EXAM THE ECONOMICS OF STRATEGY

24 April 2004 Rune Stenbacka
Time limitation: 4 h

Answer (in English or Swedish) all the four questions below! Please observe that the questions do not have equal weight!

1. (a) Define briefly the following concepts: (1) strategic commitment, (2) entry deterrence, (3) bundling, (4) tacit collusion, (5) switching cost, (6) market power, (7) Herfindahl index, (8) horizontal product differentiation, (9) versioning, (10) nonlinear pricing. (10 p)

(b) According to the so called Bertrand argument, price competition drives firms' profits down to zero even when there are only two competitors in the market. Why don't we empirically observe this to take place very often? (Give at least three explanations)
(5 p)

2. (a) Assume that two firms are engaged in price competition. Assume further that the final good requires one component. There are two ways to produce this component. (1) It can be produced through the establishment of a plant for in-house production or (2) it can be acquired through outsourcing from a specialized subcontractor. Explain in detail how outsourcing can serve as a strategic device for raising the consumer prices of the final good. (10 p)

(b) Explain in detail how access pricing systems can be used to break natural monopolies despite the presence of sharply increasing returns to scale. Exemplify by reference to the market for access to mobile networks. Also present the Efficient Component Pricing Rule (ECPR) as a regulatory mechanism for the determination of access prices in the market for access to mobile networks. (10 p)

3. (a) Suppose that two countries, initially in autarchy, decide to create a single market (i.e., a free trade agreement). For simplicity, assume that, in both economies, there is only one product. The demand for this product is given by $D_i = (a - p_i)S_i$, ($i = 1,2$), where S_i is a measure of country i's size. Upon the creation of a single market, total demand is given by the horizontal sum of the two country-specific demands. Further, all firms k ($2 \le k \le n$) are assumed to be identical and endowed with a cost function $c(q_{ik}) = F + c\,q_{ik}$ (where i indexes the country and k indexes the firm).
(a) Assuming that there is free entry and that the firms are engaged in Cournot competition, determine the equilibrium number of firms both in autarchy and after the completion of the single market. (12 p)

(b) Explain why the equilibrium number of firms grows at a slower pace than the growth in market size. (3 p)

4 Consider a duopolistic industry facing a demand function given by $P = 130 - Q$, where Q denotes industry output. Assume that the firms produce a homogeneous product. The firms are identical and have access to a technology, which exhibits constant returns to scale with marginal costs equal to 10. Further, the firms are engaged in repeated competition with an infinite horizon.

(a) Under which circumstances are the firms able to credibly sustain full collusion, i.e. to implement the monopoly outcome, if they are engaged in Bertrand (price) competition? (8 p)

(b) Under which circumstances are the firms able to credibly sustain full collusion, i.e. to implement the monopoly outcome, if they are engaged in Cournot (quantity) competition? (8 p)

(c) Which type of competition – Bertrand or Cournot – is more likely to sustain the collusive agreement? Why? Justify your answer by a careful argumentation. (4 p)

Good luck!