

EE481: Industrial Economics

Price Discrimination (part 1)

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Case Study (Grabowski and Vernon, 1992)

Does competition always lower price?

- New drugs get patents to grant their monopoly rights.
- But after the patent expires, anyone else can use the formula produce their drugs (generic brands).
- Grabowski and Vernon (1992) found that after the patent () expires, sale dropped by 50% but price increased 10%.
 - Apparently, there are 2 types of consumers - the loyal and the price-sensitive.
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 - The patented firm then focus only on the loyal customers -> and charge a higher price.

What you have learned in microeconomics

Price-discrimination = charging the consumers different prices for the same product. (firms would like to extract more consumer surplus)

We examine three questions

- Firms have to have some market power in order to price discriminate.
- Price discrimination can be categorized into 3 types
 - 1 First-degree - perfect price discrimination
 - 2 Second-degree -
 - 3 Third-degree - local monopoly

Perfect Price Discrimination (First-Degree)

- Firm can identify the willingness to pay of every consumer.
- No dead-weight loss \rightarrow efficient but may not be fair.

Third-Degree Price Discrimination

- Monopoly pricing for “each group” of consumers. So, there will be some deadweight loss.

Third-Degree Price Discrimination (maths)

Recall from the derivation of $\frac{P - mc}{P}$ in the SCP chapter.

$$\frac{P - mc_i}{P} = \frac{s_i}{\varepsilon},$$

where mc_i is firm i 's marginal cost, s_i is firm i 's market share in an oligopoly market, ε is the elasticity of the demand curve (the flatter, the more elastic).

Second-Degree Price Discrimination

Price discrimination can be categorized into 3 types according to the completeness of information

- 1 First-degree - firm observes the willingness to pay of EACH buyer.
- 2 Second-degree - firm does not observe the willingness to pay of EACH buyer....
- 3 Third-degree - firm observes the willingness to pay of EACH GROUP of buyers.

Some forms of second-degree price discrimination

- Two-part tariff
- Multi-part tariff
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- Bundling, Tie-in sale

Second-Degree Price Discrimination

Second-degree price discrimination is a form of non-linear pricing
Nonlinear Pricing = consumer's price per unit is not a constant

- Second-degree price discrimination uses the nonlinear pricing method to extract welfare from consumers.

Examples of Two-Part Tariff

Firm changes a lump-sum fee AND a per-unit fee.

Product	Lump-sum	Per-unit fee
Golf Course		
Football Game		
Nintendo Wii		
Printer		
Bank Loan		

A Single Two-Part Tariff

- Suppose there are 2 types of consumers
 - 1 the High willingness to pay (high-type)
 - 2 The Low willingness to pay (low-type)

Two Two-Part Tariff



- Firms can increase their profits from offering two two-part tariff instead of a single two-part tariff
 - different collateral-interest rate combinations
 - different co-payment and insurance premium combinations
 - offering buffet or a'-la-carte

Two Two-Part Tariff (continue)

Practice Problems

- No need to submit this homework. But these problems will help prepare you for the exams.
- ① (Church and Ware) Chapter 5, problem 3.
- ② (Carlton and Perloff) Chapter 10, Problem 3, 5.

Reference and Further Reading I

-  Carlton, D.W. and J.M., Perloff.
Modern Industrial Organization. 4th Edition.
Pearson Addison Wesley Press, 2005.
-  Grabowski, H., and J. Vernon. *Brand Loyalty, Entry and Price Competition in Pharmaceuticals after the 1984 Drug Act*.
Journal of Law and Economics 35: 331-50, 1992.