Price Discrimination

IF PRICE DIFFERENCES REFLECT COST DIFFERENCES, THEY ARE NOT DISCRIMINATORY.
WHEN A PRICE DIFFERENCE IS BASED ON DIFFERENT BUYERS' VALUATIONS OF THE SAME PRODUCT, IT IS DISCRIMINATORY.

Price Discrimination

A producer practices price discrimination by charging different prices for the same products that have the same cost.

Central to this is that different consumers value the product at different amounts.

Any firm facing a downward-sloping demand curve can increase profits if it is able to price discriminate.

The characteristic used in price discrimination is willingness to pay (WTP):

- A firm can increase profit by charging a higher price to buyers with higher WTP.

Examples of Price Discrimination

Movie tickets

Discounts for seniors, students, and people who can attend during weekday afternoons. They are all more likely to have lower WTP than people who pay full price on Friday night.

Airline prices

Discounts for Saturday-night stay overs help distinguish business travelers, who usually have higher WTP, from more price-sensitive leisure travelers.

Examples of Price Discrimination

Discount coupons

People who have time to clip and organize coupons are more likely to have lower income and lower WTP than others.

Need-based financial aid

Low income families have lower WTP for their children's college education. Schools price-discriminate by offering need-based aid to low income families.

Examples of Price Discrimination

Quantity discounts

A buyer's WTP often declines with additional units, so firms charge less per unit for large quantities than small ones.

Example: A movie theater charges $4 for a small popcorn and $5 for a large one that's twice as big.

When Price Discrimination Is Possible

1. When firms have market power.

2. When consumers differ in their valuations of the product.

3. When firms can prevent arbitrage.

Different Form of Price Discrimination

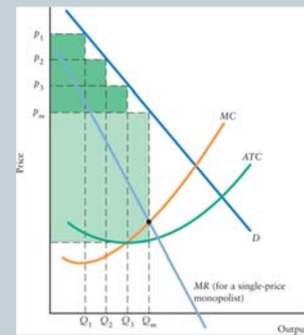
- Price discrimination among units of output
- Price discrimination among market segments

Price Discrimination Among Units of Output

A firm captures consumer surplus by charging different prices for different units sold.

"Perfect" price discrimination transfers all consumer surplus to the seller.

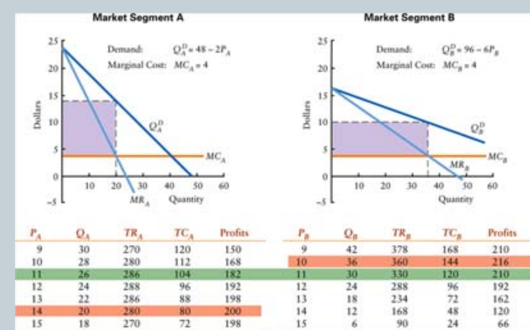
Price Discrimination among Units of Output



Price discrimination among market segments

A firm with market power that can identify distinct market segments will maximize its profits by charging higher prices in those segments with less elastic demand.

A Numerical Example of Profitable Price Discrimination



P_A	Q_A	TR_A	TC_A	Profits	P_B	Q_B	TR_B	TC_B	Profits
9	30	270	120	150	9	42	378	168	210
10	28	280	112	168	10	36	360	144	216
11	26	286	104	182	11	30	330	120	210
12	24	288	96	192	12	24	288	96	192
13	22	286	88	198	13	18	234	72	162
14	20	280	80	200	14	12	168	48	120
15	18	270	72	198	15	6	90	24	66

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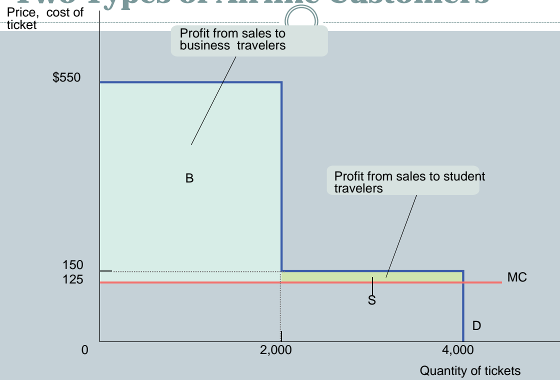
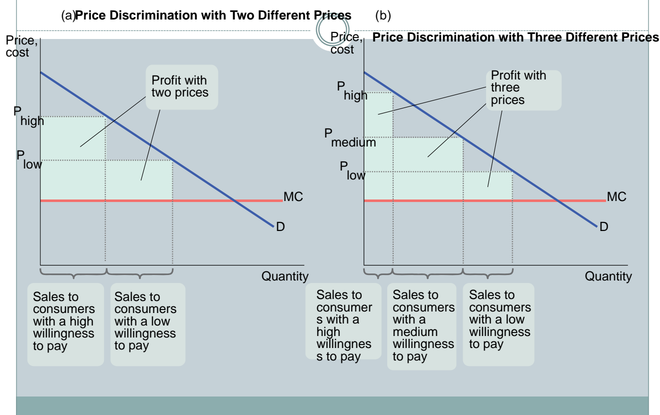
Two Types of Airline Customers



Price Discrimination and Elasticity

- A monopolist able to charge each consumer his or her willingness to pay for the good achieves *perfect price discrimination* and does not cause inefficiency because all mutually beneficial transactions are exploited.
- In this case, the consumers do not get any consumer surplus! The entire surplus is captured by the monopolist in the form of profit.

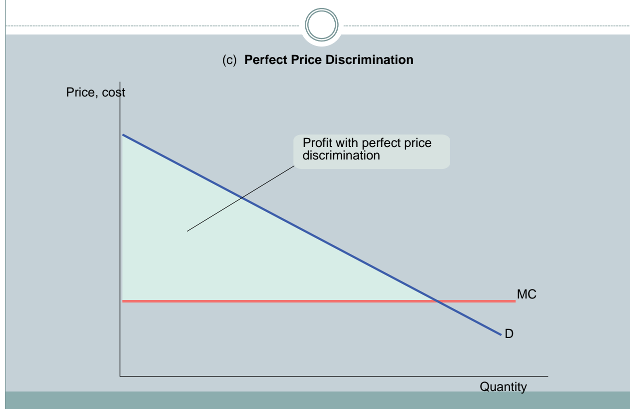
Price Discrimination



Perfect Price Discrimination

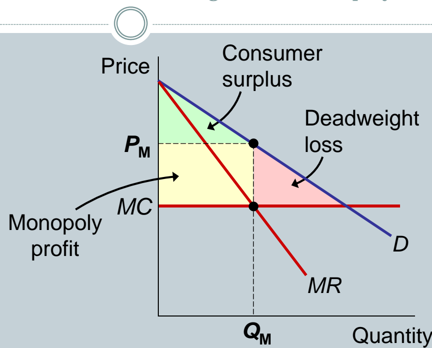
- **Perfect price discrimination** takes place when a monopolist charges each consumer his or her willingness to pay-the maximum that the consumer is willing to pay.

Price Discrimination



- Perfect price discrimination is probably never possible in practice. The inability to achieve perfect price discrimination is a problem of prices as economic signals because consumer's true willingness to pay can easily be disguised.
- However, monopolists do try to move in the direction of perfect price discrimination through a variety of pricing strategies.
- Common techniques for price discrimination are:
  - *Advance purchase restrictions*
  - *Volume discounts*

Perfect Price Discrimination vs. Single Price Monopoly



The Efficiency Loss From Monopoly

- ***Deadweight loss from monopoly***: the loss of efficiency due to the presence of a Monopoly.
  - Is the result of failure to price discriminate perfectly.

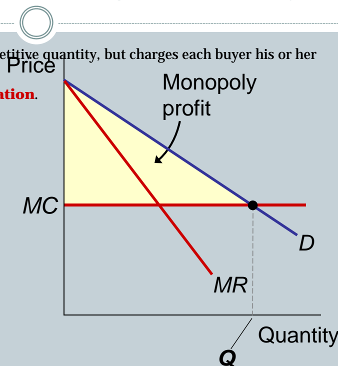
Perfect Price Discrimination vs. Single Price Monopoly

Here, the monopolist produces the competitive quantity, but charges each buyer his or her WTP.

This is called **perfect price discrimination**.

The monopolist captures all CS as profit.

But there's no DWL.



Price Discrimination in the Real World

- In the real world, perfect price discrimination is not possible:
  - No firm knows every buyer's WTP
  - Buyers do not reveal it to sellers
- So, firms divide customers into groups based on some observable trait that is likely related to WTP, such as age.

The consequences of price discrimination

Price discrimination and firm profits

- For any given level of output, the most profitable system of discriminatory prices will always provide higher profits to the firm than the profit-maximizing single price.

Price discrimination and output

- A monopolist that price discriminates among units will produce more output than a single-price monopolist will.
- If price discrimination leads the firm to increase total output, the total economic surplus generated in the market will increase, and the outcome will be more efficient.

Price discrimination and consumer welfare

- There is no general relationship between price discrimination and consumer welfare. Price discrimination makes some consumers better off and other consumer worse off.

Price Discrimination

- ***Price discrimination**:* a practice where the monopolist charge different prices to different buyers.
- ***Third-degree price discrimination**:* charging different prices to buyers in completely separate markets.
- ***First-degree price discrimination**:* is the term used to describe the largest possible extent of market segmentation.

- ***Second-degree price discrimination***: price discrimination where the same rate structure is available to every consumer and the limited number of rate categories tends to limit the amount of consumer surplus that can be captured.

Sources:

- Krugman, P. and Robin Wells (2008)
- Frank, R.H. (2010)
- Lipsey, Ragan, Storer (2008)