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ELECTORAL COMPETITION AND SPECIAL INTEREST POLITICS

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ABSTRACT

We study the competition between two political parties for seats in a parliament. The parliament will set two types of policies: ideological and non-ideological. The parties have fixed positions on the ideological issues, but choose their non-ideological platforms to attract voters and campaign contributions. In this context, we ask: How do the equilibrium contributions from special interest groups influence the platforms of the parties? 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.

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1 Introduction

Special interest groups appear to wield considerable influence over public policy in many representative democracies. The trade policies of many industrialized countries favor vested interests in the apparel, textile, and smokestack 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 labor 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' favor 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 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 contest a parliamentary election. The parliament will be called upon to set two types of policies, which we will refer to as *ideological* and *non-ideological*. We term an issue ideological if the parties have predetermined preferences concerning the matter. Examples might include civil rights policy, abortion policy, and aspects of foreign policy in certain countries. We take the parties' policy preferences on the ideological issues—and indeed their platform positions—as a given in our model. Our focus is instead on the determination of non-ideological policies, those over which the politicians have no explicit preferences. Many, although not all, economic policies fall into this category, as do some types of social policy such as (perhaps) environmental protection and gun control.

Our interest groups are collections of individuals who share a common interest in the non-ideological 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 less-rational voters. We assume that the parties resolve this trade-off with the aim of maximizing their representation in the parliament. 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.

Our paper has antecedents in the literature on probabilistic voting.[1] 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 were 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.[2]

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

[1] 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.

[2] See also Coughlin (1984, 1986) and Whitman (1983), and Mueller (1989, ch.11) for a survey.

models and ours. Specifically, they did not allow interest groups to compete actively for favors whereas we are primarily interested in how campaign 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 (1992) 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 their policy positions. Baron, like us, allowed campaign spending to have a direct effect on the voting behavior 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 favorites with an eye toward affecting the probabilities of election.[3,4] Here, we do not restrict interest 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 (1992), we distinguish the behavior of two classes of voters, the *informed* and the *uninformed*. Informed voters are those who know and understand the parties' positions on both the ideological and non-ideological issues and who vote based on their personal evaluations of the merits of the alternative platforms. In the model developed here, this is a dominant strategy for these voters. The uninformed voters, by contrast, are unable to evaluate the parties's positions on (at least) the non-ideological 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) in the total voting population.

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

[4]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 "particularist" 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 particularist policies (with a single interest group) and collective policies (with multiple interest groups) within the same analytical framework.

Consider then a typical informed voter with the label i. This individual derives utility $u^i(p^A)$ from the vector p^A of non-ideological 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 $u^i(p^A) - u^i(p^B) \geq \beta^i$, where β^i measures her assessment of the superiority (or inferiority, if negative) of party B's ideological position relative to that of party A. We assume that the parties cannot observe the ideological leanings of any particular individual, although they presume these to be drawn from a known distribution of such proclivities in the total population of informed voters. Moreover, we assume that the distribution of ideological preferences is statistically independent of the effects of the non-ideological policies on individuals' utilities, and that it can be described by the cumulative distribution function, $F(\beta)$. 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 $\frac{1}{n_I}\int_{i\in I} F[u^i(p^A) - u^i(p^B)]di$, 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 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.[5]

[5]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, 1992), 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 will depend on the

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

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

where C^K is the total campaign spending undertaken by party K.

3.2 The parties and the government

Each party seeks to maximize its representation in the parliament (or any monotonically increasing function thereof). The parties may see this as their objective for one of several reasons. First, a political party may reward its core members with jobs in and around the government. The number of such jobs that a party can allocate increases with the number of its seats in the parliament. Second, a party's prospects for implementing its ideological program—about which it may care deeply—may increase with the size of its parliamentary contingent. Third, the ideological program that is ultimately implemented may reflect a compromise among party positions. Then the final policy might be closer to a party's most-preferred outcome the larger is its parliamentary representation. 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.[6]

With this objective, parties A and B choose their platforms on the non-ideological issues 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 non-ideological policy platforms are chosen with an eye toward the organized interest groups, who may vary their support according to the positions

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difference in the sizes of the two budgets.

[6]See, for example, Enelow and Hinich (1982), Denzau and Katz (1977) and Couglin and Nitzan (1981). The different campaign objectives that candidates might hold are discussed and compared in Aranson, Hinich and Ordeshook (1974).

that are taken. The parties know that any contributions they collect can be used to finance electioneering activities.

After the election is over, the parliament convenes to set policy. We do not model the legislative 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 legislative delegation. In other words, the parliament adopts the vector of non-ideological 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 program.[7]

While we believe it is reasonable to suppose that parties aim to maximize their representation in the parliament and also that parties with legislative majorities sometimes fail to implement their programs, the appendix treats a more "pure" case. There we examine policy determination when the parliament 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 percent of the vote if they happened to choose identical non-ideological policies and to spend identical amounts on their campaigns), the equilibrium policies are the same as the ones derived in the main text.[8]

[7] We have also considered the possibility that the political process produces a compromise among the positions of the two parties. If the compromise takes the form of a convex combination of their platforms, then our main propositions still go through, provided that it remains a dominant strategy for informed individuals to vote for their most-preferred candidate. However, the latter proviso requires rather restrictive assumptions on the form and distribution of preferences; in particular, we need that every voter i who prefers p^A to p^B has $du^i[\lambda p^A + (1 - \lambda)p^B]/d\lambda > 0$. This would be satisfied, for example, if voters fell into one of two groups, with those in one group preferring ever higher values of the policy instrument and those in the other preferring ever lower values.

[8] Lindbeck and Weibull (1987) come to a similar conclusion in their study of electoral competition

3.3 The special interests

Special interest groups are collections of voters who share a common interest in the non-ideological policies. The members of a special interest group may differ in their views on the ideological issues, and, in the privacy of the polling booth, will behave just like any other voter. Nonetheless, these individuals may have an incentive to cooperate with one another, if by doing so they can influence the parties' positions on the non-ideological issues.

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.

As we noted in the introduction, interest groups may have two motivations for making campaign contributions. 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 position on the non-ideological issues is more similar to its own. Second, interest groups may hope to influence the parties' policy platforms; that is, to push the candidates to support policies that serve the group's own 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 common *desiratum* on the non-ideological issues. Moreover, the second motive remains even when the individual interest groups are relatively small,

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without interest groups or campaign spending. Our analysis of the case in which parties maximize their probability of winning is modelled after theirs.

so that each one has little affect on the election outcome. While our specification of the political game allows for both motives, we will focus on cases where the lobbies are small and where their interest in influencing policy positions overrides their desire to further the prospects of one group of candidates or the other.

We denote by $W_j(p)$ the aggregate utility that members of interest group j derive from the vector of non-ideological policies p. If the preferences of the group's members on the non-ideological issues are literally identical, then this is simply the number of members times the utility 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 non-ideological 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

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

If an interest group hopes to influence a party's policy choice, 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 position that is taken. We would argue that politicians understand this connection quite well; proponents of gun control do not, for example, expect to receive any 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 favorite 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 sub-game perfect Nash equilibrium of a two-stage, noncooperative, political game. In the first stage, the various interest groups independently and simultaneously communicate 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 honored.[9]

More formally, we propose the following definition:

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

(a) $p^{A\circ}$ *maximizes* s *given* $p^{B\circ}$, $\{C_j^{A\circ}(p^A)\}$ *and* $\{C_j^{B\circ}(p^B)\}$:

(b) $p^{B\circ}$ *maximizes* $1-s$ *given* $p^{A\circ}$, $\{C_j^{A\circ}(p^A)\}$ *and* $\{C_j^{B\circ}(p^B)\}$;

(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*

(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*

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

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

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

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

and

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

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

4 Equilibrium with One Lobby

We begin the analysis with the case in which there is only a single, organized lobby. In this simply setting we are able to expose quite clearly the incentives facing the lobby and thereby set the stage for the more complicated situation that arises when several groups compete for favors. The single-lobby case also may be of independent interest, inasmuch as it sheds light on the determination of what Baron (1992) refers to as *particularist 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 bills that favor particular firms or industries and the interventions that legislators sometimes make with the bureaucracy on behalf of their supporters.

To facilitate the exposition, we now 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' preferences for the ideological platform of party B are distributed uniformly in the range $(-\frac{1}{2f}-\frac{b}{f}, \frac{1}{2f}-\frac{b}{f})$. Then $F[u^i(p^A)-u^i(p^B)] = \frac{1}{2}+b+f[u^i(p^A)-u^i(p^B)]$ for $u^i(p^A)-u^i(p^B) \in (-\frac{1}{2f}-\frac{b}{f}, \frac{1}{2f}-\frac{b}{f})$. We also take $H(\cdot)$ to be linear and of the form $H(C^A-C^B) = \frac{1}{2}+b+h(C^A-C^B)$. With this specification, if the two parties happen to choose the same non-ideological policies and if they 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 favor 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." Aslo, b might differ from 0 because one party's ideological agenda has greater public appeal than the other's. When $b = 0$, we will say that the parties are *equally popular.*

When only a single interest group curries the politicians' favors, 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 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 choose 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 $W(p) \equiv \frac{1}{n_I}\int_{i \in I} u^i(p)di$ is the average welfare of informed voters when the non-ideological policy is p. If the party were to refuse to be influenced by the lobby's offer, it would choose the policy that best served the average informed voter. This policy, which we denote by p^*, satisfies $\nabla W(p^*) = 0$.[10] 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 $\frac{(1-\alpha)f}{\alpha h}[W(p^*) - W(p^A)]$. 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 $\frac{(1-\alpha)f}{\alpha h}[W(p^*) - W(p^B)]$ 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

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

[10] 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.

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

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 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 policies* p^A *and* p^B *happen to be*. Then the (constrained) optimal platforms from the lobby's vantage point 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 lobby induces the parties to behave as if they were maximizing weighted sums of the welfare of the interest group and the average informed voter.

It may help to think about some specific examples to understand exactly what this 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 more generous to the industry than the "optimal" Pigouvian tax.[11] Or consider an economy that produces a single output from fixed supplies of capital and labor 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

[11] 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, $t^K = d - \left[\frac{\varphi^K \alpha h}{(1-\alpha)f} \right] (x/x')$, where x is industry output and x' is the slope of the industry supply curve.

platforms will contain such proposals as long as the elasticity of labor demand is not too high.[12]

Several features of the platforms prescribed by (4) are worthy of comment. First, since $\varphi(b + \frac{1}{2}) > \frac{1}{2}$, it is the more popular party that applies greater weight to the welfare of the special interest group. That is, the lobby induces the party whose ideological agenda has greater public appeal to choose a non-ideological platform that is closer to the lobby's ideal position. But then this party's platform is further from the ideal of the average (informed) voter. 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.

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). 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.[13] As a final point, we note the similarity between the form of the equilibrium platforms here and the equilibrium

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

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

where $\epsilon \equiv -F_L / L F_{LL}$ is the elasticity of labor demand.

[13]Dixit and Londregan (1994) find similarly that transfer policies tend to favor groups of voters that have "central" views on the non-ideological issues, and thus many individuals on the margin of indifference between the two candidates.

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 in the single-lobby case—the government-as-agent framework represents a proper reduced form of a model with electoral competition.

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 will offer each party exactly what it takes to win its support for the desired platform . Let us examine now when this will be the case. We know that the first-order conditions for the maximization of V_j with respect to C_j^A and C_j^B 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 of the parties, because if it did it could cut back on the two contributions while leaving the platforms and the distribution of seats in the parliament unchanged. 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 $W_j(p^A) > W_j(p^B)$.

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.

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 more seats. By doing so, the lobby could increase the probability that its preferred platform would be implemented by the parliament. 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 would be $\varphi'(s)\alpha h[W_j(p^A) - W_j(p^B)]$, 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 1. 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 undecided votes (α and h are large), and if increased representation in the parliament greatly enhances a party's prospects for implementing its program ($\varphi'(s)$ 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 voters' predisposition to party A. The smaller the bias b, the closer together will be the two party's platforms, and the less likely it is that the lobby will perceive a benefit from helping party A to win more seats. Second, it reflects the absolute size of the lobby's stake in the policy choice, in comparison to the aggregate stake borne by the informed electorate. In other words, "a dollar" will loom large in comparison to the potential gain $W_j(p^A) - W_j(p^B)$ when $(1-\alpha)W(\cdot)$ is large compared to $W_j(\cdot)$. This is because contributions are measured in units of account that reflect the size of gift needed to compensate for a given unpopular position.

5 Equilibrium with Several Lobbies

Now we seek a Nash equilibrium when multiple 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 its 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

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

The constraints ensure that each party prefers to endorse its prescribed platform than to choose an alternative and decline the offer from lobby l. 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.

Again, let us provisionally assume that lobby l opts to make the participation constraints bind with respect to each party. When lobby l pays these minimally acceptable contributions, it anticipates that party A will capture a fraction $\frac{1}{2} + b + (1-\alpha)f[W(p_{-l}^A) - W(p_{-l}^B)] + \alpha h[C_{-l}^A(p_{-l}^A) - C_{-l}^B(p_{-l}^B)]$ 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 expected group welfare must satisfy the first-order conditions

$$\varphi(\bar{s}_l)\nabla W_l(p_l^A) + \frac{1-\alpha}{\alpha h} f \nabla W(p_l^A) + \nabla C_{-l}^A(p_l^A) = 0 \tag{7}$$

and

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

Now look at the problem from the parties' perspective. When confronted with the full set of contribution schedules, they set their platforms to maximize their shares of

the vote. The first-order conditions for these maximizations imply

$$(1-\alpha)f\nabla W(p^K) + \alpha h \nabla C^K(p^A) = 0 \quad \text{for } K = A, B, \tag{9}$$

where $C^K(p^K) \equiv \sum_j C_j^K(p^K)$ is the aggregate contribution schedule confronting party K. In words, the party balances on the margin the loss of informed votes caused by its deviating from p^* against the additional uninformed votes it captures by spending the extra proceeds from the special 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 (7), (8), and (9) to derive

$$\varphi(\bar{s}_l)\nabla W_l(p^A) = \nabla C_l^A(p^A); \tag{10}$$

$$[1-\varphi(\bar{s}_l)]\nabla W_l(p^B) = \nabla C_l^B(p^B)\,. \tag{11}$$

These equations reveal an important property of the equilibrium contribution schedules. Each of these schedules must be "locally truthful" in the neighborhood of the equilibrium platforms. In other words, when a lobby treats the make-up of the parliament as a given, it designs its bids so that the shape of a schedule accurately reflects the expected benefit it would derive from a small change in the party's platform around the equilibrium.[14]

In a sub-game perfect equilibrium, all lobbies must anticipate the same election outcome. So $\bar{s}_l = s^o$ for all l. Using this fact, (10) and (11) can be combined with (9), to yield conditions that the equilibrium platforms must satisfy when all lobbies opt to have both participation constraints bind. These are

$$\varphi(s^o)\sum_j \nabla W_j(p^{Ao}) + \frac{(1-\alpha)f}{\alpha h}\nabla W(p^{Ao}) = 0; \tag{12}$$

$$[1-\varphi(s^o)]\sum_j \nabla W_j(p^{Bo}) + \frac{(1-\alpha)f}{\alpha h}\nabla W(p^{Bo}) = 0. \tag{13}$$

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

These conditions have the following interpretation. In equilibrium, each party acts as if it were maximizing a weighted sum of the aggregate welfare of all interest group members and the aggregate welfare of informed voters. In this 'as if' calculation, the weights depend on the expected composition of the legislature, which the parties treat as fixed.

Conditions (12) and (13) provide a partial answer to the 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 the private campaign financing is to push policy in a direction that is favorable 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 the lobbies; this depends on how similar a lobby's policy 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 (12) and (13) do not uniquely determine the equilibrium platforms. Besides p^{A^o} and p^{B^o}, 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 parliamentary 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.

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 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 parliament—may be focal. If $b > 0$, the lobbies would have no particular reason to expect a preponderance 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 neighborhood of the equilibrium, but also around the various points that the parties would chose 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, plus an additional amount that increases with the distance from the initial $p^{B\circ}$. 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.[15] 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 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.

More generally, anytime $b > 0$ and $s < \frac{1}{2}$, the lobbies are paying excessively to enable 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

[15]That is, let $C_j^K(p)$ be the initial schedule offered by lobby j to party K and let $\check{C}_j^K(p)$ be the alternative. We propose $\check{C}_j^B(p) = C_j^A(p)$ for all j and $\check{C}_j^A(p) = C_j^B(p) - z_j - Z_j(p - p^B)$, 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 $z_j \geq 0$ and $\sum_j z_j = \frac{2b}{\alpha h}$, and the functions $Z_j(\cdot)$ so that $(1-\alpha)fW(p^B) + \sum_j C_j^B(p^B) > \max_p \left\{(1-\alpha)fW(p) + \alpha h \sum_{j \neq l} \left[C_j^B(p) - Z_j(p - p^B)\right] - \alpha h z_l\right\}$ for all l. This will be possible, provided that the $C_j^B(p_{-l}^B)$ 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.

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.[16]

Let us return to the question of whether the interest groups would give to their favorite parties beyond what is needed to effect their influence over the platforms. We note first that (generically) at most one lobby group can perceive an electoral motive for contributing to a given party. For, suppose that lobbies 1 and 2 each gave extra contributions to party A in order to bolster the party's 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 platform relative to that of party B. Electoral support beyond what is justified by the influence motive constitutes a public good for all groups that prefer the recipient's policy. As in many other contexts, it is only the player that has the most to gain that might voluntarily contribute toward the public good. Moreover, the likelihood that any lobby will be willing to make such "excess" contributions declines as the number of lobbies increases. As with the case of a single interest group, each lobby perceives an electoral motive for giving only if $\varphi'(s)\alpha h[W_j(p^A) - W_j(p^B)] > 1$ at the candidate equilibrium where all participation constraints bind. But the greater is the number of lobbies, the smaller will be the stake of any one of them in the set of non-ideological policies. In the limit, when all interest groups are "small", the electoral motive for giving vanishes for every group. The influence motive remains, however, and so (12) and (13) characterize the equilibrium platforms.

[16] 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.

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 parliamentary election. The parties have fixed stances on a set of ideological issues but have yet to announce their positions on some non-ideological 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 analyzes 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 two parties choose platforms to maximize their representation in the parliament. In the voting booth, an informed voter casts her ballot for the party whose platform she prefers. In contrast, an uninformed (or, perhaps, impressionable) voter may respond to campaign rhetoric. The difference in platforms 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 favorites 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 the special interests.

When interest groups offer the parties contributions that are platform contingent, they induce in them a preference ordering over the non-ideological 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 favorite 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 favoring 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 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 with voters based on its ideological positions alone captures a majority of the seats in the elected parliament. The interest group contributes more to the more popular party, and at least compensates it for choosing the less popular policies. Thus, the contributions ensure that the more popular party captures at least as many seats as it would in the absence of the 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 favor, then it too will have an incentive to focus its efforts on that party. Then, if all happen to concentrate on the party whose ideological platform has less appeal, the result may be a parliament 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 all can cooperate and make side payments.

References

[1] Aranson, P., Hinich, Melvin, and Peter Ordeshook (1974). "Election Goals and Strategies: Equivalent and Nonequivalent Strategies." *American Political Science Review* 68: 135-152.

[2] Austen-Smith, David (1987). "Interest Groups, Campaign Contributions, and Probabilistic Voting." *Public Choice* **54**: 123-139.

[3] Baron, David P. (1989). "Service-Induced Campaign Contributions and the Electoral Equilibrium." *Quarterly Journal of Economics* **104**: 45-72.

[4] Baron, David P. (1992). "Electoral Competition with Informed and Uninformed Voters." Stanford University, Graduate School of Business Research Paper No. 1174.

[5] Bernheim, B. Douglas, Peleg, Bazalel, and Michael Whinston (1987). "Coalition-Proof Nash Equilibria, I: Concepts." *Journal of Economic Theory* **42**: 1-12.

[6] Bernheim, B. Douglas and Michael Whinston (1986). "Menu Auctions, Resource Allocation, and Economic Influence." *Quarterly Journal of Economics* **101**: 1-31.

[7] Coughlin, Peter (1984). "Expectations about Voter Choices." *Public Choice* **44**: 49-59.

[8] Coughlin, Peter (1986). "Elections and Income Redistribution." *Public Choice* **50**: 27-99.

[9] Coughlin, Peter and Shmuel I. Nitzan (1981). "Electoral Outcomes with Probabilistic Voting and Nash Social Welfare Maxima." *Journal of Public Economics* **15**: 113-122.

[10] Denzau, Arthur T. and A. Kats (1977). "Expected Plurality Voting Equilibrium and Social Choice Functions." *Review of Economic Studies* **44**: 227-233.

[11] Dixit, Avinash, and John Londregan (1994). "The Determinants of Success of Special Interests in Redistributive Politics." Princeton University, mimeo.

[12] Enelow, James M. and Melvin J. Hinich. (1982). "Nonspatial Candidate Characteristics and Electoral Competition." *Journal of Politics* **44**: 115-130.

[13] Fremdreis, John P. and Richard W. Waterman (1985). "PAC Contributions and Legislative Behavior: Senate Voting on Trucking Deregulation." *Social Science Quarterly* **66**: 401-412.

[14] Grossman, Gene M. and Elhanan Helpman (1994). "Protection for Sale." *American Economic Review* **84**: xxx-xxx.

[15] Grossman, Gene M. and Carl Shapiro (1984). "Informative Advertising with Differentiated Products." *Review of Economic Studies* **51**: 63-81.

[16] Kau, James B. and Paul H. Rubin (1982). *Congressmen, Constituents, and Contributors*. Boston: Martinus Mijhoff Publishing.

[17] Lindbeck, Assar and Jörgen W. Weibull (1987). "Balanced-hudget Redistribution as the Outcome of Political Competition." *Public Choice* **54**: 273-297.

[18] Magee, Stephen P., Brock, William A., and Leslie Young (1989). *Black Hole Tariffs and Endogenous Policy Theory*. Cambridge, U.K.: Cambridge University Press.

[19] Mueller, Dennis C. (1989). *Public Choice II*. Cambridge, U.K. :Cambridge University Press.

[20] Olson, Mancur (1965). *The Logic of Collective Action*. Cambridge, MA: Harvard University Press.

[21] Snyder, James M. (1989). "Election Goals and the Allocation of Campaign Resources." *Econometrica* **57**: 637-660.

[22] Snyder, James M. (1990). "Campaign Contributions as Investments: The U.S. House of Representatives 1980-1986." *Journal of Political Economy* **98**: 1195-1227.

[23] Tosini, Suzanne C. and Edward Tower (1987). "The Textile Bill of 1985: The Determinants of Congressional Voting Patterns." *Public Choice* **54**: 19-25.

[24] Wittman, Donald (1983). "Candidate Motivation: A Synthesis of Alternative Theories." *American Political Science Review* **77**: 142-157.

7 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 program. 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 ideological agenda 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 $\sum_{i\in I} F(\Delta^i)+\alpha n H(\Delta^C)$ and variance $\sum_{i\in I} F(\Delta^i)[1-F(\Delta^i)]+\alpha n H(\Delta^C)[1-H(\Delta^C)]$, where $\Delta^i \equiv u^i(p^A) - u^i(p^B)$, and $\Delta^C = C^A - C^B$.[17] Party A wins the election with (approximate) probability

$$\pi(p^A, p^B, \Delta^C) = N\left(\frac{\sum_{i\in I} F(\Delta^i) + \alpha n H(\Delta^C) - \frac{n}{2}}{\sqrt{\sum_{i\in I} F(\Delta^i)[1-F(\Delta^i)] + \alpha n H(\Delta^C)[1-H(\Delta^C)]}}\right) \qquad (14)$$

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 non-ideological policy vector will be p^A and with probability $1-\pi(\cdot)$ it will be 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.

[17] 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).

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

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

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

$$\frac{1}{2}\nabla W_l(p_l^o) + \frac{(1-\alpha)f}{\alpha h}\nabla W(p_l^o) + \nabla C_{-l}^o(p_l^o) = 0\ , \tag{15}$$

where we have made use of the fact that $\pi(p_l^o, p_l^o, 0) = \frac{1}{2}$ at the symmetric equilibrium.[18]

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

$$(1-\alpha)f\nabla W(p^o) + \alpha h\nabla C^o(p^o) = 0\ . \tag{16}$$

Consistency requires $p_l^o = p^o$ for all l. Thus, (15) and (16) imply

$$\frac{1}{2}\nabla W_l(p^o) = \nabla C_l^o(p^o)\ , \tag{17}$$

which is another "local truthfulness" result. Finally, combining (16) and (17) we find

$$\frac{1}{2}\sum_j \nabla W_j(p^o) + \frac{(1-\alpha)f}{\alpha h}\nabla W(p^o) = 0. \tag{18}$$

[18]In deriving (15) 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 condtions, $p_l^{Ao} = p_l^{Bo} = p_l^o$ and $C_l^A = C_l^B = C_l^o$.

The platform p^o that satisfies (18) is the same as the platform p^{Ao} that satisfies (12) and the platform p^{Bo} that satisfies (13), when $s^o = \frac{1}{2}$. 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 parliament and a minority platform has some chance of being implemented.[19]

[19]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.