

CHAPTER

4

“IN THE HISTORY OF THE WORLD, NO ONE HAS EVER WASHED A RENTED CAR.”

—Larry Summers (economist)¹



WHY CAMBODIAN GIRLS NEED PROPERTY RIGHTS

Srey Neth was a Cambodian teenage prostitute/sex-slave. *The New York Times* columnist Nicholas Kristof purchased her freedom for \$150. After Srey Neth returned to the village she grew up in, Kristof gave her \$100 so she could start a small shop. But the shop failed. As Kristof explains:

“The problem was her family. Srey Neth’s parents and older brothers and sisters had a hard time understanding why they should go hungry when their sister had a store full of food. And her little nephews and nieces, running around the yard, helped themselves when she wasn’t looking.

‘Srey Neth got mad,’ her mother recalled. ‘She said we had to stay away, or everything would be gone. She said she had to have money to buy new things.’ But in a Cambodian village, nobody listens to an uneducated teenage girl.”²

Srey Neth’s shop failed because she lacked property rights. Like any business person, she bought goods and hoped to resell them at a higher price. But because her family kept taking her stuff, the shop couldn’t survive. Without property rights, neither Cambodian girls nor American businesspeople can easily succeed in the marketplace.

To have property rights in a good means you can use the good yourself, sell it to others, or prevent others from using the good. This chapter explores the importance of property rights. Almost one-half of the world’s population lives on less than \$2 a day. This chapter argues that a prime reason for such widespread devastating poverty is that the majority of the world’s poor live in countries that lack adequate property rights. The chapter also shows how, when property rights aren’t secure in rich countries, markets have difficulty creating wealth.

PAIN BEFORE PLEASURE

Investments bring pain before pleasure. A peasant must plant, cultivate, and harvest his crops before eating them. Businesspeople must invest their time and resources before earning a profit.

CHALLENGE TO MARKET EFFECTIVENESS 4: INADEQUATE PROPERTY RIGHTS

LEARNING OBJECTIVES

AFTER READING THIS CHAPTER, YOU SHOULD BE ABLE TO:

- Understand the importance of property rights.
- Define the tragedy of the commons.
- Identify public goods and intellectual property.
- Define dead capital.

But without property rights, the initial pain of investment often leads to disappointment rather than to pleasurable profits. A peasant without property rights might tirelessly work his land only to have his harvest appropriated by a greedy aristocrat. A businessperson who invests millions but lacks meaningful property rights might have her profits confiscated before she can enjoy spending them.

People without property rights, therefore, often have no incentive to suffer the initial pain that investment requires. The girls in Srey Neth's village, for example, have surely learned they shouldn't start a small business. This village won't benefit from the wealth-creating ventures that these girls would have started if they had property rights.

Most of this textbook's readers live in societies with secure property rights. But such security is a historical anomaly. Throughout most of history, everything that a common person had was subject to being taken by a king or local lord. In Chapter 6 we learned that in the 1,500 years before the early 19th century's industrial revolution, the average economic growth rate was approximately *zero*. A key reason for the lack of economic growth during these times was that property rights in these societies were poorly defined or insecure, often subject to arbitrary confiscation by governments. Consequently, people had limited incentives to invest in wealth-creating ventures. The tremendous economic growth that began during the early 19th century's industrial revolution was fueled in part by property rights.

RUSSIAN INVESTMENTS

After the fall of the Soviet Union, Russia tried to become a capitalist society. It initially attracted many foreign investors. But these investors quickly found that they had no real property rights. For example, an American who invested \$10 million in a factory might have found it taken over by the Russian Mafia. Or, an investor might have bought 25 percent of a Russian company for \$10 million. The Russian company, however, might then simply ignore the foreign investor and never give him any of the firm's profits.

Many predicted that Russia would experience rapid economic growth after it separated from the Soviet Union in 1991 because Russia intended to build a market-oriented economy. But Russia, especially in its early years, experienced disappointing growth. Russia lacked secure property rights. As a result, after the initial economic euphoria over its supposed pro-market policies, few people invested in Russia. Even rich Russians invested their money abroad.

Why, you might ask, didn't the Russian government create secure property rights to attract investors? Unfortunately, creating secure property rights is difficult. It took centuries for Western Europe to develop them. For property rights to be secure, they must be respected at many levels of society. Not only must the central government refrain from arbitrary confiscation, but local governments also must avoid taking property. In addition, secure property rights require honest courts that can adjudicate disputes among businesspeople, and honest police who prevent criminal gangs from seizing property. And as we saw with Srey Neth's shop, secure property rights require families to respect the individually owned property of their members.

GRADE STEALERS

To further understand the importance of property rights, consider how insecure property rights in grades would affect study habits. Imagine that a gang of computer hackers at your school learns how to steal grades. This gang identifies high-performing students and then breaks into the campus computer system to exchange grades with them. So, if you get an A in microeconomics while a hacker receives an F, this hacker might take your A and give you his F.

This gang would greatly reduce studying at your school. Fewer students would bother suffering the pain of studying if it didn't lead to the reward of receiving high grades. Furthermore, since the gang targets students with good grades, students would avoid earning As. Smart students might deliberately miss a few questions on exams to avoid receiving an A. In a world without property rights, people often try not to appear successful so they don't become targets.

HIDING WEALTH

While plowing his fields in the 12th century, a peasant found a buried treasure consisting of a gold statue and some coins. The peasant's feudal lord heard about the discovery. As you would expect, the lord took the treasure for himself. The lord, however, foolishly allowed his king, Richard the Lionhearted of England, to learn of the treasure. King Richard naturally demanded that he be given the treasure.

The peasant made a stupid mistake. Since the peasant lacked property rights, he should have known that if his lord learned about the treasure he would confiscate it. The peasant should have hidden the treasure until he could sell it or pass it along to his children.

When you don't have property rights, you avoid creating wealth because that wealth can be easily stolen. But if somehow you happen upon wealth and you don't have property rights to it, you should hide it.

In poor countries, prosperous peasants and small business people often avoid looking rich so they don't become targets of the strong. They might want their houses and businesses to look shabby so others think they are poor. Unfortunately, when people hide their wealth, they can't easily use their wealth to create more wealth. A prosperous peasant, for example, might avoid buying a tractor because having a tractor would cause the local police force to think he could be shaken down for a bribe. The prosperous peasant might deliberately use an inefficient method of farming just so other people will think he is poor.

COLLECTIVE OWNERSHIP

For property rights to create wealth, they must belong to individuals, not groups. Imagine that rather than giving each individual student a grade, your microeconomics professor assigns a single grade to the entire class based on the class's total test average. In a large class, each student would have a very small incentive to study. For example, in a class of 100 students, if one student studied to raise her grade from an 80 percent to a 100 percent, this would increase the overall class average by only .2 percent, a tiny amount. As a result of collective grading, most of the students would spend little time studying and the entire class would likely earn a bad grade.

Soviet Agriculture The wealth-creating superiority of individual over collective property rights was well shown by Soviet agriculture. Ninety-nine percent of all farm land in the Soviet Union was collectively owned, meaning that the government owned it in the supposed name of the people. Peasants had to farm this land, but they didn't have the right to keep what was grown on it. Consequently, peasants often did a shoddy job of farming the collectively owned land.

The Soviet Union, however, allowed most peasants individually to own a small plot of land. A peasant could keep all the food grown on this land. As economist Milton Friedman pointed out, although these small privately owned plots accounted for only 1 percent of the farm land in the Soviet Union, they produced nearly one-third of all the food grown in the country.

These private plots must have been a horrible embarrassment to the Communists who ran the Soviet Union. The Communists were opposed to individual property rights. Communist ideology claimed that the government could make far better use of resources, such as land, than private individuals could. Yet the greater agricultural yields on privately owned land provided strong evidence that Communism was a failure. Perhaps the success of private plots was a key reason why, shortly before the Soviet Union's fall, its Communist leaders tried to create a market-oriented economy.

DR. SEUSS'S THE LORAX⁴

Dr. Seuss's environmentally-based story, *The Lorax*, illuminates another problem of inadequate property rights. Here's a brief summary of the story:

A creature called the Once-ler came to town and saw "mile after mile" of Truffula trees. The Once-ler discovered that he could use the soft tuft of a Truffula tree to

"When everybody owns something, nobody owns it, and nobody has a direct interest in maintaining or improving its condition. That is why buildings in the Soviet Union—like public housing in the United States—look decrepit within a year or two of their construction . . ."³

make Thneeds. And the demand for Thneeds would be extraordinarily high because:

“A Thneed’s a Fine-Something-That-All-People-Need!
It’s a shirt. It’s a sock. It’s a glove. It’s a hat.
But it has *other* uses. Yes, far beyond that.
You can use it for carpets. For pillows! For sheets!
Or curtains! Or covers for bicycle seats!”

The Once-ler soon made a high profit selling Thneeds. And to increase his profit, he accelerated the production of Thneeds. So the Once-ler needed to cut down more and more Truffula trees.

Another creature, called the Lorax, who claimed to “speak for the trees,” strongly objected to the Once-ler’s felling of Truffula trees. The Once-ler ignored the Lorax’s protestations and continued to make Thneed creations. But the Once-ler’s business quickly went under as the very last Truffula tree was soon knocked asunder. And so the Once-ler’s Thneed firm shut down as no more beautiful Truffula trees could be found.

A PROPERTY RIGHTS INTERPRETATION OF *THE LORAX*

Did a shortsighted craving for material goods cause the extinction of the Truffula tree woods? No. What really did in the Truffula trees was lack of property rights.

The Once-ler discovered that Truffula trees were extremely valuable because they could be used to make Thneeds. No one owned the Truffula trees, so the Once-ler, along with everyone else, had the legal right to cut them down.

In a few weeks businesspeople from other towns would have undoubtedly seen the profitability of the Thneed business and come to cut down Truffula trees. The Once-ler, therefore, had a very short time period in which he was the only person around town who had the necessary equipment to cut down the Truffula trees. Any trees that the Once-ler didn’t quickly take would soon be cut down by others. The Once-ler, therefore, rationally cut down Truffula trees as fast as possible. Even if the Once-ler had listened to the Lorax and stopped making Thneeds, the Truffula trees would still be doomed as other businesspeople would have cut them all down.

Now imagine what would have happened if the Once-ler owned all the Truffula trees. As the owner, the Once-ler would not have had to rush to cut down all the trees before other people did. Furthermore, the Once-ler would never have cut down all the trees. He would have managed his Truffula forest so that it would continually renew itself. (Timber companies that own forests and sell wood products carefully manage their forests so they can be continually harvested over the long term.) Without property rights, the Once-ler cared only about the short term, because he knew that the Truffula trees would never survive in the long run. But if he had property rights, the Once-ler would have known that he could let a tree grow for a few years and still retain ownership. So property rights would have caused the Once-ler to take a long-term view of the Truffula trees.

The Lorax said he spoke for the trees, but this was wrong. Only the owner of a tree can speak for it, because only the owner can stop other people from cutting it down. No one—not the Lorax or the Once-ler—spoke for the trees, and this is why they perished. In general, when a resource such as Truffula trees is not owned by anyone, it will be overused. Economists call this phenomenon *the tragedy of the commons*.

TRAGEDY OF THE COMMONS

Consider a village in which many people own cattle. The cattle graze on a grass commons. This commons is owned by no one; anyone from the village can use it.

The villagers will overuse the common land. Each villager will realize that any grass his cattle don't eat will likely be eaten by other villagers' cattle. As a result, each villager will allow his cattle to gorge themselves on grass. Such mass gorging will kill the grass. Next year, therefore, tragedy will strike as the cattle will not have any grass to dine on.

A tragedy of the commons arises when a resource, such as grass land, is rival but nonexcludable. A resource is rival if one person's use of it reduces the amount left for other people to consume. If your cows eat grass then there is less grass for everyone else, so grass is a rival good. In contrast, a song is non-rival. After you listen to a song, that song can still be heard by other people.

A resource is excludable if people can be prevented, or excluded, from using it. Since everyone had the legal right to cut Truffula trees or set their cattle to graze on the common grassland, these two resources were nonexcludable.

THE BUFFALO TRAGEDY

In 19th century America, buffalo hides were worth good money. Weapon technology made it very easy for hunters to kill buffalo. Any American, furthermore, had the right to kill buffalo. Buffalos consequently were killed in great number and American buffalos were almost hunted to extinction.

LAKE COMMONS

Imagine that many people live near a lake that initially contains many tasty fish. Fish are a rival resource because you can't eat a fish that another person has already consumed. Let's assume that the fish in this lake are nonexcludable, so anyone has the right to fish in the lake.

People will continue to fish this lake until all the yummy fish have been caught. Alas, this means that the fish won't survive to spawn new fish. Next year the lake will be barren of fish.

Fishermen would be better off if, say, only 25 percent of the fish could be caught each year. This would ensure that enough fish survive to repopulate the lake. But if the fish are a nonexcludable resource, then this 25 percent limit is nonenforceable as each fisherman will always be better off individually catching a few more fish.

When a common resource is owned by no one, each user can benefit from using the resource. But because the resource is rival, each person's use of the resource creates negative externalities on everyone else. These negative externalities arise because each man's use of the resource reduces the amount and quality of the

Rival resource—One person's use of the resource reduces the amount of this resource available to others.

Excludable resource—People can be prevented from using this resource.

The tragedy of the commons arises when a resource is rival but nonexcludable.

A nonexcludable resource will continue to be used as long as some people benefit from it. But if the resource is rival, then each person's use harms other people. So resources that are rival but nonexcludable will (tragically) tend to be used until they are depleted or destroyed.

BIKE COMMONS

In 2004, Purdue University tried to make 25 bikes available to all students. The bikes "were painted bright gold and placed all over campus. All students could ride the bikes."⁵ Within one month, 20 of the 25 bikes were unusable because of vandalism, evidence that people often treat their own property far better than they treat commonly owned goods.

resource available to others. As we said in the last chapter, people tend to overuse goods that have negative externalities. It's no surprise, therefore, that the tragedy of the commons problem arises because, absent some corrective measure, common resources are frequently used until depletion.

PROPERTY RIGHTS TO THE RESCUE

Property rights solve the tragedy of the commons problem. Secure property rights, by definition, make a resource excludable. If the Truffula trees, grass land, or lake were owned by someone, then the owner would have an incentive to manage the resource for the long term. The lake's owner, for example, might charge for fishing. He would make a higher long-term profit if he limited fishing each year so as not to wipe out the fish population.



PROPERTY RIGHTS PROTECT NIGER TREES

"From colonial times, all trees in Niger had been regarded as the property of the state, which gave farmers little incentive to protect them. Trees were chopped for firewood or construction without regard to the environmental costs. Government foresters were supposed to make sure the trees were properly managed, but there were not enough of them to police a country nearly twice the size of Texas.

But over time, farmers began to regard the trees in their fields as their property, and in recent years the government has recognized the benefits of that outlook by allowing individuals to own trees. Farmers make money from the trees by selling branches, pods, fruit and bark. Because those sales are more lucrative over time than simply chopping down the tree for firewood, the farmers preserve them."

Source: Lydia Polgreen. "In Niger, Trees and Crops Turn Back the Desert." *The New York Times*, February 11, 2007.



WHEN ECONOMICS MAJORS FALL IN LOVE

Vedran Vuk, while an undergraduate economics major at Loyola University, explained the relationship between property rights and love:

"An ex-girlfriend once told me, 'You treat me like a piece of property.' As an economics major, my first reaction was: How great that the center of my affection truly understands the way I feel! Butterflies in my stomach, rainbows, unicorns, big red hearts shot through my enamored mind. When someone truly understands you, what can you feel but joy?

If I treated her as if she were my property, after all, it means that I would take care of her, protect her, and treat her well above all things not in my possession. Suddenly, I realized the look on her face did not reflect the combusting happiness within me. . . .

'Do you mean [individually or collectively owned] property?' Well, she never answered verbally, but she did proceed to administer a big red slap mark across my face. I'll never truly know what I did wrong, but such is the life of a lonesome economics student. I never saw that girl again . . .

And a final word of advice for lovers: If your beloved is not treating you at least a little bit like a piece of private property, it's time to rethink this romance."⁶

PUBLIC GOODS

Sixty-five million years ago, an asteroid probably crashed into the earth, wiping out the dinosaurs. Humankind could suffer a similar fate. In fact, some scientists estimate that the chances of the average American being killed by an asteroid strike is about the same as dying in a plane crash.

Most asteroids that pass near the earth currently go undetected. To deflect a human-extinguishing asteroid from hitting the earth, we would need at least 20 years advance notice. So the first step in asteroid defense is for astronomers to locate all the asteroids that might hit us. Unfortunately, Adam Smith's invisible hand won't guide self-interested humans to protect the earth from asteroids.

Imagine that somewhere in space looms Asteroid-X. There is a 1 in 1,000 chance that Asteroid X will crash into the earth and destroy mankind. If we assess the value of a human life at \$1 million, then the average harm that Asteroid X will cause is:

$$(\$1 \text{ million}) \times (\text{Human population of 6.7 billion}) \times \left(\frac{1}{1,000}\right) = \$6.7 \text{ trillion.}$$

So, from a cost-benefit analysis, it's worth spending up to \$6.7 trillion to eliminate the chance of Asteroid-X hitting earth. But any one person would receive only a tiny fraction of this benefit. Consequently, it's in no one's self-interest to spend anywhere near \$6.7 trillion to deflect or destroy Asteroid-X.

Asteroid defense is a public good. A public good is any product or service that is nonrival and nonexcludable. Because it's nonrival, one person's use of a public good doesn't harm other people. Because it's nonexcludable, anyone can benefit from a public good regardless of whether they have contributed to creating it.

If an asteroid is going to hit, we won't be able to tell beforehand where it will strike the earth. And if the asteroid is big enough, it really won't matter where it hits since it will kill us all. Anyone who spends resources on asteroid defense necessarily helps all humans.

If you, but not I, spend \$10 on a pizza, then you get a pizza while I get nothing. But if you, but not I, contribute \$10 million towards asteroid defense, then we both get an equal amount of protection. Consequently, people have an incentive to free-ride off of others' asteroid defense expenditures.

Public good: Any product or service which is nonrival and nonexcludable.

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FREE-RIDING MICE

The fable *Who Will Bell the Cat?* perfectly illustrates the free-rider problem:

"A family of mice could get no food because of its fear of a cat. The mice decided that the best thing to do would be to tie a bell around the cat's neck. That would tell them where the cat was. All agreed that it was a splendid idea until one wise old mouse stepped up and asked, 'Who will bell the cat?'"

Once the cat is belled, all the mice benefit equally. But whichever mouse attempts to bell the cat might get eaten. Each mouse, therefore, rationally hopes to avoid danger by free-riding off the belling exploits of others. But if all the rodents free-ride, the cat remains a silent looming menace.

PROPERTY RIGHTS *NOT* TO THE RESCUE

Because public goods are nonexcludable, their creators can't acquire property rights in them. For example, imagine that if some firm spent \$1 billion on asteroid defense it

would create a \$6.7 trillion benefit for humanity. If a firm had a property right to the benefit of asteroid defense, it would spend the \$1 billion and then collect the \$6.7 trillion. But since asteroid defense is a public good, it's impossible for a firm to have such a property right. Consequently, the free market won't induce self-interested people to engage in asteroid defense because they would receive only a tiny fraction of the benefits of their efforts.

If (absurdly) one person owned the earth, then she would have an incentive to provide for the optimal level of asteroid defense to protect her nice blue planet from a small chance of destruction. But because the earth belongs to no one (or equivalently because the earth belongs to everyone), it's in no one's strong self-interest to spend a huge amount of money to slightly reduce the chance of an asteroid destroying the earth. We all rationally hope that someone else will undertake the task. But if all humans try to free ride off of other people's asteroid defense efforts, then asteroids will remain a silent looming menace.

Exclusion represents the essence of property rights. If you can't exclude people from some good or service you provide, you lack property rights. And without property rights, markets don't easily allow you to profit from your efforts, so Adam Smith's invisible hand of the marketplace won't push you to take socially beneficial actions.



NATIONAL DEFENSE

Asteroid defense is a **global** public good, meaning that everyone in the world benefits from it. National defense, by contrast, is a **national** public good that benefits everyone in a country. If the U.S. military deters terrorists from attacking the U.S., then all Americans—even those who don't like the military—benefit. Consequently, national defense is nonexcludable. National defense is also nonrival since, for example, the benefit I receive by being defended by the U.S. Marines doesn't reduce the benefit any other American receives from this protection.

GOVERNMENTS TO THE RESCUE

Because national defense is a public good, and therefore nonexcludable, we can't rely on markets to protect us from armed invaders. To solve this problem, most societies have their government tax citizens to fund a military. Through compulsory taxes, the government can prevent people from free riding off others.

Unfortunately, since asteroid defense is a global and not a national public good, no one government can compel all the people who benefit from it to contribute to asteroid defense. Each nation, therefore can hope to free ride off of the asteroid defense efforts of others.

BUT SOMETIMES MARKETS CAN SOLVE THE PUBLIC GOODS PROBLEM

Radio programs are public goods. They are nonrival since your listening to a program doesn't reduce the amount of programming available to others. And, before satellite radio, programs were nonexcludable since anyone in range who had a radio could pick up a program. In the early days of radio, some people thought that the government would have to pay for programming since there was no way to charge listeners.⁷

Fortunately, the market was creative enough to solve the radio program public good problem. In 1922 the firm AT&T discovered that it could sell advertising time on

the radio. Radio stations learned that advertising could pay for the costs of programming. Radio stations, thereafter, gave up trying to sell programs to listeners and instead started selling listeners to advertisers.

INTELLECTUAL PROPERTY

CHARLIE AND THE CHOCOLATE FACTORY

We now turn from public goods to intellectual property and will use Roald Dahl's novel, *Charlie and the Chocolate Factory*, to discuss intellectual property theft.

Willy Wonka owned a chocolate factory. It produced the most scrumptious chocolate creations the world had ever known. But spies infested Wonka's factory. Using the information gathered by their spies, other chocolate firms started selling the exact same products that Willy Wonka produced.

One bitter day Willy Wonka shut down his factory. Willy Wonka had thrived in the cutthroat chocolate marketplace through innovation. He spent considerable time and money developing superior sweets. Due to high innovation costs, Wonka's average total costs were higher than his rivals. As long as Wonka could sell better products, however, he could charge a higher price than his rivals and still make a profit. But if other chocolate firms could cheaply copy his candy creations, he could no longer successfully compete. So, because of the widespread theft of his chocolate innovations, Willy Wonka had to shut down his factory. Insufficient property rights, therefore, caused Wonka to stop making candy.

Although *Charlie and the Chocolate Factory* is fiction, the candy spies it describes are real. As an article in *Slate.com* describes,⁸ during Roald Dahl's childhood, "the two largest British candy firms, Cadbury and Rowntree, sent so many moles to work in competitors' factories that their spying became legendary."

"The real-life espionage became so pervasive that candy makers in Europe . . . began routinely employing detectives to keep track of workers. Sensitive manufacturing processes were off-limits to all but the most loyal workers."

"When Nestlé first figured out how to successfully blend milk and chocolate, only a handful of Nestlé executives knew how the complete milk chocolate-making process worked. The company also conducted employee background checks and put 'suspicious' workers under surveillance. At Hershey's, an elite few are privy to the proper mix of cocoa beans required to produce Hershey's distinct chocolate flavor. And Mars blindfolds outside contractors when it's necessary to escort them through its factories."

To protect their innovations, chocolate makers had to impose draconian security on their factories.

Willy Wonka eventually reopens his factory after determining how to keep out spies. Wonka stopped his employees from spying on him by hiring only the tiny creatures called Oompa-Loompas. Mr. Wonka rescued the Oompa-Loompas from Loompaland where they were starving and constantly hunted by Snozzwangers. The Oompa-Loompas are so grateful to Mr. Wonka that they would never betray his candy secrets to another confection maker.

Willy Wonka's chocolate innovations were a form of intellectual property. Intellectual property is information rather than physical goods. Intellectual property can consist of the formula for making Everlasting Gobstoppers, the code behind a software program, or the composition of notes making up a song. To have secure property rights in intellectual property means that no one can use the proprietary information without your permission.



INTERNET PIRACY

Intellectual property theft caused Willy Wonka to close his factory. Internet piracy might soon cause the closure of music and movie producing firms. And unfortunately these entertainment businesses won't be able to solve their property theft problems with Oompa-Loompas.

Internet piracy has eroded intellectual property rights in music and movies. As many college students know, it's relatively easy for the electronically well connected to steal music and movies off the Internet. The Internet, therefore, has made music and movies far less excludable. Such theft of property poses a significant threat to the for-profit production of movies and music.

Many people consider intellectual property theft far less immoral than the theft of physical goods. I suspect that many who believe that thieves generally belong in prison have few moral qualms about downloading pirated intellectual property from the Internet. This attitude is illustrated by a store in Singapore that sold illegally pirated products but had a sign reading "Shoplifters will be prosecuted."⁹ This store's owner undoubtedly thought it was perfectly appropriate for him to cheaply sell illegally copied CDs. But if someone dared to steal a CD from his store, then he would have called the police.

Perhaps many people don't morally object to stealing intellectual property because it is nonrival. If you illegally download pirated music, you haven't prevented other people from hearing the song. In contrast, if you steal a candy bar, that particular candy bar can't be eaten by others. Of course, if piracy causes you to spend less money on music than you otherwise would have, your theft has economically damaged intellectual property owners.

But if you don't morally object to intellectual property theft, pirated copies of music and movies are perfect substitutes for legal copies. And why pay for a product you can get for free?

Movies and music have high fixed costs. As the demand for legal copies of movies and music falls, firms will be less willing to pay these high fixed costs. As a result, Internet piracy might significantly reduce the quantity and quality of movies and music.

As of this writing, authors are safe from Internet piracy because most book readers still prefer printed words to electronic text. We may soon, however, see electronic paper that is as easy to read as printed pulp. Electronic paper combined with intellectual property theft could decimate the demand for books. How much money, for example, would you pay for this textbook if you could download an exact copy in under a minute for free?

Although Internet piracy is illegal in most countries, these laws mean nothing if they are not seriously enforced. As of this writing, the average college student has little to fear from illegally downloading a few movies or songs.

The difficulty of stopping Internet piracy is similar to the challenge of halting illegal drug use. When a car is stolen, the victim contacts the police. But when illegal drugs are sold or a song illegally copied, the police have no easy way even to find out about the crime. As a result, the police have difficulty stopping intellectual property theft.

Solutions to the Internet Piracy Problem

- **Increase the moral cost of theft**—Hollywood is trying to use advertising to convince people that theft of intellectual property is wrong. If they succeed,

then pirated copies will become imperfect substitutes for legal versions of movies.

- **Action figures/concerts**—Creators of intellectual property could still profit even if everyone freely took their property. Movie producers, for example, could profit from selling action figures based on film characters and musicians could profit from selling tickets to their concerts.
- **Advertising**—Movies, music, and books could incorporate commercials into their plots. Perhaps the next Star Wars movie will focus on a Jedi's quest to satisfy the Pepsi Challenge.
- **Tips**—Intellectual property creators could ask for tips from consumers. Many Internet bloggers rely on tips to finance their writings and shareware software programmers often ask users to contribute if they like the product.
- **Self-enforcement**—Many shop owners keep guns behind their counters to protect their physical property. Likewise, intellectual property holders could use virtual weapons to protect their stuff. For example, a music company could create an “infectious” version of a song and place it on a website frequented by pirates. If you download the song, a computer virus will erase all the data on your computer. Or perhaps after playing the song nothing bad will happen to your computer for six months. During this time you might allow some friends to copy your illegal version of the song. But after six months, a destructive virus will strike everyone who has downloaded the infectious song. If customers fear that illegal copies of intellectual property might contain viruses, they will pay a higher price for legal copies.¹⁰
- **Not-for-profit production**—Even with rampant intellectual property theft, amateurs will still produce movies, music, and books for pleasure and fame. Of course, without the hope of profits, few will spend large sums of money creating intellectual property. Although rampant piracy won't destroy garage-band music production, it will stop anyone from making a \$100 million special-effects laden movie.

THE INTELLECTUAL PROPERTY OF FRENCH CHEFS¹¹

French chefs have done a far better job protecting their intellectual property than music and movie producers have. Recipes are an important source of intellectual property for top French chefs. To maintain their reputations these chefs must continually come up with new recipes. They consequently have tremendous incentives to steal menu ideas from each other. The French legal system offers almost no protection for recipes. Yet French chefs mostly respect each others' intellectual property. Usually, they copy another chef's recipe only if given permission and then they fully credit the recipe's originator.

French chefs protect their intellectual property by ostracizing those who steal. As one chef said, “If another chef copies a recipe exactly we are very furious; we will not talk to this chef anymore, and we won't communicate information to him in the future.” Fear of ostracism deters would-be thieves. This recipe self-protection shows that intellectual property can sometimes be defended without governmental help.

A Four-Part Classification of Goods Figure 14.1 puts what we now know about goods into a chart.

	Rival	Nonrival
Excludable	<p>Most “normal” goods such as food, clothing, and housing are excludable and rival. The free market does an excellent job of supplying these kinds of goods. Most of the analysis presented in this textbook is of excludable and rival goods.</p>	<p>Goods which are excludable but nonrival can be produced at zero marginal cost. There are usually high fixed costs to make these types of goods, but once one copy of the good has been made, an unlimited number of additional copies can be produced almost costlessly. Internet-supplied music, movies, and software are examples of excludable but nonrival goods. (This assumes that the goods can not be illegally downloaded.) Firms will produce these types of goods since they can charge for their use.</p>
Nonexcludable	<p>Goods which are rival but nonexcludable are called common resources. Common resources will tend to be overused. The two possible solutions to common resource overuse problem are (1) to assign property rights to common resources and thus make them excludable or (2) to have the government forcibly limit individual use of the common resource.</p>	<p>Goods that are nonexcludable and nonrival are public goods. Examples include asteroid defense, national defense, and fireworks displays. Markets tend to underproduce public goods.</p>

FIGURE 14.1

A FOUR-PART CLASSIFICATION OF GOODS



REAL ESTATE PROPERTY RIGHTS

We now leave the world of intellectual property to study real estate. Real estate consists of land and buildings. Markets perform wonders when combining banks with secure real estate property rights. First, we will examine how this magic operates in rich countries. Then we will study why insecure real estate property rights deprive poor countries of wealth-creating opportunities.

REAL ESTATE IN RICH COUNTRIES

Imagine that after college you want to buy a \$200,000 home. It would probably take you many years to save \$200,000. But in the United States, a bank might easily lend you \$180,000 for a \$200,000 home purchase. Why, you might ask, would a bank ever trust you with \$180,000? Because you will use the home as collateral. Collateral is what a bank can take if you fail to repay a loan. So the bank will trust you with \$180,000 because they will have the legal right to seize your \$200,000 home if you don't repay them. Collateralized property loans allow many Americans to buy homes.

Many Americans also use collateral-backed loans to start small businesses. Imagine that after working for a few years you begin to hate your job. You want to quit to start

your own restaurant. Building a restaurant, however, will cost \$1 million. Fortunately, you can use the land the restaurant is on, the proposed restaurant itself, and even the furniture that will be in the restaurant as collateral for a loan to build the restaurant. In addition, you can take out a second loan on your home, using this home as collateral, to get additional funds. As a result, you could access \$1 million.

Without collateral-backed loans, only the rich could start most types of small businesses. But such loans allow members of the American middle class to become independent businesspeople. Without collateral-backed loans there would be far fewer homes and businesses in rich countries such as the United States.

MYSTERY-ACRES

The ownership of every home, building, and piece of land in most rich countries is diligently recorded by the government. Banks readily make collateral-backed loans because of such careful records.

Imagine, however, that the ownership of a hypothetical piece of property called Mystery-Acres was not recorded. A bank would be reluctant to lend you money to buy Mystery-Acres because it couldn't be sure you would give the money to the land's rightful owners. If the bank lent you, say, \$600,000 and you gave this money to someone only pretending to own Mystery-Acres, the bank couldn't take the property if you failed to repay its loan.

Careful records also allow people to see which property is currently being used as collateral. For example, imagine that someone uses Mystery-Acres as collateral for a \$600,000 loan. This person then sells you Mystery-Acres without telling you about the loan. After the crooked seller leaves the country with your cash, the bank announces that if someone doesn't repay the loan it will take Mystery-Acres.

Fortunately, however, property laws in rich countries require banks to create a public record whenever a property is used as collateral. Before you buy a home, therefore, you can check to see if any bank has the legal right to seize it for nonrepayment of a loan.

But without careful public property records, banks wouldn't make collateral-backed loans. Unfortunately, most of the real estate owned by poor people in poor nations is not publicly recorded. Consequently, the world's poor are denied the benefits of collateral-backed loans that so benefit citizens of rich nations.

PROPERTY IN POOR COUNTRIES

Most of the property possessed by poor people in poor countries is only informally owned. For example, a family in Peru might have lived on a property for generations. Everyone living nearby may accept that the family owns the property. Yet the government has no official record of the family owning the land. Because no one officially owns the land, the property legally belongs to the government.

Economist Hernando de Soto refers to informally owned property as *dead capital*. Capital is another word for assets. Dead capital refers to assets that can't be used to create new wealth. An American who legally owns his home can use his dwelling as collateral for a loan to start a business. A Peruvian who only informally owns his home can't, because a bank won't be able to legally seize a home which officially resides on state land.

Banks, furthermore, are extremely reluctant to give loans to people who want to build homes on dead capital. This is because, if the loan is not repaid, the dead capital, which officially belongs to the government, can't be seized by the bank.

Utilities, such as power, water, and telephone companies, are reluctant to provide service to informally owned homes. In the United States, a utility company can seize a home if the owners don't pay their bills. But a utility in a poor country can't seize an

informally owned home. As a result, utility companies face far greater risk in offering service to informally owned homes.

TRIBAL LAND OF AMERICAN INDIANS¹²

In the United States, many Native Americans live on tribally-owned land. Individuals on this land can't sell their own homes to someone outside of the tribe since the land the home is on belongs to the entire tribe. This tribal land, therefore, is dead capital. An individual Native American can't use his home as collateral for a loan because a bank can't legally seize tribal land. As a result, many Native Americans can't use their homes as collateral to start small businesses.

Native American reservations are often pockets of poverty in an otherwise mostly wealthy America. Lack of individual property rights, which creates dead capital, is a prime reason for Native American poverty.

INFORMAL BUSINESS OWNERSHIP

Many business "owners" in poor countries lack official property rights in their businesses. To start a business in the United States, or most other countries, you have to register officially with the government. If I started and registered a business called, say, "Adventures in Economics," I would legally and securely own the business and all its assets.

Unfortunately, in many poor countries it takes a tremendous amount of time and money to register a business officially. As an experiment, Hernando de Soto sent a team to Peru to legally register a small garment workshop. The team had to work six hours a day for 289 days to accomplish the task.¹³ Because of such huge administrative hurdles, most businesses in poor countries are not officially registered and so operate outside of the law.

Informally owned businesses suffer tremendous disadvantages. They must continually pay bribes to officials who can shut them down for operating illegally. They can't borrow money, buy insurance, or rely on courts to enforce contracts. Their illegal status prevents them from enjoying many of the wealth-creating benefits of markets.

PROPERTY RIGHTS OF THE DEAD

Dead people can't own property. You might not think this is a big problem as the dead usually have little need for worldly possessions. But not all the legally dead have stopped living.

The Indian government has mistakenly classified many living people as dead. These legally dead people can't engage in many wealth-creating activities such as buying property. Fortunately, dead Indians have started a lobbying group called the Association of the Dead to pressure government officials to bring the breathing dead back to legal life. The group was founded by Lal Bihari (1961-). Lal Bihari found out he was dead when he unsuccessfully sought a bank loan. It took him 19 years to convince the Indian bureaucracy to give him back his legal life.

WHAT HAPPENED TO SREY NETH?

Let's return to Srey Neth, the poor Cambodian teenager. Recall that after she was freed from sexual servitude, her store failed. Many poor girls in Srey Neth's situation would have returned to prostitution. But she was lucky. Using money donated by some New York Times readers, Srey Neth attended school to become a beautician.

But why did Srey Neth need charity to afford school? In the United States, families often borrow money, using their homes as collateral, to pay for their kids' educations. Poor people in poor countries have trillions of dollars of informally owned real estate assets that they could potentially use to finance education. But Srey Neth's family likely possessed only dead capital that couldn't be used as collateral for a loan. So without charitable assistance, Srey Neth would not have been able to pay for her beauty school education.

Poor countries are filled with teenagers like Srey Neth. They have the skills to run small businesses, but their lack of property rights often makes this impossible. If they could borrow a little money, they could attend school and learn a marketable trade. But again their lack of property rights stymies them because their family's dwellings are usually dead capital that can't be used as collateral for a loan. Deprived of the ability to sell goods or learn a trade, they often turn to the one profession that thrives even in the absence of property rights: prostitution.

WHERE PROPERTY RIGHTS ARE *NOT* NEEDED

This chapter has argued that secure property rights are necessary to spur wealth creation. But we now consider a counterexample: Free Software Projects.

The free software movement purposefully rejects property rights to deliberately create public goods. Free software products include the computer operating system Linux and the online encyclopedia Wikipedia. Both are built by volunteers and are freely and legally accessible to everyone.

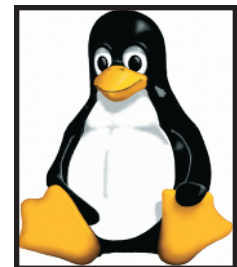
Normally, if a good were given away for free, its supplier would quickly run out of product. But Linux and Wikipedia are nonrival and so one person's use of them doesn't reduce the amount available for other people.

Almost anyone can contribute to the Wikipedia encyclopedia by adding or editing entries. Wikipedia is constantly being updated. I have found Wikipedia to be extremely reliable and have often consulted it to get background information for writing this textbook.

Interestingly, however, Wikipedia has had trouble with one type of contributor: staff members of U.S. Congressmen. Most U.S. Congressmen have entries in Wikipedia. In 2006 Wikipedia discovered that the employees of many congressmen were editing their bosses' entries to remove true but damaging information.¹⁴ Wikipedia temporarily forbade people using computers located in some congressmen's offices from editing entries.

The operating system Linux is managed, but not owned, by Linus Torvalds. Linus Torvalds coordinates the efforts of volunteers to continually improve the free computer operating system Linux. As of this writing, Linux poses the greatest threat to Microsoft's near-monopoly on operating systems.

Since Wikipedia and Linux deliberately forsake property rights, their tremendous success poses a challenge to the worldview of those, including myself, who believe in the importance of property rights for wealth creation. Wikipedia was founded by Jimmy Wales and Larry Sanger in 2001. I confess that if they talked to me in early 2001 and asked whether I thought Wikipedia would succeed, I would have answered no. I would have told the two men that since contributors wouldn't have any property rights in Wikipedia, they wouldn't profit from its success. As a result, I would have mistakenly said that Wikipedia will almost certainly fail.



QUESTIONS YOU SHOULD BE ABLE TO ANSWER AFTER READING THIS CHAPTER:

- 1 Why did Srey Neth's store fail? (page ●●●)
- 2 What does it mean to have property rights in a good? (page ●●●)
- 3 Why does investment bring pain before pleasure? (page ●●●)
- 4 Why does lack of property rights discourage people from making investments? (page ●●●)
- 5 Why did lack of property rights reduce investment in Russia? (page ●●●)
- 6 Why would insecure property rights in grades cause students to study less? (page ●●●)
- 7 Why does lack of property rights cause people to hide wealth? (page ●●●)
- 8 Why does collective ownership discourage wealth creation? (page ●●●)
- 9 What happened on private plots of farm land in the former Soviet Union? (page ●●●)
- 10 Why did lack of property rights doom the Truffula trees in Dr. Seuss's *The Lorax*? (page ●●●)
- 11 What is the "tragedy of the commons"? (page ●●●)
- 12 What are rival goods? (page ●●●)
- 13 What are excludable goods? (page ●●●)
- 14 What happens to resources afflicted by the tragedy of the commons? (page ●●●)
- 15 Why would making a lake excludable help preserve a fish population? (page ●●●)
- 16 How do secure property rights solve the tragedy of the commons problem? (page ●●●)
- 17 What are public goods? (page ●●●)
- 18 Why doesn't Adam Smith's invisible hand cause self-interested people to provide public goods? (page ●●●)
- 19 What are free-riders? (page ●●●)
- 20 What is the difference between a national and global public good? (page ●●●)
- 21 Why are governments usually needed to provide public goods? (page ●●●)
- 22 In *Charlie and the Chocolate Factory* why did Willy Wonka initially shut down his factory? (page ●●●)
- 23 What is intellectual property? (page ●●●)
- 24 Is intellectual property rival or nonrival? (page ●●●)
- 25 Has the Internet made music and movies more or less excludable? (page ●●●)
- 26 How could movie, music, and book producers profit even if people freely take their property? (page ●●●)
- 27 How could intellectual property holders use self-enforcement to reduce Internet piracy? (page ●●●)
- 28 What is real estate? (page ●●●)
- 29 What is collateral? (page ●●●)

- 30 Why do collateral-backed loans make it much easier for people in rich countries to buy homes? (page ●●)
- 31 Why are banks reluctant to make collateral-backed loans on property whose ownership isn't diligently recorded? (page ●●)
- 32 What is informal ownership? (page ●●)
- 33 What is dead capital? (page ●●)
- 34 What is the problem with dead capital? (page ●●)
- 35 Why is Native-American land in the U.S. dead capital? (page ●●)
- 36 Why are so many businesses in poor countries only informally owned? (page ●●)
- 37 What problems plague informally owned businesses? (page ●●)
- 38 What are Linux and Wikipedia? (page ●●)
- 39 Who owns Linux and Wikipedia? (page ●●)
- 40 Why does the success of Linux and Wikipedia challenge the world view of those who believe in the importance of property rights for wealth creation? (page ●●)

STUDY QUESTIONS

- 1 Why do people volunteer to work on Wikipedia or Linux?
- 2 Do you steal intellectual property? If yes, do you consider your behavior immoral? Why or why not?
- 3 Property rights in grades are limited because you can't sell your grades to other students or buy other students' grades. Would you be better off if this wasn't true? Why or why not?
- 4 Elephants are often killed in Africa for their ivory tusks. Why might elephants in Africa be safer if it were legal to sell elephants' tusks?
- 5 Does stealing intellectual property cause more or less harm to property holders than stealing physical property does? Consider marginal costs, fixed costs, and what the thief would have done had he not stolen.
- 6 List some examples of public goods not mentioned in this chapter.
- 7 List some examples of tragedy of the commons not mentioned in this chapter.
- 8 Discuss whether police protection is a public good.
- 9 How do Wikipedia and Linux create wealth? Who gets this wealth?
- 10 I have a great idea for a fiction book. I want to retell the *Lord of the Rings* from the viewpoint of Sauron. In the original book Sauron was evil, but in my book he will be good. I would retell the original story showing how Sauron's actions were all justified by the oppression of elves and wizards. In my book the hobbit "heroes" of the original novels will be seen as dupes of the cowardly elf elite. Unfortunately, under current copyright laws I couldn't write the book without getting the permission of the original author's family. I can't imagine this family would give me permission unless I gave them many millions of dollars, and I can't imagine anyone giving me several million dollars to write this book. Copyright laws, therefore, effectively prevent me from writing my book. Is this economically efficient?

- 11 If French chefs regularly stole each others' recipes there would probably be less innovation in French cooking. Why is this?
- 12 In *The Lorax* story, should the government have forbidden the cutting down of any Truffula trees?
- 13 Imagine that 20 freshman in a dorm share a bathroom. Is this bathroom a rival resource? Is it an excludable resource? Imagine that the college makes no provisions for cleaning the bathroom. What is likely to happen?
- 14 Look up an entry on www.Wikipedia.org that you know a lot about. Improve the entry by adding additional, useful information. If you were assigned this question by your professor, print out the entry before and after your addition. Clearly indicate the changes you made.
- 15 What's wrong with this picture? Relate your answer to the relevant concept covered in this chapter.



