



Stockholm
University

Department of Economics

Course name: Law & Economics 1
Course code: EC2105
Type of exam: Main exam
Examiner: Lars Vahtrik
Number of credits: 7,5 credits
Date of exam: Sunday 25 March 2018
Examination time: 3 hours (12:00- 15:00)

Write your identification number on each answer sheet (the number stated in the upper right hand corner on your exam cover).

Explain notions/concepts and symbols. If you think that a question is vaguely formulated, specify the conditions used for solving it. Only legible exams will be marked. Question 4 is a credit question. If you have handed in assignments during the course you may choose to answer this question anyway if you aim at a higher score. Note that in this case the score on the exam will be counted regardless of your score on the assignments!

No aids are allowed.

The exam consists of 4 questions. Each question is worth 25 points, 100 points in total. For the grade E 45 points are required, for D 50 points, C 60 points, B 75 points and A 90 points.

Question 4 is a credit question. If you have handed in assignments during the course you may choose to answer this question anyway if you aim at a higher score. Note that in this case only the score on the exam will be counted regardless of your score on the assignments!

Your results will be made available on your "My Studies" account (www.mitt.su.se) on **Thursday 12 April** at the latest.

Good luck!

Question 1

Consider the company BIKES that is one of several companies on a perfectly competitive market where bikes are produced. The production of bikes imposes external cost on the city where the factory is situated. BIKES does not take into consideration the externality in the production, thus the resulting production is inefficiently high. Assume that there are two production technologies that BIKES can choose between; one is old and gives rise to high externalities and the other is new and gives rise to lower external costs. When using the old technology BIKES profit is \$1,000 per year. If the new technology is used the profit the first year is \$500 since there is a cost involved with installing the new technology. After the first year the yearly profit is \$1,100.

- a) Draw a graph where you (in general) indicate the marginal private costs line (MPC) and the two marginal social cost lines (MSC) representing the two technologies. Draw the price line and indicate the quantity produced if BIKES maximize profit and does not internalize the external cost. **(5p)**
- b) Assume that the city goes to court to have damages awarded in order to make BIKES internalize the externality. The court can either award temporary or permanent damages. The court has calculated the value of past and future damage to be \$4,000. Recall that permanent damages are a lump-sum payment, no further payment is necessary. The temporary damages will amount to \$1,000 if the old technology is used and \$800 if the new technology is used. Consider the hypothetical situation where the city, if temporary damages are awarded, will sue for additional temporary damages every year in four years (in total five years). What will BIKES total payoff for the five years (profit–damages) be, assuming that
- i) permanent damages are awarded
 - ii) temporary damages are awarded,
- under the two technologies? In this specific case, should the court award temporary or permanent damages if the aim is to create incentives for adopting the new technology? Why? **(10p)**
- c) Discuss problems and benefits with both temporary and permanent damages. What types of costs do they impose? Discuss in what situations the two types of damages are efficient? **(5p)**
- d) If the externality imposed by BIKES was private instead of public, what type of remedy would be the most efficient? Why? **(5p)**

Question 2.

- a) A driver is driving at the legal speed limit when a pedestrian runs out from behind a shrubbery and onto a marked pedestrian crossing just in front of the car. The car hits the pedestrian, who suffers a leg injury and hospital costs. Discuss whether the car driver (from an economic perspective) should be liable for damages. **(10p)**
- b) The car driver has a car insurance. Discuss whether this should affect the answer under **a)** above and benefits and drawbacks of insurance from an economic perspective (not only in relation to the situation under **a)** above) and how the government and insurance companies can reduce the negative effects of some of the drawbacks. **(10p)**
- c) In the end the claimed amount from the pedestrian was less than SEK 20,000. In Sweden a dispute concerning such a small amount would be handled in a simplified procedure. Please discuss the concept of simplified legal proceedings and the pros and cons of this concept. **(5p)**

Question 3

- a) Explain why it may not be a good idea to let the punishment for embezzlement be the maximum punishment possible (fine and imprisonment) even if this is required to deter all embezzlement in society. Also discuss why the optimal punishment for embezzlement always includes the maximum fine and why imprisonment may still be necessary to deter embezzlement. **(9p)**
- b) Explain why very harsh punishment combined with a low detection probability may not be an efficient deterrent for young first time offenders. Suggest a more appropriate deterrence policy for this category of offenders. **(7p)**
- c) Try to explain why an attempt to reduce the supply of drugs, by increasing the expected punishment for suppliers, may not be an efficient policy in the short run if your aim is to reduce drug use as well as drug related crimes like violent crimes, robbery and property crimes. Compare this policy to a policy that includes prescription sales of addictive drugs to drug users. **(9p)**

Question 4 (Credit Question)

An investor can invest in high reliance or low reliance upon the agent's future performance. The extra investment in high reliance is made outside of the contractual agreement with the agent. The payoffs for the investor and the agent with no enforceable contract are given by

		Agent	
		Perform	Breach
Investor	Invest & low reliance	0.5 0.5	-1.0 1.0
	Invest & high reliance	0.6 0.5	-2.0 1.0

The agent can appropriate the original investment but not the additional investment. As shown in the matrix the additional investment in high reliance costs 1. Calculate and explain the meaning of the "tipping point" or critical value of p (the probability that the agent performs). Show and explain why and when simple (or naive) interpretation of expectation damages may cause an inefficient outcome. Suggest a solution that guarantees an efficient outcome of the contract. **(25p)**