Thinking about Loyalty Discounts

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Acknowledgement

Based on joint work with Einer Elhauge

"Robust Exclusion and Market Division through Loyalty Discounts"

Key General Principle

- There is NO key general principle
- Plausible reasons for conditional pricing to be pro-competitive
  - Reduce costs
  - Promote complementary investments
- Plausible models where it is anti-competitive
  - Einer and I have one
  - Are others and will be more
  - One or more may fit a particular case, or they may not
- No substitute for applying the theories to the characteristics of the industry in question

Our Model(s)

- Loyalty discounts with buyer commitment
  - Buyers who commit to loyalty to one supplier get a discount off "list price"
  - Incumbent commits to discount, not list price
    - Robust to allowing extra commitment to max price
- Loyalty discounts w/o buyer commitment
  - Incumbent offers some buyers a loyalty discount
  - Buyers decide whether to be loyal after seeing prices

Common Features of Both Models

- Incumbent (*I*) and Entrant (*E*)
  - Constant marginal costs, entrant has cost advantage
  - No fixed costs for either (no economies of scale)
- N buyers with independent demands
- Period 1: *I* offers loyalty discount, ❑ is covered fraction
- Period 1.5: *E* decides to enter or not
- Period 2: Active firms name prices
  - ❑ get to buy from *I* at discount off *I*'s price for the rest
- Period 3: Buyers make purchase decisions

Buyer Commitment: Duopoly Pricing Equilibrium

- Pure strategy equilibrium if ❑ large
  - Both firms charge monopoly prices
  - Free buyers buy from *E*, committed ones from *I*
- No pure strategy equilibrium if ❑ small
  - If *E*'s price is high, *I* undercuts; captures whole market
  - If *E*'s price is low, *I* charges monopoly price to committed buyers; *E* wishes it charged more

Buyer Commitment: Mixed Strategy Equilibrium

- Both charge monopoly prices sometimes and otherwise charge any price between *I*'s mc and *E*'s monopoly price
- Key property:
  - Average price increasing in ❑
  - Committing buyer raises prices for everyone else
    - Greater fraction of committed buyers creates more market segmentation, less aggressive competition
    - So committing creates a negative externality across buyers

Buyer Commitment: Main Results

- With many buyers
  - If E's cost advantage isn't too big, then at least one buyer always commits; prices always above competitive level
  - There exists an equilibrium in which all buyers commit, so the entrant is entirely excluded
- Linear demand simulations
  - If cost advantage small, many buyers means only 3
  - Whenever one buyer commits, all commit: Exclusion is the principle competitive problem

No Buyer Commitment: Duopoly Pricing Equilibrium

- No pure strategy equilibrium
  - If *E* knew *I*'s discounted price, *E* would either price just below it and sell to all or charge its monopoly price
  - In either case, *I* would want to change its price
- Mixed strategy equilibrium
  - Both *I* and *E* randomize prices over interval between *I*'s mc and *E*'s monopoly price
  - *E* always sells to uncovered buyers (large discount is optimal)
  - *I* usually (but not always) sells to covered buyers

No Buyer Commitment: Pricing Equilibrium Properties

- More covered buyers reduces average prices
  - Competition is over covered buyers, so more covered buyers means more reason to compete aggressively
- More covered buyers if *E*'s cost adv is smaller
- Less than ½ covered (if *I* had cost adv, > ½ possible)
- If any buyer covered, buyers better off covered
- Prices always elevated above competitive levels

Conditions for Relevance

- Buyer commitment:
  - Some form of buyer commitment
  - Just one entrant or limited competition among entrants
  - Competition for loyalty discounts?
    - We don’t have this
    - Would change things, but not necessarily eliminate consumer harm

Conditions for Relevance

- No buyer commitment
  - One entrant or limited competition among entrants
  - Entrant can't price discriminate
    - Uncovered need to be able to masquerade as covered
    - *E* must offer same price to covered and uncovered buyers
    - Otherwise, entrant can compete for covered buyers without losing profits from uncovered
    - This defeats the point of the discount for the incumbent

Conclusion

- Role of models like this
  - Identify potential mechanisms for anti-competitive effect
  - Clearly identify the important conditions
  - Agencies can examine if conditions exist in any given case for any anti-competitive mechanism to be plausible
- Need many such models, no one model will cover all relevant conditions
- Finding an anti-competitive mechanism is not the whole story, need to consider offsetting efficiencies