

Exam The Economics of Innovation and Intellectual Property 2016

Question 1: IPR - Cumulative Inventions

Explain what one should take into account when developing an efficient IPR system that takes cumulative inventions into consideration.

Question 2: R&D and Market Structure

- What is the difference between a drastic and a non-drastic innovation? Explain and illustrate graphically.
- What is meant with Arrow's 'replacement effect'?
- According to Schumpeter's second mark, large firms tend to be better at innovating. Explain the reasons why large firms could potentially be better in conducting R&D compared to small firms.

Question 3: Economics of Science

- Please explain what is meant with 'The Matthew Effect in Science'.
- What are the underlying causes of this effect?

Question 4: Subsidies

- Illustrate 'the underinvestment in R&D from a society perspective' graphically.
- Graphically illustrate the effect of a subsidy on the individual innovation expenditure optimum.
- In case the policymaker wants to know whether the subsidy is efficiently implemented he has to ask himself two counterfactual questions. Which two?
- Explain the challenges with which a government agency is confronted when according R&D subsidies.

Question 5 : R&D Collaboration

- Why would it be beneficial for firms to collaborate?
- How can firms efficiently protect their intellectual property?

Question 6: STATA and Erasmus

Given the following Stata-output:

(...)

- Is the variable 'female' significant? What is the effect on the probability of going on exchange in the Master? Is the
variable 'application for bachelor exchange programme' significant? What is the effect on the probability of going on exchange in the Master? Is the
variable 'average bachelor grade' significant? What is the effect on the probability of going on exchange in the master?
- Use an example of your own to explain what is meant with 'propensity score matching'?
- When 'propensity score matching' is used, which underlying assumption tends not to be fulfilled?
- Please explain the limitations of surveys.

Question 7: Multiple Choice and True/False

1. R&D collaboration has a positive impact on the total R&D in the economy if
 - a) Spillovers are small
 - b) Spillovers are large
2. R&D collaboration in reality is
 - a) Permitted
 - b) Forbidden
3. According to Arrow's model, which type of firm is willing to pay more for an invention?
 - a) Monopolist
 - b) Firm under perfect competition
4. According to Gilbert and Newbery's auction model, the ... has a higher incentive to bid for the innovation.
 - a) Incumbent
 - b) Challenger
5. "Subsidies increase the incentives for firms to invest in R&D." This statement is
 - a) True
 - b) False
6. "Subsidies reduce the costs incurred by companies investing in R&D." This statement is
 - a) True
 - b) False
7. "Subsidies reduce the diffusion of knowledge ex-post." This statement is
 - a) True
 - b) False
8. "Patents can only be filed by companies." This statement is
 - a) True
 - b) False
9. "Patents must be based on an invention." This statement is
 - a) True
 - b) False
10. "For an invention to be patented it must involve an inventive step." This statement is
 - a) True
 - b) False
11. Some things cannot be patented. Which of the following are excluded from patentability? Multiple answers are possible.
 - a) **Plant or animal varieties** or essentially biological processes for the production of plants or animals (Article 53(b) EPC)
 - b) **Methods for treatment** of the human or animal body **by surgery or therapy** and **diagnostic methods** practised on the human or animal body (Article 53(c) and Article 54(4)-(5) EPC)
 - c) **Methods for treatment** of the human or animal body **by means of drugs** (Article 53(d) and Article 54(6) EPC)
 - d) **A sophisticated machine** that is intended to only produce for you (Article 52 (a) EPC)