessary nor sufficient to increase the responsiveness of electoral outcomes. In particular, we find that certain characteristics of electoral opponents and the nature of political communication are critical determinants of how responsive an electoral outcome is likely to be.

Our analysis suggests that we can increase responsiveness by redesigning electoral institutions in ways that allow voters to better determine campaigner incentives. One way this can be accomplished is to change campaign disclosure laws. Currently, all federal candidates, most state candidates, and state-level ballot campaigns are required to report, at regular intervals, the source and amount of nearly all contributions received and the amount and recipient of all expenditures made. In many cases, campaigners face stiff penalties for providing certain types of untruthful information in their disclosure statements. While these reports tend to be available to the public, they are often difficult to interpret and only become known when the media report on them. Laws that require this information be made easily available to voters,

for example, by requiring candidates or election officials to purchase access to the print or broadcast media and disseminate the names of large contributors, are likely to increase the effectiveness of these reports' informative content.

If we combine our findings with findings from the signaling literature cited herein, we conclude that responsiveness may be increased by implementing reforms that induce campaigners to provide more reliable information. For instance, it is well established that an information provider's credibility can be improved by imposing either explicit or implicit penalties for lying. An example of an explicit penalty for lying in the electoral context is a truth-in-advertising law that punishes information providers who make certain types of false claims. An example of an implicit penalty for lying is any social custom, like the verdict of a prestigious commission that evaluates campaign claims, that would lead a liar to lose a valuable reputation for reliability or honesty. Thus, any reforms that tie campaign claims to the reputation of a particular candidate, individual, or group can provide voters with valuable cues about the consequences of electoral outcomes.

Another lesson of our research is that voting behavior scholars can make valuable contributions to future debates. Their value stems from the fact that public opinion scholars and political psychologists have the tools to identify cues that allow voters to become better informed about the consequences of their actions. If the trend in public opinion research toward identifying determinants of political persuasion continues, more political scientists will be able to advise reformers about what will allow voters to better monitor and control the direct legislation process, in particular, and the actions of government, in general. People who want to increase responsiveness will proceed blindly if they ignore this collective insight.

TECHNICAL APPENDIX

Player objectives, abilities, and the structure of the game are as defined in the text. For simplicity, we describe the case where players adopt the following tie-breaking rules: if $- |B - P| - c_p = - |S - P|$, then the proposer makes no proposal; if $- |B - S| - c_o = 0$, then the opponent does not participate; and if the voter believes that $- |B - V|$ equals $- |S - V|$, then she votes for S. Our substantive results change in straightforward ways if the opposite or probabilistic tie-breaking rules are employed. Additionally, we denote the opponent's strategy as $W \in \{0,1\}$. $W = 1$ when the opponent pays this cost and makes the campaign statement: "The ballot measure is worse for the median voter than the status quo." If the opponent does not pay this cost, or in the noncompetitive version of the model, we say that $W = 0$.

With one exception, all aspects of the game are common knowledge. The exception to our common knowledge assumption is that the voter may be uncertain about the location of B and P. We assume, however, that it is common knowledge that P is

determined by a single draw from the distribution ρ and that the proposer chooses B to maximize his utility.

The equilibrium concept we employ is a variant of the sequential equilibrium concept developed by Kreps and Wilson (1982). A sequential equilibrium consists of strategies that players believe to be the best responses to the chosen strategies of others, prior beliefs that are consistent, and an updating procedure that is based on Bayes' Rule. One variation we introduce is that we assume that the voter either perceives the opponent's statement as entirely truthful or totally uninformative. We introduce this concept to simplify the formal statement of the model, and to draw compelling inferences about the relationship between competition and responsiveness without rederiving well-known signaling dynamics.

We now show how observable costly effort and a credible statement by the opponent affect the voter's beliefs about the location of B. Let the distribution β represent the voter's prior beliefs about the location of B. For any $x \in [0,1]$, $\beta'(B = x) = \int prob(B = x \mid P)d\rho$.

Observable Costly Effort

Consider the case of proposer expenditure where c_p, the proposer's cost also symbolizes the minimum policy distance gain required to compensate the proposer for expenditure c_p. (Alternatively, we could have employed a function that was a monotonic function of c_p.) Then, c_p determines the range of alternatives within which it would never be profitable for the proposer to participate in the game. No $B \in [S - c_p, S + c_p]$ would provide the proposer with sufficient utility to recover his costs. Thus, after observing proposer entry, the voter uses Bayes' Rule to form posterior beliefs that are related to her prior beliefs, $\beta(B)$ in the following manner:

$$\beta'(B \mid c_p) = \beta'(B) \times \frac{1}{1 - \beta(S + c_p) + \beta(S - c_p)} \in [0, S - c_p), (S + c_p, 1] \text{ and } 0$$
otherwise.

A similar relationship holds for voter observation of the opponent's expenditure.

Campaign Statement

For the case where $V \leq S$, a credible statement leads to the following relationship between the voter's prior and posterior beliefs:

$$\beta'(B \mid W = 1) = \frac{\beta'(B \mid W = 0)}{1 - \beta(S) + \beta(\max(0, V - \mid S - V \mid))} \in [0, \max(0, V - \mid S - V \mid)] \cup [S, 1]$$
$$\beta'(B \mid W = 1) = 0 \qquad\qquad\qquad\qquad \in (\max(0, V - \mid S - V \mid), S)$$

The case where $V \geq S$ follows straightforwardly. By contrast, a noncredible statement does not cause prior and posterior beliefs to diverge (i.e., it is "cheap talk," to paraphrase Crawford and Sobel, 1982).

Equilibria

We now present two theorems that describe equilibrium behaviors and outcomes. Theorem 1 applies to the case where there is no opponent and to a subset of the cases where the opponent is noncredible. The latter subset is sufficient to prove that competition does not necessarily increase responsiveness. Theorem 2 applies to the case where the opponent is credible.

Theorem 1

If there is no opponent, and if voters are uncertain about the location of B, then the equilibrium of the direct legislation game is as follows. The proposer locates the ballot measure at his ideal point, the voter approves the ballot measure, and P is the outcome if and only if $P \notin [S - c_p, S + c_p]$ *and* $- \int_0^{max(0,S-c_p)} |P - V| d\rho - \int_{min(S+c_p,1)}^1 |P - V| d\rho > - |V - S|$. *Otherwise, the proposer does not participate and S is the outcome.*

A proof of Theorem 1 is provided in Lupia, 1992. The crux of the proof is that the voter cannot tell whether the proposer sets $B = P$ or whether he chooses a point that is closer to the voter's ideal point. While the voter would like to induce the proposer to choose a more favorable policy, she is not sufficiently informed to enforce such an agreement. Therefore, both the proposer and voter know that, if he makes a proposal, the proposer can commit to no other proposal strategy than $B = P$. What determines whether the proposer makes a proposal is whether $- |P - P| - c_p > - |P - S|$, which occurs when $P \notin [S - c_p, S + c_p]$, and whether the voter, knowing that $B = P$ will approve B, which occurs when $- \int_0^{max(0,S-c_p)} |P - V| d\rho - \int_{min(S+c_p,1)}^1 |P - V| d\rho > - |V - S|$.

Theorem 2

If there is an opponent whose statement is credible and a voter who updates in accordance with Bayes' Rule, then the equilibrium of the direct legislation game is as follows.
If $2 \times |S - V| > c_o > c_p$ *and* $\int_0^{max(0,S-c_o)} - |V - (S - c_o)| d\rho + \int_{max(0,S-c_o)}^{max(0,S-c_p)} - |V - P| d\rho + \int_{min(S+c_p,1)}^{min(S+c_o,1)} - |V - P| d\rho + \int_{min(S+c_o,1)}^1 - |V - (S + c_o)| d\rho > - |V - S|$, *then: if* $P \in [SQ - c_o, SQ - c_p) \cup (SQ + c_p, SQ + c_o]$, *then P is the outcome; if* $P \in [0, max(0, SQ - c_o))$, *then* $S - c_o$ *is the outcome; and, if* $P \in (min(SQ + c_o, 1)]$, *then* $S + c_o$ *is the outcome. Otherwise, the proposer does not participate and S is the outcome.*

Proof

If $\delta_{c_o} \geq 2 \times |S - V|$, then the proposal cost ensures that no proposal can make both the voter and proposer better off. If $2 \times |S - V| > \delta_{c_o} \geq \delta_{c_o}$, then the opponent can afford to defeat any proposal. If $\int_0^{max(0,S-c_p)} - |V - B| d\beta + \int_{min(S+c_p,1)}^1 - |V - B| d\beta \leq - |V - S|$, then the voter will reject any proposal she is presented

with. Therefore, a necessary condition for the proposer to make any proposal is that $2 \times |S - V| > \delta_{c_o} > \delta_{c_p}$ and $\int_0^{max(0, S - c_p)} - |V - B| \, d\beta + \int_{min(S + c_p, 1)}^1 - |V - B| \, d\beta > - |V - S|$. We limit the remainder of the proof to a discussion of this remaining case.

If $P \in [SQ - c_o, SQ - c_p) \cup (SQ + c_p, SQ + c_o]$, and if the voter's beliefs about the location of B would lead her to approve any proposal that the opponent does not make a statement about, then the proposer's best response is to choose $B = P$. This follows because such a choice is not sufficiently distant from the status quo to make participation worthwhile for the opponent; is sufficiently distant to justify the proposer's payment; and, of all the policies with these properties, $B = P$ is one that maximizes proposer utility.

If $P \in [0, max(0, SQ - c_o))$, and if the voter's beliefs about the location of B would lead her to approve any proposal that the opponent does not make a statement about, then the proposer's best response is to choose $B = S - c_o$. This follows because such a choice is not sufficiently distant from the status quo to make participation worthwhile for the opponent; is sufficiently distant to justify the proposer's payment; and, of all the policies with these properties, $S - c_o$ is one that maximizes proposer utility. If, by contrast, the proposer proposes some point closer to his own ideal point than $S - c_o$, the opponent should participate, and because she is credible, cause the ballot measure's defeat. The case where $P \in (min(SQ + c_o, 1)]$ is equivalent.

It remains to show that a voter who believes that the proposer will take these actions has a best response that does not then induce the proposer to choose a different strategy.

If $\int_0^{max(0, S - c_o)} - |V - (S - c_o)| \, d\rho + \int_{max(0, S - c_o)}^{max(0, S - c_p)} - |V - P| \, d\rho + \int_{min(S + C_p, 1)}^{min(S + c_o, 1)} - |V - P| \, d\rho + \int_{min(S + c_o, 1)}^1 - |V - (S + c_o)| \, d\rho > - |V - S|$, then the voter maximizes expected utility by accepting any proposal that is made. The proposer's and opponent's best response to the voter's strategy is not to deviate from the strategy stated in the preceding paragraph. Any such deviation represents a strictly dominated partial strategy. QED.

Corollary 1

The introduction of the opponent can influence the proposer's choice of ballot measure content.

Proof

To see the validity of this statement consider the set of cases in Theorem 2 where the proposer chooses either $B = S - c_o$ or $B = S + c_o$. Had the exact same circumstances applied in the noncompetitive environment, Theorem 1 implies that the proposer would have chosen $B = P$. QED.

Corollary 2

The introduction of the opponent can lead to a decrease in responsiveness.

The validity of this statement follows directly from the comparison made in the

proof of Corollary 1 and from the fact that $S - c_o$ or $S + c_o$ may be farther from the voter's ideal point than P.

Corollary 3

The introduction of the opponent is not necessary to increase responsiveness.

The validity of this statement follows directly from Theorem 1. For example, it is easy to verify that raising c_p is sufficient to induce a proposer, whose ideal point is worse for the voter than the status quo, not to propose any policy at all.

NOTES

1. Twenty-three American states allow statewide initiatives and twenty-six allow referendums, as do thousands of local governments. Direct legislation is also used widely at the national level in Western Europe. See Magleby, 1984, for a discussion of the specific features of direct legislation in the American states.
2. In several cases, spending discrepancies are as large as 100 to 1. Data and discussion of such trends are included in California Commission on Campaign Financing, 1992.
3. While such proposals have many sources, we find California Commission on Campaign Financing, 1992, to be the most comprehensive.
4. Of course, there are other types of competition whose effects we could consider. However, we assert that all such types share the following property: if the added competitors cannot or will not create alternatives that are better for voters or if added competitors lack the credibility required to convince voters that one alternative is better for them than another, then adding them need not lead to an outcome that is better for voters. Thus, we believe that proving this point for a relatively simple example of increased competition is sufficient to characterize a general class of electoral competition-policy responsiveness relationships.
5. While we define responsiveness with respect to the interests of a single individual (a voting majority/the median voter), the extension of our definition to groups of voters is straightforward. That is, if individual preference orderings over policy outcomes can be aggregated in a manner that allows some well-defined group preference ordering to be expressed, then we can treat responsiveness to a group's well-being in much the same way that we treat responsiveness to an individual's well-being. While social choice theory shows that such aggregations are possible, it also reveals that a normative justification is a prerequisite for arguing that any particular aggregation is more representative of a group's interests than some other aggregation. Sen, 1970, remains the most accessible and thorough review of the basic tenets of social choice theory.

   An implication of our definition is, of course, that increased responsiveness to one voter's interests may imply decreased responsiveness to the interests of some other voter. Whether the median voter's interest or those of some other voter or group should be given more normative weight in evaluating a particular electoral outcome requires imposing a specific normative standard.
6. See Campbell et al., 1960; Petty and Cacioppo, 1986; Ferejohn and Kuklinski, 1990; Popkin, 1991; Sniderman, Brody, and Tetlock, 1991, for reviews of the important effects of seemingly simple cues. Lupia, 1994, provides an example of the role of such cues in direct legislation elections.
7. Specific features of direct legislation vary across countries and states, although most share the following basic characteristics.

8. Like policies approved by a sitting legislature, a court can overturn the policy mandated in a ballot measure if it is inconsistent with the relevant constitution.

9. Parties with longstanding reputations are seldom involved in direct legislation campaigns. Instead, the job of campaigning is usually left to people who are relatively unknown. Unlike political parties, such groups may have no interest in future electoral involvement and therefore do not fear damage to their reputation. Thus, unlike parties, they are likely to have both an incentive and an opportunity to seem trustworthy when, in fact, they are not.

10. Our model can be placed into the class of "setter models," of which Romer and Rosenthal, 1978, is the best known. Theoretical and empirical research on this topic is reviewed in Rosenthal, 1990.

11. For simplicity, we assume there is only one opponent, although in actual direct legislation elections there may be several. We also do not allow the opponent to propose her own competing ballot measure. Since we are primarily interested in the effects that competition has on the proposer and voter, relaxing these assumptions leaves our qualitative results unaffected.

12. Our qualitative results easily generalize to decision making by supermajority rule.

13. Since any two points in space can be connected by a line, our results are robust to the class of cases where the electoral alternatives are represented as points in higher dimensional spaces.

14. This case is chosen for its simplicity. It is easy to verify that our results are robust to a more general class of utility functions and player beliefs. Included among this set are nonsymmetric and nonlinear single-peaked utility functions. Our findings are also robust to the assumption that all players have shared beliefs about postelection outcomes. For instance, if we represent postelection outcomes as common knowledge distributions instead of single points, our claims continue to be valid. Our results are also robust to the assumption that all players are uncertain, but share common beliefs, about the exact shape of any other player's utility function.

15. We describe the case where the opponent's ideal point is the status quo because it simplifies the formal statement of the equilibrium considerably. Our substantive results about the effect of competition on responsiveness generalize to a broad range of cases where the opponent's ideal point is not the status quo.

16. In essence, we draw our inferences about the relationship between competition and responsiveness by focusing on the proposer and opponent decisions to participate. Since each of their efforts in the typical direct legislation election requires that substantial collective action problems be solved, our focus on this part of the decision is easy to justify.

17. We consider the relationship between voter interests and outcomes. While the relationship between citizen or resident interests is also interesting, it is beyond the scope of this manuscript.

18. Decades of public opinion polls report extremely low levels of information about initiatives in pre-election surveys. Decades of empirical research on voter ignorance and inattentiveness in candidate-centered campaigns also make such an assumption easy to justify.

19. The source of the voter's uncertainty about the ballot measure is her lack of knowledge about the proposer's incentives. Our model's representation of voter beliefs is standard and is described in detail in the appendix.

   We do not include other types of uncertainty because they do not affect the relationship of interest. For instance, had we assumed that the proposer was uncertain about the opponent's type, then we could claim that the mere threat of opposition was the cause of certain behaviors and outcomes. However, these effects follow straightforwardly from the effects we identify. The same is true of the alternative assumption that the proposer and opponent are equally uncertain about the location of the voter's ideal point.

20. While the opponent is restricted to a binary message space, the intuition provided by examining this type of communication is quite general. Most direct legislation campaign advertisements that we observe have direct "better" or "worse" implications.
21. The assumption that voters can observe campaign effort and messages is without loss of generality to a class of assumptions where voters perceive only parts of campaigns.
22. Theoretical explorations of such determinants are contained in Crawford and Sobel, 1982, for the case of economic bargaining, and Lupia and McCubbins, 1994, for the case of legislative-bureaucratic interaction.
23. Examining the model under these two distinct assumptions accomplishes three things. First, it provides a simple way to incorporate a substantive reality of direct legislation campaigns— campaigns are usually not run by groups that have longstanding and well-established reputations. Second, this simple variation is sufficient to show the range of effects that the opponent's statement can have on the voter's beliefs. Third, it is sufficient for us to illustrate why competition and responsiveness are not synonymous.
24. Such effects are represented in the model by the simple application of Bayes' Rule. More details are provided in the appendix.
25. The type of effect we describe follows the seminal work on job market signaling by Spence, 1973, and recent research on voter decision making in direct legislation elections by Lupia, 1992.
26. Specifically, a voter who is given a single opportunity to guess the exact location of the ballot measure, or which of a finite number of nonoverlapping intervals the ballot measure lies within, before and after observing costly effort is more likely to guess correctly after the observation. It follows that, all else constant, the larger the level of (observable) campaigner effort, the wider is the interval in which voters know the ballot measure cannot lie and the more likely are voters to form accurate inferences about its location. This is not to say, however, that the voter will necessarily "guess correctly" after observing c^*, rather that the probability of a correct guess is higher.
27. This result, for the case where the opponent is credible, is contained in Theorem 2. This result for the noncredible opponent follows directly from the logic stated for the proposer's participation decision in Theorem 1.
28. A simple extension reveals a similar dynamic: if the costs associated with winning a competitive campaign are higher than the costs of winning a noncompetitive campaign, then the proposer may be willing to sacrifice some policy if it appeases the opponent enough to ensure a noncompetitive campaign.
29. See Corollary 2. One could argue at this point that adding additional information providers who could verify the veracity of the opponent's statement would solve this problem. Such a conclusion, however, is incorrect in the general case. Such a verifier would have to have incentives that led her to provide such information. Merely adding a verifier ensures no such incentives. See Lupia and McCubbins, 1994, for a more detailed discussion of this topic.
30. We also identify two indirect effects of competition on responsiveness. These effects come about when the presence of an opponent provides the voter with information that helps her make better inferences about the location of the ballot measure and follow straightforwardly from our previous discussion about campaign activity and voter inferences. For instance, if competition increases the costs of campaigning (as a result of increasing the cost of winning the election), a voter who can observe such expenditure can generally form a more accurate inference about the content of the ballot measure. Similarly, if competition increases campaigner credibility (as a result of the enhanced ability of the electorate to detect an untruthful message), then a voter may be able to draw more accurate inferences. Since such inferences increase the likelihood that the voter casts a vote that is consistent with her interests, it

follows that the effects of greater observable effort or campaigner credibility increase the likelihood that electoral outcomes will be responsive.

REFERENCES

California Commission on Campaign Financing (1992). *Democracy by Initiative*. Los Angeles: Center for Responsive Government.

Campbell, Angus, Converse, Philip E., Miller, Warren E., and Stokes, Donald E. (1960). *The American Voter*. New York: Wiley.

Crawford, Vincent, and Sobel, Joel (1982). Strategic information transmission. *Econometrica* 50: 1431–1451.

Ferejohn, John A., and Kuklinski, James H., eds. (1990). *Information and Democratic Processes*. Chicago: University of Illinois Press.

Kreps, David M., and Wilson, Robert (1982). Sequential equilibria. *Econometrica* 50: 863–894.

Lowenstein, Daniel H. (1982). Campaign spending and ballot propositions: Recent experience, public choice theory and the First Amendment. *UCLA Law Review* 29: 505–641.

Lupia, Arthur (1992). Busy voters, agenda control and the power of information. *American Political Science Review* 86: 390–404.

Lupia, Arthur (1994). Shortcuts versus encyclopedias: Information and voting behavior in California insurance reform elections. *American Political Science Review* 88: 63–76.

Lupia, Arthur, and McCubbins, Mathew D. (1994). Learning from oversight: Fire alarms and police patrols reconstructed. *Journal of Law, Economics and Organization* 10: 96–125.

Magelby, David B. (1984). *Direct Legislation: Voting on Ballot Propositions in the United States*. Baltimore: The Johns Hopkins University Press.

Petty, Richard E., and Cacioppo, John T. (1986). *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*. New York: Springer-Verlag.

Popkin, Samuel L. (1991). *The Reasoning Voter: Communication and Persuasion in Presidential Campaigns*. Chicago: University of Chicago Press.

Romer, Thomas, and Rosenthal, Howard (1978). Political resource allocation, controlled agendas, and the status quo. *Public Choice* 33: 27–44.

Rosenthal, Howard (1990). The setter model. In James M. Enelow and Melvin J. Hinich (eds.), *Advances in the Spatial Theory of Voting*, pp. 199–234. New York: Cambridge University Press.

Sen, Amartya K. (1970). *Collective Choice and Social Welfare*. San Francisco: Holden-Day.

Sniderman, Paul M., Brody, Richard A., and Tetlock, Philip E. (1991). *Reasoning and Choice: Explorations in Political Psychology*. Cambridge: Cambridge University Press.

Spence, Michael (1973). Job market signaling. *Quarterly Journal of Economics* 87: 355–374.