

Thinking about Loyalty Discounts

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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, α is covered fraction
- ◆ Period 1.5: E decides to enter or not
- ◆ Period 2: Active firms name prices
 - α 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 α large
 - Both firms charge monopoly prices
 - Free buyers buy from E , committed ones from I
- ◆ No pure strategy equilibrium if α 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 \square
 - 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 $1/2$ covered (if I had cost adv, $> 1/2$ 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