Price Discrimination by Self-Identification

The Basic Problem

- Suppose the firm faces a somewhat different problem. It cannot tell one customer from another, but knows that there are demand differences to exploit.
- It must post a single price schedule.

An Illustration

- Eduardo’s Fine Foods makes gourmet peanut butter. It has two typical clients
  - The yuppie market, composed of swinging singles
  - The married market, where families purchase peanut butter for their kids.

Two Demand Functions

- The firm faces two demand functions, one for the yuppie market and one for the married market.
- The demand curves show the quantity demanded at different price levels for each market.
- The diagrams illustrate how the firm can maximize profit by setting different prices for each market segment.

Two Demand Functions

- The left diagram represents the demand in the yuppie market, where the demand curve is more elastic.
- The right diagram represents the demand in the married market, where the demand curve is less elastic.
- The green lines indicate the equilibrium quantity and price for each market.

Two Demand Functions

- The lower diagrams show the quantity supplied at different price levels for each market segment.
- The intersection of the demand and supply curves determines the equilibrium price and quantity for each market.

Two Demand Functions

- The lower left diagram shows the equilibrium quantity and price for the yuppie market, where the firm supplies a lower quantity at a higher price.
- The lower right diagram shows the equilibrium quantity and price for the married market, where the firm supplies a higher quantity at a lower price.
Implementation 101

- Eduardo’s Gourmet Peanut Butter comes in two sizes:
  - The regular one pound size costs $2
  - The three pound family size costs $4
  - The marginal cost of the last two pounds is $1 a pound.

Implementation 102

- Office Max has two types of customers for plain paper: households and businesses.
  - By the ream (500 sheets)
  - By the case
  - By even bigger lots

Two Examples

- At one time, Xerox leased machines at $25 per month and 3.5 cents per page.
- This effectively charged high volume users one price and low volume users another price.
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• IBM went at it a different way. It required that users purchase their computer punch cards from IBM.
• They effectively charged high volume users more.

• Why did IBM go one way and Xerox another?
  • Xerox could monitor usage, through an internal monitor.
  • They effectively charged high volume users one price and low volume users another price.

Two Examples

• Why did IBM go one way and Xerox another?
  • IBM went at it a different way. It required that users purchase their computer punch cards from IBM.
  • They effectively charged high volume users more.

• Why did IBM go one way and Xerox another?
  • IBM could not, and so used punch cards as a proxy.
  • They effectively charged high volume users more.

The Elite Diner

• The Elite Diner serves an all-you-can-eat buffet. It has two types of customers.
  – Senior Citizens, who know a good meal when they see it
  – Singles, who see it as a hot date site.

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The Elite Diner

Friday $12
Saturday $26.99

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Airline Pricing

- Airlines want to charge a high rate for business travelers (customers with a low elasticity of demand) and a lower rate for vacation travel (with a significantly higher elasticity of demand).
- They do so by imposing advance purchase requirements and requirements that the passenger stay over Saturday, etc.

Give Us This Day
Our Daily Special

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If you don’t care what you eat, lunch is $3.00
If you do care, lunch averages $4.60

Getting all the Consumer Surplus

Assume

- These are the demand functions for individual Hatfields and McCoys.
- You cannot tell them apart
- They cannot arbitrage

Getting all the Consumer Surplus

The Hatfields and McCoy's

The Club

- Suppose the firm offers two choices:
  - Purchase units at a price of $20
  - Upon payment of a $775 membership fee, the right to purchase at $5 each.
The Hatfields

- Total CS is \((\frac{1}{2})(30)(30) = 450\)
- Hatfields will not take the membership plan.
- The $20 fee is the monopoly price.

\[ Q_H = 35 - p_H \]

The McCoy's

- Their CS is \((\frac{1}{2})(60)(60) = 1800\)
  
  \(\$1800 - \$775 = \$1025\)
- They could also buy at $20 each. Then their CS is 
  \((\frac{1}{2})(45)(45) = \$1012.5\)

Can you Top This

- What is the best you can do?
  - Gold Plan: Pay a $899.98 membership fee and get the right to purchase for $5
  - Silver Plan: Pay a $112.49 membership fee and get the right to purchase for $20.

Examples

- Any purchaser of a cellular telephone service will recognize the idea here.
- You want to charge one price to the low use customer and another price to the high use customer.

End