Electoral Competition and Special Interest Politics

GENE M. GROSSMAN

Princeton University

and

ELHANAN HELPMAN

Tel Aviv University and CIAR

We study the competition between two political parties for seats in a legislature. The parties have fixed positions on some issues, but vary their positions on others in order to attract votes and campaign contributions. In this context, we examine whether special interest groups are governed by an *electoral* motive or an *influence* in their campaign giving, and how their contributions affect the equilibrium platforms. We show that each party is induced to behave as if it were maximizing a weighted sum of the aggregate welfares of informed voters and members of special interest groups. The party that is expected to win a majority of seats caters more to the special interests.

1. INTRODUCTION

Special interest groups appear to wield considerable influence over public policy in many representative democracies. The trade policies of many industrialized countries favour vested interests in the clothing, textile, and heavy industries. Their agricultural policies give various forms of income support to farmers. Health and safety measures show the imprimatur of the local insurance industry on the one hand, and of powerful labour unions on the other. And manufacturers have had much to say about a myriad of environmental and regulatory policies. It seems difficult to argue that the political process serves only the interests of the median voter.

Interest groups pursue their quest for political advantage by a number of different means. They gather information that supports their positions and make it available to powerful politicians. They take their arguments to the public in an effort to win voter sympathy. Sometimes they undertake disruptive activities, which are intended to coerce rather than persuade. And, of course, they contribute to political parties and to individual candidates' campaigns.

This paper focuses on interest groups' use of campaign contributions as a vehicle for influencing public policy. Contributions may take the form of cash transfers or gifts in kind. In any event, we assume that the contributions can be used by the candidates to persuade and cajole a group of undecided voters. Our aim is to characterize the policies that emerge when rival groups vie for the politicians' favour while the politicians themselves compete for voter support.

The literature on campaign giving identifies two motives that interest groups might have when they contribute to politicians or to political parties. Contributors with an *electoral motive* intend to promote the electoral prospects of preferred candidates. Those

265

with an *influence motive* aim to influence the politicians' policy pronouncements. Our model allows interest groups to entertain either or both of these reasons for giving, but our analysis of the equilibrium emphasizes the second. We believe that special interests do often try to use their campaign gifts to influence politicians' positions and we find support for this view in the empirical evidence presented by Kau and Rubin (1982), Fremdreis and Waterman (1985), Tosini and Tower (1987), and others.

Our setting is one in which two political parties compete for seats in a legislative body. To attract votes, the parties announce policy platforms and engage in political advertising and other costly forms of compaigning. The platforms may include commitments on two types of policy issues. The first are issues about which the party has strong preferences or predetermined positions. The preferences may reflect the party's ideology, or the positions may be inherited from the past if, for example, the party feels it must keep earlier promises in order to preserve its reputation. In any event, we take this component of a party's programme as fixed. We focus instead on the determination of what we shall term *pliable policies*. These are policies about which the parties have no explicit preferences and so are willing to tailor their positions to further their election prospects.[1]

Our interest groups are collections of individuals who share a common interest in the pliable policies. These organized groups can offer contributions to one or both of the political parties. Their gifts may be granted unconditionally or they may be tied to the positions adopted by the recipients. Unconditional gifts are used to satisfy an electoral motive for giving, while contingent gifts are designed to influence decisions. We assume that the groups are able to communicate the sense of their conditional offers, even if they cannot spell out the details in a legally binding contract.

If the interest groups choose to offer contingent contributions, they will confront the parties with a fundamental trade-off. By setting a platform that serves the general interest, a party can attract votes from the portion of the electorate that is well-informed about the issues. But by choosing policies that cater to the special interests it may be able to elicit greater contributions that then can be used to influence the voting of less-informed or impressionable voters. We assume that the parties resolve this trade-off with the aim of maximizing their representation in the legislature. An equilibrium consists of a pair of platforms and a set of contribution schedules, such that no group or party can better its lot given the anticipated actions of the others. The equilibrium platforms and associated contributions together determine the election outcome, which in turn determines the likelihood that each party's platform will be enacted.

The remainder of the paper is organized as follows. In the next section, we discuss the relationship of our paper to several others in the literature. Section 3 describes the details of the model. In Section 4, we examine a special case in which there is only a single, organized interest group while Section 5 treats the general case with competition among groups. The last section contains a summary of our findings.

2. RELATED LITERATURE

There is, of course, a vast literature on policy determination in representative democracies. Our goal in this section is to explain the relationship of our paper to some others that have a similar focus. We make no claims to comprehensive coverage.

1. Admittedly, the distinction between the pliable policies and others is not always clear cut. In the long-run, all of a party's positions are presumably subject to change. But candidates and parties are willing to change their positions on some issues more freely than others. The set of pliable policy issues might include allocation of "pork-barrel" spending, attitudes on gun control and some environmental questions, and positions on a variety of economic policies.

Our paper has antecedents in the literature on probabilistic voting.[2] Enelow and Hinich (1982), for example, developed a "spatial" model in which voters' utilities comprise two additively separable components. One component relates to the policy issue under consideration while the other reflects exogenous characteristics of the candidates. The politicians are assumed unable to observe individual tastes with regard to the exogenous characteristics. In consequence, they remain uncertain about how any individual will vote, even if they know how he or she will be affected by the policy in question.[3]

Lindbeck and Weibull (1987) and Dixit and Londregan (1994) adopted a similar probabilistic-voting approach to study policies that redistribute income to narrow groups of voters. They assumed that the various groups differ in their predisposition to the parties and identified characteristics of a group that make it a good candidate to receive political largesse. Although these authors focused on the determinants of the political success of special interests, there is an important difference between their work and ours. Specifically, they did not allow interest groups to compete actively for favours whereas we are primarily interested in how compaign contributions can be used as a tool for such competition.

We treat campaign contributions here in much the same way as in Grossman and Helpman (1994). There we built on Bernheim and Whinston (1986), who described influence-seeking as an example of a "menu auction" game. In a menu auction, each of several *principals* who will be affected by an action offers a bid to an *agent* who will take that action. These bids take the form of schedules that associate a payment to the agent with each feasible option. Once the agent chooses an action, all of the principals pay the bids stipulated by their schedules. Bernheim and Whinston defined an equilibrium in a menu auction as a set of contribution schedules such that each one is a best response to all of the others, and an action by the agent that maximizes her utility given the schedules that confront her.

Our 1994 paper provided an application of this view of influence-seeking. We focused on the determination of import and export taxes and subsidies in a small, open economy. We took the government to be a common agent for a group of special interest groups, each representing the owners of some industry-specific factor. The policy makers, who were already in power, were assumed to set trade policy to maximize a weighted sum of total campaign contributions and aggregate (or average) welfare. In this model, the incumbent government did not face any explicit competition from rival candidates nor did we provide any rigorous justification for its assumed objective.

Austen-Smith (1987) and Baron (1994) addressed very similar issues to the ones that interest us here. Both of these authors studied policy determination in a two-party model of electoral competition. And both were interested in the effects of campaign contributions by special interest groups. Austen-Smith assumed that the parties use campaign funds to alleviate (risk-averse) voters' uncertainty about candidates' policy positions. Baron, like us, allowed campaign spending to have a direct effect on the voting behaviour of a group of uninformed voters. A more important distinction between their papers and ours concerns the motive that groups are assumed to have for giving to the parties. In both Austen-Smith and Baron the lobbies take platforms as given and offer gifts to their favourites with an eye toward affecting the probabilities of election.[4,5] Here, we do not restrict interest

2. We consider this label to be something of a misnomer. In our model, and in many others in the literature, every individual votes deterministically. It is only that the politicians do not know individuals' preferences on some issues, which causes them to be uncertain about how a particular ballot will be cast.

3. See also Coughlin (1984, 1986) and Wittman (1983), and Mueller (1989, ch. 11) for a survey.

4. Magee *et al.* (1989) make a similar assumption in the context of their models of trade policy formation.

5. This is Baron's assumption in the last part of his paper, where he allows for several competing interest groups and considers the determination of "collective" policies. In the first part of his paper, dealing with

groups to such an electoral motive, but also afford them an opportunity to influence the parties' platforms.

3. THE MODEL

We examine a jurisdiction with two political parties, an exogenous number of special interest groups, and a fixed continuum of voters. Our description begins with the voters.

3.1. The voters

Like Baron (1994), we distinguish the behaviour of two classes of voters, the *informed* and the *uninformed*. Informed voters are those who know and understand the parties' positions on both the pliable policies and other issues. The welfare of these voters will be affected by the policies that are ultimately enacted and perhaps by other (exogenous) attributes of the candidates and the parties. For example, the voters' welfare may depend on personal characteristics of the candidates, such as their competence or charisma, or voters may derive some pleasure from supporting the party to which they have developed an historical attachment. Informed voters cast their ballots for whichever party offers higher utility, considering both their pliable positions and their exogenous programmes and characteristics. In the model developed here, this is a dominant strategy for these voters. The uninformed voters, by contrast, do not know or are unable to evaluate the parties' positions on (at least) the pliable issues. These voters may have initial leanings toward one party or the other, but at least some of them can be swayed by the messages they receive in the course of the campaign. Let α denote the fraction of these uninformed (perhaps "impressionable" is a better word) voters in the total voting population.

Consider then a typical informed voter with the label i. This individual derives utility $u^i(p^A)$ from the vector p^A of pliable policies endorsed by party A, and utility $u^i(p^B)$ from the vector p^B of such policies endorsed by party B, with $u^i(\cdot)$ continuous and differentiable. She votes for the candidates from party A if and only if $u^i(p^A) - u^i(p^B) \geqq \beta^i$, where β^i measures her assessment of the superiority (or inferiority, if negative) of party B's fixed policy positions and other exogenous characteristics relative to those of party A. We assume that the parties cannot observe the ex ante proclivities of any particular voter, although they presume these to be drawn from a known distribution $F(\beta)$. Moreover, we assume that the distribution of preferences on the fixed programmes and other characteristics of the parties and candidates is statistically independent of the effects of the pliable policies on individuals' utilities. Then both parties will perceive a probability $F[u^i(p^A) - u^i(p^B)]$ that individual i will vote for the slate of candidates from party A. With a continuum of informed voters, the law of large numbers implies that the share of informed ballots cast for party A equals $(1/n_I) \int_{i \in I} F[u^i(p^A) - u^i(p^B)] di$, where I denotes the set of informed voters and n_I the total number (or measure) of such individuals.

An uninformed voter, too, may have a predisposition toward one party or the other. However, this leaning can be overcome with enough campaign rhetoric. In particular, if party A spends more on its campaign than party B, some of those who were initially

"particularistic" policies, the contributions are simply an exogenous fraction of the net benefits captured by the interest group. Although Baron refers to this as a bargaining solution, he does not specify any explicit bargaining process and his "solution" fails to account for the surplus to the political party relative to the fallback option.

An advantage that we see of our model compared to Baron's—beyond the one we stress in the text—is that it is capable of handling both particularistic policies (with a single interest group) and collective policies (with multiple interest groups) within the same analytical framework.

inclined toward party B will vote instead for party A. We denote by $H(\cdot)$ the fraction of the uninformed voters that votes for party A, and assume that it depends on the difference in the parties' total campaign budgets.[6]

We assume that seats in the parliament are allocated by proportional representation. Then the fraction of the legislature controlled by party A matches the fraction of the total votes garnered by this party. Letting s denote this fraction, we have

$$s = \frac{1-\alpha}{n_I} \int_{i \in I} F[u^i(p^A) - u^i(p^B)]di + \alpha H(C^A - C^B), \tag{1}$$

where C^K is the total campaign spending undertaken by party K, $K = A, B$.

3.2. The parties and the government

Each party seeks to maximize its representation in the legislature (or any monotonically increasing function thereof). The parties may see this as their objective for any of several reasons. For example, political parties often reward their core members with jobs in and around the government. A party may seek to maximize its patronage and may recognize a monotonic relationship between the number of political jobs it controls and the number of its seats in the legislature. Alternatively, a party may wish to implement its ideological agenda, and may see a positive relationship between the prospects of successfully doing so and the size of its legislative contingent. Of course, with two parties and proportional representation, the objective of maximizing seats is equivalent to that of maximizing (expected) plurality in the election. This is a commonly assumed objective in the literature on electoral competition.[7]

With this objective, parties A and B choose their platforms of pliable policies in order to maximize s and $1 - s$, respectively. They do so recognizing that their policy endorsements will affect their popularity among the informed voters. At the same time, the platforms are chosen with an eye toward the organized interest groups, who may vary their support according to the positions that are taken. The parties know that any contributions they collect can be used to finance campaign activities.

After the election is over, the legislature convenes to set policy. We do not model the policy-setting process in any detail. Rather, we assume that each party attempts to implement its announced platform and that a party's probability of success increases monotonically with the size of its legislative delegation. In other words, the legislature adopts the vector of pliable policies p^A with probability $\varphi(s)$, and the vector p^B with probability $1 - \varphi(s)$, where $\varphi(\frac{1}{2}) = \frac{1}{2}$ and $\varphi'(s) > 0$. The function $\varphi(s)$ may, for example, increase sharply just above $s = 1/2$, if having a slight majority of the seats in the parliament greatly enhances a party's prospects for successfully implementing its programme.

---

6. It is perhaps more common in the literature to assume that the ratio of campaign expenditures affects the allocation of votes. See, for example, Baron (1989, 1994), and Snyder (1989). In our view, a specification in terms of absolute differences is more reasonable, because a larger budget allows a campaign to reach a wider segment of the population. This view could be formalized in a model of advertising similar to the one in Grossman and Shapiro (1984), where the fraction of the target population that hears a given message is assumed to vary with the amount that is spent on the advertising campaign. If each message that an uninformed voter hears makes him more likely to vote for the party issuing the announcement, then the number of uninformed voters who cast their ballots for party A will depend on the difference in the sizes of the two budgets.

7. See, for example, Enelow and Hinich (1982), Denzau and Kats (1977) and Coughlin and Nitzan (1981). The different campaign objectives that candidates might hold are discussed and compared in Aranson, Hinich and Ordeshook (1974).

While we believe that it is reasonable to suppose that parties aim to maximize their representation in the legislature and also that parties in the majority sometimes fail to implement their programmes, the Appendix treats a more "pure" case. There we examine policy determination when the legislature operates according to strict majority rule and when parties seek to maximize their probability of winning a majority. To conduct this alternative analysis, we must assume that the number of voters is large but finite and that members of special interest groups constitute a negligible share of the voting population. With these assumptions and a further one of equal party popularity (i.e. the parties would each capture 50% of the vote if they happened to adopt identical positions on the pliable policies and to spend identical amounts on their campaigns), the equilibrium policies are the same as the ones derived in the main text.[8]

3.3. *The special interests*

Special interest groups are collections of voters who share a common interest in the pliable policies. The members of an interest group may differ in their views on the fixed programmes and other characteristics of the candidates, and, in the privacy of the polling booth, they behave just like any other voters. Nonetheless, these individuals may have an incentive to cooperate with one another, if by doing so they can influence the parties' policy platforms.

As Olson (1965) has discussed, the mere fact that individuals share a common interest in some policy or policies is not enough to ensure that they will engage in collective political action. The temptation always exists for each to free ride on the costly political efforts of the others. But some interest groups do overcome these free-rider problems and manage to coordinate their lobbying activities. We take the number and identities of the organized special interests as given (while recognizing that it would be interesting to know how the policy environment serves to galvanize certain interests and not others), and examine how these groups influence the policy-setting process.

Interest groups may have two motivations for making campaign contributions in our model. First, they may hope to influence the outcome of the election. An interest group may gain if it can enhance the prospects of the party whose positions on the pliable policies are more similar to its own. Second, the interest groups may hope to influence the parties' platforms; that is, to push the candidates to support policies that better serve the group's interests. Some of the members of an interest group may object to spending on the first of these objectives, if their ideological attitudes differ from those of the party that is being supported. But all members of a group will agree on the desirability of pushing the two parties toward the group's collective *desideratum* on the pliable policy issues. Moreover, as we shall see, the second motive remains operative even when the individual interest groups are relatively small, so that each has little ability to affect the election outcome.

We denote by $W_j(p)$ the aggregate utility that members of interest group j derive from the vector of pliable policies p. It is possible that the members of interest group j care directly about only one element of p, say p_j, and that the other elements of p affect these individuals only indirectly (e.g. as taxpayers who must pay for the benefits provided to other groups), just as they do the general public. Alternatively, the interest group may have a direct interest in several components of p, and several different interest group may

8. Lindbeck and Weibull (1987) come to a similar conclusion in their study of electoral competition without interest groups or campaign spending. Our analysis of the case in which parties maximize their probability of winning is modelled after theirs.

have a stake in the same policy component. If the members of a group share identical preferences concerning the issues where politicians are willing to be flexible, then $W_j(p)$ is simply the number of members of interest group j times the utility component of the representative one. In any event, we assume that the members of an interest group cooperate fully in their collective action, and so seek to maximize their expected joint welfare from the pliable policies net of campaign contributions. Letting C_j^K represent the contribution of interest group j to party K, we write the objective function for this group as

$$V_j = \varphi(s) W_j(p^A) + [1 - \varphi(s)] W_j(p^B) - C_j^A - C_j^B. \qquad (2)$$

If an interest group hopes to influence a party's policy endorsement, it must make sure that the party sees a connection between its platform and the size of the contribution that will be forthcoming. The group need not announce an explicit *quid pro quo*; indeed, the public might frown upon politicians who openly peddle their political influence. Rather, the interest group needs only convey an understanding that its contribution will vary with the positions that is taken. We would argue that politicians understand this connection quite well; in the U.S., proponents of gun control do not, for example, expect to receive donations from the National Rifle Association.

We allow the interest groups considerable freedom in designing their contribution schedules, $C_j^K(p^K)$. We assume only that the schedules are continuous, differentiable when positive, and everywhere non-negative. The latter means that interest groups can offer resources to the parties or withhold them, but cannot levy taxes on politicians. A group can, of course, choose to make its contribution independent of policy; in this way it can bolster the chances of its favourite party without causing it to lose any (additional) informed votes. A group also might choose to offer its support to only one of the two political parties.

3.4. *Political equilibrium*

We seek a subgame-perfect Nash equilibrium of a two-stage, noncooperative, political game. In the first stage, the various interest groups independently and simultaneously announce their contribution schedules, one to each of the two parties. In the second stage, the parties choose their policy platforms. After the platforms are set, the contributions are paid and the campaigns are waged. Then the election takes place and finally the legislature meets to implement one of the party's platforms. We assume that all expectations about subsequent events are accurate and that all promises are honoured.[9]

More formally, we propose the following definition:

Definition 1.   An equilibrium consists of a pair of feasible policy vectors (p^{Ao}, p^{Bo}) and a set of contribution schedules $\{C_j^{Ao}(p^A)q, C_j^{Bo}(p^B)\}$, one for each lobby j, such that

(a) p^{Ao} maximizes s given p^{Bo}, $\{C_j^{Ao}(p^A)\}$ and $\{C_j^{Bo}(p^B)\}$;
(b) p^{Bo} maximizes $1 - s$ given p^{Ao}, $\{C_j^{Ao}(p^A)\}$ and $\{C_j^{Bo}(p^B)\}$;
(c)   each $C_j^K(\cdot)$ is continuous and differentiable when positive, with $C_j^K(p^K) \geq 0$ for all p^K; and

---

9. In our one-shot game, the interest groups have an incentive to renege on their contribution offers once the platforms are announced. Similarly, the politicians have no incentive to pursue their announced positions on the pliable policies once the campaign contributions have been paid up. The keeping of promises could be motivated in a repeated game, where agents would be punished for failure to live up to their commitments.

(d)   for each lobby j, there do not exist feasible contribution schedules $\tilde{C}_j^A(p^A)$ and $\tilde{C}_j^B(p^B)$, such that

$$\varphi(\tilde{s}) W_j(\tilde{p}^A) + [1 - \varphi(\tilde{s})] W_j(\tilde{p}^B) - \tilde{C}_j^A(\tilde{p}^A) - \tilde{C}_j^B(\tilde{p}^B)$$

$$> \varphi(s) W_j(p^{Ao}) + [1 - \varphi(s)] W_j(\tilde{p}^{Bo}) - C_j^{Ao}(p^{Ao}) - C_j^{Bo}(p^{Bo})$$

where $\tilde{p}^A$ maximizes and $\tilde{p}^B$ minimizes

$$\frac{1-\alpha}{n_I} \int_{i \in I} F[u^i(p^A) - u^i(p^B)] di + \alpha H[\sum_{k \neq j} C_k^{Ao}(p^A) + \tilde{C}_j^A(p^A) - \sum_{k \neq j} C_k^{Bo}(p^B) - \tilde{C}_j^B(p^B)]$$

and

$$\tilde{s} = \frac{1-\alpha}{n_I} \int_{i \in I} F[u^i(\tilde{p}^A) - u^i(\tilde{p}^B)] di$$

$$+ \alpha H[\sum_{k \neq j} C_k^{Ao}(\tilde{p}^A) + \tilde{C}_j^A(\tilde{p}^A) - \sum_{k \neq j} C_k^{Bo}(\tilde{p}^B) - \tilde{C}_j^B(\tilde{p}^B)].$$

Here, conditions (a) and (b) express the Nash equilibrium among parties in the policy announcement phase, while condition (d) ensures that no lobby can beneficially deviate during the initial stage of the game.

     Implicit in Definition 1 is the assumption that each party can observe the contribution schedules offered to the other. This assumption can be justified with the observation that the "schedules" here are intended as metaphors, rather than as literal descriptions of explicit contracts. In practice, offers of political support are conveyed as much by the public posture of a lobby as by any private communications it may have with the politicians. Accordingly, the *quid pro quo* for campaign support may come to be common knowledge among the parties.[10]

3.5. Functional forms

To simplify the analysis, we adopt particular functional forms for the distribution function, $F(\cdot)$, and for the effectiveness-of-campaign-spending function, $H(\cdot)$. We assume that informed voters' relative preferences for the immutable characteristics and programme of party B are distributed uniformly in the range

$$\left(-\frac{1}{2f} - \frac{b}{f}, \frac{1}{2f} - \frac{b}{f} \right),$$

     10. If, instead, we were to allow the contribution schedules to be communicated privately to the parties, then each party would be forced to condition its policy choices on its *beliefs* about the offers that had been made to its rival. As O'Brien and Shaffer (1992) have argued in a related context, such a game has many subgame-perfect Nash equilibria, as there is little to discipline the out-of-equilibrium beliefs of the parties. Still, there would be two reasons to focus on the equilibria that satisfy our Definition 1. First, even with unobservable contribution schedules, these equilibria are the only ones that can arise when $F(\cdot)$ and $H(\cdot)$ are linear functions, as we shall assume in the next sub-section and thereafter. More on this point in a moment. Second, the equilibria described by Definition 1 are immune to joint-welfare-increasing bilateral renegotiation between a lobby and a party, and thus satisfy the conditions for a "contract equilibrium" proposed by Crémer and Riordan (1987). See O'Brien and Shaffer (1992) for a discussion of why such equilibria might be focal in the set of equilibria that can arise when contracts between a principal and a particular agent are unobservable to other agents.

where $f > 0$ is a parameter measuring the diversity of ex ante views about the parties. Then

$$F[u^i(p^A) - u^i(p^B)]$$

$$= \frac{1}{2} + b + f[u^i(p^A) - u^i(p^B)] \quad \text{for } u^i(p^A) - u^i(p^B) \in \left(-\frac{1}{2f} - \frac{b}{f}, \frac{1}{2f} - \frac{b}{f} \right).$$

We also take $H(\cdot)$ to be linear and of the form $H(C^A - C^B) = \frac{1}{2} + b + h(C^A - C^B)$, where $h > 0$ is a parameter reflecting the productivity of campaign spending. With this specification, if the two parties happen to endorse the same pliable policies and if they happen to spend the same amounts on their campaigns, then party A will capture a fraction $\frac{1}{2} + b$ of the votes. The parameter b can be interpreted as the ex ante voter bias in favour of party A. We might expect $b > 0$ if party A is the incumbent party and $b < 0$ if party B is the incumbent party. Such an incumbency advantage could reflect name recognition and perhaps the feeling that "the devil you know is better than the devil you don't". Also, b might differ from zero because one party's candidates are seen as more competent or because its ideological agenda has greater public appeal. When $b = 0$, we will say that the parties are *equally popular*.

One consequence of linearity (among others) is that the objective function for each party becomes additively separable in the variables describing its own policy platform and level of campaign spending, and those of its rival. With separability, each party can make its decisions about what contribution offers to accept and what platform to adopt independently of its knowledge or beliefs about the incentives facing the other. Accordingly, the equilibria that arise when contribution schedules are observable to both parties coincide with those that can arise when the schedules are communicated privately, in the linear case.

4. EQUILIBRIUM WITH ONE LOBBY

We begin the analysis with the case in which there is only a single, organized lobby. In this setting we are able to expose most clearly the incentives facing a lobby and to set the stage for the more complicated situation that arises when several groups compete for favours. The single-lobby case also may be of independent interest, inasmuch as it sheds light on the determination of what Baron (1994) refers to as *particularistic policies*. These are policies whose benefits can be denied to those who do not contribute to the lobbying effort and whose costs are spread so thinly in the population that they do not inspire groups to organize in opposition. Baron cites as examples the special provisions in legislation that favour particular firms or industries and the interventions that legislators sometimes make with the bureaucracy on behalf of their supporters.

When only a single interest group curries politicians' favours, its problem can be treated as one of direct control. That is, we can view the lobby as if it could implement any pair of (pliable) policy platforms it desires, provided that its contribution offers are sufficiently large as to be acceptable to the parties. Each party always has the option of declining the lobby's offer, in which case it would choose the platform that attracted the greatest number of informed voters. To prevent this from happening, the lobby's contribution must be among those that satisfy a *participation constraint*.

How large must the contribution to party A be in order to induce it to endorse some policy p^A? Recall the relationship between the parties' platforms and campaign budgets and the election outcome, in the light of our linearity assumptions for $F(\cdot)$ and $H(\cdot)$. We have $s = b + \frac{1}{2} + (1 - \alpha)f[W(p^A) - W(p^B)] + \alpha h(C_j^A - C_j^B)$, where $W(p) \equiv (1/n_I) \int_{i \in I} u^i(p) di$

is the average welfare of informed voters when the vector of pliable policies is p. If the party were to refuse to be swayed by the lobby's offer, it would support the policies that best served the average informed voter. This policy vector, which we denote by p^*, satisfies $\nabla W(p^*) = 0$.[11] So the lobby must guarantee the party at least as many seats as it would capture by endorsing p^*. Evidently, it must offer to party A a contribution of at least $[(1-\alpha)f/\alpha h][W(p^*) - W(p^A)]$. Notice that the size of the minimum payment does not depend on the policy position anticipated from party B.

Similarly, the lobby must offer party B a contribution of at least $[(1-\alpha)f/\alpha h][W(p^*) - W(p^B)]$ in order to induce it to adopt the platform p^B. The lobby's problem, then, is to choose p^A and p^B to maximize (2), subject to the constraints that

$$C_j^K \geq \frac{(1-\alpha)f}{\alpha h}[W(p^*) - W(p^K)] \quad \text{for } K = A, B. \tag{3}$$

The constraints stipulate the minimum sizes of the campaign contributions as functions of the platforms that the group chooses to induce.

4.1. Contributions with only an influence motive

Let us suppose, for the moment, that the lobby decides to give the two parties exactly what is needed to induce them to support the platforms p^A and p^B, but nothing more. With these influence-motivated contributions, party A captures a fraction $\frac{1}{2} + b$ of the seats, while party B captures the remaining fraction $\frac{1}{2} - b$, *no matter what the policy vectors* p^A *and* p^B *happen to be.* The lobby's problem becomes one of choosing the two platforms to maximize its expected utility, given $\varphi^A = \varphi(b + \frac{1}{2})$ and $\varphi^B = 1 - \varphi(b + \frac{1}{2})$, and contributions that satisfy (3) with equality. We have, then, the following proposition that describes equilibrium policies when the lobby eschews the electoral motive for political giving:

Proposition 1. *If the contributions from a sole lobby satisfy both participation constraints in* (3) *with equality, the equilibrium policy platforms satisfy*

$$p^K = \arg\max_p \left[\varphi^K W_j(p) + \frac{(1-\alpha)f}{\alpha h} W(p) \right] \quad \text{for } K = A, B, \tag{4}$$

where $\varphi^A = \varphi(b + \frac{1}{2})$ *and* $\varphi^B = 1 - \varphi(b + \frac{1}{2})$.

Evidently, the influence-seeking lobby induces both parties to behave as if they were maximizing weighted sums of the collective welfare of interest group members and the average welfare of informed voters.

It may help to think about some specific examples in order to understand exactly what this formula means. Consider, for instance, the classical problem of an industry that generates a negative externality. If the externality is linked to the scale of production, then a per-unit output tax equal to the marginal damage best serves the interests of the average voter. But suppose that the industry's lobby links its campaign contributions to the size of the industry tax or subsidy. Then the equilibrium platforms will be ones that maximize weighted sums of average welfare (i.e. consumer surplus plus profits plus tax revenue) and industry profits. These platforms may involve a tax or a subsidy, and will certainly be

---

11. If the informed voters are a representative sample of the total population of voters, in the sense that the distribution of utility functions among informed and uninformed voters is the same, then the policy p^* is the one that maximizes a Benthamite social welfare function.

more generous to the industry than the "optimal" Pigouvian tax.[12] Or consider an economy that produces a single output from fixed supplies of capital and labour and where utility is linear in consumption. The welfare of the average voter is maximized by a flexible wage policy that ensures full employment of the $\bar{L}$ workers. But if a union representing the workers offers donations to the parties that are contingent on their endorsing a minimum wage policy, then the equilibrium platforms will contain such proposals as long as the elasticity of labour demand is not too high.[13]

Another illustration of (4) draws on the political-science literature. Consider the familiar spatial voting model, where a scalar policy variable p is to be chosen from among points on the real line. Suppose that voter i has bliss point p_i and utility from policy p given by $u^i = -(p - p_i)^2$. Let voters' bliss points be uniformly distributed on $[0, 1]$ and let informed voters comprise a representative sample of the whole. The distribution of voters' ex ante preferences is, as before, independent of the distribution of benefits from the pliable policy. Finally, let there be a single, organized interest group, representing all voters with bliss points in the range $[m, n]$. Then Proposition 1 implies that, when the lobby contributes only to influence policy choices, the equilibrium platforms satisfy

$$p^K = \frac{1}{2}\left[\frac{\delta + \varphi^K(n-m)(n+m)}{\delta + \varphi^K(n-m)}\right] \quad \text{for } K = A, B,$$

where $\delta \equiv (1-\alpha)f/\alpha h$. Notice that $p^K \to 1/2$ (the bliss point of the median and average voter) as $\delta \to \infty$, while $p^K \to (n+m)/2$ (the bliss point of the median and average interest-group member) as $\delta \to 0$. Also, $p^K > 1/2$ when $(n+m)/2 > 1/2$ and $p^K < 1/2$ when $(n+m)/2 < 1/2$; i.e. the platforms always lie between the bliss point of the median interest-group member and that of the median voter. Finally, the larger is φ^K, the farther is p^K from $1/2$ and the closer it is to $(n+m)/2$.

Returning to the more general interpretation of the model, we next establish a proposition that compares the campaign platforms of the two parties and the contributions received by each one, again for situations in which the lobby pursues only an influence motive for giving. Suppose, for concreteness, that party A is the more popular party; i.e. $b > 0$. Then we have:

Proposition 2. *If $b > 0$ and the contributions from a sole lobby satisfy the participation constraints in (3) with equality, then $W_j(p^A) > W_j(p^B)$, $W(p^A) < W(p^B)$, and $C^A > C^B$.*

The proposition follows straightforwardly from (3) and (4).[14] Notice first that $b > 0$ implies $\varphi(b + \frac{1}{2}) > 1 - \varphi(b + \frac{1}{2})$. Therefore, it is the more popular party that applies greater

---

12. Let d be the marginal damage caused by a unit of the industry's output and let t^K be the per-unit tax advocated by party K. Then in political equilibrium, $t^K = d - [(\varphi^K \alpha h)/(1 - \alpha)f](x/x')$, where x is industry output and x' is the slope of the industry supply curve.

13. Let $F(K, L)$ be the aggregate production function. The minimum wage $\hat{w}^K$ supported by party K maximizes $\varphi^K \hat{w}L + ((1-\alpha)f)/\alpha h F(K, L)$, subject to the constraints that $L \leq \bar{L}$ and $F_L(K, L) = \hat{w}$. The solution has a minimum wage above the market-clearing wage provided that

$$\varepsilon < \frac{\alpha h \varphi^K}{\alpha h \varphi^K + (1 - \alpha)f},$$

where $\varepsilon \equiv -F_L/LF_{LL}$ is the elasticity of labour demand.

14. *Proof*: From (4) we have $\varphi^K W_j(p^K) + \delta W(p^K) > \varphi^K W_j(p^L) + \delta W(p^L)$ for $L \neq K$; $K, L = A, B$ and $\delta \equiv (1-\alpha)f/\alpha h$. These inequalities imply: (i) $(\varphi^A - \varphi^B)W_j(p^A) > (\varphi^A - \varphi^B)W_j(p^B)$ and (ii) $\delta[W(p^K) - W(p^L)] > \varphi^K[W_j(p^L) - W_j(p^K)]$. For $\varphi^A > \varphi^B$, condition (i) implies $W_j(p^A) > W_j(p^B)$, which combined with (ii) for $K = B$, implies $W(p^B) > W(p^A)$. Finally, when (3) holds as an equality for $K = A$ and $K = B$, $W(p^B) > W(p^A)$ implies $C^A > C^B$.

weight to the welfare of the special interest group in setting its flexible policy positions. In other words, the lobby induces the party whose candidates and fixed programme have greater public appeal to choose a platform of pliable policies that is closer to the lobby's ideal.[15] But then this party's platform must be further from the ideal of the average (informed) vector. The latter fact, together with (3), implies that the lobby contributes more to the party with the better election prospects. The last observation is in keeping with Snyder's (1990) view of political contributions as investments in contingent claims (the claims pay off only if the recipients end up in a position to influence policy), a view which he supports with evidence on campaign gifts to candidates for the U.S. House of Representatives.

The following proposition indicates how the platforms that arise in an equilibrium with influence-motivated contributions respond to the parameters describing the political environment.[16]

Proposition 3. *If the contributions from a sole lobby satisfy the participation constraints in (3) with equality, then $W_j(p^K)$ is smaller and $W(p^K)$ is larger the larger is $\delta \equiv (1-\alpha)f/\alpha h$.*

Both parties cater more to the special interest group the greater is the susceptibility of uninformed voters to campaign spending and the larger is the fraction of these individuals in the total voter population (i.e. the larger are h and α, respectively), because the lobby gives larger gifts to each party the more productive are its funds in buying votes. On the other hand, the platforms more fully reflect the interests of the average informed voter the smaller is the diversity of preferences over the ideological issue. When the range of the β's is small (i.e. f is large), there are more voters at the margin of indifference between the two parties, and so an endorsement of a platform that neglects the public interest is more costly to the parties.[17]

As a final observation, we note the similarity between the form of the equilibrium platforms described by (4) and the equilibrium policies that emerged from the model in Grossman and Helpman (1994). There (in the context of tariff formation) we assumed that a single incumbent policy maker has as her objective the maximization of a weighted sum of campaign contributions and average voter welfare. We showed that the equilibrium policies satisfy an equation with the same form as (4). We now find that—at least when there is one organized lobby which pursues only an influence motive for campaign giving—

15. This result is at odds with one derived by Baron (1994). Baron establishes that, in his model, a candidate with an incumbency advantage "can afford to be more independent of interest groups", whereas the challenger with worse election prospects caters more to special interests. When discussing particularistic policy positions, Baron assumes that the interest groups contribute a fixed portion of the benefits they derive from politicians' favours. He models incumbency advantage alternatively as a bias in the voting pattern of uninformed voters (only) and as the ability of a candidate to deliver greater benefits to interest groups for a given burden to the electorate. When it is the former, the incumbent anyway captures more of the votes of the uninformed for a given amount of campaign spending and so devotes more effort on the margin to attracting the informed voters. When it is the latter, the incumbent anyway attracts greater campaign contributions for a given policy stance, and so again attempts to appeal more to the informed voters on the margin. In our model, the popularity advantage applies equally to the behaviour of informed and uninformed voters, neither candidate can reward the interest group without at the same time harming the general public, and the interest group chooses how much to contribute to the parties. In such circumstances, an interest group will wish to invest more in the party that is more likely to be in a position to set policy and so will exert a greater influence on its platform.

16. The proof of this proposition is similar to the proof of Proposition 2.

17. Dixit and Londregan (1994) find similarly that transfer policies tend to favour groups of voters that have "central" views on ideological issues and thus many members on the margin of indifference between the two candidates.

the government-as-agent framework represents a proper reduced form of a model with electoral competition.

4.2. When is an electoral motive operative?

We have so far assumed that the interest group would wish to make the participation constraints bind for both political parties. In other words, the group offers each party only what it takes to win its support for the desired platform. Let us examine now when this will be the case.

The first-order conditions for the maximization of V_j with respect to C_j^A and C_j^B, subject to the participation constraints (3), imply

$$\varphi'(s)\alpha h[W_j(p^A) - W_j(p^B)] = 1 - \lambda^A; \tag{5}$$

$$\varphi'(s)\alpha h[W_j(p^B) - W_j(p^A)] = 1 - \lambda^B, \tag{6}$$

where λ^K is the Lagrange multiplier on the participation constraint applicable to party K. It is clear that λ^K must be positive for at least one K (i.e. the participation constraint must bind for at least one party), because the left-hand sides of (5) and (6) have opposite signs. In other words, it never pays for the lobby to give more than is necessary to both parties. Moreover, if the lobby does give more than is required to one of the parties, it must be the one that endorses its more-preferred platform; for example, (5) can be satisfied with $\lambda^A = 0$ only if $W_j(p^A) > W_j(p^B)$. The party with a non-binding participation constraint receives more contributions in total than its rival (i.e. $C^A > C^B$ in the case just described) and adopts a platform of pliable policies that is less mindful of the welfare of the average voter.[18]

Indeed, only the party that is ex ante more popular is a candidate to receive extra campaign support. To see this, suppose that the other was receiving the larger contribution. Then the lobby could switch the labels on its offers (i.e. offering to party A what it had intended to offer to B, and *vice versa*) and at the same time reduce its (new) offer to the more popular party, in such a way as to preserve the original probability distribution over policy outcomes. This would reduce its total contribution bill, which clearly would be profitable for the lobby. We have thus established:

Proposition 4. *Let party A be the more popular party (i.e. $b > 0$). Then (a) the participation constraint (3) is satisfied with equality for party B; and (b) if the participation constraint (3) is satisfied as a strict inequality for party A, then $W_j(p^A) > W_j(p^B)$, $W(p^A) < W(p^B)$, and $C^A > C^B$.*

Notice that Propositions (2) and (4) imply that the more popular party amasses greater campaign funding and adopts a platform more favourable to the special interest group and less considerate of the average voter irrespective of whether the interest group chooses to satisfy the participation constraint with equality or not.

If the lobby does give to the more popular party in excess of what is needed to gain its acquiescence, the motivation would be to help that party capture additional seats in

---

18. If (3) holds as an equality for party B, for example, then its platform satisfies (4), but with $\varphi^B = -b + \frac{1}{2} - (1-\alpha)fW(p^A) - \alpha hC^A + (1-\alpha)fW(p^*)$.   Then $\varphi^B W_j(p^B) + \delta W(p^B) > \varphi^B W_j(p^A) + \delta W(p^A)$,   where $\delta \equiv \alpha f/(1-\alpha)h$. This, together with $W_j(p^A) > W_j(p^B)$, implies $W(p^A) < W(p^B)$. Moreover, if (3) holds as an equality for party B and as an inequality for party A, we have $C^A > C^B + \delta[W(p^B) - W(p^A)]$, which together with $W(p^A) < W(p^B)$ implies $C^A > C^B$.

the legislature. By doing so, the lobby could increase the probability that its preferred platform would be implemented. Suppose that party A is the more popular party, and suppose that the lobby contemplates giving this party a bit more than is needed to induce the party to choose the policy p^A. The expected marginal benefit from the first dollar of "extra" contribution is $\varphi'(s)\alpha h[W_j(p^A) - W_j(p^B)]$, which reflects the group's preference for A's platform and its marginal effect on the probability that this platform will be implemented. The marginal cost of the extra contribution is of course equal to one. Thus, we have

Proposition 5. *If $b > 0$ and $\varphi'(s)\alpha h[W_j(p^A) - W_j(p^B)] > 1$, where p^K satisfies (4) for $K = A, B$, then the participation constraint in (3) will hold as a strict inequality for party A.*

Evidently, the lobby finds an electoral motive to contribute to party A (beyond the influence motive that always exists) only if the lobby would fare very differently under the alternative platforms, if campaign spending is relatively productive in buying votes (α and h are large), and if increased representation in the legislature greatly enhances a party's prospects for implementing its programme ($\varphi'(s)$ is large). The size of the difference $W_j(p^A) - W_j(p^B)$ reflects two considerations. First, it reflects the extent of the informed voters' predisposition to party A. The smaller the bias b, the closer together will be the two policy vectors in (4), and the less likely it will be that the lobby perceives a benefit from helping party A to win more seats. Second, it reflects the absolute size of the lobby's stake in the policy issues.

5. EQUILIBRIUM WITH SEVERAL LOBBIES

Now we seek a subgame-perfect Nash equilibrium when several interest groups vie for influence over the parties' platforms. Again we are free to treat the lobbies as if they were facing problems of direct control, but this time we must incorporate into their constraints the anticipated actions of the rival organizations. Consider for example the problem confronting the interest group l. This group behaves as if it were designing the platforms p_l^A and p_l^B, but it takes as given the contribution schedules offered by the other lobbies. It makes the choice to maximize its own welfare, subject to the constraint that the offers must be large enough to induce the parties to comply. Of course, in equilibrium, all of the lobbies' "choices" must be mutually consistent; i.e. they all must designate the same platforms, which are the ones that the two parties announce.

More formally, let $C_{-l}^K(p^K) \equiv \sum_{j \neq l}' C_j^K(p^K)$ be the aggregate contribution schedule offered to party K by all lobbies other than l. Then lobby l chooses p_l^A, p_l^B, C_l^A, and C_l^B to maximize its expected welfare in (2), subject to the constraints that

$$C_l^K \geq \max_p \left[\frac{1-\alpha}{\alpha h} f W(p) + C_{-l}^K(p) \right] - \left[\frac{1-\alpha}{\alpha h} f W(p_l^K) + C_{-l}^K(p_l^K) \right] \quad \text{for } K = A, B. \quad (7)$$

The (participation) constraints ensure that each party prefers to endorse its prescribed platform than to decline the offer from lobby l and choose an alternative platform. For future reference, we denote by p_{-l}^K the policy vector that maximizes $(1-\alpha)fW(p) + \alpha h C_{-l}^K(p)$. This is the best that party K could do if it were to ignore the offer from lobby l.

Let us provisionally assume that lobby l opts to make its participation constraints bind with equality. When lobby l pays these minimally acceptable contributions, it antici-

pates that party A will capture a fraction

$$\tfrac{1}{2} + b + (1 - \alpha)f[W(p_{-l}^A) - W(p_{-l}^B)] + \alpha h[C_{-l}^A(p_{-l}^A) - C_{-l}^B(p_{-l}^B)]$$

of the seats. Notice that this fraction is a constant (say $\bar{s}_l$) from the lobby's point of view. It follows that the platforms that maximize the group's expected welfare satisfy the first-order conditions

$$\varphi(\bar{s}_l)\nabla W_l(p_l^A) + \frac{1 - \alpha}{\alpha h} f \nabla W(p_l^A) + \nabla C_{-l}^A(p_l^A) = 0 \tag{8}$$

and

$$[1 - \varphi(\bar{s}_l)]\nabla W_l(p_l^B) + \frac{1 - \alpha}{\alpha h} f \nabla W(p_l^B) + \nabla C_{-l}^B(p_l^B) = 0. \tag{9}$$

Now look at the problem from the politicians' perspective. When confronted with the full set of contribution schedules, the political parties set their platforms to maximize their shares of the vote. The first-order conditions for these maximizations imply

$$(1 - \alpha)f W(p^K) + \alpha h \nabla C^K(p^A) = 0 \quad \text{for } K = A, B, \tag{10}$$

where $C^K(p^K) \equiv \sum_j C_j^K(p^K)$ is the aggregate contribution schedule confronting party K. In words, the parties balance the marginal loss of informed votes caused by their deviating from p^* against the additional uninformed votes they capture by spending the extra donations from the interest groups.

In the equilibrium, the platforms anticipated by each lobby must be the same as those actually announced by the parties; i.e. $p_l^K = p^K$ for all l and for $K = A, B$. Therefore, we can combine (8), (9), and (10) to derive

$$\varphi(\bar{s}_l)\nabla W_l(p^A) = \nabla C_l^A(p^A); \tag{11}$$

$$[1 - \varphi(\bar{s}_l)]\nabla W_l(p^B) = \nabla C_l^B(p^B). \tag{12}$$

These equations reveal an important property of the equilibrium contribution schedules; namely, these schedules must be "locally truthful" in the neighbourhood of the equilibrium platforms. In other words, when a lobby treats the make-up of the legislature as a given, it designs its bids so that the shape of each schedule accurately reflects the expected benefit it would derive from a small change in the party's platform around the equilibrium.[19] Lemma 1 states this requirement more precisely.

Lemma 1. *If all lobbies set contribution schedules that are everywhere continuous and differentiable where positive, and if all lobbies satisfy the participation constraints (7) with equality, then the contribution schedules $C_l^K(\cdot)$ for lobby l must be locally truthful (i.e. satisfy (11) and (12)) when evaluated at the equilibrium policies p^A and p^B.*

In a subgame-perfect equilibrium, all lobbies must anticipate the same election outcome. So $\bar{s}_l = s^o$ for all l. Using this fact, (11) and (12) can be combined with (10), to yield conditions that the equilibrium platforms must satisfy when all lobbies opt to have both

19. See Grossman and Helpman (1994) for further discussion of local truthfulness and its relation to "global truthfulness", as defined by Bernheim and Whinston (1986).

participation constraints bind. These are

$$\varphi(s^o) \sum_j \nabla W_j(p^{Ao}) + \frac{(1-\alpha)}{\alpha h} \nabla W(p^{Ao}) = 0; \tag{13}$$

$$[1 - \varphi(s^o)] \sum_j \nabla W_j(p^{Bo}) + \frac{(1-\alpha)f}{\alpha h} \nabla W(p^{Bo}) = 0. \tag{14}$$

These conditions imply:

   Proposition 6.   *When all lobbies satisfy the participation constraints* (7) *with equality, each party's equilibrium platform satisfies the necessary conditions for maximizing a weighted sum of the aggregate welfare of all interest group members and the average welfare of informed voters.*

   Conditions (13) and (14) provide a partial answer to the following question: Which interest groups are most successful in influencing government policy? The answer, we find, is that all organized interest groups are equally successful, in the sense that their members receive equal weight in the parties' political calculus. The net effect of private campaign financing is to push policy in a direction that is favourable to the average member of an interest group and away from the policy that would best serve the interests of the average (informed) voter. Of course, the final platform choices will not be equally close to the bliss points of all of the lobbies; this depends on how similar a lobby's preferences are to those of the average voter and how the other interest groups line up on the issues of concern to it.
   The conditions that characterize the equilibrium platforms have another interesting implication. The political system works best, of course, when all voters are informed about the issues ($\alpha = 0$). Then the interest groups are ineffectual and both parties choose the platform that maximizes aggregate welfare. But the same outcome is achieved in a very different set of circumstances. Suppose that every voter is a member of exactly one interest group and that the informed voters constitute a representative sample of the electorate. Then, no matter how large the fraction of uninformed voters nor how susceptible these voters may be to campaign rhetoric, the equilibrium policies again will be the ones that best serve the voters' (collective) interests.
   Notice that (13) and (14) do not uniquely determine the equilibrium platforms, even when $W(\cdot)$ and $W_j(\cdot)$ are concave functions. Besides p^{Ao} and p^{Bo}, the (expected) composition of the legislature (s^o) appears in these expressions. The equilibrium seat count depends, in turn, on the total amounts of contributions collected by the parties. It is true, as in the case of a single lobby, that an individual interest group prefers to concentrate its giving on the party that it expects will be in a better position to implement its platform. And it is also true that the party expected to capture a legislative majority caters more to the special interests. But there is a potential here for self-fulfilling prophesies that does not exist when a single lobby plays the contribution game. The self-fulfilling prophesies reflect a type of coordination failure among the lobbies.[20]
   Suppose, for example, that party A happens to be the more popular party ($b > 0$), but that each lobby expects that party B will capture the majority of the seats. These

---

20. Morton and Myerson (1992) find a similar result in a one-dimensional spatial-voting model, where parties sell "services" to special interest groups and use the proceeds to fund advertising that directly enhances the welfare of voters.

expectations are based on the belief that the other lobbies will give more generously to party B than to party A. Then each lobby will be well justified in concentrating its efforts on influencing B's platform and, in the end, their expectations may be validated. Whereas an only lobby can always gain by ensuring that the more popular party wins the majority of the seats, a lobby that is one among many cannot necessarily do so. To reverse the fortunes of the two parties in a way that conserves resources, it may need the tacit cooperation of other lobbies.

The potential for multiplicity of equilibria can also be understood in another way. Recall that $s = \frac{1}{2} + b + (1-\alpha)f[W(p^A_{-l}) - W(p^B_{-l})] + \alpha h[C^{Ao}_{-l}(p^A_{-l}) - C^{Bo}_{-l}(p^B_{-l})]$ when lobby l makes the minimal contributions needed to induce the platforms p^{Ao} and p^{Bo}. Of course, if all lobbies give minimally, then this condition must hold for each one. The policies p^A_{-l} and p^B_{-l} are the ones that the parties would choose if they ignored the offer from lobby l. Notice that these policies depend on the shapes of the lobbies' contribution schedules *away from the equilibrium*. And while the equilibrium requirements place some restrictions on the global shapes of these schedules (for example,

$$(1-\alpha)f[W(p^A_{-l}) - W(p^B_{-l})] + \alpha h[C^{Ao}_{-l}(p^A_{-l}) - C^{Bo}_{-l}(p^B_{-l})]$$

must be the same for all l) the requirements are not enough to pin down the equilibrium uniquely.

Still, some of the Nash equilibria may be more compelling than others. For example, if $b = 0$, the symmetric equilibrium—in which the lobbies treat the parties similarly and the election yields an evenly split legislature—may be focal. If $b > 0$, the lobbies would have no particular reason to expect the bulk of the contributions to go to party B, and in some cases they will have good reasons to expect the opposite. One such case arises when all lobbies are offering positive contributions to both parties, not only in the neighbourhood of the equilibrium, but also around the various points that the parties would choose if one of the lobby groups were to be ignored. In this situation, the equilibrium with $s < \frac{1}{2}$ is Pareto dominated for the entire set of interest groups by another with $s > \frac{1}{2}$. The alternative equilibrium can be constructed as follows. Let each lobby offer to party B in the new equilibrium exactly what it offered to party A in the old. Let each construct its new offer to party A by subtracting a fixed amount from the (positive) offers to party B in the old equilibrium, plus an additional amount that increases with the distance from the initial p^{Bo}. Finally, let the fixed reductions be chosen so that party A captures as many seats in the new equilibrium as party B did in the old, and let the additional reductions be chosen so that no party will decline the offer from some lobby in setting its platform.[21] The newly constructed contribution schedules are best responses to one another, and they induce each party to chose the platform in the new equilibrium that the other chose in the old. Finally, since each party wins as many seats in the new equilibrium as the other did in the old, the new equilibrium has exactly the same distribution of policy outcomes as the old. It follows that all interest groups gain.

---

21. That is, let $C^K_j(p)$ be the initial schedule offered by lobby j to party K and let $\tilde{C}^K_j(p)$ be the alternative. We propose $\tilde{C}^B_j(p) = C^A_j(p)$ for all j and $\tilde{C}^A_j(p) = C^B_j(p) - z_j - Z_j(p - p^B)$, where each $Z_j(\cdot)$ is a function that is everywhere non-negative and that reaches a unique maximum at 0. Let the constants z_j be chosen so that $z_j \geqq 0$ and $\sum_j z_j = 2b/\alpha h$, and the functions $Z_j(\cdot)$ so that

$$(1-\alpha)fW(p^B) + \sum_j C^B_j(p^B) > \max_p \{(1-\alpha)fW(p) + \alpha h \sum_{j \neq l}[C^B_j(p) - Z_j(p - p^B)] - \alpha h z_l\}$$

for all l. This will be possible, provided that the $C^B_j(p^B_{-l})$ in the initial equilibrium are large enough. In the event, party A chooses the platform $\tilde{p}^A = p^B$, party B chooses $\tilde{p}^B = p^A$, and lobby l gains z_l relative to the initial equilibrium.

More generally, anytime $b > 0$ and $s < \frac{1}{2}$, the lobbies are paying excessively to allow the less popular party to capture a majority of the seats. It is never in their collective interest to do so. But it may not always be possible to devise alternative contribution schedules that allow each to pay a smaller contribution while preserving the probability distribution over policy outcomes. If it is not possible to do so, then a Pareto improvement may not be available within the set of Nash equilibria. In such cases the realization of joint gains may require the enforcement of an explicitly cooperative arrangement, where some lobbies agree to some political actions that are not best responses to the others and where certain of the interest groups receive transfers as side payments under the agreement.[22]

Let us now examine whether some interest groups would opt to give to their favourite parties beyond what is needed to influence their platforms. We first establish the following proposition, indicating that at most one lobby group can perceive an electoral motive for contributing to a given party.

Proposition 7. *For each political party $K = A, B$, there is at most one lobby (generically) that satisfies the participation constraint* (7) *as a strict inequality.*

Suppose to the contrary that lobbies 1 and 2 each gave extra contributions to party A in order to bolster its election returns. Then, in equilibrium, the marginal benefit perceived by lobby j for contributing to this party would be $\varphi'(s)\alpha h[W_j(p^A) - W_j(p^B)]$, for $j = 1, 2$, while of course the marginal cost for each would be 1. Both lobbies could satisfy their first-order conditions for optimal giving only if $W_1(p^A) - W_1(p^B)$ happened to equal $W_2(p^A) - W_2(p^B)$; that is, if the two lobbies held exactly the same absolute preference for party A's pliable policies over those of party B. Electoral support beyond what is justified by the influence motive constitutes a public good for all interest groups preferring a given party's platform. As in many other contexts, it is only the player that has the most to gain that might contribute voluntarily toward the purchase of a public good.

The electoral motive might be operative for a lobby if it stands to gain greatly by having one party's platform implemented rather than the other's. But if all interest groups are "small", in a sense made precise in the next proposition, then none will see a marginal benefit of "excess" contributions equal to their marginal cost. In this case, all campaign giving is governed by an influence motive alone.

Proposition 8. *Consider a constrained equilibrium, in which each lobby must satisfy* (7) *as an equality for each party. Let* (p^A, p^B, s) *be the platforms and seat count in this constrained equilibrium. Then if* $\varphi'(s)\alpha h|W_j(p^A) - W_j(p^B)| < 1$ *for all j, the constrained equilibrium is also an unconstrained equilibrium in which none of the lobbies exercises an electoral motive for campaign giving.*

The proposition is straightforward. Starting from an equilibrium where all participation constraints bind, lobby j perceives a marginal benefit of $\varphi'(s)\alpha h[W_j(p^A) - W_j(p^B)]$ from giving a little bit more to party A, and $\varphi'(s)\alpha h[W_j(p^B) - W_j(p^A)]$ from giving a little more to party B. If the inequality in the proposition is satisfied, it will not wish to give the extra amount to either party, in view of the marginal cost of the additional contribution

22. We suspect that any equilibrium that has the less popular candidate winning a majority of the seats will not be a coalition-proof equilibrium (see Bernheim *et al.* (1987)). But we have not been able to prove this for all types of equilibria.

of 1. The interpretation of this in terms of the sizes of the groups is as follows. Suppose we start with a given set of interest group members and then divide these individuals into a larger and larger number of (smaller) lobbies, using any allocation of individuals to groups at all. When the number of different groups is large enough, $W_j(p)$ will be small for every j, and so will the difference $|W_j(p^A) - W_j(p^B)|$. In the event, the electoral motive for campaign giving vanishes, but the influence motive remains. Indeed, (13) and (14) continue to characterize the equilibrium platforms no matter how finely the groups are divided, so long as the participation constraints bind for each one.

6. SUMMARY

Interest groups make campaign contributions either to influence election outcomes or to influence policies. We have developed a model of campaign finance in which special interests may have either or both of these motives for giving. In the model, the special interests tailor schedules that link campaign gifts to policy endorsements. The schedules are proposed to two political parties, who are vying for seats in a legislature. The parties have fixed stances on some issues but have yet to announce their positions on other "pliable" policies, about which they have no inherent preferences. Confronted with offers from the various interests, the parties announce their campaign platforms. They trade off the extra campaign contributions that may be forthcoming if they cater to the groups' demands against the votes that this may cost them among the well-informed segment of the electorate.

The paper analyses the equilibrium of a two-stage game. In the first stage, the interest groups strategically design their contribution schedules to maximize their expected welfare net of political pay-outs. In the second stage, the parties choose platforms to maximize their representation in the legislature. In the voting booth, an informed voter casts her ballot for the party whose candidates and platform she prefers. In contrast, an uninformed (or, perhaps, impressionable) voter may respond to campaign rhetoric. The difference in policies and spending levels determines the election outcome, which in turn decides the probability that each party's platform will be implemented.

Our model predicts divergence in policy platforms. The party that is expected to win the majority of the seats garners greater attention from the special interests. As a result, it is induced to adopt a platform that gives more weight to their concerns. The underdog party also caters somewhat to the special interests, but its equilibrium platform is closer to the bliss point of the average informed voter. This finding may have relevance for the debate over term limits. With the advantage that incumbency brings in terms of name recognition and reputation, incumbents are overwhelming favourites in many elections. Our analysis suggests that these candidates may convert their popularity into campaign war chests, with detrimental effects on the welfare of the average voter. Term limits would periodically restore a more even election, and thus might diminish the influence of special interest groups.

When interest groups offer the parties contributions that are platform contingent, they induce in them a preference ordering over the pliable policies. In our model, these preferences take a particularly simple form. Each party is induced to behave as if it were maximizing a weighted sum of the welfare levels of two groups in the polity. The aggregate interest of *informed voters* receives a weight that increases with the share of such voters in the voting population and decreases with the diversity of their opinions about the relative desirability of the parties' ideological positions. The aggregate interest of *members of organized interest groups* receives a weight that increases with the susceptibility of

uninformed voters to campaign spending. The weight implicitly given to the interest group members also varies with the number of seats a party is expected to win, which accounts for the above-mentioned difference in the parties' platforms. It is interesting to note that many political-economy models ascribe weighted social welfare functions to politicians making policy choices. Our model provides some underpinnings for this common specification.

If interest groups can communicate platform-contingent contribution offers, they will always perceive an influence motive for giving to each party whose platform might eventually become policy. But the groups may or may not perceive an incentive to give to their favourite party beyond what is needed to exert the desired degree of influence. We have shown that the electoral motive for giving—which features prominently in many previous models of campaign contributions—can operate for at most one interest group favouring each political party. This is because gifts that bolster a party's election prospects benefit all interest groups that prefer the party's platform. Only the interest group with the greatest relative preference for the party is a candidate to contribute toward this public good. We find, moreover, that campaign gifts with an electoral motive may be the exception, rather than the rule. No group will give beyond what is needed to compensate the party for altering its policy position unless the group has an aggregate stake in policy that is relatively large compared to the stake of the electorate as a whole.

Finally, what of the election outcome? Our model predicts a unique equilibrium when only a single interest group is organized to offer contributions to the parties. In this equilibrium, the party that is more popular ex ante captures a majority of the seats in the elected legislature. The interest group contributes more to the more popular party, and at least compensates this party for choosing the less-popular, pliable policies. Thus, the contributions ensure that the more popular party captures at least as many seats as it would in the absence of any influence-seeking.

However, once there are several interest groups that actively compete for influence, our model allows scope for self-fulfilling prophesies. Each group's giving depends upon its expectations about the others. If a lobby expects the others to compete vigorously for a certain party's favour, then it too will have an incentive to focus its efforts on that party. Then, if all happen to concentrate on the party whose candidates and fixed programme have less popular appeal, the result may be a legislature in which this party captures a majority. In the aggregate, the lobbies may pay handsomely to overcome voters' resistance. Still, each may be stuck with this outcome unless they reach a cooperative solution through the use of side payments.

APPENDIX: STRICT MAJORITY RULE

We assumed in the main text that political parties seek to maximize their representation in the legislature and that a party holding a majority of seats may fail to implement its policy programme. While quite reasonable as descriptions of the political process, these assumptions are admittedly somewhat ad hoc. In this Appendix, we take a more "purist" approach, by assuming that parties maximize their chances of winning a majority and that the legislature operates by strict majority rule. We concentrate on the symmetric equilibrium that may emerge when the two parties are equally popular. Equal popularity implies $F(0) = \frac{1}{2}$ and $H(0) = \frac{1}{2}$, and, with the previously-encountered linearity assumptions on $F(\cdot)$ and $H(\cdot)$, $b = 0$.

We now suppose that interest group members comprise a negligible fraction of the voting population and that voters' preferences for the fixed programme of party B are statistically independent. Also, the total number of voters, n, is large but finite. Then, the number of votes for party A can be approximated by a normal distribution, with mean $\sum_{i \in I} F(\Delta^i) + anH(\Delta^C)$ and variance $\sum_{i \in I} F(\Delta^i)[1 - F(\Delta^i)] + anH(\Delta^C)[1 - H(\Delta^C)]$, where

$\Delta^i \equiv u^i(p^A) - u^i(p^B)$ and $\Delta^C = C^A - C^B$.[23] Party A wins the election with (approximate) probability

$$\pi(p^A, p^B, \Delta^C) = N\left(\frac{\sum_{i \in I} F(\Delta^i) + \alpha n H(\Delta^C) - \frac{n}{2}}{\sqrt{\sum_{i \in I} F(\Delta^i)[1 - F(\Delta^i)] + \alpha n H(\Delta^C)[1 - H(\Delta^C)]}}\right), \tag{15}$$

where $N(\cdot)$ represents the standardized normal distribution function.

Each interest group designs its contribution schedule to maximize the aggregate expected utility of its members. Recognizing that with probability $\pi(\cdot)$ the legislature will implement the policy vector p^A and with probability $1 - \pi(\cdot)$ it will implement the vector p^B, lobby l chooses $C_l^A(p^A)$ and $C_l^B(p^B)$ to maximize $\pi(\cdot)W(p^A) + [1 - \pi(\cdot)]W(p^B) - C_l^A(p^A) - C_l^B(p^B)$, taking as given the contribution schedules proffered by the other lobbies. The parties subsequently set p^A and p^B to maximize π and $1 - \pi$, respectively.

As before, we can treat each lobbies' problem as one of direct control. Lobby l chooses p_l^A, p_l^B, C_l^A and C_l^B to maximize its expected utility, taking $C_{-l}^A(p^A)$ and $C_{-l}^B(p^B)$ as given. It also recognizes the participation constraints, which require that each party achieve at least as great a probability of winning when setting the policy designated by lobby l as it could be choosing an alternative policy and receiving nothing from the lobby. That is, the lobby must respect the inequality

$$\pi[p_l^A, p_l^B, C_{-l}^A(p_l^A) + C_l^A - C_{-l}^B(p^B) - C_l^B] \geqq \max_p \pi[p, p_l^B, C_{-l}^A(p) - C_{-l}^B(p^B) - C_l^B]$$

and a similar condition for party B. We focus on symmetric equilibria, wherein $C_{-l}^A(\cdot) = C_{-l}^B(\cdot)$, lobby l chooses the same platform and contribution for each party, and the participation constraints bind.

Let p_l^o be the platform designated by lobby l. The first-order condition for maximizing the lobbies' expected utility with respect to the choice of p_l^A implies

$$\tfrac{1}{2}\nabla W_l(p_l^0) + \frac{(1 - \alpha)f}{\alpha h}\nabla W(p_l^o) + \nabla C_{-l}^o(p_l^o) = 0, \tag{16}$$

where we have made use of the fact that $\pi(p_l^o, p_l^o, 0) = \frac{1}{2}$ at the symmetric equilibrium.[24]

Party A chooses its equilibrium platform, p^{Ao}, to maximize $\pi[p^A, p^{Bo}, C^{Ao}(p^A) - C^{Bo}(p^{Bo})]$. Again making use of the symmetry conditions, $p^{Ao} = p^{Bo} = p^o$ and $C^{Ao}(\cdot) = C^{Bo}(\cdot) = C^o(\cdot)$, this implies

$$(1 - \alpha)f\nabla W(p^o) + \alpha h\nabla C^0(p^o) = 0. \tag{17}$$

Consistency requires $p_l^o = p^o$ for all l. Thus, (16) and (17) imply

$$\tfrac{1}{2}\nabla W_l(p^o) = \nabla C_l^o(p^o), \tag{18}$$

which is another "local truthfulness" result. Finally, combining (17) and (18) we find

$$\tfrac{1}{2}\sum_j \nabla W_j(p^o) + \frac{(1 - \alpha)f}{\alpha h}\nabla W(p^o) = 0. \tag{19}$$

The platform p^o that satisfies (19) is the same as the platform p^{Ao} that satisfies (13) and the platform p^{Bo} that satisfies (14), when $s^0 = \frac{1}{2}$. We see that, with equal popularity, the platform that emerges in a symmetric equilibrium when the legislature operates by strict majority rule and parties maximize their chances of winning a majority is the same as the platform that emerges in symmetric equilibrium when parties maximize their representation in the legislature and a minority platform has some chance of being implemented.[25]

23. The approximation follows from the Liapunov central limit theorem, which requires also that the variance term becomes unbounded as n grows large. For a discussion of the applicability of this theorem in the context of a probabilistic voting model, see Lindbeck and Weibull (1987).

24. In deriving (16) we have used the first-order condition with respect to C_l^A to substitute out the Lagrange multiplier on the participation constraint. We have also made extensive use of the symmetry conditions, $p_l^{Ao} = p_l^{Bo} = p_l^0$ and $C_l^A = C_l^B = C_l^0$.

25. This result mimics a similar finding by Lindbeck and Weibull (1987), who assumed that all voters are informed voters and that campaign contributions play no role in the election.

Princeton University. Part of this work was carried out while the authors were visiting I.G.I.E.R. in Milan, Italy and the European University Institute in Florence, Italy, Needless to say, these were very hospitable environments.

REFERENCES

ARANSON, P., HINICH, M. and ORDESHOOK, P. (1974), "Election Goals and Strategies: Equivalent and Nonequivalent Strategies", *American Political Science Review*, **68**, 135–152.

AUSTEN-SMITH, D. (1987), "Interest Groups, Campaign Contributions, and Probabilistic Voting", *Public Choice*, **54**, 123–139.

BARON, D. P. (1989), "Service-Induced Campaign Contributions and the Electoral Equilibrium", *Quarterly Journal of Economics*, **104**, 45–72.

BARON, D. P. (1994), "Electoral Competition with Informed and Uninformed Voters", *American Political Science Review*, **88**, 33–47.

BERNHEIM, B. D., PELEG, B. and WHINSTON, M. (1987), "Coalition-Proof Nash Equilibria, I: Concepts", *Journal of Economic Theory*, **42**, 1–12.

BERNHEIM, B. D. and WHINSTON, M. (1986), "Menu Auctions, Resource Allocation, and Economic Influence", *Quarterly Journal of Economics*, **101**, 1–31.

COUGHLIN, P. (1984), "Expectations about Voter Choices", *Public Choice*, **44**, 49–59.

COUGHLIN, P. (1986), "Elections and Income Redistribution", *Public Choice*, **50**, 27–99.

COUGHLIN, P. and NITZAN, S. I. (1981), "Electoral Outcomes with Probabilistic Voting and Nash Social Welfare Maxima", *Journal of Public Economics*, **15**, 113–122.

CRÉMER, J. and MICHAEL, H. R. (1987), "On Governing Multilateral Transactions with Bilateral Contracts", *RAND Journal of Economics*, **18**, 436–451.

DENZAU, A. T. and KATS, A. (1977), "Expected Plurality Voting Equilibrium and Social Choice Functions", *Review of Economic Studies*, **44**, 227–233.

DIXIT, A. and LONDREGAN, J. (1994), "The Determinants of Success of Special Interests in Redistributive Politics" (mimeo, Princeton University).

ENELOW, J. M. and HINICH, M. (1982), "Nonspatial Candidate Characteristics and Electoral Competition", *Journal of Politics*, **44**, 115–130.

FREMDREIS, J. P. and WATERMAN, R. W. (1985), "PAC Contributions and Legislative Behavior: Senate Voting on Trucking Deregulation", *Social Science Quarterly*, **66**, 401–412.

GROSSMAN, G. M. and HELPMAN, E. (1994), "Protection for Sale", *American Economic Review*, **84**, 833–850.

GROSSMAN, G. M. and SHAPIRO, C. (1984), "Informative Advertising with Differentiated Products", *Review of Economic Studies*, **51**, 63–81.

KAU, J. B. and RUBIN, P. H. (1982) *Congressmen, Constituents, and Contributors* (Boston: Martinus Nijhoff Publishing).

LINDBECK, A. and WEIBULL, J. W. (1987), "Balanced-budget Redistribution as the Outcome of Political Competition", *Public Choice*, **54**, 273–297.

MAGEE, S. P., BROCK, W. A. and YOUNG, L. (1989) *Black Hole Tariffs and Endogenous Policy Theory* (Cambridge, UK.: Cambridge University Press).

MORTON, R. and MYERSON, R. (1992), "Campaign Spending with Impressionable Voters" (CMSEMS Working Paper No. 1023, Northwestern University).

MUELLER, D. C. (1989) *Public Choice II* (Cambridge, U.K.: Cambridge University Press).

O'BRIEN, D. P. and SHAFFER, G. (1992), "Vertical Control with Bilateral Contracts", *RAND Journal of Economics*, **23**, 299–308.

OLSON, M. (1965) *The Logic of Collective Action* (Cambridge, MA: Harvard University Press).

SNYDER, J. M. (1989), "Election Goals and the Allocation of Campaign Resources", *Econometrica*, **57**, 637–660.

SNYDER, J. M. (1990), "Campaign Contributions as Investments: The U.S. House of Representatives 1980–1986", *Journal of Political Economy*, **98**, 1195–1227.

TOSINI, S. C. and TOWER, E. (1987), "The Textile Bill of 1985: The Determinants of Congressional Voting Patterns", *Public Choice*, **54**, 19–25.

WITTMAN, D. (1983), "Candidate Motivation: A Synthesis of Alternative Theories", *American Political Science Review*, **77**, 142–157.