EE 403 Law & Economics

Property Law 2

Anin Aroonruengsawat, Ph.D

2022.

/20220

Remedies when entitlement to the property right is violated.

1. **Property** rule / **injunctive** relief
   - Violation of my entitlement is seen as a crime.
   - **Injunction**: court order clarifying a right and specifically barring any future violation

2. **Liability** rule / **damages**
   - Violations of my entitlement are **compensated**
   - **Damages** – payment to victim to compensate for damage done

Comparing injunctive relief to damages rule

- **Injurer** always prefers a **damages** rule
  - the punishment for violating an injunction without the other side's permission is much harsher than damages
  - Under a damages rule, injurer has the option to just violate and reimburse
- **Injuree** (person whose entitlement is violated) always prefers a **property** rule
  - Injurer's threat point is lower and so Injuree gets a upper hand in negotiation.

Comparing injunctive relief to damages – example

E profits = 1,000
L profits = 300 → 100
E prevention = 500
L prevention = 100

- Electric company (E) emits smoke, which dirties the laundry next door (L)
- E earns profits of 1,000
- Without smoke, L would earn profits of 300

- Smoke reduces L's profits from 300 to 100 so damages = 200
- E could stop polluting at cost 500
- L could prevent the damage at cost 100

E profits = 1,000
L profits = 300 → 100
E prevention = 500
L prevention = 100

First, we consider the non-cooperative outcomes

- Polluter's Rights (**no remedy**)
  - E earns 1,000
  - L installs filters, earns 300 – 100 = 200

- Laundry has right to **damages (E pollutes then pay for damages)**
  - E earns 1,000, pays damages of 200 → 800
  - L earns 100, gets damages of 200 → 300

- Laundry has right to **injunction (E stops polluting)**
  - E installs scrubbers, earns 1,000 – 500 = 500
  - L earns 300

Non-cooperative payoffs

E profits = 1,000
L profits = 300 → 100
E prevention = 500
L prevention = 100

	Polluter's Rights	Damages	Injunction
E payoff (non-co-op)	1,000	800	500
L payoff (non-co-op)	200	300	300
Combined payoff (non-coop)	1,200	1,100	800

E profits = 1,000
L profits = 300 → 100
E prevention = 500
L prevention = 100

Now, we consider the Cooperative outcomes

- Maximize joint profit.
  - E earns 1,000
  - L – prevention costs 100
  - L earns 300
  - Total net benefits = 1,200
- Equally sharing gain from trade

What about with bargaining?

E profits = 1,000
L profits = 300 → 100
E prevention = 500
L prevention = 100

	Polluter's Rights	Damages	Injunction
E payoff (non-coop)	1,000	800	500
L payoff (non-co-op)	200	300	300
Combined payoff (non-co-op)	1,200	1,100	800
Combined payoff (Co-Op)	1,200	1,200	1,200
Gain from co-op	0	100	400
E payoff (co-op)	1,000	800 + ½ (100)	500 + ½ (400)
L payoff (co-op)	200	300 + ½ (100)	300 + ½ (400)

Comparing injunctions to damages…

E profits = 1,000
L profits = 300 → 100
E prevention = 500
L prevention = 100

- Injunctions are generally cheaper to administer
  - No need for court to calculate amount of harm done
- But damages are generally more efficient when bargaining is impossible.
  - injurer can prevent harm or pay for it; injurer chooses whichever is cheapest

	Damages	Injunction
E payoff (non-cooperative)	800	500
L payoff (non-cooperative)	300	300
Combined payoff (non-cooperative)	1,100	800

So now we know…

- Any rule leads to efficient outcomes when TC are low (negotiable)
- Injunctions are cheaper to implement
- Damages lead to more efficient outcomes when TC high
- When **transaction costs are low**, a **property rule** (injunctive relief) is more efficient
- When **transaction costs are high**, a **liability rule** (damages) is more efficient

High transaction costs → damages
Low transaction costs → injunctive relief

- Transaction costs high → design law to minimize losses due to failures of private bargaining
  - **Liability** rule does this: gives injurer ability to violate entitlement when efficient.

- Transactions costs low → design law to facilitate trade
  - **Property** rule does this: clarifies right, allows trade

High transaction costs → damages
Low transaction costs → injunctive relief

"Private bargaining is unlikely to succeed in disputes involving a **large number** of **geographically dispersed strangers** because communication costs are high, monitoring is costly, and strategic behavior is likely to occur.

Large numbers of land owners are typically affected by **nuisances**, such as air pollution or the stench from a feedlot. In these cases, **damages** are the preferred remedy.

On the other hand, **property disputes** generally involve a **small number** of parties who **live near each other** and can monitor each others' behavior easily after reaching a deal; so **injunctive relief** is usually used in these cases."

(Cooter and Ulen)

Conclusion:

- When transaction costs are **low**, use **injunctive relief**
  - Either rule will lead to efficient allocation (Coase)…
  - …but injunctions are cheaper to implement
    (court doesn't have to assess level of harm)

- When transaction costs are **high**, use **damages**
  - If bargaining is impossible, damages → more efficient outcomes
  - (Example: polluter can choose to pollute and pay when that's more efficient than preventing the damage)

- Agrees with principle from last week
  - TC **low**: design law to **facilitate trade** (normative Coase)
  - TC **high**: design law to **not rely on bargaining** (normative Hobbes)

Case:

The Boomer Case. The well-known case of *Boomer v. Atlantic Cement Company* (26 N.Y.2d 219, 309 N.Y.S.2d 312, 257 N.E.2d 870, Court of Appeals of New York 1970) provides another illustration of the choice between property rules and liability rules in a classic externality setting. The case involved a group of landowners who sought an injunction against a large cement company because of the dirt, smoke, and vibration that it produced. The court denied the request for an injunction and instead awarded the plaintiffs damages of $183,000. The court reasoned that an injunction would have been an overly drastic remedy, causing the plant to shut down with the loss of three hundred jobs and an investment by the company of more than $45 million. In contrast, money damages allowed the plant to continue operating while at the same time compensating victims and providing an incentive for the plant "to research for an improved technique to minimize nuisance."

Exercise

2. A railroad can operate zero, one, or two trains a day along a certain stretch of track that borders a farmer's field, but the trains occasionally emit sparks that set fire to the crops. The following table shows the railroad's total profit and the farmer's total fire damage (in dollars) as functions of the number of trains:

No. of Trains	*RR's Profit*	*Farmer's Fire Damage*
0	0	0
1	150	100
2	200	125

(a) What is the socially optimal number of trains?

(b) Assume bargaining costs between the railroad and farmer are zero. Describe the outcome under the following two situations:

(i) The railroad has the right to operate any number of trains, protected by a property rule;

(ii) The farmer has the right to be free from crop damage, protected by a property rule.

(c) Assume bargaining costs between the railroad and farmer are high. Describe the outcome under the following situations:

(i) The railroad has the right to operate any number of trains, protected by a liability rule;

(ii) The farmer has the right to be free from crop damage, protected by a liability rule.

Exercise

5. Consider a piece of property that is jointly owned by two individuals, each with one half share. Suppose that, in order to sell, owner 1 requires \$3,000 for his half share, but owner 2 requires \$6,000 for her half share. A buyer arrives and offers \$10,000 for the entire property.
   (a) If the two owners can bargain with each other costlessly, do you expect a sale to occur (assuming both owners have to give their consent)?
   (b) Suppose instead that the two owners cannot bargain with each other (for example, they are a divorcing couple). If each is entitled to one half of the proceeds, do you expect a sale to occur in this case?
   (c) Describe the trade-off involved in a rule that allows either one of the parties to "force" a sale of jointly owned property when they cannot come to an agreement.