

Interest groups, campaign contributions, and lobbying

The diversity in the faculties of men, from which the rights of property originate, is not less an insuperable obstacle to a uniformity of interests. The protection of these faculties is the first object of government. From the protection of different and unequal faculties of acquiring property, the possession of different degrees and kinds of property immediately results; and from the influence of these on the sentiments and views of the respective proprietors, ensues a division of the society into different interests and parties.

The latent causes of faction are thus sown in the nature of man; and we see them everywhere brought into different degrees of activity, according to the different circumstances of civil society. A zeal for different opinions concerning religion, concerning government, and many other points, as well of speculation as of practice; an attachment to different leaders ambitiously contending for pre-eminence and power; or to persons of other descriptions whose fortunes have been interesting to the human passions, have, in turn, divided mankind into parties, inflamed them with mutual animosity, and rendered them much more disposed to vex and oppress each other than to cooperate for their common good. So strong is this propensity of mankind to fall into mutual animosities, that where no substantial occasion presents itself, the most frivolous and fanciful distinctions have been sufficient to kindle their unfriendly passions and excite their most violent conflicts. But the most common and durable source of factions has been the various and unequal distribution of property. Those who hold and those who are without property have ever formed distinct interests in society. Those who are creditors, and those who are debtors, fall under a like discrimination. A landed interest, a manufacturing interest, a mercantile interest, a moneyed interest, with many lesser interests, grow up of necessity in civilized nations, and divide them into different classes, actuated by different sentiments and views. The regulation of these various and interfering interests forms the principal task of modern legislation, and involves the spirit of party and faction in the necessary and ordinary operations of the government.

James Madison

Karl Marx saw society as divided into two warring classes, and many observers of politics following Marx have seen class orientation in parties, class bias in voting, and so on. Several models of political business cycles assume that one party caters to the labor class and tries to keep unemployment low, while the other favors the capitalists and tries to keep interest rates low.

Over 200 years ago, James Madison also observed that “those who hold and those who are without property have . . . distinct interests in society.” But he immediately

went on to identify separate interests of creditors and debtors, “a landed interest, a manufacturing interest, a mercantile interest, a moneyed interest, [and] many lesser interests.” Politics in the modern democratic state is not a confrontation between two polarized economic classes, but rather a struggle among a plethora of groups with divergent interests. In this chapter we focus on these groups. We begin by reviewing the hypotheses about interest groups put forward by Olson (1965) in one of the classics of the public choice literature.

20.1 The logic of collective action

Interest groups come in a wide variety of institutional forms and sizes. Some seek to further the objectives of their members as factors of production or producers. Labor unions, farmer associations, professional associations (doctors, dentists, accountants), retail trade associations (groceries, hardware, liquor), and industrial trade associations (petroleum, cement, coal) are examples of these. Others seek to influence public policy or public opinion with respect to particular public good–externality issues. Peace groups, environmental groups, and the National Rifle Association are examples of these. Often a group is organized to pursue one objective, and then once organized turns to other forms of activity of benefit to its members. Labor unions came into being to improve the bargaining power of workers vis-à-vis management. But once the large initial costs of organization had been overcome, unions engaged in additional activities of interest to their members, such as lobbying for legislation, which improves the position of workers. Still other groups seek to advance *all* the interests of particular groups of people who have a certain *social affinity* for one another due perhaps to their ethnic, religious, or geographic origins (Kristov, Lindert, and McClelland, 1992). Most recently, groups have appeared to promote the interests of members of a given sex, or those with particular *sexual affinities*. In every case the driving force behind the formation of an interest group is the belief that its members have *common* interests and goals, be they higher wages for truck drivers or for women, or cleaner rivers for those whose consumption activities are enhanced by this public policy (pp. 5–8).¹

The commonality of the goals of an interest group’s members makes the achievement of these goals a public good for the group, and thus gives rise to the same incentives to free-ride as exist in all public good–prisoners’ dilemma situations. The individual steelworker and steel manufacturer benefit from a tariff on steel, whether they have contributed to the efforts to bring about the tariff or not (pp. 9–16).

Two important conclusions can be drawn from this observation: (1) it is easier to form an interest group when the number of potential members is small than when the number is large (pp. 9–16, 22–65). An effective interest group can be organized more readily for two dozen steel producers than for two hundred thousand steel workers; and (2) the appearance of organizations that effectively represent large numbers of individuals requires that “*separate and ‘selective’ incentive(s)*” be used to curb free-riding behavior (p. 51, italics in original). The archetypal example

¹ Page references in this section are to Olson (1965) unless otherwise noted.

of the use of selective incentives is the labor union. Unions have fought to have employers deduct dues from union members' wages, and for "closed shop" contracts forbidding employers from hiring nonunion labor (pp. 66–97). Where they have succeeded in forcing employers to abide by these rules, as in many states in the United States and countries in Europe, union membership has been relatively high and union workers have earned higher wages. In France, where these selective incentives encouraging union participation are absent, union membership has been much lower.² Perhaps the best evidence that such selective incentives are needed to avoid free-riding behavior is the importance union leaders place on getting legislation and/or contractual stipulations requiring closed-shop contracts, the collection of union dues, and the like. Worker solidarity does not suffice.

Where the benefits from collective action are not the same across all group members, "*there is a systematic tendency for 'exploitation' of the great by the small*" (p. 29). To see this, consider the following example. The automobile industry has four firms producing the following numbers of cars each year:

$$X_G = 4,000,000 \text{ cars}$$

$$X_F = 2,000,000 \text{ cars}$$

$$X_C = 1,000,000 \text{ cars}$$

$$X_A = 500,000 \text{ cars.}$$

Compliance with fuel economy standards issued by the Environmental Protection Agency (EPA) would raise the costs of producing cars by an average of \$10 per car. Each firm independently considers opening up an office in Washington to lobby the EPA to delay enforcement of the fuel economy standard by one year. The cost of running a lobbying office is \$1.5 million for the year. The probability that the industry will be successful in its lobbying effort increases with the number of lobbying offices opened, being 0.25 for one office, 0.4 for two, 0.5 for three, and 0.55 for four. Firm *G* realizes that if it does not profit from opening a lobbying office, no firm will. Its expected profit increase from opening a lobbying office is 0.25 times \$40 million, which exceeds the \$1.5 million cost of the office. Firm *F* realizes that it will not profit from opening an office unless *G* does and thus calculates its profits from opening the second lobbying office for the industry. The incremental probability that the lobbying will succeed is 0.15, which when multiplied by *F*'s \$20 million cost saving gives an expected profit increase of \$3 million for *F*. This saving exceeds the \$1.5 million cost of the lobbying office, so *F* also opens an office. Given that *G* and *F* have opened offices, neither *C* nor *A* find it profitable to do so, however. Both choose to free-ride on *G* and *F*'s lobbying efforts, receiving, respectively, \$4 million and \$2 million increases in expected profits from *G* and *F*'s lobbying. In this way the weak "exploit" the strong.

Note also that the amount of lobbying effort that arises from independent decisions is suboptimal from the point of view of the industry. A third and fourth lobbying office would bring the industry \$7.5 and \$3.75 million in expected profits,

² For a discussion of France in the context of Olson's work, see Asselain and Morrison (1983).

respectively. But these additional offices will be opened only if G and F can bribe C and A to do so. Moreover, since C and A know that G and F will open lobbying offices regardless of whether C and A do so, C and A can hold out for subsidies from G and F , which maintain their favorable ratio of benefits to costs.³

One of the counterintuitive predictions of Olson's theory is that small interest groups are much more effective at obtaining favors from government than large groups are. Dramatic support for this hypothesis is provided by the agricultural policies of nations around the world. In poor countries, where the agricultural sector is large and the group of middle-class urban dwellers is small, farmers receive small or even *negative* subsidies for their products – that is, the government often sees that the farmers receive less than world market prices. In the rich, developed countries where farmers make up a tiny fraction of the total workforce, they often receive giant subsidies. Van Bastelaer (1998) reports a range of effective subsidies for farmers over the period 1955–80 from –26.9 in Ghana to 85.9 percent in Switzerland. Van Bastelaer provides econometric support for the Olson hypothesis with data from 31 countries.⁴ Additional evidence related to the Olson hypothesis is contained in the experimental literature on the free-rider problem reviewed in Chapter 2.

Although interest groups take center stage in much of Olson's work, he did not formally model how they operate in the political process and their effects on its outcomes. This void has been filled, however, by an army of scholars who have developed and tested models of interest group political behavior. We turn now to these models.

20.2 Models of interest group behavior in politics

An interest group enters the political process to advance the common interest of its members. It can accomplish this by providing candidates information as to what this common interest is, by delivering votes to a candidate who promises to support the group's interests after the election, and most importantly and conspicuously in recent years by supplying a candidate with money, which she can use to win an election.⁵ By far the most controversial of these three activities of interest groups, from both a positive and a normative perspective, is their use of money to influence the outcomes of the political process. We take up the positive side of this question now, and return to the normative issues raised in a later section.⁶

What is uncontroversial is that candidates use the money that they receive to get (re)elected. Indeed, in the United States that is the only use to which these funds can be put. Thus, campaign contributions become campaign expenditures, and any

³ For example, if C agrees to pay only 1/7 of the cost of its lobbying office with G and F paying 6/7, since that is the ratio of their benefits, and A agrees to pay only 1/15 of the cost of its lobbying office, with the other three sharing in proportion to their benefits, then C and A wind up enjoying 13.3 and 6.7 percent of the benefits from lobbying while paying but 6.9 and 1.7 percent of the costs, respectively.

⁴ See also Krueger, Schiff, and Valdés (1991) from which some of van Bastelaer's data are drawn.

⁵ Supplying a candidate with money that she can use for other purposes is, of course, not unknown in politics, although it is illegal in most democratic countries. We discuss bribes and corruption later in the chapter.

⁶ Austen-Smith (1997, pp. 312–20) reviews the literature on interest group activity in supplying only information.

model which explains the one must explain the other. Under one interpretation of campaign contributions/expenditures, their only purpose is to determine the *outcome* of the election. Candidates preselect their positions, and interest groups contribute to the candidate whose position on the issues comes closest to their favored position. The election determines the winning candidate/position from the preselected set of options. This interpretation of campaign contributions has been called the “political man” theory (Welch, 1976), with contributors characterized as passive “consumers” of the positions selected by the candidates (Snyder, 1990). Alternatively, contributors have been characterized as “investors” who buy the positions of the candidates. In this “economic man” model of politics, a *quid pro quo* exists between the interest group, which contributes to a candidate’s campaign for election, and the candidate who “supplies” the group with her position on the issues (Welch, 1976). The first question we wish to answer is which of these two models of the political process comes closest to its reality?

20.2.1 *Informative campaigning in a Downsian model*

Much of campaign spending today goes to buy time on television. The natural way for a political economist to think of this sort of “political advertising” is as an analogue to consumer advertising, and several writers have treated campaign expenditures as a form of advertising.⁷ Within the advertising literature, the distinction is often made between *informative* and *persuasive* advertising. In a simple Downsian model, with a single-dimensional issue x , informative political advertising has a natural interpretation – a candidate informs voters of her position on x . If informed voters vote for the candidate who comes closest to their ideal point, and uninformed voters abstain, each candidate has an incentive to inform those voters with ideal points closest to her position of the location of this position. As more voters become informed, the candidate whose position is closest to the median voter’s ideal point wins a larger fraction of the additional votes cast. The informative campaigning by both candidates increases the likelihood that the candidate nearest the ideal point of the median voter wins, and thus tends to drive both candidates to this median position.⁸

With both candidates selecting the ideal point of the median voter, all voters are indifferent as to which one wins. No person or group would contribute to a candidate to increase her chances of winning in this situation. Groups to the left of the median would have an incentive to contribute to candidate L if she would move to the left. But if L abandons the median position, and informs all voters she has done so, she *reduces* her chances of winning. Selective informing of just those on the left would be an attractive strategy, but unfortunately groups on the right then have an incentive to contribute to R so that he can inform his potential supporters. Thus, it is difficult in a simple Downsian world with only informative campaigning to derive the economic-man model of politics. No group has an incentive to contribute to

⁷ See in particular Palda (1973, 1975) and Thomas (1989, 1990). The exposition given follows Mueller and Stratmann (1994).

⁸ For formal models that produce this result, see Austen-Smith (1987) and Baron (1994).

either candidate if they both adopt the same position. No candidate has an incentive to leave the median position to raise campaign funds if the only thing she can do with these funds is to inform voters that she is not at the median position.

20.2.2 Persuasive campaigning in a Downsian model

With purely informative political advertising, a candidate increases the likelihood of some voters voting for her when she informs them of her position, but decreases the likelihood that some other voters vote for her. Obviously, she would prefer it if an advertising message would increase the likelihood that *every* voter would vote for her. Again using the analogy of consumer advertising, we can define this sort of campaign expenditure as *persuasive* campaigning. When a soft drink company informs potential customers that it sells a lemon/lime soda, it increases the probability that those who like lemon/lime flavors purchase its soda, but reduces the probability of those who prefer orange, cherry, or cola buying it. But when the same company advertises that its soft drink “tastes the best” or “better than the rest,” it may increase the probability that all potential customers buy it.

The same may be true for certain kinds of political advertising. All citizens prefer honest politicians to crooks, competent politicians to buffoons, and so on. A politician who convincingly advertises that she is more honest than her rival may increase the probability of every voter’s support *regardless* of her position along the x vector. In this section, we explore the implications of assuming that this sort of political advertising is possible.⁹

Let π_{iJ} be the probability that a member of group i votes for candidate J . Let IC_J and PC_J be J ’s informative and persuasive campaign expenditures. Then assuming that some members of each group are uncertain about the positions of the two candidates, the probability that a member of group i votes for candidate J is a function of the positions of both candidates, and their informative and persuasive campaign expenditures.

$$\pi_{iJ} = \pi_{iJ}(x_L, x_R, IC_L, IC_R, PC_L, PC_R) \quad (20.1)$$

where $i = 1, 2, \dots, m$ and $J = L, R$. The distinction between informative and persuasive campaigning lies in the signs of the partial derivatives of π_{iJ} with respect to the four campaign expenditures. An increase in L ’s persuasive campaign expenditures increases the probability that all members of group i vote for L , just as an increase in persuasive campaign expenditures by R decreases the probability of an i voting for L .

$$\partial\pi_{iL}/\partial PC_L > 0, \quad \partial\pi_{iL}/\partial PC_R > 0, \quad \text{for all } i. \quad (20.2)$$

On the other hand, informative campaign expenditures increase the probabilities that some groups vote for a candidate, while reducing the probabilities that other

⁹ Austen-Smith (1987) motivates a similar characteristic for campaign expenditures, while sticking with the assumption that they are informative in nature, by assuming that all risk-averse voters benefit from a reduction in uncertainty over a candidate’s position.

groups vote for her. Letting f denote those groups favoring L when fully informed, and r those groups favoring R , we have

$$\partial\pi_{fL}/\partial IC_L > 0, \quad \partial\pi_{rL}/\partial IC_L < 0, \quad \partial\pi_{fR}/\partial IC_R < 0, \quad \partial\pi_{rR}/\partial IC_R > 0. \quad (20.3)$$

The attraction of persuasive campaign spending over informative spending is obvious. The latter, unless selectively targeted, must decrease the probability of some groups supporting the candidate, while it increases the probability of others' support. Persuasive campaign spending, on the other hand, holds out the promise of increasing the votes obtained from all groups.

Given this feature, we can represent J 's probability of winning the election, π_J , as a function of her campaign expenditures, C_J , those of her opponent, and the positions of the two candidates,

$$\pi_L = \pi_L(x_L, x_R, C_L, C_R), \quad \pi_R = \pi_R(x_R, x_L, C_R, C_L) \quad (20.4)$$

with $\partial\pi_L/\partial C_L > 0$, $\partial\pi_L/\partial C_R < 0$, $\partial\pi_R/\partial C_R > 0$, $\partial\pi_R/\partial C_L < 0$.

Now consider the decision of a member of group i on whether to contribute to a given candidate. Let x_i be his ideal point for x , v_i his consumption of private goods,

$$U_i = U_i(x, v_i), \quad \partial U_i/\partial v_i > 0, \quad \partial^2 U_i/\partial v_i^2 < 0. \quad (20.5)$$

Let us assume to begin with that the voter believes that the positions of the two candidates are fixed and that the only effect of his contribution is to change the probability of a candidate's victory. Voter i chooses the contribution C_i that maximizes his expected utility, $E(U_i)$, subject to the budget constraint ($y_i = v_i + C_i$), where y_i is i 's income.¹⁰

$$E(U_i) = \pi_L U_i(x_L, v_i) + (1 - \pi_L) U_i(x_R, v_i). \quad (20.6)$$

If i contributes only to L and $\partial U_i(x_L, v_i)/\partial v_i \approx \partial U_i(x_R, v_i)/\partial v_i$, then the first-order conditions from the maximization of (20.6) with respect to C_i and v_i imply¹¹

$$\frac{\partial\pi_L}{\partial C_L} [U_i(x_L, v_i) - U_i(x_R, v_i)] = \frac{\partial U_i(x_L, v_i)}{\partial v_i}. \quad (20.7)$$

The right-hand side of (20.7) is the marginal utility of private good consumption and is positive. The equation has a solution with $C_L > 0$, only if $U_i(x_L, v_i) > U_i(x_R, v_i)$.

¹⁰ To simplify the discussion we ignore i 's share of x 's costs.

¹¹ $E(U_i) = \pi_L U_i(x_L, v_i) + (1 - \pi_L) U_i(x_R, v_i) + \lambda(y_i - v_i - C_i)$, where $\pi_L = \pi_L(x_L, x_R, C_L, C_R)$. Maximizing with respect to C_i and v_i yields

$$\frac{\partial E(U_i)}{\partial C_i} = \frac{\partial\pi_L}{\partial C_L} U_i(x_L, v_i) - \frac{\partial\pi_L}{\partial C_L} U_i(x_R, v_i) - \lambda = 0$$

$$\frac{\partial E(U_i)}{\partial v_i} = \pi_L \frac{\partial U_i(x_L, v_i)}{\partial v_i} + (1 - \pi_L) \frac{\partial U_i(x_R, v_i)}{\partial v_i} - \lambda = 0.$$

Eliminating λ from each equation and assuming $\partial U_i(x_L, v_i)/\partial v_i = \partial U_i(x_R, v_i)/\partial v_i$ yields (20.7).

A campaign contribution increases a voter's expected utility only if the candidates' positions differ, and if their positions are fixed, the voter contributes only to that candidate whose position promises the higher utility. The voter contributes to L up to the point where the change in his expected utility from the increase in probability that his favored candidate wins just equals the reduction in utility from the reduction of his income.

Now consider the decision of a candidate. If she matches her opponent's position her campaign contributions are zero, and she has a 50/50 chance of winning. By moving away from her opponent's position, however, she attracts contributions possibly increasing the likelihood that she wins, although she must also recognize that by placing a distance between herself and her opponent she may induce contributions to her opponent. While competition for votes in a Downsian sense brings the candidates' platforms closer to the median, competition for money moves them away from it. Competition for votes leads to competition for money, and the latter pulls the two platforms apart.

Thus, in choosing a position, x_L , L must take into account its effect on both her own and her rival's campaign expenditures, that is, that $C_L = C_L(x_L, x_R)$ and $C_R = C_R(x_L, x_R)$. If x_R remains fixed, the x_L that maximizes L 's chance of winning, π_L , satisfies

$$\frac{\partial \pi_L}{\partial C_L} \frac{\partial C_L}{\partial x_L} = -\frac{\partial \pi_L}{\partial x_L} - \frac{\partial \pi_L}{\partial C_R} \frac{\partial C_R}{\partial x_L}, \quad (20.8)$$

where π_L is defined as in (20.4). If campaign contributions for both candidates were zero, each would choose a position that maximized the probability of winning – the median position. If a candidate gains more votes by spending the campaign contributions she obtains and distancing herself from her opponent, she does so. Equation (20.8) states that L moves to the point where the marginal increase in the probability of winning from the additional contributions obtained by moving slightly farther from R just balances the combined reduction in probability of winning from the move itself, and the additional campaign contributions to R it induces. Thus, if campaign expenditures do generate votes, and campaign contributions are dependent on the positions of the candidates, candidates will take positions based on the expected contributions that they generate. Money will affect both the identity of the winning candidate and the positions both candidates take.

We can now see that when campaign spending generates additional votes, the distinction between the “political man” and the “economic man” models collapses. On the margin a dollar of campaign contributions changes both the expected votes *and* the positions of the candidates. Given that the positions of candidates are dependent on the expected contributions they induce, contributors take into account not only the effect of their contributions on the probability that a candidate wins, but the effect of their contributions on the positions of the two candidates. The probability that L wins can now be written $\pi_L[x_L(C_L, C_R), x_R(C_L, C_R), C_L, C_R]$ and U_i becomes $U_i[x_L(C_L, C_R), v_i]$ or $U_i[x_R(C_L, C_R), v_i]$ depending on whether

L or R wins the election. Substituting these functions into (20.6) and maximizing with respect to i 's contribution to L and v_i yields

$$\begin{aligned} & \left(\frac{\partial \pi_L}{\partial x_L} \frac{\partial x_L}{\partial C_L} + \frac{\partial \pi_L}{\partial x_R} \frac{\partial x_R}{\partial C_L} + \frac{\partial x_R}{\partial C_L} \right) [U_i(x_L, v_i) - U_i(x_R, v_i)] \\ & + \pi_L \frac{\partial U_i(x_L, v_i)}{\partial x_L} \frac{\partial x_L}{\partial C_L} + (1 - \pi_L) \frac{\partial U_i(x_R, v_i)}{\partial x_R} \frac{\partial x_R}{\partial C_L} \\ & = \frac{\partial U_i(x_L, v_i)}{\partial v_i}. \end{aligned} \quad (20.9)$$

The first term in (20.9) represents i 's expected change in utility from contributing to L as a result of this contribution's effect on L 's probability of winning. If i favors R over L , that is, $U_i(x_L, v_i) - U_i(x_R, v_i) < 0$, the first term is negative and i would contribute nothing to L , assuming L 's position were fixed.¹² But if the probability of L 's winning (π_L) is large, and the increment in utility i experiences from a shift in x_L is large, the second term in (20.9) is large and positive and could offset a negative first term, inducing i to contribute to L even though he prefers R .¹³ Thus, when candidate positions respond to campaign contributions, i might well contribute to *both* candidates, moving one toward his optimum position and reducing the distance that the other moves away. The outcome in which a voter contributes to both candidates can *only* arise when candidates' positions are influenced by the campaign contributions they receive. Thus, evidence that some PACs and interest groups contribute to both candidates in an election implies that candidate positions do shift to induce greater contributions.¹⁴

The results that we have just derived, in part if not in toto, have been derived by several authors under various assumptions. Grossman and Helpman (1996), for example, assume the existence of two groups of voters, instead of two types of campaign expenditures. One group is informed. Each voter is informed and votes as in the Downsian model for the candidate (party) with the closest platform to his ideal point. Uninformed voters, on the other hand, are "impressionable" and "can be swayed by the messages they receive in the course of the campaign" (p. 268). Thus, campaign expenditures in the Grossman-Helpman model have essentially the same property as persuasive campaigning in the model sketched above, and affect both the probabilities of each candidate's victory and the positions that the candidates take.¹⁵

Although we have illustrated the basic relationships with a one-dimensional spatial model, the important role played by uncertainty in the model makes the incorporation of interest groups and campaign contributions into the probabilistic voting

¹² The first factor in the first term is positive. If i 's contribution to L increases x_L , it moves x_L toward x_R increasing π_L . If i 's contribution to L reduces x_L , it also reduces π_L . Similar arguments hold for the second term in this factor, and $\partial \pi_L / \partial C_L > 0$.

¹³ The third term's sign is ambiguous, since R could be right or left of i 's ideal point, and thus his contribution to L could shift R away from or toward this point.

¹⁴ See Jacobson and Kernell (1983, p. 36). Poole and Romer (1985, p. 95) provide modest support for this prediction.

¹⁵ See also Ben-Zion and Eytan (1974); Bental and Ben-Zion (1975); Kau and Rubin (1982); Kau, Keenan, and Rubin (1982); Jacobson and Kernell (1983); Denzau and Munger (1986); Austen-Smith (1987); Congleton (1989); Hinich and Munger (1989, 1994, chs. 9 and 10); Morton and Cameron (1992); Grossman and Helpman (1994); and Ball (1999).

model of Chapter 12 fairly straightforward, and several of the papers just cited have established the existence of equilibria with multidimensional issue spaces using some variant of the probabilistic voting model.

These models of campaign contributions produce a rich set of predictions, and an immense literature has tried to test them. We examine some of its findings next.

20.3 Empirical studies of the causes and consequences of campaign contributions

The theoretical models of campaign contributions lead to three sets of predictions: (1) the positions candidates have taken on issues in the past, their ideologies, and perhaps their ability to help interest groups in the future should affect the amounts of money contributed to them; (2) campaign expenditures should increase the number of votes a candidate receives; and, to close the circle, (3) the actual voting behavior of representatives should be influenced by the magnitudes and sources of the campaign funds that they have received. The second prediction is pivotal. If political advertising does not *buy* votes, no candidate has a reason to undertake it and no interest group has a reason to contribute to a candidate. Given the vast amounts spent in campaigns, it would seem that proposition (2) must be true, and of the three relationships, this one is perhaps the most extensively researched. We begin, therefore, by examining the empirical work that tests the second prediction of the campaign expenditure model literature.

20.3.1 *Votes for a candidate are a function of campaign expenditures*

To test proposition (2), one might begin with (20.4). This equation implies that the number of votes a candidate receives is a function of her campaign expenditures, the expenditures of her opponent, and their positions on the issues. In addition to being sensitive to characteristics of her opponent, the relationship between expenditures and votes may depend on personal characteristics of the candidate herself, and perhaps of her district. For example, the effectiveness of a given amount of political advertising may vary with the education or income levels of citizens in a district. Catholic candidates may be more successful in districts with large fractions of Catholic voters. These considerations suggest that an empirical specification of (20.4) to be tested on cross-section data could take on a rather complex, nonlinear form (Coates, 1998, 1999).

In particular, we should expect the relationship between own expenditures and share of the votes won to be nonlinear. Here again the analogy between campaign expenditures and consumer advertising is relevant. An important goal of Coca-Cola's advertising is simply first to introduce and then to remind people of its brand name, so that it becomes the first brand name that pops into the consumer's mind when he orders a soft drink. The sales that this sort of advertising generates can be expected to follow an S-shaped curve. In particular, as the population becomes saturated with messages, the number of new customers reached and won from an additional message declines.

The same can be expected of political advertising. The most difficult challenge many new entrants into politics face is to get citizens to remember their names. Unless they are the son of a former president or an ex-wrestler, they start at the origin of the S-shaped vote function depicted in Figure 20.1.¹⁶ At the beginning of a campaign, spending is highly productive as a candidate reaches those citizens who will vote for him once they learn something about him. As more and more citizens learn his name and his position on the issues, the number of new votes won per dollar of campaign spending declines, reaching perhaps zero at the level C_Z as depicted in the figure.

Two implications follow from this figure. First, assuming that the curve does not actually turn down, a candidate has the incentive to spend all of the money contributed to his campaign. Second, the goal of the candidate is to raise enough funds to reach a point like C_Z , where the marginal return to the candidate in votes is zero.

One more important prediction can be inferred from the analogy between political and consumer advertising. Advertising builds up a stock of goodwill.¹⁷ An established brand like Coca-Cola needs to spend far less to maintain this stock, than a new brand must spend to build up a stock. This asymmetry creates an entry barrier in consumer markets and an important advantage for incumbents in politics. Where a challenger for a seat in Congress may start a campaign close to the origin in Figure 20.1, an incumbent may start at a point like C_I , and thus have a significant advantage over the challenger.

All of these predictions regarding campaign expenditures have found empirical support. Grier's (1989) study of U.S. Senate races from 1978 through 1984 captures several key features of the campaign expenditures model. His main findings are illustrated in the following regression explaining the incumbent's percentage share of the vote (V_t):

$$V_t = 48.3 + 4.37 \text{ D8284} + .19V_{t-1} - 11.42 S - .0760 \text{ CHAL} \\ \begin{matrix} 10.95 & 2.99 & 2.81 & 3.12 & 7.65 \end{matrix} \\ + .000059 \text{ CHAL}^2 + .0287 \text{ INC} - .000016 \text{ INC}^2, \quad R^2 = 0.55 \\ \begin{matrix} 5.07 & 5.01 & 4.26 \end{matrix}$$

where D8284 is a dummy variable for the two years 1982 and 1984, S is a dummy set equal to one for the one incumbent Senator caught in a scandal during this period, and CHAL and INC are the campaign expenditures of the challenger and the incumbent. The lagged vote share is included as in several other studies to account for district-specific factors. The two squared expenditure terms capture the anticipated

¹⁶ The reader should think of this figure as drawn for a given level of spending for the other candidate.

¹⁷ See Grier (1989) and Lott (1991). Here the distinction between informative and persuasive advertising is again important. Goodwill capital from informative advertising depreciates much more rapidly than goodwill capital from persuasive advertising. Today's ad that Coca-Cola is on sale for 99 cents a liter will have little impact on its sales six months from now. But an ad stating that "Coke tastes better" may have a long-lasting impact. A candidate's position on an increase in the sales tax in one campaign will have little impact on her votes four years later. Her image as an honest politician may carry over from one campaign to the next, however. Again see Mueller and Stratmann (1994).

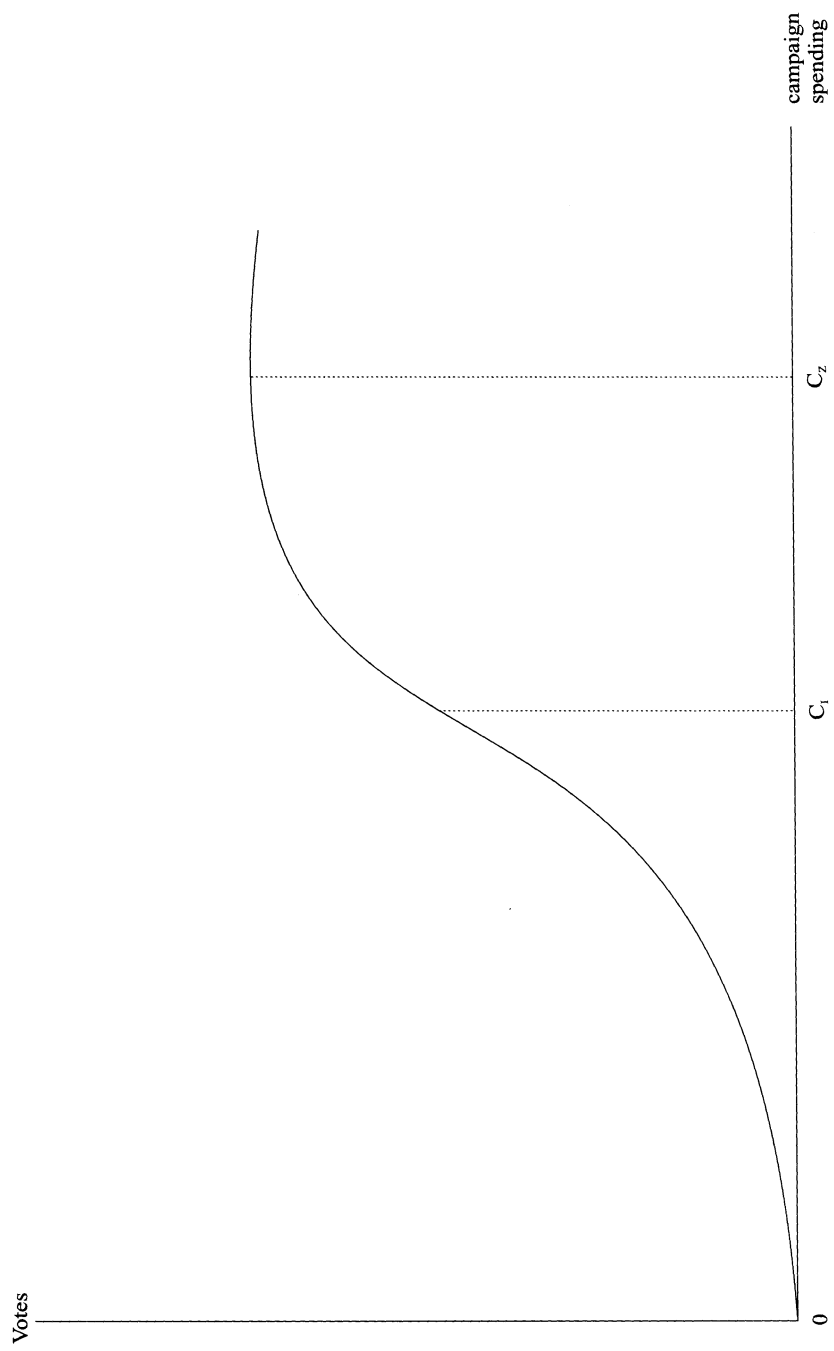


Figure 20.1. Relationship between votes and campaign spending.

Table 20.1. *Proportion of marginal effects on incumbents' votes shares, 1984 House of Representative elections*

	Significantly < 0	Insignificantly different from zero	Significantly > 0
Incumbents	0.14	0.86	0.000
Challengers	0.91	0.08	0.006

Source: Coates (1998).

diminishing returns to campaign expenditures. Both are significant. An increase in a challenger's campaign spending has a negative effect on an incumbent's share of the vote which decreases on the margin as the challenger's spending increases. The incumbent's own spending has a positive effect on her share of the vote, an effect which also decreases on the margin. The equation also indicates that at low levels of spending, the challenger's spending has much larger marginal impacts than the incumbent's spending.¹⁸

Although Grier's expenditure model captures some of the main anticipated relationships, it can be criticized for not correcting adequately for differences in the personal characteristics of the candidates and their states. As noted above, such corrections are likely to require quite complicated nonlinear models. Coates (1998) estimates one such model that contains numerous interaction terms between the expenditure variables and the candidate and district characteristics. Table 20.1 summarizes his findings with regard to the marginal impacts of the two sets of candidates' expenditures. Although 91 percent of the challengers would have benefitted from having more money to spend, *none* of the incumbents would have done so. Indeed, Coates estimates small negative marginal impacts for 14 percent of the incumbents.¹⁹

Tables 20.2 summarizes the major findings of a representative sample of studies. Virtually all find significant marginal impacts for the expenditures of challengers. A few find significant effects for incumbents, but even these tend to find larger marginal impacts for challengers than for the incumbents.

Another reason why it may have been difficult to estimate significant effects for the spending of both candidates is that the two expenditures tend to be highly correlated (Jacobson, 1978, 1985). This problem is magnified by bringing in the simultaneous relationship between expenditures and votes. Most incumbents win. For example, in the Glantz, Abramowitz, and Burkart (1976) study of contests for seats in the California legislature and the House of Representatives, only 16

¹⁸ Abramowitz (1988) obtains similar results to Grier for Senate contests over the 1974–86 period. Welch (1976) and Jacobson (1985) have also reported results suggesting diminishing returns to campaign expenditures.

¹⁹ Such negative marginal effects are of course possible if the curve in Figure 20.1 were to actually turn down beyond some level of spending. Coates argues that such turning points can exist, and that candidates may go beyond them because of ignorance of their location.

Levitt (1994) adopted the ingenious strategy of eliminating all additive district- and candidate-specific characteristics by including in his sample only House contests in which both candidates compete against one another two or more times. Levitt finds zero marginal effects of incumbent spending and near-zero effects for challengers. His procedure can be faulted, however, for not allowing for interaction effects between expenditures and district or candidate characteristics (Coates, 1998, p. 64).

Table 20.2a. *Summary of main results linking votes for candidates to their campaign expenditures, U.S. House, Senate, and President*

Election	Effect of expenditures by		Study
	Challenger	Incumbent	
<i>U.S. House</i>			
1972	sig.	insig.	Glantz et al. (1976)
1972, 1974, 1978	sig.	sig. (1974, OLS)	Jacobson (1978)
1972–82	sig.	sig., wrong sign	Kau, Keenan, and Rubin ^b (1982)
1972–90	sig.	insig. (usually)	Jacobson (1985)
1972–90	sig.	insig.	Levitt ^c (1994)
1984	sig.	insig.	Coates (1998)
1980	sig.	insig.	Kau and Rubin ^b (1993)
	<i>Dem</i>	<i>Rep</i>	
1972	sig.	sig.	Welch (1974, 1981)
1980–86	sig.	sig. ^d	Snyder (1990)
<i>U.S. Senate</i>			
1972, 1974	sig.	sig. (1972)	Jacobson (1978)
1972–82	sig.	insig. (usually)	Jacobson (1985)
1974–86	sig.	sig.	Abramowitz (1988)
	<i>Dem</i>	<i>Rep</i>	
1972	sig.	sig.	Welch (1974, 1981)
<i>U.S. Presidential</i>			
1972	sig.	sig.	Nagler and Leighly (1992)

Table 20.2b. *Summary of main results linking votes for candidates to their campaign expenditures, other contests*

Election	Effect of expenditures by			Study
	Challenger	Incumbent	Candidate	
<i>Provincial Elections</i>				
Quebec, 1966, 1970			sig.	Palda ^a (1973, 1975)
Manitoba, 1973			sig.	Palda ^a (1975)
California Assembly, 1972, 1974	sig.	sig. (1974)		Glantz et al. (1976)
<i>Parliamentary seats,</i> Scotland and Wales, 1974			mixed	Johnston (1978)
<i>8 Provincial elections in</i> Canada, 1973–7			sig.	Chapman and Palda (1984)
<i>Canadian Federal Election</i> (Ontario), 1979			sig.	Palda and Palda (1985)

^a Palda (1973, 1975) uses votes for all candidates as the dependent variables. Incumbency treated as a dummy variable (significant).

^b Kau, Keenan, and Rubin (1982), and Kau and Rubin (1993) regress winner's margin on winner's and loser's expenditures. Given high success rate of incumbents, I have interpreted their results for winners as pertaining to incumbents.

^c Sample restricted to contests in which both candidates faced each other more than once. Coefficient on challenger spending much smaller than in other studies.

^d Snyder regresses Democrat's share of vote on Democrat's share of expenditures. Significance of Republican spending inferred from significance of Democrat's spending share.

of 511 incumbents lost. Many are almost certain winners regardless of what they spend, and thus may receive and spend little. Those who face stiff challenges may receive more funds to help fight off the challenge. Thus incumbents facing tough challengers will spend more, but receive fewer votes than easy winners. A cross-sectional regression that includes the two types of incumbents may thus fail to capture the positive relationship between spending and votes in the close contests. This simultaneity problem may explain the surprising result observed by Palda and Palda (1998) in the 1993 French parliamentary election. Although they generally found that campaign spending increased votes for both incumbents and challengers, incumbents who spent large amounts of their own money did significantly less well. Palda and Palda interpret this result as implying that voters penalized incumbents who tried “to buy their reelection.” An alternative interpretation is that incumbents did not spend their own money when they faced weak challenges, and thus that own spending proxies for a tight race, which explains its negative coefficient in a cross-section regression.²⁰

One recent study that nicely accounts for the simultaneity between the closeness of the contest and the amount of campaign spending is by Nagler and Leighley (1992). They test Snyder’s (1989) prediction that presidential candidates will allocate more funds to states that are pivotal in the electoral college, and are expected to have close votes. They estimate a two-equation model that explains money allocated to each state in the 1972 presidential election, and the responsiveness of votes won to money spent. Their model both predicts the allocation of funds by the two candidates across the states, and reveals large marginal effects of spending for both Nixon and McGovern.

Finally, we note that congressmen, when they vote on bills to curtail campaign spending, behave as if *they* at least believe that this spending has differential effects on their chances of being reelected (Bender, 1988, 1991).

20.3.2 *Determinants of campaign contributions*

Equation (20.9) has three implications with respect to the direction and levels of campaign contributions: (1) a contributor gives to the candidate whose position is closest to his own; (2) a contributor gives to a candidate who is willing to shift her position toward that favored by the contributor; (3) contributions to a candidate are higher, the higher her probability of winning. All three predictions have found support in an extensive literature.²¹

²⁰ Johnston (1978) emphasizes the difficulty of estimating the expenditure-vote relationship with cross-sectional data, and Welch (1981) and Jacobson (1985) review the simultaneity issue.

²¹ Ben-Zion and Eytan (1974); Bental and Ben-Zion (1975); Crain and Tollison (1976); Jacobson (1978, 1985); Welch (1980, 1981); Kau and Rubin (1982, 1993); Kau, Keenan, and Rubin (1982); Palda and Palda (1985); Poole and Romer (1985); Poole, Romer, and Rosenthal (1987); Munger (1989); Grier, Munger, and Torrent (1990); Snyder (1990, 1992); Grier and Munger (1991); Stratmann (1991, 1992a, 1995, 1996b, 1998); Bennett and Loucks (1994); Kroszner and Stratmann (1998); and Hersch and McDougall (2000).

Also relevant are the studies that find that the total contributions of a firm or industry are positively related to their potential gains from public policies (Pittman, 1976, 1977; Mann and McCormick, 1980; Zardkoohi, 1985).

The prediction that contributions flow to candidates with high probabilities of winning is confirmed by the general finding that incumbents have extremely high probabilities of being reelected, and they receive most of the campaign contributions (Welch, 1980).

In a study that is noteworthy both for the sophistication of its methodology and the size of its sample, Poole and Romer (1985) found a strong relationship between the ideological positions of contributors and the ideological positions of the candidates to whom they offer contributions. Corporate and trade association PACs give to conservative candidates and labor unions to liberal candidates. Moreover, within these broad interest group categories campaign contributions break down even further into consistent ideologic patterns; some corporate PACs give exclusively to the most conservative candidates, others to moderate conservatives and liberals. Poole and Romer's general findings about the direction of flow of PAC contributions have been corroborated by Kau, Keenan, and Rubin (1982); Kau and Rubin (1982, 1993); Munger (1989); Grier, Munger, and Torrent (1990); Grier and Munger (1991); Stratmann (1991, 1992a, 1995, 1996b, 1998); Bennett and Loucks (1994); and Kroszner and Stratmann (1998).

The results from most of these studies seem to imply that contributors are not merely trying to increase the election probabilities of candidates whom they favor, but are trying to influence the votes that they will cast on specific issues, or to obtain specific political "favors" (Snyder, 1990). Stratmann (1992a) finds, for example, that agricultural PACs channel money to representatives who are likely to be undecided over how to vote on farm bills. Grier and Munger (1991) hypothesize that congressmen will feel more obligated to contributors who supply them with funds when they face a close race. Knowing this, contributors have a motivation to supply more funds to candidates involved in close races, or who come from districts with economic and ideological characteristics that lower the odds of getting reelected (Stratmann, 1996b). Poole and Romer (1985) also find that money flows to incumbents involved in tight races, and go on to state that "this result, together with a parallel one on challenger contributions, appears to be the most robust finding in the empirical literature on campaign contributions" (p. 101), citing Jacobson (1985) and Kau and Rubin (1982) in further support of their statement.

The economic-man, investor-contributor model of campaign contributions also finds empirical support in the many studies that observe systematic patterns between the economic interests of the contributors and the committee assignments of the recipients.²² Building on Shepsle and Weingast's (1987) theory of standing committees, Kroszner and Stratmann (1998) posit the existence of long-run, exchange relationships between members of standing committees and the interest groups they

²² See Munger (1989); Grier and Munger (1991); and Dow, Endersby, and Menifield (1998). Somewhat indirect support for the existence of long-run, exchange relationships between House committee members and interest groups is also provided by Grier, Munger, and Torrent's (1990) *failure* to detect systematic patterns of interest group contributions to senators. Their explanation for this is that the rules of the Senate are much different from those of the House, and that they reduce the value of committee membership. Poole and Romer (1985) found only a weak relationship between committee assignments and campaign contributions in the House, however.

regulate. They test their predictions using data on contributions from commercial and investment banks, security firms, and insurance companies to members of the House of Representatives from 1983 through 1992. The following results support their predictions:

1. The largest contributions from these PACs go to members of the House Banking Committee.
2. The contributions from PACs with opposing interests are negatively correlated for committee members, but positively correlated for all other congressmen.
3. The contributions from these PACs to a particular committee member fall dramatically when she leaves the banking committee.
4. Congressmen who are not successful in raising large amounts of contributions while on this committee tend to leave it.

If PACs from the financial sector and congressmen are involved in long-run, exchange relationships, commercial banks and insurance companies will know “who their friends are” on these committees and will concentrate their contributions accordingly (finding 2). Since no long-run exchange relationships exist between financial companies and members of Congress who are not on the banking committee, all of these PACs spread their campaign contributions around evenly and thinly to these other congressmen. Findings 3 and 4 offer clear support for the hypothesized exchange relationships.²³

Snyder (1992) also finds evidence that PACs establish long-run, “investment” relationships with congressmen. A given PAC tends to give to the same subset of representatives every year, and this pattern of persistence is stronger for PACs with economic interests than for “ideological” PACs. Since older representatives are more likely to retire or die, they receive less from PACs, *ceteris paribus*, than young representatives.

Perhaps the strongest evidence of a *quid pro quo* relationship between interest group contributors and members of Congress comes in Stratmann’s (1995, 1998) work on the timing of contributions. If contributors took the positions of congressmen on issues as fixed, and just gave to those congressmen who took positions that the interest groups favored, one might expect a steady flow of contributions to congressmen over the course of an electoral cycle, or a pattern correlated with the cycle. On the other hand, if interest groups attempt to influence the way representatives vote on specific issues, they might be expected to concentrate their giving around key votes on these issues either to “remind” a Congressman just before a vote is taken of the implicit exchange relationship between him and the interest-group contributor, or to reward him immediately after a vote has been taken. Stratmann (1998) finds that farm PAC contributions to members of the House were significantly clustered around the dates when key votes on farm legislation were taken.

²³ Bennett and Loucks (1994) also examine contributions to the House Banking Committee although in this case from financial institutions and savings & loan associations. They also find a concentration of contributions on members of this committee.

20.3.3 *Determinants of representative voting behavior – campaign contributions*

If campaign contributions are rational allocations of contributor income, then there should be payoffs in terms of the votes that winning candidates cast on issues of importance to the contributor. The evidence reviewed in the previous subsection certainly suggests that PACs *expect* the behavior of congressmen to be influenced by their contributions. Are these expectations vindicated? The cleanest test of this hypothesis comes on those issues that have a simple and obvious economic payoff to certain contributors, such as legislation on the minimum wage or cargo preference. Several studies have successfully conducted these sorts of tests.²⁴

Evidence also exists indicating that some PACs, which do not represent narrow economic interests, nevertheless try to influence congressional voting through their contributions. Langbein (1993), for example, examined the patterns of contributions of both the National Rifle Association (NRA) and Handgun Control, a citizen PAC whose goal is stated in its name. One expects ideology to be important in the decisions of individuals to both join and contribute to these PACs, and thus that the political man or consumer contributor model might well apply here. Langbein (1993, p. 563) found, however, that “NRA contributions to pro-gunners and to gun controllers were both significant. The more NRA money a pro-gunner received, the fewer times he or she switched from the pure NRA position; this is consistent with expectation. By contrast, the more NRA money a gun-controller received, the more he or she switched from a pure gun-control position.” Money matters even for an issue as ideological and emotionally charged as gun controls.

20.3.4 *Determinants of representative voting behavior – ideology or pure survival?*

“Buying” a congressman’s vote through a campaign contribution is one way economic interests can make themselves felt. But even if campaign contributions were totally banned or, as several scholars claim, did not influence how congressmen vote, we would still expect economic interests to be important in determining how representatives vote. If voters vote their pocketbooks, then their representatives will take the economic interests of these voters into account when they vote. Representatives from districts with large fractions of dairy farmers will vote for price supports for milk; representatives from urban districts will vote against them. The studies that have tested whether campaign contributions affect how representatives vote have all included other variables to capture the economic interests and ideological preferences of the representatives’ districts. Those studies that claim that campaign contributions do affect how representatives vote have found them to have

²⁴ See Silberman and Durden (1976); Chappell (1981); Kau, Keenan, and Rubin (1982); Kau and Rubin (1982, 1993); Peltzman (1984); Frensdreis and Waterman (1985); Marks (1993); Stratmann (1991, 1995, 1996b); Kang and Greene (1999); and Baldwin and Magee (2000).

Chappell (1982), Grenzke (1989), Wright (1990), and Dow and Endersby (1994), on the other hand, fail to detect significant relationships between PAC contributions and the votes cast by legislators.

a significant impact on representatives' voting *after* controlling for the characteristics of their districts. Studies that claim that campaign contributions do not affect how representatives vote have found that it is only the characteristics of the representatives' districts that have a significant impact on their voting.

Many studies have included only measures of the economic interests and ideological preferences of the representatives' districts. When voting is on legislation where the opposing economic interests are clearly defined, the economic interests of their districts have always been found to be important in determining how the congressmen vote.²⁵ Moreover, the *narrow* economic interests of representatives' constituents also appear to have a significant effect on how they vote on legislation with *broad* economic impacts. A ban on child labor would appear to have potentially broad economic consequences, and to entail a significant ideological component. Davidson, Davis, and Ekelund (1995) find, however, that Senate voting on the Child Labor Act of 1937 is related to the economic impacts of the legislation on each state. Senators from states adversely affected by the bill (states with many firms in interstate commerce, with many textile firms that were the primary employers of children, and with large numbers of children in domestic service) voted against the bill. Senators from states where beneficial effects from the bill were identified voted for it. Libecap (1992) has made similar claims with respect to the Sherman Antitrust Act of 1890, as have Ramírez and Eigen-Zucchi (2001) with respect to the Clayton Act in 1914.²⁶

In an extremely ambitious paper, Peltzman (1985) sets out to explain "the history of Congressional voting in the twentieth century." He finds that the "profound political changes" over this century can to a "remarkably close degree . . . be attributed to changes in economic interest" (p. 669), that is, changes in the economic interests of states and congressional districts explain changes in voting patterns in the House and Senate. Peltzman also identifies a "'persistent historical' element" in the voting behavior of representatives from different states and regions that one might associate with underlying ideological differences. Moreover, Peltzman confines his analysis to congressional voting on tax and expenditure bills, issues upon which one might expect economic interests to dominate. Conceivably voting on more ideological issues like prohibition, civil rights, gun controls, and so on might reveal even more persistent regional/ideological differences.

Thus, it seems likely that both the economic interests and the ideological preferences of a representative's constituents are likely to influence how she votes in the legislature. We might then reasonably model the vote of representative r on issue i as

$$V_{ri} = \alpha I_C + \beta E I_C + \mu_i, \quad (20.10)$$

where I_C is a vector measuring the ideological preferences of different legislative districts, and $E I_C$ is a vector that measures their economic interests. Quite

²⁵ In addition to the studies already cited, see Richardson and Munger (1990) explaining voting social security legislation; Harper and Aldrich (1991) votes on sugar bills; Marks (1993) voting on trade bills; Kahane (1996) voting on fast-track authority for NAFTA; Basuchoudhary, Pecorino, and Shughart II (1999) voting on funding for a superconducting supercollider; Fishback and Kantor (1998) on the adoption of workers' compensation; Irwin and Kroszner (1999) on Republican voting on free trade; and Jenkins and Weidenmier (1999) voting for the Bank of the United States from 1811 to 1816.

²⁶ See also Delorme, Frame, and Kamerschen (1997).

obviously, from the preceding discussion, there is no reason to assume that a single set of ideological and economic interest variables explains voting on all issues. The fraction of dairy farmers in a district may be important in explaining votes on milk price supports, but not on restrictions on abortions. The fraction of Baptists in a district may be related to votes on abortion issues, but not to milk price supports. Different variables and different coefficients can be expected for different sorts of issues.

A strong form of the Downsian model would predict that it is *only* the economic interests and ideological preferences of a representative's constituents that explain her voting. Each representative is only concerned about getting reelected and fears that any deviation from her constituents' preferences will be punished with defeat in the next election. Peltzman's (1984, 1985) work is consistent with this Darwinian interpretation of political competition.

The alternative position sees political competition as less Darwinian. The high probabilities of reelection that incumbents enjoy create "slack" in the political process, which allows representatives on occasion to "shirk" on their obligations as representatives and vote as their own preferences dictate, even when this runs counter to the preferences of their constituents.²⁷ One way to test this hypothesis would be to construct a vector of variables to measure a representative's personal economic interests and ideology (I_r) – whether she is a Baptist or a dairy farmer – and add it to (20.10).

Most studies that have tried to account for the personal ideology of a representative have not followed this approach, however, but rather have used the scores given to representatives by various ideological interest groups based on their past votes on key, ideologically important issues. One difficulty with this approach, however, is that a representative's ideological score may simply reflect the economic interests and ideological preferences of her constituents. If this is the case, there may be significant collinearity between I_r and the other variables in (20.10).

Kalt and Zupan (1990) have treated I_r as part of the residual from (20.10), and tested to see whether it behaves systematically, as it should, if a representative's ideology matters. They first specified a vector of variables to include in (20.10) and used it to predict how members of the Senate would vote during the 1977–8 legislative period. They then summed the residuals from this regression and tested to see whether they were systematically related to the American for Democratic Action's ideological categorization of issues during this period. The pattern of residuals was not random. Some senators consistently voted more liberally than the characteristics of her state predicted she would, and others more conservatively. George McGovern, the Democratic nominee for president in 1972 who lost in a landslide to Richard Nixon, consistently voted more liberally than his South Dakota constituency's characteristics predicted he would. Barry Goldwater, the Republican nominee for president in 1964 who lost in a landslide to Lyndon Johnson, consistently voted more conservatively than his Arizona constituency's characteristics predicted.²⁸

As Higgs (1989) has pointed out, the strong form of the Darwinian model seems to be resoundingly rejected by the fact that the two Senators from a state often vote

²⁷ See Kau and Rubin (1979); Kau, Keenan, and Rubin (1982); and Kalt and Zupan (1984, 1990).

²⁸ See also Carson and Oppenheimer (1984), Kalt and Zupan (1984), and Garrett (1999).

differently on an issue – 37 percent of the time on 465 defense-related votes in 1987. Since the constituency characteristics for a single state that go into (20.10) are identical, this equation must predict the same vote on any given issue. Such a large number of splits casts considerable doubt on the explanatory power of *all* possible sets of state characteristics that one might choose.

Some of those who discount the representative-ideology/shirking hypothesis have responded by arguing that the senators from a given state actually represent *different* constituencies (Peltzman, 1984; Dougan and Munger, 1989; Lott and Davis, 1992). If one thinks of constituents as potential voters, then this argument is either patently false or it undermines all of the empirical work that has tried to explain voting in the House and Senate using characteristics of the populations in each district or state as explanatory variables.²⁹ Indeed, one attempt to identify different reelection constituencies relies on the same sort of examination of residuals that has been used to measure representative ideology (Stratmann, 1996b).

One way to explain why two Senators from the same state vote differently is to posit the existence of a *geographic* constituency of potential voters and an *economic and ideological* constituency of interest groups that lobby her and contribute money to her campaign.³⁰ These might include interest groups based within a senator's state, but could also include interests from outside the state. An additional vector, *PAC*, measuring campaign contributions and possibly lobbying efforts of interest groups must then be added to (20.10) to give us

$$V_i = \alpha I_C + \beta E I_C + \delta I_r + \gamma PAC + \mu_i. \quad (20.11)$$

Equation (20.11) would carry the prediction that *all* of the split voting by senators from the same state can be explained either by differences in their personal ideologies or in their relationships with interest groups.

Several studies have attempted to test for the importance of a representative's personal ideology by testing whether a representative who announces her retirement votes differently in her final term. Once she decides to retire, a representative is freed from *both* the implicit contracts to deliver votes to contributors of campaign funds *and* the need to satisfy the preferences of her constituents. I_C , $E I_C$, and PAC all drop out of (20.11) leaving the representative's personal ideology, I_r , as the sole variable to explain how she votes. Several studies that have performed such tests claim that representatives *do not* vote significantly differently in their final terms than they did before,³¹ while a second group of studies claims that they do.³² In one

²⁹ Following Peltzman (1984), one might want to adjust the state data to take into account the different propensities for groups to vote, but this alone does not lead to different predictions for how the two senators from a state vote.

³⁰ See, for example, Fort, Hallagan, Morong, and Stegner (1993).

³¹ See Lott (1987, 1990), van Beek (1991), Lott and Davis (1992), Lott and Bronars (1993), and Poole and Romer (1993).

³² One problem with focusing on last period voting is that representatives tend to vote much less frequently after they have announced their retirement (Lott, 1987, 1990). If the characteristics of a representative's district imply that she should vote against the defense appropriation bill, but her implicit contract with defense PACs over the years implies that she should vote in favor of it, if the representative votes she must disappoint either her geographic constituents or her financial ones. By not voting at all, she avoids overtly offending both

of the most recent contributions falling into the latter category, Tien (2001) used an improved index of ideology and found evidence of shirking by members of the House who voluntarily retired between 1983 and 1990. Besley and Case (1995) also found evidence of significant differences in the behavior of those who involuntarily retired because of constitutional prohibitions against running for reelection.³³

A somewhat different way to test for shirking is to see whether congressmen who have secure seats deviate in their voting away from their constituent preferences more than do congressmen who face tough races. Coates (1995), examining votes on radioactive disposal, and Coates and Munger (1995), examining votes on anti-strip mining legislation, both found significant differences in the voting behavior of legislators with safe seats. Both studies found that economic interest variables were also significant. And, finally, Figlio (2000) found more evidence of senators shirking in the early portion of the electoral cycle than shortly before they would stand for reelection. This behavior appears rational, since he also found that shirking early in a senator's six-year term was less severely punished by voters. All in all, one must conclude that the evidence suggests that elected politicians do indulge their own personal ideological preferences to a greater degree when the likely costs of such indulgence at the next election are reduced or eliminated.

20.3.5 Evaluation

The interest group model of political competition rests on three legs: (1) an equation to explain how interest groups allocate their campaign contributions, (2) an equation to explain the effect of campaign contributions on the way representatives vote, and (3) an equation to explain the effect of campaign contributions on the outcomes of electoral contests. All three legs of the model have found empirical support. All three, however, have also been challenged on the basis of empirical evidence of one sort or another. Of the three, the least controversial would appear to be the prediction that PACs and other contributors distribute their funds selectively. Although some disagreement exists over *which* characteristics of a representative affect the size and source of his contributions, no one who has examined the data on contributions has concluded that they are allocated randomly.

If contributors are rational and they have rational expectations, then the evidence that they selectively channel their contributions to certain legislators implies support for at least one if not both of the other legs of the interest group model. Contributors must expect to influence either the outcome of an election or the way a legislator votes by contributing to his campaign.³⁴

The evidence that campaign spending is effective in increasing a candidate's chances of winning an election also seems quite strong, at least for challengers of incumbents and in open seat elections. The much weaker findings with respect to

constituencies. Representative shirking in the final term may manifest itself as a *nonrandom* choice of issues on which to abstain. Support for this interpretation is provided by Calcagno and Jackson's (1998) evidence that PAC contributions increase senators' participation rates in roll call votes.

³³ See also Kalt and Zupan (1990), and Zupan (1990).

³⁴ A caveat here is Snyder's (1990) hypothesis that the contributor is buying nonlegislative favors.

the effects of spending by incumbents can also be interpreted as support for the interest group model, since incumbents receive such large amounts of campaign funds that they probably are operating at the top of the vote/expenditures mountain, where the marginal impact of another dollar of political advertising is zero.

The biggest disagreement in the literature is over the determinants of a representative's voting in the legislature and the relative importance of constituent interests, money, and ideology as determinants. At one extreme would be the studies that include only measures of the economic interests in each state or district, and thus implicitly assume that neither the representative's own ideology nor that of his district matters. If the ideologies of voters affect how they vote, however, even a strong form of the Downsian model would predict that representative voting would have an ideological component. The Downsian version of (20.11) would have both I_C and $E I_C$ as right-hand-side variables. Most observers would now seem to agree that voter ideologies play an important role in politics, and thus that I_C belongs in a model to explain representatives' voting.³⁵

The interest group model predicts that candidates will shift their positions on issues to obtain additional campaign funds *if* by spending these funds they can increase their chances of getting reelected. The studies that find a positive impact of incumbent spending on their chances of winning support the hypothesis that PAC contributions affect representatives' voting. Several studies find direct support for this hypothesis, but several others fail to support it. The evidence that contributions are timed to coincide with important votes in Congress strongly suggests, however, that contributors *expect* their contributions to affect how legislators vote.

By far the most controversial of the components of (20.11) is I_r , a representative's personal ideology. The studies that claim that representatives vote the same way after they announce their retirements as before seem to imply that I_r is *all* that matters in explaining how representatives vote, since all other variables drop out of the equation for a retiring representative. If the ADA index of voting is a good measure of how a representative will vote, and it also measures I_r , then all one should need to explain a representative's ADA index in period t is her index in $t - 1$. Krehbiel (1993) comes close to suggesting that this is the case, and it is a direct implication of Poole and Rosenthal's (1997) research establishing the importance of a *single* ideological dimension in congressional voting patterns. Tien (2001), on the other hand, records a significant decline in the coefficient on a representative's lagged ADA rating once she announces that she will retire.

Even if a representative's voting is heavily autoregressive, it might be consistent with a Darwinian version of political competition. Assume, for example, that the only two factors that affect whether a citizen votes for incumbent i when he runs for reelection are his voting record in the legislature, V_i , and his campaign expenditures. If in turn his flow of campaign funds depends solely on his voting record, the probability that an incumbent is reelected will depend only on his voting record,

$$\pi_i = f(V_i) + \mu_i. \quad (20.12)$$

³⁵ Hinich and Munger (1994) place ideology at the center of their theory of politics.

With sufficiently intense political competition only those incumbents with voting records that maximize (20.12) will survive. Whether candidates are devoid of personal ideologies and consciously *choose* a pattern of voting that maximizes (20.12), or are slaves to their personal ideologies and only survive in office if their ideologies happen to lead to a mix of votes in the legislature that maximizes (20.12), is irrelevant for explaining how representatives vote in the long run. V_i in (20.11) will be dependent on only I_C , $E I_C$, and PAC. The ideological score this voting record produces, as measured by the ADA, will also be solely explained by I_C , $E I_C$, and PAC. Thus, I_r , as measured by a legislator's ADA score, should also be determined subject to a random error by I_C , $E I_C$, and PAC. One should be able to explain a legislator's voting record with an equation that includes *either* I_C , $E I_C$, and PAC, or I_r , *if* the level of political competition is strong enough.

Several studies have tested the strength of the Darwinian process by using the residuals from equations like (20.11) that omit I_r to explain the probability that an incumbent is reelected. These studies uniformly find that legislators are "strongly punished" for their shirking. Lott and Davis (1992, p. 470) found "that those who are eventually sorted out of office deviated from the interests of their constituents by only 1.27 percentage points."³⁶

The fact that shirking does get punished implies, of course, that *some* shirking does take place. Equation (20.11), if estimated without a measure of I_r , will produce residuals that are correlated with the representatives' personal ideologies (Carson and Oppenheimer, 1984; Kalt and Zupan, 1984, 1990). Although the results of Lott and Davis and others imply that shirking is fairly unimportant when measured across a large set of votes, it is possible that when shirking occurs, it is on issues of considerable ideological salience and importance. A representative's personal ideology has been found to be important, for example, in explaining voting on a constitutional amendment to ban flag burning (Lascher, Kelman, and Kane, 1993); on superfund legislation to clean up toxic waste sites (Gibson, 1993); on funding for a superconducting supercollider (Basuchoudhary, Pecorino, and Shughart II, 1999); on protectionist legislation (Nollen and Iglarsch, 1990); and on abortion (Brady and Schwartz, 1995).³⁷

Thus, it seems fair to conclude that a representative's personal ideology does affect how she votes on at least some issues. At doubt is the number and significance of these issues. Because ideology must inevitably be measured as a residual to an equation like (20.10), like all residuals it is to some extent a measure of our ignorance and subject to question (Jackson and Kingdon, 1992). What we measure as the persistent ideological preference of a representative may simply be a persistently unaccounted for economic interest of his constituents or pressure from a lobbyist. Pending the assembly of a set of variables that can explain legislative voting without leaving a systematic component that can be related to an index of ideology, however,

³⁶ Corroboration is provided by Kau and Rubin (1993), Lott and Bronars (1993), and Wright (1993). Figlio (2000) observes, however, that it is only shirking in the last two years of senators' six-year terms that gets punished.

³⁷ Brady and Schwartz show that voting on abortion bills is much closer to constituent preferences when these are adjusted to allow for the primary system. Brady and Schwartz's adjustments reduce the explanatory power of a representative's personal ideology in explaining how she votes, but do not eliminate it entirely.

we must allow for the possibility that a representative's ideology also plays a role in determining how he votes.

20.4 Lobbying

Wright (1990) found in his detailed study on voting in the House Agricultural and Ways and Means Committees that interest group lobbying was more important in explaining how committee members vote than campaign contributions. Interest groups also appear to devote far more money to lobbying than they contribute to congressional campaigns. Thus, interest group lobbying is yet another factor that can affect how representatives vote.

Lobbying is essentially a one-way transmission of information from an interest group to members of the government. This information may pertain to the preferences of the interest group or to "states of the world." Although interest groups have no incentive to falsify information about their preferences – other than perhaps to exaggerate their intensity – they may under certain circumstances have an incentive to distort information in their possession regarding states of the world. Suppose, for example, that the speed limit in a state is 55 mph. This imposes a cost on the trucking industry of \$200 million per year because of the extra time spent transporting goods. By lobbying the state's legislature to raise the speed limit, the trucking industry informs the legislature that the industry stands to gain from the speed limit change, and this may translate into votes and campaign funds. But the industry may go even further and provide the legislature with estimates of the cost savings for the industry and private motorists from a higher speed limit, and the likely increase in accidents and highway fatalities from a higher speed limit. Here, of course, the industry may have an incentive to distort the "facts" that it provides the legislature to make the increase in the speed limit more attractive to the legislators.

If, however, the industry *always* distorts the facts, the legislators have no incentive to give weight to the "information" provided by the industry. Since lobbying costs money, the industry has no incentive to lobby the legislature if it is going to be ignored. Thus, the industry has an incentive to provide the legislature with accurate information at least some of the time, so that the legislature will consider the information provided by the industry. Thus, when facts about the true state of the world are likely to change a legislature's policies in favor of a particular interest group, it sometimes has an incentive to provide truthful information through lobbying.³⁸

If the industry expects that the legislature will raise the speed limit even without its lobbying, it will of course not lobby for a change, since lobbying costs money. And it will not lobby for a change if it prefers – say, for safety reasons – the lower speed limit. Thus, both the lobbying efforts of an industry and the absence of such efforts can provide accurate information to the legislature. When an industry does not lobby for a change in policy, the legislature can assume that it either will not benefit from a change, or that the information it has is such that it does not expect to effect a change in policy by lobbying.

³⁸ But only sometimes, because the costs of gathering and supplying the information may be too large relative to their effect on the probability of a change in policy.

Potters and van Winden (1992) and Potters (1992) have modeled the decision of a single interest group to lobby, and Austen-Smith and Wright (1992) have modeled lobbying by two interest groups with opposing interests. Counter perhaps to one's priors, interest groups often have the incentive to provide true information through their lobbying efforts and lobbying by groups with conflicting interests tends to improve the quality of information provided to the legislature. Austen-Smith and Wright (1994) have found support for their model in data on lobbying and the Senate's voting on Robert Bork's nomination to the U.S. Supreme Court.

20.5 The welfare effects of interest group activities

Total spending on congressional campaigns over the 1999/2000 electoral cycle amounted to over \$1 billion, up from the \$740 million spent over the 1997/8 cycle. Add to these funds the more than \$500 million spent in the presidential primaries leading up to the 2000 election and by the three final candidates, and one has more than \$1.5 billion being spent in the two years prior to a presidential election by candidates for this office and seats in Congress.³⁹ If Wright's (1990, p. 420) speculation that lobbying expenditures add up to 10 times the amount spent by congressional candidates is anywhere near correct, then some \$5 billion is being spent each year to affect the probabilities that congressmen are reelected, and the way they vote in office, with another half billion being spent by presidential candidates in election years. To this one could add the money spent in gubernatorial and state legislature elections, in elections for city mayors and councils, county councils, sheriffs, school boards, and so on. Lobbying takes place here, too, so that the annual outlays in the United States to decide who will occupy public office and how they behave could easily amount to as much as \$10 billion. Does this money buy better democratic government or worse? Do the campaign contributions and lobbying efforts of business, trade, and professional associations, of labor unions, and of all of the other groups with special economic or ideological interests lead to better political outcomes, and if so, in what sense are they better?

One way to define better and best is in terms of a social welfare function (SWF). Our question now becomes whether the activities of interest groups move us closer to the maximum value for this function. To begin to answer this question, let us return to the simple case in which each individual i has a concave utility function, $U_i(x)$, defined over a single-dimensional issue x . Let x_i be the value of x at which $U_i(x)$ obtains its maximum – i 's ideal point. If then our SWF is a weighted Benthamite function

$$W = \alpha_1 U_1 + \alpha_2 U_2 + \cdots + \alpha_i U_i + \cdots + \alpha_n U_n, \quad (20.13)$$

the optimal $x - x_{SWO}$ – will satisfy the following first-order condition:

$$\alpha_1 U_1' + \alpha_2 U_2' + \cdots + \alpha_n U_n' = 0 \quad (20.14)$$

where α_i is the positive weight placed on the utility of voter i in the SWF.

³⁹ Figures are taken from the Federal Elections Committee's Web site.

Now the first thing to note is that there is no reason to expect x_{SWO} to coincide with x_m , the ideal point of the median voter, and the outcome that we would expect if two candidates compete for votes without campaign contributions. Equation (20.14) implies that the socially optimal x will be pulled away from x_m in the direction of voters with either high α_i s or high marginal utilities from changes in the quantity of x . If we assume that those groups who will experience the most utility gain from a change in x away from x_m contribute the most to candidate campaigns and devote the most resources to lobbying, then campaign spending and lobbying can be justified on normative grounds, since it moves the social choice toward the social welfare optimum.

Once we take into account Olsonian differences in the abilities of groups to organize, and differences in their commands over resources, the consequences from campaign spending and lobbying become less sanguine. The social choice of x is shifted toward the most preferred quantity of x of the best organized and financed interest groups. Campaign spending and lobbying have the same effect on the outcome of the political process as would arise if the utilities of the well-organized and well-healed groups are given higher weights in the Benthamite SWF that is implicitly maximized.

If our definition of the best social outcome merely requires it to satisfy the Pareto-optimality condition, then interest group activities will have *no* normative significance, since both the median voter's optimal x and any other choice that might arise as a result of interest group activities satisfy the Pareto condition in our simple, single-dimensional world. Indeed, *all* choices of x within the range of voter ideal points are Pareto optimal. Analogous conclusions can be drawn for a multidimensional issue space if we assume that political competition leads to the sorts of equilibria expected from the probabilistic voting models.⁴⁰

Campaign spending and lobbying do more than just affect the choice of x ; they use up resources in the process. Indeed, in this respect these activities are just another form of rent seeking. In the pure rent-seeking model, competition among interest groups is over a rent rectangle generated by some monopoly power (see Chapter 15). This rent represents the foregone utility of one group – the consumers – which is transferred to another group – the owners of the monopoly. When interest group campaign contributions and lobbying alter political outcomes, that is, they change x , they also effectively transfer utility from one group to another and the resources used to bring about the transfer are potentially wasted.

To see what is involved, consider Matrix 20.1. To simplify the discussion, assume that each candidate has only two options – to raise campaign funds and spend them all or to raise and spend nothing. If both spend nothing, the incumbent's share of the vote is 65 percent. If the incumbent were to continue to spend nothing while the challenger raised and spent funds, the challenger could raise his chances of winning to 50/50. If both spend, however, the challenger's odds fall back to 35/65. The matrix

⁴⁰ A more attractive role for lobbying groups can be defined, if we assume that candidates are ignorant of some possible dimensions of the issue space. Pareto-preferred outcomes might then arise from interest group lobbying if this lobbying informs those in government about new public goods that when provided make all citizens better off.

Matrix 20.1. *Outcomes from an election with and without campaign spending*

		<i>Challenger</i>			
		<i>Spends all funds</i>		<i>Spends nothing</i>	
Incumbent	Spends all funds	65	35	75	25
	Spends nothing	50	50	65	35

has the configuration of a prisoners' dilemma with the familiar implication that the two candidates select the dominant strategy and raise and spend campaign funds even though they have no net effect on the election outcome. The spend/spend equilibrium is dominated by the outcome when both spend nothing because of the assumption, in this example, that the spending does not alter the probabilities of the two candidates' victories, and thus all of the money spent has gone for naught.

Of course, it is likely that the spending of both candidates will change the probabilities of victory – *slightly*. The conclusion that society would be better off if both candidates spent nothing is, however, not likely to be overturned if the two entries in the spend/spend box are, say, 62 and 38. With reelection rates running as high as 97 percent or more in the House of Representatives, and over 90 percent in the Senate, there is not much scope for a dramatic *decline* in the success rate of challengers from lower expenditures.⁴¹

Much the same conclusion follows if we think of the effects of campaign spending being to change policy outcomes rather than to change the identities of representatives. If interest groups are located on both sides of the median voter's ideal point, then their efforts to change x must partly offset one another. Much money may go to candidates and be spent at election time with a very small net movement in x as a consequence, just as much of Coca-Cola's and Pepsi-Cola's advertising cancels itself out leaving the market shares of the two firms largely unchanged. But the tendency for wasteful overspending in the political marketplace is even greater than in private goods' markets. When Coca-Cola and Pepsi-Cola advertise they spend money that could have been paid out to their shareholders in higher dividends or to the managers in higher salaries. There is an opportunity cost to these funds. But when candidates spend money that interest groups have given them, they spend money that has no other use. They spend other people's money and the incentive is certainly to spend it all until the point of *negative* marginal returns is reached.⁴²

Beyond their effects on the identities of winning candidates and policy outcomes, lobbying and campaign spending may have additional social value by "educating" voters. The issue of campaign spending is more complicated than is suggested by Matrix 20.1. On the other hand, the activities of interest groups do have a rent-seeking character, and political advertising, like the advertising of private goods,

⁴¹ See Levitt's (1994) discussion of the potential social gains from limits on campaign spending.

⁴² I abstract here, of course, from the costs candidates incur in raising campaign funds.

has much the same characteristics as a prisoners' dilemma game. Twice as much was spent on congressional campaigns over the 1997/8 electoral cycle than was spent over the 1981/2 cycle. Six times as much was spent in 1988 as in 1976. Although data from before the 1970s are not available, it seems reasonable to expect that at least 10 times as much money was spent on the presidential and congressional races in the year 2000 as was spent in the year that John F. Kennedy was elected. As one contemplates this growth in spending on political campaigns over the last 40 years, one cannot help but wonder whether the quality of the democratic process in the United States, and the outcomes that it produces, have improved proportionally.

Bibliographical notes

Hinich and Munger (1994) both justify the importance of ideology and integrate it into a formal spatial model of political competition.

The literature on interest groups and campaign contributions has been surveyed by Morton and Cameron (1992), Potters and Sloof (1996), Austin-Smith (1997), and van Winden (1999). Bender and Lott (1996) provide a critical review of the literature on ideological shirking. Grossman and Helpman (2001) present a comprehensive theoretical treatment on interest group activities.

Although most of the literature on interest groups focuses upon their behavior as contributors to political parties and recipients of messages and legislation from them, Lohmann (1993) explores how protest groups can affect political outcomes by *signaling* the nature and intensity of their positions on issues.