

ECON 522 - SECTION 3 - PROPERTY LAW REMEDIES

I. Property Law Remedies In lecture we've looked at three types of remedies for property disputes: injunctions, damages, and inalienability.

- **Injunctions:** Complete and tradable property rights.
 - If someone is granted an injunction then they are assigned the property right and can trade it if they wish. For example, if a homeowner is given an injunctive right to stop a neighbor from breeding noisy roosters, then the homeowner can either exercise this right, or sell it to the neighbor who wants to raise roosters.
- **Damages:** The right to buy a property right at a set price.
 - Think of damages as setting a price for a property right and then allowing someone to purchase that right if they wish. For example, suppose the neighbor in the example below (the one raising roosters) is forced to pay damages in the amount of \$500 if he chooses to keep the birds on his property. Then the option for the neighbor is either (i) don't raise roosters but don't pay \$500, or (ii) buy the right to raise roosters for \$500.¹
- **Inalienability:** Non-tradable property right.
 - An inalienable property right cannot be traded legally in the market. The existence of such property violates the conditions necessary for the Coase Theorem to work, but there may be reasons society would want to bar certain trades.

I.1 Example: Raising Roosters. In Madison it is legal to own hens in residential neighborhoods, but it is not legal to own roosters. The reason that roosters are not allowed is that they create much more of a negative externality than hens do: Hens are relatively quiet, while roosters tend to be extremely loud, even at night. Suppose there are two neighbors, Roger and Joe. Roger wants to raise roosters instead of hens, and this right is worth \$700 to him. Joe is the only neighbor who would be affected by Roger's roosters, and he values a rooster free neighborhood at \$300. However, if Roger spends \$50 to build a sturdy coop to keep the roosters in then Joe's payoff is only \$100 less than if there were no roosters at all. Let the initial allocation be that there are no roosters and no coop.

1. What is the efficient allocation of rights?
2. Suppose the law is such that Joe has an injunctive right over Roger's ability to own roosters. What are the neighbors' respective threat points? If the two neighbors negotiate and decide to split any potential gains evenly, what would the final allocation and payoffs be?
3. Suppose Roger can raise roosters if he pays Joe one time damages of \$300 if he does not have a coop, and \$100 if he does have a coop. What would the neighbors choose to do and what would the final allocation and payoffs be?
4. Suppose Roger has to pay Joe \$100 in damages regardless of whether or not he builds a coop. If transaction costs are low, what will the final allocation and payoffs be? What if transaction costs are high?

¹This is assuming the damages are permanent damages, which means the neighbor would not have to pay further fees in the future.

5. Suppose Joe has an inalienable right to a roosterless neighborhood. What would the neighbors choose to do and what would the final allocation and payoffs be?

II. Normative Coase/Normative Hobbes

- The **Normative Coase** approach is to minimize transaction costs to facilitate voluntary trade, and is suggested when transaction costs are low but it is costly to determine how much people value some property right. Injunctive rules follow this approach.
- The **Normative Hobbes** approach is to allocate property efficiently so that no bargaining needs to occur for efficiency to obtain, and is suggested when transaction costs are high and it is not very costly to figure out who values the property right more. Damages rules follow this approach.

III. Public and Private Goods: Brief Discussion

- **Public Goods** are nonrivalrous (my consumption of a good does not preclude your ability to consume it) and nonexcludable (I can't prevent you from consuming it).
- **Private Goods** are the opposite: rivalrous and excludable.
- Public goods tend to be provided at an inefficiently low level if they are held privately.
- Private goods tend to be utilized at an inefficiently high level if they are publicly available.

IV. Adverse Selection and Unraveling Suppose that we have a seller with a poker chip that is worth $2x$ the number shown on a die to him, and knows that number. Suppose that there is also a buyer who values the poker chip at $3x$ the number shown on the die, but does not know that number. Let's look at how this leads to unraveling.

- The most the buyer would ever be willing to pay for the chip is $(1 + 2 + 3 + 4 + 5 + 6)/6 \cdot 3 = 10.5$
- But then the seller would only take the offer if the roll was less than 6. So no trade will occur if the die roll is 6.
- Then the most the buyer would be willing to pay is $(1 + 2 + 3 + 4 + 5)/5 \cdot 3 = 9$
- But then the seller would only take the offer if the roll was less than 5
- Then the most the buyer would be willing to pay is $(1 + 2 + 3 + 4)/4 \cdot 3 = 7.5$
- But then the seller would only take the offer if the roll was less than 4
- Then the most the buyer would be willing to pay is $(1 + 2 + 3)/3 \cdot 3 = 6$
- The seller would be willing to take this offer for a die roll of 3 or less. So at best, we can only get trade half the time.

Answers:

1. Since Roger's value for owning roosters is greater than Joe's value for there being no roosters, Roger should have roosters. Also, since building a coop costs society \$50 but is worth \$100 to Joe, there should be a coop. Thus the efficient allocation is for Roger to raise roosters and keep them in a sturdy coop.

2. I'm going to say that Joe's threat point is \$300 and Roger's is \$0 (recall that I'm free to stipulate threat points however I wish, as long as I compare other allocations to these initial payoffs). Therefore, currently in the economy there is \$300 in total wealth:

$$\text{Joe's payoff} + \text{Roger's payoff} = \$300 + \$0 = \$300$$

If Roger has the right to raise roosters and builds a coop, then the total social wealth would be \$850:

$$\text{Joe's payoff} + \text{Roger's payoff} = \$200 + \$700 - \$50 = \$850$$

Thus the gains from trade are \$550, and if they split the gains then they should each get $\frac{1}{2}(550) = \$275$ more than their initial payoffs (i.e. their threat points). Thus Joe gets $\$300 + \$275 = \$575$, and Roger gets $\$0 + \$275 = \$275$. This can be achieved by Roger buying the right to raise roosters in a coop for a price $p = \$375$. The sale would be conditional on Roger building a coop. Here's how to see this all works out:

$$\text{Joe's payoff} = \$575 = (\text{value when roosters are present in a coop}) + p = \$200 + \$375 = \$575$$

$$\text{Roger's payoff} = \$275 = (\text{value for raising roosters}) - (\text{cost of coop}) - p = \$700 - \$50 - \$375 = \$275$$

3. Roger will choose to build a coop and pay damages of \$100. To see this, note that Roger has three options:
- (a) Do not get any roosters: Payoff=\$0
 - (b) Get roosters but do not build a coop: Payoff=\$700-\$300=\$400
 - (c) Get roosters and build a coop: Payoff=\$700-\$100-\$50=\$550

Thus Roger will pay damages of \$100 to Joe. Thus Joe's payoff is \$300:

$$\text{Joe's payoff} = (\text{value when roosters are present in a coop}) + D = \$200 + \$100 = \$300$$

Therefore we reach the efficient allocation, with total social wealth $\$300 + \$550 = \$850$

4. We know that Roger will definitely raise roosters in this scenario, since it's worth more than \$100 to him to do so. Roger could get the roosters and not build a coop (since he doesn't have to and he receives no benefit from it), giving him a payoff of:

$$\text{Value of roosters} - \text{Damages} = \$700 - \$100 = \$600$$

Joe would then have a payoff of \$100 (value for roosters in a coop + damages). However this is not what will happen if transaction costs are low, since Joe and Roger can negotiate to get Roger to build a coop. What's happened is that their respective threat points have changed because of the change in the rules: Roger's threat point is now \$600, and Joe's is \$100. There are \$150 worth of potential gains if the coop is built, thus Roger and Joe can split the gains if Joe pays Roger \$125 to build the coop (Roger gets $\$600 + \$125 - \$50 = \675 , Joe gets $\$200 + \$100 - \$125 = \175). If transaction costs are high then they cannot negotiate, thus no coop is built and the payoffs remain Roger \$600, Joe \$100.

5. If the right is inalienable then Joe cannot sell the right to Roger. Thus the allocation remains the initial allocation, no roosters, and payoffs are \$300 for Joe and \$0 for Roger.

Things to Note.

(A) Joe prefers the world in which he has the injunctive right. This will always be the case, because in this world he has more options. For example, if Joe has the injunctive right then he could sell that right to Roger for \$100, which is the same amount he would receive if the remedy were damages. However Joe also has the option of selling the right for a different value, or not selling it at all.

(B) Roger prefers the world where the remedy is damages. If damages are set correctly then this will always be true. The reason is that damages are set to be *exactly* the externality that Roger is imposing on Joe by owning roosters. Notice that damages are \$300 when Roger owns roosters with no coop, which is exactly how much Joe's payoff is decreasing. Similarly, the damages for roosters and a coop is the \$100 that Joe's value decreases in that scenario.

(C) If damages are set incorrectly then there is no guarantee that the efficient allocation will arise. For example suppose damages were set at \$800. Roger would never choose to pay this and raise roosters even though it's efficient for him to do so. If transaction costs are low then they can negotiate around the rule, but if transaction costs are high they may not be able to.

(D) An injunction is only efficient if Roger and Joe can negotiate, i.e. if bargaining and other transaction costs are low. However, if damages are set correctly then no bargaining takes place, and thus even with high bargaining costs we can reach the efficient allocation. This is the reason that damages may be more efficient when transaction costs are high, but information costs are low (it's easy to calculate the correct damages). However, if it's difficult to figure out how to set damages, but bargaining costs are low, then an injunction may be more efficient.

(E) Both Roger and Joe would rather have the remedy be either an injunction or damages rather than inalienability. This is because the efficient allocation requires that Roger raise roosters, but he can never gain this right. Inalienability violates the Coase condition that property rights are tradable.