

EXAM

5 May 1999

Time limitation: 4 h

THE ECONOMICS OF STRATEGY

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Answer (in Swedish or English) all the four questions below !

1. (a) Define briefly the following concepts (5 p)

- (i) research joint venture
- (ii) horizontal merger
- (iii) vertical merger
- (iv) the Herfindahl index
- (v) credible strategic commitments

(b) It is often argued that network externalities play a major role in communication services. Explain carefully the nature of network externalities in the context of such an industry. (5 p)

(c) Why is it important for the provider of a service exhibiting network externalities to achieve the critical mass ? (Your answer should include a precise definition of the critical mass.) (5 p)

2. (a) Present the main features of the ongoing privatization process in Finland. (5 p)

(b) Characterize generally the circumstances when it is worthwhile for a firm to make a strategic commitment by making use of the taxonomy of commitment strategies presented during the course (as well as in the textbook by Besanko, Dranove and Shanley). Exemplify your answer! Also, emphasize why the restrictions of credibility are important when evaluating strategic commitments. (10 p)

3. Consider an industry consisting of two firms ($i=1,2$) producing differentiated products and assume the demand functions to be given by

$$Q_1 = 160 - 2P_1 + P_2$$

$$Q_2 = 80 - 2P_2 + P_1,$$

where P_i denotes the price charged by firm i . Further, suppose that each firm has an identical cost structure with a marginal cost equal to 10.

(a) How does this demand system capture that the products are differentiated? (1 p)

(cont. !)

(b) Calculate the Bertrand equilibrium, i.e. the Nash equilibrium with respect to the price decisions of the firms. (10 p)

(c) Are the price decisions strategic substitutes or strategic complements? Justify your answer by investigating the nature of the reaction functions. (4 p)

4. An industry consists of two firms with identical costs $C(q) = 5q + \frac{q^2}{2}$. The firms can either collude or compete. If both collude, they each produce q_m (half the monopoly output Q_m). If one firm colludes and the other competes, the latter produces the output q^{**} that maximizes its profits given that the rival produces q_m . If both compete, they play Cournot and each produce q_d .

(a) Calculate these production levels (q_m , q^{**} and q_d) and the resulting profits if the inverse demand is $p = 125 - Q$. (8 p)

(b) Represent your results as a normal-form game (a game matrix). (3 p)

(c) Find out the Nash equilibrium if the game is only played once. (4 p)