Overview: Pricing with Market Power I

• Price Discrimination
  – Object and Requirements

• Types of Price Discrimination
  – Perfect Price Discrimination
  – Observable Market Segments
  – Consumer Self Selection
The Monopoly Picture (again)

Demand

MR

MR=MC

MC=AC

Price Discrimination

• Idea: Capture Consumer Surplus as Profits

• Some Considerations:
  – May be seen as unfair
  – May be seen as anti-competitive (illegal in some B2B transactions: Robinson-Patman Act discussed later)
  – But may be necessary for viability of some products
  – Discounts for people who would otherwise not buy
  – Often improves efficiency
Requirements for Price Discrimination

- Market power
- Resale must be difficult
- Knowledge of consumers’ preferences

Types of Price Discrimination

- Perfect Price Discrimination
  (Customized Pricing)
- Pricing to Observable Market Segments
- Consumer Self-Selection
**Perfect Price Discrimination**

- Charge reservation price for each unit
  \[ \text{price at each } P = P(Q) \text{ (each point on Demand)} \]

- Producer captures all consumer surplus.
  (No deadweight loss.)

- Difficult to capture all surplus in practice

- Examples

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**Observable Market Segments**

- Price by identifiable customer group: Age, ...

\[ \text{Production: Cost } C(Q_1 + Q_2) \]

\[ \text{Q}_1 \rightarrow \text{Revenue } R_1(Q_1) \]

\[ \text{Q}_2 \rightarrow \text{Revenue } R_2(Q_2) \]

- Profits \( = R_1(Q_1) + R_2(Q_2) - C(Q_1 + Q_2) \)
  - Choose \( Q_1 \) and \( Q_2 \) to maximize profits, i.e.
    - \( MR_1 = MC \)
    - \( MR_2 = MC \)
  - So
    - \( MR_1 = MC = MR_2 \)
Observable Market Segments - II

• Charge higher prices to less elastic consumers
  With \( R_1(Q_1) = P_1(Q_1) Q_1 \); \( R_2(Q_2) = P_2(Q_2) Q_2 \)
  - \( MR_1 = P_1 \left( 1 + 1/\varepsilon_1 \right) \)
  - \( MR_2 = P_2 \left( 1 + 1/\varepsilon_2 \right) \)
  - \( MC = MR_1 = MR_2 \Rightarrow P_2 / P_1 = (1 + 1/\varepsilon_1) / (1 + 1/\varepsilon_2) \)

• When \( MC \) constant:
Pricing to Segments in Practice

• How can it be done?
  – Identify (easily verifiable) groups with different elasticities

• Examples
Consumer Self Selection

• Get groups to self-identify by product choice

• Examples

Consumer Self Selection

• All consumers get same menu: price as function of product characteristics (quality, features, quantity)

• Menu designed to get high-valuation (low elasticity) consumers to reveal themselves

• Typical menu imposes some cost or inconvenience on cheap alternatives
Pricing and Inconvenience

Guidelines for Menu Choice

• Problems the firm faces
  – People with high valuations want to pretend to be low valuation people and keep some surplus.
  – If too much surplus is extracted from either group, they won’t buy the good at all.

• Solutions
  – Make high valuation people just prefer the high price choice designed for them rather than the low price option.
  – Make low valuation people just indifferent between consuming and not consuming.
Take Away Points

- Price discrimination: capture more consumer surplus than uniform (single) pricing
  - Make consumers with higher valuations pay more (i.e. capture consumer surplus)
  - Get consumers with low valuations to buy through (implicit) discounts (i.e. capture deadweight loss)
- Perfect price discrimination: charge the reservation price for each unit sold (if you know it ...).
- Segmentation: charge low prices to more elastic markets and high prices to less elastic markets.
- Self-selection: make consumers identify themselves as having high or low valuations (through e.g. inconvenience) and charge accordingly.