UC Berkeley
Economics 121
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Lecture 15 – March 14, 2006

Price Discrimination (Take II) – C-P ch 9
For next class: Read Ch 10

Why price discriminate (PD)?
Why not?

- What might stop you?
- How much PD do you do?
- C-P – "evading the downside of MR"

Effect of increasing quantity: sell more, but price falls (on all units)

- PD allows you to continue charging higher price to inframarginal customers
- *Someone* is willing to pay p>MC (but less than market price) – solution is PD

Different buyers have different willingness to pay (wtp)

- want to charge as close to buyer's wtp as possible (to the extent that you can determine each buyer's wtp)
- Steeply downward sloping demand curve indicates diverging wtp – most anxious to PD in this case
- Esp attractive to PD if consumers' wtp is correlated with something you can detect

3 types of discrimination:

- Perfect (charge wtp for each buyer)
- Use observable differences to segment market (gender, student status, age, etc)
- "Self-selection" – buyers can choose which group with which to identify (ex: select how quickly you want to receive stock prices)

When is PD feasible/profitable?

- Must be able to prevent resale/arbitrage
- Competitive constraint – must make up for discount by charging higher price to other group
    - Example: Student prices at the movies
- Lower price must go along with something you can prove (else impractical)

Upgrade pricing for software – two ways to view

1) Person who already owns software likely to pay less than person who doesn't yet have the product
2) Or, purchasing the product has revealed your preference for the product, and it goes the other way (note that it is harder to prove that you *don't* have the previous version)

Are profit-maximizing prices significantly different (refer to notes for graph)?

- Profit peaks for two groups are similar
- Can use compromise price rather than segmenting market
- Won't be worthwhile to price discriminate

Surprising how willing firms are to PD, given that it doesn't lead to big change in profits

- Recall calculation done earlier in semester: 10% price distortion yields approx 1% change in profits

Subgroups with Different Demand Elasticities

- Use Lerner condition for each group
- Demand elasticities are what counts (not wtp)

Illustrations:

1) Grabowski-Vernon on generic prescription drugs
    - generics typically charge about ½ branded price (after patent expires)
    - <refer to notes for graphs>
    - branded product has incentive to cut price
    - alternative approach: branded left with less elastic residual demand
        - only has price-insensitive demand left and raises price
        - market segments itself
2) Airline pricing
    - PD based on timing of purchase
    - partially cost-based, but mostly separates price-sensitive from business travelers
    - self-selection: can either buy flexible or inflexible product
        - Recall group purchasing organization from earlier – joining GPO tells firm that you have elastic demand
        - Differences in how willing you are to go to a competitor

Welfare Economics of PD

- PD is more profitable for the firm
- Good or bad for consumers?
    - Some people get higher price, others get lower price
    - Not obvious how it affects overall welfare
- For a given Q, price discrimination reduces total efficiency
    - Would increase total welfare if marginal low consumer *didn't* buy and marginal high consumer *did* buy
- Total efficiency can only rise if Q increases (enough)
- Weighing consumer surplus vs producer surplus
    - Usually give equal weight
    - But maybe you care about profits more?
    - Ex: patents, broadband buildout
        - can get more innovation without doing much harm to consumers
        - New products improve efficiency, but might not be profitable to introduce

        - Need PD for product to be profitable (& will increase TS)
- p=mc is prescription for consumption efficiency, given that product will be supplied
- But maybe product won't be supplied. Does total benefit cover total cost? Seller needs to capture most of TS
- p=average value (not marginal value)

Weighted welfare economics

- max (CS + Π) subject to Π≥0
- max (a*CS + b*Π) (weight value of each)
- Leads to Ramsey pricing (closely related to PD)
- Refer to notes (3/14 or 3/16) for derivation of Ramsey pricing and related graph.
    - Ramsey pricing formula: $(p-c)/p=k/\varepsilon$
- PD by monopoly is "on the frontier" of set of feasible points for profits and consumer surplus (refer to graph drawn in class)
- Not easy to tell whether PD is good or bad for efficiency
- If profits are a proxy for good things, suggests sympathetic attitude towards PD
- Washington economics: PD is ok

Price discrimination in C-P is based on monopoly

- Welfare implications in a competitive market are different than for monopoly case
- Not same demand elasticity as you would use for Ramsey pricing