

Practice problem set 20

Dealing and territorial control

This problem set constitutes recommended material for the relevant lab. The choice of tasks to be presented instructionally in every lab is in the discretion of the individual teacher. Students are expected to work on practice problems, however, are not required to submit written solutions. It is non-negotiable policy in this course to not provide hand-outs with the solutions of practice problem sets.

1. Two manufacturers produce a differentiated product. Their goods are distributed through retailers and each manufacturer grants exclusive territories to the retailers carrying his good. Hence intra-brand competition is eliminated and the only competition is between good 1 and good 2 in any given territory. Final demand for good 1 within any given territory is given by $q_1 = 1 - p_1 + bp_2$, while final demand for good 2 within any given territory is given by $q_2 = 1 - p_2 + bp_1$, where $0 < b < 1$ (so the own-price effect on demand is stronger than the effect of the rival's price). Production and retail costs are zero. The firms play a two-stage game. First the manufacturers simultaneously set two-part tariffs $T_i(q_i) = F_i + w_i q_i$, $i = 1, 2$. Then the retailers, after observing both two-part tariffs, simultaneously set retail prices.
 - (a) Compute the subgame-perfect equilibrium prices and profits for the retailers and the manufacturers in any given territory.
 - (b) Discuss informally whether the granting of exclusive territories allows the manufacturers to increase their profits. Will welfare be higher or lower compared to the case without exclusive territories? Provide intuition for your answer.

UoL: 2016 za /2016 zb

2. Provide 3 reasons why an "1 to 1" relationship between a manufacturer and a dealer (territory and dealing exclusivity) might be welfare improving.

End of 3rd Module Examination – 2014

3. Two manufacturers produce products 1 and 2. The demand of the products at the retail level is given by $q_j = 1 - p_j + .5p_i$ where $i = 1, 2$, $j = 1, 2$ and $i \neq j$. Each manufacturer selects a single retailer and assigns an exclusive territory to that retailer. Calculate w , the (equal) transfer price for products 1 and 2. Assume zero production and retail costs. (13 pts)

Final Examination – 2014

4. There are three stages of operation in the oil and gas industry: exploration and production (upstream), refining (midstream) and distribution (downstream). Suppose that the customer demand for the final product is $Q = 1 - p$ and there is only one firm with zero operating costs in each of the three segments. (hint: additional assumptions imposed in any of the sub-questions below hold only for the specific sub-question)
 - (a) What is the aggregate profit under vertical integration
 - (b) If there is only one firm operating in each stage, what is the aggregate profit and how is it distributed between firms?
 - (c) What is the maximum amount that the upstream firm would pay to acquire the midstream firm?
 - (d) If the midstream firm is allowed to charge a franchise fee as well as the per unit price to the downstream firm, would the upstream firm be ready to pay more to acquire the midstream firm? If yes, how much?
 - (e) Without making calculations, explain who would be the winners and losers of an entry of a new downstream firm.
 - (f) What is the quantity of the final good sold if instead of one firm in each segment, there are X upstream firms, Y midstream firms and Z downstream firms competing in each segment by simultaneously choosing quantities?

- (g) Use your result above to prove that an entry in a more concentrated segment improves consumer welfare more than an entry in a less concentrated segment?
- (h) How would your answer for (f) change if the intra-segment competition was in prices?

End-module 3 test – March 2017

5. Consider a duopoly, where initially firms 1 and 2 buy an essential input from a monopolist and afterwards compete as in Cournot. The average cost of production for each duopolist is $c_1 = w_1 + 1$ and $c_2 = w_2 + 2$, where w_i is the price of the input charged by the monopolist to the i th duopolist. The demand for the final good is $p = 10 - q_1 - q_2$. Should a regulator in this industry consider banning price discrimination by the monopolist? Justify your answer with a quantitative comparison.

Final Exam – 2015