Chapter Six

POLITICAL ECONOMY

I always like to win. I don't get hung up on ideology. Whatever it takes, I will do.
—GOVERNOR ARNOLD SCHWARZENEGGER

Textbook discussions of market failures and their remedies tend to convey a rather rosy view of government. With a tax here, an expenditure there, the state readily corrects all market imperfections, meanwhile seeing to it that incomes are distributed in an ethically desirable way. Such a view is at variance with apparent widespread public dissatisfaction with government performance. Public opinion polls, for example, consistently report that fewer than 40 percent of the people have much confidence in Congress. Humorist P. J. O'Rourke probably summarized the sentiments of many when he quipped, "Giving money and power to government is like giving whiskey and car keys to teenage boys."

Perhaps this is merely gratuitous whining. As a matter of definition, in a democracy we get the government we want. Another possibility, however, is that it is inherently difficult for even democratically elected governments to respond to the national interest. This chapter applies economic principles to the analysis of political decision making, a field known as **political economy.** Political economy models assume that individuals view government as a mechanism for maximizing their self-interest. Two points are important regarding this assumption:

political economy

The field that applies economic principles to the analysis of political decision making.

- Selfishness does not necessarily lead to inefficient outcomes. As we saw in Chapter 3, under certain conditions the marketplace harnesses self-interest to serve a social end. The question is, "What, if anything, performs that role in the 'political market?'"
- While the maximization assumption may not be totally accurate, just as in more conventional settings, it provides a good starting point for analysis.

At the outset, we examine direct democracies and how well they translate the preferences of their members into collective action. We then turn to the complications that arise when decisions are made not by individuals themselves but by their elected representatives.

▸ DIRECT DEMOCRACY

Democratic societies use various voting procedures to decide on public expenditures. This section looks at some of these procedures.

Unanimity Rules

Recall from Chapter 4 how the free rider problem can lead to a disturbing situation—because people are selfish, public goods are underprovided, even though everyone

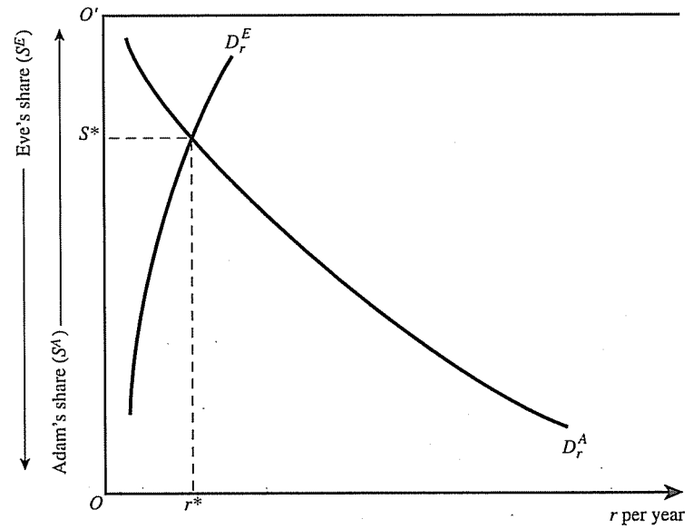


Figure 6.1
Lindahl's model
Adam's quantity demanded for rockets decreases as his share of the cost increases. At the same time, Eve's quantity demanded for rockets increases. At the equilibrium, they both vote for the same quantity of rockets.

could be made better off if they were provided in efficient amounts. This suggests that, in principle, if a vote were taken on whether to provide an efficient quantity of the good, consent would be unanimous as long as there was a suitable tax system to finance it. A procedure designed to elicit unanimous agreement was proposed in the early 20th century by Erik Lindahl [1958/1919].

To understand Lindahl's procedure, assume again there are two individuals, Adam and Eve, and one public good, rockets for fireworks (r). Suppose Adam is told that his share of the cost of rocket provision will be 30 percent. Then if the market price per rocket is P_r, Adam's price per rocket is $0.30 \times P_r$. Given this price, the prices of other goods, his tastes, and his income, there is some quantity of rockets that Adam wants to consume. More generally, let S^A denote Adam's share of the cost of rocket provision. For any particular value of S^A, Adam demands some quantity of rockets. As his tax share increases and rockets become more expensive for him, he demands a smaller quantity.

In Figure 6.1, the horizontal axis measures the quantity of rockets. Adam's tax share is measured by the vertical distance from point O. The curve D_r^A shows how the quantity of rockets demanded by Adam decreases as his tax share increases.

In the same way, define S^E as Eve's share of the cost of rockets. (By definition, $S^A + S^E = 1$.) When S^E goes up, the quantity demanded by Eve decreases. In Figure 6.1, Eve's tax share increases as we move down along the vertical axis from O'. (Thus, the distance OO' is 1.) Her demand schedule is denoted D_r^E. It slopes upward because upward movements along the vertical axis represent a lower price to her.

An obvious similarity exists between the role of tax shares in the Lindahl model and market prices in the usual theory of demand. But there is an important difference. Instead of each individual facing the same price, each faces a personalized price per unit of public good, which depends on his or her tax share. The tax shares are referred to as **Lindahl prices.**

Lindahl prices

The tax share an individual must pay per unit of public good.

An equilibrium is a set of Lindahl prices such that at those prices each person votes for the same quantity of the public good. In Figure 6.1, Adam's equilibrium tax share is OS^* and Eve's is $O'S^*$. At these Lindahl prices, both parties agree that r^* rockets should be provided.

Feasibility of Unanimity Rules The Lindahl model shows the tax shares and level of public good provision to which everyone agrees. The big question is how to reach the equilibrium. Imagine that an auctioneer announces some initial set of tax shares. On the basis of their respective demand schedules, Adam and Eve vote for the number of rockets they want. If agreement is not unanimous, the auctioneer announces another set of tax shares. The process continues until Adam and Eve unanimously agree on the quantity of rockets (r^* in Figure 6.1). The determination of the quantity of public goods, then, is quite similar to the market process. Like the market outcome, one can prove that the allocation is Pareto efficient.[1]

As a practical method for providing public goods, Lindahl's procedure has two main problems. First, it assumes people vote sincerely. If Adam can guess the maximum amount that Eve would spend for rockets rather than do without them, he can try to force her to that allocation. Eve has the same incentives. Strategic behavior may prevent Adam and Eve from reaching the Lindahl equilibrium.

Second, finding the mutually agreeable tax shares may take a lot of time. In this example, there are only two parties. In most important cases, many people are involved. Getting everyone's consent involves enormous decision-making costs. Indeed, although unanimity rules guarantee that no one will be "exploited," they often lead to situations in which *no* decisions are made. For example, the World Trade Organization (WTO), which sets rules for coordinating trade among its 144 member nations, operates on a unanimity rule. A journalist reporting on a WTO meeting once noted that the only shocking thing that might happen would be "if they manage[d] to agree on anything at all" [Kahn, 2001, p. A3].

Majority Voting Rules

majority voting rule

One more than half of the voters must favor a measure for it to be approved.

Because unanimity is difficult to attain, voting systems not requiring it may be desirable. With a **majority voting rule,** one more than half of the voters must favor a measure to gain approval.

Although the mechanics of majority voting are familiar, it is useful to review them carefully. Consider a community with three voters, Brad, Jen, and Angelina, who have to choose among three levels of missile provision, A, B, and C. Level A is small, level B is moderate, and level C is large. The voters' preferences are depicted in Table 6.1. Each column shows how the voter ranks the choices. For example, Jen most prefers level C, but given a choice between B and A, would prefer B.

Suppose an election were held on whether to adopt A or B. Brad would vote for A, while Jen and Angelina would vote for B. Hence, B would win by a vote of 2 to 1. Similarly, if an election were held between B and C, B would win by a vote of 2 to 1. Level B wins any election against its opposition, and thus is the option selected by majority rule. Note that the selection of B is independent of the order in which the votes are taken.

[1] Intuitively, assume $P_r = 1$. Then Eve sets $S^E P_r = MRS_{ra}^{\text{Eve}}$, and Adam sets $S^A P_r = MRS_{ra}^{\text{Adam}}$. Therefore, $MRS_{ra}^{\text{Eve}} + MRS_{ra}^{\text{Adam}} = S^E P_r + S^A P_r = P_r(S^E + S^A) = P_r$. But P_r represents MRT_{ra}, so $MRS_{ra}^{\text{Eve}} + MRS_{ra}^{\text{Adam}} = MRT_{ra}$, which is the necessary condition for Pareto efficiency of Equation (4.2).

Table 6.1 **Voter preferences that lead to an equilibrium**

	Voter		
Choice	**Brad**	**Jen**	**Angelina**
First	A	C	B
Second	B	B	C
Third	C	A	A

Given these voter preferences, in an election between A and B, B would win. In an election between B and C, B would again win. Because B wins any election against its opposition, it is the option selected by majority rule.

Majority decision rules do not always yield such clear-cut results. Consider the preferences depicted in Table 6.2. Again, imagine a series of paired elections to determine the most preferred level. In an election between A and B, A would win by a vote of 2 to 1. If an election were held between B and C, B would win by a vote of 2 to 1. Finally, in an election between A and C, C would win by the same margin. This result is disconcerting. The first election suggests that A is preferred to B; the second that B is preferred to C. Conventional notions of consistency suggest that A should therefore be preferred to C. But in the third election, just the opposite occurs. Although each individual voter's preferences are consistent, the community's are not. This phenomenon is referred to as the **voting paradox.**

voting paradox

With majority voting, community preferences can be inconsistent even though each individual's preferences are consistent.

Moreover, with the preferences in Table 6.2, the ultimate outcome depends crucially on the order in which the votes are taken. If the first election is between propositions A and B and the winner (A) runs against C, then C is the ultimate choice. On the other hand, if the first election is B versus C, and the winner (B) runs against A, then A is chosen. Under such circumstances, the ability to control the order of voting—the agenda—confers great power. **Agenda manipulation** is the process of organizing the order of votes to ensure a favorable outcome.

agenda manipulation

The process of organizing the order in which votes are taken to ensure a favorable outcome.

A related problem is that paired voting can go on forever without reaching a decision. After the election between A and B, A wins. If C challenges A, then C wins. If B then challenges C, B wins. The process can continue indefinitely, a phenomenon called **cycling.** A good historical example of cycling concerns the 17th Amendment to the US Constitution, which provides for direct election of US senators. Adoption of the amendment was delayed for many years due to voting cycling.

cycling

When paired majority voting on more than two possibilities goes on indefinitely without a conclusion ever being reached.

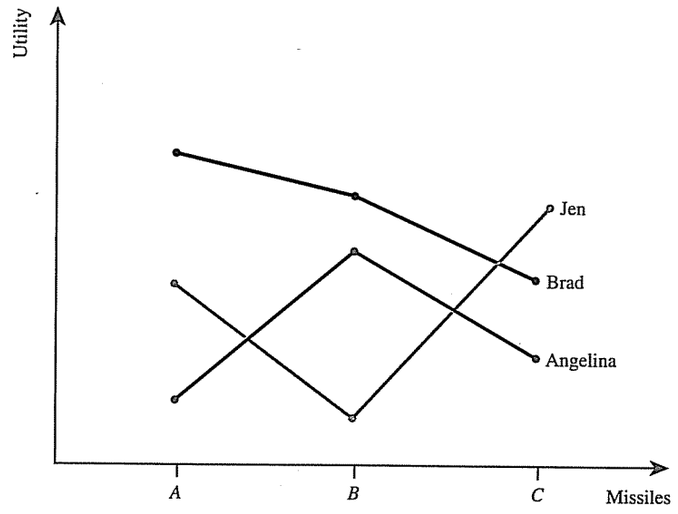
Clearly, majority voting need not lead to these problems. After all, the elections associated with Table 6.1 went smoothly. Why the difference? It turns on the structure

Table 6.2 **Voter preferences that lead to cycling**

	Voter		
Choice	**Brad**	**Jen**	**Angelina**
First	A	C	B
Second	B	A	C
Third	C	B	A

Given these voter preferences, in an election between A and B, A would win. In an election between B and C, B would win. And in an election between A and C, C would win. Thus, we have a voting paradox: group preferences are inconsistent even though each individual's preferences are consistent.

Figure 6.2
Graphing the preferences from Table 6.2
Brad and Angelina have single-peaked preferences. However, Jen has double-peaked preferences.



of individual preferences for various levels of missile procurement. Consider again the people in Table 6.2. Because Brad prefers A to B to C, it follows that A gives Brad more utility than B, and B more than C. The schedule denoted Brad in Figure 6.2 depicts this relationship. The schedules labeled Jen and Angelina do the same for the other voters.

peak

A point on the graph of an individual's preferences at which all the neighboring points have lower utility.

We define a **peak** in an individual's preferences as a point at which all the neighboring points are lower.[2] A voter has **single-peaked preferences** if, as she moves away from her most preferred outcome in any and all directions, her utility consistently falls. She has **double-peaked preferences** if, as she moves away from the most preferred outcome, utility goes down, but then goes up again. Thus, Brad has a single peak at point A; Angelina has a single peak at point B; and Jen has two peaks, one at A and one at C. It turns out that Jen's preferences are the ones that lead to the voting paradox. If Jen had *any* set of single-peaked preferences, majority voting would lead to a consistent decision. This is why no voting paradox emerges from Table 6.1. There, each voter has single-peaked preferences. More generally, if all voters' preferences are single peaked, no voting paradox occurs.

single-peaked preferences

Utility consistently falls as a voter moves away from his or her most preferred outcome.

Because multipeaked preferences can throw a wrench into majority voting, it is important to know whether they are likely to be important as a practical matter. Consider again Jen's two-peaked preferences in Table 6.2. She prefers either very large or very small missile expenditures to a quantity in the middle. Although such preferences are not necessarily irrational, they do seem a bit peculiar. Perhaps Jen believes that moderate numbers of missiles provide little if any real protection, so that unless expenditures are large, they might as well be close to nothing.

double-peaked preferences

If, as a voter moves away from his or her most preferred outcome, utility goes down, but then goes back up again.

[2] For this analysis, the absolute amount of utility associated with each alternative is irrelevant. The vertical distances could change, but as long as the pattern of peaks stays unchanged, so does the election's outcome.

Table 6.3 **Preferred level of party expenditure**

Voter	Expenditure
Donald	$ 5
Daisy	100
Huey	150
Dewey	160
Louie	700

If all voters have single peaked preferences, then majority voting leads to an outcome that reflects the preference of the median voter. In this case, majority voting leads to a $150 expenditure on the party.

Suppose, however, that instead of missiles, voters are choosing among expenditure levels for a public park—a good for which there are private substitutes. Assume that in the presence of small or medium public park expenditures, voter Vince will join a private country club, but given large expenditures, he will use the public park. Provided that Vince's tax burden increases with park expenditure, he prefers a small to a medium park—since neither of these options benefits Vince, he prefers the one with the smaller tax burden. But his most preferred outcome might be the large expenditure public park. (This depends in part on the associated tax burden compared to the country club membership fee.) In short, Vince may prefer either the small or large public park to the medium-sized one. Thus, when there are private substitutes for a publicly provided good, a multipeaked pattern like Jen's in Figure 6.2 can easily emerge.

Moreover, when issues cannot be ranked along a single dimension, multipeaked preferences are also a serious possibility.[3] Suppose that a community is trying to decide how to use a vacant building. Choice A is an abortion clinic, choice B is an adult bookstore, and choice C is an Army recruitment office. Unlike the choice among different levels of missile expenditure, here the alternatives do not represent more or less of a single characteristic. Multipeaked preferences can easily emerge.

median voter

The voter whose preferences lie in the middle of the set of all voters' preferences; half the voters want more of the item selected and half want less.

The Median Voter Theorem Let us now return to the simple case in which all alternatives being considered represent smaller or greater amounts of a characteristic. People rank each alternative on the basis of this characteristic. An example is how much of some public good to acquire. Define the **median voter** as the voter whose preferences lie in the middle of the set of all voters' preferences; half the voters want more of the good than the median voter, and half want less. The **median voter theorem** states that as long as all preferences are single peaked, the outcome of majority voting reflects the preferences of the median voter. (With an even number of voters, there may be a tie between two median voters, which must be broken arbitrarily.)

median voter theorem

As long as all preferences are single peaked and several other conditions are satisfied, the outcome of majority voting reflects the preferences of the median voter.

To demonstrate the theorem, assume there are five voters: Donald, Daisy, Huey, Dewey, and Louie. They are deciding how large a party to give together, and each of them has single-peaked preferences over party sizes. The most preferred level for each voter is noted in Table 6.3. *Because preferences are single peaked,* the closer an expenditure level is to a given voter's peak, the more he or she prefers it. A movement from zero party expenditure to $5 would be preferred to no money by all voters. A movement from $5 to $100 would be approved by Daisy, Huey, Dewey,

[3] Atkinson and Stiglitz [1980, p. 306] explain how the notion of a "peak" is generalized to a multidimensional setting.

and Louie, and from $100 to $150 by Huey, Dewey, and Louie. Any increase beyond $150, however, would be blocked by at least three voters: Donald, Daisy, and Huey. Hence, the majority votes for $150. But this is just the amount preferred by Huey, the median voter. The election results mirror the median voter's preferences.

To summarize: When all preferences are single peaked, majority voting yields a stable result, and the choice selected reflects the preferences of the median voter. However, when some voters' preferences are multipeaked, a voting paradox can emerge.[4] Because multipeaked preferences may be important in many realistic situations, majority voting cannot be depended on to yield consistent public choices. Moreover, as we shall discuss shortly, even when majority voting leads to consistent decisions, it may not be efficient in the sense that overall benefits exceed costs.

Logrolling

logrolling

The trading of votes to obtain passage of a package of legislative proposals.

A possible problem with simple majority voting is that it does not allow people to register how strongly they feel about the issues. Whether a particular voter just barely prefers A to B or has an enormous preference for A has no influence on the outcome. **Logrolling** systems allow people to trade votes and hence register how strongly they feel about various issues. Suppose that voters Smith and Jones prefer not to have more missiles, but they don't care all that much. Brown, on the other hand, definitely wants more missiles. With a logrolling system, Brown may be able to convince Jones to vote for more missiles if Brown promises to vote for a new road to go by Jones's factory.

Vote trading is controversial. Its proponents argue that trading votes leads to efficient provision of public goods, just as trading commodities leads to efficient provision of private goods. Proponents also emphasize its potential for revealing the intensity of preferences and establishing a stable equilibrium. Moreover, the compromises implicit in vote trading are necessary for a democratic system to function. As sociologist James Q. Wilson [2000] has noted, "Vote trades are called pork barrels or logrolling, but such trades are essential to finding some way to balance competing interests, each of which is defended by a legislator who owes little to any other legislator. Vote trades and pork-barrel projects are an essential way of achieving what force and language cannot produce."

A numerical example helps illustrate these advantages. Suppose a community is considering three projects, a hospital, a library, and a swimming pool. The community has three voters, Melanie, Rhett, and Scarlet. Table 6.4 shows their benefits for each project. (A minus sign indicates a net loss; that is, the costs exceed the benefits.)

The first thing to notice about the table is that the total net benefit for each project is positive. Thus, by definition, the community as a whole would be better off if each project were adopted.[5] But what happens if the projects are voted on *one at a time?* Melanie votes for the hospital because her net benefit is positive, but Rhett and Scarlet vote against it because their benefits are negative. The hospital therefore loses. Similarly, the library and the swimming pool go down in defeat.

Vote trading can remedy this situation. Suppose Melanie agrees to vote for the library if Rhett consents to vote for the hospital. Melanie comes out ahead by

[4] The presence of one or more voters with multipeaked preferences does not *necessarily* lead to a voting paradox. It depends on the number of voters and the structure of their preferences. See Discussion Question 1 at the end of this chapter.

[5] We assume the absence of externalities or any other factors that would make private costs and benefits unequal to their social counterparts.

Table 6.4 **Logrolling can improve welfare**

	Voter			
Project	**Melanie**	**Rhett**	**Scarlet**	**Total Net Benefits**
Hospital	200	−50	−55	95
Library	−40	150	−30	80
Pool	−120	−60	400	220

If each project is voted on separately, none is adopted even though each yields positive net benefits. However, with vote trading all of the measures are adopted.

160 (= 200 − 40) with the trade; Rhett comes out ahead by 100 (= 150 − 50). They therefore strike the deal, and the hospital and library pass. In the same way, Melanie and Scarlet can make a deal in which Melanie gives her support for the pool in return for Scarlet's vote for the hospital. Thus logrolling allows all three measures to pass, a desirable outcome.

On the other hand, opponents of logrolling stress that it is likely to result in special-interest gains not sufficient to outweigh general losses. Large amounts of waste can be incurred. For example, as part of the war against terrorism, the Transportation Security Administration was forced to spend "hundreds of millions of dollars to equip airports with a bomb-detection machine that has a history of breaking down and needing costly repairs" [Power, 2003, p. A9]. Why? The main reason is that the manufacturer was located in the district of the House Appropriations Chairman; his vote was important for the pet projects of other members of Congress.

Table 6.5 illustrates a situation in which logrolling leads to such undesirable outcomes. Here we have the same three voters and three projects under consideration as in Table 6.4, but with a different set of net benefits. Every project has a negative net benefit. Each should therefore be rejected, as would be the case if the projects were voted on one at a time.

However, with logrolling, some or all of these inefficient projects could pass. Suppose Melanie offers to support the library in return for Rhett's vote for the hospital. The deal is consummated because both of them come out ahead—Melanie by 160 (= 200 − 40) and Rhett by 40 (= 150 − 110). With the support of Melanie and Rhett together, both projects pass. In the same way, Rhett and Scarlet can trade votes for the pool and the library, so both of those projects are adopted.

Table 6.5 **Logrolling can also lower welfare**

	Voter			
Project	**Melanie**	**Rhett**	**Scarlet**	**Total Net Benefits**
Hospital	200	−110	−105	−15
Library	−40	150	−120	−10
Pool	−270	−140	400	−10

If each project is voted on separately, none is adopted. This is efficient because each yields negative net benefits. However, with vote trading, some or all of the projects will pass, which is inefficient.

To understand the source of this outcome, think about Melanie and Rhett's vote trading over the hospital and the library. Note that Scarlet comes out behind on both projects. This demonstrates how with logrolling, a majority of voters can form a coalition to vote for projects that serve their interests, but whose costs are borne mainly by the minority. Hence, although the benefits of the projects to the majority exceed the costs, this is not true for society as a whole. We conclude that while logrolling can sometimes improve on the results from simple majority voting, this is not necessarily the case.

Arrow's Impossibility Theorem

We have shown that neither simple majority voting nor logrolling has entirely desirable properties. Many other voting schemes have also been considered, and they, too, are flawed.[6] An important question is whether *any* ethically acceptable method for translating individual preferences into collective preferences is free of difficulties. It depends on what you mean by "ethically acceptable." Nobel laureate Kenneth Arrow [1951] proposed that in a democratic society, a collective decision-making rule should satisfy the following criteria:[7]

1. It can produce a decision whatever the configuration of voters' preferences. Thus, for example, the procedure must not fall apart if some people have multipeaked preferences.
2. It must be able to rank all possible outcomes.
3. It must be responsive to individuals' preferences. Specifically, if every individual prefers A to B, then society's ranking must prefer A to B.
4. It must be consistent in the sense that if A is preferred to B and B is preferred to C, then A is preferred to C.[8]
5. Society's ranking of A and B must depend only on individuals' rankings of A and B. Thus, the collective ranking of manned space travel and foreign aid does not depend on how individuals rank either of them relative to research on a cure for AIDS. This assumption is sometimes called the **independence of irrelevant alternatives.**
6. Dictatorship is ruled out. Social preferences must not reflect the preferences of only a single individual.

independence of irrelevant alternatives

Society's ranking of two different projects depends only on individuals' rankings of the two projects, not on how individuals rank the two projects relative to other alternatives.

Taken together, these criteria seem quite reasonable. Basically, they say that society's choice mechanism should be logical and respect individuals' preferences. Unfortunately, the stunning conclusion of Arrow's analysis is that in general it is *impossible* to find a rule that satisfies all these criteria.[9] A democratic society cannot be expected to make consistent decisions.

[6] These include point voting (each person is given a fixed number of points that are cast for the different alternatives), plurality voting (the alternative with the most votes wins), Borda counts (each alternative is ranked by each voter, and the ranks are totaled to choose), Condorcet elections (the alternative that defeats the rest in paired elections wins), and exhaustive voting (the proposal favored least by the largest number of voters is repeatedly removed until only one remains). See Levin and Nalebuff [1995] for further details.

[7] Arrow's requirements have been stated in a number of different ways. This treatment follows Blair and Pollak [1983].

[8] More precisely, in this context *preferred to* means *better than* or *just as good as*.

[9] The proof involves fairly sophisticated mathematics. The procedure of proof is to show that if all six conditions are imposed, phenomena like the voting paradox can arise.

This result, called Arrow's Impossibility Theorem, thus casts doubt on the very ability of democracies to function. Naturally, the theorem has generated debate, much of which has focused on whether other sets of criteria might allow formation of a social decision-making rule. It turns out that if any of the six criteria is dropped, a decision-making rule that satisfies the other five *can* be constructed. But whether or not it is permissible to drop any of the criteria depends on one's views of their ethical validity.

Arrow's theorem does not state that it is *necessarily* impossible to find a consistent decision-making rule. Rather, the theorem only says one cannot guarantee that society will be able to do so. For certain patterns of individual preferences, no problems arise. An obvious example is when members of society have identical preferences. Some have suggested that the real significance of Arrow's theorem is that it shows the need for a virtual uniformity of tastes if a democracy is to work. They then argue that many institutions have the express purpose of molding people's tastes to make sure that uniformity emerges. An example is mandatory public education. This observation is consistent with the view of the British statesman Benjamin Disraeli: "Whenever is found what is called a paternal government, there is found state education. It has been discovered that the best way to ensure implicit obedience is to commence tyranny in the nursery." Lott [1999] analyzed the pattern of expenditures on education across countries and found a result similar in spirit to Disraeli's assertion—more totalitarian governments tend to make greater investments in public education, other things being the same.

A very different view is that Arrow's theorem does not really have much to say about the viability of democratic processes. Another Nobel prize winner, James Buchanan [1960], believes that the inconsistencies of majority voting have beneficial aspects:

> Majority rule is acceptable in a free society precisely because it allows a sort of jockeying back and forth among alternatives, upon none of which relative unanimity can be obtained. . . . It serves to insure that competing alternatives may be experimentally and provisionally adopted, tested, and replaced by new compromise alternatives approved by a majority group of ever-changing composition. This is [the] democratic choice process [p. 83].

Another important question raised by Arrow's theorem concerns the use of social welfare functions. Recall from Chapter 3 that a social welfare function is a rule that evaluates the desirability of any given set of individuals' utilities. In a democratic society, the social welfare function must be chosen collectively. But Arrow's theorem says that it may be impossible to make such decisions, and hence we cannot assume that a social welfare function really exists. However, if it does not exist, how can economists use the social welfare function to rank alternative states? Some economists therefore reject the function's use. They argue that it is merely a way of introducing value judgments and not a representation of "society's" preferences. As such, a social welfare function does not isolate the correct allocation of resources. However, most economists believe that the function is an important tool. It may not provide "the" answer, but it can be used to draw out the implications of alternative sets of value judgments. With this interpretation, the social welfare function provides valuable insights.

▸ REPRESENTATIVE DEMOCRACY

Although the discussion of public decision making thus far sheds light on some important questions, it is based on an unrealistic view of government: It is essentially a big computer that elicits from citizens their preferences and uses this information

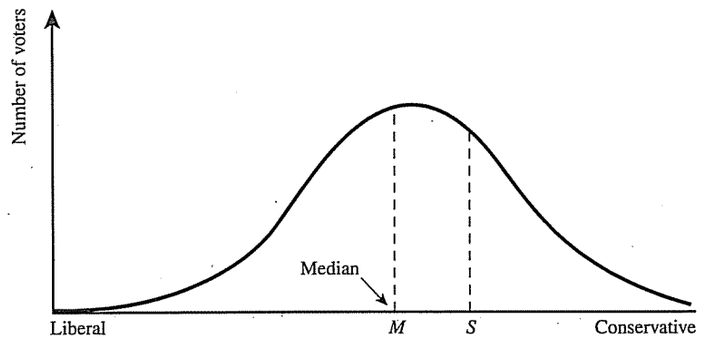


Figure 6.3
Median voter theorem for elections
The candidate who adopts the median position (*M*) will defeat the candidate who adopts the position away from the median (*S*), because the former candidate wins all the votes to the left of *M* (which is half of the votes) plus some of the votes between *M* and *S*.

to produce social decisions. The state has no interests of its own; it is neutral and benign.

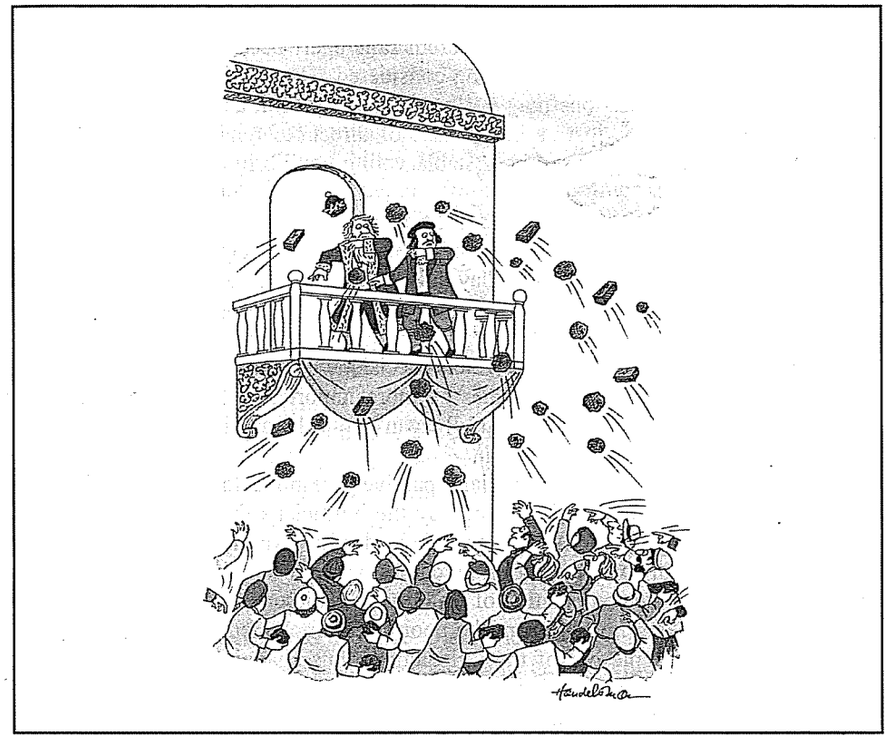
In fact, of course, governing is done by people—politicians, judges, bureaucrats, and others. Realistic political economy models must study the goals and behavior of the people who govern. This section discusses a few such models. They assume that people in government, like other individuals, attempt to maximize their self-interest.

Elected Politicians

Our earlier discussion of direct democracy led to the median voter theorem: If individual preferences are single peaked and can be represented along a single dimension, the outcome of majority voting reflects the preferences of the median voter. In reality, direct referenda on fiscal matters are most unusual. More commonly, citizens elect representatives who make decisions on their behalf. Nevertheless, under certain assumptions, the median voter theorem helps explain how these representatives set their positions.

Consider an election between two candidates, Smith and Jones. Assume voters have single-peaked preferences along the spectrum of political views. Voters cast ballots to maximize their own utility, and candidates seek to maximize the number of votes received.

What happens? Under these conditions, a vote-maximizing politician adopts the preferred program of the *median voter*—the voter whose preferences are exactly in the middle of the distribution of preferences. To see why, assume voters rank all positions on the basis of whether they are "conservative" or "liberal." Figure 6.3 shows a hypothetical distribution of voters who most prefer each point in the political spectrum. Suppose that Candidate Jones adopts position *M*, at the median, and Candidate Smith chooses position *S*, to the right of center. Because all voters have single-peaked preferences and want to maximize utility, each supports the candidate whose views lie closest to his or her own. Smith will win all the votes to the right of *S*, as well as some of the votes between *S* and *M*. Because *M* is the median, one-half of the voters lie to the left of *M*. Jones will receive all of these votes and some of those to the right of *M*, guaranteeing him a majority. The only way for Smith to prevent himself from being "outflanked" is to move to position *M* himself. Therefore, it pays both candidates to place themselves as close as possible to the position of the median voter.



"Perhaps Your Majesty should try governing from the center." © The New Yorker Collection 1997 J. B. Handelsman from cartoonbank.com. All Rights Reserved.

This model has two striking implications: First, two-party systems tend to be stable in the sense that both parties stake out positions near the "center." In some respects, this is a good description of American political life. It appears, for example, that presidential candidates who are perceived as too far from the middle-of-the-road (Barry Goldwater in 1964 and George McGovern in 1972) fare poorly with the electorate.[10] During the 2004 presidential election, a journalist characterized the two parties as "fishing in the political center," noting that the two candidates "have virtually identical policies on Iraq" [Amiel, 2004, p. A10]. According to the median voter model, there is nothing at all surprising about such a situation. As suggested by the cartoon, departing from the center can be hazardous for a politician!

Second, the replacement of direct referenda by a representative system has *no* effect on the outcome. Both simply mirror the preferences of the median voter. Thus, government spending cannot be "excessive" because political competition for votes leads to an expenditure level that coincides with the median voter's wishes.

Before taking these rather optimistic results too much to heart, however, several issues require careful examination.

[10] One of Goldwater's campaign slogans was "A choice, not an echo." The median voter theorem helps to explain why echoes are so prevalent.

Single-Dimensional Rankings If all political beliefs cannot be ranked along a single spectrum, the median voter theorem falls apart because the identity of the median voter depends on the issue being considered. The median voter with respect to affirmative action questions may not be the same person as the median voter on defense issues. Similarly, just as in the case of direct referenda, if preferences are not single peaked, there may not be a stable voting equilibrium at all.

Ideology The model assumes that politicians are simple vote maximizers, but they may care about more than just winning elections. Ideology can play an important role. After all, in 1850 Henry Clay said, "Sir, I would rather be right than be president."

Personality The assumption that voters' decisions depend only on issues may be unrealistic. Personalities may sometimes be more important. Some have argued, for example, that much of President Ronald Reagan's appeal was his fatherly personality.

Leadership In the model, politicians passively respond to voters' preferences. But these preferences may be influenced by the politicians themselves. This is just another way of saying that politicians provide leadership. An interesting extreme case of how leadership can change election outcomes occurs when the actions of a politician actually change the composition of his or her constituency. For example, a mayor whose support comes primarily from the poor could implement policies that tend to drive high-income people out of the jurisdiction, thus changing the identity of the median voter. There is some evidence that such a phenomenon occurred in Boston during the first half of the 20th century and in Detroit during the second [Glaeser and Shleifer, 2005].

Decision to Vote The analysis assumes every eligible citizen chooses to exercise his or her franchise. If the candidates' positions are too close, however, some people may not vote out of boredom. Individuals with extreme views may feel too alienated to vote. The model also ignores the costs of acquiring information and voting. A fully informed voter makes a determination on the suitability of a candidate's platform, the probability that the candidate will be able and willing to keep his or her promises, and so forth. The fact that these costs may be high, together with the perception that a single vote will not influence the outcome anyway, may induce a self-interested citizen to abstain from voting. A free rider problem emerges—each individual has an incentive not to vote, but unless a sizable number of people do so, a democracy cannot function. Although low voter participation rates are often bemoaned (for example, only 55 percent of the voting-age population cast a vote in the 2004 presidential election, which is actually higher than in most recent elections), the real puzzle may be why the percentage is so *high*. Part of the answer may be the success with which the educational system instills the idea that a citizen's obligation to vote transcends narrow self-interest.

Public Employees

The next group we consider is public employees, also referred to as bureaucrats. To understand their role, note that the legislation enacted by elected politicians is often vague. The precise way a program is run is largely in the hands of public employees. For example, the Clean Air Act stipulates that the government must set standards

"requisite to protect the public health with an adequate margin of safety" [Clean Air Act, Section 104(b)(1)]. How is health status to be measured? What scientific standard is to be used to determine what an "adequate margin" is? The law was silent on these issues. The task of filling these gaps fell to the bureaucrats in the Environmental Protection Agency, giving them enormous latitude and power.

Bureaucrats receive a lot of bitter criticism. They are blamed for being unresponsive, creating excessive red tape, and intruding too much into the private affairs of citizens. Even a rock group joined in the attack:

> Red tape, I can see can't you see
> Red tape, do'in to you, do'in to me
> Red tape, bureaucracy in D.C.
> Red tape, killing you and killing me.
> Tax this, tax that, tax this, tax that.
> NO MORE RED TAPE.[11]

However, a modern government simply cannot function without bureaucracy. Bureaucrats provide valuable technical expertise in the design and execution of programs. The fact that their tenures in office often exceed those of elected officials provides a vital "institutional memory." Another important function of bureaucrats is to provide accurate documentation of public sector transactions to ensure that all eligible citizens receive equal treatment from a particular publicly provided service, and to prevent various forms of corruption.

On the other hand, it would be naive to assume a bureaucrat's only aim is to interpret and passively fulfill the wishes of the electorate and its representatives. Having said this, we are still left with the problem of specifying the bureaucrat's goals. Niskanen [1971] argued that in the market-oriented private sector, an individual who wants to "get ahead" does so by making his or her company as profitable as possible. The individual's salary rises with the firm's profits. In contrast, bureaucrats tend to focus on such items as perquisites of office, public reputation, power, and patronage because opportunities for monetary gains are minimal.[12] Niskanen suggested that power, status, and so on are positively correlated with the size of the bureaucrat's budget and concluded that the bureaucrat's objective is to maximize his or her budget.

To assess the implications of this hypothesis, consider Figure 6.4. The output of a bureaucracy, Q, is measured on the horizontal axis. Q might represent the number of units of public housing managed by the Department of Housing and Urban Development or the quantity of Abrams tanks stockpiled by the Department of Defense. Dollars are measured on the vertical axis. The curve V represents the total value placed on each level of Q by the legislative sponsor who controls the budget. The slope of V is the marginal social benefit of the output; it is drawn on the reasonable assumption of diminishing marginal benefit. The total cost of providing each output level is C. Its slope measures the marginal cost of each unit of output. C is drawn on the assumption of increasing marginal cost.

Suppose the bureaucrat knows that the sponsor will accept any project whose total benefits exceed total costs. Then the bureaucrat proposes Q_{bc}, the output level that maximizes the size of the bureau subject to the constraint that C not be above V. However, Q_{bc} is an inefficient level of output. Efficiency requires that a unit of output

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[11] From "Red Tape," words and music by Keith Morris and Greg Hetson of the Circle Jerks. © 1980, Irving Music, Inc., and Plagued Music (BMI). All rights reserved. International copyright secured.

[12] Obviously, this distinction is blurred in the real world. Firm executives care about power and job perks as well as money. Nevertheless, the distinction is useful for analytical purposes.

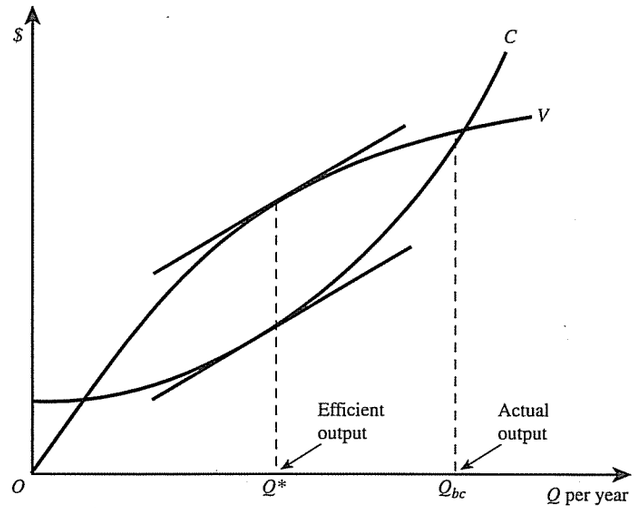


Figure 6.4
Niskanen's model of bureaucracy
The efficient output of this bureaucracy is at Q^*, where society's net benefits are maximized. However, a government official who seeks to maximize the size of the bureaucracy prefers output Q_{bc}, which is inefficiently high.

be produced only as long as the *additional* benefit from that output exceeds the *additional* cost. Hence, the efficient output is where marginal cost equals marginal benefit, *not* total cost equals total benefit. In Figure 6.4, the efficient level is Q^*, where the *slopes* of V and C are equal. Thus, the bureaucrat's desire to build as large an "empire" as possible leads to an inefficiently large bureaucracy.

An important implication of Niskanen's model is that bureaucrats have incentives to expend effort on promotional activities to increase the sponsor's perceptions of the bureau's benefits—to shift up the V curve. This is analogous to the use of advertising in the private sector. If such efforts succeed, the equilibrium value of Q_{bc} moves to the right. Hence, Defense Department officials emphasize security threats, and their counterparts in Health and Human Services promote awareness of the poverty problem.

In essence, Niskanen assumes that the bureaucrat can present his or her output to the sponsor as an all-or-nothing proposition: Take Q_{bc} or none at all. An obvious question is why the sponsor doesn't simply overrule the bureaucrat. The bureaucrat's informational advantage is critical here. The process of producing the bureaucratic output is likely to be highly complex and require specialized information that is not easily obtainable by the sponsor. Can a typical member of Congress really be expected to know about the intricacies of nuclear submarines or the benefits and costs of alternative job-training programs for welfare recipients? A particularly striking example of the importance of information comes from South Africa. Even after the fall of apartheid, the white bureaucrats who had administered that regime continued to play a predominant role in running the country. Why? "[T]he bureaucrats alone know the secrets of running the state" [Keller, 1994, p. A1].

Special Interests

We have been assuming so far that citizens who seek to influence government policy can act only as individual voters. In fact, people with common interests can exercise

disproportionate power by acting together. The source of the group's power might be that its members tend to have higher voter participation rates than the population as a whole. Alternatively, members might be willing to make campaign contributions and/or pay bribes. As an example, over half a billion dollars in campaign contributions were made to the presidential campaigns in 2004.

On what bases are these interest groups established? There are many possibilities.

Source of Income: Capital or Labor According to orthodox Marxism, people's political interests are determined by whether they are capitalists or laborers. This view is too simple to explain interest-group formation in the contemporary United States. Even though individuals with high incomes tend to receive a disproportionate share of their income from capital, much of the income of the rich is also derived from labor. Thus, it is difficult even to tell who is a "capitalist" and who a "laborer." Indeed, studies of the distribution of income in the United States and other Western nations indicate that the driving force behind inequality in total income is the inequality in labor income [Lee, 2005].

Size of Income The rich and the poor disagree on many economic policy issues. For example, they may hold different views on the merits of redistributive spending programs. Similarly, each group supports implicit or explicit subsidies for goods they consume intensively. Hence, the rich support subsidies for owner-occupied housing, while the poor favor special treatment for rental housing.

Source of Income: Industry of Employment Both workers and owners have a common interest in government support for their industry. In the steel, textile, and automobile industries, for example, unions and management work shoulder to shoulder in order to lobby the government for protection against foreign competition.

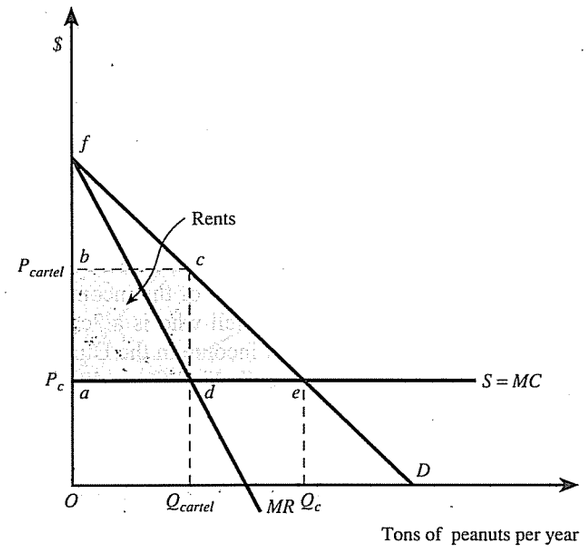
Region Residents of geographical regions often share common interests. Citizens of the Sun Belt are interested in favorable tax treatment of oil; midwesterners care about agricultural subsidies; and northeasterners lobby for expenditures on urban development.

Demographic and Personal Characteristics The elderly favor subsidized health care and generous retirement programs; young married couples are interested in good schools and low payroll taxes. Religious beliefs play a major role in debates over the funding of abortion and state aid to private schools. Ethnic groups differ on the propriety of government expenditure for bilingual education programs. Gender is an important basis for interest-group formation; in the 2004 elections, women voted in disproportionately large numbers for Democrats, and Republicans expressed much concern over the gender gap.

The list could go on indefinitely. Given the numerous bases on which interest groups can be established, it is no surprise that people who are in opposition on one issue may be in agreement on another; "politics makes strange bedfellows" is more or less the order of the day.

This discussion has ignored the question of how individuals with common interests actually manage to organize themselves. Belonging to a group may require membership fees, donation of time, and so forth. Each individual has an incentive to let others do the work while he or she reaps the benefits, becoming a free rider. The probability that a group will actually form increases when the number of

Figure 6.5
Rent-seeking
If the peanut industry succeeds in getting the government to enforce a cartel (perhaps by requiring a permit to grow peanuts or establishing a peanut quota), then the incumbent firms can maintain an artificially high price and receive rents.



individuals is small, and it is possible to levy sanctions against nonjoiners. But in some cases, rational financial self-interest is probably not the explanation. The debate over the public funding of abortion illustrates the influence of ideology and emotion on the decision to join a group.

Rent-Seeking We have noted that groups of citizens can manipulate the political system to redistribute income toward themselves. Generically, such activity is called **rent-seeking**—using the government to obtain higher than normal returns ("rents"). Rent-seeking takes a variety of forms. An important variant is when a group of producers induces the government to restrict the output in their industry. Restricting output leads to higher prices for producers, allowing them to earn rents. For example, in the United States you can grow peanuts only if you have a government license, and the licenses allow for just 1.5 million acres of land to be devoted to peanut production. By restricting the amount of land that can be used to grow peanuts, the government reduces peanut production and generates rents for the producers.

rent-seeking

Using the government to obtain higher than normal returns ("rents").

To analyze rent-seeking, consider Figure 6.5, which depicts the peanut market. The demand curve is D. For simplicity, we assume that the supply of peanuts, S, is horizontal. In the absence of government intervention, the equilibrium is at the intersection of supply and demand, where output is Q_c and price is P_c. (The subscript c reminds us that it is the competitive outcome.) It would be in the peanut producers' interest if they could all agree to reduce their respective outputs and thereby force up the market price. More precisely, they would be better off if they jointly acted to maximize industry profits and split them up—in effect to form a **cartel,** an arrangement under which suppliers band together to restrict output and raise price.

cartel

An arrangement under which suppliers band together to restrict output and raise price.

Why don't they just do it? Because even though *collectively* they would benefit by being part of a cartel, this does not mean that it is in any *individual's* self-interest. When the cartel raises its price, any individual farm has an incentive to cheat, that

is, to increase its production beyond its agreed upon quota. But all farms face this incentive, and as they all increase their outputs, the price falls back to the competitive equilibrium. This is where the government comes in. If the producers can get the government to enforce the cartel, then they can maintain the high price without having to worry about cheating. In the case of the peanut industry, for many decades the government had a simple way to enforce the cartel—it made growing peanuts without a license a federal crime! Further, even if you had a license, the quantity of peanuts you could grow was determined by a government quota. The program was very successful from the farmers' point of view. Domestic peanut prices were twice as high as world prices, leading to huge rents for the owners of licenses. When peanut licenses were eliminated by Congress in 2002, they were replaced with a multibillion dollar direct subsidy [Riedl, 2002].

What is the best price from the cartel's standpoint? To maximize industry profits, the cartel needs to produce the output at which industry marginal cost (the incremental cost of producing a ton of peanuts) equals industry marginal revenue (the incremental revenue from selling a ton of peanuts.) The supply curve represents the marginal cost (MC) of production, and the marginal revenue curve is depicted as MR. The cartel output, Q_{cartel}, is determined by their intersection, and the associated price is P_{cartel}. By virtue of the higher price they receive per ton of peanuts (distance ab) on each of the ad units they sell, the peanut farmers earn rents equal to area $abcd$.

It costs money for the producers to maintain the system of licenses. Presumably, they have to make campaign contributions to key members of Congress, hire lobbyists, and so on. What is the maximal amount that they would be willing to pay to maintain the system? Because rents are a payment above the ordinary return, the *most* that the firms would be willing to pay for their favored position is the total amount of the rents, $abcd$.

So far, it would seem that the rent-seeking behavior simply leads to a transfer from consumers (who pay a higher price) to the producers (who receive rents). But more is at stake. Recall that consumer surplus is the area above the price and below the demand curve. (See the appendix at the end of this book.) Hence, prior to the licenses, consumer surplus was area fae. Similar reasoning suggests that consumer surplus after the licenses is area fbc. Hence, consumers are worse off by the difference between the two areas, $abce$. Recall that of this, $abcd$ goes to the producers. Who gets the rest of the lost surplus, dce? The answer is nobody—it is a **deadweight loss** to society, a pure waste with no accompanying gain. The deadweight loss occurs because the increase in peanut prices distorts consumers' choices between peanuts and all other goods.

deadweight loss

The waste that exists when trades occur in which marginal cost exceeds marginal benefit, or when trades in which marginal benefit exceeds marginal cost do not take place.

In standard treatments of monopoly, area dce is the only deadweight loss. But in our rent-seeking model, the deadweight loss might actually be larger. As already suggested, rent-seeking can use up resources—lobbyists spend their time influencing legislators, consultants testify before regulatory panels, and advertisers conduct public relations campaigns. Such resources, which could have been used to produce new goods and services, are instead consumed in a struggle over the distribution of existing goods and services. Hence, area $abcd$ does not represent a mere lump-sum transfer; it is a measure of real resources used up to maintain a position of market power. In short, according to this view, the deadweight loss associated with rent-seeking is the *sum* of $abcd$ and dce, or $abce$.

We cannot conclude that area $abce$ is always the loss, however. In many cases, this area may overstate the efficiency cost of rent-seeking. For example, some

rent-seeking takes the form of campaign contributions and bribes, and these are simply transfers—they do not "use up" real resources. Nevertheless, an important contribution of the rent-seeking model is that it focuses our attention on the potential size of the waste generated by the government's power to create rents.

A final question is why rent-seeking is allowed to exist. After all, Figure 6.5 shows that the losses to consumers are greater than the gains to the producers. Why don't the consumers insist on an end to the licenses?

One reason is that interest groups may be well organized and armed with information, while those who will bear the costs are not organized and may not even be aware of what is going on. Even if those citizens who will bear the costs are well informed, it may not be worth their while to fight back. Because the costs of the program are spread over the population as a whole, any given peanut consumer's share is low, and it is not worth the time and effort to organize opposition. In contrast, the benefits are relatively concentrated, making political organization worthwhile for potential beneficiaries.

Other Actors

Without attempting to be exhaustive, we list a few other parties that affect government fiscal decisions.

Through court decisions, the judiciary has major effects on government spending. Judges have mandated public expenditures on items as diverse as bilingual education in the public schools and prison remodeling. A striking example occurred when a state judge in New York ruled that an additional $5.6 billion had to be spent on New York City's public schools each year in order to ensure students a sound education. In addition, the judge mandated another $9.2 billion of spending over five years to shrink class sizes and improve school facilities [Winter, 2005, p. A1]

Journalists can affect fiscal outcomes by bringing certain issues to public attention. For example, the widespread publicity given to crumbling bridges and roads has induced a number of jurisdictions to increase spending on infrastructure. A recent study by Gerber, Karlan, and Bergan [2006] examined whether newspapers influence the way people vote. They randomly assigned people to receive either the *Washington Post* (generally considered to be a liberal newspaper), the *Washington Times* (generally considered to be conservative), and no newspaper at all. They found that those receiving the *Washington Post* were eight percentage points more likely to vote for a Democratic candidate for governor than those who did not receive a paper, suggesting that the media indeed can influence voting behavior.

Finally, given that information is potentially an important source of power, experts can influence public sector decisions. Legislative aides who gain expertise on certain programs often play important roles in drafting statutes. There are also experts outside the government. Academic social scientists, environmental engineers, and others seek to use their expertise to influence economic policy. Economists love to quote John Maynard Keynes's [1965 (1936), p. 383] famous dictum "the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else." However, it is extremely difficult to determine whether social science research influences policy, and if so, through what channels this influence operates.

Table 6.6 **Ratio of government expenditures to gross domestic product in selected countries** *(selected years)*

Year	Canada	Switzerland	United Kingdom
1900	9.5	n.a.	14.4
1910	11.4	n.a.	12.7
1920	16.1	n.a.	26.2
1930	18.9	15.9	26.1
1940	23.1	19.2	30.0
1950	22.1	19.9	39.0
1960	29.7	17.7	31.9
1970	31.2	21.3	33.2
1980	37.8	29.3	41.8
1990	46.0	33.6	41.9
2000	41.1	33.9	37.5
2004	39.4	36.7	44.1

Sources: Years before 1970 from Pommerehne [1977]. Subsequent years computed from OECD [2005], except for 2000 and 2004 for Canada and UK, which are from US Bureau of the Census [2006].

Notes: The 2004 measure for Switzerland is actually for 2003. n.a. Not available.

The ratio of government expenditures to Gross Domestic Product has increased for a number of countries.

▸ EXPLAINING GOVERNMENT GROWTH

Much of the concern about political economy issues has been stimulated by the growth of government. As documented in Chapter 1, public expenditures in the United States have grown enormously over the long run, both in absolute terms and proportionately. A growing public sector is not unique to the United States, as the figures for a few other Western countries in Table 6.6 indicate. Thus, as we seek explanations for the growth of government, care must be taken not to rely too heavily on events and institutions that are peculiar to the US experience. Some of the most prominent theories follow. They are not necessarily mutually exclusive. No single theory accounts for the whole phenomenon. Indeed, even taken together, they still leave much unexplained.

Citizen Preferences Growth in government expenditure is an expression of the preferences of the citizenry. Suppose the median voter's demand for public sector goods and services (G) is some function (f) of the relative price of public sector goods and services (P) and income (I):

$$G = f(P, I) \tag{6.1}$$

There are many different ways such a demand function can lead to an increasing proportion of income devoted to the public sector. Suppose that when income increases by a given percentage, the quantity demanded of public goods and services increases by a greater percentage—the income elasticity of demand is greater than one. If so, the process of income growth by itself leads to an ever-increasing

share of income going to the public sector, other things being the same.[13] Similarly, if the price elasticity of demand for G is less than one and P increases over time, the government's share of income can increase.

The important point is that the increase in the relative size of the public sector does not necessarily imply something is "wrong" with the political process. Government growth could well be a consequence of the wishes of voters, who rationally take into account its opportunity cost in terms of forgone consumption in the private sector. The question then becomes whether the actual changes in P and I over time could have accounted for the observed historical changes in G. To answer this question, a natural approach is to begin by computing the actual percentage changes in P and I that have occurred over time. Then multiply the percentage change in P by an econometric estimate of the elasticity of G with respect to P, and the percentage change in I by the elasticity with respect to I. This calculation yields the percentage change in G attributable solely to changes in P and I. Next compare this figure with the actual change in G. One estimate based on this approach suggests that only about 40 percent of the growth in US public budgets can be explained by Equation (6.1). (See Holsey and Borcherding [1997].) While this is an admittedly rough calculation, it does suggest that more is going on than a simple median voter story can explain.

Marxist View Some Marxist theories view the rise of state expenditure as inherent to the political-economic system. In the Marxist model, the private sector tends to overproduce, so the capitalist-controlled government must expand expenditures to absorb this production. Typically, this is accomplished by augmenting military spending. At the same time, the state attempts to decrease worker discontent by increasing spending for social services. Eventually, rising expenditures outpace tax revenue capacity, and the government collapses.

Musgrave [1980] argues that the historical facts contradict this analysis. "There is little evidence . . . [that] expenses directed at appeasing social unrest [have] continuously increased" [p. 388]. It is also noteworthy that in Western Europe, the enormous increase in the size and scope of government in the post–World War II era has been accompanied by anything but a resurgence in militarism. The main contribution of this Marxist analysis is its explicit recognition of the links between the economic and political systems as sources of government growth.

Chance Events In contrast to the theories that view government growth as inevitable are those that consider it to be the consequence of chance events. In "normal" periods there is only moderate growth in public expenditure. Occasionally, however, external shocks to the economic and social system "require" higher levels of government expenditure and novel methods of financing. Even after the shock disappears, higher levels continue to prevail because of inertia. Examples of shocks are the Great Depression, World War II, the Great Society, and the Vietnam War.

Changes in Social Attitudes Popular discussions sometimes suggest that social trends encouraging personal self-assertiveness lead people to make extravagant demands on the political system. At the same time, widespread television

[13] The hypothesis that government services rise at a faster rate than income is often called Wagner's Law, after Adolph Wagner, the 19th-century economist who formulated it.

advertising creates unrealistically high expectations, leading to a "Santa Claus mentality" that causes people to lose track of the fact that government programs do have an opportunity cost.

However, one could just as well argue that people undervalue the benefits of government projects instead of their costs. In this case, the public sector is too small, not too big. More generally, although recent social phenomena might account for some movement in the growth of government expenditure, it has been going on for too many years and in too many places for this explanation to have much credibility.

Income Redistribution Government grows because low-income individuals use the political system to redistribute income toward themselves. The idea is that politicians can attract voters whose incomes are at or below the median by offering benefits that impose a net cost on those whose incomes are above the median. As long as average income exceeds the median, and the mechanisms used to bring about redistribution are not too detrimental to incentives, politicians can gain votes by increasing the scope of government-sponsored income distribution. Suppose, for example, that there are five voters whose incomes are \$5,000; \$10,000; \$15,000; \$25,000; and \$40,000. The median income is \$15,000 and the average income is \$19,000. A politician who supports government programs that transfer income to those with less than \$25,000 will win in majority voting. Consistent with this story is the notion that as the difference between the median and average income grows, so too does the amount of government-sponsored redistribution—the more that income is concentrated at the top, the greater the potential benefits to the median voter of redistributive transfers. According to the literature surveyed by Persson and Tabellini [1999], this is indeed a reasonable characterization of income transfer policy in developed nations.

A possible problem with this theory is that it does not explain why the share of public expenditures increases *gradually* (as in Table 1.1). Why not a huge once-and-for-all transfer as the poor confiscate the incomes of the rich? Because in Western countries, property and/or status requirements for voting have *gradually* been abolished during the last century. In the United States, many of the remaining barriers to voting were removed by civil rights laws passed in the 1960s. Extension of the right to vote to those at the bottom of the income scale increases the proportion of voters likely to support politicians promising redistribution. Hence, the gradual extension of the franchise leads to continuous growth in government, rather than a once-and-for-all increase. This conjecture is consistent with Husted and Kenny's [1997] analysis of state spending patterns from 1950 to 1958. During this period, a number of states eliminated poll taxes and literacy tests, which led to higher voter turnout, particularly among the poor. In such states, there was "a sharp rise in welfare spending but no change in other spending" (p. 54).

A limitation of this theory is that it fails to explain the methods used by government to redistribute income. If it is correct, most income transfers should go to the poor and should take the form that would maximize their welfare, that is, direct cash transfers. Instead, as we see in Chapter 12, transfers in the United States are often given in kind and many benefit those in the middle- and upper-income classes.

An alternative view is that income redistribution favors primarily middle-income individuals: "Public expenditures are made for the benefit primarily of the middle classes, and financed by taxes which are borne in considerable part by the poor and

the rich."[14] But there are also government transfer programs with rich beneficiaries; see, for example, the discussion of Medicare in Chapter 10.

Transfer programs that benefit different income classes can exist simultaneously, so these various views of government redistribution are not necessarily mutually exclusive. The important point here is their common theme. Politicians, rent-seeking special-interest groups, and bureaucrats vote themselves programs of ever-increasing size.

Controlling Government Growth

As already noted, substantial growth in the public sector need not imply that anything is wrong with the budgetary process. For those who believe that public sector fiscal behavior is more or less dictated by the preferences of the median voter, bringing government under control is a nonissue. On the other hand, for those who perceive growth in government as a symptom of flaws in the political process, constraining the government is very much a problem.

Two types of argument are made in the controllability debate. One view is that the basic problem results from commitments made by government in the past, so there is very little current politicians can do to change the rate of growth or composition of government expenditures. Entitlement programs that provide benefits to the retired, disabled, unemployed, sick, and others are the largest category of uncontrollable expenditures. When we add other items such as payments on the national debt, farm support programs, and certain defense expenditures, about 75 percent of the federal budget is uncontrollable.

Are these expenditures really uncontrollable? If legislation created entitlement programs, it can take them away. In theory, then, many of the programs can be reduced or even eliminated. In reality, both moral and political considerations work against reneging on past promises to various groups in the population. Any serious reductions are likely to be scheduled far in the future, so that people who have made commitments based on current programs will not be affected.

According to the second argument, our political institutions are fundamentally flawed, and bringing things under control is more than just a matter of changing the entitlement programs. A number of remedies have been proposed.

Change Bureaucratic Incentives Niskanen, who views bureaucracy as a cause of unwarranted government growth, suggests that financial incentives be created to mitigate bureaucrats' empire-building tendencies. For example, the salary of a government manager could be made to depend negatively on changes in the size of his or her agency. A bureaucrat who cut the agency's budget would get a raise. (Similar rewards could be offered to budget-cutting legislators.) However, such a system could lead to undesirable results. To increase his or her salary, the bureaucrat might reduce the budget beyond the point at which marginal benefits equal marginal costs. Do we really want a social worker's salary to increase every time he or she cuts the number of families deemed eligible to receive welfare payments?

Niskanen also suggests expanding the use of private firms to produce public goods and services, although the public sector would continue to finance them. The issues surrounding privatization were already discussed in Chapter 4.

[14] See Stigler [1970], who dubs this proposition Director's Law, after the economist Aaron Director.

Change Fiscal Institutions Most of the focus on bringing government spending under control has been on the budget-making process. Over the years, critics of the process have argued that federal budget making is undisciplined.

Beginning in the 1980s, Congress passed several pieces of legislation whose goal was to impose some discipline. The law now in effect, the **Budget Enforcement Act (BEA)** of 1990, focuses on spending and revenue targets. For example, the budget passed in 1997 put a cap on discretionary spending for each year from 1998 to 2002. (Discretionary spending refers to spending that Congress actually votes on, everything from building tanks to paying civil servants.) An elaborate set of parliamentary rules determines circumstances under which the cap can be exceeded.

Budget Enforcement Act (BEA)

Legislation passed in 1990 that sets annual spending and revenue targets for the federal budget.

The problem is that Congress has shown more than a little creativity when it comes to circumventing the rules. For example, under BEA, spending does not count against the cap if it is for an unforeseen emergency. In 1999, $4.5 billion to pay for the decennial census was categorized this way. But given that the census is mandated by the Constitution, the need to pay for the year 2000 census arguably could have been predicted over 200 years ago! More recently, expenditures of nearly $90 billion for the wars in Afghanistan and Iraq were classified as emergencies and thus not counted against the caps.

Given such anecdotes, it is natural to ask whether fiscal institutions matter at all. If the President and Congress both want to spend a certain amount of money, won't they simply collude to get around whatever rules prevail? Indeed, in recent years "emergency" spending has grown to account for approximately $100 billion each year, which is spending not counted under the BEA caps. One Senator stated that the "budget rules have been bent so many times, they have been rendered meaningless" [Gregg, 2006]. That said, it is hard to make a strong case one way or the other on the basis of our experience with BEA, because one doesn't know what spending would have looked like in the absence of the law.

Another way to try to study the importance of fiscal institutions is to look at the experience of the states, most of which have rules in their constitutions that forbid deficits in their operating budgets. (The operating budget pays for current expenses, as opposed to the capital budget, which finances long-term investments like roads and buildings.) Importantly, the rules differ in their scope and severity. In some states, the only requirement is for the governor to submit a balanced budget. If it turns out that the governor's projections are incorrect and a deficit results, there is no requirement that the state raise taxes or cut spending—the state can borrow to finance the deficit and carry it into the next year. Other states do not allow such behavior—deficits cannot be carried forward. Accounting tricks of the kind described above are sometimes used to deal with the presence of deficits in these states. For example, the governor of Colorado once reduced his state's deficit by $268 million by delaying payments of a month's worth of wages to state employees by one day, pushing them from the last day of the current fiscal year into the first day of the next. Nevertheless, such gambits are generally not employed.

A natural research strategy is to investigate whether states with strict budgetary rules have smaller deficits and react more quickly to unanticipated shortfalls in revenue than states with lenient rules. There is some evidence that, in fact, this is what happens. It is a bit tricky to interpret this evidence, because we do not know if the outcomes in the states with strict rules really are due to the rules themselves. It could be, for example, that strict rules are passed by fiscally conservative legislators, who would deal aggressively with deficits even without legal compulsion. Several econometric studies have concluded that, even after taking such complications into

account, fiscal institutions matter. As Poterba [1997, p. 83] notes, "Although these findings cannot be carried over completely to analyzing the case of federal budget policy . . . , they create a presumption that altering the budget process can affect budget outcomes."

Institute Constitutional Limitations The problems with the BEA have been attributed to the fact that it is simply a piece of legislation and as such can readily be amended, suspended, or repealed by a majority vote of both houses of Congress. Some would go further and put budgetary rules into the Constitution itself. Several constitutional amendments have been proposed; the provisions of the following variant are typical.

1. Congress must adopt a budget statement "in which total outlays are no greater than total receipts."
2. Total receipts may not increase "by a rate greater than the rate of increase in national income."
3. "The Congress and President shall . . . ensure that actual outlays do not exceed the outlays set forth in the budget statement."
4. The provisions can be overridden in times of war.

Most economists—both liberals and conservatives—believe a balanced budget amendment is an ill-conceived idea for several reasons.[15]

First, adopting a statement of outlays and revenues requires making forecasts about how the economy will perform. This problem is sufficiently difficult that forecasters with complete integrity can produce very different estimates. How does the Congress choose among forecasts? If an incorrect forecast is chosen, Congress may be in violation of the law without realizing it! Things become even murkier when one realizes that some forecasts will be biased by political considerations. Those who want to expand expenditures, for example, would encourage forecasts that overestimated tax revenues during the coming year and vice versa.

Second, the amendment fails to define "outlays" and "receipts." By using suitable accounting methods, Congress could easily circumvent the law. For example, the government could simply create various agencies and corporations that were authorized to make expenditures and borrow. Such off-budget activity is already an important way of concealing the actual size of the budget. Alternatively, legislators might try to accomplish with regulation goals they might otherwise have attained by increased expenditure. For example, instead of spending more on health care, Congress could mandate that employers provide insurance for their workers.

Finally, legal scholars have noted some important questions. What happens if there is a deficit? Is the entire Congress put in jail? Could Congress be sued for spending too much? Would federal judges wind up making economic policy? Could a single citizen go to court and obtain an injunction to stop all government activity in the event of a deficit? The BEA experience is informative. When the consequences of complying with the law seemed worse than ignoring the law, the law was ignored.

Nevertheless, constitutional limitations on spending and deficits remain popular. A balanced budget amendment was narrowly defeated in the Congress in 1997. But the proposal is likely to be raised again in the future.

[15] See Schultze [1995] for arguments against an amendment, and Buchanan [1995] for arguments in favor.

Conclusions

Public decision making is complicated and not well understood. Contrary to simple models of democracy, there appear to be forces pulling government expenditures away from levels that would be preferred by the median voter. However, critics of the current budgetary process have not come up with a satisfactory alternative. The formulation of meaningful rules and constraints for the budgetary process, either at the constitutional or statutory level, is an important item on both the academic and political agendas for the years ahead.

Finally, it should be stressed that a judgment that the current system of public finance is inequitable or inefficient does not necessarily imply that government as an institution is "bad." People who like market-oriented approaches to resource allocation can nevertheless seek to improve markets. The same goes for government.

Summary

- Political economy applies economic principles to the analysis of political decision making.
- Economists have studied several methods for choosing levels of public goods in a direct democracy.

  Lindahl pricing results in a unanimous decision to provide an efficient quantity of public goods, but relies on honest revelation of preferences.

  Majority voting may lead to inconsistent decisions regarding public goods if some people's preferences are not single peaked.

  Logrolling allows voters to express the intensity of their preferences by trading votes. However, minority gains may come at the expense of greater general losses.
- Arrow's Impossibility Theorem states that, in general, it is impossible to find a decision-making rule that simultaneously satisfies a number of apparently reasonable criteria. The implication is that democracies are inherently prone to make inconsistent decisions.
- Explanations of government behavior in a representative democracy require studying the interaction of elected officials, public employees, and special-interest groups.
- Under restrictive assumptions, the actions of elected officials mimic the wishes of the median voter.
- Public employees have an important impact on the development and implementation of economic policy. One theory predicts that bureaucrats attempt to maximize the size of their agencies' budgets, resulting in oversupply of the service.
- Rent-seeking private citizens form groups to influence government activity. Special interests can form on the basis of income source, income size, industry, region, or personal characteristics.
- The growth of government has been rapid by any measure. Explanations of this phenomenon include:

  Citizens simply want a larger government.

  The public sector must expand to absorb private excess production.

  Random events (such as wars) increase the growth of government, while inertia prevents a return to previous levels.

  Unrealistic expectations have resulted in increasing demands that ignore the opportunity costs of public programs.

  Certain groups use the government to redistribute income to themselves.
- Proposals to control the growth in government include encouraging private sector competition, reforming the budget process, and constitutional amendments.

Discussion Questions

1. Suppose there are five people—1, 2, 3, 4, and 5—who rank projects A, B, C, and D as follows:

1	2	3	4	5
A	A	D	C	B
D	C	B	B	C
C	B	C	D	D
B	D	A	A	A

   a. Sketch the preferences, as in Figure 6.2.
   b. Will any project be chosen by a majority vote rule? If so, which one? If not, explain why.

2. According to one account of the congressional debate on a tax bill in 2004, "the overall tax bill has provisions sought by so many different lawmakers that it was almost assured of final passage" [Andrews, 2004]. Which of our models of political decision-making best explains this scenario?

3. Three voters, A, B, and C, will decide by majority rule whether to pass bills on issues X and Y. *Each of the two issues will be voted on separately*. The change in net benefits (in dollars) that would result from passage of each bill is as follows:

	Issue	
Voter	X	Y
A	+6	−3
B	−1	+4
C	−2	−3

   Would allowing logrolling improve efficiency?

4. The Free City of Christiania is a community of about 800 adults and 250 children within the city of Copenhagen. It was set up by "hippies and others" and is not subject to the same laws as the rest of Denmark. "There is no governing council or other administrative body, and everything is decided by consensus. . . . In practice, this means that many decisions are never made. . . . [T]ensions are rising among different groups of residents over how to share and pay for communal responsibilities" [Kinzer, 1996, p. A3]. Is this outcome consistent with our theories of voting in a direct democracy? What voting procedures would you recommend for Christiania?

5. In 2005, Kuwaiti women won the right to vote in parliamentary elections. Indeed, women voters now outnumber men voters in Kuwait because women are automatically registered while men have to register on their own. One woman noted, "The Ministers of Parliament used to vote against us; now they are wooing us to vote for them" [Fattah, 2006]. What does this tell us about the validity of the predictions of the median voter theorem?

6. In 1998, the people of Puerto Rico held a referendum in which there were five choices—retain commonwealth status, become a state, become independent, "free association" (a type of independence that would delegate certain powers to the United States), and "none of the above." Discuss the problems that can arise when people vote over five options.

7. Members of the European Union (EU) are required to keep their deficits below 3 percent of Gross Domestic Product. Countries that violate the rule can face huge fines. Nonetheless, many European countries have not met the 3 percent deficit target and no fines have actually been imposed. On the basis of the US experience with the Budget Enforcement Act of 1990, how effective would you predict the EU deficit limits to be? What kind of behavior would you expect to see EU countries exhibit?

8. The discussion of rent-seeking in this chapter noted that peanuts cannot be grown without licenses. The licenses can be sold to nonfarmers, and in fact, many of them are currently owned by firms that have nothing to do with farming, such as insurance companies. Does this fact affect your view of whether or not it would be fair to eliminate the system of licenses for peanut farming? Include in your answer a discussion of the price that owners of the licenses have to pay for them.

9. Assume that the demand curve for milk is given by $Q = 100 - 10P$, where P is the price per gallon and Q is the quantity demanded per year. The supply curve is horizontal at a price of 2.

   a. Assuming that the market is competitive, what is the price per gallon of milk and the number of gallons sold?
   b. With the connivance of some politicians, the dairy farmers are able to form and maintain a cartel. (Such a cartel actually operates in the northeastern United States.) What is the cartel price, and how many gallons of milk are purchased? [Hint: The marginal revenue curve (MR) is given by $MR = 10 - Q/5$. Also, remember that the supply curve shows the marginal cost associated with each level of output.]
   c. What are the rents associated with the cartel?
   d. Suppose that in order to maintain the cartel, the dairy farmers simply give lump-sum campaign contributions to the relevant politicians. What is the maximum contribution they would be willing to make? What is the deadweight loss of the cartel?
   e. Suppose that instead of lump-sum contributions to politicians, the dairy farmers hire lobbyists and lawyers to make their case in Congress. How does this change your estimate of the deadweight loss associated with this rent-seeking activity?

10. In the aftermath of September 11 there were fears that terrorists would attempt to sabotage the country's food supply. Food safety is under the jurisdiction of the Food and Drug Administration (FDA). Use the Niskanen model of bureaucracy (Figure 6.4) to predict how new concerns over food safety would affect the optimal number of FDA employees and the actual number of employees.

11. Consider a society with three people (John, Eleanor, and Abigail) who use majority rule to decide how much money to spend on schools. There are three options for spending on a public park: H (high), M (medium), and L (low). These individuals rank the three options in the following way:

Rank	John	Eleanor	Abigail
1	M	L	H
2	L	M	M
3	H	H	L

   a. Consider all possible pairwise elections: M versus H, H versus L, and L versus M. What is the outcome of each election? Does it appear, in this case, that majority rule would lead to a stable outcome on spending on the public park? If so, what is that choice? Would giving one person the ability to set the agenda affect the outcome? Explain.
   b. Now suppose that Eleanor's preference ordering changed to the following: first choice = L, second choice = H, and third choice = M. Would majority rule lead to a stable outcome? If so, what is that choice? Would giving one person the ability to set the agenda affect the outcome? Explain.