Chapter 1
Is Voting Rational or Instrumental?

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Abstract A fully rational choice approach to politics does not closely resemble modern models of voting behavior that purport to be applications of the economists analysis of rationality to the political sector. For these models do not build voting choices on the fragility of preferences about how to vote, which we show to be a basic implication of the voters paradox. Building a simple model on the fragility of preferences about how to vote delivers an number of different and realistic implications for the demand for public policies and political candidates, the supply of public policies and political candidates, and, ultimately, the determinants of public policy. The model explains why so many studies have found voters not voting in their (narrowly defined) self-interest, why minorities are not exploited under majoritarian voting, why interest groups have an important influence on public policy, why public decisions are so weakly correlated with voting rules, and why conformity is more common in political than private life.

1.1 Is Instrumental Voting Rational?

The modern political economics literature is dominated by voting models, where participants are alleged to be rational in the sense that they vote according to the election outcome that would give them greatest utility, and they are forward looking. For example, 22 studies of public decision-making1 were published in the *American Economic Review* during the 5 years prior to writing this paper.[1] Thirteen (59 %) studies modeled the process with each voter individually voting for the policy serving his self-interest. Another eight (for a total of 95 %) modeled voters voting in their

[1] Those published during the years 1994–98, assigned *Journal of Economic Literature* classification "Economic Models of Political Processes," and had a model of the political process.

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self-interest as groups. The remaining article had social planners making public decisions.[2]

Models of instrumental voting have had a number of implications, but have so far weak empirical support. Examples include Meltzer and Richard's (1981) prediction that more skewed (and probably more unequal) income distributions lead to more government redistribution while Peltzman (1980), Benabou (1996), and many others have found little (or wrong!) cross-country and time-series correlations of inequality and the size of government. Or, as another example, instrumental voting models predict policy outcomes to be highly sensitive to the rules of the voting game, and that cycling and other odd behavior may result from an electoral process.[3] One implication of such results is that different policies ought to be adopted by democratic and nondemocratic governments because by definition one is influenced by a voting game and the other is not, yet little empirical difference is found between these two governments in, say, social security spending in cross-country and time-series studies once one or two basic economic or demographic variables are held constant.[4] Brennan and Hamlin (1998) suggest that, in instrumental voting models, voter turnout ought to be lowest among those with preferences near the center because they have the least at stake in the election.

Like Brennan and Hamlin, we believe that voting theories have utilized models of rationality developed for the market sector that are inappropriate for political behavior. As a result, we contend many of the results obtained are fragile and of modest use in understanding political choices. This may explain why formal public choice theory has far outstripped empirical relevance.

It is well known that it unreasonable to expect that a single voter in a majoritarian election with more than a few voters would affect the outcome. This has led to a puzzle about why so many people vote in elections. It is less often recognized (Brennan and Lomasky 1983 and Caplan 2001 are some exceptions) that it would be just as puzzling if, given that someone decided to cast a vote, that he cast the vote in his personal self-interest in the same way he would make purchasing decision in the marketplace. We show how this reasoning has implications for the demand for public policies and political candidates, the supply of public policies and political candidates, and, ultimately, the determinants of public policy.

To show the contrast between political and market behavior, consider a stripped down version of utility maximization in the market sector. Suppose utility of the representative person i depends on the consumption of one unit of goods X or Y, and advertising for or against X:

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[2] *Public Choice* had a similar distribution for the four years 1995–98; 77 % individual voting in self-interest, 17 % interest group models, and 6 % social planner models.

[3] (Myerson 1995, p. 79ff) shows how political strategies are sensitive to the rules of the voting game in instrumental voting models. He also suggests on p. 77 that different political strategies would be associated with different *policy* outcomes, but he does not offer a declaration of this point.

[4] Eg., (Easterly and Rebelo 1993, p. 436), Lindert (1994), Pampel and Williamson (1989, p. 102), and Jackman (1975).

$$U(X, Y, A_x, A_y)$$
$$\text{where } \frac{d^2U}{dXdA_y} \equiv U_X A_y < 0, U_X A_x > 0,$$
$$\text{and } U_X \gg U_Y \, for \, A_X = A_Y = 0 \tag{1.1}$$

A persona can get either X or Y by buying them, so there is a market production function

$$X = B(X), \tag{1.2}$$

where B is the purchase function. We could add $B(X)$ to the utility function to get

$$U(X, Y, B(X), A_x, A_y). \tag{1.3}$$

It is important that buying X is necessary and sufficient for consuming X. Hence, while buying and consuming X can be different sources of utility, they are linked together (according to the function B). But economists usually assume the act of purchase does not itself have utility, so the inclusion of B in the utility function is ignored (or implicitly absorbed into the parts of U relevant to X).

If the cost of X and Y are the same and the $A's = 0$, i buys X because i gets so much more utility from X than from Y. An increase in A_y would reduce i's relative valuation of X, but for i to buy Y, the advertising for Y must be sufficiently powerful to overcome i's tendency to get much more utility from X than from Y.[5]

The typical political choice argument sets up a similar function to Eq. (1.1), but usually assumes that $A_x = A_y = 0$. Then if i gets more utility from X, the assumption is that i votes for candidates who offer X either prospectively or in the past (see, e.g., Persson and Tabellini 1999). If one candidate proposes X and the other Y, and with majority rule, which candidate wins depends on whether the majority of voters prefers X or Y.

Of course, it is recognized that the political process differs from the market because of the collective choice in political decisions. It has also been recognized for centuries that it does not pay in any instrumental way for people to vote because one voter's influence over the outcome of a large election is likely to be negligible. Still, it is almost always assumed that given that a person does vote, he votes for the policy that maximizes his utility in Eq. (1.1), given the negligible values of A assumed.

1.2 A Model of Rational Voting

To model the voting process, we replace the market utility function in (1.3) with the political utility function:

[5]The utility function (1.3) can easily include "random" components to reflect that advertising has an uncertain effect on a person's preferences.

$$U(X, Y, V\{X \text{ or } Y\}, A_x, A_y). \tag{1.4}$$

where V refers to whether i votes for a candidate who will implement X or Y. We still assume that i intrinsically prefers X to Y, but now the voting process V replaces the buying process B. In this context, we define "advertising" is a broad sense including, but not limited to, television and other media designed by political candidates to affect voter preferences. Other relevant examples and media supplied groups (other than the candidates themselves) who have an interest in policy outcomes, conversations among friends, teaching of children, etc.

In the marketplace, the purchase of an object usually leads to the consumption of that object, but in voting there is only a negligible connection between how one votes and political outcomes. The *voting process* becomes of primary relevance here, "... voting is not merely an instrumental exercise designed to raise the probability of victory for the preferred outcome; voting also affords the individual direct consumption benefits. Returns accrued to a vote independently of the effect on political outcomes." (Brennan and Lomasky 1983, p. 188).[6]

Suppose we assume that i feels better by voting for X rather than Y when i intrinsically prefers X to Y. It might be that the preference for consuming X over Y is not sensitive to advertising because the intrinsic utility provided by X greatly exceeds that provided by Y. In the marketplace, people influenced by advertising must pay by getting goods they do not intrinsically value as highly. Political advertising by proponents of Y need not change *i's* feelings about the utility he gets from X relative to Y, but only the utility he gets from voting for Y rather than X. This utility is likely to be quite sensitive to advertising because voting for X or Y has no consequences for whether i actually gets X or Y through the political process.

U_v, the marginal utility of voting for X, is assumed to be positive when political advertising is negligible. But our discussion implies that U_v is very sensitive to spending by relevant interest groups, so that in particular $U_V A_y$ is sizeable and negative. Similarly, $U_V A_x$ is sizeable and positive. That is, rational choice theory suggests, although does not prove, that these cross derivatives with respect to voting and political advertising are much larger than the corresponding cross derivates in the marketplace between advertising by X and Y, and the utilities from consuming X or Y.

If U_v is small, and if the cross derivatives with respect to political advertising are large, then political contests would be decided not by the distribution of preferences for X and Y in the voting population- the usual assumption in voting theories. Rather, they would be decided by the distribution of preferences to vote for X and Y, inclusive of the powerful effects of political advertising to change votes toward or away from candidates promising X.

That is, a fully rational choice approach to politics does not closely resemble modern models of voting behavior that purport to be applications of the economists analysis of rationality to the political sector. For these models do not build voting

[6]Brennan and Lomasky (1983) also demonstrate the difference between the market buying process and the voting process with some simple numerical examples.

choices on the fragility of preferences about how to vote, which is a basic implication of the insight that individual votes have a negligible influence over political outcomes.

A rational approach to political voting would emphasize that the spending of time, money, and energy by interest groups and politicians on influencing how people vote, not on influencing their underlying preferences, has a decisive influence on votes and political outcomes, almost regardless of the distribution of underlying preferences for different policies.

Political battles then become a battle between the spending by different interest groups and political alliances, as represented in our analysis by A_x and A_y. Voting can be treated as functions of these spendings, and would to a first approximation be the number of votes for X would be rising in A_x and falling in A_y, and presumably votes would be sensitive to these expenditures.

Schumpeter (1942, p. 262) Downs (1957), and more recently Citrin and Green (1990) have emphasized another difference between market and political environments decisions are more complicated and less tangible in the latter and deduce that self-interested behavior should be much more common in the market environment. Our approach has a similar flavor, but emphasizes the different constraints faced by individuals in the two environments, rather than the different computational problems encountered.

1.3 Other "Demand Side" Implications of Rational Voting

1.3.1 An Individual Does Not Typically Vote in His Self-interest

There is a lot of evidence that individuals often do not vote for the policies serving their self-interest. (Brennan and Lomasky 1983, p. 188) "...given [voter] turnouts, we cannot explain the direction of individuals votes in terms of bringing about a personally profitable outcome."

For example, micro studies of attitudes and votes on policy proposals to racially integrate schools by busing children from one neighborhood to another have found little correlation between a white persons vote and his having children in school or having children who would be affected by the policy proposal (Sears et al. 1979; Citrin and Green 1990). The youths most opposed to the Vietnam War were females and draft deferred men, who presumably had the least self-interest (Sears et al. 1979, p. 370). Little correlation has been found between opposition to the Vietnam war and having friends or relatives in the military at the time (Sears and Funk 1991). Aggregate votes for the incumbent president tend to be correlated with aggregate economic performance (see studies surveyed by Sears and Funk (1991, p. 17)), which seems to be consistent with self-interest. However, there is little micro correlation between incumbent votes and recent income growth (Sears and Funk 1991). There are number of studies around the world showing that opposition to national taxes is only

weakly correlated with taxes paid (see studies surveyed by Sears and Funk (1991, p. 34ff)). Women working, desiring further schooling, or divorced were not particularly opposed to the Human Life Amendment (see studies surveyed by Sears and Funk (1991, p. 39ff)). Those receiving public services in California and Massachusetts were not particularly opposed to Californias Proposition 13 and Massachusetts Proposition 2 1/2, respectively.[7]

Because a husband and his wife are similar to each other in many ways and are economically interdependent, one expects a husband and his wife to have a great deal in common regarding the public policies they perceive to be in their self-interest. However, empirical studies of voting by husbands and wives have found little correlation between the way a husband and his wife votes, which suggests that at least one of them often votes other than his or her self-interest.

This is not to say that one cannot find evidence consistent with a tendency toward instrumental voting in some instances. It has been shown, for example, that lower income and working-class voters tend to favor left-wing parties (Citrin and Green 1990, p. 5). Poor smokers tend to oppose cigarette taxes the most (Citrin and Green 1990, p. 19). Homeowners tended to support and public employees tended to oppose Californias Proposition 13 and Massachusetts Proposition 2 1/2 (Sears and Funk 1991). One study of busing policy did find the whites most affected by the policy to be opposed. It should also be noted that many of the empirical tests rejecting self-interest are conducted by political scientists who have less stake in the defending the hypothesis. Many economists would also question some of the measures of self-interest used in the literature because tax incidence theory sometimes predicts that winners and losers from policy can be very different from those who receive more government benefits and those who pay more taxes, respectively. Many of the studies also ignore the possibility that Tiebout-style sorting may cause those most affected by policy to be different from those less affected. Nevertheless, the hypothesis that a great deal of voting is not in the voters self-interest is a very difficult one to reject.

1.3.2 Personal Costs and Benefits Matter

Empirical studies have found election turnout can be fairly well predicted by proxies for the costs and benefits of voting. For example, poll taxes and bad weather are associated with low voter turnout. But such a finding is not a defense of the allegedly rational approach to voting, because our approach also predicts that personal costs of voting will discourage such behavior. Here the analogue with market behavior is much better because a persons act of voting requires his payment of these costs. In contrast, the link between the policy or politician for whom he votes and the election outcome-related costs he pays is negligible.

[7] See studies surveyed by Sears and Funk (1991, p. 34ff). Propositions 13 and 2 1/2 were proposals to cap or cut some important sources of state revenue.

Close elections are associated with higher voter turnouts. This finding is qualitatively consistent with the allegedly rational approach, because a persons vote is much more likely to be decisive when the election is anticipated to be close. But our approach is consistent with high turnout in close elections, as long as political advertising, conformity, and the other forces affecting how a person casts his vote are more intense in close elections.[8]

One tougher test of the instrumental approach is quantitative. Because the probably of a decisive vote (in a majoritarian election with candidates) is proportional to $e^{-2(N-1)q^2}$, where N is the number of voters and q is a measure of closeness of the election (the expected gap between the elections outcome and 50 %), the expected benefit is more than exponentially related to closeness. Furthermore, the effect of closeness on expected benefit depends on the number of voters. The instrumental approach therefore predicts voter turnout to be more than exponentially related to closeness and for the marginal effect of closeness to decrease with size of the election, unless the "demand" for voting were also more than exponentially related to the expected benefit so as to "undo" the exponential and interactive relationships between expected benefit, closeness, and election size a quantitative relationship between behavior and price which is rarely seen in market behavior. There are other tougher tests of the instrumental voting models predictions for turnout and closeness. For example, third-party turnout should decline when there is a close race between the two favored candidates.

1.4 "Supply Side" Implications of Rational Voting

1.4.1 Candidates Matter as Much as Policy

We also expect votes to be determined by personal characteristics of the candidates in addition to the policies those candidates advocate.

1.4.2 Information or Misinformation?

Advertising can have an informative role in the market sector, but do we expect the same in the political sector? Our approach suggests that the primary role of political advertising will not be to inform voters of the consequences of policies, because any single vote has practically no affect on policy. Rather we expect the "information" in political advertising to pertain to the character of candidates, and other issues only weakly related to the consequences of policies because the purpose of the advertising

[8] We discuss below the (unsurprising) prediction that political advertising will be more intense in a close election.

is to affect a voters preference for casting his vote in one way or another, not to affect his policy evaluation in one way or another.

Voters certainly have less incentive to verify information provided to them in political advertisements than that provided to them in market sector advertisements, which suggest that misinformation should be more common in political advertising than in market sector advertising. Competition is a force in the political sector as it is in the market sector (Wittman 1995 emphasizes this similarity); not all political information will be misinformation as long as there is the potential for competition in the provision of information.

1.4.3 Supply in Close Races

For the same reason that the instrumental benefits of voting are highest for close elections, the benefits of political advertising are highest in close elections.[9] Cox and Munger (1989) show that, for 1982 U.S. House elections, closeness, turnout, and political campaign expenditures are positively correlated. They suggest that the causality is, at least in part, from closeness to expenditures and from expenditures to turnout. Matsusaka and Palda (1993) adds some additional evidence, showing how closeness and turnout are correlated for congressional elections, but not for California ballot propositions for which national party advertising is not particularly stimulated by closeness.

The number of voters may be a much less important determinant of the benefits of political advertising than it is a determinant of an individuals instrumental benefits of voting. The number of advertisers is the more relevant determinant. Advertising can have a large effect in an election with many voters if there were, say, only two candidates and one advertiser for each the advertising need only change the votes of a few of the marginal voters.[10]

1.5 Equilibrium Implications of Rational Voting

Instrumental and rational voting have different implications for how people vote, and the actions taken by groups to affect votes.

[9] A similar point is made by (Aldrich 1993, pp. 267–268), although he does not call it "advertising."

[10] With two candidates and more than two advertisers, each advertiser much take into account not only the reaction of advertisers of the opposing candidate, but advertisers of the same persuasion who might free ride.

1.5.1 Groups Act in Group Interest

The typical interest group is only a small fraction of the electorate so, by the same argument, can we conclude that groups do not try to sway votes toward their preferred outcome? Perhaps, as compared to individuals, groups are even less likely to act in their members interest because of free-riding within the group (Olson (1971) makes this argument), but we believe that rational voting implies that group-sponsored advertising will dominate individual self-interest as a determinant of public decisions. First of all, it is easier for a group to combat free riding of political contributions as opposed to votes. Monetary contributions are easier than votes to monitor (especially when voting is by secret ballot). Monetary contributions can also be unequally distributed among members so that group decisions weight members intensity of preference. Second, political advertising may be one means by which a group coordinates the votes of its members and helps to alleviate the free rider problem. In other words, political advertising serves the dual purpose of swaying the votes of nonmembers and to encourage members to spend resources and their votes in the groups interest. And, as we derive below from our model, groups are in a sense more willing to "pay" for votes than are individuals.

Hence, we predict that it is much less likely for political advertising sponsored by a group to go against group interest than it is for an individual to vote against his self-interest. For example, we expect a larger fraction of old age interest groups (such as the American Association of Retired Persons, or Senior Citizens Council) to favor social security increases than the fraction of elderly who would favor such increases. We also expect the successful groups to not only enjoy a relatively high fraction of members voting for policies preferred by the group, but also a relatively high fraction of nonmembers voting in the groups interest too. This is the spirit of the approach taken by interest group models of the type developed by Peltzman (1976), Becker (1983, 1985), Becker and Mulligan (2003), Mulligan and Sala-i Martin (1999), and others. They assume that some voters form groups and that the groups act in the interests of the group.

We suggest that rationality and the negligible effect of an individuals vote on electoral outcomes imply that groups are more likely to act in the groups interest than an individual is to act in his self-interest![11] This is an important difference from market behavior, where as Olson (1971) convincingly argues where each individual communicates his own self-interest.

[11] Sometimes the "wasted vote" argument is explicitly used by advertisers to sway votes to induce individuals to deviate from the "preferred" vote. (Aldrich 1993, p. 270) cites an example from the 1980 Presidential election, "the two parties, their nominees, and interest groups, therefore, make the argument publicly that a vote for a third-party candidate will be wasted. Resources were systematically devoted to convincing people that 'a vote for Anderson is a vote for Reagan,' as Carter put it....".

1.5.2 Political Advertising and Democracy

We do not expect political advertising to be unimportant in non-democracies. By definition, voting is less important in a non-democracy, but the free riding just takes another form namely, resistance or revolution against the political party in power. Just as an individuals vote has a negligible effect on the outcome of an election, an individuals participation in a revolution has a negligible effect on the success of the revolution. We expect political advertising to be just as important in a non-democracy although, while political advertising tries to influence votes in a democracy, we expect political advertising to influence willingness to participate in a revolution.

A corollary to the importance of advertising in public decisions is that image is important in politics. A good politician is as important for political success as a good policy, and this is likely to be the case in both democracies and nondemocracies.

1.6 Conclusions

Approaches that stress competition between political spending are out of step with the most common approaches to voting and political choices. However, an analysis where outcomes are dominated by political spending rather than by intrinsic preferences does seem to be the right way to implement rational voting when political decisions are determined by collective choices.

Of course, whether or not we think instrumental voting is the "right assumption" is hardly relevant. The much more important criteria is whether instrumental voting can predict which policies governments adopt and which they do not, as compared to other theories of public decision-making. We have suggested a number of areas in which our "rational" approach substantially improves upon the predictive power of the instrumental-voter approach, but there is room for a lot more research in this area.

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