Specialization

Like the architect's blueprint for a building, a constitution describes the legal foundations of the state. Every constitution defines offices and allocates powers to them, and a good constitution allocates powers to the branch and level of government that exercises them the best. A conventional formula distinguishes among the legislative, executive, and judicial branches of government. By convention, law should be made by the legislature, enforced by the executive, and interpreted by the courts. Reality is much more complicated than this simple formula. Each of the three branches of government performs all three activities, although not to an equal extent.

In this chapter I describe the branches of government and the functions that they perform in economic terms. I will go beyond description by applying models of voting and bargaining to the branches of government. My analysis will explain the special competence and vulnerability of each branch of government. This chapter will answer such questions as these:

**Example 1:** Many legislatures have an upper chamber (the senate) and a lower chamber (the house). How does a second chamber protect the majority of citizens against lawmaking by a minority?

**Example 2:** In some countries, the citizens directly elect the executive (president), and in other countries the legislature elects the executive (prime minister). What difference does this make to legislative bargains? How does the separation of powers affect bargaining power in the legislature?

**Example 3:** Majority rule can cause cycling in legislatures. What about cycling in judicial panels? What problems does the possibility of cycling create for judicial interpretation of statutes?

**Rationales and Shortcomings of Conventional Formula**

According to the conventional formula, law should be made by the legislature, enforced by the executive, and interpreted by the courts. This formula has a simple rationale. Electoral competition ideally aligns the goals of legislators and their constituents. The legislature provides a forum for bargaining among a society's political factions. Making laws requires bargaining and deliberation, which the legislature does best. To organize legislative bargaining, legislators form parties and submit to the executive's leadership. The executive brokers deals and implements agreements. Enforcing laws requires decisive action, and the executive, with its hierarchical organization, can act decisively. Interpreting
laws accurately requires independence from politics and money, and the courts are ideally the most independent branch of government. In brief, the legislature provides the best forum for bargaining over laws, the executive can act decisively to implement law, and independent courts can interpret law.

These roles can be restated in more economic language. The legislature provides a forum for political bargaining with low transaction costs. Successful bargaining requires credible commitment to agreements. Commitments are more credible given low-cost implementation by the executive and neutral interpretation by the judiciary. Hierarchy in the executive lowers the cost of implementation, and independence of the judiciary increases the likelihood of neutral interpretation.

In reality, each of the three branches of government performs all three activities, although not to an equal extent. In every country the executive agencies make laws by creating regulations and interpreting them. For example, the U.S. president appoints the director of the Environmental Protection Agency, who creates, interprets, and enforces environmental regulations. Similarly, the legislature has some power to interpret and enforce statutes. For example, committees of the U.S. Congress hold hearings to investigate the behavior of officials. During these hearings, committees often interpret law for officials and enforce it upon them. Finally, courts in most countries have some power to make law and enforce it. A law is conventionally defined as an obligation backed by a state sanction. By this definition, judges make a new law whenever they interpret a statute and find that it imposes a new obligation upon people. Courts also enforce law by issuing injunctions and other coercive orders, such as garnishing the defendant's wages in order to repay a debt.

Besides being too simple, the conventional formula distorts a fundamental fact about the state. In chapter 11 I argued that democracy promotes efficiency by reducing the transaction costs of political bargaining. An unorganized legislature, however, cannot bargain successfully and enact needed legislation. Organization and leadership of the legislature comes especially from the executive. In parliamentary systems, the executive provides leadership and organization directly as a member of the legislature, while in presidential systems the executive provides leadership and organization indirectly to the legislature as leader of a large party. Unlike the simple formula, the strategic theory of democracy recognizes the executive's role in legislative bargains. I will use strategic theory to analyze each branch of government.

LEGISLATURE

Understanding legislative activity requires understanding legislative incentives. Competition quickly eliminates from office the few legislators who do not want to be reelected. Reelection is, consequently, the inevitable goal of most legislators. How legislators get reelected depends on electoral rules and party organization, which vary from place to place. Elections can be at-large or by

district, and districts can be historical or equal in size. Electoral districts can elect representatives by plurality rule, majority rule, or proportional representation. The party leadership can designate the party's nominee or the members of the party can vote for its nominee in a primary election.

Regardless of the electoral rules and party organization, however, candidates or their parties must appeal to voters in order to win. When voters are well informed, winning elections requires giving the voters what they want. To get what the voters want, legislators must bargain and strike deals. The legislature reduces the transaction costs of political bargaining by providing a forum for the representation of parties, factions, and interests. This is the legislature's special competence.

I will analyze how different ways of organizing a legislature affect its special competence. My analysis encompasses the size of the legislature, party composition, electoral rules (plurality rule vs. proportional representation), and bicameralism.

**Transaction Costs and Legislature's Optimal Size**

Suppose that a constitutional convention must decide the size of the legislature. The legislature could consist of every citizen, a single person, or any number in between. What is the best size? The interplay between representation and bargaining provides the answer. The constitutional convention must balance two considerations. First, legislation requires costly negotiation. (A colleague grumbled as he left a faculty meeting, "I can't think this slowly.") The cost of negotiating tends to fall as the number of negotiators falls. Taken to its logical limit, a legislature consisting of a single representative minimizes the transaction costs of negotiating to make legislation.

Second, a larger legislature has a higher ratio of representatives to citizens. As the ratio increases, the citizens are more likely to know their representatives, so citizens can demand better representation. As the ratio increases, the legislators are more likely to know their constituents, so legislators are able to represent citizens better. More information permits and requires legislators to represent citizens better. Taken to its logical limit, these facts imply that citizens receive the best representation from a legislature consisting of all the citizens, like New England town meetings. Aristotle wrote that the many do better than the few "just as a feast to which many contribute is better than a dinner provided out of a single purse.

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2 To illustrate, until recently the city of Berkeley, California, had a council of nine members. At each election, three council seats were contested. Citizens throughout the city could vote for three candidates for the council. The electoral rules were recently changed. Now the city of Berkeley is divided into electoral districts, with each district electing one counselor.

3 To illustrate, the U.S. states are divided into electoral districts with equal population for electing the House of Representatives, whereas each state elects two senators. Thus California, with more than thirty million inhabitants, has many more representatives and the same numbers of senators as North Dakota, which has fewer than one million inhabitants.

4 "[T]he many, of whom each individual is but an ordinary person, when they meet together may very likely be better than the few good, if regarded not individually but collectively, just as a feast
Besides reducing errors in representation, a larger legislature makes fewer errors in making laws for two reasons. First, the "Law of Large Numbers" asserts that random errors tend to cancel each other as the sample size grows. This principle implies that under certain conditions, aggregation cancels the errors in factual judgments made by individual legislators. As the legislature increases in size, the probability diminishes that the majority will make a mistake in factual judgement.  

The application of this principal to government has several versions, notably by Condorcet. When the probability of each legislator's making the right decision exceeds .5, adding an additional legislator decreases the probability of a mistake by the majority. Another formulation emphasizes the median rule. Assume that each member of the legislature observes the facts with purely random error (normal distribution with a mean of zero). The expected error in the median voter's judgment falls as the size of the legislature increases. More generally, it can be shown that among all group decision rules on two alternatives (one of which is in fact correct), simple-majority rule is most likely to identify the correct outcome.

Second, in addition to making errors in objective facts, legislatures make errors in representing the subjective values of citizens. Differences in subjective values, which economists describe as differences in preferences, create scope for political bargains. In a town meeting attended by all the citizens, each person can bargain for himself. In a representative assembly, however, each legislator must represent different citizens with different preferences. As the ratio of citizens to representatives increases, legislators make more mistakes in representing the preferences of citizens. These mistakes prevent legislatures from exhausting the gains from political bargains.

I have explained that a smaller legislature lowers the transaction costs of lawmaking, whereas a larger legislature makes fewer mistakes of fact and representation. A trade-off apparently exists between transaction costs and mistakes in legislation. If the only aim were minimizing transaction costs of making to which many contribute is better than a dinner provided out of a single purse" (Aristotle, Politics III, II. 1281a—1281b).

This logic assumes independent judgment by each legislator. In reality, debating precedes voting. In debate people learn new information that can change their judgment. The exchange of information may become more efficient as the size of the legislature falls. The proofs of the superiority of a large legislature typically neglect the role of debate in reaching decisions. A more complex model would allow the legislators to exchange information and influence each other and would acknowledge that increasing the size of the legislature increases the transaction costs of its members' exchanging information with each other.


Alternatively, assume that legislators are drawn at random, some of whom make errors with probability greater than .5. If the expected probability of an additional legislator's making the right decision exceeds .5, adding an additional legislator decreases the expected probability of a mistake by the majority.

legislation, the legislature should consist of a single person. If errors in factual judgments and representing preferences were the only considerations, the legislature should consist of the entire nation. Taking both factors into account, the legislature’s size is optimal when one more member improves the accuracy of the decision by an amount equal to the resulting increase in transaction costs.

To illustrate the optimum, the horizontal axis in figure 8-1 indicates the size of the group making the decision, and the vertical axis indicates costs. According to the graph, transaction costs increase with the group’s size, whereas error costs diminish, at least up to a point. The total costs, which equal the sum of transaction costs and error costs, decrease at first and subsequently increase with the group’s size. The minimum point on the total cost curve, denoted \( s^* \), indicates the optimal size of the decision-making group.

**Optimal Party Composition**

A similar logic applies to the legislature’s composition by political party. Consider the difference between two systems of proportional representation. Pure proportional representation, as in Israel, exists when citizens vote for parties and the seats in the legislature are allocated strictly in proportion to votes received. Minimum proportional representation exists when citizens vote for parties, and the seats in the legislature are allocated in proportion to the votes received by all parties enjoying a minimum proportion of votes. To illustrate, in Germany the seats in the legislature are divided in proportion to votes among all the parties receiving at least 5 percent of the popular vote.\(^9\)

\(^9\)German parties must receive a smaller minimum proportion of votes (1 percent to .5 percent) to receive government funds for conducting political campaigns.
Suppose you were designing a constitution incorporating minimum proportional representation, and you had to select the minimum proportion. A lower minimum allows the representation of more parties in the legislature. By opening the legislature to small parties, the legislature represents more diverse political views. As discussed above, more diversity in political views reduces the probability of errors of representation. As parties fragment, however, the transaction costs increase for creating a coalition to enact legislation. Finding the best level at which to set the minimum proportion requires balancing error costs and transaction costs, much like finding the optimal size of the legislature.

Figure 8-2 depicts the balancing of costs, with the minimum proportion shown on the horizontal axis. Figure 8-2 resembles figure 8-1 with the curves labeled “transaction cost” and “error cost” reversed. The optimum in figure 8-2 occurs at the point $p^*$ where the reduction in transaction costs from raising the minimum proportion exactly offsets the increase in error costs. So computing the minimum proportion of votes for representation in the legislature is much the same as computing the legislature’s optimal size.

**Plurality Rule v. Proportional Representation**

In chapter 3 I described the two great families of voting rules as plurality rule and proportional representation. The discussion of Duverger’s Law in chapter 3 explained that plurality rule tends to consolidate factions into two centrist parties. Parties consolidate because citizens throw away their votes by voting for minority parties. By reversing the order of argument, it is easy to see why proportional representation tends to create a system with many political parties. Under proportional representation, each citizen tends to vote for the party whose preferences most closely resemble his own. In a parliamentary system,
each party in the legislature can bargain to join the governing coalition, and in a presidential system each party in the legislature can bargain to obtain the chairmanship of an important committee. A citizen does not throw away a vote by voting for a small party so long as it has some bargaining power. Proportional representation thus fragments parties by empowering all parties, whereas plurality rule consolidates parties by stripping power from minority parties.

**ERRORS IN REPRESENTATION**

Under proportional representation, the difference between a party’s fraction of votes and its fraction of seats represents a kind of error in representing the citizens. To formalize this idea, define the *error in representing a party* as the absolute value of the difference between the party’s fraction of the popular vote and the fraction of its seats in the legislature. To illustrate, assume that the fraction of the popular vote for the legislature equals .6 for the Christian democratic party, .3 for the socialist party, and .1 for the green party. To keep the example simple, assume that every electoral district mirrors the nation as a whole, so the vote in each district equals .6 for the Christian democratic party, .3 for the socialist party, and .1 for the green party.

Now compare plurality rule and proportional representation. In a system of plurality rule by district, the Christian democrats receive all of the seats, so the error in over-representing the Christian democrats equals $|1 - .6|$. Similarly, the error in under-representing the socialists and the greens equals $|0 - .3|$ and $|0 - .1|$, respectively. The total error under plurality rule equals $|1 - .6| + |0 - .3| + |0 - .1| = .8$. In contrast, a system of pure proportional representation assigns .6 of the seats to the Christian democratic party, .3 to the socialist party, and .1 to the green party. With perfect proportional representation, the error in representation equals $|.6 - .6| + |.3 - .3| + |.1 - .1| = 0$.

Under plurality rule, the voters for minority parties have no representation and the officials in minority parties have no public offices. To correct the error in representation and obtain public offices for party officials, the socialist party and the green party will probably consolidate in time, or one of them will disappear. In general, underrepresentation of parties drives their consolidation. Consequently, the system with the greatest error in representation creates the strongest force for consolidating parties. Conversely, perfect proportional representation eliminates error in representing parties, which fragments parties and destabilizes governments. This general pattern is confirmed in comparing many nations.\(^{10}\)

**BUNDLING CANDIDATES**

With majority rule in district elections, the voters can pick and choose among candidates. In contrast, under many systems of proportional representation, each party designates a list of candidates and the voters choose among alternative lists. On any party’s list, a voter may like some candidates and dislike others. In drawing up a party’s list, the leadership typically balances the intrinsic appeal of candidates.

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\(^{10}\) Rae 1995, p. 70, citing Powell 1982.
candidates to voters and the loyalty of candidates to the party. The party leaders will sacrifice some popularity to increase loyalty. Thus proportional representation tends to strengthen party loyalty.

A market analogy clarifies the logic of party leadership. Assume that you own the only restaurant on a popular vacation spot where you serve two foods: hamburgers and fried potatoes. To make the most money, should you sell hamburgers and potatoes separately, or should you only sell a combination plate? The answer depends on the structure of demand.

Omnivores like hamburgers and potatoes, vegetarians like potatoes and not hamburgers, and carnivores like hamburgers and not potatoes. Consider a vegetarian's response to alternative menus. If you sell each item separately, most vegetarians will spend a little to buy potatoes. If you bundle the two items, some vegetarians will spend a lot to buy the combination plate, and some vegetarians will not buy anything. The profitability of bundling versus unbundling depends on the elasticity of demand by different groups of consumers.\(^{11}\) In general, bundling the two goods is more profitable when doing so causes a small reduction in total sales, and unbundling is more profitable when doing so causes a large increase in total sales.

The party leadership faces an optimal bundling problem similar to that of the restaurateur. As in markets, a political party facing inelastic "demand" by voters has more power to name loyal candidates, rather than name popular candidates. Theory predicts that other things equal, parties facing the least elastic demand from voters will demand the greatest loyalty from candidates. Thus, monopoly power of a party increases the demand of its leaders for loyalty. Conversely, monopoly power by a party causes a decrease in the popularity of legislators with voters in a system of proportional representation.

**DISTRICT MAGNITUDE**

Instead of being perfect, systems of proportional representation often contain imperfections designed to shrink the number of parties. I already discussed the example of minimum proportional representation. Another device allocates seats to parties by weighting the proportion of the votes that they receive so as to increase the representation of larger parties. For example, a party that receives 40 percent of the vote may receive 60 percent of the seats, whereas a party receiving 15 percent may only receive 5 percent of the seats. A Belgian mathematician devised such a weighting rule that Spain adopted for its Parliament (the "D'hondt" rule). Another approach adopted by Italy in recent electoral reforms allocates 25 percent of the seats in Parliament to the parties by proportional representation and fills the remainder of the seats by winner-take-all elections in districts.

A frequent imperfection in proportional representation concerns the size of electoral districts. The district magnitude refers to the number of legislative seats assigned to each electoral district. For example, the U.S. House of

\(^{11}\) Commodity bundling in markets is explained in Adams and Yellen 1976. No simple formula expresses the optimum.
Representatives has a district magnitude of 1, with 435 seats in as many districts. In general, plurality rule has a district magnitude of 1. In contrast, Israel elects its entire legislature in one national district, so that magnitude equals several hundred. Worldwide, most magnitudes fall somewhere between 1 and 20.\(^{12}\)

When the district magnitude is small, proportional representation makes errors. To illustrate, if a district has 3 seats and 5 parties, at least 2 parties must go without representation. Conversely, if a district has 10 seats and 5 parties, all parties may have representation. As the magnitude of the district rises, a system of proportional representation makes smaller errors in representation.\(^{13}\) Generalizing Duverger's Law, I conclude that a reduction in district magnitude tends to reduce the number of parties.

DIRTY TRICKS WITH DISTRICTS

A reduction in district magnitude also provides an incentive to "gerrymander" the boundaries of electoral districts in order to maximize a party's seats in the legislature. To illustrate gerrymandering, assume that an official must divide a certain area into two districts, each represented by one legislator. Also, assume that 51 percent of the citizens in the area vote Left and 49 percent vote Right. If the boundaries are drawn so that each of the two districts contains 51 percent Left voters and 49 percent Right voters, then Left will win both seats. Alternatively, if the boundaries are drawn so that most Left voters are in one district and most Right voters are in the other district, then each party will win one seat. The boundaries decisively change the representation of the two parties in the legislature.

Theory predicts an increase in gerrymandering with low-magnitude districts and plurality rule. As predicted, accusations of gerrymandering frequently occur in the U.S. The U.S. Constitution allocates seats in the House of Representatives to states in proportion to their population.\(^{14}\) Shifts in population as revealed by the census provide an occasion to redraw the boundaries of the electoral districts, which are usually drawn by the state legislature, possibly subject to veto by the governor. The Democratic Party in the U.S., which has controlled most state legislatures in recent years, has been accused of gerrymandering to produce a Democratic majority in Congress.

Is this belief justified? The error in representation provides a very simple test for gerrymandering. If Democrats win about 50 percent of the popular vote, and if districts are not gerrymandered, then Democrats should also win about 50 percent of the seats in Congress on average. On the other hand, if Democrats win about 50 percent of the popular vote and Democrats win much more than 50 percent of the seats in Congress, then the Democrats probably gerrymandered the districts.

\(^{12}\) Rae 1995, p. 65.
\(^{14}\) There is, in fact, a tricky problem in the arithmetic. Dividing seats in the House by the proportion of people in a state usually leaves a remainder. The rule for allocating the remainder is apparently biased against large states. See Steen 1982.
Applying this simple test to U.S. congressional districts detects little gerrymandering. The self-interest of politicians explains this finding. When drawing boundaries for electoral districts, a party maximizes its seats by spreading its faithful voters in order to create a small majority in each electoral district. Senior legislators, however, want safe seats. To create safe seats, the senior legislators want to concentrate the party's faithful voters in a few districts. Thus the interests of the party as a whole favor gerrymandering to win many seats by narrow margins, and the interests of the party's senior legislators favor gerrymandering to win few seats by wide margins.

Sometimes gerrymandering follows the interests of the party, and sometimes gerrymandering follows the interests of senior legislators. In aggregate these effects apparently cancel each other in the United States. Insofar as this result holds generally, the legal mechanism for redrawing electoral boundaries affects individual elections but not the aggregate composition of the legislature by party. Self-interest solves the aggregate problem of gerrymandering by parties, without resorting to proportional representation or at-large elections.

In the United States, especially troublesome charges of gerrymandering involve race. In 1998, 9 percent of the seats in the U.S. House of Representatives (39 out of the 435) were held by African Americans, whereas 12 percent of Americans identified their race as African American in the 1990 census. Thus, the proportion of African Americans in the U.S. population exceeds the proportion of African Americans in Congress. Parties have sometimes gerrymandered districts to reduce black representation, and courts have sometimes ordered the redrawing of district lines to increase black representation. To illustrate, responding to a court order to create a black district in North Carolina, Democrats drew distorted boundaries, apparently to ensure that the Republicans would lose the seat. The district, whose shape was so unnatural that it became known as the "ugly district," provoked a national debate among legal scholars.

CONDORCET WINNERS

Having discussed representation, transaction costs, and error costs, I turn to another consideration in evaluating legislative performance. Recall from chapter 2 that a Condorcet winner is an alternative that can defeat any other alternative in paired voting. One standard for judging the organization of a legislature is whether or not it picks out Condorcet winners. In other words, if a Condorcet winner exists, will the legislature find and enact it? I will explain why plurality rule tends to find and pick Condorcet winners, whereas proportional representation does not.

In three-party competition, the winner of the election is not necessarily a Condorcet winner under most voting rules. To illustrate, assume a three-way

15 "Virtually all the political science evidence to date indicates that the electoral system has little or no systematic partisan bias, and that the net partisan gains nationally from redistricting are very small" (Cain and Butler 1991).

16 See Polsby and Popper 1993 for a discussion of this case and other cases on racial gerrymandering.
contest in which the Right party wins 45 percent, the Left party wins 40 percent, and the Green party wins 15 percent. To keep the example simple, assume that these proportions obtain in every district, as well as in the nation as a whole. If the election is conducted under plurality rule, the Right wins in every district. If the election is conducted under proportional representation in a parliamentary system, the Right is usually invited to form a government. So the Right wins in a three-party contest.

Now assume that the Green party is eliminated, so the voters must choose between the Right and the Left. If Green loyalists vote Left, the results are 45 percent for the Right and 55 percent for the Left. In two-party voting, the Left can defeat the Right. So the Left wins in a two-party contest. A Condorcet winner, by definition, prevails in paired voting, so the Left is a Condorcet winner. Notice that in this example, the Condorcet winner (the Left) prevails in voting between two parties, and another party (the Right) prevails in voting among three parties.

Under most voting rules, third-party alternatives are relevant to which of the two largest parties wins. Consequently, a Condorcet winner can lose in an election involving three parties. According to Duverger's Law, plurality rule typically eliminates third parties. Given only two parties, the party that can defeat any other party in paired voting always wins. Thus, Condorcet winners tend to prevail in plurality rule in the long run, but not in proportional representation.

PREFERENCE REVELATION

The preceding examples with three parties implicitly assume that citizens vote their true party preferences. Instead of revealing their true party preferences, citizens sometimes vote strategically. To illustrate, under plurality rule with three parties, members of the Green party observe that voting Green causes the Right to win, so they might switch and vote Left. As another example of strategic voting, even after the Left absorbs the Green party, some members of the Green party might announce that they will vote Right until the Left government adopts stronger policies to protect the environment. Similarly, under proportional representation some Greens might vote against their party, say to prevent their leaders from forming a coalition with the Right.

In general, no democratic voting rule based on the ranking of candidates by citizens can motivate voters to respond truthfully in all circumstances. However, some voting rules induce strategic behavior in circumstances where other rules do not. As the preceding example suggests, strategic voting by citizens especially occurs when several parties (more than two and less than, say, five) compete for office. With a small number of parties, citizens can make the necessary calculations to determine when strategic voting pays off. When proportional representation results in many parties, however, small parties can have power.

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17 Thus, collective choice with three parties usually violates the assumption of the independence of irrelevant alternatives, which figures in Arrow's Impossibility Theorem. For a discussion, see chapter 3 of Sen 1970a.

18 This proposition is formulated as a theorem in Gibbard 1973 and Satterthwaite 1975.
in government equal to or exceeding their proportion of seats. In these circumstances, citizens can often advance their political values most by voting for the party that they most prefer, even if it is a small party. Conversely, when plurality rule results in two-party competition, citizens usually advance their political values most by voting for the major party that they most prefer, even if they do not like the major parties very much.

**ORGANIZATIONS OR BARGAINS?**

My discussion of Duverger's Law suggests a fundamental way to change the transaction costs of legislation. Orders and bargains are two different ways by which people cooperate with each other. Superiors give orders to subordinates, and equals bargain. Within parties, hierarchy and discipline enable the party leadership to give orders to party members. Between parties, however, the absence of hierarchy or discipline requires party leaders to bargain with each other. According to Duverger's Law, plurality rule consolidates parties, whereas proportional representation fragments parties. Thus plurality rule channels political transactions into organizations, whereas proportional representation channels political transactions into bargains. In general, plurality voting favors organization over bargains in the legislature, whereas proportional representation favors bargains over organization.\(^{19}\) Organizations bring stability to politics at the cost of not representing the preferences of some citizens. In contrast, bargaining among multiple parties represents preferences more fully at the cost of instability.

The advantage of one system over the other depends partly on history. If the worst danger to a democracy is legislative paralysis, then proportional representation aggravates the problem. Introducing imperfections in representation can energize such a system. Alternatively, if the worst danger to a democracy is abuse of power by a political cartel, then a move toward proportional representation can destabilize the cartel by destabilizing government. More perfect representation can open the system to more diverse influences. Next I consider another way to destabilize political cartels: bicameralism.

**Questions**

1. Suppose that immigration diversifies the population of a country. Predict the resulting shift, if any, in the curves in figure 8-1.

2. What difference would it make in the United States if retired judges, rather than politicians, chose the boundaries of electoral districts?

3. Contrast the objectives of minimizing error in representation and creating stability in government.

4. Analyze the proposition, "Proportional representation is better in principle than in fact because it disorganizes electoral competition."

\(^{19}\) For a discussion of the difference between hierarchies and bargains in private business, see Williamson 1975.
Bicameralism

Constitutions often create two chambers of the legislature with different principles of representation. The lower chamber typically represents people. To illustrate, the House of Representatives in the U.S. Congress consists of 435 representatives elected from districts with almost equal numbers of voters. Similarly, the European Parliament consists of 626 representatives elected by the people in each country according to the country’s electoral laws.

The upper chamber, in contrast, may represent people, states, or something else. To illustrate, the U.S. Senate consists of two representatives elected from each of the fifty states, and Europe’s Council of Ministers consists of one representative of the government of each nation in the European Union. Representation by states implies disproportionate representation of people. To illustrate, California and North Dakota each have two senators, even though North Dakota’s population in 1990 was 2 percent of California’s population. Similarly, Germany and Denmark each send one minister to Europe’s Council of Ministers, even though Germany has many more people than Denmark.

In addition to differing in composition, the two chambers differ in power from one country to another. A strong upper chamber has roughly the same powers as the lower chamber to initiate and veto legislation. A weak upper chamber, in contrast, can discuss, advise, or even delay legislation but cannot initiate legislation or veto it. In some countries, such as the United States and Australia, the upper chamber’s power roughly equals the lower chamber’s power. In other countries, such as Spain, the upper chamber is relatively weak. Britain’s House of Lords, which formerly represented aristocratic birth and possessed power, now possesses no power and represents outstanding achievement.

Are two chambers better than one? To address this question, I want to analyze some hidden consequences of bicameralism. To keep the analysis simple, I will focus on the strong form of bicameralism in which both chambers must concur to create new legislation. (My conclusions apply to some weaker forms of bicameralism and not to others.) If enacting legislation requires the concurrence of two chambers, then they must bargain with each other explicitly or implicitly. The necessity of bargaining increases the transaction costs of legislation. Higher transaction costs reduce the speed and quantity of new legislation. Conversely, higher transaction costs of change privilege the status quo. So the first effect of bicameralism is to privilege the status quo over alternatives.

Recall from chapter 3 that majority-rule games of distribution with symmetrical players have no core. This fact can create an unstable pursuit of advantage by legislators. The core is empty in a unicameral legislature when, for any possible initial situation, a proposal for fresh legislation to redistribute wealth will command a majority of votes. Thus any initial distribution of wealth is

20 The U.S. Senate disproportionately represents rural states with small populations, and this fact partly explains the persistence of government subsidies to agriculture.

21 In chapter 5 I explain that the Council of Ministers decides some issues by weighting the votes of ministers according to the size of their country. Weighted voting moves the representation of states in the direction of the representation of people.
vulnerable to a proposal for redistribution. Adding a second chamber to the legislature, however, can sometimes remedy this instability. The reason is easy to see. In a bicameral system, a majority in the first chamber may prefer a new proposal for redistribution to the status quo, whereas a majority in the second chamber may prefer the status quo. If the second chamber blocks any feasible proposal to change the status quo, the status quo is in the game's core. In general, adding a second chamber often stabilizes the game of legislation by privileging the status quo.22

Privileging the status quo is especially important in a system of district elections with majority rule. In such a system, unicameralism allows a minority of citizens to impose its rule on the majority of citizens. To illustrate by a concrete example, assume that a nation has a unicameral legislature where each district elects one representative by majority rule. A party that wins 51 percent of the vote in 51 percent of the districts has a majority of the seats in the legislature, even though the party only wins slightly more than one-fourth of the votes in the nation as a whole. With a unicameral legislature, the party representing one-fourth of the population could enact extensive legislation opposed by most citizens. Adding a second chamber to the legislature protects against this possibility. A party with 51 percent of the popular vote in 51 percent of the districts for the first chamber is unlikely to win a majority of seats in the second chamber.

Figure 8-3 depicts these facts. Assume that a nation consists of three states, labeled A, B, and C. Assume there are two parties, named Left and Right. In figure 8-3, the shaded area represents the number of Right voters, and the blank area represents the number of Left voters. To consider unicameralism, focus on the bottom half of the figure. According to figure 8-3, 51 percent of the voters are Right in districts 1, 3, and 5, whereas 0 percent of the voters are Right in districts 2 and 4. Under unicameralism, each district elects one representative to the legislature. Consequently, Right controls three seats and Left controls two seats, even though Right's percentage of the popular vote in the nation as a whole equals approximately 30 percent. Thus, the Right minority can rule over the Left majority in a unicameral legislature.

Bicameralism typically changes this result. Assume the second chamber represents states, where districts 1 and 2 constitute State A, districts 2 and 3 constitute State I, and districts 3 and 4 constitute State II. State I encompasses districts A and B in the first chamber. State II is identical to district C. State III encompasses districts D and E. Thus (I, II, III) = (A + B, C, D + E). Use this formula to convert payoffs in districts to payoffs in states. Thus the status quo yields (33, 33, 33) in the second chamber, whereas the proposed alternative yields (30, 40, 30). States I and II prefer the status quo, and state III prefers the new proposal. I have shown that a majority coalition in the first chamber will enact a particular redistributive proposal and a majority coalition in the second chamber will block it. Given two feasible alternatives, the status quo is unstable in a unicameral legislature and stable in a bicameral legislature.

22 Miller, Hammond, and Kile 1996; Miller and Hammond 1990; and Hammond and Miller 1987. To illustrate, consider this variation in the majority-rule game of dividing $100. Assume the first chamber consists of five districts denoted (A, B, C, D, E), each with one vote. Assume the division (33, 33, 33, 0) is the status quo. Assume the only alternative proposal is (0, 30, 40, 0, 30). The majority coalition (B, C, E) prefers the alternative proposal, so the status quo is unstable in the first chamber. Now add a second chamber to the legislature that consists of three states denoted (I, II, III). State I encompasses districts A and B in the first chamber. State II is identical to district C. State III encompasses districts D and E. Thus (I, II, III) = (A + B, C, D + E). Use this formula to convert payoffs in districts to payoffs in states. Thus the status quo yields (33, 33, 33) in the second chamber, whereas the proposed alternative yields (30, 40, 30). States I and II prefer the status quo, and state III prefers the new proposal. I have shown that a majority coalition in the first chamber will enact a particular redistributive proposal and a majority coalition in the second chamber will block it. Given two feasible alternatives, the status quo is unstable in a unicameral legislature and stable in a bicameral legislature.
State B, and district 3 constitutes State C. The top half of figure 8-3 represents these facts. Each state elects one representative to the second chamber, so Right controls one seat and Left controls two seats. In figure 8-3 the popular minority controls the first chamber and the popular majority controls the second chamber. In these circumstances, successful legislation requires bargaining between the Right in the first chamber and the Left in the second chamber.

The preceding discussion began by considering a unicameral legislature consisting of the first chamber depicted in the bottom half of figure 8-3. Next I added a second chamber depicted in the top half of figure 8-3. Adding the second chamber blocks minority rule and forces bargaining between the Left and Right. Alternatively, adding a second chamber can also block majority rule. To see why, reverse the example and begin with a unicameral legislature consisting of the second chamber as depicted in the top half of figure 8-3. A unicameral legislature consisting of the second chamber in figure 8-3 permits the Left majority to rule. Now add another chamber as depicted in the bottom half of figure 8-3. The move to a bicameral legislature permits the Right minority in the additional chamber to block the Left majority in the original chamber. Under this interpretation of figure 8-3, adding another chamber blocks majority rule and forces bargaining between the Left and Right.

In general, bicameralism can protect the majority against minority, and bicameralism can also protect the minority against the majority. Instead of minority rule or majority rule, bicameralism makes the majority and the minority cooperate in order to rule. The two groups must cooperate to rule so long as one group...
controls one chamber of the legislature and the other group controls the other chamber. (Later I explain how, by increasing the transaction costs of legislation, bicameralism shifts power from legislature to courts.)

I have explained that bicameralism can protect majorities against minorities, and vice versa. A more conventional approach protects by entrenching rights in the constitution. Between these alternatives, bicameralism has a distinct advantage over constitutional rights. Specifically, bicameralism protects existing rights without blocking consensus legislation.23

**Question:** Consider the distribution of voters depicted in figure 8-4, where the shaded area represents the number of Right voters and the blank area represents the number of Left voters.

1. Which party governs in a unicameral system with the second chamber in figure 8-4 as the only legislative body?

2. Which party governs in a unicameral system with the first chamber in figure 8-4 as the only legislative body?

3. Can either party govern by itself without the other’s cooperation in a bicameral system?

4. Suppose the legislature in figure 8-4 were expanded from two chambers to three. Predict the consequences for Condorcet winners and minority rights.

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5. Australia and the United States have bicameralism—the lower chamber represents people and the upper chamber represents states. In the United States, however, people elect the president directly (presidential system), whereas in Australia the lower chamber selects the executive from among its members (parliamentary system). Predict which system provides greater protection of the majority against a minority and vice versa.

**EXECUTIVE**

The executive differs from the legislature in its perspective on politics. In a presidential system, the presidential candidates have an incentive to identify their party’s platform with the median voter. In a parliamentary system, this mechanism does not operate directly because the prime minister is not directly elected. In either system, however, the executive has an incentive to develop a national program and make legislators adhere to it. A national perspective drives the executive toward the center in the nation’s distribution of political preferences.

To implement a national program, the executive must provide leadership and organization to the legislature. I will contrast two general types of leadership by using a market analogy. According to the usual economic formulation discussed in the introduction to part 2, corporations are hierarchies bounded by markets. Small firms require less hierarchy and more markets, whereas large firms require more hierarchy and fewer markets. The members of a hierarchy interact especially through orders, whereas the participants in a market interact especially through bargains.

Similarly, legislative bargaining resembles a market and parties resemble firms. A disciplined political party forms a hierarchy whose members interact especially through orders. In contrast, legislators from different parties interact especially through bargains. Larger parties imply more orders and fewer bargains. Conversely, smaller parties imply fewer orders and more bargains. The optimal number of parties depends on the relative efficiency of orders and bargains.

Like markets, legislative bargaining can succeed in principle with little organization or formal structure. In practice, however, bargaining fails in unorganized legislatures for three reasons discussed in chapter 3. First, the value of a legislator’s vote depends on how other legislators vote, and this externality disrupts the trading of votes. Second, most legislatures contain too many members for each one to bargain with everyone else. Third, legislators may refrain from deals to preserve the purity of their voting record as a signal to their constituents.

To overcome these obstacles and to secure the gains from cooperation, a legislature must organize its members politically through parties and legally through its internal rules. Much party structure and discipline in the legislature comes from the executive. A strong executive supplies more orders and fewer bargains, whereas a weak executive supplies more bargains and fewer orders.
The strength of the executive depends especially on his ability to reward and punish legislators. The power to reward and punish differs according to the method for choosing the executive. In a presidential system like the United States, direct election by citizens for a fixed term of office creates an independent executive, who controls the administrative agencies. Legislators often need to help their constituents by securing favorable treatment from administrators. The executive’s power over legislators comes especially from delivering, or withholding, favorable treatment by administrative agencies.

In a parliamentary system, in contrast, the government is formed by the party that wins a majority of seats in parliament, or, if no party wins a majority, by the party that can assemble a coalition commanding a majority of votes. The prime minister can reward legislators by including them in the government, and the leading legislators compete to ascend the hierarchy of cabinet posts. Minimizing the size of the winning coalition maximizes the rewards available to its members. (In chapter 3 I explained that this way of reasoning leads to the minimum winning coalition, the minimum working coalition, the minimum connected coalition, or the minimum complementary coalition.)

In a parliamentary system, a government persists in office so long as it commands a majority in parliament, or until it reaches the maximum number of years allowed by law between general elections. (The actual rules and conditions for dissolving Parliament differ from one country to another.) In order to remain in power, a government usually must win a majority on all major bills. To ensure a majority, the party leadership must exercise tight discipline over votes by junior members. The senior members of a governing coalition receive cabinet posts and then distribute lesser offices among their followers. If the leaders of a party cannot reliably deliver the votes of its members, that party cannot sustain a government. An undisciplined party, consequently, is an undesirable partner in coalition government. Successful parties acquire the discipline needed to participate in parliamentary government. In addition, proportional representation in some parliaments typically strengthens discipline by allowing the party’s leadership to designate who will fill the seats apportioned to the party. In general, parliamentary systems create strong incentives for political parties to acquire discipline.

I have contrasted government by orders in a democracy with a few large parties and a strong executive, and government by bargains in a democracy with many small parties and a weak executive. Now I will summarize the characteristics of constitutions that tend toward one result or the other. Plurality rule

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24 For variations across twenty European countries, see table 4.1 p. 64 of Laver and Schofield 1990a. In many countries, the government “falls” when it commits itself to a bill that loses in the legislature. In these circumstances, the prime minister usually resigns and another party tries to form a governing coalition or a general election is declared. From time to time, people retire from parliament or die, and a “by-election” fills the vacancy, so the power of the parties can shift without a general election.

25 In an unusual permutation, Switzerland has proportional representation and weak party discipline. The explanation may lie in the shared executive power in the federal council and the referendum system.
merges parties and proportional representation multiplies parties. Parliamentary
government strengthens party discipline and a presidential system weakens it.
Bicameralism weakens the executive and unicameralism strengthens the executive.
So a unicameral parliamentary system with plurality rule in many districts
favors a strong executive and a small number of disciplined parties. Interaction
by officials in such a government relies relatively more on orders and relatively
less on bargains. To illustrate, two well-disciplined parties dominate government
in the United Kingdom, and the governing party does not need to bargain.

Conversely, a bicameral presidential system with proportional representation
in few districts favors a weak executive and a large number of undisciplined
parties. Interaction by officials in such a government relies relatively more on
bargains and relatively less on orders. I know of no constitution with all of
these characteristics. Note, however, that Italy, which possessed some of these
characteristics, averaged almost one new government per year in the forty years
from 1948 to 1988.

The Budgetary Bramble Bush

A difficult procedural problem in any democracy, which illustrates executive
leadership, concerns the budget. Many legislatures enact bills that require expen­
ditures for particular purposes like building bridges, performing operas, or treat­
ing injured veterans. Such bills, however, seldom specify how to pay for the
expenditures, such as collecting bridge tolls, selling opera tickets, or charging
for medical care. Rather, the funds are usually drawn from general revenues
provided by broad taxes on income, property, and sales. Every state faces a
tricky problem of aligning the sum of particular expenditures authorized by the
legislature with the available tax revenues.

In a democracy, the legislators ideally respond to the preferences of their con­
stituents for public goods. Responsiveness to citizens requires the legislature to
consider the value of each item in the budget. Sound macroeconomics, however,
requires aggregate expenditures to align with tax revenues. 26 If the legislature
freely decides on expenditures item by item, then aggregate expenditure may
not align with tax revenues. Conversely, if the legislature commits to aligning
expenditures with tax revenues, then the legislature is not free to decide on
expenditures item by item.

Different countries have different budgetary processes to handle the con­
flict between politically responsive expenditures and sound macroeconomics.
Centralized budgeting typically reduces responsiveness and increases macrome­
conomic control. For example, expenditure legislation in the European Union
must begin with a proposal from the Commission to the Council of Ministers.
The Council can accept or reject the proposal, but not modify it. 27 Thus the

26 I say “align,” not “equal,” to keep my discussion neutral on the question disputed among
 economists of the conditions under which the budget should exactly balance.
27 For details, see chapter 9.
Commission controls aggregate expenditures by controlling individual expenditures. This centralized process reduces the scope for the ministers to evaluate each item on its merits. Similarly, parliamentary systems with strict party discipline often concentrate control over the budget in the prime minister.

In contrast, the U.S. Congress follows more decentralized budgeting procedures. Bills that authorize expenditures usually originate with specialized committees of Congress. The members of these committees usually represent the special interests benefited by the bills. For example, a congressman from New York, which has many large banks, will ask for appointment to the committee that originates banking bills, and a congressman from Michigan, which has many automobile factories, will ask for appointment to the committee that originates highway bills.

When committees report these bills to Congress for action, the resulting legislation “authorizes” expenditure but does not “appropriate” the funds. Authorized expenditures cannot be made until the funds are appropriated. Appropriating the funds for a project requires a separate bill that follows a different procedure from the bill that authorized the expenditures. Bills to appropriate funds normally originate in the Appropriations Committee of the House of Representatives. Unlike the committees on banking or highways, the Appropriations Committee views expenditures as a whole. The Appropriations Committee is supposed to align total appropriations and total revenues. Thus the decentralized process of authorization responds more to political preferences and the centralized process of appropriation responds more to macroeconomics.

_A Fiscal Constitution?_

In reality, decentralized budgeting often produces excessive deficits. For example, the Appropriations Committee, in cooperation with the Rules Committee, has the power to manipulate the congressional agenda in the United States. Until the 1970s, conservative Southern Democrats dominated these committees and restrained federal spending. Subsequently, the role of seniority diminished in making committee assignments, Southerners lost much of their control, the Appropriations Committee’s power weakened, and budget deficits increased.

To understand why decentralized budgeting often produces excessive deficits, imagine that five economists decide to have lunch together and split the check. Each one pays 20 percent of the cost of ordering additional food, so everyone orders too much and overeats. Similarly, individuals who can obtain benefits from the government pay a fraction of the costs that fall upon all taxpayers. Specific expenditures benefit small groups a lot and broad taxes hurt everyone a little. The small groups of beneficiaries hire lobbyists to press the legislature to enact many expenditure bills, with little regard for aggregate expenditures. In general, legislatures often produce budget deficits because individual legislators
bargain harder for expenditures to benefit their supporters than anyone bargains

to restrain expenditures by others.28

At the end of the twentieth century, a buoyant U.S. economy has lifted tax
revenues and produced budget surpluses, but many conservatives believe the
structural causes of excessive deficits persist. A “fiscal constitution” could cor-
rect the structural problem by precommitting the legal process to budgetary
restraint. In a potentially dramatic move toward centralization, the U.S. Congress
recently enacted a version of the president’s “line-item veto,” which allows the
president to eliminate individual expenditures contained in comprehensive bills
while leaving other expenditures unaffected.29 Furthermore, many leading con-
servatives would amend the U.S. Constitution to require a balanced budget.30
If such an amendment passes, however, no one knows how Congress would
reorganize to comply.

In the United States, the President can serve only two terms in office, but no
such limits apply to most other offices.31 With congressional seniority comes
power, especially the best committee appointments. The most senior represen-
tatives in Congress and state legislatures use their power for costly projects
to benefit their own districts. Observing this fact, many citizens advocate term
limits for all elected officials. By eliminating seniority, the supporters of term
limits hope to reduce pork-barrel projects that contribute to deficits. Without
term limits, some citizens feel compelled to reelect an official whose seniority
gains special advantages for their district, even though such advantages harm
the nation as a whole.32

28 The logic of bargaining is developed formally in Dharmapala 1996. Notice that the preceding
argument applies to state expenditures with concentrated benefits, not to state expenditures with
diffuse benefits. Public goods with diffuse benefits, such as parks and clean air, reach the opposite
conclusion. To understand the problem of diffuse benefits, imagine that someone takes contributions
from five economists to buy lunch for everyone. For each $1 that each one of them contributes, he
expects to receive $.20 in food, so everyone contributes too little and no one gets enough to eat. Like
the economists at the group lunch, each member of an interest group who contributes to political
lobbying receives a fraction of the total benefit. In chapter 3 I explained that the ability of an industry
or group to overcome free-riding determines the level of its lobbying efforts. Diffuse benefits and
concentrated costs cause insufficient expenditures in a decentralized system of budgeting. Many
legislatures around the world succumb to this problem and produce too few public goods such as
parks and clean air.

29 For details, see chapter 9, pp. 221–223.

30 For example, Niskanen 1992 proposes the following constitutional amendment:

Section 1. Congress may increase the limit on the public debt of the United States only by
the approval of two-thirds of the members of each Chamber.

Section 2. Any bill to levy a new tax or increase the rate or base of an existing tax shall
become law only by the approval of two-thirds of the members of each Chamber.

31 The U.S. Supreme Court has found that, although the Constitution explicitly imposes a term limit
on the president, it implicitly forbids term limits for Congress and other federal offices. However,
the Constitution apparently does not forbid term limits for state offices, including the legislatures
of the states (Elhauge 1997). Some states, including California, have imposed term limits on state
legislators.

32 Elhauge 1995 observes that the voters in each district could get the same result as term limits
would provide by not reelecting their representatives to Congress. However, voters do not want to
In addition to obtaining “pork” for their own districts, senior legislators restrain expenditures by other legislators. For this reason, more rapid turnover in the legislature may not reduce aggregate expenditures. In a wolf pack, killing the alpha male disorganizes the pack and provokes a struggle for power. Similarly, term limits disorganize the legislature and provoke a struggle for power. Disorganization is unlikely to produce a closer alignment of government expenditures and revenues.

As explained, states usually align income and expenditures by centralizing budgetary power so the controlling officials have a national perspective. (Mancur Olson stresses the importance of an “encompassing interest.”) In principle, economists should have a lot to say about designing decentralized decision-making processes that preserve incentives to align expenditures and income. So far, however, the ingenuity of economic theorists has found little application to budgeting.

An exception is an interesting proposal by Susan Rose-Ackerman (Rose-Ackerman 1992). Legislation often begins with a preamble stating a high-minded purpose and then proceeds with pork-barrel provisions in the main body of the law. Thus the general purposes stated in the preamble have no real connection to the legislation’s substance. Rose-Ackerman would allow judges to void legislation whose financial provisions could not advance their stated purpose. To illustrate, judges might void legislation that declares the youth deserve the best possible education and then reduces expenditures on school science laboratories, or judges might void legislation that declares the nation needs to increase the competitiveness of its industry and then appropriates subsidies for obsolete technologies. The kind of judicial review proposed by Rose-Ackerman would not tolerate wide discrepancies between the stated ends and the chosen means in legislation. Requiring a closer match between stated ends and means in bills would raise the quality of legislative speech. Higher quality legislative speech would increase the information available to citizens who elect the legislators.

Questions

1. Explain why a shift from plurality rule to proportional representation tends to cause government to rely more on bargains and less on orders.

2. Politicians who remain in office for five or ten years often authorize the state to issue bonds that mature in twenty years. Describe ways to align the time horizon of politicians and bond markets.

Questions

1. Explain why a shift from plurality rule to proportional representation tends to cause government to rely more on bargains and less on orders.

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give up special privileges unless everyone gives them up. The advocates of term limits are willing to sacrifice the seniority of their own representatives in order to eliminate the seniority of the representatives from other districts. Elhauge argues that term limits are "pro-democratic" because voters in each district can express their true preferences over candidates, rather than feel compelled to return a senior representative with whom they disagree (Elhauge 1997).

33 Olson 1993 stresses the role in economic development of politicians with an encompassing interest.
3. Consider the statement, "Allowing legislators to attach unrelated appropriation riders to bills is a Pareto-inferior budgetary process." What does this mean?

4. In 1994, more than 90 percent of incumbents won reelection to the U.S. Congress. At the same time, voters in many states agitated to impose limits on the terms of office in order to prevent politicians from being reelected repeatedly. Explain why these two facts do not necessarily demonstrate that voters are irrational.

5. At the Constitutional Convention, the founders of the United States debated whether to cap the number of terms of office that a president can serve. Some delegates feared that a president who served many terms might effectively become a king. Others argued that a cap might cause a president in his last term of office to pursue private advantage or his own eccentric vision of the public good. In 1951 presidents were limited to two terms in office by passage of the twenty-second Amendment to the U.S. Constitution. Can you identify any evidence that presidents behave differently in the first term of office as opposed to the last term?

JUDICIARY

Having discussed the role of the legislature and executive, I turn to the judiciary. Economists usually want to arrange incentives so that material self-interest converges with the public interest. Given perfect convergence, self-interested people are guided by an "invisible hand" to do what is best for society. Convergence is the strategy in constitutional design for the executive and the legislature in a democracy, but not for the judiciary. The material self-interest of a person concerns power and wealth. Judges are not supposed to decide cases that influence their own power or wealth. Furthermore, judges are shielded from political and economic influences. The aim of constitutional design for the judiciary is independence, not convergence. By definition, the material welfare of a perfectly independent judge is not affected by the way he decides cases.

To understand how independence affects judges, consider their intrinsic values. Most judges have a moral and political vision that guides their understanding of the law. Combined with the facts and law, this vision usually implies a right way to decide a case. Judges express their moral and political vision by deciding cases according to their conception of what is right. For a perfectly independent judge, doing what he thinks is right costs him nothing. Judges presumably do what they think is right when it costs them nothing. Thus independence prompts judges to express their moral and political vision in their

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35 Recall the discussion of expressive voting in chapter 2.
decisions. In general, as a decision maker's independence increases and the effect of his decisions on his self-interest diminishes, his decisions increasingly express his intrinsic beliefs about right and wrong. To illustrate empirically, regression analysis shows the predictability of opinions of U.S. Supreme Court justices based on their underlying political philosophies (Brenner 1982).

The world's legal systems achieve the independence of judges in two different ways. In most civil-law countries, judges are civil servants who staff a judicial bureaucracy. New judges are appointed to the bottom of the hierarchy based mostly on academic performance, not ideology or party loyalty. Senior judges, however, determine promotions of junior judges by monitoring their decisions, possibly with some influence from politicians. The bureaucracy attempts to shield individual judges from direct political or economic influence.

The careers of federal judges in the United States follow a different path. The president appoints federal judges for life tenure with confirmation by the Senate. President and Senate carefully scrutinize the ideology and politics of the candidate. Thus politics, not academics, control appointment to the federal bench. Once appointed, however, ties are completely severed between the judge and politicians. Except in special circumstances, federal judges cannot even talk to politicians. Furthermore, the route to promotion among federal judges is utterly haphazard. Senior judges have little say about the promotion of junior judges. Instead of an independent bureaucracy, U.S. federal judges have little or no bureaucracy. 36

In the civil-service system, senior judges scrutinize the performance and, possibly, the politics of junior judges seeking promotion. In the U.S. federal system, in contrast, politicians scrutinize the performance and politics of candidates to become judges. The difference between the two systems can be characterized as ex ante political scrutiny versus ex post judicial scrutiny. Ex ante political scrutiny implies examination of the politics of a judicial candidate before appointment as judge. Ex post political scrutiny implies examination of the politics of a judge after appointment and before promotion.

Independent judges play a crucial role in private and public bargains, which can be explained by an example. Suppose that private parties bargain together over a contract. Their bargaining is more likely to succeed if they know that the terms of any agreement between them will be enforced. In future disputes, a neutral adjudicator is most likely to enforce the contract according to its terms. Independent judges are neutral adjudicators, whereas dependent judges are biased adjudicators. So independent judges facilitate bargains, whether in private business or in politics. To illustrate by lawmaking, legislators can reach agreements over bills more easily if they have confidence that an independent adjudicator will interpret the legislation. Independent judges contribute to the success of political bargaining by providing neutral interpretation of legislation (Landes and Posner 1975).

36 In contrast, some municipal judges in the United States must face regular elections, and some U.S. states require supreme court judges to be confirmed by a majority of voters.
Conversely, when judges are politically dependent rather than independent, political factions cannot rely on courts to enforce their agreements. In these circumstances, politicians must find alternatives to legislation and contracts to secure their bargains. (One possibility is to secure more agreements by embedding them in constitutional amendments.37)

I explained that independent courts lubricate political deals. Did politicians give independence to courts, or do politicians sustain the independence of courts, in order to lubricate political deals? Independent courts help a government pre-commit to paying its debts. Some historical evidence suggests that English and Dutch monarchs increased their ability to borrow money by allowing more independence for courts.38 In part, however, judicial independence results from party competition in government. Empirical evidence from several countries indicates that party competition sustains the independence of courts, whereas perennial rule by the same party undermines judicial independence.39 A hegemonic party has no need to make deals with other parties, so a hegemonic party has no need for an independent court to lubricate such deals. Some empirical evidence from U.S. states suggests that when courts promote political deals by enforcing the bargain embodied in legislation, legislators reward courts by paying higher judicial salaries on average to the judges.40

The role of courts in enforcing agreements has implications for a theory of interpretation. In order to lubricate the economy, courts should enforce private agreements as embodied in contracts. According to the bargain theory of contracts, the bargain is the contract and the writing is its embodiment.41 In any case, the fact is that the bargain guides the court in interpreting a written contract. Similarly, in order to lubricate politics, courts should enforce agreements among political factions as embodied in legislation. The political bargain should guide courts in interpreting the words in statutes.

When legislators negotiate with each other to obtain a majority, the courts have reason to interpret the resulting legislation in light of the underlying bargain. Sometimes, however, legislators vote on a bill without going through the bargaining process. To illustrate, a legislature that grows weary of negotiations may call for a vote without reaching an agreement. In the vote, the majority

37 Crain and Tollison 1979. Using judicial tenure as a proxy for judicial independence, the authors found that it correlates negatively with constitutional amendment activity across U.S. states. The original result was confirmed using a different index of constitutional activity by Anderson et al. 1990. The authors understand their results as indicating that less judicial independence causes more attempts by politicians to embed bargains in the constitution in order to secure them against revision by judicial interpretation. This understanding is troubling since state courts in the United States interpret state constitutions. Courts have greater power to interpret the constitution as opposed to legislation. Instead of securing political bargains, embedding them in the constitution gives greater scope for court interpretation, including amending the political bargain as preferred by the court.

38 North 1995, p. 22.


40 See Anderson, Shughart, and Tollison 1989. Notice, however, that rewarding judges by higher salaries makes courts more dependent on the legislature (Macey 1988).

41 For the bargain theory of contracts, see Eisenberg 1982.
prevails without a bargain among its members. When a statute arises without a bargain, the court has little guide to interpretation except the ordinary meaning of the words in the statute. As discussed in chapter 2, “legislative intent” has no meaning without a political bargain.

Besides enforcing political bargains, courts have another important political role. Whereas legislators primarily bargain, the executive primarily gives orders. Courts increase the effectiveness of political control at the top by lowering the cost of monitoring officials at the bottom of state administration. Specifically, courts detect rule breaking by administrators. As explained in chapter 7, court detection of rule breaking alerts top political leaders to the diversion of purpose by lower-level civil servants.

I have explained that courts lubricate bargains for the legislature and effectuate orders by the executive. In addition, courts play other roles in the state. Next I discuss how courts make law more or less on their own by creating common law or interpreting general language in civil codes. (Part 4 examines the role of courts in protecting individual rights).

**Questions**

1. Economists often assume that civil servants try to maximize the size and income of their agency. Assume that civil service judges in Europe try to engross the court bureaucracy. How would this aim influence the way they decide cases?

2. In the United States, some municipal judges are elected, whereas political officials almost always appoint high-court judges. Contrast the difference in incentives between appointed and elected judges. Does this difference suggest that higher judges should be appointed rather than elected?

3. A famous legal philosopher, Ronald Dworkin, asserts that judges are better at deciding individual rights than they are at making social policies. Relate this account of the role of judges to their independence.

4. Some U.S. legal scholars have bitterly protested the application of political standards to the confirmation of judges. Discuss the incentive effects of applying political standards to the confirmation of U.S. federal judges.\(^\text{42}\)

5. Discuss the jury as a device to protect against a judge with an interest in the case.

6. Important cases are usually decided by vote of a panel of judges. If votes were secret (courts announced outcomes but not the votes of individual judges), would judges become more independent?

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\(^42\) President Bush nominated Robert Bork for the U.S. Supreme Court. Bork was perceived as too conservative by the Senate, which refused to confirm his nomination. He subsequently wrote a stinging attack on the role of politics in the process of Senate confirmation of federal judges. See Bork 1990.
Efficient Common Law

Unlike the executive who creates an agenda, judges take cases as they arise. Unlike legislators who sit in an assembly where political factions bargain, judges mostly decide disputes. Unlike elected officials, judges cannot retain a staff to survey public opinion or seek a mandate from voters. The independence of judges circumscribes their competence in making public policy (Fuller 1978). For example, judges cannot manage macroeconomic policy, design an efficient poverty program, or administer a school district.

Unlike legislators or the executive, however, judges repeatedly see the consequences of applying a law to particular cases. This fact enables judges to make marginal adjustments to laws. For some kinds of rules, marginal adjustments over a period of time lead to the social optimum. Economists admire markets and courts for decentralizing decisions and responding to local information. Just as efficient economic decisions require local information that markets uncover, so the efficient application of rules requires local information that courts uncover.

The economic analysis of law has demonstrated more consistency between efficiency and some bodies of judge-made law, notably the common law of contracts and property, than anyone anticipated when the intellectual enterprise first began in the 1960s. Judges, however, seldom mention efficiency explicitly in deciding cases. Apparently the mechanism driving some common law toward efficiency operates without judges explicitly pursuing this aim. In this respect, the hand that directs the common law toward efficiency is invisible.

Adam Smith suggested, and general equilibrium theory proved (Arrow and Hahn 1971), that competitive markets allocate resources efficiently without anyone consciously striving for that goal. Reasoning by analogy, economists have searched for competitive mechanisms that cause the judge-made law to evolve toward efficiency without judges consciously striving for that goal. Litigation, especially in U.S. courts, shares many features of a market. Like other investments, many people litigate for the sake of material gain. Like other services, litigation is costly and lawyers compete to provide it. Like auctions, litigation creates value and redistributes it. Is litigation pressure the invisible hand that directs the common law toward efficiency?

Theorists have considered three ways the litigation market could drive law toward efficiency. First, inefficient laws might cause more legal disputes than efficient laws. For example, a law that provides incentives for underprecaution causes more accidents than a law that provides incentives for efficient precaution. Second, legal disputes caused by inefficient laws might be more difficult to settle out of court than legal disputes caused by efficient laws. To illustrate, vague laws draw people into litigation by creating uncertainty over legal

43 See the analysis of contract and property rules in the leading textbooks (Cooter and Ulen 1999; Posner 1992). Note that the common law of torts seems to lack the efficiency properties of contracts and property. Skepticism about the whole enterprise persists in some quarters (Kelman 1988).

entitlements. Equivalently, vague laws increase the transaction cost of bargaining over entitlements, so parties will challenge such laws until the courts clarify the underlying entitlements.\footnote{This is apparently Rubin's line of thought in his pioneering article (Rubin 1977). Priest tried to test whether uncertainty about law causes litigation that creates new precedent, or new precedent creates uncertainty that causes litigation. His data apparently show that doctrinal change and increased legal disputes occur in the same year, but not which occurs first, so the facts that he observed are consistent with either hypothesis (Cooter 1987b; Priest 1987).} Third, the winners win more than the losers lose from correcting a law’s inefficiency, so expenditures on challenging an inefficient rule might exceed expenditures on defending it (Goodman 1978).

Unfortunately, these three arguments are more clever than convincing. A law is general in the scope of its application. Changing a law affects everyone who is, or will be, subject to it. The effects of a new precedent spill far beyond the litigants. Most plaintiffs appropriate no more than a small fraction of the value the new precedent creates and redistributes (Landes and Posner 1979; Rubin and Bailey 1993). With large spillovers, self-interest of the litigants cannot direct the litigation market toward efficiency.

The solution to the paradox of judge-made law’s efficiency lies more in society and less in courts. The common law’s efficiency comes in part from society generating efficient social norms and judges’ working social norms into the fabric of the law. The traditional account of the “law merchant” provides an example. The merchants in the medieval trade fairs of England developed their own courts and practices to regulate trade. As the English legal system became stronger and more unified, English judges increasingly assumed jurisdiction over disputes among merchants. The English judges often did not know enough about these specialized businesses to evaluate alternative rules. Instead of making rules, the English judges allegedly tried to find out what rules already existed among the merchants and selectively enforce them. Thus the judges dictated conformity to merchant practices, not the practices to which merchants should conform. The law of notes and bills of exchange in the eighteenth century especially exemplifies this pattern.\footnote{The extent to which the medieval law merchant was substantive, rather than procedural, is disputed, and its relationship with common law and admiralty law is difficult to reconstruct. The process of assimilating bills of exchange and negotiable instruments into the common law, which occurred in the eighteenth century, is well documented. The traditional theory is developed by Holden (1995). Holden is criticized by Baker (1979). A revised view, which stresses that Mansfield immersed himself in the minutiae of business practice in order to extract the best principles from it, is found in Rogers (forthcoming). I benefited from discussions on this point with Dan Coquillette, James Gordley, and Jim Rogers.} In general, potential social norms compete for allegiance in solving coordination problems. In certain circumstances, the more efficient norms win the competition.\footnote{Empirical evidence for the efficiency of social norms is found in Bernstein 1992; Cooter 1991b and Ellickson 1991. An explanation is found in Cooter 1997a. Research emphasizing inefficiency includes Kuran 1997 and Posner 1996.} The common law evolved toward efficiency by enforcing norms that evolve toward efficiency.


**Table 8.1**

Judicial Preferences

<table>
<thead>
<tr>
<th>Judge</th>
<th>Civil Rights</th>
<th>Property Rights</th>
<th>State Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>liberal</td>
<td>P &gt;&gt;&gt; D</td>
<td>D &gt; P</td>
<td>D &gt; P</td>
</tr>
<tr>
<td>libertarian</td>
<td>D &gt; P</td>
<td>P &gt;&gt;&gt; D</td>
<td>D &gt; P</td>
</tr>
<tr>
<td>conservative</td>
<td>D &gt; P</td>
<td>D &gt; P</td>
<td>P &gt;&gt;&gt; D</td>
</tr>
</tbody>
</table>

**Questions**

1. Explain why the pressure for judge-made law to evolve toward efficiency might be stronger in commercial law than in accident law.

2. Compare the inefficiency of litigation markets to the inefficiency of political lobbying.

**Pareto-Inefficient Courts**

I have explained why judge-made law might evolve toward efficiency by enforcing social norms. When judges disagree, however, the aggregation of their opinions causes an especially troublesome type of inefficiency. Appellate judges often decide cases in panels by majority vote. As explained in chapter 2, voting does not reflect intensity of sentiment. Without bargaining, voting can lead to a decision that all the judges like less than an alternative. To illustrate this problem for judicial panels, I will construct an example with three judges and three cases.

Assume that the appellate panel consists of three judges, each with a different conception of law and politics. One judge is left-liberal, another is libertarian, and the third judge is conservative. The three judges face three cases, each of which embodies a different issue. One case involves civil rights, the second case involves state power, and the third case involves property rights. The left-liberal judge intensively favors the plaintiff in the civil rights case and mildly favors the defendant in the other two cases. The libertarian judge intensively favors the plaintiff in the case on property rights and mildly favors the defendant in the other two cases. The conservative judge intensively favors the plaintiff in the dispute about state power and mildly favors the defendant in the other two cases. Table 8-1 summarizes these judicial preferences, where “>” denotes “prefers,” and “>>>” denotes “strongly prefers.”

Assume that judicial ethics forbid judges from bargaining or trading votes. If the panel proceeds by majority rule in each case, and if the judges conform to judicial ethics, the defendant will win by a vote of 2 to 1 in all three cases. Thus majority rule with no vote trading results in the outcomes (D,D,D).
If the outcomes are (D,D,D), each judge gets his way in the two cases that he cares mildly about and does not get his way in the one case that he cares intensely about. Assume that each of the judges would rather get his way on the one case than he cares intensely about than on the two cases that he cares mildly about. Under this assumption, all three judges prefer (P,P,P) rather than (D,D,D). Majority rule produces a result that all the judges consider worse than an available alternative. In other words, majority rule yields Pareto-inferior outcomes relative to judicial preferences.

Now assume that ethical norms change and allow judges to bargain. All three judges would presumably recognize that each of them prefers (P,P,P) to (D,D,D). Consequently, they might agree to vote unanimously for the plaintiff in each case, yielding (P,P,P). By trading votes, each judge wins the one case that he feels strongly about and loses the other two cases where his feelings are weak. This example illustrates that bargaining allows judges to achieve Pareto-efficient outcomes.

Keep in mind that independent judges base their decisions on their ethical and political philosophies, not their material self-interest. If the judges on the panel are perfectly independent, the fact that they "prefer" (P,P,P) to (D,D,D) means that they regard the former result as morally and politically superior to the latter. In other words, they regard (P,P,P) as more nearly right than (D,D,D).

Judges may form a political elite with unrepresentative preferences relative to the citizens. Alternatively, the preferences of judges may represent the preferences of citizens. For example, political parties select judges for the German constitutional court in proportion to the number of seats the parties hold in the legislature. Thus the distribution of political sentiment on the German constitutional court roughly resembles the distribution of political sentiment among German voters. Given representative preferences, Pareto-efficient decisions relative to the preferences of judges are also Pareto-efficient relative to the preferences of citizens.

In chapters 2 and 3, I explained that majority rule is the threat point from which legislators bargain. Legislators avoid Pareto-inferior legislation by trading votes. Judicial ethics in most countries, however, forbid vote trading among judges. To illustrate, a U.S. or German judge who traded her vote on one case to obtain the vote of another judge would be considered utterly unethical.

When formal rules obstruct Pareto efficiency, informal practices typically undermine the formal rules. The extent of implicit or covert bargaining among judges is difficult to ascertain. In the United States, high-court judges form a small, exclusive, and intimate community. One judge often knows what another will say before she speaks. This atmosphere breeds a spirit of cooperation in which each judge takes account of strong convictions held by other judges. Given intimacy and a spirit of cooperation, judges facing cases like the ones in table 8-1 may defer to the strong convictions of other judges. For example,

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48 Contrary to general beliefs, an impressive statistical study of the so-called case files of U.S. Supreme Court justices suggests a substantial amount of implicit or explicit bargaining over cases. See Spriggs 1997 and Stearns 1999.
the conservative judge in table 8-1 may defer to the liberal judge's strong convictions about civil rights, and the liberal judge may defer to the conservative judge's strong convictions about state power. Cooperation and deference may produce the Pareto-efficient result without explicit bargaining.

Some courts avoid Pareto-inferior decisions by the mechanism for assigning cases to judges. For example, Mexico traditionally had a large supreme court that assigned cases to small panels of judges. Mexican judges could apparently bargain with each other over who got assigned to which case. This practice allowed each judge to decide the cases that he cared about the most. (This practice allegedly contributed to corruption of Mexican judges, who bargained to hear cases affecting their private interests.)

Why forbid bargaining among judges? Some people believe that morality eschews compromise. To illustrate by a famous example from Kant, suppose that someone bangs on your door and asks you to hide him from an assassin. After hiding him, the assassin bangs on your door and asks whether his victim is inside. According to Kant, you must reply truthfully (Kant 1970). Kant takes this view because he does not think that morality depends on an act's consequences. Applied to courts, Kant's nonconsequentialism forbids judges from causing a small injustice in one case to avoid a large injustice in another case.

Unlike Kant, people who take consequences seriously usually believe that morality allows compromise. To illustrate by the preceding example, murder is far worse than a lie, so most people would feel justified in lying to the assassin. Applied to courts, consequentialism permits a judge to cause a small injustice in one case to avoid a large injustice in another case.

A more practical objection to judges trading votes concerns the appearance given by bargaining. Bargaining among judges offends public decorum and undermines the legitimacy of courts. Perhaps the trading of votes would undermine the independence of judges and cause them to seek bribes. Another practical argument, which I develop later, asserts that courts will make fewer errors when judges vote on the merits of each case rather than trade votes across cases. In any event, the possibility remains that revising judicial ethics to allow vote trading under certain circumstances would produce results that almost everyone prefers.

Questions

1. Most readers of this book are not currently involved in litigation, but every one of you is a potential litigant. If you could choose the rules under which courts would decide any future dispute involving yourself, would you permit or forbid judges to bargain and trade votes? Defend your answer.

2. Bargaining often involves withholding information for strategic advantage. To what extent would trading votes corrupt the search for truth among judges by giving them an incentive to withhold information from each other?

3. Assume that ethical rules change to allow bargaining among judges. How would bargaining and vote trading complicate the writing of opinions by judges?
The Honorable Judges Chase Their Tails

Now I turn from decisions to the reasons given by judges. A French court frequently announces its decision without explaining it, and British courts usually write short opinions. In contrast, the U.S. Supreme Court writes very long opinions that explain the reasons for its decision in detail. Each justice can dissent or concur in writing. Perhaps these opinions are too long and windy for efficient communication. (Napoleon allegedly added the following postscript to a letter: “I did not have time to be brief.”) In any case, by explaining its decision, the court helps citizens understand their legal obligations and predict how the court will decide future cases.

Unfortunately, the U.S. Supreme Court sometimes contradicts itself in its written opinions. The judges, however, may not be the cause of contradiction. Instead, the cause may be the system of majority rule by which the court reaches its decisions. Majority rule may preclude the court from giving a coherent explanation of its decisions because the underlying opinions of the judges are intransitive.

To illustrate, return to the same three-judge panel as in table 8-1, which faces three cases involving civil rights, property rights, and state power. Table 8-2 depicts how the three judges order these values by their importance. Thus, the liberal judge thinks civil rights are more important than state power, whereas the conservative thinks that state power is more important than civil rights.

Without bargaining, these preferences result in incoherent opinions by the court. To illustrate, assume that the judges decide the cases by majority vote and each one writes an opinion explaining his vote. The opinion of the court is the opinion of the majority. Two of the three judges agree that civil rights are more important than state power, state power is more important than property rights, and property rights are more important than civil rights. Each individual judge orders the three values consistently, but the majority of judges are intransitive. Thus the opinion of the court about the importance of these values runs in a circle.

In this example, the court does not transmit a coherent political philosophy, by which I mean an ordering of political states of the world from bad to good. Other examples are easily constructed concerning, say, abortion, affirmative action,
drugs, or the military draft. In general, hard cases for judicial panels make incoherent law (Easterbrook 1982).

In private exchange, bargaining moves goods from people who value them less to people who value them more. Similarly, in collective choice, bargaining moves control over each public good from people who value the good less to people who value the good more. Achieving Pareto efficiency and coherence are two arguments for allowing judges on panels to trade votes.

Questions

1. "Dig a hole" and "Do not dig a hole" are inconsistent commands. If someone gives you two inconsistent commands, obeying both of them is impossible. "Dig a hole and fill it up" is a pointless command. Obeying this command is possible, although obedience accomplishes nothing. Are intransitive commands inconsistent, pointless, or both?

2. Recall that the person who controls the agenda has a lot of influence over the outcome of majority-rule voting. On the U.S. Supreme Court, the agreement of four justices is required for a case to be heard ("granting certiorari"). The chief justice determines the order in which to hear the cases that were granted certiorari. Discuss whether or not the chief justice has enough control over the Court's agenda to influence outcomes significantly.

3. The U.S. Supreme Court is supposed to obey the principle of "stare decisis," which means that precedent must be respected. Respecting precedent implies allowing time to pass before overturning a past decision. Does stare decisis solve the problem of intransitive cycles?

Winner's Curse: Aggregating Factual Judgments

Table 8-1 and table 8-2 depict situations where judges with different values could benefit from bargaining. In this section, I explain why judges with the same values and different information might want to vote instead of bargain. Early in this chapter I explained that aggregating individual judgments often cancels errors. This section applies that result to decisions by panels of judges.

I begin with a problem of group judgment among people with the same objective. Assume that the state proposes to auction the rights to oil under a political controversy act such as abortion, affirmative action, using drugs, or drafting people for military service. First, assume that the absolutist believes in prohibiting the act absolutely, or, if that is impossible, prohibiting the act conditionally. Second, assume that the moderate believes in prohibiting the act conditionally, or if that is impossible, the moderate prefers complete freedom rather than an absolute ban. Third, assume that the rule-of-law proponent dislikes ambiguity in rules or discretion in officials, so the rule-of-law proponent believes in complete freedom, or if that is impossible, the rule-of-law proponent prefers an absolute ban rather than a conditional ban. For a three-judge court, a majority prefers an absolute ban over a conditional ban, a conditional ban over complete freedom, and complete freedom over an absolute ban.

For more on this point, see Kornhauser 1986.
parcel of its land. Five oil companies each drill a test well on the land, as labeled A, B, C, D, and E in figure 8-5. Company C’s test well predicts more oil in the field than the other test wells, and Company A’s test well predicts less oil than the others do.

Assume that antitrust law prevents the companies from pooling the results of their tests. Company C will probably bid the highest and win the lease. However, the test well yielding the most oil offers a biased estimate of the total oil in the field. Consequently, the winner may bid more than the rights are worth, in which case winning the auction is a curse—"the winner's curse."

In this example, antitrust law forbids the exchange of information, so each oil company based its bid on its own test well. Now modify the assumption about antitrust. Assume that the five companies are allowed to form a consortium, exchange information about the test wells, and make one bid. Everyone in the consortium has the same goal—to maximize the consortium’s profits. To pursue this goal, the consortium needs an accurate estimate of the amount of oil in the field. To obtain the best estimate, the consortium should pool its data and compute the mean test result. Under certain assumptions, the mean of the five test wells provides the most accurate estimate of the amount of oil in the field.

Another decision process works almost as well as computing the mean test result. Instead of computing the mean, the group could decide by majority rule. In majority rule, the median voter will prevail. When errors are normally distributed, the median converges to the mean as the number of observations increases.

To generalize this result, assume that a group controls a continuous variable. The group sets the value of its control variable, and the value of the control variable determines the payoff to the group. Everyone has different information about how the control variable affects the payoff. If their information comes from independent observations with random errors (normal distribution of errors...
with zero mean), the best decision procedure is to pool their information and compute the mean. As the number of members of the group increases, allowing the median member to decide approaches the same result as computing the mean.

Applied to the courts, this reasoning provides a rationale for deciding cases by judicial panels with sincere voting. Assume that the issue in the legal dispute can be characterized as choosing a point on a dimension of choice. Also assume that the judges share the same underlying values, including the same conception of justice. The judges have common information supplied by the trial itself. In economic parlance, this information is "public." In addition, the judges bring to the case their knowledge based on past experiences and education, including knowledge about history, politics, and economics. In economic parlance, this information is "private," meaning it is not common to the judges. When the judges discuss the case with each other, they pool some of their private information and make it public. Judges arguing with each other about the effects of the case corresponds to the oil consortium's pooling information to compute the mean.

Even after lengthy deliberations, however, much information remains private. If private information contains random errors, a majority vote will provide a good estimate of the true value of the variable. In real cases, the judges do not know how to assign numerical values and compute the mean for the choices that they face. Given this fact, majority rule may be the best procedure for the judges to follow. When practical obstacles prevent the pooling of information, such as excessive transaction costs, then majority voting provides an inexpensive approximation to pooling the data. Majority rule is probably the best way for panels of judges to resolve factual disagreements.

When pooling information, the parties must be careful about how to frame the decision. In general, sequential decisions by majority rule do not yield the same results as do simultaneous decisions. This is important for choosing the procedures by which a panel of judges makes a decision in a case. For example, assume that a judicial panel must decide whether the plaintiff and defendant had a contract, and also whether the contract (assuming it exists) was breached. Sequential decisions may give a different result from simultaneous decision. In the sequential procedure, the court first decides by majority vote whether there was a contract. Assuming a positive decision on the first vote, the court next decides whether, assuming a contract, there was breach. By this procedure, the court might find for the plaintiff. If, however, the court adopted a simultaneous procedure, where the judges voted on the question of whether or not there was a contract and breach of a contract, a majority might decide for the defendant.

Here is an example from Geoff Brennan (Brennan 1998), drawing on the work of Bruce Chapman (Chapman 1998).

Judge X believes there was a contract and a breach.

Judge Y believes that there was no contract, but if there had been a contract there would have been a breach.

Judge Z believes that there was a contract but there was no breach.
Judges X and Z believe there was a contract, and judges X and Y believe that, assuming a contract, there was breach. So a sequential decision finds for the plaintiff by 2 to 1. However, judge Y believes there was no contract and judge Z believes that there was a contract and no breach, so a simultaneous decision finds for the defendant by 2 to 1. Which procedure is best? In general, rational court procedures must respond to the rules of probability theory, which I cannot explain here. Instead, I return to the question of vote-trading by judges.

**Differences in Beliefs and Values**

The preceding argument for trading votes based on preference satisfaction assumes that judges have different values. In general, the greater the difference in values among judges, the larger the loss from forbidding bargaining. Conversely, the preceding argument for sincere voting based on factual accuracy assumes that judges have the same values. In general, the more similar the values of judges, the stronger the case for decisions based on sincere voting.

To illustrate the distinction between differences in values and information, recall the problem of rational abstention from a vote as discussed in chapter 2. In my example, a faculty member must decide whether to vote or abstain from voting on the proposed appointment of a new faculty member. The faculty member's decision only matters if her vote would be decisive. If her vote would be decisive, then abstaining would allow the chairman to decide the question instead of the faculty member. (The chairman breaks ties.) So the faculty member rationally abets if she prefers for the chairman to decide rather than to decide for herself.

Whether the faculty member prefers to decide or allow the chairman to decide depends on differences in values and information. Values pertain to ends and information pertains to means. If the parties have the same ends, then each should defer to the one with the best information about means. Specifically, if the faculty member and the chairman have the same values and the chairman has more information, then the faculty member should abstain. If the faculty member and the chairman have very different values, then she should vote even though she has less information than the chairman does.

Now I summarize the application of this analysis to judicial panels. When judges share the same values, majority rule is a convenient way to aggregate private information. In voting, a judge with less information should defer to a

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51 To illustrate, assume that a judge must decide whether the defendant in a case is liable to the plaintiff for breach of contract. At the end of the trial, the judge decides that the probability of a contract equals .6, so the preponderance of the evidence favors the existence of a contract. On the basis of independent evidence, the judge also decides that assuming a contract, the probability of a breach equals .6. So, conditional on the assumption of a contract, the preponderance of the evidence favors breach. Given these facts, the judge, who is a good statistician, correctly concludes that the probability of a contract and breach equals \( .6 \times .6 = .36 \). The plaintiff has not proved his case by the preponderance of the evidence, so the judge finds for the defendant. Given that an individual judge correctly reasons in this way, the sequential procedure described in the preceding footnote is obviously inferior to the simultaneous procedure.
judge with more information and the same values. When values differ, however, judges do not want to defer to each other. Sincere voting case by case fails to aggregate the intensity with which different judges hold different values. To avoid needlessly sacrificing the realization of their values, judges with different values must find a means to decide cases (like bargaining) that responds to differences in the intensity of their sentiments.

Questions

1. Suppose you had to decide how many judges would be optimal for a nation’s supreme court. Use figure 8-1 to discuss how to solve this problem.

2. Few American cases have aroused such passion in recent years as Roe v Wade, in which the Supreme Court decided, among other things, that states cannot forbid women to obtain an abortion during the first trimester of pregnancy. Instead of the first trimester, the Court could have chosen another point in the pregnancy, earlier or later. Apply the median rule to sincere voting by justices. How might the outcome change if the justices were allowed to bargain and trade votes?

Conclusion

Imagine a dispute among the branches of government over who should control an agency. Executive control would undermine liberty, declares the legislature. Legislative control would be grossly inefficient, declares the executive. Meanwhile, the high court contemplates setting aside both views and deciding the matter itself. Which branch of government will do best for which kind of decision? I have provided a framework for answering this question by sketching the special competency of each branch of government. Legislators especially bargain, the executive especially gives orders, and courts lubricate bargains for the legislature and effectuate orders by the executive. The next chapter examines differences in the behavior of the branches according to the extent of their separation.