Ch. 12. Sophisticated Monopoly Pricing

1. Introduction
   a. Four topics covered in this chapter
      i. Multiple Prices – price discrimination
         1. e.g. Texas Rangers baseball seat prices vary by section.

         2. Some teams vary prices by demand for opponents. Who do you think commands the highest prices?

      ii. Tying

      iii. Two Part Tariffs

      iv. Bundling

      v. Peak Load Pricing

      vi. Transfer pricing

2. Price Discrimination
   a. Def’n

   b. 3 steps for successful price discrimination
      i. Be a monopoly!

      ii. Separate customers according to elasticities of demand. Charge higher price to market with less elastic demand
iii. Prevent resale (arbitrage)

c. Motivation for Price Discrimination

d. Different Types of Price Discrimination

   i. 1st degree
      1. Def’n
2. Honest Sam’s Used Cars: A Numerical Example of 1st degree price discrimination
   a. Chit chatting with a roadside flea market in Milano, Texas---What is your occupation???

   b. Example

   c. Graph
ii. 2nd degree
   1. Def’n

2. Graph

iii. 3rd degree
   1. Def’n

iv. Intertemporal – another type
e. Profit Maximization conditions for 3rd degree price discrimination:

   i. Max. \( \pi = P_1Q_1 + P_2Q_2 - C(Q_T) \) where \( Q_T = Q_1 + Q_2 \)

   ii. First Order Conditions

iii. Relationship between Prices and Elasticities of each group of customers

iv. Airline Travel: A Case Study
v. 3rd Degree Price Discrimination: A Pharmaceutical Example

we will look at different example below

vi. Graphical example: See handout

vii. Table of Marginal Revenues

Table 13.5.1
Maurice & Smithson, Managerial Economics

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viii. Numerical Example (Maurice & Smithson, pp. 416-417)

Inverse Demand Curve in Market 1: \( P = 50 - 0.5Q₁ \)

Inverse Demand Curve in Market 2: \( P = 100 - 2Q₂ \)

\( MC = 10 + 0.2Q \)
3. Using Coupons and Rebates for Price Discrimination
4. Tying and IBM, Xerox, and Microsoft

5. Two Part Tariffs
a. A Numerical Example of a Two Part Tariff: C-Pal Industries
b. A Two Part Tariff with a Rising Marginal Cost

c. A Two Part Tariff with Different Demand Curves
d. A Two Part Tariff with Different Demands: A Numerical Example
6. Bundling
   a. Price Separately
      i. Figure 12.9
   b. Pure Bundling
      i. Figure 12.10
c. Mixed Bundling

i. Figure 12.11 Mixed Bundling

d. Table 12.1 Reservation Prices of good 1 and Good 2 of Consumers A, B, C, D
e. Figure 12.12 Example of Perfect Negative Correlation of Consumers’ Reservation Prices

f. \( MC = \$1 \)

   i. Table 12.2 Optimal Separate Prices for Good 1 and Good 2

   ii. Table 12.3 Optimal Pure Bundle Price for Consumers A, B, C, and D
iii. Table 12.4 Optimal Mixed Bundle Prices

iv. Table 12.5 Optimal Mixed Bundle Prices when Consumer Consumes Bundle and at Least One of the Separately Priced Goods
g. \( MC = \$11 \)

i. Table 12.6 Optimal Separate Prices

ii. Table 12.7 Optimal Pure Bundle Prices for Consumers A, B, C, and D

iii. Table 12.8 Optimal Mixed Bundle Prices
iv. Table 12.9 Optimal Mixed Bundle Prices when Consumer Consumes Bundle and at Least one of the Separately Priced Goods

h. $MC = 55$

i. Table 12.10 Optimal Price Separately Prices for Good 1 and Good 2
ii. Table 12.11 Optimal Pure Bundle Prices for Consumers A, B, C, and D

iii. Table 12.12 Optimal Mixed Bundle Prices and Any Pure Bundle Price over $100 (so no Bundle is Purchased)
iv. Figure 12.13 Optimal Separate Price Prices in the Case of Uniformly Distributed Consumer Reservation Prices
v. Figure 12.14 Optimal Pure Bundle Price in the Case of Uniformly Distributed Consumer Reservation Prices
vi. Figure 12.15 Optimal Mixed Bundle Pricing in the case of Uniformly Distributed Consumer Reservation Prices
vii. Table 12.13 Reservation Prices for the First and Second Units for Good by Consumers A and B
viii. Table 12.14
ix. Table 12.15
x. Table 12.16
xi. Table 12.17
xii. Table 12.18
xiii. Table 12.19
xiv. Table 12.20

7. Peak Load Pricing
8. Transfer Pricing:

a. No External Market
b. A Perfectly Competitive Market for the Transferred Product
   i. Buying Engines in a Competitive Outside Market

   ii. Selling Engines in a Competitive Outside Market
c. The Orion Corporation: A Numerical Example