Bundling

Lecture 4

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April 18, 2014

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Section 1

Definition

Definition of bundling

Definition (bundling)

Bundling is selling two products together.

Definition (pure bundling or tying)

Products are only sold together.

Definition (mixed bundling)

Products are sold together at a discount.

Section 2

Welfare effects

Welfare effects

Positive welfare effects

Positive welfare effects – static efficiency	
Condition	(1) The firm that provides the bundle increases its sales. (2.) The production of the bundle's components is subject to economies of scale and/or economies of scope.
Conclusion	Reduction of overall economic costs.

Welfare effects

Positive welfare effects

Positive welfare effects – static efficiency	
Condition	The consumer's willingness to pay for the product bundle is bigger than his aggregate willingness to pay for the bundle's components.
Conclusion	Bundling increases the consumer's utility.

Welfare effects

Negative welfare effects

Negative welfare effects – static efficiency	
Condition	(1) Bundling occurs at retail level. (2) Horizontally integrated firm bundles a monopolistic product with a competitive product.
Conclusion	Leverage of market power from a monopolistic market to a competitive market.

Welfare effects

Negative welfare effects

Negative welfare effects – dynamic efficiency	
Condition	(1) Bundling occurs on a retail market. (2) The provider of the bundle has SMP on that retail market. (3) The bundle's components are not sold separately ('pure bundling').
Conclusion	Consumers have to pay for components of the bundle that they do not need.

Section 3

Incentives to bundle

Incentives to bundle

Decreasing own costs

Conditions

Economies of scope:

$$
\begin{aligned}
& SAC(\text{joint production of A and B}) \\
< \; & SAC(\text{stand-alone production of product A}) \\
+ \; & SAC(\text{stand-alone production of product B})
\end{aligned}
$$

Incentives to bundle

Decreasing own costs

Examples

- 'luxury package' for a car that includes a bundle of, say, sun roof, and leather seats
- office equipment such as copiers, computers that is sold with a bundled service contract.

Incentives to bundle

Increasing own revenues

Conditions

- Two products A and B are complements, i.e. the price of A (P_A) determines sales of B and vice versa.

Incentives to bundle

Increasing own revenues

Reference situation (no bundling)

- Two Monopolies: Firm *I* produces product A, firm *C* produces product B.

Incentives to bundle

Increasing own revenues

Reference situation

	C sets low P_B	C sets high P_B
I sets low P_A	demand for A: $\star\star\star\star$ demand for B: $\star\star\star\star$	demand for A: $\star\star$ demand for B: $\star$
I sets high P_A	demand for A: $\star$ demand for B: $\star\star$	demand for A: $\star\star\star$ demand for B: $\star\star\star$

Incentives to bundle

Increasing own revenues

Reference situation

	C sets low P_B	C sets high P_B
I sets low P_A	I's profit: $\star\star$ C's profit: $\star\star$	I's profit: $\star$ C's profit: $\star$
I sets high P_A	I's profit: $\star$ C's profit: $\star$	I's profit: $\star\star\star$ C's profit: $\star\star\star$

Incentives to bundle

Increasing own revenues

Reference situation: Two Nash-equilibria ('battle of sexes')

	C sets low P_B	C sets high P_B
I sets low P_A	Nash-equilibrium	
I sets high P_A		Nash-equilibrium

Incentives to bundle

Increasing own revenues

Bundling strategy

Alternative 1:

Firms I and C merge and the merged firm provides products A and B as a bundle.

Alternative 2:

Firms I drives firm C out of the market and provides A and B as bundle.

Incentives to bundle

Increasing own revenues

Outcome

- I maximizes the overall profit from sales of A + B.
- I internalizes the spillover effect: If I decreases P_A, it will profit from *all* additional sales of product B.
- Outcome depends on whether consumer's are willing to pay more for the bundled product than for its separate components (just one transaction required for the bundled product).

Incentives to bundle

Increasing own revenues

Examples

- Ski lift passage included in the hotel price.
- Internet explorer included in operating system.

Incentives to bundle

Increasing rivals' costs

Conditions

- Product A is produced by monopolist *I* in a non-contestable market.
- Product B is produced by monopolist *C* in a nearly contestable market (potential competition).
- Product B is subject to economies of scale.

Incentives to bundle

Increasing rivals' costs

Bundling strategy

I enters product market B. *I* ties A and B together (i.e. sells them only as a bundle).

Incentives to bundle

Increasing rivals' costs

Outcome

Potential impact on C: Diseconomies of scale

$$\begin{array}{rl} & AC_C(\text{stand-alone product B, with bundling by } I) \\ < & AC_C(\text{stand-alone product B, without bundling by } I) \end{array}$$

C might have to leave the market, depending on the quantity of B it looses to I.

Incentives to bundle

Increasing rivals' costs

Examples

- Hotel offers 'free' meals to its guests (i.e. effectively bundles meals and accommodation). Nearby hotels will loose guests.
- Microsoft sells MS Word, Excel, and Power Point as 'suite', making it hard for competitors to compete.

Incentives to bundle

Decreasing the rivals' revenues

Conditions

- Monopoly: Only firm *I* provides product A.
- Competition: Firms *I* and *C* provide product B.

Incentives to bundle

Decreasing the rivals' revenues

Bundling strategy (Barry Nalebuff)

I does not to offer B as a stand-alone product, but I offers A as a stand-alone product and the bundle A+B so that

$$
\begin{aligned}
& R_I(\text{stand-alone product A, with bundling by } I) \\
+ \quad & R_I(\text{bundle A + B, with bundling by } I) \\
> \quad & R_I(\text{stand-alone product A, without bundling by } I) \\
+ \quad & R_I(\text{stand-alone product B, without bundling by } I)
\end{aligned}
$$

Incentives to bundle

Decreasing the rivals' revenues

Outcome

Potential impact on C:

$$\begin{array}{rl} & R_C(\text{stand-alone product B, with bundling by } I) \\ < & R_C(\text{stand-alone product B, without bundling by } I) \end{array}$$

C might have to leave the market, depending on the quantity of B it looses to I.

Incentives to bundle

Decreasing the rivals' revenues

Example

'Season pass' for cinemas.

- A large cinema *I* with 10 screens offers a 'season pass'. For an up-front lump-sum payment, pass holders can go to all movies without having to pay extra.
- A season pass from the small cinema *C* with just one screen does not stand a chance.
- In this example: Product A = exclusive movie show by *I*. Product B = competing movie shows by *I* and *C*.