

Exploding Offers and Buy-Now Discounts I

- Relatively little work in economics about sales techniques
- One technique involves forcing a customer to decide to buy *quickly*, before she knows what other offers are available
- Attempts to ban this practice under EU's *Unfair Commercial Practices Directive*

- **Exploding offer**: customer cannot return to buy later
 - photography studio tells customers they must decide what pictures to buy that day (since negatives are destroyed)
 - salesman may say he is in the area for that day only, or it's his last day in that job
 - life insurance firm may give quote valid for 10 days, but it takes more than 10 days to generate another quote
 - (law) journal offers to publish author's paper, but requires immediate agreement

Overview I

- We consider two scenarios:
 - 1 Monopoly model, in which consumers have uncertain— and initially unknown— outside option
 - 2 Oligopoly search model, where consumers search sequentially for good product and/or low price
- We assume ...rm(s1001in which consumers have uncertain— and initially unknown— outside option

Monopoly Analysis

- Single firm supplies product at zero cost
 - its strategy is an initial price and— where relevant— a “buy-later” policy
- Consumers:
 - surplus from buying firm’s product at price p is $u - p$
 - u is idiosyncratic match value: fraction of consumers with $u \geq p$ is $Q(p)$
 - we call $Q(\cdot)$ the “demand curve”
 - the firm does not observe u
- If consumer does not buy seller’s product, her uncertain outside option is $v \geq 0$
 - she does not know v when she first visits the monopolist
 - u and v are independent
 - possibly has to pay search cost s to discover v (otherwise just gets zero)
 - no intrinsic cost of returning to monopolist (until later)
 - consumers are risk neutral

Monopoly Analysis: Exploding Offers I

- For simplicity set $s = 0$ (doesn't affect result)
- Free recall:
 - consumers always investigate outside option
 - with price p , consumer buys if $u - p \geq v$
 - expected demand is $E_v[Q(p + v)]$
- Exploding offer:
 - with price p , consumer buys if $u - p \geq E_v[v]$
 - expected demand is Q

$$u \geq v$$

Monopoly Analysis: Buy-now Discounts

- Instead of extreme policy of refusing to sell to returning buyer, suppose firm offers a discount for immediate purchase
- **Proposition: If the demand curve is strictly log-concave, the firm has incentive to offer a buy-now discount**
- Thus, car salesman (say) has incentive to offer discount to a potential customer visiting for the first time (but if returning later she pays the regular price)
- Introducing buy-later premium
 - boosts immediate demand
 - reduces returning demand
 - boosts revenue from returning demand [extra effect relative to exploding offer case]
- Sometimes *neither* price falls when firm engages in this form of price discrimination

Monopoly Analysis: "Surprise" Price Hikes I

- Suppose consumers anticipate firm's price will be same on return visit
 - does firm have incentive to raise its price to those consumers who buy later?
- With no search frictions, answer is clearly "no"
- With $s = 0$ but no intrinsic cost of returning to seller after seeing outside option, answer is ambiguous (so far, we have no clear sufficient condition either way)
- With $s = 0$ and some small intrinsic cost of return $r > 0$, answer is clearly "yes"...

Monopoly Analysis: "Surprise" Price Hikes II

- Suppose p is firm's initial price (which is also the price anticipated by consumer if she returns to buy later)
 - if consumer decides to return to buy then her preferences are such that $u - p - r > v$
 - seller can raise price to $p + r$ and not drive any such consumers back to outside option
- Same argument shows there is no equilibrium buy-later price which induces any consumers to return
 - equilibrium outcome without commitment is as if firm makes an exploding offer
 - result is akin to Diamond's (1971) Paradox

Oligopoly Search Model I

- Monopoly analysis useful to obtain economic understanding of individual firm's incentives
- But has some strange features
 - all consumers have same distribution of outside option
 - no consumer has alternative offers already "in the bag"
- Model with sequential search overcomes these problems
- Use Wolinsky's (1986) market model
 - consumers search sequentially for a single item
 - n \neq symmetric firms supply differentiated products
 - surplus from buying firm i 's product at price p_i is $u_i - p_i$
 - i.i.d. match values (across consumers and products):
probability $u_i \geq p$ is $Q(p)$
 - consumer discovers any seller's match utility, price and buy-later policy by incurring search cost $s \geq 0$
 - outside option has zero surplus

Duopoly Example with Uniform Distribution

- Suppose the demand curve is