Property Rights

[T]he right of property [is]... that sole and despotic dominion which one man claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe.

—Blackstone, Commentaries on the Laws of England

In the African tribe called the Barotse, “[P]roperty law defines not so much the rights of persons over things as the obligations owed between persons in respect of things.”

—Max Gluckman, Ideas in Barotse Jurisprudence

[T]he theory of the Communists may be summed up in the single sentence: Abolition of private property.

—Karl Marx and Friedrich Engels, The Communist Manifesto (1848)

THE LAW OF PROPERTY supplies the legal framework for allocating resources and distributing wealth. As the preceding quotations indicate, people disagree sharply about these issues. Blackstone views property as providing its owner with freedom over resources, and he regards material freedom as the basis for other freedoms, “the guardian of every other right.” In contrast, Gluckman found that property in the Barotse tribe in central Africa conveys responsibility, not freedom. Specifically, the Barotse hold a rich person responsible for contributing to the prosperity of his kin. Finally, Marx and Engels regard property as the institution by which the few enslave the many.

Instead of attempting to resolve such deep disputes over social organization, I proceed from a definition of private property sufficient to analyze capitalist democracies. Property can be viewed as a bundle of rights describing what a person may and may not do with the resources he owns. Property rights usually include the right to possess, occupy, use, consume, control, exclude,

1 Blackstone 1765 (1992), book 2, Chapter 1, p. 2.
2 Gluckman 1965, p. 171.
3 The introduction to this chapter is based on the introduction to chapter 4 of Cooter and Ulen 1999.
expel, develop, transfer, assign, sell, mortgage, donate, or bequeath, and property rights often include the right to exploit, alter, transform, deplete, exhaust, waste, neglect, or destroy. The owner is free in the sense that no law forbids or requires him to exercise his property rights. Furthermore, the law forbids private persons and the state from interfering with the owner's exercise of his rights. Thus property creates a zone of privacy in which owners can exercise their will over things without answering to others in law.

Besides giving owners freedom over things, property conveys legal responsibilities. In common law owners must not harm the property or persons of others. Thus liability and regulations may require abating pollution, silencing noise, containing odors, and securing hazards.

The proponents of different visions of property try to imbend them in law and state institutions. This chapter will analyze the relationship between freedom and responsibility of owners as found in the constitutions of capitalist democracies. I will address such questions as the following:

Example 1: To construct a road, the state takes land from property owners and compensates them. Is compensation at market values too much, just right, or too little to create incentives for efficient behavior by property owners and the state?

Example 2: The owners of a small cottage on the beach apply for a permit to expand it into a house. The local zoning authorities refuse to issue the permit unless the owners "donate" a right-of-way across their property to enable the public to walk along the beach. When the owners sue the zoning authorities, the courts decide for the owners and prohibit such "donations." What are the economic consequences of this prohibition?

Example 3: The modern state often requires owners to apply for permits to develop property. Assume that a certain jurisdiction replaces the apply-and-appeal process with a system of transferable development rights (TDRs). How could TDRs increase efficiency and reduce corruption?

Example 1 concerns the taking of private property by the state. In most democracies, the government has broad powers of taxation and regulation, whereas the constitution restricts the taking of property. To illustrate takings, the courts may prevent government from taking the property of political opponents to raise revenues, and the courts may prevent the state from forcing private owners to allow public access to their land. Constitutional theory must distinguish takings, which most democratic constitutions restrict, from taxation and regulation, which most democratic constitutions do not restrict. This chapter uses economics to make the distinction and analyze its incentive effects.

Construction and new business activities often require permits, including variances from state regulations. As illustrated in example 2, owners must bargain with the state to obtain the permits, which involves risks. I will use economic theory to propose some constitutional guidelines for protecting individuals who must bargain with the state. Finally, I will explore the scope for replacing unwieldy regulations in property law with market-like instruments (example 3).
PROPERTY RIGHTS

THUMBNAIL HISTORY: FROM MAXIMUM LIBERTY TO LOCHNER

I begin with a brief history of U.S. property law, which resembles developments in some other countries. Common law typically allows any use of land that does not interfere with other people or their property. Nuisance and tort law especially define “interference” in terms of physical harm and damage to health. Loss of amenity, such as the “quiet enjoyment” of one’s land, receives only modest protection.\(^4\) I use the phrase maximum liberty to refer to a legal system that allows an owner to do anything with her property that does not interfere with others. Common law imposed relatively few restrictions on the owners of property, so common law approximates a legal system of maximum liberty. Before the regulatory state emerged in the twentieth century, the common law of property was probably more important than regulations, so nineteenth-century America approximated a regime of maximum liberty for property owners.

In the twentieth century, however, governments in the United States imposed regulations restricting owners far more than common law did. As population grows and urbanization proceeds, one person’s use of land becomes more entangled in another’s. When uses entangle, distinguishing injurers from victims requires a difficult judgment about freedom and responsibility. The science of ecology identified forms of interdependence in the natural world that common law ignores, and the study of cities has done the same for urban property.\(^5\) So twentieth century land-use regulations can be defended in principle as protecting the ecology of country and town. In practice, however, many regulations restrict competition and create monopoly profits for the friends of politicians.\(^6\)

The U.S. Constitution guarantees both human rights and property rights. In the years since the Second World War, the Supreme Court has moved aggressively to protect human rights, especially in such areas as racial discrimination, freedom of speech, and freedom of religion. The Supreme Court has also moved aggressively to protect process rights, especially “due process” (the right not to be harmed by government actions in which the procedures are illegal). In this same period, however, the court has permitted wide interference by government with property rights in the form of zoning laws, regulation of industry, and redistributive taxation. In recent years, the U.S. Supreme Court has vigorously protected human rights, but not property rights.\(^7\)

The opposite was true of the Supreme Court in the early years of this century, when property rights were vigorously protected, but human rights, as currently conceived, were relatively neglected. The symbol of the earlier view on property is the 1905 case of *Lochner v New York* (198 US 45, 1905), where the Supreme

\(^4\) A good discussion is Passmore's exploration of the normative resources in common law and Judeo-Christian religion for addressing ecological problems. See Passmore 1974. For the argument that industrialization eroded the protections formerly afforded by the common law of nuisance, see Horwitz 1977.

\(^5\) For a classic that remains fresh, see Jacobs 1993.

\(^6\) For application to zoning, see Ellickson 1977 and Fischel 1985 as discussed in chapter 6 of this book.

\(^7\) See Sunstein 1987.
Court struck down a New York statute prohibiting employers from requiring or permitting bakers to work for more than sixty hours a week. In a similar decision in 1923, the Supreme Court invalidated a minimum-wage statute for women and children.\(^8\)

The *Lochner* case arose when a legislature tried to outlaw contracts that were enforceable under common law. By declaring the legislation unconstitutional, the court effectively entrenched common-law rights of contract and property in the constitution. Thus the *Lochner* case can be viewed as adopting common-law rights as the baseline for the constitutional protection of property. Under this doctrine, the taking of private property occurs when a law departs from the common-law baseline. The constitution, according to this view, requires neutral regulations with respect to the existing distribution of wealth as determined by common-law entitlements.\(^9\)

In 1937 the U.S. Supreme Court began a new era by upholding a minimum-wage law for women, which marked the beginning of the repudiation of *Lochner*.\(^10\) The *Lochner* principle was fully repudiated when Roosevelt’s New Deal imposed many new regulations that vigorously intruded upon property rights. In early twentieth-century America, constitutional obstacles were also removed to increase the scope and rate of taxation.\(^11\) According to one theory, these taxes and intrusions on property established the constitutionality of redistribution. The U.S. government now collects progressive taxes from income and pays benefits to unmarried mothers, retirees, the disabled, elderly people who are sick, corporate tobacco farmers, coal-shale extractors, manufacturers of flat computer screens, and many others.

Having eroded common-law restrictions on redistributing income, the New Deal did not establish a clear ideal for income distribution. Much of the political philosophy of justice concerns the ideal income distribution.\(^12\) Instead of an alternative ideal for property rights and income distribution, the new understanding of the U.S. Constitution allows different ideals to contend for political power.

When governments redistribute income, the beneficiaries come to rely on these payments like stockholders rely on their quarterly dividends. Stockholders own their stocks, so they enjoy constitutional protection against the taking of their property. States must follow restrictive procedures when taking private property. In contrast, the beneficiaries of state programs do not own their benefits. When terminating someone’s benefits, a welfare office must satisfy conditions of legality such as following its own rules.

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\(^8\) *Adkins v Children’s Hospital*, 261 US 525 (1923).

\(^9\) A discussion of this conception of property and its repudiation by Roosevelt’s New Deal is in Ackerman 1984.

\(^10\) *West Coast Hotel v Parrish*, 300 US 379 (1937).

\(^11\) Notably, the sixteenth Amendment to the U.S. Constitution overcame obstacles the courts found in the Constitution to the taxation of income.

\(^12\) There are many theories of just distribution. See, for example, Rawls 1971.
Some reformers want to change this situation and put needy beneficiaries of state programs (but not corporate beneficiaries) on legal foundations similar to those of stockholders. According to this approach, hierarchy and patterns of coercion are more relevant to people than the formal lines separating private property and the state. Consequently, courts should regard certain kinds of state benefits as property of the beneficiary. If this approach became law, then terminating someone's state benefits might become as difficult as expropriating their property. This idea of the "new property" takes the repudiation of *Lochner* to its logical conclusion.

The *Lochner* controversy persists in alternative political visions connecting property rights, human rights, and democracy. Conservatives emphasize that private property protects liberty by making people economically independent of the state, whereas socialism weakens resistance to political authority by turning all workers into government employees. In this view, centralization of the economy causes centralization in politics. Conservatives note that communists abolished human rights and markets wherever they gained political control. The conservative vision emphasizes that clear property rights protect liberty and promote efficiency. Clear property rights are found in common law or civil codes supported by constitutional protections.

In contrast, political theorists since Aristotle have argued that free markets result in vast accumulations of private wealth, whose owners can purchase political power. In this view, the unequal distribution of property undermines democracy and promotes plutocracy. The left-liberal vision focuses on the need for the state to protect workers and correct inequalities created by free markets. This vision admires social welfare legislation and the protection of human rights by courts.

**Questions**

1. Describe your ideal income distribution. If you could draft a constitution, how would you imbue your ideal income distribution in it?

2. Conventional microeconomics predicts that minimum-wage laws redistribute income and cause unemployment. According to conventional theory, who pays the cost of redistribution and who suffers unemployment?

3. If government benefits were treated as property by the courts, would you expect expenditures on lobbying for such benefits to increase or diminish?

13 Reich 1964.

14 The historical relationship among economic inequality, socialism, and democracy is confusing. India's democracy persists in spite of vast disparities in wealth, a relatively small middle class, and a recent history of socialism. In Poland, the move to restore democracy was led by a labor union (Solidarity). Chile elected a socialist government in 1970, which was overthrown by the military in 1973. General Pinochet imposed an authoritarian regime with a strictly capitalist economy that flourished, and the military eventually yielded power to democratically elected officials. These facts imply that the correct model relating democracy to the economy must involve multiple variables.
Before analyzing constitutions, I will sketch an economic theory of property. The wealth of a nation depends on the efficient use of resources. Market exchange, which is voluntary, tends to move resources from people who value them less to people who value them more, as required for efficiency. To illustrate from chapter 3, Blair's purchase of Adam's 1957 Chevrolet creates a surplus because Blair values it more than Adam does. In a sale, "voluntary" means that the owner freely agrees to the price. The fact that both parties must consent to the sale usually guarantees mutual gain. Private owners also internalize the benefits and costs of alternative uses of their property, which prompts them to use their resources efficiently. So a regime of private property tends to maximize a nation's wealth.

In contrast, a taking does not require the consent of the property owner. Whereas voluntary exchange causes mutual gain, a taking causes unilateral gain. A property owner may value his property more than whoever takes it. A taking, which is involuntary, can move resources from people who value them more to people who value them less, thus causing inefficiency.

Protection of property rights by criminal sanctions and injunctions channels transactions into voluntary exchange. Conversely, when the rights of an owner are unprotected, others can acquire the property in an involuntary transaction. To illustrate, in condemnations the owner need not agree to the price, in warfare the conquered need not agree to the conquest, and in an emergency the common law authorizes a person lost in the woods to break into a cabin to find shelter and food.

The prohibition against interference and the legal power to exclude others protects the owner's right to use property. Besides the right to use property, the owner has an interest in its value. The requirement that other people who damage or take property must compensate at the market rate protects the owner's interest in the value of the property, but not the owner's right to use it. To illustrate, condemnation and the emergency doctrine allow one person to acquire or use another's property with compensation at the market price and without the owner's consent. In condemnation or an emergency, the owner's interest in the property's value enjoys protection, but the owner's right to exclusive use of the property goes unprotected.\(^{15}\)

When the owner values the property at the market price, the difference between protecting interests and rights is small. Conversely, when the owner values the property at more than the market price, the difference between protecting interests and rights is large. To illustrate, assume that the market value of the estate Blackacre is $1 million. The fact that the owner retains Blackacre rather than sell it indicates that he values the property at more than the market price. Now assume that the state takes Blackacre and pays $1 million in compensation. If the difference between subjective and market values is small, say $1.1 million...
versus $1 million, then protecting the owner's interest closely resembles protecting his right. Conversely, if the difference between subjective and market value is large, say $5 million versus $1 million, then protecting the owner's interest falls far short of protecting his right. Rapid turnover in ownership indicates little difference between subjective and market values, whereas enduring ownership often indicates subjective values exceeding market values.

Now reverse the example and assume that the state values the property much more than its private owner. Specifically assume that the owner of Blackacre values it at the market price of $1 million, whereas the state values the land at $21 million. This situation might occur because the public badly needs a road through Blackacre. If the state must buy Blackacre in a voluntary transaction, then the owner will typically extract part of the state's surplus value in the bargain. To illustrate, the surplus in this transaction equals $20 million, so dividing the surplus from exchange equally requires setting the price at $11 million. Alternatively, if the state can condemn the property and pay compensation at the market price, then the state will receive all of the surplus value of $20 million. So protecting the owner's property right enables him to obtain a share of the surplus in transactions with the state, whereas protecting his interest allows the state to obtain all of the surplus.

The difference between the right and interest of the owner is often described as the difference between a "property right" and a "liability right." In general, owners obtain an advantage by receiving a property right rather than a liability right.

As explained, voluntary transactions move resources from lower- to higher-valued uses, as required for efficiency, whereas involuntary transactions can move resources in the opposite direction. Maximizing a nation's wealth, consequently, requires voluntary transactions as the rule and involuntary transactions as the exception. Channeling transactions into voluntary exchange requires protecting the owner's rights, not merely protecting the owner's interests. For example, most transactions must occur through markets, not takings.

To provide public goods and redistribute income, the state requires large revenues. In most democracies, the legislature can impose taxes by majority vote. Unlike takings, taxes are general levies that fall on a broad sector of the public. Economists have shown that broad taxes distort the economy less than narrow taxes.

$20 million equals the difference between the state's willingness-to-pay for the land and the private owner's willingness-to-sell. Dividing the surplus equally requires the private owner to gain $10 million net of his loss of $1 million from giving up the property.

This proposition is explained and proved in chapter 4 of Cooter and Ulen 1999.

In general, the distortion caused by a tax on a good increases with elasticity of demand, and broad categories of goods are demanded less elastically than narrow categories. This proposition was first proved by Ramsey 1928. For an exposition, see Musgrave and Musgrave 1976 or Cooter 1978.
Thus avoiding a tax on food requires eating less, whereas avoiding a tax on carrots requires eating another vegetable such as cucumbers. In addition, broad taxes establish a baseline in tax law that is easier than narrow taxes to monitor and defend against political chicanery and special interests. So public finance economists favor taxes that fall on a broad base such as income, sales, profits, or real property.

As the base of a tax narrows, it distorts the economy more and provokes more political activity than obtaining equivalent revenue by a broad tax does. Narrowing a tax to its logical extreme ends with the taking of a particular good from a particular person. From this perspective, takings are simply the most distorting kind of taxes. Thus the economist's case against narrow-based taxes is the same as the case against raising revenues by taking private property.

Now I turn from takings to regulations. When uses entangle, the law must make judgments about freedom and responsibility among owners. These judgments often find their origins in pronouncements about who caused the harm. Judgments about causation typically assign responsibility for the harm according to social norms. In small groups, social norms that regulate the practical affairs of daily life tend toward efficiency (Ellickson 1991). To illustrate, when a certain use of property impinges upon contiguous landowners, efficient social norms typically emerge to control the external harm. So commonsense judgments about the causes of harm often embody important facts about efficiency. (Like Epstein and unlike Coase, I believe that causation must play a central role in assigning legal liability in property cases.)

Legal prohibitions against interfering with others find justification in the economic concept of external cost. Whereas market transactions are voluntary, external costs are imposed without agreement of the harmed party. Externality are outside the market system of exchange—hence their name.

As explained, when an externality affects small numbers of contiguous landowners, social norms usually emerge to control the behavior. In the absence of social norms, a small number of contiguous landowners can often bargain together and reach voluntary agreement over control of an externality. To illustrate, contiguous landowners may bargain with each other over control of smoke from a lime kiln. Clear rights, such as the right of polluters to emit smoke, or the right of pollutees to be free from smoke, facilitate bargaining and compromise. Bargains result in private agreements without the use of courts. When externalities affect a small number of contiguous landowners, social norms and bargains cure the problem with little need for law. Thus the courts stand ready to enjoin private bads in the confident expectation that they will seldom need to do so.

When an externality affects large numbers of owners, however, an efficient social norm may not emerge and transaction costs may obstruct bargaining. To illustrate, social norms and private bargains have failed to control air pollution

20 I argue this point in Cooter 1987a. Also see the classic Hart and Honoré 1985.

21 Epstein 1973 and Coase 1960. Coase argues that the victim causes the harm just as much as the injurer in nuisance law, so cause provides no guide to liability.
from automobiles in the world's urban areas. Air pollution often resembles a public good (no rivalry and no exclusion within a natural air-quality zone), except pollution is bad and not good. Public goods affect too many parties for private bargains to resolve the problem. The law matters more to the efficiency of public goods than to private goods.\footnote{22}

The rule of law, however, can affect the number of people who need to participate in a bargain. Keeping numbers small improves the chance of success by lowering transaction costs of private bargains. This fact explains why efficiency requires injurers who cause harm to compensate victims, instead of making victims bribe injurers to cease causing harm. If the victims must pay injurers \textit{not} to cause harm, then a large number of potential injurers may demand payment from their victims. To illustrate, if I must pay potential polluters not to pollute, then many people may proclaim themselves to be potential polluters. Conversely, if injurers who cause harm must pay the victims, then bargaining only needs to encompass the actual injurers and victims. To illustrate, if polluters must pay for the actual harm they cause, then potential polluters will take care not to harm too many people. In general, requiring injurers to compensate victims, instead of requiring victims to bribe injurers, increases the probability of private cooperation by lowering its transaction costs. By being willing to exercise its "police powers" to protect citizens from harming each other, the state gives citizens the power to suppress externalities.

Besides private law, public regulations constrain the use of property. Several differences distinguish public regulations from private law. First, public regulations typically involve state officials' monitoring for compliance before harm results, whereas liability law applies after the harm is done. Ex ante regulation differs in timing from ex post liability. Second, private owners seldom have the power to vary public regulations by mutual agreement. Replacing liability rights with state enforcement centralizes control of externalities. Conversely, decentralized control of externalities in a dynamic economy requires the continual creation of new forms of property, such as transferable pollution rights, the right to broadcast on a certain band of the electromagnetic spectrum, or the right to exclude others from using a computer program.

In chapter 3 I discussed the fact that majority-rule games of redistribution have no equilibrium ("democracy's empty core"). Applied to property, this fact implies that the citizens of a democracy can waste resources and effort contending over the distribution of property. For example, contests over distribution contribute to instability in some countries like Russia that are now emerging from communism. Social norms and constitutional law can help stabilize the income distribution in several ways (Cooter 1997b). First, the alignment of law with social norms creates a common understanding of the rights of owners. A common understanding about property rights provides the basis for bargaining

\footnote{22} For a brief discussion of the Coase Theorem, see chapter 3 of this book. For a detailed discussion, including the difference between damages and injunctions as remedies, see the discussion of the Coase Theorem in chapter 4 of Cooter and Ulen 1999 and the discussion of \textit{Boomer v Atlantic Cement} in chapter 5 of the same book.
and cooperation, as required for efficiency and productivity. Second, alignment of law with social norms causes informal and formal sanctions to complement each other. When social norms and formal law complement each other, citizens and officials cooperate together in ways that make enforcement effective. Third, constitutional guarantees of property dampen contests of redistribution by removing some distributive issues from ordinary politics.

**Question:** Sketch how the economic theory of property gives freedom and responsibility to owners.

**Takings**

Having sketched an economic theory of property, I apply it to some constitutional issues involving property. In many countries, the constitution circumscribes the state's power to take private property. For example, the “Takings Clause” of the Fifth Amendment to the U.S. Constitution reads, “[N]or shall private property be taken for public use, without just compensation.” Thus the Fifth Amendment prohibits the state from taking private property unless the private property is taken for a public use and the owner is compensated. “Public use” means a public purpose such as building a road, not a private purpose such as giving the property to the friend of politician. “Just compensation” means that fair market value must be paid to the owner of any property taken by the government.

I will explain the economic rationale for the “public use” and “just compensation” requirements, which are common in democratic constitutions. Tyrannical or corrupt states sometimes finance government and enrich officials by taking property from powerless citizens. If the private property owner receives compensation equal to the market value for his property, the state cannot profit from taking it. To raise revenue by taking private property, the state must undercompensate the private owner whose property gets expropriated. So the “just compensation” requirement prevents the state from raising revenues by taking private property.

Viewed from this perspective, the requirement of compensation channels government finance away from takings and into taxes. I explained above that broad taxes do not distort the economy and provoke as much political activity as narrower taxes, and I also explained that narrowing a tax reaches its logical extreme by taking a particular good from a particular person. So the constitutional requirement of compensation at fair market value directs state finance in ways that reduce economic distortion and dampen redistributive contests.

The constitutional requirement of fair compensation, however, does not preclude another political abuse. Involuntary transactions can move resources from people who value them more to people who value them less. To illustrate,

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23 Also see Epstein 1985b; Fischel and Shapiro 1989; and Miceli and Segerson 1994.

24 Fischel and Shapiro 1989 argue that this constitutional rule is in the interests of everyone facing an uncertain future, including the framers of the Constitution.
assume that Blackacre's owner values the estate at $5 million, the friend of a politician values it at $1.2 million, and the market price equals $1 million. The politician directs state officials to take Blackacre, pay $1 million in compensation to the owner, resell the estate to the politician's friend for $1 million, and the friend then donates $.1 million to the politician's reelection campaign. By these transactions, the politician gains $.1 million, the politician's friend gains $.1 million, and the state loses nothing. Thus the winners gain $.2 million. The original owner of Blackacre, who is the only loser, loses $4 million. The loss of $4 million far exceeds the winners' gain of $.2 million.

In this example, the politician's friend wants Blackacre for private use. Consequently, the taking violates the "public use" requirement that forbids the state from using its powers of condemnation to transfer private property involuntarily from one private person to another. To conform to the "public use" requirement, the state must take the property for a park, school, highway, or some other use by the general public.

The preceding example shows that the "public use" requirement reduces the scope for takings that destroy value. The "public use" requirement, however, does not completely solve the problem of inefficient takings. To illustrate, assume that motorists would be willing to pay $1.2 million for a highway through Blackacre. The state can take Blackacre and pay compensation at the market price of $1 million. So motorists will gain more than the state must pay to acquire the property. However, the owner values Blackacre at $5 million. Taking the property for use as a public highway thus destroys $3.8 million in value.

This example illustrates why the state should not take property with compensation merely to produce public goods. In most cases, the state should buy property to produce public goods. A voluntary transaction guarantees that the state must pay at least as much as the value of the private property to its owner. Consistent with this principle, the state buys most of the resources that it uses in production such cement, pencils, trucks, light bulbs, and labor.

Special circumstances are needed to justify taking private property to produce a public good. Developing public projects such as military bases, airports, highways, and wilderness areas often requires combining different parcels of land. When a developer owns almost all of the parcels, the last parcels become especially valuable. The need for contiguous parcels of land creates opportunities for owners to hold out for higher prices. Even when owners do not hold out, the hope of being the last seller gives each owner an incentive to delay the sale, thus increasing the project's transaction costs. (Holdouts are also discussed in chapter 5.)

To illustrate, assume that the state proposes to construct a road across three parcels of land owned by three different people. The state determines that motorists would pay $200,000 more than the construction costs for such a road. Consequently, efficiency requires undertaking the project provided that the land's value to the private owners is less than $200,000. Assume that the state acquires an option to buy one of the parcels for $30,000. The state could
pay up to $170,000 for the other two parcels and still break even. Knowing this, each owner demands, say, $100,000 for her parcel of land. By acceding to these demands, the state would pay $230,000 for three parcels that the public values at $200,000, so the state should not accede to these demands. If the sellers do not lower their demands, the project must fail. In a real-life example, the developers of a new baseball stadium in Denver purchased all the land except for one small "holdout," whom the newspaper called "the guy who owns first base."

The state's power to condemn land eliminates the problem of holdouts. Except for the holdout problem, few reasons exist for the state to take property rather than buy it. In general, takings should be guided by the principle that the government should only take private property to provide a public good when transaction costs preclude buying it.

Questions

1. Assume that a private person owns the only suitable site for the state to build a satellite-tracking station. Explain the case for and against allowing the government to take the property and pay its fair market value as compensation.

2. The state of Michigan condemned many properties in a residential neighborhood on the border of Detroit known as "Poletown," assembled a large parcel of land, and sold it to General Motors to construct an automobile factory. The courts upheld the taking of private property for this project as a "public purpose." In terms of the economic distinction between private and public goods, does this project have a public purpose?

3. Compare the efficiency of the following two methods of amending the just-compensation constraint:
   a. Define just compensation to be fair market value plus, say, 20 percent.
   b. Allow each private property owner to make her own assessment of the value of her property. The property owner agrees to pay property taxes on that self-assessed value. If the government ever takes her property, it agrees to pay her self-assessed property value as just compensation.

Risk of Takings

Some assets such as land, a house, or a shop constitute a significant proportion of the owner's wealth. Most people are highly averse to the risk of losing a significant proportion of their wealth. To reduce this risk, most owners purchase insurance against the destruction of such assets by fire, flood, or other foreseeable disasters. Condemnation by the state also destroys the asset or takes its value from the owner. The "just compensation" clause in effect requires the state to insure the owner against takings. If law did not require the state to compensate owners, private insurance companies might sell protection against government takings, just like they sell protection against fires.
Why not extend the trend toward deregulation by repealing the Fifth Amendment and letting people insure privately against the loss of their property by takings? This question challenges us to compare the efficiency of private and public insurance and show the superiority of public insurance against takings.25

Competition causes a higher level of administrative efficiency in private insurance than in state insurance. Some state insurance, such as depository insurance provided to banks in the United States, have cost taxpayers vast sums of money due to mismanagement and fraud.26 Thus, administrative efficiency argues against government insurance and for private insurance.

Two other reasons, however, argue for government insurance and against private insurance.27 People buy insurance to get rid of risk. The insurer spreads the risk among all the policyholders. Spreading risk more broadly reduces the amount that anyone must bear. The state can spread the risk of takings among all taxpayers, which is broader than the base of all policyholders in any insurance company. In general, public insurance has the advantage over private insurance of a broader base for spreading risk.

This advantage of public insurance, however, is not so decisive as the second advantage. Government controls the frequency and extent of takings. The constitutional requirement that government compensate owners for taking their property provides government with a strong incentive not to take property unnecessarily. By not taking property unnecessarily, the total amount of compensation, which ultimately must be paid out of taxes, is less than it might otherwise be. If the state did not have to pay compensation, it might take property to finance itself, or to redistribute among the friends of politicians, or to purchase too many public goods.28

This argument for public insurance also explains the advantage of imbedding the compensation requirement in the constitution, as with the Fifth Amendment, rather than merely writing it into a statute. Writing protection into a statute has the disadvantage that the legislature that votes to take property could also vote to reduce the compensation paid to its owners.

I have explained that the incentive effects on government provide the decisive reason for making the state liable for takings, rather than leaving compensation to private insurers. Many writers outside the economic tradition, who remain confused about this point, mistakenly suppose that public compensation improves private incentives. These writers mistakenly believe that public insurance prevents "demoralization" of private investors.29 In the next section I

26 The failure of the Federal Savings and Loan Insurance Corporation, which insured a special class of U.S. banks known as "savings and loan associations," cost American taxpayers between $100 and $500 billion. See, for example, Romer and Weingast 1991.
27 See Fischel and Shapiro 1989; see also Kaplow 1986.
28 For more on takings as insurance, see Blume and Rubinfeld 1984, and Kaplow 1981a.
29 The misunderstanding of the "demoralization effects" of takings mars an otherwise superb paper on property by Michelman 1967. Also see Rose-Ackerman 1988.
explain that the opposite is true—insurance erodes private incentives for efficient behavior.

Questions

1. Conservatives who favor deregulation of, say, airlines and banking, often want to strengthen the protection of private owners against takings. Given that private insurance could protect against takings, are these people consistent?

2. Susan Rose-Ackerman has proposed the following guideline for courts to use in applying insurance theory to takings: "Compensate [for a taking by the government] when the asset represents a major proportion of the owner’s wealth so that a hypothesis of risk aversion is plausible. Employ a presumption in favor of risk aversion for individuals and risk neutrality for publicly held corporations. In addition, compensate even risk-neutral individuals whose loss represents a large proportion of their wealth if these individuals are politically ineffective." Her guideline would make government’s obligation to compensate depend in part on the wealth level of the owner whose property was taken. Describe some strengths and weaknesses of this proposal.

3. Another prominent scholar, Richard Epstein, argues that American courts should consider many forms of land regulation as takings under the U.S. Constitution. How would you predict whether adopting his proposal would cause the total rental value of land to go up or down?

Takings vs Regulations

Earlier I explained that when uses entangle, the law must make judgments about freedom and responsibility among owners. In cases involving a few contiguous properties, social norms and bargaining in the law’s shadow usually solve the problem. In cases affecting a large number of people, however, private law does not work so well to correct the externalities caused by interdependent utility or production functions. In these circumstances, the state may enact regulations that restrict the activities of particular owners for the benefit of a wider public. Such restrictions raise difficult questions about compensation.

Regulations typically cause a fall in the value of some property whose owners may sue for compensation. To illustrate, an industrialist who acquires land to build a factory may be blocked when local government “down-zones” and forbids industrial uses. The industrialist may sue, alleging that the state took the value of his property without taking the title. A taking requires compensation and a regulation requires no compensation. When courts find for the plaintiff in such cases, they say there was a “taking.” When courts find for the defendant in such cases, they say there was a “regulation.”

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30 Rose-Ackerman 1988, p. 1707.
31 R. Richard Epstein has argued that the current boundaries of the taking-regulation distinction permit government to avoid compensation in far too many cases. See Epstein 1985b. Also see Schambra 1982.
In practice, obtaining building permits can be political or even corrupt. Instead of political reality, I focus on economic efficiency. The ideal boundary between regulating and taking requires an economic theory to distinguish between compensable and noncompensable acts by the state. In order to explain how to draw the boundary for the sake of economic efficiency, I will analyze incentive effects of compensation.

If the state need not compensate the private victims of public acts, the government has an incentive to take too much from private persons. Specifically, if the state need not compensate the losers from regulation, the government has an incentive to overregulate. Figure 12-1 depicts these facts. Demand curves in Figure 12-1 indicate two possible schedules for the willingness of officials to pay compensation to owners for state restrictions on property. Perfect compensation of private owners equals 100 percent of the costs of state restrictions that they bear. If compensation equals 100 percent in Figure 12-1, the state imposes restrictions on private owners equal to \( x^* \), where the cost curve intersects the demand curves.

Alternatively, if compensation falls below 100 percent, the state imposes more restrictions than \( x^* \). How much more depends on the amount that state officials are willing to pay as compensation to private owners for restrictions administered by the officials. If courts hold that a state restriction is a mere regulation, then compensation equals 0 percent. The inelastic demand curve \( D_{inelastic} \) and 0 percent compensation yield state restriction \( x_i \). Alternatively, 0 percent compensation and the relatively elastic demand curve \( D_{elastic} \) yield state restriction \( x_e \). In general, the more elastic the price elasticity of demand by state officials for state restrictions, the more state restrictions increase in response to a fall in required compensation to the private owners.

Now I turn from state officials who impose regulations to private citizens who must comply with them. If the state must compensate the private victims of public acts, the private owners have an incentive to overinvest. Specifically, if the
state must fully compensate the losers from takings, the property owners have an incentive to make improvements on property whose value will be destroyed by a taking. In the case where the state must compensate fully for the harm caused by regulations, property owners will invest in improving their property as if there were no risk that regulations will destroy the value of their investment.

To illustrate, assume that an entrepreneur owns property suitable for development as retail stores or manufacturing. The property is currently zoned for either use, but the state may soon down-zone and forbid manufacturing. Down-zoning will destroy the value of investments in manufacturing facilities. If the state must compensate for property harmed by down-zoning, then the entrepreneur has an incentive to invest in manufacturing as if there were no risk. 32

Figure 12-2 depicts these facts. If a state restriction is a regulation, then compensation equals 0 percent. The two supply curves indicated by an S in figure 12-2 represent two possible investment schedules for private owners. With 0 percent compensation, private owners invest $x^*$ that is at risk. Alternatively, if the restriction is a taking and compensation equals 100 percent, private owners invest more than $x^*$. How much more depends on the slope of the supply curve for private investments at risk. In figure 12-2, 100 percent compensation and the inelastic supply curve $S_{\text{inelastic}}$ yield investments $x_e$. Alternatively, 100 percent compensation and the relatively elastic supply curve $S_{\text{elastic}}$ yield investments $x_e$.

In general, the more elastic the supply curve for private investments at risk from state restrictions, the more investments increase in response to a rise in compensation above 0 percent.

**Second-Best Theory of Regulatory Takings: The Elasticity Principle**

In the preceding section I explained that the elasticity of the state's demand for regulations and the elasticity of the supply of investments by private owners

32 See chapter 5 of Cooter and Ilgen 1999.
determine the response to different levels of compensation for taking property. Now I relate these facts to the efficient level of compensation. The internalization of benefits and costs creates incentives for rational actors to behave efficiently. Internalization, however, involves a paradox, as I will explain.

First consider internalization by the state. In figure 12-1 the state internalizes the cost of restrictions when it must compensate private owners for 100 percent of their losses. Insofar as the state behaves like a rational actor, x* in figure 12-1 indicates the efficient level of state restrictions. Under this assumption, any level of compensation below 100 percent results in too many state restrictions. Furthermore, the excess in restrictions becomes larger as the demand for restrictions by state officials becomes more elastic.

Now I turn from incentives for state officials to incentives for private owners. As with state officials, the internalization of benefits and costs creates incentives for rational owners to behave efficiently. In figure 12-2 the private owners internalize the risk that state restrictions will destroy the value of their investment when the state must compensate 0 percent of their losses. Thus x* in figure 12-2 indicates the efficient level of private investments at risk from state restrictions. Under this assumption, any level of compensation above 0 percent results in too much private investment at risk. Furthermore, the excess in investment becomes larger as the supply of investment becomes more elastic.

According to the preceding argument, the state internalizes the private costs of restrictions when it must compensate 100 percent of the losses, whereas private owners internalize the risk that restrictions will destroy the value of their investments when they receive compensation of 0 percent for their losses. Given these facts, liability law can provide efficient incentives to state officials or private owners, but not to both of them. Instead of a perfect solution, the courts often have to choose between finding that a state restriction is a regulation (100 percent compensation) or a taking (0 percent compensation).

An economic theory for making this distinction, which I call the second-best theory of takings, presumes that one party will have efficient incentives and the other party will have distorted incentives. For purposes of efficiency, the choice of whose incentives to distort depends on the elasticity of the response. As explained in figures 12-1 and 12-2, high elasticity raises the cost of a distortion in incentives. Conversely, low elasticity lowers the cost of a distortion in incentives. For the sake of second-best efficiency, the law should set liability so that the relatively elastic party internalizes costs and the relatively inelastic party externalizes costs. In general, when the state responds elastically to the level of compensation for a restriction and private investment responds inelastically, courts should find that a state restriction is a taking.

To illustrate, assume that requiring the government to compensate the victims of state restrictions will cause it to impose far fewer of them. Also assume that compensating private citizens for the loss in value from state restrictions has little effect on their investment decisions. The court should find that a restriction is a taking. To illustrate concretely, assume that the environmental agency's willingness to preserve wetlands responds highly to the amount of compensation it
must pay to private owners. Also assume that investments by developers respond little to the probability of compensation for environmental restrictions. The court should find that an environmental restriction on wetlands is a taking.

Conversely when the state responds inelastically to the level of compensation for a restriction and private owners respond elastically, courts should find that a state restriction is a regulation. To illustrate, assume that requiring the government to compensate the victims of state restrictions has little effect on the extent of the restrictions that it imposes. Also assume that compensating private citizens for the loss in value from state restrictions causes a sharp increase in investments at risk. The court should find that a restriction is a taking. To illustrate concretely, assume that the environmental agency is highly committed to preserving wetlands regardless of its costs. Also assume that investments by developers respond greatly to the probability of compensation for environmental restrictions. The court should find that an environmental restriction on wetlands is a regulation.

To develop the second-best theory of regulatory takings, I need to predict the relative elasticity of the government and private owners. In general, people respond elastically to the price of a good that has close substitutes. Applying this principle, chapter 7 explained that a state organization responds elastically to prices when close substitutes exist for the act in question. For politicians at the top of a ministry, a close substitute is one that sustains the minister's political power, which might depend on popularity with voters and financial contributors. For civil servants, a close substitute is one that sustains the organization's revenues and employment, which might depend on the availability of alternative projects.

Notice that the contrast between no compensation and compensation for regulations is another form of the contrast between no liability and strict liability for accidents. A rule of no liability provides an incentive for injurers to take too many risks. Conversely, a rule of strict liability with perfect compensation provides an incentive for victims to take too many risks. 33

Questions

1. Assume that a retail shop wants a brightly illuminated sign, regardless of its cost. Use the second-best theory of regulatory takings to explain why this fact is a reason for the court to find that a state restriction prohibiting brightly illuminated signs is a taking. (Hint: When the private investor responds little to incentives, the law can focus on getting the right incentives for state officials.)

2. Assume that a retail shop will not pay much more for a brightly illuminated sign than for an unlighted sign. Use the second-best theory of regulatory takings to explain why this fact is a reason for the court to find that a state restriction prohibiting bright signs is a regulation. (Hint: When the private

33 This problem is explained in torts, contracts, and property in Cooter 1985. For a formulation of a first-best rule for takings, see Miceli and Segerson 1994.
investor responds greatly to incentives, the law should focus on getting the right incentives for private investors.)

3. "The theory of constitutionalism, as I understand it, tries to find a way to minimize the sum of the abuses that stem from legislative greed on the one hand, and judicial incompetence on the other." In order to extend the second-best theory of takings to a situation where judges often make mistakes, use the elasticities in figures 12-1 and 12-2 to compare the consequences of different judicial errors.

4. According to the second-best theory of regulatory takings, if state officials prefer to withdraw a restriction rather than compensate its victim (elastic), this fact is a reason why courts should find the restriction to be a taking (100 percent compensation). Explain why this fact will bring courts into conflict with state planning officials.

**BARGAINING WITH THE STATE**

Viewed from an ecological perspective, adjacent parcels of land are so interdependent that anything one owner does affects the others. When the science of ecology encounters the "transformative economy" (Sax 1993), almost any restriction can be justified as controlling an externality. In such cases, property owners often bargain with the state over permits. Sometimes the state grants a permit provided that the owner mitigates the harm to the public. Sometimes the state grants a permit provided that the owner offsets the harm to the public by donating something valuable to the state. Mitigation and offset differ in their economic consequences for bargaining with the state. I will explain how an imperfect understanding of the difference resulted in an inferior court decision in a landmark case decided in the U.S. Supreme Court in 1987, *Nollan v California Coastal Commission*.35

**Nollan**

North of Los Angeles, the magnificent coastline of California remains largely unspoiled by development and the California Coastal Commission is responsible for keeping it that way. This case arose when a property owner sought a permit from the commission to enlarge a small coastal dwelling into a house. The property was located between the beach and a public road, as depicted in figure 12-3. The house would have diminished and degraded the view of the coast from the road.

The commission wanted to protect the view from the road, but that was not its only purpose. In addition, the commission wanted to obtain a walking path along the beach so the public could stroll there at high tide. Instead of

34 Epstein 1985a, pp. 9–16.
refusing permission to build the house, which the Supreme Court suggests that the commission could have done legally, the commission required the owner to donate a public path along the beach in exchange for permission to build the house. The owner sued and the case was eventually appealed all the way to the U.S. Supreme Court.

The state can regulate property to protect the public against harm, but the supply of public goods must be financed from general taxes, not by expropriating selected property owners. Was the Coastal Commission protecting the public or forcing a private person to pay for a public easement? The U.S. Supreme Court reached the latter conclusion in a complex opinion written by Justice Scalia. The Court remarked that the commission could require the property owner to draw up new plans for the house in order to reduce its intrusiveness. Redrawing the plans would mitigate the harm. Another form of mitigation, which is problematic but probably constitutional, would require the property owner to donate a path from the road to the beach, so the public could walk around the object obstructing its view.

Instead of requiring the owner to redesign the house or donate a path from the road to the beach, however, the commission required the owner to donate a path along the beach. A path along the beach would not mitigate the harm suffered by users of the road. The court looked for a "nexus" between the harm caused by the owner (obstructing the public view from the road) and the remedy demanded by the commission (donating a public path along the beach). The Court could not find a nexus. The Court reasoned that without such a nexus, the regulation was an illegal taking.

A legal principle can be abstracted from this conclusion. In order for a restriction to count as a regulation, not as a taking, the restriction must mitigate the harm that justifies it. Mitigation reduces harm, whereas offsets compensate
for harm. Nollan can be interpreted as standing for the principle that government cannot present property owners who want to use their property in a particular way with the choice of offsetting the harm caused by the use or not using it.

An offset is compensation in-kind, whereas damages are compensation in money. Nollan prevents government from requiring in-kind compensation for harm to the public caused by private uses of property.

**Mitigate or Offset?**

I will explain the economic difference between mitigation and offset abstractly and by example. Perfect mitigation completely eliminates the harm in question, thus leaving victims indifferent between no harm and harm-and-mitigation. In reality, mitigation is usually imperfect. When mitigation of the public harm from a private act is imperfect, the public would prefer to forbid the act rather than allow it, conditional on mitigation. So when the state faces only two alternatives, it will often choose no-permit rather than permit-plus-imperfect-mitigation. This outcome blocks development.

Blocking development, however, can be wasteful. If the act’s private value exceeds the public harm, then the owner could pay more than perfect compensation to the public. In other words, the owner could pay for an offset that makes the public and the owner better-off than if the act were forbidden. In so far as Nollan is interpreted to prohibit offsets, the Court’s decision creates inefficiencies.

The Court’s impulse to prevent offsets, however, has a sound motive. The Constitution gives government many more powers of regulation than it chooses to exercise against property owners. If building permits could be conditioned on offsets, government might choose to cash in on its potential power. To cash in, government would regulate, or threaten to regulate, solely in order to obtain valuable offsets. Allowing regulation to become a source of government revenue creates an incentive for overregulation and gives officials an opportunity to victimize politically disfavored property owners. For example, a mayor elected by tenants might avoid raising taxes by demanding offsets whenever property owners apply for building permits.

Allowing governments too much scope for bargaining with private owners invites another abuse as well. To speak of mitigating more than 100 percent makes no sense, so the upper limit on mitigation is the full extent of the harm. In contrast, the upper limit on an offset is the value of the building permit to the owner, which often exceeds the cost of the harm. Thus allowing government to require offsets empowers the state to extract most of the surplus value of private acts.

I have explained that forbidding offsets creates incentives for state officials to block too many developments, whereas allowing offsets creates incentives for state officials to extract the value from private developments. Before solving this dilemma, I illustrate it numerically.
TABLE 12.1
Value of Alternative Acts in Nollan

<table>
<thead>
<tr>
<th></th>
<th>Act (build house)</th>
<th>Don’t act (don’t build house)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property owner</td>
<td>+1,000</td>
<td>0</td>
</tr>
<tr>
<td>Public commission</td>
<td>-300</td>
<td>0</td>
</tr>
</tbody>
</table>

TABLE 12.2
Cost of Mitigation and Offset in Nollan

<table>
<thead>
<tr>
<th></th>
<th>Private Property Owner</th>
<th>Public commission</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Redesign house (mitigate)</td>
<td>Path along beach (offset)</td>
</tr>
<tr>
<td>Property owner</td>
<td>-300</td>
<td>-250</td>
</tr>
<tr>
<td>Public commission</td>
<td>+250</td>
<td>+400</td>
</tr>
</tbody>
</table>

Hypothetical Example: Stylizing Nollan

To illustrate with numbers, assume that an owner will either act (build house) or not act (not build house). The consequences of this decision for the owner and the public are given in table 12.1. The numbers in the figure indicate that the permit to build the house is worth 1,000 to the property owner, whereas the cost to the public from loss of view is 300 as estimated by the commission.

In addition, the commission may require the owner who acts to mitigate (redesign the house) or offset (build a path along the beach). According to table 12.2, redesigning the house would cost the property owner 300, and redesigning the house would convey benefits of 250 on the public. Alternatively, donating a path along the beach will cost the owner 250 and convey benefits of 400 upon the public.

Combining tables 12.1 and 12.2 gives the net values of the alternatives as summarized in table 12.3. Redesigning the house and building it results in a net benefit of 700 for the property owner (1000 - 300 = 700) and a net loss of 50 to the public (-300 + 250 = -50). Alternatively, donating a path along the beach and building the house results in a net benefit of 750 for the property owner (1,000 - 250 = 750), and a net gain of 100 for the public (-300 + 400 = 100).

By definition, the most efficient course of action maximizes the sum of the net benefits to the property owner and the public. Thus, the efficient cell in table 12.3 requires building the house and donating a public easement along the beach (act and offset), which results in net benefits of 850 to the owner and the public. Both parties most prefer “act and offset,” so it is the “Pareto-superior” alternative.36

36 One alternative is “Pareto superior” to another if one or more of the affected people prefers the first alternative over the second alternative, and no one prefers the second alternative over the
According to one reading of the case, Nollan forbids the state from requiring an offset. Given this legal constraint, the commission must either refuse to issue a building permit or issue a permit conditioned on mitigation. If the commission refuses to issue a building permit, the public will suffer no harm. In contrast, if the commission issues a building permit and requires mitigation, the public will lose 50. So a public-minded commission will refuse to issue a building permit. This is true even though the private owner and the public would prefer the issuing of a permit conditional upon an offset.

By prohibiting offsets, the courts strengthen the bargaining position of private owners. To speak of mitigating more than 100 percent makes no sense, so the upper limit on mitigation is the full extent of the harm. In contrast, the upper limit on an offset is the value of the building permit to the owner, which often exceeds the cost of the harm. To illustrate by the preceding example, the largest amount of money that the commission could extract from the owner in exchange for the building permit would be the value of the latter to him. If money offsets are allowed, the commission could extract up to 1,000 for the building permit, even though the building only causes harm of 300 to the public. Thus, allowing officials to require offsets as a condition for obtaining permits empowers the state to extract a private development's value.

A Better Understanding of Nollan

I have explained that allowing offsets creates incentives for state officials to extract the value from private developments. In one interpretation, Nollan strengthens the bargaining position of owners against the state by forbidding offsets. Forbidding offsets, however, creates incentives for state officials to block too many developments. Fortunately, game theory suggests how to avoid this dilemma by a better interpretation of Nollan.

As illustrated above, the problem in game theory posed by Nollan is to allow offsets without weakening the position of the property owner, who must bargain first. In other words, a change to a Pareto-superior alternative makes someone better-off without making anyone worse-off. (You might wonder, "Why would the property owner litigate the public commission's demand to act and offset, given that acting and offsetting is Pareto-superior to act and mitigate?" The answer is that the property owner hoped the court would grant the right to act without mitigating or offsetting.)
with the state. To do so, the law might allow state officials to offer private owners the choice of mitigating or offsetting. The law, however, would not allow the state to require the private owner to offset without the alternative of mitigating.

The proposed law would prohibit offsets unless the property owner also has the opportunity to mitigate. Game theory commends interpreting Nollan as standing for the principle that government cannot require an offset as a condition for granting a building permit unless government also gives the applicant the alternative of mitigating.

Applying this rule to the numerical example, the owner has the option to act and mitigate, yielding a payoff of 700 to the owner. Given this option, the owner will not accept an alternative yielding less than 700. The owner is, consequently, in a strong bargaining position. The owner need not accept the alternative of offsetting unless his net payoff exceeds 700. Giving the property owner the additional alternative of offsetting cannot make him worse-off than simply requiring mitigation. And the additional option of offsetting may make both parties better-off. Given that the owner has the right to develop and mitigate, there may be scope for a mutually beneficial bargain. If the private owner and the public both prefer offset to mitigation, the law should not prevent them from striking this bargain. In this example, "act and offset" yields 750 to the owner. Consequently, the owner will accept offsetting as an alternative to mitigating. Thus the law achieves Pareto efficiency by the rule "offsets permitted only when mitigation is allowed."

This analysis of Nollan illustrates a general feature of game theory: restricting the freedom of one party can strengthen its bargaining position. In this case, the bargaining position of owners strengthens by prohibiting them from agreeing to offset except when they have the opportunity to mitigate.

The U.S. doctrine of "unconstitutional conditions" restricts freedom for similar reasons. To illustrate, state governments in the United States can decide whether or not to provide benefits to unemployed workers, but if a state adopts an unemployment program, it cannot exclude striking workers from receiving the benefits. This constitutional requirement strengthens the bargaining position of unions. Similarly, the states can decide whether or not to permit foreign banks to operate in the states, but the states cannot require a foreign bank to waive its legal rights as a condition for doing business in the state. This constitutional requirement strengthens the bargaining position of foreign banks against the states. According to one commentator, the doctrine of unconstitutional conditions generally asserts that a state with absolute discretion to grant or deny a privilege cannot grant the privilege subject to conditions that pressure the waiver of constitutional rights.\footnote{See Epstein 1988, p. 6.}

Questions

1. What would be the result in table 12.3 if the commission gave the property owner the choice of mitigating or offsetting?
2. Do offsets undermine the very idea of private property by giving government the power to extract a price for the exercise of any property right?

3. Assume the government wants to protect the environment by preventing construction of homes on a specific sand dune near the ocean. Government provides disaster insurance that enables landowners to build homes in places subject to flooding, such as sand dunes. If the government takes private property on the sand dune, either by condemning it or by imposing regulations that forbid any construction, should compensation include or exclude the increase in the value of the land caused by government disaster insurance?

4. In *Lucas v. South Carolina Coastal Commission*, the U.S. Supreme Court took a step toward requiring the state to pay compensation for restrictions on land use that diminish traditional property rights in common law. Use the second-best theory of legislative takings to characterize situations where this decision will increase or decrease economic efficiency.

**Transferable Development Rights (TDRs)**

Regulatory reform in recent years often replaces “command and control” with “market-like instruments” (Schultze 1977). For example, transferable emission permits are extensively traded in the United States, resulting in pollution abatement at less cost (Dwyer 1993). For land-use planning, however, market-like instruments have hardly developed. I will explain how a system of transferable development rights (TDRs) could achieve economic efficiency while solving difficult constitutional questions about takings.

**Efficiency of TDRs**

Assume that state officials construct a standardized measure of the development of land. Having constructed such a measure, the state determines through politics or administration that a certain region should undergo no more than, say, 100 units of development. I will show graphically how transferable rights over 100 units of development could cause an efficient pattern of development.

To keep the analysis simple, assume that the region has only two property owners, so 100 units of development rights must be allocated between owner A and owner B. The horizontal axis in figure 12-4 depicts development rights used by A and B. Measuring left to right indicates the development rights used by A, and measuring right to left indicates the development rights used by B. Notice that exactly 100 units of development rights are used by A and B at every point on the horizontal axis. For example, the point on the horizontal axis where A uses 25 corresponds to use of 75 by B.

Different owners value development rights differently. The demand curve labeled $D_A$ indicates the amount that A is willing to pay for development rights, and the demand curve labeled $D_B$ indicates the amount that B is willing to pay
for development rights. The intersection of the demand curves, which occurs where A has 75 development rights and B has 25 development rights, indicates the efficient allocation of development rights between A and B. The allocation of development rights (75, 25) is efficient because A and B are willing to pay exactly the same amount for an additional development right.

In contrast, consider the allocation of development rights (50, 50), which is inefficient. At the point (50, 50), $D_A$ is higher than $D_B$, which indicates that A is willing to pay more for development rights than is B. To increase efficiency, A should receive more development rights and B should receive fewer development rights. This process of giving to A and taking from B should proceed until the point (75, 25), where A and B place the same value on additional rights.

The vertical distance between $D_A$ and $D_B$ measures the amount by which A values each right relative to B. Consequently, the vertical distance between $D_A$ and $D_B$ measures the social gain from giving an additional right to A and taking an additional right away from B. Thus the triangle $\alpha + \beta$ in figure 12-4 indicates the social gain created by moving from (50, 50) to (75, 25).

Some people may feel that fairness requires giving equal development rights to every owner. This policy, however, does not respond to the difference in the value of development rights by different owners. If owners receive equal development rights, and if they cannot trade them, then the resulting pattern of development results in waste measured by the triangle $\alpha + \beta$ in figure 12-4.

A market in transferable development rights (TDRs) would allocate them efficiently. To illustrate, assume that the state originally gives 50 development rights to each owner. At the initial allocation (50, 50), A is willing to pay more than B is for additional development rights. Consequently, both owners can benefit from B's selling some development rights to A. Sales should continue so long as one party values additional rights more than the other. Sales cease.
when the market reaches the efficient allocation (75,25). If competition controls prices, then A receives $\alpha$ in surplus from the purchase of 25 units of TORs, and B receives $\beta$ in surplus from the sale of 25 units of TORs.

TDRs have three advantages over the usual administrative process for development. First, TDRs economize on information. In order to allocate development efficiently without TDRs, planners must determine how much different owners value development rights. In terms of figure 12-4, the planner must know the demand curves of A and B. Without a market, administrators must determine the private value of development by conducting costly and inaccurate studies. The needed information is virtually impossible to obtain because A and B will respond strategically to questions about value. Instead of administrators deciding whether A or B values a development right more, the market can do so automatically. Thus at the point (50,50), the market reveals that the private value of a development right equals $p_1$, and this value falls to $p_c$ at the point (75,25). A market for TDRs automatically allocates development efficiently by assuring that in equilibrium, all developers place the same value on additional developmental rights.

Second, besides allocating a fixed number of development rights among developers, the state must determine the total extent of development by all developers. Rational decisions require balancing the private value of development and the public value of conservation. With a market, the sale price of TDRs reveals the private value of development at the margin. The market in TDRs thus helps administrators and citizens balance the value of development and conservation more accurately.

Third, when land-use decisions by administrators make a vast difference to the value of a parcel of land, owners will spend large amounts to obtain political influence. In practice, developers often bribe planning officials in many jurisdictions around the world. Even without bribes, planning decisions concerning development prompt wasteful lobbying. TDRs, however, reduce political investment and bribery. Developers will focus more on buying TDRs and less on buying officials. Each particular owner is less likely to lobby or bribe officials under a system of TDRs than under the usual system of application-and-appeal.

TDRs have an attractive characteristic from the viewpoint of constitutional law. I explained that general taxes falling on a broad base cause small distortions relative to taking specific property from a specific person without compensation. TDRs resemble taxes in that they can spread the cost of restraining development among all owners of property rather than focus the costs on the specific property of specific people. The state can restrict development by reducing the numbers of TDRs, which harms many owners a little. In contrast, the usual building restrictions harm a few people a lot, thus raising constitutional questions about takings.

(I note in passing that taxation of development could result in a system almost identical to a market in transferable development rights. TDRs, however, are more viable politically than the tax solution.38)

38 To illustrate, assume that the state wishes to limit development to 100 units. Initially the state imposes a tax of $p_1$ in figure 12-4, and allows anyone paying the tax to proceed with development.
Example

To illustrate TDRs, imagine that a beach with sand dunes, an agriculture valley, or the airspace above some low-rise buildings comes under development pressure. The planning authorities want to restrict the total amount of development. The authorities first distribute TDRs to all property owners in proportion to the size of their holdings. Each TDR authorizes its owner to build one unit. The authorities next set the value of each unit in terms of cubic meters of development.

I will explain how TDRs work from the viewpoint of an individual owner and the planning authority. Assume that each TDR allows its owner to build 9 cubic meters. An owner of one parcel with 10 TDRs has the right to construct 90 cubic meters. Assume the owner wants to construct a building with 180 cubic meters of space. Instead of applying for a variance in the rules, the owner will have to buy 10 TDRs from someone else. Thus, TDRs channel the energies of developers into markets rather than politics.

While the number TDRs remains fixed forever, the authorities will need to vary their worth in cubic meters as policies and needs change. For example, the authorities might initially create 1,000 TDRs valued at 9 cubic meters each, thus allowing total development of 9,000 cubic meters. In time, however, authorities may revise their plans and decide to allow 10,000 cubic meters in total development. To accomplish the change, the authorities would set each TDR equal to 10 cubic meters. Alternatively, the authorities might review their plans and decide to allow 8,000 cubic meters in development and thus set each TDR equal to 8 cubic meters. Notice that revaluation spreads the effects of changing development plans across all owners of TDRs, thus distorting their behavior much less than do specific restrictions on specific properties.

TDRs have enjoyed limited use in the United States. For example, New York City sometimes grants a developer of a high-rise building the right to develop a fixed number of square feet above the parcel of land. The developer is free to decide how to configure the development above the parcel of land, such as choosing between a rectangular building or a more complex form. Sometimes the developer can even sell the development rights to the owner of an adjoining

At this price, A develops 50 units and B develops 0 units. Observing these facts, the state responds by lowering the tax rate. The state continues lowering the tax rate until it hits its target of 100 units. When the tax falls to \( p_c \), A develops 75 units and B develops 25 units, so the goal of 100 units is achieved.

Development taxes have the same information characteristics as TDRs. Specially, the tax reveals the private value of development and assumes that every developer values development equally. The major difference between TDRs and taxes is that the former gives the revenues from the sale of TDRs to private owners, whereas the latter gives the revenues to the state. Self-interested developers and property owners, consequently, prefer the current apply-and-appeal system to development taxes. Self-interested developers and property owners, however, might come to prefer TDRs in time, assuming TDRs could be made to work. For this reason, TDRs are more feasible politically than development taxes in many jurisdictions.
If TDRs were further developed as a planning instrument, some authorities might abandon all restrictions other than TDRs, whereas other authorities would supplement TDRs with conventional restrictions such as zoning rules and site-specific permits. In general, the aim of TDRs is to eliminate or reduce reliance on specific restrictions on specific properties.

The history of transferable emission rights may provide a lesson for transferable development rights. After overcoming initial political objections and implementation problems, transferable pollution rights in southern California and elsewhere now yield large benefits relative to pollution regulation. Perhaps a concerted effort to develop TDRs would repeat this hopeful history. Certainly the inefficiency and corruption characterizing land-use planning in much of the world demands an innovative remedy.

Questions

1. Compared to TDRs, why do conventional land-use regulations require more constitutional protection of private property?

2. Use bargaining theory to explain how TDRs would reduce the value of the bribes that unscrupulous planning officials could extract from developers.

3. Describe some situations in which TDRs could easily replace land-use regulations, and describe some situations in which TDRs could not easily replace land-use regulations.

Conclusion

By giving people freedom over things, property promotes exchange and internalizes the benefits of efficient use. Democracy, however, allows wasteful contests of redistribution among competing majorities. A constitution can dampen these contests by removing some disputes about property from ordinary politics. A good constitution channels the politics of redistribution away from takings and into disputes about general taxes.

Entangling uses make owners responsible to each other. Private law can internalize most externalities that involve small numbers of people. Public law must respond to externalities that involve large numbers of people. Restricting property owners for the benefit of a diffuse public raises difficult questions about the boundary between regulations and takings. The ideal solution requires the state to compensate only the victims of excessive restrictions, or else limits the victims to compensation for investments justified in light of the risk that the state would impose the restrictions. In practice courts can seldom make these judgments about the efficiency of state restrictions and private investment.

Instead of ideal solutions, the real world usually offers the second-best solution. When the courts must choose between no compensation or full compensation, the elasticity of the response by state and private owners should control.
the decision. If the state is highly elastic to the price of the restriction, then the restriction should be judged a taking so that the state internalizes the restriction's costs. Alternatively, if private investment is highly elastic to the price of the restriction, then the restriction should be judged a regulation so that owners internalize the risk of their investments.

Developers often have to bargain with the state over permits. If the state can demand that the developer offset the public cost of development, then the developer's bargaining position is weak. The state may be able extract the full surplus from the project in exchange for the permit. To solve this problem, the courts can prohibit offsets. A prohibition against offsets obstructs mutually beneficial bargains between the developer and the state. To obtain the best of both, the state should give the developer the right to mitigate, thus strengthening his bargaining position, and allow offset by mutual consent, thus facilitating mutually beneficial bargains.

The command-and-control approach, which has been discredited for most forms of regulation, remains the only possibility in the minds of most land-use planners. Transferable development rights could supplement or substitute for conventional permits and variances. TDRs reduce the information required for rational planning and channel the efforts of owners into market activities rather than political activities. TDRs also reduce constitutional problems by spreading the cost of restrictions among all owners, rather than focusing those costs on a few developers.