

BS2243 – Lecture 9

Advertisement

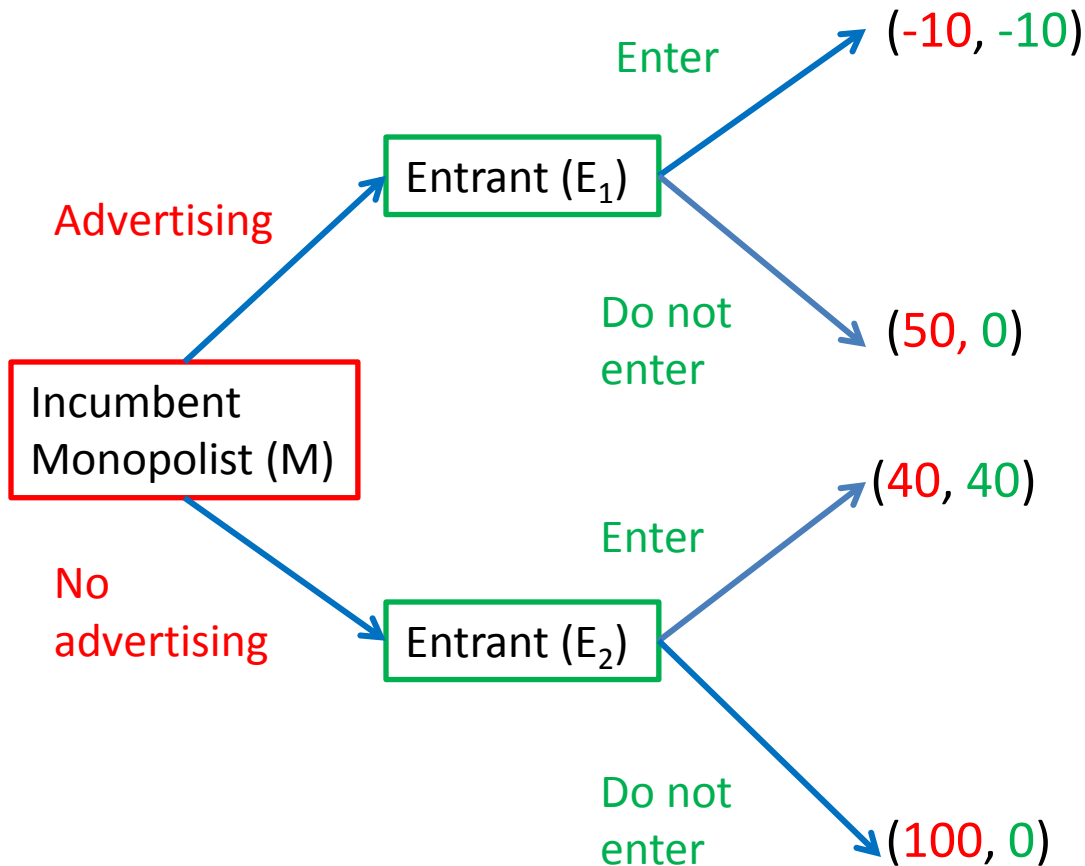
Spring 2012

(Dr. Sumon Bhaumik)

Why advertise?

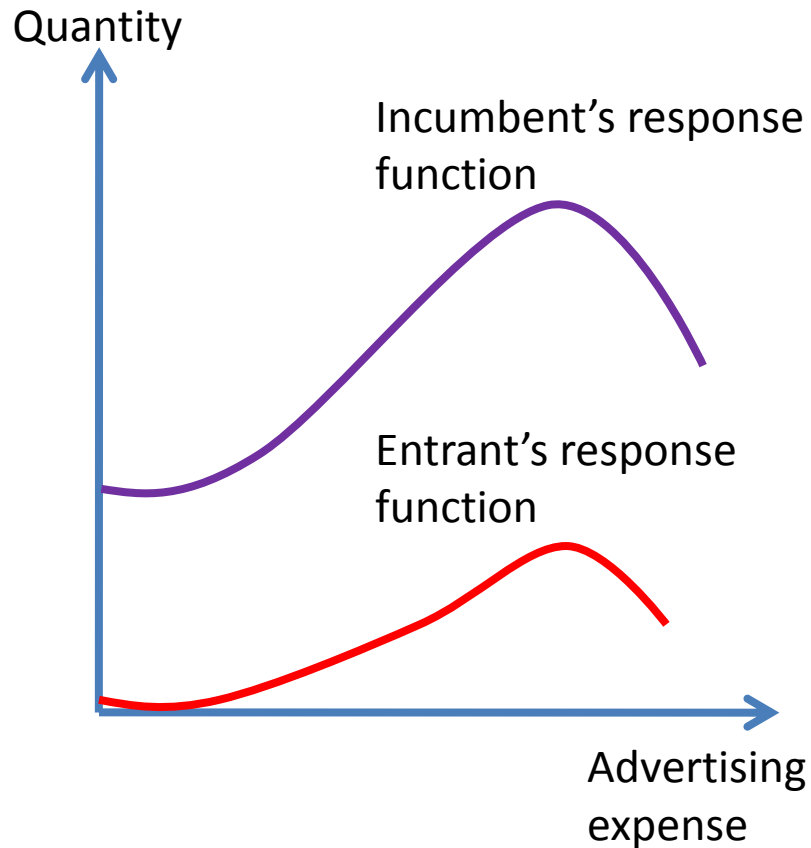
- Building brands
- Creating markets for new products (scope economies)
- Price competition / Price protection
- Barrier to entry
- Product differentiate

Barrier to entry – I

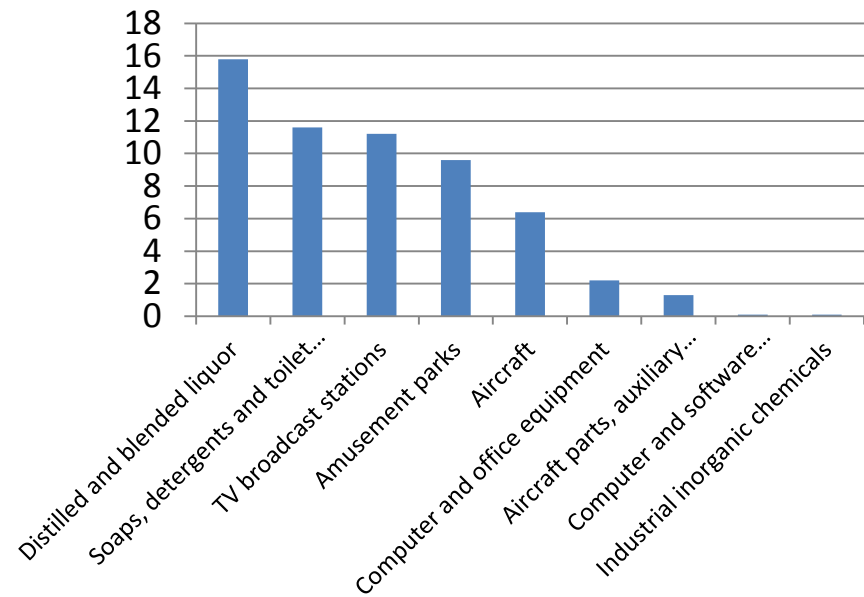


- Subgames:
 - Start at nodes M, E₁ and E₂
- There is entry in equilibrium for the subgame starting at E₂, but entry does not happen in equilibrium if the game starts at M
- There is no entry in equilibrium for the subgame starting at E₁, and there is no entry in equilibrium also if the game starts at M
- The latter is a *subgame perfect equilibrium*

Barriers to entry – II

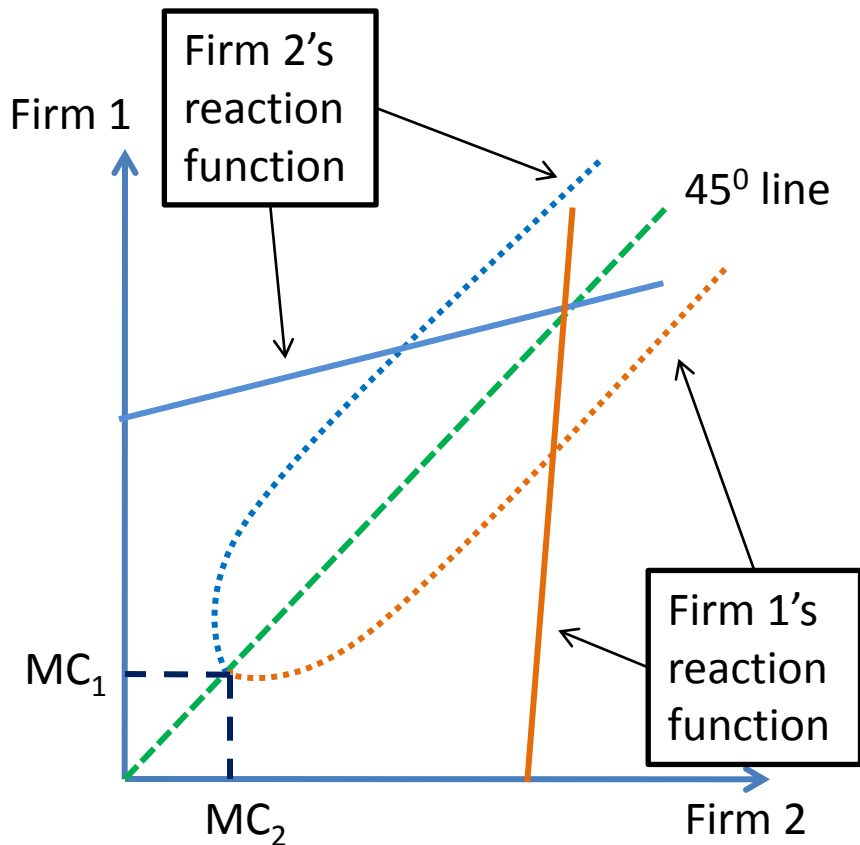


2004 US advertising/sales (%)



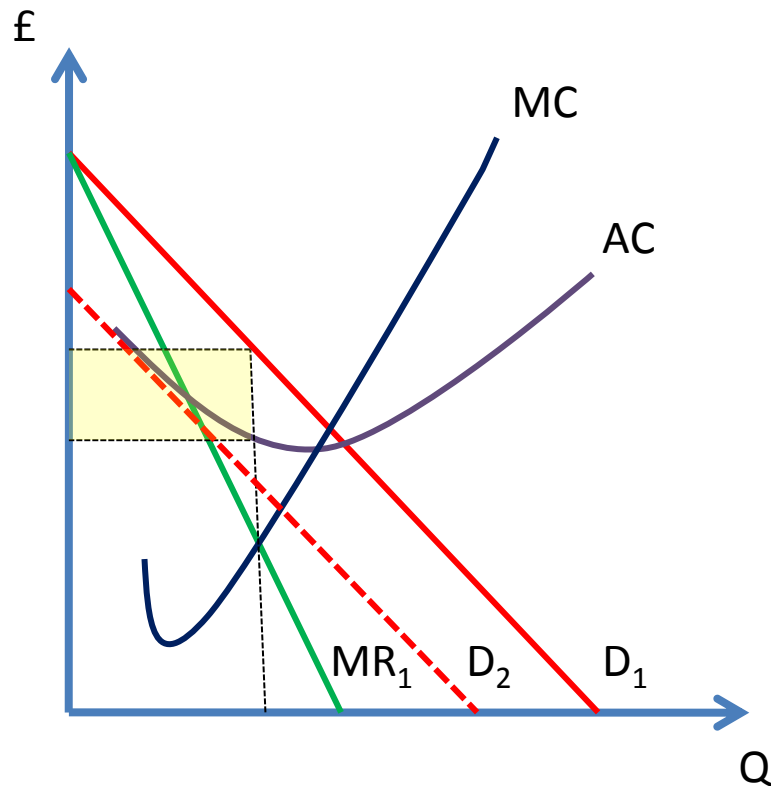
Source: Waldman & Jensen (pp. 449-450)

Product differentiation – I



- Differentiated product in Bertrand competition
- Price in equilibrium significantly higher than MC
- Recapitulate: without product differentiation, $P = MC$ in equilibrium

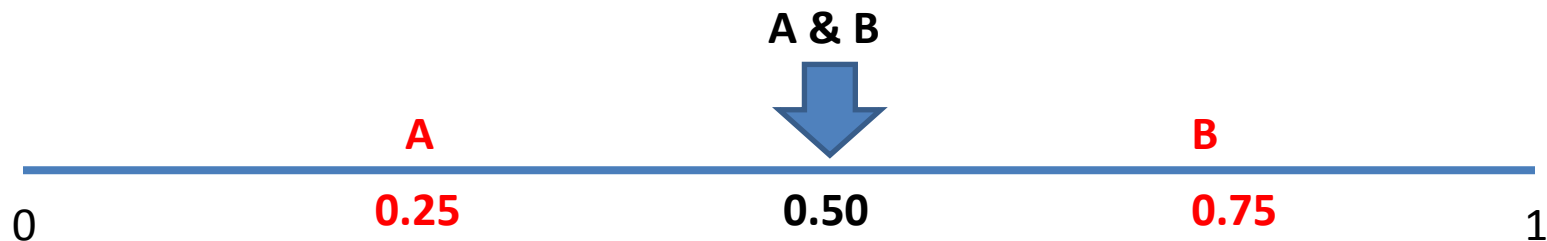
Product differentiation – II



- Monopolistic competition
- Product differentiation implies market power, and hence downward sloping demand curve
- Firm earns positive economic profit in the short run, but zero economic profit in the long run
- Inefficiencies:
 - $P > MC$ and hence deadweight loss
 - If profit maximising output is less than the output at which AC is minimised, there is excess capacity

Product differentiation – III

- Is there too much product differentiation?
 - Welfare is the sum of consumer surplus and profits
 - If there is entry, there is an increase in consumer surplus, but individual firms ignore this and focus on their private benefits
 - If there is entry, there is a decrease in profits, but individual firms will ignore this as well, and focus on their private benefits
 - The outcome, therefore, is ambiguous; both too much product differentiation and too little product differentiation are feasible
- Example of inefficient product differentiation

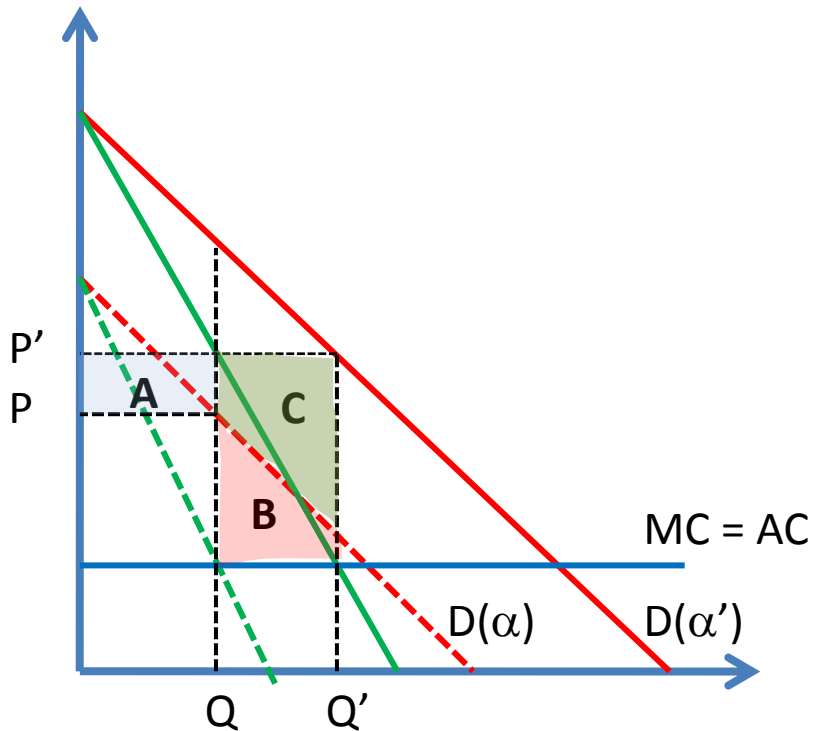


Transportation cost for consumers would have been lower if, in equilibrium, firms A and B did not end up in the middle

Product differentiation and adverse selection

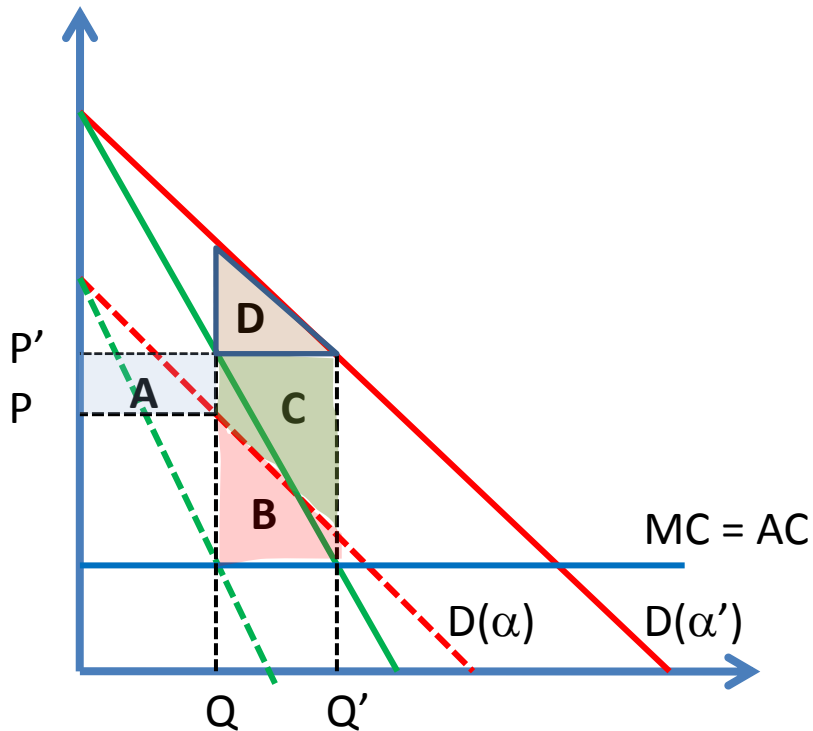
- Consumers have an informational asymmetry vis-a-vis the sellers
- This can lead to market failure
- Example:
 - Used car market
 - 50% of cars are good, and 50% of them are bad
 - A good car is valued at £5000, and a bad car is valued at £1000
 - A rational customer would not pay more than £3000 for a car
 - Hence, there will be a market failure, i.e., there will be no trades in the used car market
- Do advertisements increase or decrease the likelihood of adverse selection?

Expected impact of advertisement



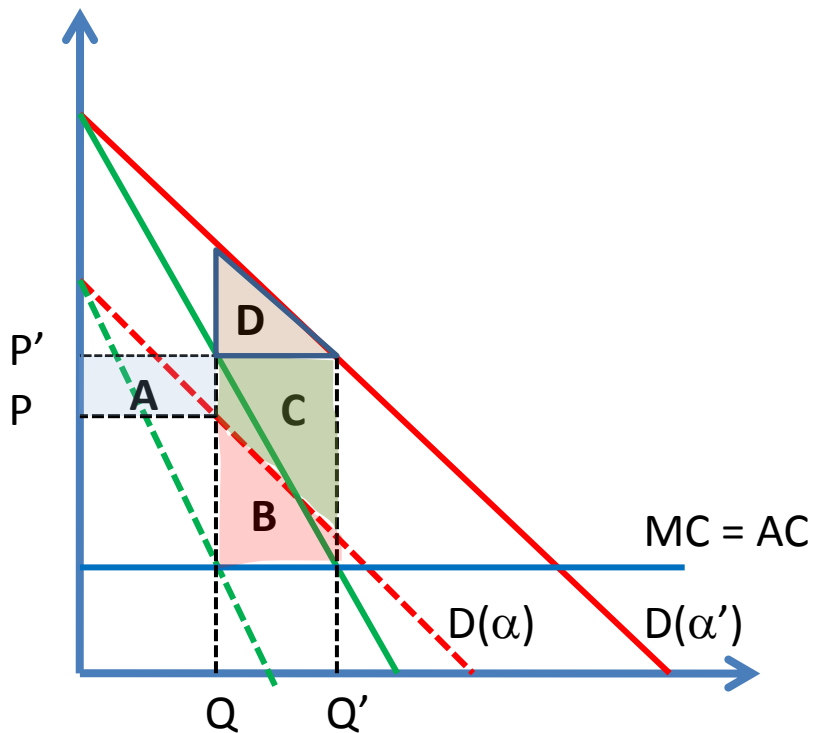
- Advertisement expenditure ($E = \alpha' - \alpha$) shifts demand curve from $D(\alpha)$ to $D(\alpha')$
- Increase in profit
 - Initial amount (Q) at a higher price (P')
 $= (P' - P)Q = \mathbf{A}$
 - Extra amount ($Q' - Q$) at price P'
 $= (Q' - Q)P' = \mathbf{B} + \mathbf{C}$
- Strategic question
 $(\alpha' - \alpha) ? (A + B + C)$
- Implication of economic theory
 - Marginal cost of advertising should equal its marginal benefit

Welfare effects of advertisement – I



- $D(\alpha)$ represents pre-advertising preferences, and $D(\alpha')$ represents post-advertising preferences
- Advertising raises price to P' and quantity to Q'
- At pre-advertising preferences:
 - Increase in net social welfare
 $= B - E$
 (where E is the advertising expense)
 - Increase in profit net of advertising expense
 $= A + B + C - E$
- Implication: Private benefit of advertising to firms exceeds the social value of advertising

Welfare effects of advertisement – II



- Note also that the following can happen simultaneously
 - $A + B + C - E > 0$
 - $B - E < 0$
- But we cannot have
 - $B - E > 0$
 - unless we also have $A + B + C - E > 0$
- Implication: Society cannot benefit from advertising unless the firm's profit rises on account of advertising
- At post-advertising preferences:
 - Increase in social welfare
 - $= B + C + D - E$
 - $\approx B - E$ (if C & D are small)
 - Implication: For small changes in sales, net change in social welfare is roughly the same irrespective of whether or not advertising changes the preferences of the consumers

Is there too much advertising?

- Gains from advertisements
 - Increase in the size of the market
 - Increase in the market share of the firm advertising its product
- Implication
 - Advertising expenses are likely to be greater under oligopoly than under monopoly
 - Advertising expenses are likely to be (close to) zero under perfect competition
- Advertising expenses would have an inverted-U relationship with market concentration

	Firm B: High advertising expenses	Firm B: Low advertising expenses
Firm A: High advertising expenses	(100, 100)	(130, 80)
Firm B: Low advertising expenses	(80, 130)	(120, 120)

{*High, High*} is the dominant strategy equilibrium.