

2 effects of location choice:

i) move closer  $\Rightarrow$  sales  $\uparrow$  (bigger mkt share)

ii) move closer  $\Rightarrow$  price competition becomes more intense.

◦ In the uniform case, ii) dominates

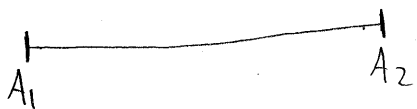
Q2) Extension:

◦ small fixed cost  $F$  of entry

◦ antitrust: "product proliferation" to prevent entry.

◦  $A_1, A_2$  - A's two commodities

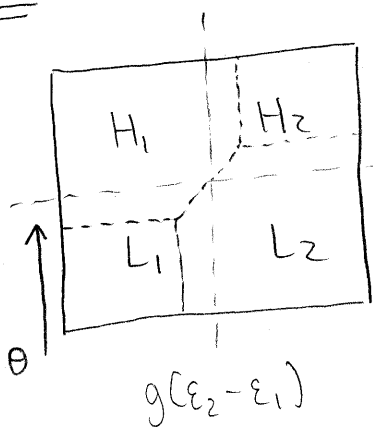
◦ Suppose B can only enter in at the right. Due to fixed cost  $F$ , B will not enter



◦ Is it credible for A to locate at these two locations?

◦ Exit costs, relocation costs.

Q4)



$$\pi_1 = (p_H - c_H)(\bar{\theta} - \hat{\theta}) \left[ \frac{e^{-p_H}}{e^{-p_H} + e^{-p_{2H}}} \right] + (p_L - c_L)(\hat{\theta} - \underline{\theta}) \left[ \frac{e^{-p_L}}{e^{-p_L} + e^{-p_{2L}}} \right]$$

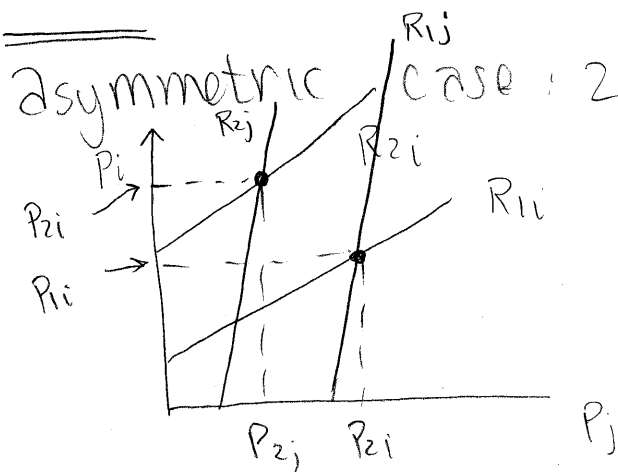
### 3rd Degree Price Discrimination

- Best response symmetry. 2 markets, two firms  $j=1,2$ 
  - $BR_1^j(p) < BR_2^j(p) \forall p - 1$  is weak market.
  - symmetry when ranking of markets across firms is the same.
- Monopolist solution:  $\frac{P_j - c}{P_j} = \frac{1}{\epsilon_{mkt}(p)}$
- Two firms (Cournot):  $\frac{P_j - c}{P_j} = \frac{1}{\epsilon_{mkt}(p) + \epsilon_{cross}(p)} \equiv \frac{1}{\epsilon_{firm}(p)}$ 
  - clearly,  $\epsilon_{mkt} + \epsilon_{cross} > \epsilon_{mkt}$ , so monopolist markup is higher.

1] Students:  $\epsilon_{mkt}$  high,  $\epsilon_{cross}$  high  
no brand loyalty

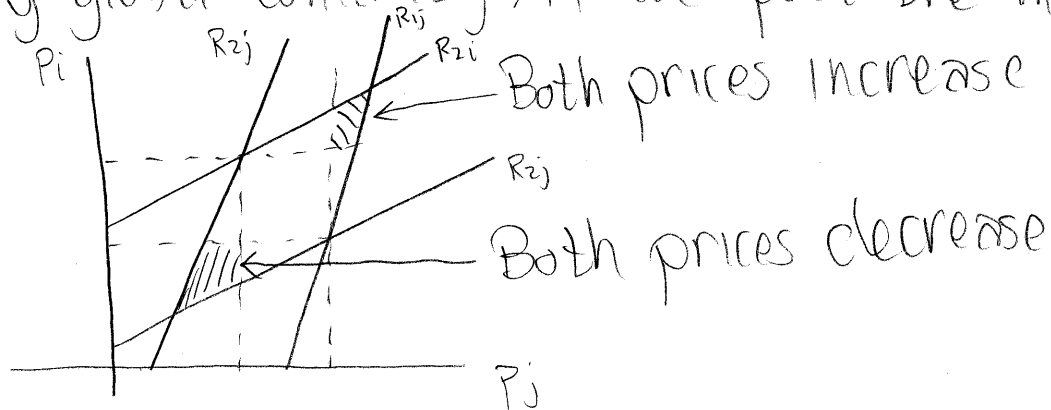
2] Non-students:  $\epsilon_{mkt}$  low,  $\epsilon_{cross}$  low

$$\Rightarrow |P_1 - P_2|^{dup} > |P_1 - P_2|^{monopoly}$$



- Home market w/ significant brand loyalty
- different home mkt for each firm.

By global concavity, if we pool the mkt's together,



## Discrimination based on purchase history

- Hotelling line
- Two periods
  - $t=1 \Rightarrow$  assume mkt is covered
    - consumers purchase A or B
  - $t=2 \Rightarrow$  firms can see the purchase history
    - offer contracts
      - only short-term contracts
      - long-term and short-term contracts

## i) No differentiation at $t=1$

- at  $t=2$ , exogenous switching costs
- will compete vigorously at  $t=1$  to capture rents in second period.
- Because consumers know that if they purchase from firm  $i$ , they increase  $i$ 's market share, this will tend to cause consumers to have more elastic demand at  $t=1$ .