Vertical restraints

Industrial organization – lecture 6

Vertical restraints

Firms at different stages of the production chain do not rely on spot market transactions, but sign contracts to reduce transaction costs and better coordinate actions.

These agreements are called vertical restraints.

Vertically related firms produce complementary products. Vertical restraints may internalize this externality.

Vertical restraints are also an issue for competition policy. They might be beneficial as well as harmful for the consumer.

Types of vertical restraints

There are several types of vertical restraints. The most common examples are the following:

- Franchise fee (non-linear pricing). Contract specifies fixed price and variable component.
- Quantity discounts.
- Resale price maintenance (RPM). The manufacturer sets the price/recommends retailer's price, or it might establish minimum or maximum price.
- Exclusivity clauses. E.g. under *exclusive dealing* a retailer agrees to carry only the brand of the particular manufacturer; an *exclusive territory* implies that only one retailer can sell the brand within a certain area.

Exclusive dealing

We focus on exclusive dealing and different types of rationalization of these contracts.

Exclusive dealing can stimulate retailer's effort or reduce free-riding on manufacturer's investment. On the other hand, it may lead to foreclosure.

ED: Free-riding

Pepall et al. (2010, pp. 372–373)

This is a variation of Besanko and Perry (1993).

The producers produce differentiated product. Each can invest e into activity which reduces retailer's costs. The investment costs are $\frac{\mu e^2}{2}$.

There is a perfect competition among retailers. The cost of each retailer of selling brand i are $c + w_i - e_i - e_j$.

The inverse demand function is linear $Q_i = \frac{1}{2}(1 - p_i + \frac{\gamma}{2}(p_j - p_i))$.

ED: Free-riding - solution

Pepall et al. (2010, pp. 372–373)

Each retailer charges price equal to marginal costs $p_i = c + w_i - e_i - e_j$.

Substituting the manufacturer's prices and maximizing with respect to w and e gives the optimal wholesale price and investment level

$$w^* = \frac{4\mu(1-c)}{2\mu(4+\gamma)-4},\ e^* = \frac{2(1-c)}{2\mu(4+\gamma)-4}.$$

Under the ED agreement

$$w^* = \frac{4\mu(1-c)}{2\mu(4+\gamma)-2-\gamma},\ e^* = \frac{2(1-c)}{2\mu(4+\gamma)-2-\gamma}.$$

ED: Free-riding - solution

Pepall et al. (2010, pp. 372–373)

You can check that

1. Investment levels are higher.
2. Wholesale price is higher because distribution cost are lower and it shifts marginal revenue curve of the producer.
3. Retailer's price is lower.
4. Welfare is higher.

ED: Foreclosure

Pepall et al. (2010, p. 375-376)

There can be also anti-competitive effects of ED.

There is monopoly incumbent with costs c_i and entrant with cost $c_e < c_i$. There are two retailers that compete in Cournot way.

The timing of the game is as follows

1. Each retailer may sign exclusive contract for price T
2. Entrant decides to enter the market. There are entry costs F.
3. Retailers sign two-part tariff contract with some producer.
4. Retailers compete on the final good market with inverse demand $P = 1 - Q$.

ED: Foreclosure - solution

Pepall et al. (2010, p. 375-376)

If both firms sign ED contract, the incumbent is able to divide monopoly profit $\left(\frac{1-c_i}{2}\right)^2$.

If one firm does not sign ED contract and the entrant enters, it gets $\left(\frac{1-c_i}{2}\right)^2$. If the entrant does not enter, it gets zero profit.

If no firm signs ED contract, they both get $\left(\frac{1+c_e-2c_i}{3}\right)^2$.

Hence, the incumbent is able to foreclose a more efficient entrant.