

V18: Seminar 5 - Mergers

ECON3820/ECON4820 - Strategic Competition

March 23rd 2018

Problem 1

(modification of an exam question in 2004)

Until 2004, the stated objective of Norwegian competition law was to ensure economic efficiency. In the 2004 law, a paragraph was added that emphasises the interest of consumers. The change of objective may have implications for how the competition authorities treat market developments, such as mergers.

Consider the following market model. Demand is linear and given by $p = 1 - Q$, where p is market price and Q is total supply. There are two firms, 1 and 2. Output q_i of firm i is produced at constant unit costs, denoted c_i , $I = 1, 2$. For simplicity, let:

$$c_1 = 0 \quad c_2 = c < \frac{1}{3}.$$

- (a) Assume first that the two firms compete in a Cournot fashion. Derive the following equilibrium values for profits, market price and consumer surplus:

$$\pi_1^D = \frac{1}{9} [1 + c]^2, \quad \pi_2^D = \frac{1}{9} [1 - 2c]^2, \quad p^D = \frac{1}{3} [1 + c], \quad CS^D = \frac{1}{18} [2 - c]^2$$

The sum of producer and consumer surplus becomes (you do not need to show this):

$$W^D = \pi_1^D + \pi_2^D + CS^D = \frac{1}{18} [8 - 8c + 11c^2].$$

- (b) Assume next that the two firms operate as a single entity. Derive the following equilibrium values for profits, market price and consumer surplus:

$$\pi_{1+2}^M = \frac{1}{4}, \quad p^M = \frac{1}{2}, \quad CS^M = \frac{1}{8}.$$

The sum of producer and consumer surplus becomes:

$$W^M = \pi_{1+2}^M + CS^M = \frac{3}{8}.$$

- (c) Compare the two outcomes above and discuss the merit of a merger between the two firms (hint: $W^M < W^D$ if $c < \frac{22}{5}$ and vice versa). Does the conclusion depend on to what extent consumer interests are taken into account?
- (d) Discuss how the above conclusions might be affected by different assumptions regarding
- economies of scale,
 - number of firms,
 - entry (or exit) following a merger,
 - capacity constraints.

Does a consumer-welfare standard always lead to a more restrictive policy towards mergers than a standard based on total welfare?

Problem 2

Assume that firms engage in price-competition with differentiated products. The demand for firm i 's product is denoted by $Q_i(p_i, p_{-i})$, where p_{-i} is the vector of firm i 's competitors' prices. Assume that demand is linear in prices.

Now assume that two firms, i and j , want to merge. Furthermore, assume that costs are unaffected by the merger.

Part (a) of this question is mathematical. Parts (b) and (c) will be conducted as a group discussion.

- (a) Show that you can express the unilateral effects (one-sided price changes) using only observable parameters: pre-merger prices, costs and diversion ratios. (Hint: use the merging firms' pre- and post-merger first-order-conditions.)
- (b) Discuss how unilateral effects may change when there is a vertical relationship between the merging firms. Specifically, assess the cases when one of the merging firms is the pre-merger upstream supplier of the other firm.
- (c) Discuss the merits of utilizing an UPP-index if the merging firms set prices nationally, but compete in local markets. Which local markets - if any - are the most problematic in terms of reducing consumer welfare?