3.5 The Model of Monopoly

A formal diagrammatic analysis of the monopoly model is expected.

3.5.1 Explain the model of pure monopoly

A pure monopoly is a single seller of a product in a given market. The firm is the industry and has a 100% market share.

- There are significant barriers to entry and exit eg high costs of entry or legal restraints eg franchise.
- Monopolists are price makers and can set price or output for their own product.
- Monopolists are usually assumed to be profit makers and can set price or output for their own product.
- Monopolists are likely to earn abnormal profits in the long run.

3.5.2 Use a diagram to illustrate how profit maximising monopolists set price

In the diagram opposite, a monopolist can set price. The intersection of MC with MR gives the profit maximising level of output. A profit maximiser increases output until MC=MR at Q1.

Consumers are willing to pay P1 for Q1. Unit costs are only P2 so the firm is making an abnormal profit of (P1-P2)xQ1.

In competitive markets abnormal profits attract new firms and the resultant increase in supply lowers price until normal profits are earned.

3.5.3 What is a natural monopoly?

A natural monopoly occurs in industries like railways that require a national infrastructure because fixed costs make up a large proportion of total costs.

There are significant opportunities for technical economies of scale. In natural monopoly industries, MES level of output is so high a proportion of total market demand that only one firm to fully exploit the potential economies of scale available in the industry.

In the diagram the LAC curve falls continuously over a very large range of output.

For a natural monopoly, regulated monopoly where a government appointed regulator ensures monopoly power is not abused, is the best solution.

3.5.4 Do natural monopolies inevitably earn abnormal profits?

Unregulated monopolies have the freedom to set profit maximising (or loss minimising) price and output. To avoid abuse of monopoly power the government can appoint a regulator with powers to cap price increases, introduce competition and monitor service quality and penalise poor performance or ensure a monopoly is regionally divided, allowing performance comparison between different areas ie yardstick competition -used by British Rail when train track and operators were a nationalised industry.

3.5.5 What are the benefits created by monopolies?

Monopoly may be the best market structure where:

- There is the potential for significant economies of scale ie one large firm can produce at lower unit cost than many small firms.
- Only monopolies generate sufficient profits to enable large-scale high cost Research & Development (R&D) that fuels innovation.
- Domestic monopolies can compete internationally more easily than small firms.
3.6 Collusive and Non-Collusive Oligopoly
Candidates should understand the ways in which firms behave in concentrated markets in the real world. They should understand the factors which influence prices, output, investment, and expenditure on research, advertising and the marketing policies in oligopolistic industries. They should also understand the reasons for non-price competition, the operation of cartels, price leadership, price agreements, price wars and entry barriers.

3.6.1 Oligopoly is?
An oligopolistic industry contains a few large interdependent firms and has a high concentration ratio eg petrol retailing & production, washing powder market, high street banks, package holidays, telecommunications, electricity generation - all markets where the MES level is high. The key characteristic of oligopoly is interdependence - there are so few firms that each one has to anticipate the actions of rivals.

3.6.2 What are the characteristics of an oligopolistic market?
An oligopolistic market is one dominated by a few interdependent firms and there is a high degree of concentration of sales. firms produce differentiated, branded products supported by intensive advertising and marketing. There are significant barriers to entry & exit so abnormal profits are likely to be earned in the long run.

3.6.3 Outline price fixing & collusion
Price fixing is when an organisation or a cartel (a group of colluding companies) set a non equilibrium market price by adjusting output. Collusion: an agreement between independent firms to work together for mutual benefit eg firms collude to fix prices and avoid price wars.

3.6.4 What is a collusive oligopoly?
A collusive oligopoly occurs when firms within an industry agree to act together to restrict competition. Eg they set up a price fixing cartel where each firm restricts output. In the diagrams opposite the market price PMkt and output Qmkt are set by the interaction of supply and demand.

3.6.5 Why does price fixing fail?
Price fixing involves reducing output often below the profit maximising level. Firms can increase profits by ‘cheating’ and selling more than is agreed. Maintaining cartels is difficult because firms cannot monitor each other’s behaviour. Illegal in the UK.

3.6.6 What is the role of the OFT?
The Office of Fair Trading (OFT) investigates anti competitive practices and abuses of market power such as price fixing cartels and encourages competitive behaviour.

3.6.7 Do oligopolies advertise?
Oligopolists advertise to increase demand for products & encourage consumer loyalty, so making demand more price inelastic; create or improve brand image to differentiate the product, create a sub market and so allow price discrimination; create high sunk costs for potential rivals who would need to match the promotional spend to gain market share.

Collusion can be explicit (open) eg OPEC or tacit (hidden). Interdependence means uncertainty - what will rivals do? Collusion may stabilise markets and so encourage firms to invest in new capacity & RD.

OPEC is an oil cartel. The EU also tackles price fixing. Branding creates USP and product differentiation.
3.7 Interdependence in Oligopolistic Markets

The kinked demand curve model should be used as an illustration of the interdependence between firms and not taught as if it is the only model of oligopoly. Similarly, candidates should be introduced to game theory as a tool for illustrating possible consequences of interdependence for the behaviour of firms in oligopolistic markets. Note: candidates do not need to understand the model of monopolistic competition.

3.7.1 Price changes affect revenue?

Total revenue (TR) has two components: price (P) and the number of units sold (Q). TR = PxQ. Imperfectly competitive firms with market power are price setters - they can adjust price to influence market share and total revenue.

3.7.2 Why is PED useful in pricing decisions?

Firms can use price elasticity of demand (PED) estimates to predict the effect of price changes on quantity demanded hence total revenue:

- A price decrease has two effects on revenue 1) more units are sold (ie gain) but 2) at a lower price (ie loss). The overall impact on TR depends on the PED of the product. Eg: if PED is relatively inelastic then the % decrease in price is greater than the % rise in quantity demanded and so TR falls
- A price rise reduces revenue if demand is price elastic because the gain from selling at a higher price is outweighed by a proportionately bigger fall in quantity.

3.7.3 What is a kinked demand curve?

The kinked demand curve model argues firms face a dual, kinked demand curve for its product reflecting the likely reactions of other firms in the market to a change in its price. Assumptions Oligopolies seek to maintain their own market share and maximise profits

3.7.4 Explain the shape of a kinked demand curve

Rival firms are likely to match, or even better, any price cut below P1 resulting in a ‘price war’ but little gain in market share and falling total revenue. The firm’s demand curve is relatively price inelastic below point A.

If an oligopoly increases price above P1 rival firms do not follow. Consumers switch to substitutes resulting in lost market share and falling total revenue. The firm’s demand curve relatively price elastic above point A.

3.7.5 Do cost increases mean higher prices?

Not necessarily. The kinked demand curve creates a discontinuity (gap) in the marginal revenue curve between B & C. A rise in marginal costs from MC1 to MC2 does not lead to any change in the profit maximising price and output.

3.7.6 The kinked model predicts?

The kinked demand curve model helps explains observed price rigidity in oligopoly markets; why price wars are so infrequent & short lived; Why competition is usually non price eg advertising & branding

3.7.7 What is game theory?

Game theory models can be applied to oligopolies to predict how firms faced incomplete information about the rivals intentions act or react to each other’s pricing, R&D, non-price competition, etc decisions.

3.7.8 Give an example of game theory in oligopoly

In the zero sum game matrix opposite shows the payoff in £s million to two firms A (top left hand figure) and firm B (bottom right) setting either a high or low price. The outcome for each firm depends on the response of their rival. If both collude to set a high price each gains £250. A price war means both earn nothing. If A sets a high price and B keeps a low price, A loses £350m & B earns $150m.

Understanding the kinked demand curve requires a complete understanding of 1) TR & PED and 2) marginal cost pricing

Interdependence means firms are dependent on each other.

Oligopolists need to anticipate rivals likely response to their pricing decisions

Will the oligopolist firm benefit by raising or lowering price from P1?

How will rivals react?

Game theory emphasises the interdependence of oligopolies.

Understanding The prisoner’s dilemma will help you understand game theory