ECO 650: Advertising -Exercices

1 Informative advertising

Assumptions

Consumers are uniformly distributed along a segment $[0, 1]$. A firm is localized in 0 and another firm in 1. A consumer who travels a distance x to buy one unit at price p has a utility $U = v - p - tx$ if he buys and 0 if he does not buy. There is no utility for a second unit. A consumer buys only if he receives an ad. Let Φ_i denote the share of consumers who have received an ad from i. The cost to reach this fraction of demand is $A(\phi) = \frac{a\phi^2}{2}$ with $a \geq \frac{t}{2}$.

Questions

1. What is the demand of consumers who receive only an ad from i?
2. What is the demand of consumers who receive an ad from i and j?
3. What is the total demand for firm i? How the price elasticity of demand varies in ϕ in $p_i = p_j = p$ and $\phi_i = \phi_j = \phi$?

4. Firms choose simultaneously their price and their ad level. Determine the symmetric Nash equilibrium of this game.

2 Advertising as a commitment device (Lal and Matutes, 1994)

Assumptions

Firms A and B are located at the extreme of a segment $[0, 1]$. Consumers are uniformly distributed along the segment and incur linear transport cost tx. A and B sell two products 1 and 2. Consumers have the same willingness to pay for each good, denoted H. Unless they receive an ad (catalog, leaflet,...), consumers are uninformed about prices but make rational expectations about prices. Each firm can choose to advertise one or two goods. Advertising costs F and vehicles the information about a product's price to all consumers. We exclude that a consumer visit both stores.

Questions

1. What happens if no firm advertise any product?

2. What happens if the two firms advertise both products? Is this an equilibrium?

3. Determine the two types of equilibria of this game. For which conditions on H and F do these equilibria exist?