

## Tutorial 1. Elements of Market Structure

1. Explain what is meant by market concentration. Describe any two measures of market concentration you are familiar with and discuss their relative strengths and weaknesses. Why do economists think that market concentration is important in determining how markets work?
2. Outline Bain's barriers to new competition. What other barriers to entry may exist in addition to those suggested by Bain? How important do you think these barriers to entry are in (a) washing powders, (b) food retailing, and (c) the UK car industry?
3. It is often argued that firms adopt strategies designed to prevent new entry from taking place. What types of policy might be used and how important do you think such policies are likely to be?

## Tutorial 2. Oligopoly Price Theory

1. Consider a market in which there are two firms producing a homogeneous product. The inverse market demand function is  $p = 250 - 10Q$  where  $p$  is market price and  $Q$  is market output, while firm 1 has marginal cost,  $c_1 = 10$  and firm 2 has marginal cost,  $c_2 = 15$ .

Assume a Cournot-Nash model.

- a) Calculate the market price and output, the market shares and profits of the firms in this example.
- b) Use a reaction curve diagram to illustrate your results.
- c) Explain why firm 2 has a lower market share and lower profits than firm 1.

Suppose now that the firms compete in prices rather than outputs (i.e. the equilibrium is Bertrand-Nash). What is the equilibrium outcome in this case?

2. In question 1 assume that firm 1 acts as a leader and firm 2 as a follower. What is the Stackelberg equilibrium in this case? Explain why each firm would want to be the leader in this model.
3. In a model of duopoly with product differentiation firm 1 has a demand function  $q_1 = 100 - 2p_1 + p_2 / 4$  while firm 2 has a demand function  $q_2 = 100 - 2p_2 + p_1 / 4$ . Both firms have marginal cost,  $c = 10$ .

Assume a Bertrand-Nash equilibrium.

- a) Derive the Bertrand-Nash equilibrium prices, outputs and profits in this example.
- b) Draw a reaction curve diagram to illustrate your results.
- c) Explain what would happen to prices, outputs and profits if costs were to increase to  $c = 12$ .

### Tutorial 3. Product Differentiation/Advertising

1. Explain the principle of minimum differentiation in Hotelling's model of location. How might this principle be subverted if (a) there are more than two firms in the model, and (b) firms set prices as well as location. If two firms are licensed to operate at fixed prices what is the optimal location in Hotelling's model from a social planner's point of view.
2. Outline the assumptions of the theory of monopolistic competition and briefly discuss the equilibrium solution in both the short and long run. Is there a problem of "excess capacity" in a monopolistic competition equilibrium? Are there likely to be significant welfare losses in monopolistic competition compared to a perfectly competitive market?
3. It is sometimes argued that advertising restricts competition by increasing market concentration and market power, and by creating barriers to entry. Other proponents from the Chicago School argue that advertising provides information to consumers and hence leads to increased competition. Outline the arguments on both sides. What are your own views on this issue?

#### Tutorial 4. Technical Progress

1. Evaluate Joseph Schumpeter's claim that monopoly power while not desirable from a static point of view is desirable from a dynamic point of view. To what extent should this argument be used in evaluating policy in the following industries: (a) pharmaceuticals, (b) aerospace and (c) production of white salt.
2. Discuss the economic problems that can arise in developing new inventions and innovations from an economic point of view. What steps can (and do) governments take to overcome these problems?
3. According to Arrow there is a greater incentive to invent under competition than under monopoly. Demsetz, in contrast, argues the reverse. Outline the arguments. Which point of view is, in your view, correct?.