

STOCKHOLM UNIVERSITY  
Department of Economics

**Course name:** Antitrust and Regulation  
**Course code:** EC7114  
**Examiner:** Sten Nyberg  
**Number of credits:** 7,5 credits  
**Date of exam:** 22 October, 2015  
**Examination time:** 3 hours

Write your identification number on each paper and cover sheet (the number stated in the upper right hand corner on your exam cover). Do not write answers to more than one question in the same cover sheet. Explain notions/concepts and symbols. Only legible exams will be marked. No aids are allowed. If you think that a question is vaguely formulated: specify the conditions used for solving it.

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. The assignment replaces question 4. If you have completed the assignment but choose to answer question 4 the best score counts.

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Your results will be made available on your "My Studies" account ([www.mitt.su.se](http://www.mitt.su.se)) on 12 November at the latest.

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### Question 1

Defining the relevant market is a central step in a review of a horizontal merger.

- a) Explain what the SSNIP-test means.
- b) The SSNIP-test can be implemented by means of a Critical Loss analysis. Suppose evidence suggests that a 10 percent price increase leads to a 25 percent actual loss of demand for the hypothetical monopolist. Moreover, suppose the price cost margin for all firms is 40 percent. Calculate the Critical Loss and determine whether the market satisfies the test or needs to be expanded.
- c) The competition authority considers a direct assessment of the merger using an UPP-test. The diversion ratios between the two merging firms are symmetric and equal to 0.2. Is there an upward pricing pressure if we credit the merger with a 10 percent efficiency?

### Question 2

Suppose a natural monopoly is operating on a market with the following the inverse demand:  $P = 10 - Q$  and where the firm's unit cost is 2. The firm knows both the demand and its cost but the regulator only knows the demand.

- a) The regulator considers using the Loeb – Magat scheme for regulating the monopoly. Describe how this scheme works and what the outcome of such a regulation is.

In response to distributional concerns the regulator abandons this regulation in favor of a cost based regulation,  $p(c) = a + bc$  with  $a > 0$  and  $b > 0$ . For simplicity, we now assume that demand is constant and equal to one. Moreover, the accounting cost of producing one unit of output is now  $c = \theta - e$ , where  $\theta$  is cost parameter, which takes the values 1 and 3 with equal probability, and  $e$  is the firm's effort to reduce cost, neither of which is observable by the regulator. The effort cost is given by,  $0.25e^2$ .

- b) Determine the firm's optimal effort as a function of  $b$ .

The regulator maximizes  $W = C.S. + \gamma\pi$  where  $C.S.$  is consumer surplus,  $\pi$  is firm profit and  $0 < \gamma < 1$  is the weight on profit.

- c) Discuss (no need to solve) what the optimal  $b$  would be if  $\gamma = 1$ .

**Question 3**

A monopoly owns a network and uses it as an input to provide final goods to consumers. It can also sell network access to a competitive downstream industry producing an identical consumer good. The marginal cost of access is  $c_A = 2$ , the marginal cost of converting access to a final good is  $c_C = 3$  for competing firms and  $c_M = 4$  for the monopolist. All marginal costs are constant, there are no fixed costs and the monopoly cannot be subsidized. Suppose the final good price is regulated and set to 7. Suppose the regulator opts for a retail-priced based access price based on the “efficient component pricing rule” (ECPR).

- a) Discuss how this rule affects the incumbent’s incentive to foreclose competition and whether it ensures efficient production downstream.
- b) Solve for the optimal access price,  $a$ , according to the ECPR.
- c) What can we say about the access price if the final good price is not regulated? What if (contrary to the assumption above) the incumbent has large fixed costs that must be covered by revenues from sales of final goods or access?

**Question 4 (Essay question)**

Explain Aghion and Bolton’s model of exclusive dealing (the one where the entrant is exploited). Why is it rational for the buyer to sign an exclusive contract? How does uncertainty about the potential entrant’s cost affect the outcome? To what extent does the model explain foreclosure?

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**Good luck!**