The Economics of Campaign Finance

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Campaign finance is a contentious issue in American politics. Reformers charge that a system in which interest groups provide the funds for campaigns creates opportunities for corruption, while others argue that restrictions on donations would limit the provision of information to voters. For an economist, the natural way to evaluate such arguments is to construct a model that explicitly treats the preferences and beliefs of the voters, to deduce the conditions under which the model predicts welfare improvements from regulation, and to check empirically if these conditions hold in actual elections. This entry surveys a recent body of literature that does just that.

1 First-Generation Models

Early work on campaign finance took a reduced-form approach to the link between campaign activity and votes (Austen-Smith, 1987; Baron, 1989, 1994; Grossman and Helpman, 1996; Snyder, 1990). This literature identified two ideal types of contributor: position-induced contributors, who contribute to help ideologically compatible candidates win office, and service-induced contributors, whose contributions are analogous to purchasing contingent claim on favors provided to the buyer at the expense of citizens in general.

This literature yielded several important insights. For example, Baron (1989) finds that trades of contributions for promises of favors has interesting implications for the incumbency advantage.[1] A candidate with an

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[1]See, e.g., Gelman and King (1990) and Ansolabehere and Snyder (2002) for empirical work on the incumbency advantage in U.S. elections.

exogenous advantage is more likely to be able to deliver the promised favors, making the promise more valuable. Thus an advantaged candidate can raise funds on more favorable terms, reinforcing the advantage. Morton and Myerson (1992) show that this mechanism can even lead to multiple equilibria, where predictions that one candidate will win become self-fulfilling because contributions flow to the presumptive winner.

As the comprehensive survey of this literature by Morton and Cameron (1992) emphasizes, this approach cannot address the welfare questions raised by proposals for campaign finance reform. We now turn to more recent research that "opens up the black box" and provides some welfare analysis.

2 Microfounded Models

A bare-bones model illustrates the main points of the literature. The game has four players: 2 candidates, a voter, and an interest group.

Each candidate has some level of "quality", which could be either ability or ideological similarity to the voter. The key is that quality is valued by the voter. Candidate i's ability is θ_i. It is common knowledge that $\theta_1 = 1$, and that θ_2 is equally likely to be 0 or 2. Each candidate maximizes his probability of winning.

At the start of the game, the candidates learn θ_2, but the voter does not. At cost $c \in (0, 1)$, candidate 2 can truthfully reveal θ_2. Candidates have no funds of their own. The interest group has sufficient funds to pay for the information transmission, if it wants to.

Even without specifying the group's payoffs, we can derive two benchmarks.

The no-campaign solution First, assume the interest group is prohibited from funding candidate 2's campaign. Then the voter goes to the polls not knowing θ_2. Thus she is indifferent between the two candidates, and gets expected payoff 1 no matter how she votes. The natural voting rule is to have her toss a fair coin. (This would be the outcome if there were a mean-zero popularity shock prior to the election.) In this case, each candidate gets payoff 1/2.

The voter's optimum Second, assume there is a planner who can observe the true θ_2 and communicate it to the voter, paying for the communication with a lump-sum tax on the voter.

Announcing the true θ in only one of the states suffices for complete communication, and allows for a cost savings compared to always announcing the state. So the planner announces θ_2 if and only if $\theta_2 = 2$, and the voter votes for 2 if there is an announcement and for 1 if not. Her payoff is

$$\frac{1}{2} + \frac{1}{2}(2 - c) = \frac{3}{2} - \frac{1}{2}c > 1.$$

Thus the voter is better off than in the no-campaign solution. Furthermore, each candidate still wins with *ex ante* probability 1/2, so the policy represents an *ex ante* Pareto improvement over the no campaign solution.

This scheme would be hard to implement, because is is vulnerable to collusion between the regulator and candidate 1. Thus we are interested in whether or not interest-group finance can improve on the no-campaign benchmark.

2.1 Position-Induced Contributors

Now assume the interest group wants candidate 2 to win independent of θ, perhaps because it shares the candidate's ideology. Formally, the group's payoff is

$$bw - k,$$

where $b > 0$ is the payoff to the group from having 2 win, w is an indicator variable equaling 1 if and only if candidate 2 wins, and k is the contribution to candidate 2.

The timing is:

1. The candidates and the group learn θ_2.
2. The group chooses a contribution $k > 0$.
3. If $k \geq c$, the candidate decides whether or not to advertise θ.
4. The voter sees any ads purchased, and then selects the winner.

Proposition 1 *If $b > c$, then there is a perfect Bayesian equilibrium (PBE) in which*

- *the group contributes c if and only if $\theta_2 = 2$ and*
- *the voter chooses candidate 2 if and only if she sees an ad certifying that $\theta_2 = 2$.*

The idea is simple. The group is better off if 2 wins. If $\theta_2 = 2$, the group can ensure that 2 wins by funding a campaign informing the voter of her true preference for 2. And if the benefit from having 2 win (b) exceeds the cost (c), the group wants to do this. Finally, the group does not contribute to a low type of candidate 2—this cannot help the group because the candidate cannot lie.

If there are contributions in equilibrium, then the voter gains over the no-campaign solution, having a payoff of $3/2 > 1$. Thus banning contributions reduces the voter's welfare. Furthermore, the equilibrium without contributions is Pareto dominated by the following matching fund policy: Fix γ strictly between 0 and b. If the group donates γ to candidate 2, then the regulator kicks in $c - \gamma$, paid for by a lump-sum tax on the voter. The group's *ex ante* payoff increases from 0 to $(b - \gamma)/2$ and the voter's payoff increases from 1 to $3/2 - (c - \gamma)/2 > 1$. The candidates are indifferent at the ex-ante stage.

Coate (2003) elaborates on this story in two ways. First, the voter is uncertain about both ideologies, and both candidates can receive contributions. Second, and more importantly, candidates are selected by the party's median member, who has different preferences than the median in the electorate. (Here quality is the inverse of distance from the median.) The interest group prefers less moderate candidates. However, the groups prefer to fund more moderate candidates—campaign ads are effective only when the ad reveals that the candidate is more moderate than a non-advertising candidate. This gives the party an additional incentive to choose moderate candidates, because moderate candidates can raise funds and thus do well in the election. In equilibrium, the party mixes between moderate and extremist candidates.

In this environment, simply banning contributions creates both winners and losers. Moderate voters lose. First, they must make their choices with worse information, as in the bare-bones model above. Second, candidates are less likely to be moderate. Members of the interest groups, on the other hand, are better off. They save the cost of the contributions, and policy is no worse in expectation—the extra probability that policy is extreme in the wrong direction is exactly offset by the increased probability that policy is close to the group.

2.2 Service-Induced Contributors

Now assume the group does not care directly who wins the election. Instead, the group values transfers from the winner. The group and candidate 2 can

sign a contract specifying that candidate 2 receives c from the group, and if he wins, he transfers the amount t to the group. This transfer if financed by a tax on the voter of $(1+\lambda)t$, where λ represents the deadweight loss of the transfer.

The timing is:

1. The candidates and the group learn θ_2.
2. Candidate 2 makes a take it or leave it offer of a contract t to the group.
3. The group accepts or not.
4. If the contract is accepted, the candidate decides whether or not to advertise θ.
5. The voter sees any ads purchased, and then selects the winner.

Proposition 2 *If $(1+\lambda)c \leq 1$, then there is a PBE in which the group funds the campaign if and only if $\theta_2 = 2$ and the voter selects candidate 2 if and only if she sees an ad certifying $\theta_2 = 2$.*

Again, the basic idea is simple. If the voter sees an ad, she learns two things. First, she learns that $\theta_2 = 2$, which improves her evaluation of candidate 2. Second, she learns that the group and the candidate have made a deal, so electing candidate 2 costs her $(1+\lambda)c$. This tradeoff is acceptable if $(1+\lambda)c \leq 1$.

In such an equilibrium, the voter's payoff is

$$\frac{1}{2} + \frac{1}{2}(2 - (1+\lambda)c) = \frac{3}{2} - \frac{(1+\lambda)c}{2}.$$

This payoff is lower than the voter-optimal benchmark payoff by $\lambda c/2$.

Again, matching funds can help. Assume again that the regulator pays $c - \gamma$ of the cost. This policy reduces the welfare loss compared to the benchmark to $\lambda\gamma/2 < \lambda c/2$.

Most papers in the literature introduce some uncertainty in the voting stage. With this addition, Prat (2002), Coate (2004), and Ashworth (2006) show that the candidate might promise so much that the voter actually *loses* from the campaign. For some intuition, consider the candidate's incentive to advertise. Without probabilistic voting, the incentive to expand transfers is limited—once the voter's cost of transfers pass 1, the probability of election changes discontinuously from 1 to 0. With probabilistic voting, by contrast,

small changes in transfers have similarly small effects on the reelection probability. In this case, candidates have an incentive to expand transfers all the way to the point where the voter is indifferent between a high quality candidate with transfers and a low quality candidate with no transfers. In such a case, the voter actually loses from the possibility of a campaign, and would be better off if contributions were banned outright—the likelihood of getting a high quality winner is no lower, and the voter escapes the cost of favors.

The key to the inefficiency here is that the voter's knowledge that ads imply favors to interest groups makes the ads less effective at ensuring a high quality candidate is elected.

Again, matching funds might be a better solution. In Coate (2004), the scale of the campaign can vary continuously. Increased spending increases the fraction of the (large) electorate that is informed. Matching funds come into play if the benefit from winning is low enough that ads are not rendered totally ineffective. In that case, a limit on contributions reduces the amount of favors, preserving the effectiveness of the ads. And the matching funds allow the scale of the campaign to be unchanged from the unregulated case.

So far, matching funds have seemed like a great policy. But they have a cost in asymmetric contests. In Ashworth (2006), the scale of campaigns is fixed (as in the barebones model above), but candidate 2 has an advantage independent of advertising. For moderate levels of the advantage, the advantaged candidate mounts a costly campaign even though the value of the information to the voter is less than the cost the voter pays ex-post. For greater values of the advantage, no campaign takes place in equilibrium—the possible increase in the voter's evaluation is too small to outweigh the promised favors. Matching funds can increase the likelihood of an active campaign in such cases, even though reducing their likelihood would be efficient.

2.3 Hard vs. soft information

The literature focuses on two mechanisms that make advertisements informative. The first is the one we have relied on above, namely, the candidate may have verifiable information, information that cannot be falsified. The second, studied by Gerber (1996), Prat (2002), and Potters, Sloof and van Winden (1997), is indirectly informative campaigns. Interest groups observe the quality of the candidates, but voters do not. If groups condition their contributions on quality, then voters can learn about quality by inverting the contribution schedule. Gerber and Prat show that equilibria with informative advertising exist, even thought the ads have no direct informational

content. As in the case with hard information, service-induced contributions imply that a ban on contributions can benefit the median voter. On the other hand, public financing would have no value with indirectly informative advertising—there's no signal if the election regulator hands out funds to everyone. Thus a nontrivial policy problem of public financing arises only with directly informative advertising.

3 Empirics

3.1 Do contributions buy favors?

Contributors' motivations played a key role in the welfare conclusions above. What do the data say about these motivations? The most direct approach to this question looks at correlations between donations from interest groups and votes that those groups care about. For example, we could regress votes in favor of increasing the minimum wage on contributions from unions. Of course, a positive correlation on its own does not discriminate between the theories—are the union contributions changing votes or do unions just contribute to exogenously union-friendly candidates? The many studies that try to disentangle these forces affecting roll-call votes find only weak evidence that contributions buy votes (Ansolabehere, de Figueiedo and Snyder, 2003). One interpretation is that contributions are position-induced rather than service-induced.

However, focusing on roll calls misses much Congressional activity (Hall, 1996). Thus researchers have also looked to more indirect evidence. For example, Gordon and Hafer (2005) find that firms making large donations are less monitored by agencies, suggesting that donations induce members of Congress to interfere in regulatory oversight. Many papers have shown that political action committees (PACs) direct their contributions in ways more consistent with service-induced motivations than with position-induced motivations (Kroszner and Stratmann, 1998; Romer and Snyder, 1994; Snyder, 1990). Perhaps the most convincing is McCarty and Rothenberg (1996), who document that individual PACs made significant shifts in donations from Democrats to Republicans after the Republicans took control of Congress in 1994, suggesting that the contributions were not ideological.

Attempts to directly estimate the impact of contributions on policy have not reached a consensus, except that the effects are smaller than public outcry might suggest (Ansolabehere, de Figueiedo and Snyder, 2003). The next subsection turns to a more theory-driven approach to evaluating the potential for welfare gains from regulation.

3.2 Spending and Election Outcomes

A substantial empirical literature has tried to estimate the effect of campaign spending on electoral outcomes. Cross-sectional analyses that do not condition on incumbent quality show that challenger spending is associated with better electoral performance, but incumbent spending is unrelated to success. (See the discussion in chapter 3 of Jacobson (2001), which summarizes the extensive empirical work initiated by Jacobson (1978).) Of course, interpreting these correlations is difficult because of an endogeneity problem—candidates spend more when they expect the race to be competitive. Several researchers have tried to deal with this endogeneity issue (Green and Kranso, 1988; Levitt, 1994; Gerber, 1998; Erikson and Palfrey, 1998, 2000). These papers all find that spending is roughly equally effective for both incumbents and challengers, but there is no consensus about the size of the effects.[2]

Prat (2000) points out that, even controlling for candidate quality, there is an identification problem in these regressions. Simply put, the functional relationship between spending and election outcomes (holding quality fixed) depends on the way funds are raised. To see this, consider the models of service-induced contributions discussed previously. In all of the models, an exogenous increase in quality has two effects. First, the candidate raises more funds and informs the voters of his high quality, which helps his electoral chances. Second, the voter infers that the funds were given in exchange for promises of favors, which hurts his electoral chances. Thus the regressions estimate "*the effect on electoral outcomes of an extra dollar of campaign spending net of the political cost of persuading lobbies to donate the extra dollar*" (Prat (2004), p. 12, emphasis in original).

In addition to providing an important critique of the standard interpretations of the empirical evidence, the prediction that the effectiveness of advertising is decreasing in the degree of service-induced contributing provides a way to test empirically for the possibility of welfare-improving policy. In particular, the theoretical models suggest that limits on contributions and (perhaps) matching funds can improve welfare precisely when campaign spending is ineffective. Thus the prediction of reduced effectiveness speaks directly to the welfare implications of the models.

Stratmann and colleagues have been leaders in testing these implications. Houser and Stratmann (2005) carry out laboratory experiments modeled after the theoretical setup of Coate (2004) and Ashworth (2006). High

[2]Looking across several of the most prominent estimates, Gerber (2004) calculates an implied cost for a House incumbent to get one additional vote ranging from $15 to $367.

quality candidates are more likely to win in a public financing treatment than in a privately financed treatment. They also find that margins of victory are greater in the public financing treatment. In a treatment with caps on contributions, they find that voter welfare goes up, but the probability of electing a high quality incumbent does not. These experiments support the theoretical predictions, suggesting that voters are capable of inferring that interest-group financed ads imply that the candidate has promised favors.

Stratmann (2006) exploits state-level variation in campaign finance laws to see if the theoretical predictions hold up in field data. He first estimates standard vote-share/spending regressions for each state's House elections. He then examines the relationship between the effectiveness of spending and the existence of limits on contributions. As predicted by the theory, he finds that effectiveness is lower when campaign finance regulations are more liberal. These results hold for all of incumbents, challengers, and open-seat candidates. Stratmann and Aparicio-Castillo (2006) show that states that limit giving subsequently have lower incumbent vote shares. This finding is consistent with Baron's (1989) and Ashworth's (2006) theoretical finding that the financing process can exaggerate incumbency advantages.

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