Abstract:

In this sketch of a pure theory of administration, I use game theory to analyze two fundamental choices by administrators: delegating power versus directly implementing policy, and promulgating rules versus making individualized decisions. Delegating authority to agents saves administrative costs for principals and gives agents more opportunity to divert resources. Administrators benefit most from delegation when their opportunity costs are high and when the possibility of bad luck deters agents from diverting resources. Rules lower the transaction costs of monitoring behavior by agents and also reduce the flexibility of agents. Administrators benefit most from imposing rules on agents when the environment is relatively predictable.

The discretionary power of agencies shrinks when the constitution grants unilateral power of oversight to multiple principals, and expands when the constitution divides the power of oversight among multiple principals.

The constitution or fundamental laws may restrict delegation or require legality. Restrictions on inter-branch delegation promote political competition by undermining political cartels. Prescriptions of legality increase central control and reduce the flexibility of agents. In addition, courts and legislators impose procedures on agencies to change their behavior. If the agency can substitute among public goods without jeopardizing appropriations, then increasing the transaction costs of one activity diverts the agency’s efforts to other activities.
Chapter 6 Administration

"The decisive reason for the advance of bureaucratic organization has always been its purely technical superiority over any other form of organization. The fully developed bureaucratic mechanism compares with other organizations exactly as does the machine with the non-mechanical modes of production." -- Max Weber

“We [state officials] are humble subordinates who can scarcely find our way through a legal document and have nothing to do with your case except to stand guard over you for ten hours a day and draw our pay for it.” -- from The Trial by Franz Kafka

The legislature, judiciary, and executive make decisions whose implementation in a modern state depends upon an array of ministries, departments, and agencies. The power of state bureaucracy awes us when we peer over the sheer wall of an enormous dam or look up at a battleship bristling with sailors. As the preceding quotation indicates, the German sociologist Max Weber believed that modern state administration embodies instrumental rationality, defined as the pursuit of explicit ends through efficient means.

Government bureaucracies, however, also construct unneeded dams to enrich cement manufacturers and dispatch battleships to perform tasks requiring a rowboat. Focusing on these facts, another famous writer in German, Franz Kafka, described state bureaucracy as a labyrinth where condemned citizens

1 (Weber 1974) at page 214. Weber described how a perfect bureaucracy operates: Precision, speed, unambiguity, knowledge of the files, continuity, discretion, unity, strict subordination, reduction of friction and of material and personal costs--these are raised to the optimum point in the strictly bureaucratic administration...Bureaucratization offers above all the optimum possibility for carrying through the principle of specializing administrative functions according to purely objective considerations" op.cit. at pages 214 and 215.
wander without hope of escape. Kafka apparently believed that government bureaucracy embodies irrationality, defined as the pursuit of useless and contradictory ends by inefficient means.

A democratic state should try to organize its bureaucracies to pursue explicit ends by efficient means, as envisioned by Weber. Motivating and controlling bureaucracy raises fundamental questions of law, which must be solved to avoid the irrationality envisioned by Kafka.

Each state ministry has its own history and character. To illustrate from the US, the Department of State is old and the Environmental Protection Agency is new, the Department of Defense is large and the Federal Reserve Board is small, the Comptroller of the Currency deals with banks and the Occupational Health and Safety Administration deals with employers. In addition to differences, however, all of these organizations share some common characteristics by virtue of being government bureaucracies. I will mention four common characteristics that form the basis for abstraction and generalization in this chapter.

First, politicians appoint the leadership, fund, and oversee most government bureaucracies. Political control at the top causes bureaucracies to respond to politics. Second, all administrators have an interest in their own wealth and power, which tends to increase when their agency grows, and to decrease when their agency shrinks. Thus the administrators in each agency typically value size and growth. Third, hierarchical organizations adopt rules for

\(^{2}\) (Kafka 1956) at pages 9-10.
making decisions. The rules pose questions of efficiency and fairness. Fourth, many government agencies regulate the private economy and the private economy responds by influencing the regulators. Regulator and regulatee relate to each other intimately and strategically. The common characteristics of bureaucracy are political control from above, pressures to expand from within, rules applied to individuals below, and pressures from organized interests outside.

These common characteristics suggest the possibility of a general theory of state administration, as opposed to particular theories based upon the unique history of each organization. In this chapter, I develop a general theory of administration and predict the response of state agencies to law. I will analyze the delegation of authority, the imposition of rules, and the interplay of political forces in state administration. Here are some examples of questions addressed in this chapter:

**Example 1:** In a typical state bureaucracy, the minister and assistants at the top are political appointees, whereas the workers below them are non-political civil servants. If a minister replaces some top civil servants with political appointees, how will the ministry’s behavior change? Where should politics end and administration begin?

**Example 2:** A ministry uses its discretionary power to harm someone who sues for relief. The court orders the ministry to promulgate rules and follow them. How will replacing discretionary power with rules influence the ministry’s objectives?

**Example 3:** The US President appoints some administrators and nominates others whom the Senate must confirm. How does the difference between appointment and nomination by the executive change the behavior of an agency’s directors?
**Parables of Administration**

Implementing government policy involves a chain of authority in which superiors delegate to subordinates. Thus the prime minister chooses a foreign minister to direct the foreign office, and the foreign minister chooses an assistant to handle administration, and the assistant selects a civil servant to oversee daily operations. Economics models the delegation of authority as a *game* between a *principal* and an *agent*. The principal is the superior who sets policy and the subordinate is the agent who implements it. I will refer to all state organizations that implement policies as “agencies,” regardless of whether they are technically agencies, ministries, departments, commissions, or some other type of organization.

When discharging their responsibilities, the officials in a bureaucracy face two kinds of fundamental decisions that I model in two different games. First, an official can exercise power directly or delegate it to a subordinate.\(^3\) The *delegation game* shows how a rational principal makes this decision. Fundamental laws such as the constitution sometimes require or forbid the delegation of authority. The delegation game also predicts some consequences of requirements or restrictions on delegation.

Second, an official who delegates power can allow the subordinate full discretion in its exercise or constrain its exercise by imposing rules. The *rule game* shows how a rational principal makes this decision. Imposing a rule decreases flexibility and increases legality. Fundamental laws such as the

\(^3\) (Mashaw 1985).
constitution sometimes require officials to promulgate rules and follow them. The rule game also predicts some consequences of discretion and legality in administration.

**Delegation Game**

Now I develop the delegation game and the rule game. When a principal delegates power, a loyal agent uses the power to implement the principal’s policy. In reality, however, many agents fall short of this ideal, especially when their interests diverge from the principal’s interests. Factors affecting the fidelity of agents include their character, their willingness to take risks, the principal’s ability to monitor the agent’s behavior, and the future need of the principal and agent for each other. Instead of discussing many factors, I will reduce the problem of delegation to its simplest elements and analyze one fundamental tradeoff.

A rational, amoral agent will divert resources to his advantage when the probability of detection by the principal is low. When the project enjoys good luck, a high level of productivity disguises the agent’s diversion of resources. So the agent will divert resources when the project enjoys good luck with sufficiently high probability to disguise diversion. Knowing this, the principal in charge of such a project will exercise power directly. Conversely, the principal will delegate power to the agent when the project will suffer bad luck with sufficiently high probability to reveal diversion.
Figure 1 concretely embodies these facts in a game tree. In the first branching of the tree, the principal decides whether to exercise power directly or delegate it. If the principal delegates power, the agent can either implement the principal's policy (loyal agent) or divert resources to his own advantage (disloyal agent). After the agent chooses an action, random events result in a good state or a bad state of the world. To illustrate, most state administrators cannot predict or control elections or the stock market. For convenience, I describe such random events as nature choosing between a good or bad state. Finally, in the right side of Figure 1, the game tree ends in the payoffs to the principal and agent, which I explain later.

**Figure 1: Delegation Game**

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Having described what the principal and agent do, now I describe what they know. The parties know the structure of the game as depicted in Figure 1, but each player may or may not know the details. The principal who delegates knows fewer details than the principal who exercises power directly. To stylize this difference, I assume that the principal who exercises power directly can observe the state of nature, whereas the principal who delegates power cannot observe the state of nature or the agent’s action.

Now I relate these assumptions to the right side of Figure 1 where the game tree ends in payoffs. At each terminal point on the right side of Figure 1, the principal’s payoff is written first in parenthesis and the agent’s payoff is written second. The absolute values of the payoffs signify nothing, but the relative magnitudes depict important facts. First consider the payoffs from delegating power. After delegation, the principal does not observe the agent’s choice of an action or nature’s choice of a state. If the principal’s payoff is very high as indicated by 1 in Figure 1, then the principal can infer that the agent was loyal and lucky. If the payoff is very low as indicated by 0 in Figure 1, the principal infers that the agent was disloyal and unlucky. If, however, the payoff is modest as indicated by .5 in Figure 1, the principal cannot infer whether the agent was loyal and unlucky, or disloyal and lucky.

The summary of the payoffs in Figure 2 shows what the principal can infer from what he observes. 1 and 0 are unique payoffs that appear only once in Figure 2, so the principal can infer the agent’s action and nature’s state from these payoffs. Good luck reveals loyalty and bad luck reveals disloyalty. In
contrast, .5 appears in two of the cells in Figure 2. This non-unique payoff does not support an inference about the agent’s act or nature’s state. Bad luck disguises loyalty and good luck disguises disloyalty.

**Figure 2: Principal’s Payoff From Delegating**

<table>
<thead>
<tr>
<th>Nature</th>
<th>implement (loyal)</th>
<th>divert (disloyal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>good (lucky)</td>
<td>1 (reveal)</td>
<td>.5 (hide)</td>
</tr>
<tr>
<td>bad (unlucky)</td>
<td>.5 (hide)</td>
<td>0 (reveal)</td>
</tr>
</tbody>
</table>

Instead of delegating power, the principal can exercise it directly. By exercising power directly, the principal in Figure 1 receives .7 in a good state and .3 in a bad state. Whereas delegating power conserves the principal’s time and attention, exercising power uses these resources. For a given state of nature in Figure 1, the principal who exercises power directly receives less than he would receive from delegating authority to a loyal agent. Conversely, the principal who exercises power directly receives more than he would receive from delegating authority to a disloyal agent.

When the principal exercises power directly, the agent receives his basic payoff, which I designate as 0. Delegating authority to the agent increases his responsibility and opportunities. After delegation, the agent who is loyal or lucky receives more than his basic payoff, whereas the agent whose bad luck reveals his disloyalty receives less than his basic payoff. I take the payoffs in Figure 1 as given, rather than allowing their adjustment by contract. By assuming a given contract between the principal and agent, I isolate and simplify the decision to delegate power or exercise it directly.
Solution

The delegation game’s solution is a pair of strategies that maximize each player’s expected payoff, given the strategy of the other player. To find the game’s solution, proceed recursively (backwards in time) from the last decision to the first decision. Assuming the principal delegates, the last decision is the agent’s choice between implementing and diverting. The agent’s payoff from diverting exceeds his payoff from implementing in a good state of nature, whereas the opposite is true in a bad state. So the agent’s best strategy depends upon the relative probability of a good state and a bad state. So the agent’s best strategy depends upon the relative probability of a good state and a bad state of nature.

To be precise, the rational agent diverts when the probability of a good state exceeds 5/6, and implement otherwise.  

\[ \text{State of Nature} \begin{array}{c|cc} & \text{good} & \text{bad} \\ \hline \text{Agent's Act} & \text{implement (loyal)} & .5 \\ & \text{divert (disloyal)} & 1.2 \end{array} \]

4 The following table summarizes the agent’s payoffs.

Agent's Payoffs Assuming Delegation by Principal

<table>
<thead>
<tr>
<th>State of Nature</th>
<th>good</th>
<th>bad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent’s Act</td>
<td>implement (loyal)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>divert (disloyal)</td>
<td>1.2</td>
</tr>
</tbody>
</table>

5 Let p denote the probability that the state of nature is good, and let 1-p denote the probability that the state of nature is bad. Implementing yields the agent’s expected payoff of \(1p + .5(1-p)\). Diverting yields the agent’s expected payoff \(1.2p -.5(1-p)\). Implementing and diverting yield the same expected payoff to the agent when \(p\) solves the following equation:

\[
1p + .5(1-p) = 1.2p -.5(1-p) .
\]

Solving this equation yields \(p=5/6\), which is the tipping point discussed in the test.
Now consider the principal’s best strategy. When the agent diverts, the principal’s best strategy is “don’t delegate.” Conversely, when the agent implements, the principal’s best strategy is “delegate”. So the rational exercises power directly or delegates depending on the probability that nature will disguise or reveal the agent’s act. In this example, the rational principal exercises power directly when the probability of a good state exceeds 5/6, and delegates otherwise. The game’s solution can be summarized as follows:

\[
\begin{align*}
  p > \frac{5}{6} & \implies \text{principal exercises power directly;} \\
  p < \frac{5}{6} & \implies \text{principal delegates, agent implements.}
\end{align*}
\]

Note that this “solution” solves the problem of delegating power for a given contract between the principal and agent. Computing the optimal contract for the principal and agent is another problem. 

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6 This conclusion follows immediately from the agent’s payoffs as depicted in the following table.

<table>
<thead>
<tr>
<th>Principal's Payoffs Assuming Agent Diverts (disloyal)</th>
<th>Principal’s Act</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>delegate</td>
</tr>
<tr>
<td>State of Nature</td>
<td>good</td>
</tr>
<tr>
<td></td>
<td>bad</td>
</tr>
</tbody>
</table>

7 This conclusion follows immediately from the agent’s payoffs as depicted in the following table.

<table>
<thead>
<tr>
<th>Principal's Payoffs Assuming Agent Implements (loyal)</th>
<th>Principal’s Act</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>delegate</td>
</tr>
<tr>
<td>State of Nature</td>
<td>good</td>
</tr>
<tr>
<td></td>
<td>bad</td>
</tr>
</tbody>
</table>

8 In a general game of contracting, the parties could adjust the payoffs by making side payments, which could improve their incentives. To illustrate, if \( p > \frac{5}{6} \), instead of retaining the contract resulting in the payoffs in Figure 1, the principal and agent both prefer a contract in which the principal promises to pay the agent a bonus of .3 conditional on the agent receiving a payoff of 1. This contract, like any optimal contract, induces the agent to implement as required for efficiency, rather than diverting resources. The typical obstacles to an optimal contract in economic models is the principal’s limited information and the agent’s risk aversion or inability to borrow [Shavell, 1979 #2891].
Graph

Figure 3 graphs the tradeoff characterized by the delegation game. The horizontal axis represents the proportion of power directly exercised by the principal. Moving from left to right on the horizontal axis, the principal’s direct exercise of power increases from 0% to 100%, and, conversely, the principal’s delegation of power decreases from 100% to 0%. The vertical axis in Figure 3 represents two kinds of marginal cost. Moving from left to right, the principal devotes more time to supervising the project, so administrative costs increase and diversion costs decreases.

Figure 3: Administrative Cost-Diversion Tradeoff

As the probability $p$ of a good state of nature increases, good luck disguises disloyalty and agents divert more resources. Figure 3 represents this
fact by shifting up the diversion cost curve as the probability of good luck increases from $p_{\text{low}}$ to $p_{\text{high}}$.

A principal who wants to minimize total costs equates the marginal cost of administrative and diversion. Such a principal prefers the level of delegation indicated by the intersection of the administrative cost curve and the diversion cost curve in Figure 3. Notice that an increase in the probability of a good state of nature from $p_{\text{low}}$ to $p_{\text{high}}$ causes the principal’s optimal level of delegation to shift down from 50% to 25%.

Example

Here is a concrete example of the delegation game. Assume that the minister of health (principal) develops a plan to maximize the number of kidney transplants obtained by spending a given sum of money. The plan’s success depends upon cooperation by the nurses. If the nurses cooperate (good state), the plan will succeed. If the nurses resist (bad state), the plan will fail. The minister cannot control or predict the response of the nurses (nature).

The minister can implement the plan directly or delegate power to her chief administrator (agent). If the minister directly implements the program, she receives a high payoff if she is lucky (.7) and a low payoff if she is unlucky (.3). Alternatively, the minister can delegate power to the administrator, which saves the minister’s valuable time. The administrator, however, would prefer to divert some funds from kidney transplants to his special field of emergency care. After delegating power, the minister is too remote from daily operations to observe the behavior of the administrator and nurses. If the program fails badly (0), the minister will infer correctly that the unlucky administrator diverted funds, and so the minister will punish the disloyal administrator (-5). If the program succeeds
highly (1), the minister will correctly infer that the lucky administrator implemented the program loyally and reward the loyal administrator (1). If the program succeeds modestly (.5), minister will not know whether administrator diverted funds and enjoyed good luck (1.2), or implemented the program and suffered bad luck (.5).

If the probability is sufficiently high that good luck will disguise diversion, the self-interested administrator prefers to divert funds, so, anticipating this fact, the minister will implement the program directly. Conversely, if the probability is sufficiently high that bad luck will reveal diversion, the self-interested administrator will implement the minister’s plan, so, anticipating this fact, the minister will delegate power to the administrator.

Significance of Delegation Game
Having developed a model to analyze delegation, I next consider its legal significance. Constitutions and other fundamental laws that allocate powers to offices sometimes require officials to exercise powers directly. The delegation game predicts some consequences of a non-delegable power. Prohibiting delegation typically substitutes the lawmaker’s judgment for the principal’s judgment about the importance of a decision. A binding restriction on delegation typically harms the principal because the opportunity cost of his time spent on administration rises by more than diversion costs fall. Prohibiting delegation imposes a larger loss on the principal when he wants to delegate more power, and he wants to delegate more power when the fear of back luck deters agents from diverting resources.

Figure 3 illustrates these facts. To be concrete, assume that the probability of good luck equals $p_{\text{high}}$, so the principal’s preferred level of delegation equals 25%. Now assume that laws prohibit the official from delegating power, so delegation falls from 25% to 0%. The prohibition against
delegation imposes a total loss on the principal indicated by area A in Figure 3. If the probability of good luck falls from \( p_{\text{high}} \) to \( p_{\text{low}} \), the prohibition against delegation imposes additional costs on the principal. With \( p_{\text{low}} \), the principal prefers to delegate 50% of his power. Thus an effective prohibition against delegation imposes costs on the principal equal indicated by the area A+B+C in Figure 3.

I used Figure 3 to depict the cost of a non-delegation rule. As explained, the costs rise with the value of the principal’s time and the probability that bad luck will reveal diversion of resources. To illustrate, the constitution may require a high court to decide direct appeals of certain kinds of cases, rather than referring the cases to a lower court.\(^9\) The high court’s loss from such a requirement increases with the opportunity cost of its time and its ability to monitor lower courts through the appeals process. Similarly, if the constitution imposes upon the executive the duty to execute the laws, as with Article 2 of the US constitution, then the executive cannot delegate power in a way that would undermine this duty.\(^10\) As delegation’s extent increases, the constitution may impose limits on excessive delegation.\(^11\) The executive’s loss from such restrictions increases with the opportunity cost of its time and its ability to monitor lower levels of administration.

I have interpreted “diversion” in the delegation game in this section as the agent following his preferences rather than implementing the principal’s policy. A more sinister interpretation concerns corrupt officials diverting resources for

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\(^9\) For example, see discussion of amparo at page Error! Bookmark not defined. Error! Reference source not found. in Chapter 5. Also note that prisoners in the US have the right to submit writs of habeus corpus directly to federal appeals courts in certain circumstances.

\(^10\) This issue is explored in [AFL-CIO, #6].

\(^11\) Excessive delegation of power by statute is explored in [Commodity Futures Trading Commission v. Schor, #7].
personal gain. Corruption is a long tradition in state administration. To illustrate, Pepys, whose reform of the Admiralty created Great Britain’s first modern civil service, was told that his pay for his first Admiralty job was “what you make of it.”

Corrupt officials, who occupy some offices in all countries and most offices in some countries, break laws and distort policies in exchange for bribes. Delegation increases opportunities for corruption by agents and reduces opportunities for corruption by principals. Shortly I will analyze replacing individualized decisions with rules, which can reduce the opportunity for corruption by principals and agents.

**Inter-Branch Delegation**

Although a rule prohibiting delegation imposes a loss upon the official, society sometimes gains. To appreciate the gain, contrast the delegation of power from a higher official to a lower official within the same branch of government, as opposed to the delegation of power by an official in one branch of government to an official in another branch of government. In the former case, intra-branch delegation typically preserves the constitutional separation of powers, whereas in the later case, inter-branch delegation may violate the

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12 (Pepys get cite from Hacker).
13 Thanks to Dan Rodriguez for help on this section.
14 Inter-branch delegation is typically vertical, in which case it preserves the separation of powers. Sometimes, however, constitutions separate powers within the same branch, in which case horizontal inter-branch delegation can undermine the constitutional separation of powers. To illustrate, if the constitution creates a bicameral legislation, then one chamber may be unable to
constitutional separation of power. To illustrate, if the constitution separates courts and legislature, a high court can remand a decision to a lower court but probably not to the legislature. Similarly, if the constitution separates the legislature and the executive, the legislature can delegate power over its procedural rules to one of its committees but probably not to the president.

Inter-branch delegation typically revises the constitution without following its prescribed procedures. The theory of cartels illuminates the resulting harm. Like vertical mergers in industry, intra-branch delegation typically does not affect the concentration of state powers. Like horizontal mergers, inter-branch delegation can concentrate state powers, thus removing obstacles to a political cartel. To illustrate, the executive implements the laws more effectively by delegating powers to his cabinet members, whereas the courts would destroy the rule of law by delegating their power over legal disputes to the executive. So prohibiting inter-branch delegation helps to maintain popular competition for political office, which is a defining feature of democracy.

Disputes over inter-branch delegation typically involve ambiguity in the definition of constitutional powers. To illustrate, Article 1 of the US constitution gives the legislature the exclusive power to make laws, and the legislature cannot delegate this power to the executive. Does the executive “make laws” for purposes of the constitution by imposing wage and price controls on the economy, or by imposing burdensome regulations upon employers?\(^{15}\) Does the relinquish some of its power to the other chamber. For a US case, see [INS v. Chadha, #3].

\(^{15}\) [AFL-CIO, #6];[Mistretta v. US, #4].
Comptroller General “make laws” by imposing limits on government expenditures to reduce the deficit?\textsuperscript{16}

Just like the members of an economic cartel favor restraining trade, so the officials who want to form a political cartel will favor inter-branch delegation of power. For example, if the president’s party enjoys a majority of seats in the legislature, then the legislature may eagerly vote to give some of its power to the president. By reducing competition, inter-branch delegation of power benefits politicians in the ruling party for the same reason that it harms the public. The fact that officials in the legislature and executive both want to concentrate power without formally revising the constitution is no reason for the constitutional court to allow it. Courts do not require a disagreement between the executive and legislature to justify policing the separation of their power.\textsuperscript{17} The more horizontal delegation concentrates power, the more vigilance the courts should show in policing it.\textsuperscript{18}

By separating powers, the constitution makes government proceed through bargains rather than orders. By policing the separation of powers, the courts maintain the bargaining strength of each branch against the others as given by the constitution. According to the bargain theory of democracy, the courts should aim to preserve bargaining, not obstruct cooperation. This conception of the relationship among the branches resembles the view that

\textsuperscript{16}[Bowsher v. Synav, #5]

\textsuperscript{17}In contrast, [Choper, 1980 #5872] argues that disagreement between branches typically justifies intervention by courts.

\textsuperscript{18}Note that inter-branch delegation can disperse powers rather than concentrating them. For example, a relatively powerful executive might delegate powers to a relatively weak legislature.
"separation of powers" should be understood as separate institutions sharing powers [Neustadt, 1986 #5871].

Questions:
1. Explain how good luck in a project disguises diversion of resources.
2. Explain why prohibiting delegation costs the principal more when good luck becomes less likely.
3. Figure 1 assumes a fixed penalty for detected diversion. Assume the penalty increases. Does the “tipping value” p increase or decrease?
4. Figure 1 assumes that the principal who delegates cannot observe the agent or nature. Discuss alternative ways of monitoring the agent, such as periodic observations of the state of nature or random observations of the agent’s decisions.
5. Footnote 5 computes the probability of a good state at which a rational agents tips between implementing and diverting. Assume that the agent’s highest possible payoff for undetected diversion of resources rises from 1.2 to 1.4. Compute the new tipping value of p.
6. An economic cartel reduces the supply of private goods to increase profits, whereas a political cartel often increases the supply of public goods to enlarge the state. Economists have a long history of estimating the economic costs of private monopolies, whereas no accepted methodology exists for estimating the economic costs of political cartels. Discuss some ways to measure the economic costs of reducing political competition by the inter-branch delegation of power.

**Rule game**

After delegating responsibility for implementing a policy, should the principal give the agent discretion or require the agent to follow a rule?

Principals impose rules on agents for a variety of reasons, such as reducing transaction costs, improving coordination, increasing predictability, reducing disparity, and facilitating transparency. Instead of discussing many reasons, I will reduce the problem of imposing rules to its simplest elements and analyze one fundamental tradeoff. Imposing rules on agents reduces their opportunities to divert resources, whereas giving discretion to agents allows them to respond...
flexibly to changing circumstances. Diversion of more resources is the cost of more flexibility in an organization.

I will formulate the rule game in order to analyze the tradeoff between diversion and flexibility. In the delegation game, the agent acts and then nature chooses a state of the world. The rule game reverses the order: nature chooses a state and then the agent acts. Knowing nature’s state, the agent who enjoys discretionary power can respond flexibly to events as they develop. The principal wants the agent to reallocate resources when unexpected events occur, and the principal does not want the agent to divert resources when events occur as expected. Discretion gives the agent control over the decision, whereas a rule requires the agent to implement the principal’s plan in all circumstances. The principal must decide whether to give the agent discretion or impose a rule.

Figure 4 depicts the rule game concretely as a tree. First, the principal decides whether to give the agent discretion or impose a rule. Second, nature chooses a good or bad state. Third, if the agent has discretion, the agent decides whether to follow the principal’s plan or divert resources. Alternatively, if the principal imposes a rule, the agent must follow the principal’s plan, regardless of the state of nature.
The payoffs from different paths in the game tree appear in parenthesis at the right side of the tree in Figure 4, with the principal’s payoff written first and the agent’s payoff written second. As with the delegation game, relative payoffs illustrate important facts, whereas absolute payoffs signify nothing. The principal’s plan is designed for a good state. If a good state materializes, the payoff to the principal is higher when the agent implements the principal’s plan (1), rather than diverting resources to an alternative project (.5). If a bad state materializes, however, the payoff to the principal is higher when the agent reallocates some resources to the alternative project (.5), instead of implementing the principal’s plan (0). So a loyal agent with discretion implements the principal’s plan in a good state and reallocates resources to an alternative project in a bad state.
The agent’s interests do not coincide perfectly with the principal’s. In a good state, the agent’s payoff is higher when he diverts resources to his preferred project (1.2), rather than implementing the principal’s plan (1). In a bad state, the agent’s payoff is also higher when he reallocates resources to his preferred project (.5), rather than implementing the principal’s plan (0). The agent’s dominant strategy is to divert resources, which serves the principal in a good state and disserves the principal in a bad state.

Now I turn from what the actors do to what they know. As in the delegation game, the rule game assumes that the principal who delegates a task to the agent knows the entire payoff matrix and observes his own payoff, but he does not observe the state of nature or the agent’s act. Figure 5 summarizes what the principal can infer from what he observes. When his payoff equals 1, the principal can infer from Figure 5 both the state of nature (good) and the agent’s act (implement). Similarly, when his payoff equals 0, the principal can infer from Figure 5 the state of nature (bad) and the agent’s act (divert). When his payoff equals .5, however, the principal cannot infer whether the agent’s reallocation was loyal (bad state) or disloyal (good state).

**Figure 5: Principal’s Payoff From Giving Discretion to Agent**

<table>
<thead>
<tr>
<th>Nature</th>
<th>implement</th>
<th>reallocate</th>
</tr>
</thead>
<tbody>
<tr>
<td>good (lucky)</td>
<td>1.2 (reveal)</td>
<td>.5 (hide)</td>
</tr>
<tr>
<td>bad (unlucky)</td>
<td>0 (reveal)</td>
<td>.5 (hide)</td>
</tr>
</tbody>
</table>

**Solution**

The rule game’s solution is a pair of strategies that maximize each player’s expected payoff, given the strategy of the other player. As before, I solve the game recursively. Assuming the principal gives discretion to the agent,
the last decision in time is the agent’s choice between implementing the principal’s policy or reallocating resources. As depicted in Figure 5, the agent’s payoff from reallocating exceeds his payoff from implementing, regardless of the state of nature, so the agent has a dominant strategy. Knowing this, the principal computes his best strategy by assuming that the agent will use discretion to reallocate resources. As depicted in Figure 4, imposing a rule on the agent yields a higher payoff to the principal in a good state, whereas giving discretion to the agent yields a higher payoff to the principal in a bad state. In this example, the rational principal imposes a rule when the probability of a good state exceeds 1/2, and, otherwise, the rational principal gives the agent discretion. The game’s solution can be summarized as follows:

\[
\begin{align*}
& p \geq 0.5 \quad \Rightarrow \quad \text{principal imposes rule, agent implements} \\
& p < 0.5 \quad \Rightarrow \quad \text{principal gives agent discretion, agent diverts.}
\end{align*}
\]

My “solution” solves the problem of delegating power for a given contract between the principal and agent. Computing the optimal contract for the principal and agent requires another formulation of the problem. Other generalizations

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19 The following table summarizes the agent’s payoffs.

<table>
<thead>
<tr>
<th>Agent’s Payoffs Assuming Principle Give Discretion to Agent</th>
<th>Agent’s Act</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>implement</td>
</tr>
<tr>
<td>State of Nature</td>
<td>good</td>
</tr>
<tr>
<td></td>
<td>bad</td>
</tr>
</tbody>
</table>

20 If \( p \) denotes the probability that the state of nature is good, imposing a rule and giving discretion to the agent yield the same expected payoff to the principal when \( p \) solves the following equation:

\[
l p + 0 (1-p) = \frac{1}{2} p + \frac{1}{2} (1-p).
\]

Solving this equation yields \( p = 0.5 \), which is the tipping point.

21 In a general game of contracting, the parties could adjust the payoffs by making side payments, which could improve their incentives. To illustrate, if \( p < 0.5 \), instead of retaining the contract resulting in
of the game also affect its conclusions. I computed the game's solution when rationally self-interested actors play it once. In reality, the agent may sacrifice short-run payoffs for the sake of future advantage. I also implicitly assumed that the principal cannot invest in monitoring the agent. In reality, monitoring increases the risk of punishment, which deters diversion by agents. I assume that agents are self-interested, whereas some agents may remain loyal from a moral commitment.

Graph

Much like Figure 3, Figure 6 graphs the tradeoff between diversion and flexibility characterized by the rule game. The horizontal axis in Figure 6 represents constraint of the agent by rules, which increases when moving to the right. The rule of law implies that officials follow rules, rather than exercising discretion. Consequently, the horizontal axis in Figure 6 characterizes more constraint by rules as an increase in legality. Conversely, the horizontal axis in Figure 6 represents the agent's discretionary power, which increases when moving to the left.

The vertical axis Figure 6 depicts the principal's marginal costs. As the principal imposes more rules, the agent has more difficulty reallocating resources in response to changing circumstances, so the marginal cost to the principle of

the payoffs in Figure 4, the principal and agent both prefer a contract in which the principal promises to pay the agent a bonus of .3 conditional on the agent receiving a payoff of 1. This contract, like any optimal contract, induces the agent to maximize the joint payoffs.
agent’s inflexibility rises. As the principal imposes more rules, the agent diverts fewer resources, so the marginal cost to the principle of agent’s diversion falls. The intersection of the marginal cost curves in Figure 6 corresponds to the level of legality that minimizes principal’s total costs.

**Figure 6: Flexibility-Diversion Tradeoff**

![Cost to Principal (marginal)](image)

The costs of inflexibility and diversion depend upon the environment’s predictability. Good luck reduces the cost of inflexibility, so an increase in the probably $p$ of a good state causes the “inflexibility curve” to shift down in Figure 6. Conversely, good luck increases the diversion of resources by agents, so an

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22 The *marginal* cost from inflexibility increases because flexibility becomes more urgent as the
increase in \( p \) causes the “diversion” curve to shift up in Figure 6. Combining these effects, an increase in the probability of good luck from \( p_{\text{low}} \) to \( p_{\text{high}} \) causes the principal’s preferred level of legality to shift up from \( L^*_{\text{low}} \) to \( L^*_{\text{high}} \) in Figure 6.

In general, predictability makes rules more attractive to principals, whereas unpredictability makes discretionary power more necessary.

Examples

To illustrate the rule game, I modify the preceding example in which the minister of health constructs her plan to maximize the number of kidney transplants. Implementation of the plan requires the work of an administrator and cooperation from the nurses. If the nurses cooperate, the minister’s highest payoff (1) comes from the administrator implementing the plan. If the nurses resist, however, the minister’s highest payoff is higher when, instead of implementing the plan (0), the administrator reallocates some funds to another program (.5). The minister must decide whether to impose rules that enforce the plan or give the administrator discretionary power.

The minister cannot observe the behavior of the nurses or the administrator. A high payoff (1) enables the minister to infer that the administrator implemented the plan and the nurses assisted, and a low payoff (0) enables the minister to infer that the administrator implemented the plan and the nurses resisted. In contrast, with an intermediate payoff (.5), the minister cannot infer whether the administrator reallocated funds in response to the nurses’

agent receives less of it.
resistance or diverted funds even though the nurses cooperated. If the nurses are more likely to cooperate than resist, the minister’s payoff is higher from imposing the rule. Conversely, if the nurses are more likely to resist than cooperate, the minister’s payoff is higher from giving discretion to the administrator.

Another example concerns the difference between general rules and case-by-case decisions in courts. To illustrate concretely, the US constitution guarantees procedural rights to people accused of crimes. Consequently, the US courts require the police to recite a list of rights to a person charged with a crime (“Miranda warnings”). Any evidence obtained by the police through the violation of these rules is excluded from the trial. Like all rules, the procedures do not fit every case. Even so, the courts prefer to prescribe the rules for all cases rather than giving discretion to the police.23

Significance of Rule Game
Having developed a model of discretion and rules, I next consider its legal significance. When judges or administrators decide cases, legality requires the officials to follow rules. Consequently, the constitution or other fundamental laws sometimes requires officials to make rules and follow them. The rule game predicts some consequences of the constraints of legality. Requiring more legality than the principal prefers imposes costs upon him. When the cost of agent’s inflexibility rises by more than diversion costs fall, requiring more legality harms the principal. When external authority imposes unwanted legality on the

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23 For a critical discussion of the US rules excluding illegally obtained evidence from trial, see [Kadish, #5878].
principal, the magnitude of the principal’s loss depends upon the environment’s predictability. The harm is greater when the environment becomes less predictable and bad luck becomes more probable.

Figure 6 illustrates these facts. To be concrete, assume the probability of good luck equals $p_{\text{low}}$, so the principal prefers $L^*_{\text{plow}}$. Now assume that the principal is forced to increase legality to $L_{\text{max}}$. The resulting loss to the principal equals the amount by which the cost of inflexibility exceeds the cost of diversion in the interval $[L^*_{\text{plow}}, L_{\text{max}}]$, as indicated by the area $A+B+C+D+E$ in Figure 6. If the probability of a good state rises from $p_{\text{low}}$ to $p_{\text{high}}$ in Figure 6, the principal’s loss from a requirement of maximum legality $L_{\text{max}}$ shrinks from the area $ABCDE$ to the area $A$.

**Politics, Civil Service, and Courts**
In many state agencies, politicians occupy the top offices and civil servants occupy the subordinate offices. To illustrate, the US President appoints the head of most agencies, each head chooses a personal staff, and the civil service fills most jobs below the head’s personal staff. Alternatively, political appointment can go deep into administration. In a patronage system, the winners in the game of politics distribute state jobs to loyal followers as the spoils of victory. To illustrate, patronage operates deep in administration in the City of Chicago and many developing countries. Administration by civil servants suffers from inflexibility, whereas a patronage system suffers from corruption. The rule game can explain why patronage produces more efficient government at high levels of administration, and the civil service produces more efficient government at low levels of administration.
Think of the state as a chain of relationships in which each official is an agent relative to those above him. Civil servants are agents relative to the political appointees heading the agencies. Political appointees heading the agencies are agents relative to elected officials. Elected officials are agents relative to the citizens who vote. In each link in the chain, a combination of discretion and legality orders the relationship with the agent. Now I explain why efficiency requires discretion to dominate legality at the top of the chain, and efficiency requires legality to dominate discretion at the bottom of the chain.

The closer to the top of the chain, the more citizens know about officials. To illustrate by the US foreign affairs, the communications media scrutinize the President, monitor the Secretary of State, occasionally notice an ambassador, and mostly ignore the civil servants in the State Department. When the principal has more information, the agent has less scope for undetected diversion of resources. In terms of Figure 6, more information for the principal causes diversion costs to rise more slowly as the agent receives more discretion.

While voters have good information about top officials, the environment of high politics is unpredictable. In terms of Figure 6, low predictability increases the costs of inflexibility. To illustrate, unpredictable diplomatic crises require a flexible response by the Secretary of State.

Extensive monitoring and an unpredictable environment tips the balance in favor of giving broad discretion to officials at the top of agencies to pursue the preferred goals of voters. Broad discretion requires politics, not the civil service.
So efficient administration in a democracy requires political control over top officials in state agencies.

Conversely, the absence of scrutiny at lower levels of administration creates opportunities for undetected diversion of resources. In terms of Figure 6, less information for the principal causes diversion costs to rise more quickly as the agent receives more discretion. Rules constraint such abuses. So efficiency in a democracy requires civil service rules to control employment at invisible levels of administration. Imposing rules on civil servants brings legality to the workplace and involves judges in monitoring employment relationships.

Similar problems arise in a judicial hierarchy. When faced with disputes, courts can decide each case on its own merits or develop general rules that apply to all cases. Case-by-case adjudication retains flexibility for lower courts and permits them to diverge from the preferences of higher courts. In contrast, rules reduce flexibility in lower courts and discipline lower courts to conform more to the preferences of higher courts. In common law systems and some civil law courts, trial courts decide facts and appeals courts decide law. In these systems, case-by-case adjudication allows lower courts to control more outcomes by making them turn on facts, whereas general rules allow higher courts to control more outcomes by making them turn on law.

My discussion of politics, administration, and courts suggests three vague boundaries that demarcate significant changes in discretionary power. First, officials enjoy strong discretion when law leaves them free to pursue political goals. To illustrate, legislators have strong discretion in proposing legislation,
and the executive has strong discretion when appointing the cabinet. Second, officials enjoy weak discretion when the law prescribes goals and leaves officials free to choose the means. To illustrate, a civil engineer in the ministry of roads can decide how to build a road required by an executive order, and the ministry of education can design a program to improve literacy as prescribed by legislation. Third, pure legality leaves officials without any discretion, which results in mechanical decision-making. To illustrate, a table that prescribes an exact punishment for each crime or the exact division of assets on divorce leaves little discretion to judges.

Legislators and the executive typically have political discretion, and civil servants typically have technical discretion, but the situation of judges is more problematic. Common-law systems give judges discretion to make some kinds of law, whereas some civil law systems aspire eliminate discretionary power of judges. Pure legality is the result of carrying the rule of law to its logical limit. British unions periodically paralyzed the railways by a tactic called “work-to-rule,” which means that the workers implemented all rules literally. Like the railroads, courts cannot function by mechanical decision-making. Philosophers of law disagree about the ideal mix of politics, technique, and legality in judging.24 In any case, the general language of constitutions and the separation of powers inevitably gives judges broad discretion in constitutional adjudication.

24 Thus Ronald Dworkin, who is among the most celebrated Anglo-American philosophers argued early in his career that each legal dispute has one right answer, thus suggesting that judges have little discretion [Dworkin, 1977 #4610]. Subsequently he revised his views and allowed the political vision of a judge to influence decisions
Questions:
1. Explain why principals give agents discretion rather than rules when the best policy depends upon unpredictable contingencies.
2. The worst payoff in Figure 4 equals 0. Assume that it rises to .25. If p=1/3, then imposing a rule yields the same expected payoff to the principal as giving discretion to the agent. Prove it.
3. Assume that the principal in the rule game in Figure 4 attaches a reward $r$ to a loyal agent who implements the principal’s plan in a good state of nature. What is the smallest value of $r$ that would induce the rational agent to claim the reward?

**Agencies As Bureaucracies**

Now I turn from internal administration to aggregate behavior of state agencies. State agencies typically use tax revenues to supply public goods. To depict these facts, the horizontal axis in Figure 7 indicates the size of the agency as measured by budget or staff. As the agency grows, it supplies more public goods at higher costs. The vertical axis in Figure 7 indicates the benefits to society, or net social benefits, which equal the value of the public goods minus the agency’s cost of supplying them. Starting from the origin in Figure 7, net social benefits increase as the agency expands. Net social benefits reach their maximum when the agency’s size equals $x^*$, which is the agency’s most efficient size. Beyond $x^*$, further expansion of the agency costs more than the value of the additional public goods, so net social benefits decrease as the agency’s size increases.

Informed citizens presumably prefer the state agency’s size to equal $x^*$, which maximizes net social benefits. If administrators, interest groups, and politicians pursued the public interest as defined by the efficient allocation of

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[Dworkin, 1986 #820]. Note that empirical studies often conclude that judges on high courts implement their own political philosophies [Brenner, 1982 #4716].
resources, they would also aim for an agency of size $x^*$. In fact, each group has its own distinct interests, which I will sketch.

As an agency expands, administrators in it gain more responsibilities and more pay, so administrators typically favor expanding their agency. Administrators benefit from expanding the agency beyond the size required for allocative efficiency. The *engorgement principle* refers to the hypothesis that administrators in a state agency strive to maximize its size as measured by *budget and staff* (Niskanen 1971). In terms of Figure 7, administrators want to go far to the right on the horizontal axis as possible, say to point $x_a$.\footnote{I implicitly assume that constraints bind as the agency expands, so that $x_j$ is a finite number.}

While administrators seek to expand the agency, interest groups may pursue other ends. For example, many agencies provide valuable services to industries and also impose burdensome regulations. As the agency grows in size, the valuable services and the burden of regulation increase at different rates. A regulated industry prefers a state agency whose size maximizes the industry’s profits. Figure 7 depicts a typical result in which the regulatee prefers a smaller agency, say the point $x_r$, than the social optimum $x^*$. 
As depicted in Figure 7, the administrators prefer a large agency $x_a$, the regulatees prefer a small agency $x_r$, and the informed members of the public prefer the socially optimal agency $x^*$. In a democracy, electoral competition determines the extent to which each view prevails. If electoral competition favors the regulatees over the agency in Figure 7, then the winning politicians will prefer a small agency. Conversely, if electoral competition favors the agency over the regulatee, then the winning politicians will prefer a large agency. If many citizens are well-informed, electoral competition may favor the social optimum.

---

26 Assuming effective electoral competition, Indifference curves for politicians in Figure 7 would be isoquants for votes.
The point $x_r$ in Figure 7 depicts regulatees who want to shrink the administrative agency. In many situations, however, the regulatees capture the industry and use the state to extract monopoly profits or subsidies (Stigler 1975)(Elhauge 1991). To illustrate airlines in most countries seem happy for the state aviation agency to choke entry and enforce high fares. Similarly, farmers seem happy with large subsidies through agricultural agencies, and retirees seem happy with large redistributive taxes to fund social security benefits. In these circumstances, the regulatees and other beneficiaries favor a large agency, as indicated by $x_r$ in Figure 7. The combination of regulatees and regulators pack formidable political influence favoring expansion of the state. The public perception of this pervasiveness situation partly inspired the worldwide movement towards deregulation that accelerated in the 1990s. In addition, the direct vote of citizens in referenda often reduces state expenditures, as proved by direct democracy in California and Switzerland. (See Chapter 7 for details.)

According to this sketch of a behavioral theory of state agencies, the interest of the administrators and regulatees typically conflict with the interest of the general public. In the next section I will explain how agencies react when politicians and judges try to control them.

Questions:
1. Assume that politicians determine the size of state agencies, and assume that politicians respond more to state administrators and regulatees than to the general public. Describe the configuration of interests of these groups that will result in a larger state agency than required for allocative efficiency. Next, describe the configuration of interests that will result in a smaller state agency than efficiency requires.
2. Sometimes a conservative executive like Ronald Reagan wants to shrink state agencies and make them smaller than preferred by the regulatees. Modify Error! Reference source not found. to depict this possibility.

**Monitoring State Agencies**

The law insulates some state agencies from political influence. To illustrate, the US central bank (Federal Reserve Bank) is directed by a board whose members are appointed for 14 year terms by the President, and it finances itself from its profits, not from Congressional appropriations. Independent agencies like the central bank, however, are exceptions to the rule that elected officials immediately control most state agencies in a democracy. Elected officials appoint and remove the heads of most state agencies and control their budgets. For example, the US President appoints and removes the Secretary of Transportation, and the Department of Transportation receives most of its funds from appropriations by Congress.

Politicians can usually influence a state agency by appointing or removing its leaders, adjusting its budget, reviewing its performance, and imposing rules upon its behavior. For example, the legislature can hold hearings on an agency’s activities, the courts can adjudicate complaints against an agency, and the executive can issue an order to an agency. The constitution and other fundamental laws must allocate the powers of oversight among the branches of government. Oversight powers can be unified in a single branch or divided among the executive, legislature, and courts. I will contrast the effect of unified and divided oversight on the agency’s discretionary power.
In Chapter 5 I showed that a unicameral Parliamentary system shrinks the discretionary power of courts, whereas bicameralism or a presidential system expands the discretionary power of courts. Now I will show that unilateral and multilateral oversight have parallel effects upon the discretionary power of agencies. In terms of the agency game, unified oversight creates a single principal, whereas divided oversight creates multiple principals. In a democracy, government agents enjoy more discretionary power under multiple principals than under a single principal. 27

Unilateral Oversight
An agency has discretionary power up to the point where its acts trigger effective oversight. I begin to analyze agency discretion in the simplest case in which one branch of government can exercise broad powers of oversight unilaterally, without the cooperation of another branch.

Figure 8 depicts the agency’s discretionary power on a single dimension of choice, which could be an action, policy, or interpretation. The agency chooses a point denoted A on the dimension of choice. P represents the most preferred point of the principal with unilateral power of oversight. The greater the distance of the agency’s choice A from P, the greater the principal’s dissatisfaction with the agency. Reviewing the agency’s choice and issuing new orders imposes transaction costs t upon the principal. The principal will not review the agency unless the resulting reduction in the principal’s dissatisfaction exceeds the transaction cost of the review.

---
27 For a recent contribution to the spatial model of agency discretion, see (Spitzer 1990).
To characterize this behavior mathematically, let $P_t$ indicate the point where the principal's dissatisfaction with the agency equals the transaction costs of oversight: $|P - P_t| = t$. In Figure 8, $P_{low}$ denotes the lower value of $P_t$, and $P_{thigh}$ indicates the upper value of $P_t$. Any choice of a point inside the set $[P_{low}, P_{thigh}]$ will not trigger a review. Conversely, any choice of a point outside the set $[P_{low}, P_{thigh}]$ will trigger a review. Thus the agency’s discretionary power equals the set of points $[P_{low}, P_{thigh}]$ in Figure 8.

A rational agency will choose the point closest to its most preferred point, subject to the constraint of not triggering a review. To illustrate, if $A$ denotes the agency’s most preferred in Figure 8, the rational agency will choose point $P_{low}$, which is the closest value to $A$ is inside $[P_{low}, P_{thigh}]$.

**Figure 8: Agency Power and Transaction Costs**

In Figure 8, the principal can reduce the agency’s discretionary power by lowering the transaction costs of review. Requiring the agency to follow rules, rather than making individualized decisions, often lowers the cost of review. The cost of review falls because victims report violations of the rules. By appealing for redress, victims alert the principal to the fact that the agency has broken its
rules. (Monitoring agencies by responding to complaints has been described as “putting out fires.”)

Rules pervade bureaucracies in order to reduce the transaction cost of monitoring the behavior of agents and preventing agents from diverting resources to their own purposes. To illustrate, if the executive delegates power to an agency under a clear rule, a plaintiff may sue in court for harm caused by the agency’s violation of the rule. Conversely, if the executive delegates discretionary power without a rule, a plaintiff may have no grounds to sue in court for harm caused by the agency’s exercise of its discretion. So the executive has an interest in promulgating rules to control agencies. The court also has an interest in how the executive delegates power. By imposing rules on an agency to which the executive delegates power, the court can increase its influence over the agency at the expense of the executive.

Example: Administrative Procedures Act
In the US the Administrative Procedures Act specifies procedures that every agency must follow in making decisions, except when specific legislation stipulates alternate procedures. As a consequence, most US agencies follow the same procedures. By contributing to transparency, uniformity lowers monitoring costs. Most European nations, in contrast, have more diverse procedures of administration.28

The Administrative Procedures Act distinguishes between two kinds of decisions. “Formal decisions” must follow a burdensome procedure involving
notice, a hearing, the right to give evidence, and a decision based on the record of the proceedings. To illustrate, a firm that applies for a permit may have a right to a formal decision, in which case the agency must hold a hearing to decide whether to grant the permit and the agency must decide based upon the record of the hearing. Formal decisions resemble adjudicating the rights of individuals. To protect individuals from unfair treatment, courts that review formal decisions hold agencies to a relatively high standard of legality.

In contrast, “informal decisions” must follow a less burdensome procedure involving proposing the decision, publishing the proposal, inviting comments, considering the comments, and announcing the decision. To illustrate, the promulgation of a new regulatory standard is an informal decision. Informal decisions resemble legislation applied to a group of people, rather than the trial of an individual. When reviewing informal decisions, courts hold agencies to a relatively low standard of legality.

The courts decide whether to classify decisions by agencies as “formal” or “informal” under the Administrative Procedures Act. Classifying a decision as “formal” allows the court to monitor the agency’s decisions case-by-case. Case-by-case decisions retain flexibility for the court and the agency, but the transaction costs are high for both parties. In contrast, classifying a decision as “informal” allows the court to impose a general rule upon the agency. General rules sacrifice flexibility and lower transaction costs for the court and the agency.

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28 A comparison between uniform administration in the US and more diverse procedures in Germany is in (Rose-Ackerman 1994).
According to Figure 8, the relatively high transaction costs of formal decisions increase the agency’s discretionary power over a class of decisions, whereas the relatively low transaction costs of informal decisions reduces the agency’s discretionary power. Furthermore, according to Figure 8, the court will have less concern over the agency’s discretionary power when agency preferences are close to court preferences. Thus Figure 8 predicts the courts will favor formal decision making when agency preferences are close to court preferences.

**Question:** Assume that Figure 8 depicts an agency that follows general rules. How would you expect Figure 8 to change if the agency abandoned rules and adopted individualized decision making?

**Multiple Principals**

Figure 8 depicts a single principal with unilateral powers of oversight. Sometimes, however, multiple principals have powers of oversight. The consequences for the agent differ depending upon whether the principals have duplicative powers or divided powers. By *duplicative powers* I mean that each of the multiple principals can exercise oversight unilaterally. For example, the executive and legislative may have independent powers to conduct unilateral review of an agency’s behavior.

By *divided powers* I mean that multiple principals must cooperate to exercise oversight. For example, the executive may remove an official from office and nominate a successor, and the legislature may have to confirm the nomination. Or the executive may issue a new order to the agency and the court
may have to review the order’s legality. Or the legislature may hold hearings and
the executive may have to issue an order in light of the findings in the hearings.

I will extend Figure 8 to represent duplicative powers first and divided
powers second. In Figure 8, the principal will not review the agency unless the
resulting reduction in the principal’s dissatisfaction exceeds the transaction cost
of the review. Adding additional principals with unilateral powers increases the
probability that a given behavior by the agency will trigger review by one of them.
Figure 9 depicts these facts by adding a 2nd principal to Figure 8. \( P^\prime \) denotes
the most preferred point of 2nd principal, and the set \([P^\prime_{\text{low}}, P^\prime_{\text{high}}]\) denotes the
range of points that will not trigger review by the 2nd principal. Thus the agent’s
discretionary power in Figure 9 equals the intersection of the set of points that
will not trigger review by the 1st principal or the 2nd principal:

\[
\text{agent’s discretionary power} = \quad [P_{\text{low}}, P_{\text{high}}] \quad \cap \quad [P^\prime_{\text{low}}, P^\prime_{\text{high}}]
\]

\[
= \quad [P^\prime_{\text{low}}, P_{\text{high}}].
\]

Rather than choosing \( P_{\text{low}} \) as in Figure 8, the rational agent in Figure 9 will
choose \( P^\prime_{\text{low}} \). In general, duplication of review shrinks the agent’s discretionary
power.
So far I have explained that the discretionary power of the agency falls with the transaction costs of reviewing its behavior. With duplicative powers of review, where multiple principals have unilateral power to review the agency, the agency’s discretionary power approaches zero as transactions cost fall to zero. Now I turn to divided oversight, which requires cooperation by more than one principal. Divided oversight conveys discretionary power upon an agency for reasons entirely independent of transaction costs. Even as transaction costs approach zero, an agency subject to divided oversight may enjoy wide discretionary power.

With divided oversight, any principal whose cooperation is needed to review an agency can, by not cooperating, veto a review. I demonstrated in Chapter 5 that multiple vetoes on fresh legislation increase the discretionary power of the court, regardless of whether transaction costs are positive or zero. Similarly, I will demonstrate that multiple vetoes on oversight increase the discretionary power of an agency.
Assume that reviewing an agency and changing its policy requires the cooperation of the executive and legislature. Figure 10 depicts the most preferred point of the executive, E, and legislature L, on a dimension in policy space. The set of points in between E and L, denoted [E,L], define the Pareto set for the executive and legislature. If the agency chooses its policy from any point outside the Pareto set, the executive or the legislature will both prefer some point inside the Pareto set. They are, consequently, prepared to cooperate in reviewing the agency and directing a change in its policy.

**Figure 10: Agency's Discretionary Power**

Whether E and L actually review A depends upon the transaction costs. If transactions costs of review are zero, E and L will cooperate in conducting a review whenever the agency chooses a point outside of [E,L]. If transactions costs of review are positive, E and L will cooperate in conducting a review whenever the agency chooses a point far enough outside of [E,L] such that their benefit from a change exceeds their transaction costs from conducting the review.

---

29 Figure 10 corresponds to Figure 6 in Chapter 5, which depicts the discretionary power of the court.
Conversely, if the agency chooses its policy from any point inside the Pareto set, the executive or the legislature will block any attempt to change the policy by not cooperating in reviewing the agency. This is true even when the transaction costs of the review equal zero. Assuming review is costless, the set \([E, L]\) defines the agency’s discretionary power. To illustrate by Figure 10, the agency most prefers point A, and L is the closest point in the Pareto set to A, so, when review is costless, the rational agency chooses point L. *In general, the agency’s discretionary power when review is costless equals the Pareto set for the principals who can veto oversight.*

Questions:

1. Assume that courts initially show deference to the executive in reviewing the legality of actions by executive agencies. Subsequently the courts change and assert an independent power of review. Adapt Figure 10 to depict how the change in the court’s behavior changes the agency’s discretionary power. Show how the resulting change in the agency’s discretionary power depends upon the location in the figure of the court’s most preferred point.

2. The Comptroller General of the United States, who runs the General Accounting Office, is appointed by the President. The courts determined that the President can remove the Comptroller General without the consent of Congress. Adapt Figure 10 to show how the Comptroller General’s discretionary power would increase if removal required the consent of Congress.

3. In Chapter 5 I analyzed the behavior of a committee that could present the legislature with a take-it-or-leave-it proposal (bill reported out of committee under a “closed rule”). Apply this same analysis to the discretionary power of an executive who nominates a candidate to serve as head of an agency, where the legislature must confirm the nomination. Assume that the executive can present the legislature with a take-it-or-leave-it nomination. If the legislature refuses to confirm the nomination, the agency must function without a head.\(^{30}\)

\(^{30}\) See [Ferejohn, 1990 #3922; Gilligan, forthcoming #1262; McCubbins, forthcoming #2071].
Influencing State Agencies

I will now consider some instruments that principals use to influence agencies. Supplying some kinds of public goods requires many decisions about individuals, such as determining coverage of a regulation or eligibility for a benefit. Such decisions can be made retail or wholesale. The retail procedure uses individualized decision making, so the agency must increase the number of its decisions in proportion to its supply of the public good. The wholesale procedure requires promulgating a general rule and applying it to individuals.

The two procedures differ with respect to transaction costs. The transaction cost of individualized decision making increases rapidly as the supply of public goods increases. In contrast, promulgating a general rule requires an initial expenditure, but once the rule is promulgated, the cost of applying it to additional decisions is relatively low.

Figure 11 depicts the difference in transaction costs between retail and wholesale decisions. The horizontal axis represents the quantity of the public good supplied by an agency, and the vertical axis represents the agency’s total transaction costs of supplying the public good. The transaction cost of individualized decision making increases rapidly as the supply of public goods increases, as indicated by the steep line labeled “individualized decisions” in Figure 11. The wholesale procedure requires promulgating a general rule, which requires an initial expenditure indicated by c in Figure 11. Once the rule is promulgated, however, the cost of applying it to additional decisions is relatively low, as indicated by the modest slope of the line labeled “general rules.”
The intersection of the total cost curves, which occurs at $z'$ in Figure 11, is the tipping point between individualized decisions and general rules. Individualized decision making is cheaper when supplying less that $z'$ of the public good, whereas promulgating a general rule is cheaper when supplying more than $z'$ of the public good. Thus general rules are more efficient than individualized decisions for supplying large quantities of public goods. For example, transaction costs $T$ in Figure 11 will produce $z_r$ public goods by general rules or $z_i$ public goods by individualized decision making.

Examples
To illustrate the contrast in procedures, consider two examples modeled on actual US legal cases. Open land is scarce in urban areas, so new roads are sometimes built through parks. The decisions to build roads through park,
which involves a difficult comparison between the value of transportation and recreation, can be made retail or wholesale. Retail (individualized decision making) requires the Department of Transportation to hold hearings and weigh all the factors that could influence the unique value of each parcel of park land. Wholesale (general rules) requires the Department of Transportation to promulgate rules specifying the criteria to use when purchasing parkland for roads.

Given these facts, the horizontal axis in Figure 11 can be interpreted as miles of roads built through parks by the Department of Transportation. When few roads are built, the retail procedure that uses individualized decision-making is cheaper. When building many roads, the wholesale procedure that uses rules saves transaction costs for the Department of Transportation. Rules restrict the scope of issues for consideration. Once promulgated, the Department of Transportation must follow its rules, instead of considering the unique value of each parcel of land.

As a second example, consider the construction of nuclear power plants. Assume that the Nuclear Agency decides whether to construct and operate a nuclear power plant. Or, equivalently for my purposes, the Nuclear Agency decides whether to license construction and operation of a nuclear power plant by a private company. 32 For this example, interpret the horizontal axis in Figure 11 as the number of nuclear power plants constructed, licensed, and brought into operation. “Individualized decision making” means that, before making a

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32 This hypothetical is suggested by Vermont Yankee COMPLETE CITATION.
decision, the Nuclear Agency holds hearings or otherwise consults with the affected parties. At these hearings, the Nuclear Agency decides what to do in light of the particular features of each case. “General rules” means that the Nuclear Agency promulgates rules that specify the criterion to use in making these decisions, and then the Nuclear Agency restricts its deliberations to the criteria specified in the rules.

How Procedure Affects Result

Now I want to explain how principals can change the supply of public goods by imposing changes in the procedures of agencies. Assume that the agency promulgates a wholesale rule for producing public goods as depicted in Figure 11. Now assume that a principal, who might be a political official or court, wants to reduce agency’s supply of public goods. To do so, the principal requires the agency to switch from wholesale to retail procedures. The switch in procedure increases the agency’s cost of supplying this public good.

The agency presumably believes that politicians will reward it for supplying public goods, not using resources on transaction costs. Given this belief, the agency prefers to use its resources for supplying more public goods, rather than using up resources on transaction costs. Given these preferences, the agency will respond to an increase in the costs of supplying one public good by supplying less of it. *In general, imposing a more costly procedure on an agency with a budget constraint will decrease its supply of the public good.*

To illustrate, assume the courts require the Department of Transportation to conduct individualized hearings before building roads through parks, rather
than allowing the Department of Transportation to apply rules wholesale. By imposing a more costly procedure, the court will cause the Department of Transportation to build fewer roads through parks. Similarly, if the executive requires the Nuclear Agency to conduct individualized hearings before licensing a nuclear power plant, then the Nuclear Agency will license fewer nuclear plants.

I explained that imposing a more costly procedure on an agency with a budget constraint will cause its supply of the public good to decrease. *The extent of the decrease usually depends upon the agency’s ability to substitute another public good in place of the one burdened by more costly procedures.* When substitution is *easy*, imposing a more costly procedure causes a *large* decrease in the agency’s supply of the public good in question. Conversely, when substitution is *difficult*, imposing a more costly procedure causes a *small* decrease in the agency’s supply of the public good in question.

Ease of substitution depends upon the agency’s responsibility and technology. If the agency is responsible for producing a large number of public goods that require similar technology, then the agency can easily shift resources from producing one good to producing another good. Conversely, if the agency is responsible for producing a small number of public goods that require dissimilar technologies, then the agency has difficulty shifting resources from producing one good to producing another.

To illustrate concretely, contrast the effects of courts imposing burdensome procedures on building roads through parks and licensing nuclear power plants. The Department of Transportation presumably builds a small
fraction of its roads in parks, so it can build roads elsewhere. Instead of resisting the court’s decision, the Department of Transportation will locate new roads away from parks to avoid burdensome procedures.

The Nuclear Agency, however, is in a different situation. Assume that the Nuclear agency has no jurisdiction over coal or hydroelectric power. To protect its future budget, the Nuclear Agency needs to build or license nuclear power plants. If courts impose burdensome procedures on building nuclear power plants, the Nuclear Agency cannot shift its activities to supplying another public good. Under this assumption, imposing higher transaction costs on licensing nuclear power plants will increase the cost of nuclear power without causing the Nuclear Agency to shift resources to supplying another public good.

Politicians and courts often try to influence the production of agencies by stipulating their procedures for making decisions. I have explained that administrators respond to external controls by adjusting their product mix in order to secure future appropriations. The willingness of agencies to change products depends upon the ease with which they can shift resources to producing alternative public goods. Agencies accept external direction when doing so does not jeopardize future appropriations, whereas agencies resist external directions that jeopardize future appropriations. In general, politicians and courts that impose burdensome procedures will have the most effect on agencies that can easily substitute against the burdened public good.

Price Effects
I have explained that state agency’s respond to changes in transaction costs in the same way as consumers respond to price changes. To depict substitution by a state agency using the standard graph for consumers, I need to introduce a second good. Assume that the agency can supply public good $z_1$, which is depicted on the vertical axis in Figure 12, or public good $z_2$, which is depicted on the horizontal axis. The lines in Figure 12 represent combinations of the two goods that can be produced with given resources and procedures. Specifically, the line labeled “cheapest procedure” in Figure 12 represents the production possibilities for the two goods while holding the agency’s budget constant and following the cheapest procedure for the agency. In contrast, the line labeled “individualized for $z_1$” represents the production possibilities for the two goods while holding the agency’s budget constant and following the individualized procedure for $z_1$. 
To be concrete, $z_1$ might indicate “roads build through parks” and $z_2$ might indicate “roads built outside parks.” As depicted in Figure 12, the requirement of individualized decision-making for roads built through parks increases their relative cost when their quantity exceeds $z_1$.

Alternatively, $z_1$ might indicate “licensed nuclear power stations” and $z_2$ might indicate “licensed nuclear reactors for medical research.” As depicted in Figure 12, the requirement of individualized decision-making for licensing nuclear power stations increases their relative cost when their quantity exceeds $z_1$.

If the principal requires the agency in Figure 12 to adopt individualized decision making for $z_1$, the agency will presumably respond to the increase in cost by switching resources from production of $z_1$ to production of $z_2$. To depict the extent of the switch, I have added the agency’s indifference curves in Figure
13. These curves indicate the agency’s preferences for supplying the two public goods. The agency maximizes utility by moving along the production possibility curve to the point of tangency with an indifference curve. If the agency can choose procedures freely, it maximizes utility by producing \((z_1, z_2)\). If the agency must use individualized decision making for \(z_1\), it maximizes utility by producing \((z_1`, z_2`)\). Notice that an increase in the cost of producing \(z_1\) causes its quantity to fall to \(z_1`\), whereas the quantity of \(z_2\) increases to \(z_2`\). Thus the agency substitutes production of \(z_2\) for \(z_1\).

**Figure 13: Substitution and Agency’s Preferences**

![Graph showing substitution and agency's preferences](image)

The ease of substituting \(z_2\) for \(z_1\) depends upon the agency’s preferences, which determine the shape of the indifference curves. The agency presumably prefers a larger budget and staff. Some uses of funds win the approval of
politicians, who will reward the agency with higher appropriations in the future. Thus the agency’s preferences in Figure 13 depend upon its strategy for growth.

Strategic Policy

The response of agencies to external controls depends in part upon the form of financing. As explained, financing an agency from general tax revenues creates an incentive for the agency and its allies to lobby the legislature for higher appropriations, as predicted by the engorgement principal. While most agencies are financed from general tax revenues, alternative financing can improve an agency’s incentives.

A good incentive system automatically provides more revenues to an agency that produces public goods more efficiently. User fees achieve this result because the agency collects more revenues by supplying more of the public good for people to use. To illustrate, a public swimming pool that finances itself from an entry fee will enjoy more revenue by making the pool more attractive to more people.

Another way to achieve the same result is by financing an agency partly from a tax on a private good that complements the public good supplied by the agency. Tax revenues from a private complement to a public good automatically increase with increases in the supply of the public good. To illustrate, assume that the Department of Transportation is funded by a combination of road tolls and gasoline taxes. More intensive use of roads results in higher tolls and higher gasoline taxes, so the Department of Transportation has an incentive to build roads that drivers will use intensively, as required for efficiency. Similarly,
financing fishery regulator from a percentage tax on the value of the catch of fish gives the agency an incentive to adopt regulations that maximize the value of the catch in the long run.

State agencies need more incentive-compatible financing, by which I mean financing that automatically rewards the efficient production of public goods. In general, agency incentives improve by replacing general tax revenues with financing from user fees or a tax on a private good that complements the public good produced by the agency.

Questions:
1. Modify the agency’s utility curves in Figure 13 to indicate the change when \( z_2 \) becomes harder to substitution for \( z_1 \).
2. In the US, the committee structure of Congress parallels the organization of the executive into ministries and agencies. Discuss some possible effects of parallel organization on the monitoring and behavior of administrative agencies.
3. Discuss ways to finance the Department of Commerce or the Ministry of Science by taxing private goods that complement the public goods supplied by these agencies.

Summary and Conclusion

Fundamental choices by administrators include delegating power versus directly implementing policy, and promulgating rules versus making individualized decisions. I developed the delegation game and the rule game to model these choices. Delegating authority to agents saves administrative costs for principals and gives agents more opportunity to divert resources. Principals tend to delegate when their opportunity costs are high and when the possibility of bad luck deters agents from diverting resources. Rules reduce the flexibility of agents and rules also reduce the opportunity of agents to divert resources. Principals tend to impose rules on agents when the environment is predictable. Using rules also lowers the transaction cost of wholesale decisions.
These facts give administrators their own reasons for delegating authority and following rules. The constitution or fundamental laws may constrain administrators by restricting delegation. Restriction on delegation imposes administrative costs on principals and reduces the diversion of resources by agents. The constitution or fundamental laws may also constrain administrators by requiring legality. Prescription of legality imposes inflexibility on agents, reduces the cost of wholesale decisions, and reduces the diversion of resources by agents.

Instead of being slaves that meticulously execute their orders, state agencies exert enough independent influence to be called the "fourth branch of government." Administrators typically try to expand their agency beyond the size that maximizes net benefits to the public, whereas the regulatees encourage or resist expansion depending upon whether or not they capture the agency. In competitive democracy, politicians respond to the public, administrators, or regulatees depending upon the strategy that maximizes votes.

Law and policy provide some devices for controlling agencies. The discretionary power of agencies shrinks when the constitution grants unilateral power of oversight to multiple principals, and expands when the constitution divides the power of oversight among multiple principals. Sometimes principals impose burdensome procedures on agencies engaging in activities disfavored by the principals. If the agency can substitute among public goods without jeopardizing appropriations, then increasing the transaction costs of one activity diverts the agency’s efforts to other activities.
An Englishmen allegedly kept a diary of the things he saw each day for use by scientists as “empirical evidence.” While such a diary may interest historians, it has little value for science. Scientific theories separate causes from background noise. Similarly, the stylized models in this chapter provide parables of administration to make details intelligible. These parables help to sort the particularities of concrete situations, so the social scientist can find the causes of the behavior of state agencies.\textsuperscript{33} A better understanding of state agencies can help democracy to make administration resemble Weber’s instrumental rationality rather than Kafka’s irrational malevolence.\textsuperscript{34}

\textsuperscript{33} For examples of using alternative theories to test the textured, historical facts of government decisions, see \textit{(Ackerman 1972)} and [Allison, #5879].

\textsuperscript{34} Specific reform proposals to improve administration in the US are in \textit{(Pildes and Sunstein 1995)}. 