KEY

ECO 499 Midterm Exam Spring 2009

1. (10 pts.) How does the legal system establish implicit prices? Give an example.

10 = brief.

The legal system seeks to incentivize behaviors. To do so, it must establish appropriate costs to alter undesirable behavior. A legal system establishes implicit prices by creating rights & punishments for rights violations. The law uses rules to incentivize public behavior according to efficiency. It attaches a cost to wrong acts & benefits to favorable ones.

An example of how law establishes implicit prices is by punishing individuals who unreasonably interfere with others property. For example, the law wants to discourage theft. In this case it will make a rule that attaches a cost to this activity. The American rule discourages theft by imposing liability for stolen goods on the buyer. There is an expected value of the risk associated with the liability of purchasing stolen property. This potential cost encourages buyers to take appropriate cautions when buying from merchants.

good answer

2. (20 pts.) As rajah of our island, you have decreed a completely centrally planned economy. You make all production and consumption decisions. Our current output of coconuts and rabbits is such that you are able to allocate five rabbits and twenty coconuts to each person each month. Being a benevolent ruler, you ask us how we like that arrangement. One person, known only as A, speaks up and declares that at her current rates of consumption she would be willing to trade two rabbits to get one more coconut per month. Someone else, known only as B, lets it be known that at his current rates of consumption, he would be willing to trade three coconuts to get one more rabbit per month. All of your loyal subjects look at you to see how you will respond. Is the current allocation Pareto optimal? Illustrate A's and B's current situations in the diagrams below, drawing an indifference curve for each of them that reflects their current situations and marginal rates of substitution. If you think there is some way to improve things, explain how.

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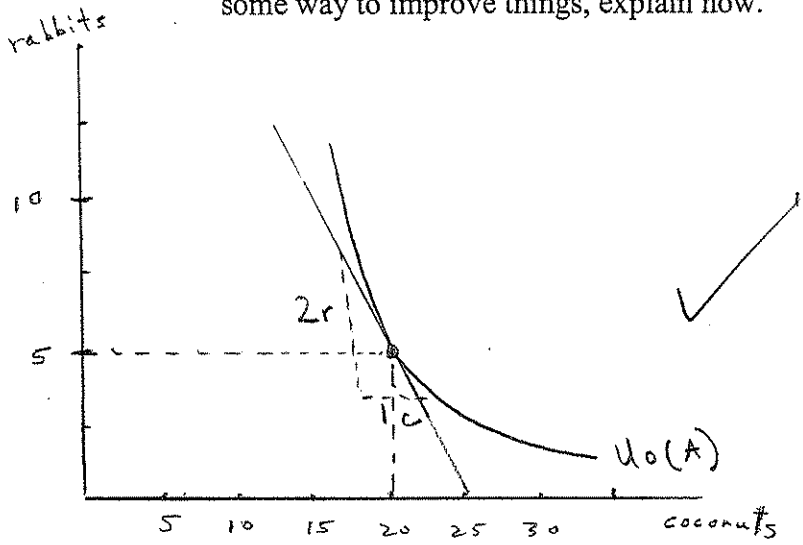
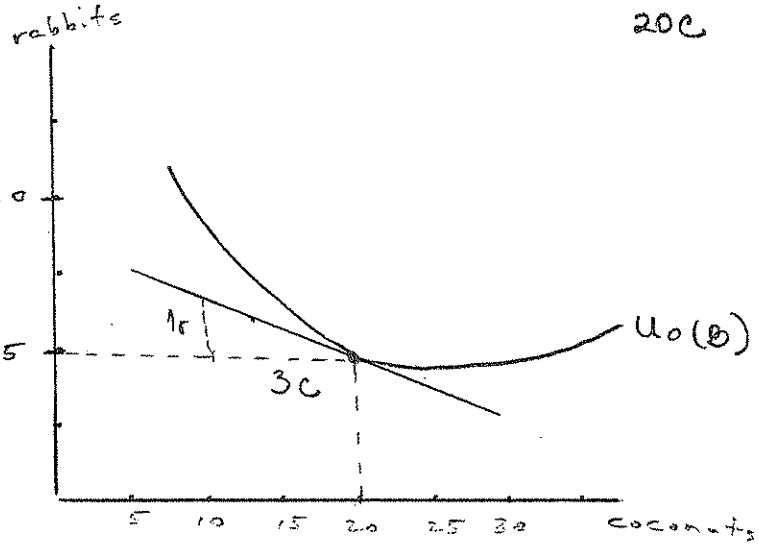
5r
20c



citizen A

5r
20c



citizen B

$MRS_{r,c}(A) = 2r : 1c$
$\Rightarrow 1r = 1/2c$

$MRS_{r,c}(B) = 1r : 3c$

1. Current allocation is not Pareto optimal: there is no efficiency in exchange. $MRS_{r,c}(A) \neq MRS_{r,c}(B)$.

2. Situation can be improved by taking 1 rabbit from subject A and asking subject B for 2½ coconuts (which he would be willing to provide). Give subject A 2 coconuts for his 1 rabbit (he's now better off) and keep ½ coconut for the person facilitating the exchange.

excellent!

3. (20 pts.) One rule for establishing property rights is the rule of first possession. This rule was applied to buffalo (actually bison) in the United States as the Great Plains were being settled. The buffalo almost became extinct. A non-native hoofed animal (cattle) was introduced into the same environment by these settlers, but property rights were determined differently. A system of branding was established so that ownership of each animal could be clearly determined. Cattle thrived. Use this example to explain the inefficiency that may result from a rule of first possession.

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First possession often results in an inefficient outcome as people use too many resources to claim/horde as much as they can as fast as they can. Often, they take way more than what is efficient/practical just because they can. The buffalo/bison are a great example of this. Settlers killed as many buffalo as they could as fast as they could because if they didn't get it, someone else would. This is the mentality that often gets us in trouble.

Recently, at a birthday party I watched small children bust a piñata. When the candy came down, it was a free-for-all as children tucked candy in pockets, shirts, etc. Each child took as much candy as he/she could because of the rule of first possession. This may not have been the most equitable transaction because some children didn't get any and most children took more than they would enjoy (or could carry).

By establishing a system for developing and maintaining property rights (like branding cattle), there is usually a more efficient outcome as settlers ate/killed only what they could maintain. This is like the tragedy of the commons, where people will abuse the property (fish, whales, oysters) because if they don't someone else will.

Just like the oysters in pre-England, more efficient outcomes come from the establishment and protection of property rights.

good answer. now, do you have a solution to this problem for ~~Easter~~ piñatas at birthday parties or Easter egg hunts?

4. (20 pts.) The newly formed government of Tajikistan hires you as a consultant to help them in making the transition from a socialistic command economy to a capitalistic market economy. Since no system of property rights has existed in the past, you are asked, "What things can be privately owned, and what things inherently must be publicly or commonly owned?" What guidance can you, as an economist, offer? Specific examples of types of goods might be useful to include in your answer.

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Efficiency requires that private goods be privately owned and public goods be publicly owned. Private goods can be described as goods that are rival in consumption and excludable (meaning that owners can exclude buyers at no cost). Examples of private goods are milk & televisions. Public goods are goods that are non-rival in consumption and are not excludable. Examples include parks & roads. Private goods should be privately owned because the private market for these goods leads to pareto optimality. Public goods should be publicly/commonly owned because the free rider problem prevents the market from resulting in an efficient outcome. Therefore, public provision of these goods is required.

✓ good.

- plaintiff - defendant

plaintiff - low cost mover 5,000
Defendant 10,000

5. (30 pts.) Read the facts of Sturges v. Bridgeman on the attached sheet. Suppose that the damage suffered by the doctor because of the disruption is $5,000 in lost income and that the cost to the factory of installing less noisy equipment, moving the existing equipment, or adjusting its production schedule so as to eliminate the nuisance to the doctor is $10,000.
   a) Imagine that Sturges is female, and that Sturges and Bridgeman fall in love during the trial, and decide to drop the lawsuit and get married. How do you think that the merged household would manage its combined businesses?
   b) Forget the fairy tale ending imagined in part (a), and instead let's go back to the original legal dispute. Suppose the court is swayed by the fact that Bridgeman had operated a candy factory on the same spot for a long time, and that Sturges "came to the nuisance." Suppose the court then rules in favor of Bridgeman and refuses to grant an injunction or award damages to Sturges. What will be the ultimate outcome?
   c) Suppose instead that the court considers health care to be a higher calling than candy-making, and decides in favor of Sturges, granting an injunction against the operation of the offending equipment by Bridgeman. What will be the ultimate outcome?

A) without transaction costs (the marriage) Sturges will ~~lose~~ because they are the low-cost mover. In situations such as this, the low cost mover should move to result in the most efficent allocation of resources. The $5000 loss is the most socially optimal because it results in the least efficency ($) loss to the parties involved. The $10,000 of Bridgeman in the marriage will not be effected because they are the high-cost mover and their changing of production would be inefficent because of the cost

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B) Ultimately, the plaintiff, Sturges, will move because they are the low-cost mover. This results in an overall lost of $5,000, which is the least amount that can be lost in this situation. Sturges cannot do anything to make the transaction more efficent for himself or as a whole to society. He cannot pay Bridgeman to move the equipment for less than $5,000, nor can Bridgeman do anything to ~~be~~ efficently allocate any ~~more~~ of the money to society as a whole. The result is therefore the same as above. ✓

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c.) In the event of an injunction against the defendent, with no transaction costs (or little costs), the parties will bargain to reach an efficent response to the courts decision, as defined by the Coase theorem. If they are allowed to bargain, than the defendent paying the $10,000 to move is not the most efficent outcome. Instead, Bridgeman can negotiate with Sturges to pay for the lost $5,000 profit. Bridgeman may then continue his ways with a $5,000 loss instead of a $10,000 loss, a net of $5,000. Sturges may, however, then disagree with this behavior explaining that Bridgeman has a value of $5,000, whereas Sturges gained nothing. They can then reach a deal to distribute to extra $5,000 value created. Efficently they can divide the $5,000 extra between the two of them. Therefore, Sturges receives $7500 from Bridgeman, an added value of $2500 for him and Bridgeman ends up paying $2500 less than he originally would have had to had there not been room for bargaining and just followed the injunction directly.

This follows as stated by Prof. Coase - that with no or few transaction costs, the courts decision does not matter in the end result. Parties will bargain to reach a more efficent solution and allocation for both, than if they just followed the courts.

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