101LON - The Economic Environment of Business

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1 Monopolistic Competition

1.1 Question 1

- Describe the three attributes of monopolistic competition.
- How is monopolistic competition like monopoly?
- How is it like perfect competition?

1.1.1 Hint

As we discussed them in the lecture. Use the slides of the book to refresh your memory and understanding.

1.2 Question 2

Classify the following markets as perfectly competitive, monopolistic or monopolistically competitive, and explain your answers:

a. wooden HB pencils
b. bottled water
c. copper
d. strawberry jam
e. lipstick.

1.2.1 Hint

Consider the characteristics of each good and the discussion in Question 1, how you can match them?

1.3 Question 3

Consider a monopolistically competitive market with N firms. Each firm's business opportunities are described by the following equations:

Demand: $Q = \frac{100}{N} - P$
Marginal Revenue: $MR = \frac{100}{N} - 2Q$
Total Cost: $TC = 50 + Q^2$
Marginal Cost: $MC = 2Q$

a. How does N, the number of firms in the industry, affect each firm's demand curve? Why?

b. How many units does each firm produce?

c. What price does each firm charge?

d. How much profit does each firm make?

e. In the long run, how many firms will exist in this market?

1.3.1 Hint

Do not panic with the math! The answers to questions b, c, and d depend on N.

2 Monopoly

Please attempt to answer or solve all the following questions. If you require any assistance ask in class.

2.1 Question 1

- What are barriers to entry?
- What are the main barriers to entry?

2.2 Question 2

Define natural monopoly. What does the size of a market have to do with whether an industry is a natural monopoly?

2.2.1 Hint

As we discussed them in the lecture. Use the slides of the book to refresh your memory and understanding.

2.3 Question 3

A publisher faces the following demand schedule for the next novel of one of its popular authors: The author is paid \$2 million to write the book, and the marginal cost of publishing the book is a constant \$10 per book.

a. Compute total revenue, total cost and profit at each quantity. What quantity would a profit-maximizing publisher choose? What price would it charge?

b. Compute marginal revenue. How does marginal revenue compare to the price? Explain.

c. Graph the marginal revenue, marginal cost and demand curves. At what quantity do the marginal revenue and marginal cost curves cross? What does this signify?

d. If the author were paid 3 million instead of 2 million to write the book, how would this affect the publisher's decision regarding the price to charge? Explain.

e. Suppose the publisher was not profit-maximizing but was concerned with maximizing economic efficiency. What price would it charge for the book? How much profit would it make at this price?

Table 1: Pizza Market

Price	Q Demanded
100	0
90	100000
80	200000
70	300000
60	400000
50	500000
40	600000
30	700000
20	800000
10	900000
0	1000000

2.3.1 Hint

Recall that: $TR = P * Q$, $TC = FC + VC$, $\pi = TR - TC$, $MC = \frac{\Delta TC}{\Delta Q}$ *and* $MR = \frac{\Delta TR}{\Delta Q}$

2.4 In-Class Discussion

Based on the previous discussion, why did companies controlled by the government use to supply electricity, water and telecommunications?

2.4.1 Hint

Diamonds vs Water.

3 Oligopoly

3.1 Question 1

- What are the main characteristics of an oligopolistic market structure?
- What is the kinked demand curve and why might it be a feature of an oligopolistic market?

3.1.1 Hint

As we discussed them in the lecture. Use the slides of the book to refresh your memory and understanding of each one.

3.2 Question 2

Suppose that you and a fellow student are assigned a project on which you will receive one combined grade. You each want to receive a good grade (which means you have to work), but you also want to do as little work as possible (which means you shirk). In particular, here is the situation:

- If both of you work hard, you both get an A, which gives each of you 40 units of happiness.
- If only one of you works hard, you both get a B, which gives each of you 30 units of happiness.
- If neither of you works hard, you both get a D, which gives each of you 10 units of happiness.

		Your Decision	
		Work	Procrastinate
Classmate	Work	You,Classmate	You,Classmate
	Procrastinate	You,Classmate	You,Classmate

a. Fill in the payoffs in the payoff matrix:

b. What is the likely outcome? Explain your answer

c. If you get this person as your partner on a series of projects throughout the year, rather than only once, how might that change the outcome you predicted in part b.

d. Another person on your course cares more about good grades. They get 50 units of happiness for a B and 80 units of happiness for an A. If this person was your partner (but your preferences were unchanged), how would your answers to parts a. and b. change? Which of the two partners would you prefer? Would they also want you as a partner?

3.2.1 Hint

Use either the point or midpoint elasticity. Link with question 2.

3.3 Question 3

Synergy and Dynaco are the only two firms in a specific hi-tech industry. They face the following payoff matrix (in million pounds) as they decide upon the size of their research budget.

		Synergy	
		Large Budget	Small Budget
Dynaco	Large Budget	£20, £30	£0, £70
	Small Budget	£30, £0	£40, £50

a. Does Synergy have a dominant strategy? Explain.

b. Does Dynaco have a dominant strategy? Explain.

c. Is there a Nash equilibrium for this scenario? Explain.

3.3.1 Hint

Use either the point or midpoint elasticity. Link with question 2.

3.4 Question 4

Assume that two airline companies decide to engage in collusive behaviour. Let's analyze the game between two such companies. Suppose that each company can charge either a high price for tickets or a low price. If one company charges £100, it earns low profits if the other company charges £100 also, and high profits if the other company charges £200. On the other hand, if the company charges £200, it earns very low profits if the other company charges £100, and medium profits if the other company charges £200 also.

a. Draw the payoff matrix for this game.

b. What is the Nash equilibrium in this game? Explain.

3.4.1 Hint

Use either the point or midpoint elasticity.

4 Assignment

You should now have all the necessary knowledge to complete your assignment.

Questions?

5 MCQ

Read the questions carefully and choose ONE option only.

1. ***Which of the following statements best describes the business practice of price discrimination?***

a. Selling the same good at different prices to different customers

b. Selling two similar goods at different prices

c. Pricing a good below marginal cost

d. Hiring an advertising firm to enhance a good's brand

2. ***Which of the following is not an example of a barrier to entry?***

a. Mega Marv's Mining Company owns a unique plot of land in India, under which lies the only large deposit of blue rubies in the world

b. A new pastry chef opens a popular new bakery

c. A pharmaceutical company obtains a patent for a specific insulin medication

d. A playwright obtains a copyright for her original musical

3. ***What happens when a monopolist increases the price of its good?***

a. Consumers buy less.

b. Consumers may buy more or less, depending on the price elasticity of demand.

c. Consumers buy more.

d. Consumers buy the same amount.

4. ***The simplest way for a monopoly to arise is for***

a. long-run average total cost to decline.

b. a single firm to own a key resource.

c. a single firm to heavily invest in research and development.

d. a new firm to offer a good at a cheaper price than existing firms.

5. ***Which of the following describes why a firm in a monopolistically competitive market is different from a firm in a perfectly competitive market?***

a. a monopolistically competitive firm maximizes profits when marginal revenue equals marginal cost, and a perfectly competitive firm maximizes profits when price equals marginal cost.

b. a monopolistically competitive firm maximizes profits when price equals marginal cost, and a perfectly competitive firm maximizes profits when marginal revenue equals marginal cost.

c. a monopolistically competitive firm maximizes profits when price equals marginal revenue, and a perfectly competitive firm maximizes profits when price equals marginal cost.

d. a monopolistically competitive firm and a perfectly competitive firm maximizes profits when price equals marginal cost.

6. ***Which of the following is true with respect to profits for a monopolistically competitive firm?***

a. The firm earns zero economic profit in the long run

b. The firm maximizes profits when price is equal to marginal revenue

c. The firm earns negative economic profits in the long run

d. The firm earns positive economic profits in the long run

7. ***In which of the following market structures do firms have the same profit maximizing condition?***

a. A firm in an oligopoly and a firm in a monopolistically competitive market

b. A firm in a competitive market and a firm in a monopolistically competitive market

c. A firm in a monopsony and a firm in a monopolistically competitive market

d. A firm in a monopoly and a firm in a monopolistically competitive market

8. ***If a firm in a monopolistically competitive market lowers price, then***

a. quantity demanded for the good will not change.

b. quantity demanded for the good decrease slightly.

c. quantity demanded for the good will decrease to zero.

d. quantity demanded for the good will increase.

9. ***Which type of oligopoly always has the fewest number of firms?***

a. A duopoly

b. A monopoly

c. A cartel

d. A cooperative

10. ***Suppose that there are only two firms in the automobile industry in a particular country. Which term describes the country's automobile market?***

a. monopolistic competition

b. Nash equilibrium

c. double monopoly

d. duopoly

11. ***Which of the following is not a characteristic of a monopoly?***

a. the seller has market power

b. one buyer

c. barriers to entry

d. a product without close substitutes

12. ***Game theory can be best applied to situations where***

a. there are any number of firms

b. there are a few firms

c. there is just one firm

d. there are many firms

13. ***To move the allocation of resources closer to the social optimum, policymakers should encourage firms in an oligopoly to compete rather than cooperate with each other.***

a. True

b. False

14. ***Suppose a publishing company is deciding whether or not to print 50,000 additional copies of an economic textbook. The company should print the textbooks if:***

a. the marginal cost of printing the extra books is greater than the marginal benefit (additional revenue) of selling the books.

b. they can get a good deal on the paper used to print the additional textbooks.

c. the marginal benefit (additional revenue) from selling the extra books is greater than the marginal cost of printing the books.

d. the cost of printing the additional textbooks is zero.

15. ***What would happen to the equilibrium price and quantity of sunscreen if a new formula is developed that makes production cheaper, and scientists discovered that sunscreen causes more cancer than sun damage?***

a. The equilibrium price would decrease, and the effect on equilibrium quantity would be ambiguous.

b. Both the equilibrium price and quantity would increase.

c. Both the equilibrium price and quantity would decrease.

d. The equilibrium quantity would decrease, and the effect on equilibrium price would be ambiguous.