Midterm

Law and Economics - Fall 2021

Instructions:

- There are FOUR questions with equal weight. You have **1 hour and 20 minutes** to complete the exam. Read everything carefully and use your time wisely.
- Be concise and precise, and write clearly.
- This is a closed book exam. You are also not allowed to communicate with anyone else in any way during the exam. If you have a question regarding a problem statement, please raise your hand. I will provide a clarification if possible.

Problem 1 Consider a model with unilateral care and activity levels like the one we studied in class. To remind you, we used $p(x)$ for the probability of accident (per unit of activity) as a function of the investment in precautions (care level), $u(q)$ for the utility derived from the activity level, and D as the deterministic damage in case of accident.

1. In this model, a Strict Liability Rule is superior to a Negligence Rule. Explain why.
2. Write the problem of the injurer and carefully compare the activity and care levels with the efficient levels for each of the two rules.

Problem 2 Consider a model with bilateral care (and no activity levels) like the one we studied in class. To remind you: the probability of accident $p(x, y)$ is a function of the investment in precautions by both the injurer and the victim.

1. In this model, a Negligence Rule is superior to a Strict Liability Rule. Explain why.
2. Write down the social, victim and injurer problem and carefully compare how the equilibrium care levels compare with the efficient ones for each of these two rules.

Problem 3 Consider the problem of Eminent Domain that we studied in class. To remind you: $V(x)$ is the value of the property for the original owner that irreversibly invests x, p is the probability that the good has a public value B and is expropriated. Finally, $C(x)$ the compensation that the original owner receives in case that the property is expropriated.

i. What is the efficient level of investment x^*?

ii. What is the problem of the original owner?

iii. Show that setting $C(x) = V(x)$ generates over-investment.

iv. Show that any constant compensation generates the optimal level of investment.

v. Consider the extension that we discussed in class in which B is a random variable and the government is strategic (expropriates if $B > C(x)$) what is the compensation rule that provides the right incentives to both the original owner and the government?

Problem 4 Consider the model of voluntary disclosure of hard information that we covered in class. As a reminder: the object quality θ is uniform in $[0, 10]$. Buyers compete *'a la Bertrand'* for the good. The Buyer that gets the good enjoys a utility $\theta - p$. The payoff of the seller is p if she sells the good and zero otherwise. The seller is informed about the good quality with probability γ.

In this model the equilibrium is that informed types with $\theta > \bar{\theta}$ disclose the information and informed types with $\theta < \bar{\theta}$ do not disclose the information, where $\bar{\theta} = \frac{10\gamma}{1+\gamma}$. In class we compare this equilibrium outcome with what would happen if disclosure of information was mandatory (in which case all informed types disclose their information).

1. Which sellers benefit from having mandatory disclosure? Explain why.

2. Do buyers benefit from having mandatory disclosure? Explain why.