CHAPTER 7

# The voting decision and collective action

> When bad men combine, the good must associate; else they will fall one by one, an unpitied sacrifice in a contemptible struggle.
>
> (Edmund Burke, *Thoughts on the Cause of the Present Discontents,* April 23, 1770)

Not everyone votes. In some elections, almost nobody votes. County and city officials in the United States are elected by less than 20% of the eligible electorate. Bond referenda are voted on by 10% or less of those legally entitled to vote. In October 1973, Pinellas County, Florida, had an election, but nobody came! Here is an excerpt from a newspaper account the following day:[1]

> Not even the three candidates on the ballot Tuesday bothered to vote in the countywide election for the Pinellas County Soil Conservation District board of supervisors. In fact, no one seemed to know anything about the election except the man who put it on, said Art Day, district conservationist. . . . Under the law, the board conducts its own elections. The only problem is it doesn't have any money for voting machines, clerks, and publicity. . . . "My total budget is $28, and I need more stationery!" Day said. . . . Day placed legal advertisements about the election in [local newspapers], but even the board's chairman, Wendell Salls, didn't know the election was being held. "I missed the last meeting," he said. Day said he will have to write the state office to find out what to do next. In the last election two years ago three people turned out. (Helen Huntley, *St. Petersburg Times,* November 18, 1973).

Perhaps people don't vote because their vote doesn't matter. At least, one vote doesn't affect the outcome of most elections. Of course, in the "election" in Pinellas County, *any vote would have mattered* because it would have decided the entire election. On the other hand, lots of people do vote. Some of them even seem to enjoy it or think it is important. In any case, voting is how we decide things, like how much to spend on new schools and who will represent us in public offices. What is the right way to think about voting at the mass level?

In this chapter, we will consider the implications of formal models for participation in the political process. There are several problems

with making useful predictions about voter turnout and citizen participation, so it is worthwhile to reprise the set of questions we are investigating. There are three main sets of questions that concern analytical political theorists:

*Question 1:* Why are citizens presented with the alternatives they see on a ballot or referendum and not some others?

*Question 2:* Given the choices presented, (a) why do citizens vote or participate in politics at all, and (b) why do they make the choices they make?

*Question 3:* Are the results good, in an ethical or normative sense, for the society?

So far in this book, we have worked a little bit on Questions 1 and 3, but we have made only the simplest assumptions about Question 2. Most important, we have assumed that all "voters" vote, and have constructed our models under the conjecture that spatial "distance" determines each voter's choice. What does the spatial model have to say about turnout, or the decision of citizens to become voters?

As was noted in Chapter 2, the decision of the society to enfranchise only part of the potential electorate is a fundamental one. Enfranchisement might be restricted based on age, sex, ethnicity, moral worth, or other more complicated characteristics such as ownership of property. Enfranchisement in the United States has been steadily expanded from the creation of the Republic, as Table 7.1 shows.

Thus, with some fits and starts (it took from 1871 to 1965 to enfranchise African-Americans, though reading the XVth Amendment would make it seem the events of 1871 should have been enough), the size of the American electorate was dramatically expanded. Beginning with white males over twenty-one, the electorate has grown to include nearly all citizens over eighteen who are not in jail or mentally incompetent.[2]

However, as Table 7.2 shows, turnout in the United States is still low compared with other democracies. Part of the reason may be that the franchise in the United States is universal and the population is large, so people feel their vote doesn't "count." That can't be the whole story, however. After all, the comparison in Table 7.2 is based on national elections, where turnout is highest. Turnout is even *lower* for local elections and bond referenda, as we discussed above, and that is where individual votes have the greatest impact on the outcome.

Table 7.1. *Enfranchisement in the United States*

| Year | Event | Enfranchisement of citizens |
|---|---|---|
| (Early) | Design of Republic | Considered restricting to white male property owners. |
| 1781 | U.S. Constitution | Requirements left to states; mostly white males over twenty-one years old, not convicted of any crimes. |
| 1870 | XVth Amendment | Right to vote cannot be restricted by states based on race, color, or previous condition of servitude. (*Followed XIVth Amendment, making all residents citizens, regardless of state law*). African-Americans effectively enfranchised in the North, and in the South during the period of Reconstruction (1867–77). However, after the end of Reconstruction, "Jim Crow" laws significantly encroached on the effective enfranchisement of black citizens, in some states making it impossible for them to vote. |
| 1913 | XVIIth Amendment | U.S. senators popularly elected for first time. |
| 1920 | XIXth Amendment | Right to vote extended to women, subject to same other state restrictions as men. (*Note: several states had already enfranchised women, through their own constitutions.*) |
| 1962 | XXIIIth Amendment | Right to vote in U.S. presidential elections extended to citizens of the District of Columbia. |
| 1964 | XXIVth Amendment | State "poll" taxes charged as a condition on voting in federal elections are outlawed. Harassing tactics had been used primarily by southern states to exclude African-Americans from voting. |
| 1965 | Voting Rights Act | Law passed by U.S. Congress to enforce the XXIVth Amendment. States were prohibited from using poll taxes, literacy tests, or other impediments that deny minorities voting rights. Also, federal examiners determined where discrimination had been practiced, and federal marshals enforced the law of no restrictions. |
| 1971 | XXVIth Amendment | Minimum voting age lowered to eighteen years, regardless of state law. |

What does the classical spatial model say about the voting decision? To analyze voting, we have to recognize that the voting decision itself is only the last in a series of decisions, or reactions to costs and constraints, by the citizen. To see this, consider the results of Fort (1995), who elaborates and tests a "sequential barriers" model of turnout sug-

Table 7.2. *Voter turnout in fifteen democracies*

| | |
|---|---|
| High-turnout countries<br>(Average more than 80% of eligible age groups) | Australia<br>Belgium<br>Germany<br>Italy<br>Netherlands<br>Sweden |
| Moderate-turnout countries<br>(Average between 65% and 75% of eligible age groups) | Canada<br>France<br>Ireland<br>Japan<br>United Kingdom |
| Low-turnout countries<br>(Average less than 60% of eligible age groups) | India<br>Turkey<br>Switzerland<br>United States |

*Note:* Figures on which the table is based are for national legislative elections, unless there is a president (as opposed to parliamentary) system of government. If there is a strong president, figures are for that office. The original data generally are taken from elections occurring in the period 1960–75. The authors updated the long-term averages using country-specific sources.
*Source:* Adapted from G. Bingham Powell, Jr., "Voting Turnout in Thirty Democracies: Partisan, Legal, and Socio-Economic Influences," Table 3-1, p. 35. In R. Niemi and H. Weisberg, *Controversies in Voting Behavior,* 2nd ed., pp. 34–53. Washington, DC: CQ Press, 1984.

gested by Cox and Munger (1989, 1991). The point is that the "participation rate" of voters in any given election $j$ is *definitionally* the product of four ratios:

$$\frac{\text{Vote}_j}{\text{Population}} \equiv \underbrace{\frac{\text{Enfranchised}}{\text{Population}}}_{(1)} \times \underbrace{\frac{\text{Registered}}{\text{Enfranchised}}}_{(2)} \times \underbrace{\frac{\text{Enter booth}}{\text{Registered}}}_{(3)} \times \underbrace{\frac{\text{Vote}_j}{\text{Enter booth}}}_{(4)} \tag{7.1}$$

In words, for a citizen to vote in election $j$, (1) the citizen is part of the population enfranchised by the laws and practices of the society, (2) the enfranchised citizen has chosen to register, (3) the registered citizen has

chosen to enter the voting booth, and (4) the citizen in the voting booth has chosen to cast a vote in election *j*. The ≡ sign means "equals by definition." We use it here because each of the intervening steps (enfranchisement, registration, entering booth) occurs in both the numerator and denominator, so they cancel in the product.

Though they cancel out in the *definition,* each of the intervening steps affects the observed turnout rate, of course. Attempts to analyze turnout empirically in any one election must account for all of the choices the citizen makes or has made for her by the rules of her nation, state, or city. For example, if the political jurisdiction that makes voting rules restricts enfranchisement by race, gender, age, or income, then ratio (1) in Equation (7.1) may be small. If registration is expensive, time-consuming, or complicated and intimidating, ratio (2) may be small. Finally, there is an important interaction between ratios (3) and (4): The number of registered people who vote may depend on how groups of elections are packaged. If elections are held separately, it may be that few people vote (ratio (3) will be small), but that everyone who enters the booth casts a vote in election *j* (ratio (4) would be near 1.00).

We started this chapter with an example, where "they had an election, but nobody came." That election, for the Pinellas County Soil Conservation District board of supervisors, was the only race on the ballot. For that race, ratio (3) was 0.0, and ratio (4) was undefined (0/0). Suppose this election had been held on the same day as a United States presidential election, with the same candidates for Soil District board appearing at the bottom of the ballot. Ratio (3) may have been as large as 0.5 or 0.6, as people turned out to vote in the presidential election. Ratio (4), however, might have been as large as 1.0 or as small as 0.0. Even if they are in the booth, voters may have gotten bored or simply felt ignorant: "Just what the heck is a Soil District, anyway?" This phenomenon of abstaining from obscure races, often listed at the bottom of the ballot, is called "roll-off" (Burnham, 1965). Roll-off may occur because voters are tired, apathetic, or uncertain.

Having "analyzed" voter participation (breaking it up into components), we see that several different explanations are required to understand the process. The task of explaining variation in ratio (1) (legal enfranchisement) across countries is interesting, but quite beyond our scope. Explaining variation in ratio (2) (registration) across nations or U.S. states is an interesting policy question, but the decision whether to

register is clearly a different decision from deciding whether to vote (though, as Erikson, 1981, points out, registration may be the more important decision overall).[3]

If we are to analyze the voting decision, we must restrict our attention to ratios (3) and (4). The simplest case, which we will pursue, is to assume that the race in question is the only one on the ballot. The reason is not that most elections actually look like this (they don't; ballots are often quite long). We already *know* that multiple elections have complicated effects (Cox and Munger, 1989; Fort, 1995; Hamilton and Ladd, 1996). By considering a single race and a single decision on whether to go to the polls and vote, we isolate the logic of the citizen's choice. In the next section, we discuss the two major reasons the classical model gives for abstention: indifference and alienation.

## The classical model: Indifference and alienation

We have assumed, in earlier chapters, that all citizens vote. This is a very limiting assumption if the goal is to understand or predict real-world events. There are at least two circumstances where enfranchised citizens might not choose to vote in an election. One of these is *indifference,* or the perception that there are no important differences (in terms of citizens' welfare) among the alternatives presented on the ballot. The other is *alienation,* or a voter's sense that the issue positions of the candidates are far removed from what she cares about. One candidate may be closer, but all candidates are outside the range of policy alternatives where the voter has any interest in participating.

The classical spatial model can handle either indifference or alienation.[4] To understand the meaning of, and distinction between, the concepts, it is useful to portray indifference and alienation graphically.

In Figure 7.1, panel (a) depicts a single voter's ideal point $\mathbf{x}_i$ and two sets of positions for candidates A and B. Notice that the voter is indifferent between $\mathbf{x}'_A$ and $\mathbf{x}'_B$. She is also indifferent between the much closer $\mathbf{x}''_A$ and $\mathbf{x}''_B$. Of course, if the candidate positions were $\mathbf{x}'_A$ and $\mathbf{x}''_B$, the voter would choose candidate B. But paired as the platforms are, she finds herself indifferent in each case, though at two very different levels of utility.

Panel (b) gives the analogous diagram for alienation. If the race is between $\mathbf{x}''_A$ and $\mathbf{x}''_B$, the voter will cast her vote for candidate A. But if

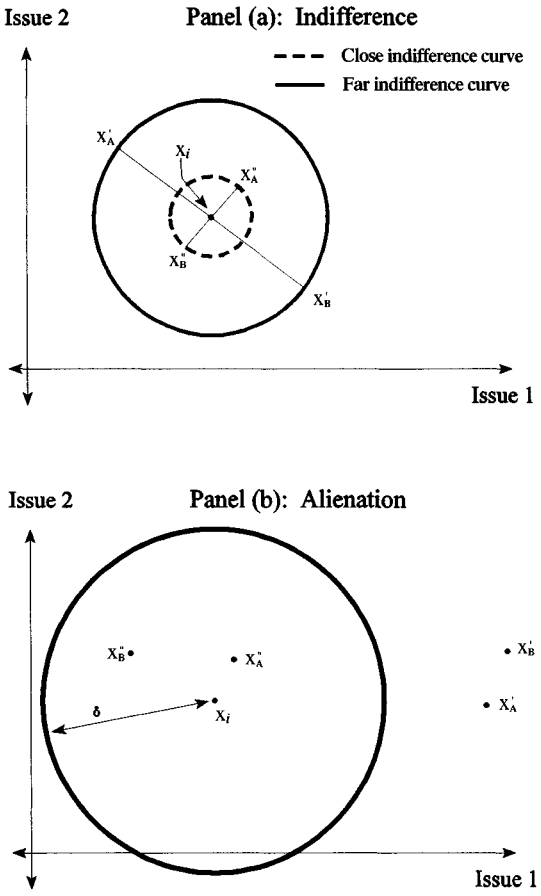


Figure 7.1. Indifference and alienation as explanations for abstention.

the race is between $\mathbf{x}'_A$ and $\mathbf{x}'_B$, both alternatives are so far away that the voter sees no point in participating. It doesn't matter which is relatively closer; both are too far, in an absolute sense, for the voter to care about the election. More precisely, abstention from alienation requires that beyond some threshold distance (defined here as δ) the voter loses interest in the election. She may perceive herself as lacking efficacy because she is so distant from the campaign she hears about in the media. More

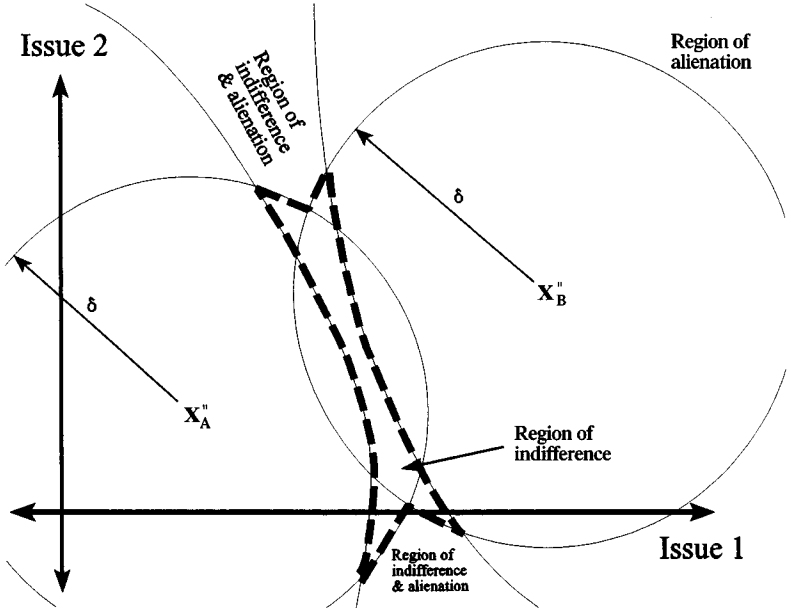


Figure 7.2. Integrated indifference–alienation example.

formally, the voter is alienated if *no candidate p* has a platform $\mathbf{x}_p$ such that $\text{WED}(\mathbf{x}_p, \mathbf{x}_i) \leq \delta$.

Enelow and Hinich (1984b) present an integrated two-dimensional example, corrected slightly by Hinich and Munger (1994). This figure is adapted in Figure 7.2. The best way to understand the information in Figure 7.2 is to focus on two arbitrary candidate positions, $\mathbf{x}_A$ and $\mathbf{x}_B$. We will not specify where voters are, but will identify the ideal point locations where, given $\mathbf{x}_A$ and $\mathbf{x}_B$, a citizen will abstain out of alienation, indifference, or both.

A citizen whose ideal point is more than δ (the radius of the circles in Figure 7.2) away from both candidates abstains out of *alienation.*[5] If (not as we have drawn Figure 7.2) the two circles with radius δ do not overlap, citizens between the two circles abstain out of alienation. This observation gives rise to an interesting prediction about alienation of the center in extemely polarized systems: If the parties are too extreme,

then voters in the middle may abstain because they feel no connection with either party.

If, but only if, the candidates are close enough so that the two circles overlap, there may also be a group of citizens who abstain out of *indifference.* This group need not be depicted as a narrow line, but (as we present it here) can be a region with nontrivial area, provided an "almost" indifferent citizen does not vote. A wide indifference region might arise because a small (though nonzero) difference between the candidates is not enough to offset her costs of voting.[6] For example, suppose that a voter prefers candidate A to candidate B, but only by a small amount. If the costs of voting are negligible, the voter may go cast a ballot for A. If the costs of voting are significant, however, the almost indifferent voter does not vote.

This effect is observed in actual elections in at least two ways. First, polities have widely varying rules governing the number of polling places and how long the polls stay open. If the polls open late and close early, many "almost indifferent" voters won't make it to the precinct.[7] Second, the weather on the day of the election may determine turnout. If it rains, the almost indifferent voter stays home.[8] If it snows, she laughs at the very idea of going to the polls. However, if she prefers A to B by a wide margin, she will brave storm or snow to cast her ballot. Consequently, the impact of bad weather is not random, because it drives down turnout from voters in the middle.

The classical spatial model's depiction of the decision to abstain is useful, because it identifies circumstances when citizens are less likely to vote from the perspective of a particular election. Since turnout varies across elections, it is important that we can identify variables (such as voter perceptions of candidate locations) that differentiate elections. The problem with the classical model, however, is that it is deterministic and does not allow for the possibility that voters consider what other voters will do before deciding whether to abstain.[9] In the next section, we consider this problem, which has been called the "paradox of not voting."

## Voting is a collective action problem

We said earlier that no one's vote matters, and in a sense that is true: Mass elections are almost never decided by a single vote. But suppose

a group of voters all agree on who would be the best candidate. If that group can induce its supporters to go to the polls, then all members of the group benefit because their candidate wins. On the other hand, any one voter might prefer to stay home and let everyone else ensure that the "right" candidate wins.

This conflict between what is good for the individual and what is good for the group is common in analytical politics. The problem is called the "free rider" problem and is most widely associated with the work of Mancur Olson, particularly in the *Logic of Collective Action* (1965). Olson claims that the key to success in providing collective goods is to induce people to contribute to the creation of collective benefits. "Free riders" are people who enjoy collective benefits provided by the efforts of someone else, without contributing any effort or resources themselves. Olson makes the free-rider argument explicitly for voters:

> Though most people feel they would be better off if their party were in power, they recognize that if their party is going to win, *it will as likely win without them, and they will get the benefits in any case.* . . . The point is that the average person will not be willing to make a significant sacrifice for the party he favors, since a victory for his party provides a collective good. (1965, pp. 163–4; emphasis added)

To analyze turnout as a collective action problem, we need to consider the "Downsian" model of voting, from Downs (1957). This model was elaborated by Riker and Ordeshook (1968).[10] According to this model, an individual will vote if and only if:

$$P \times NCD + D \geq C \tag{7.2}$$

where, for each voter:

$P$ = The probability that this individual's vote will affect the outcome of the majority rule election.

$NCD$ = Perceived net benefits of one candidate over another in the eyes of the individual ("net candidate differential" in Downs's parlance). If there are two candidates A and B, then the $NCD$ is $|x_i - x_A| - |x_i - x_B|$. If $NCD > 0$, B is closer to $x_i$. If $NCD < 0$, A is closer.

$D$ = The individual's sense of civic duty. This is the utility derived from voting, regardless of the outcome.

$C$ = The costs associated (at the margin) with the act of voting,

including the opportunity cost of time spent, chance of inclement weather, and so on.

The logic of this model is cost–benefit analysis: If the (expected) returns exceed the costs, the citizen becomes a voter and casts a vote for the candidate he most prefers. Otherwise, he abstains. But notice how complex the model truly is. The decision of *whether* to vote is made simultaneously with the choice of *for whom.* Imagine that the duty term is negligible ($D \approx 0$). Then the citizen votes if and only if $P \times NCD > C$. We know that $C > 0$, because voting entails some identifiable costs, including time spent traveling to the polls and waiting in line, and filling out registration forms. This leads us to predict that $P \times NCD >>> 0$ is a *necessary condition* for voting.

To put it another way, if either $P$ or $NCD$ is zero, the simple Downsian model predicts abstention. The $P$ term is the individual's belief (in probability terms) that her vote will transform a loss into a tie, or a tie into a victory, for her preferred candidate. If an individual knows how all the others will vote, she knows the outcome: $P$ is either 1 (her vote changes the outcome) or 0 (it won't). Such a perfect information outcome is highly unrealistic, even in small electorates, because no one knows how everyone else will vote.

Now, suppose we allow that $D > 0$. Though this seems like a simple matter, the intuition behind the $D$ term is actually very intricate. As John Aldrich points out:

> Adding a $D$ term is the same as subtracting a $C$ term. Thus, $C$ can be thought of as "net costs," that is, as costs of voting, less any positive values, such as doing one's duty. A positive $C$ says that duty only partially outweighs costs of voting. . . . Thus, the $D$ term does not change the fundamental analysis, unless $D > C$, in which case it is better to vote for [the more preferred candidate] than to abstain in all circumstances. (1993, pp. 251–2).

This is a very important point: If $D > C$, the voter *always* votes, regardless of the locations of the candidates. Whether the motivation is the avoidance of guilt or the enjoyment of the act of voting itself, the point is the same. But then voting is simply a *consumption* activity, more like attending a baseball game than an act of rational investment.[11] Some scholars (Barry, 1970; Green and Shapiro, 1994) have argued that this means rational choice models are not useful for explaining levels of turnout, since turnout is simply a matter of taste within the model.

This criticism is not without merit, but neither is it completely correct. We will return to taste and turnout at the end of this chapter.

There is yet another problem, as a simple example from Hinich and Munger (1994) shows. The number of cases where $P = 1$, assuming perfect information, is practically zero. Suppose that each voter thinks of the electorate (i.e., those who vote, rather than those who are eligible) as a random sample from the eligible electorate. Suppose, further, that the polls show that the election is a dead heat between candidates A and B. The probability of a tie then depends on the sample size. Let $N$ be the individual's guess as to the number of people who will vote, not counting himself. Then the number of potential tie outcomes $T$ is:

$$T = \left[ \frac{N!}{N/2! \times (N - N/2)!} \right] \tag{7.3}$$

(Note: ! means factorial.) For example, using this formula, if $N = 6$, then $T = 20$.

To get $P$, we divide $T$ by the total number of outcomes $2^N$. The reason there are $2^N$ outcomes is that each of the $N$ voters has two choices: Vote for candidate A or vote for candidate B. Again using our $N = 6$ example, there would be $2^6 = 64$ outcomes. Putting this all together, we get $P = 20/64 = .31$. That is, in an electorate of six, there is approximately one chance in three that a rational voter will believe her vote will influence the outcome, assuming that (1) the polls predict a dead heat ex ante, and (2) each voter is equally likely to vote for either candidate. As $N$ grows, $P$ falls dramatically, as Table 7.3 shows. For an $N$ of 100, $P = .08$; if $N = 150$, $P = .06$. If $N = 100{,}000$, $P$ is zero to more than five decimal places. For all practical purposes, this number is indistinguishable from zero. Yet 100,000 is still a fairly small electorate, far smaller than the number of registered voters in a medium-sized city.

The probability gets smaller even faster, if the election is not perceived as "too close to call" ex ante. The candidate who has the lead is almost certain to get a majority if (1) most people have decided how to vote by the time of the poll, and (2) the poll itself is competently conducted and statistically accurate. If either candidate is far ahead in the polls on the day before the election, that candidate's victory seems assured.

So why would anyone vote? To put it another way, in terms of

Table 7.3. *Number of voters and the probability of affecting outcomes*

| *N* | *P* |
|---|---|
| 2 | .5 |
| 6 | .31 |
| 8 | .27 |
| 10 | .24 |
| 20 | .18 |
| 100 | .08 |
| 150 | .06 |
| 100,000 | .00 |

Downs's model, who would vote if the $P$ term is zero? The answer is obvious: no one. Of course, this answer is also obviously wrong. One is reminded of Yogi Berra's famous line about a restaurant in New York: "No one goes there anymore. It's too crowded!" In our case, if no one votes because it won't matter, it *will* matter. If no one votes, then one vote determines the election. But then $P$ isn't really zero. In fact, $P = 1$, because *anyone* who did vote would have decided the outcome, with certainty!

As before, we are in the infinite regress of "He thinks that I think that he thinks. . . ." Ferejohn and Fiorina (1974) call this the "paradox of not voting": If everyone knows the chances of affecting the outcome are trivial, no one votes. But then any one voter's chances of affecting the outcome if he or she *had* voted are very large. Game theory provides a way out, by allowing us to see if any level of "rational" turnout can be sustained in the face of Ferejohn and Fiorina's paradox. Ledyard (1981, 1984), building on the probabilistic voting model of Hinich, Ledyard, and Ordeshook (1972), demonstrated that such a game among voters has a "mixed strategy" equilibrium.

Mixed strategies require the voter to randomize over pure strategies (in this case voting and not voting). Ledyard showed that each voter might plausibly choose to vote in any given election with only a small probability. But then it will turn out that some voters will actually vote in any given election, and turnout exceeds zero in equilibrium.

This was an important achievement, because the act of turning out was rationalized: Positive levels of political participation were shown

to be consistent with purposive, self-interested behavior. Palfrey and Rosenthal (1983, 1985) showed, however, that as the size of the electorate rises, equilibrium turnout shrinks, even in Ledyard's game. In the limit, as the potential electorate goes to infinity, the "rational" level of turnout goes toward zero. Palfrey and Rosenthal show that the maximum level of turnout predicted in equilibrium (for plausibly sized electorates) is about 3 to 5%. But actual rates of turnout in the United States exceed 30%, and may be much higher in U.S. presidential races or elections in other countries.

This conflict between theory (no more than 5%) and data (more than 30%) suggests something else is going on. That "something else" is the attempt by parties and other political elites to persuade voters to vote. The quotation at the beginning of this section has a clear, rational choice implication: Securing the "right" policy from government is a collective good. Somehow, groups of citizens are overcoming the free-rider problem. More people are participating than would be predicted by a purely self-interested investment strategy. Incorporating groups into an individual decision calculus is difficult, but some progress has been made (Uhlaner, 1989a, 1989b; see Aldrich, 1993, for a broader review). Still, the attempts to use private returns, or Olson's (1965) "selective incentives," have not solved the problem of explaining levels of turnout. After all, if people vote because they like to vote, then what more can be said?

Quite a bit. We have used the model of narrowly self-interested behavior to generate hypotheses about turnout rates. Those hypotheses, that turnout will not exceed 5% in any reasonably large electorate, have been proved false. This has led analytical political theorists to look to mechanisms by which pure self-interest motives are overcome and collective action problems are solved. Further, though the *levels* of turnout are hard to explain, voters respond to costs of voting, opportunity costs of time, and other factors as the "rational" model predicts, by being less likely to vote.[12] As we noted earlier, rain or bad weather drives turnout down (Morton, 1991; Knack, 1994) because traveling to the polls is harder. Difficult or time-consuming registration makes people less likely to vote (Kelley, Ayres, and Bowen, 1967; Wolfinger and Rosenstone, 1980; Nagler, 1991). People with few resources find it hard to take time to vote (Tollison and Willett, 1973; Wolfinger and Rosenstone, 1980).

There are two other important insights from the early game-theoretic literature on strategic influences on turnout (Ledyard, 1981, 1984; Palfrey and Rosenthal, 1983, 1985). These results hark back to our earlier concern with elections as a means of eliciting truth, the "best" policy, or the "general will." As has been our practice, we will present the results in the form of theorems, without proofs, and refer the interested reader to the original article for the details.

**Theorem 7.1** (Ledyard, 1984, p. 26). *Under certain circumstances, one equilibrium of the game among voters, choosing whether to vote or abstain, is for no voters to turn out. However, under the assumptions of the classical spatial model (if a median in all directions exists), the optimal location for parties to have chosen in such an "election" is optimal from the point of view of the median citizen. More simply, candidates act as if all voters were going to vote, but if candidates act that way voters may, in equilibrium, not vote.*

**Theorem 7.2** (Palfrey and Rosenthal, 1983, pp. 42–3, 47). *The proportions that split the vote among two alternatives is a biased measure of the actual distribution of preferences in the population of enfranchised voters. Majorities have greater incentives to free ride, so large majorities will be harder to sustain if victory seems certain. Elections can be fairly close, even when one alternative is supported by a large majority of the electorate.*

The verbal paraphrasing of the two sets of results appears obvious at first glance, but both are substantively important. Further, each demonstrates the importance of formal analytical reasoning applied to politics. Theorem 7.1 addresses a common concern among observers of democracies, who say, "Turnout is too low!" Presumably, the object of elections is to ensure a coincidence between the desires of the people and the actions of government. Ledyard showed that low turnout could be a sign that parties and candidates are occupying the positions in policy space that would win the most votes even if everyone voted. Ledyard did warn that the outcomes of such a process were not necessarily Pareto optimal, but this problem would exist even if turnout were universal.

Theorem 7.2 calls into question the use of polls and other forms of election prediction, based on proportions in populations. Proportions

in populations may be very different from election percentages, because turnout is itself a strategic choice. The reverse is also true, of course: Using percentages of the vote as signs of a "mandate," or the lack of one, represents an unsupportable conclusion about the opinions held by proportions of the population. Election results may be all that politicians or the media have to go on, but the rational turnout model suggests extreme care should be taken in assuming the election results are meaningful for anything other than the simple selection of one alternative over another.[13]

## Conclusions

The formal theory of turnout is worth studying. The model has several important things to teach us:

- The two main causes of abstention in the classical spatial model are *indifference* and *alienation.*

  ***Indifference.*** If voters perceive little (no) difference between alternatives, they are less likely to vote. This prediction has both *cross-sectional* and *time series* implications: Voters who perceive little distance between alternatives are less likely to vote than other voters who perceive large net candidate differentials. Similarly, any given voter is more likely to vote in an election where the perceived difference is large, compared with other elections where the same voter perceives the difference as small.

  ***Alienation.*** If both (all) alternatives in the election are far from the voter's ideal point, that voter is less likely to vote. Again, the prediction is made both across voters and over time: The greater the difference between the voter's ideal point and the nearest alternative, the less likely is that voter to turn out, compared either with other voters or other elections where perceptions of the difference are smaller.

- Voting appears to be primarily an act of consumption, broadly conceived, rather than investment, because the prediction of the investment model of very low turnout is not borne out empirically.[14] Rational choice has a well-developed theory of consumption, making

it possible to specify "determinants" of voting, in terms of costs and benefits at the margin, that affect the satisfaction the voter receives from voting. As Aldrich (1993, p. 261) pointed out, "Turnout is a decision almost always made 'at the margin.'" What this means, in simple terms, is that an analytical model may not be able to predict the general level of turnout very well, but that the factors that cause turnout to vary around that level are amenable to treatment by the models described in this chapter.

- Benefits to the voter may be both individual and collective. One of the key *collective* benefits to voting is selection of the "best" candidate. Yet, like any collective action, these benefits are obtained only if groups of like-minded voters are able to overcome the free-rider problem. We are led to look to institutions such as grassroots party organizations, as well as personal group identification, as the means by which political contests are won.
- Consequently, the conditions for overcoming free riding must be added to the conditions specified in earlier chapters for predicting outcomes in democratic politics. Specifically, it is the median *voter,* not the median *citizen,* who represents the center. It is still true that the center rules, but the location of the center is very much in doubt until the actual election determines which preferences are registered. If turnout is uncertain, because of either incomplete information or strategic decisions by voters, the median citizen may still represent the center, as Ledyard showed.

There have been numerous attacks on the idea that "rational" choice theories can explain political participation. In fact, there have been some significant falsifications of analytical theories of turnout. But the fact that portions of the theory can be falsified is an important advantage over other approaches that simply *measure* "determinants" using statistical correlations. Further, the theoretical framework of a consumption or "contribution" decision, coupled with the implication that solving collective action problems is necessary for people to "associate" and vote, has proved fruitful.

## EXERCISES

**7.1** Suppose you are hired as a consultant by a state governor, who is concerned that too few people in her state voted in local elections.

You ask for more information and find the following facts in a state elections guide:

> Some 740,000 people voted in local elections last November. Our state has a population of 5,600,000. There were 1,200,000 people in our state registered to vote last year. State election laws restrict eligibility to register to those who are not in jail or mental hospitals, and have not been convicted of a felony, about 96% of the adult population. The last statewide election, held at the same time as the local elections and on the same ballot, saw 810,000 votes tallied.

The governor wants to know whether the state elections board should try (1) "motor voter" registration to make it easier to register or (2) "get out the vote" drives to get more registered voters to the polls. Use Equation 7.1 as a way of analyzing the problem. What would be your advice to the governor?

**7.2*** Suppose a particular citizen 1 has ideal point $\mathbf{x}_1 = [8\ -3]^T$, with $\mathbf{A}_1 = \mathbf{I}$, and $\delta = 10$ ($\delta$ is the WED beyond which the voter is alienated). Let one candidate occupy $\mathbf{x}_A = [13\ 2]^T$ and the other occupy $\mathbf{x}_B = [6\ 5]^T$. Does citizen 1 vote? If he votes, which candidate does he prefer?

**7.3*** Suppose that the two candidates are in the same positions as in Exercise 7.2 ($\mathbf{x}_A = [13\ 2]^T$, $\mathbf{x}_B = [6\ 5]^T$), but consider a different voter 2, where $\mathbf{x}_2 = [12\ 4]^T$. Define "indifference" as follows:

$$\text{The voter is indifferent if } |\text{WED}(\mathbf{x}_A, \mathbf{x}_2) - \text{WED}(\mathbf{x}_B, \mathbf{x}_2)| \leq 2$$

Does voter 2 abstain out of indifference, or does he vote? Which candidate is closer to his ideal point in terms of measured WED?

*Note:* Exercises marked * are advanced material.