Monopoly

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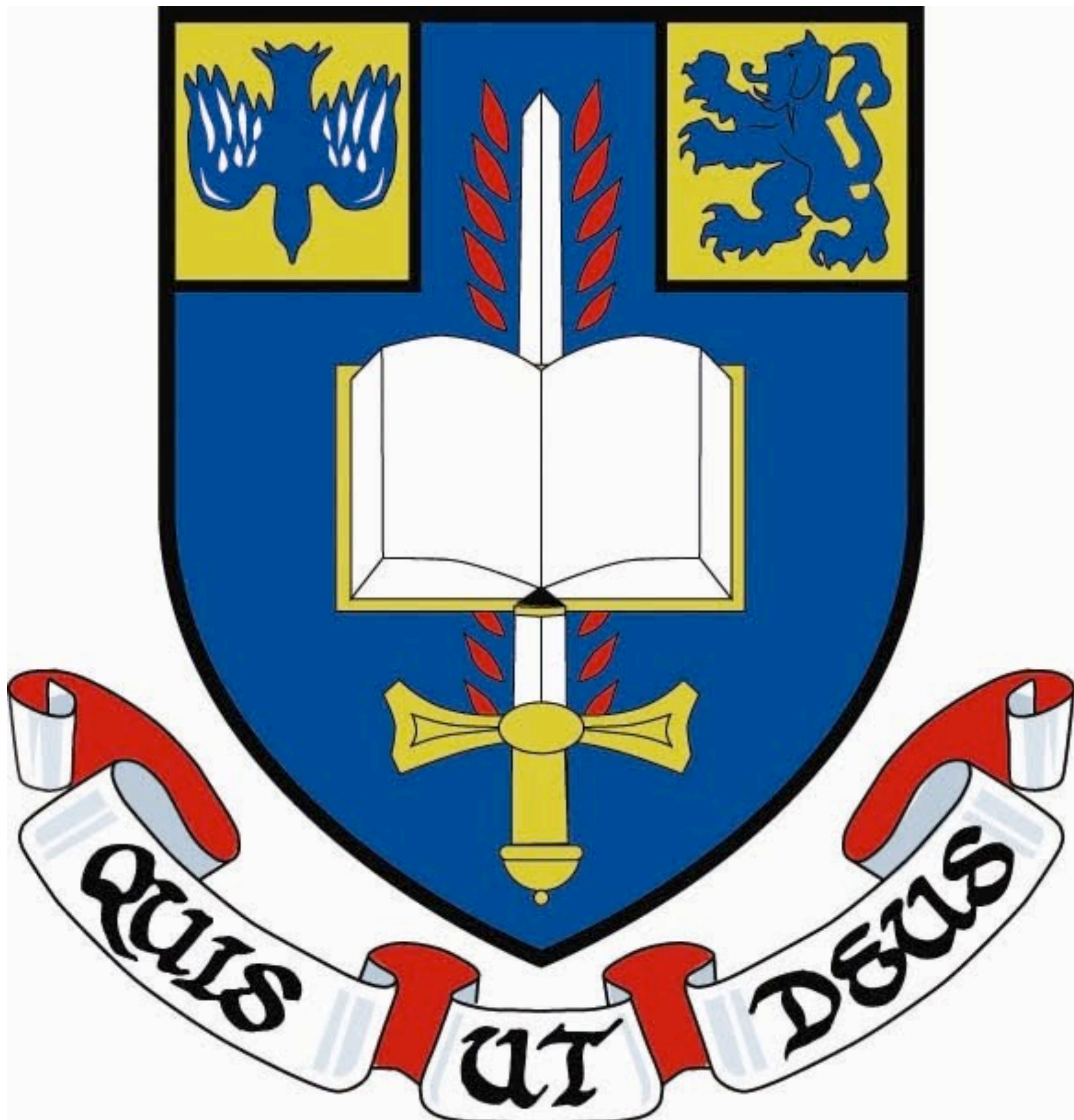
Economics

Note 9 • Leaving Cert • 5th Year



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MONOPOLY

Monopoly: is an industry in which there is only one supplier of a good or service and as such the firm and the industry are the same

Assumptions

1) **There is only one Firm in the Industry:** As there is only one firm in the industry and this firm is the sole supplier of goods or services in that industry, the firm and the industry are the same.
2) **There are Barriers to Entry:** There are certain forces at work which prevent other firms entering into the industry and competing with the firm.

Barriers to Entry: are the forces at work which prevent or deter other firms from entering into the industry.

3) **The Monopolist faces a Downward Sloping Demand Curve:** Therefore, the Monopolist can set either the price that he charges or the quantity that he makes available. No matter how powerful he is, he cannot set both.
4) **The Monopolist is a Profit Maximiser:** As such, the Monopolist produces that quantity of output where and MC is rising faster after that point.
5) **Super Normal Profits (SNP) are earned in the Longrun:** Due to the existence of Barriers to Entry, no other firm can enter the industry and compete with the Monopolist. This allows the Monopolist to earn SNP in the Longrun.

Implications of the Assumptions

1) The Shortrun equilibrium and Longrun equilibrium positions of the Monopoly firm are the same. As such there is only one equilibrium position, the Longrun equilibrium.
2) The Monopolist faces a downward sloping demand curve and as such if he wishes to sell more goods he must lower price.
3) Due to the level of market power that Monopolies enjoy combined with their ability to exploit the consumer; government monitoring is far more likely under Monopoly than any other market structure. This is to prevent the Monopolist engaging in practices that are against the public's best interests.

Barriers to Entry

In the assumptions we said that Barriers to Entry exist which prevent other firms from entering the industry. We will now look at what these Barriers to Entry are.
NOTE: This section also answers the question "How do Barriers to Entry arise?"

1) **Legal / Statutory Monopoly:** Other firms may not be allowed into the industry because the government confers on a firm the sole right to supply a particular good or service i.e. Iarnród Éireann.
2) **Ownership of a Patent / Copyright:** If a firm has the sole right to a manufacturing process then no other firm can compete with it. Other firms are not allowed to use this patent until the time period for it has expired.

A Patent: allows the inventor of a good the sole right to produce that good.

3) **Sole rights to Raw Materials:** A firm may have complete control over the source of essential raw materials i.e. an oil drilling company.
4) **Large Capital Investment:** In some industries the minimum size of a firm required to operate efficiently is so large that there is no room for competitors once one firm has established itself. Competitors are discouraged from entering because of the high initial start-up costs.
5) **Trade Agreements /Collusion – Cartels:** By entering trade agreements with other firms, a firm can share out the market so that no competition exists within its segment of the market.

Collusion: is any action taken by separate and rival companies to restrict competition between them with a view to increasing their total profits

Cartel: is where firms agree not to compete with each other in certain geographical areas giving each firm a virtual Monopoly in each of these regions

6) **Mergers / Takeovers:** A firm may ensure their survival by merging / taking over other (rival) firms in the same line of business - such that it becomes a monopolist and no competition exists within the industry.

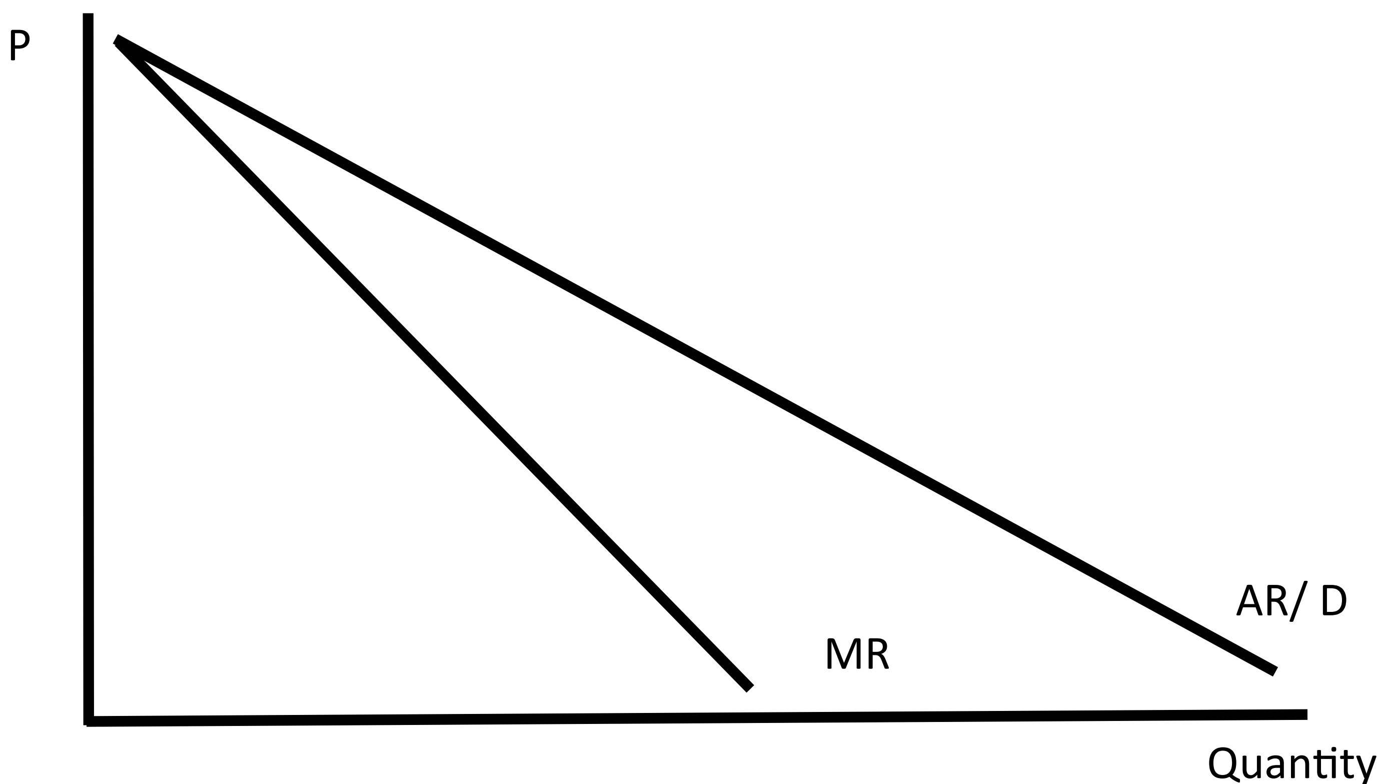
7) **Monopolies based on fear, force or threats:** An individual / firm may stop other individuals/firms providing similar goods/services by threats/force – instilling fear into potential entrants i.e. the supply of illegal drugs.
8) **Brand Proliferation:** A firm may gain monopoly power if through its advertising consumers are convinced that there is no suitable alternative to their particular brands

How the Monopoly Firm reaches Equilibrium

Again we go back to the assumptions

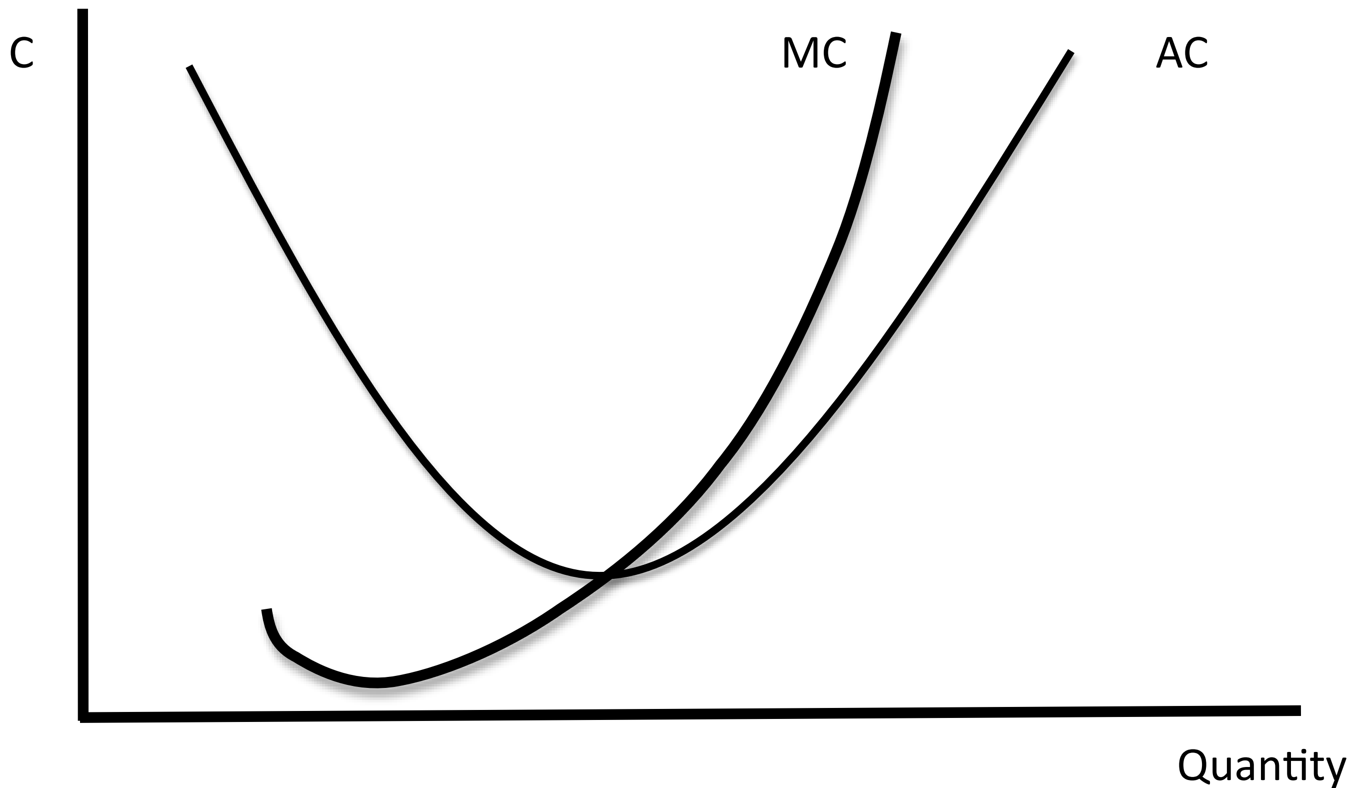
1) We know from the assumptions that a Monopolist has a downward sloping Demand Curve. From this we can successfully deduce that the Monopolist has to have a downward sloping Marginal Revenue Curve. See the graph below.

Revenue Information for a Monopolist



2) The Cost Curves (both Marginal Cost (MC) and Average Cost (AC)) are the same for any firm in any market structure.

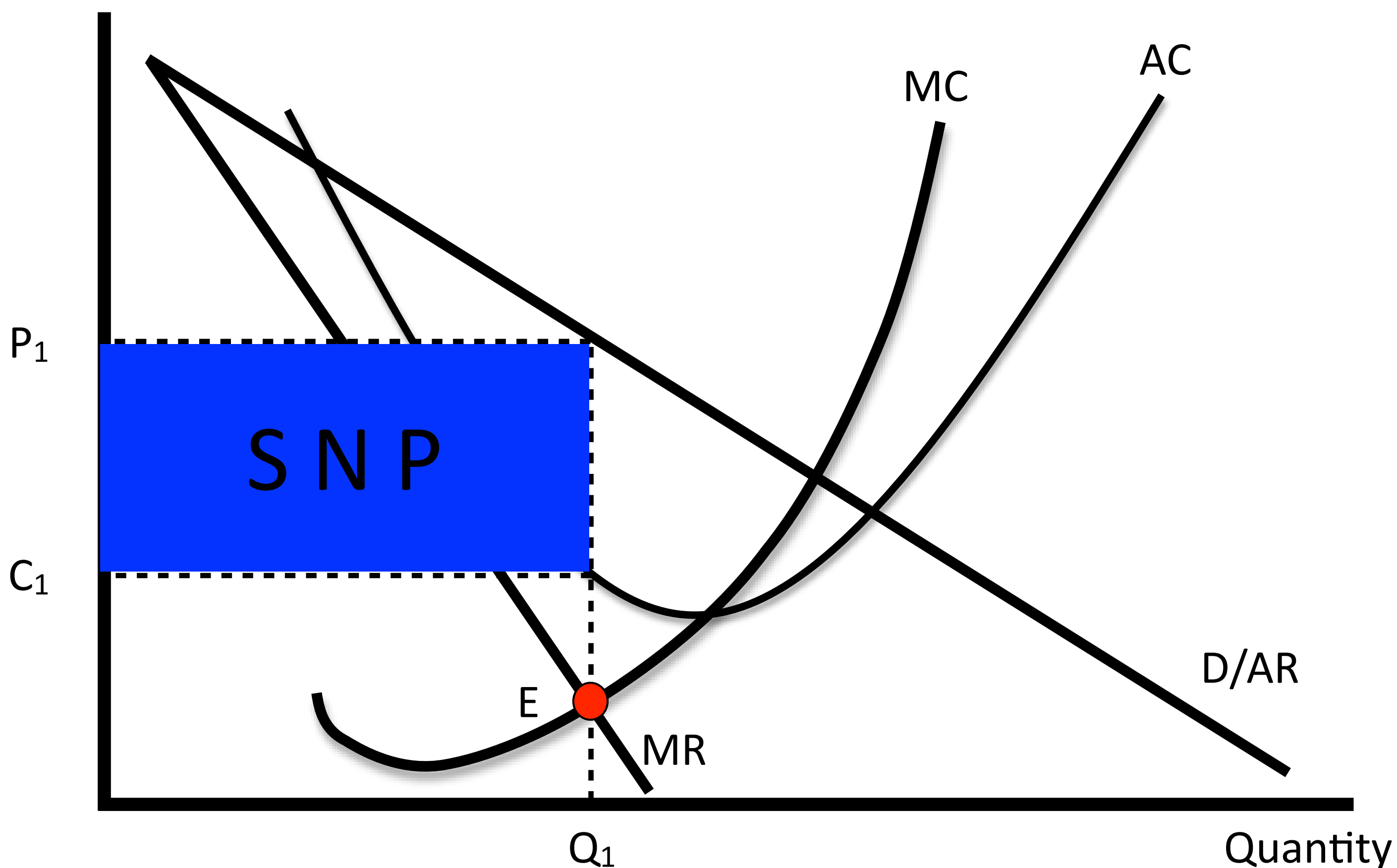
Marginal and Average Cost Curves



3) From the assumptions we know that the Monopolist is a Profit Maximiser and as such produces the quantity of output where MC = MR and MC is rising faster after that point.

4) From the assumptions we know that due to Barriers to Entry, Monopoly firms earn SNP in the Longrun. This is done by producing where AR > AC. See the graph overleaf.

Equilibrium Position of a Monopoly



1) **Equilibrium:** Occurs at point E where MC = MR and MC is rising and cuts MR from below.
2) **Price Charged & Output Produced:** The firm produces output Q_1 and sells it at price P_1 on the market
3) **Cost of production:** The cost of producing each unit of output is C_1.
4) **Super Normal Profits:** This firm is earning SNP's – represented by the shaded area above. They are earning SNP's because AR > AC and they can continue to earn SNP's in the longrun because barriers to entry exist.
5) **Waste of Scarce Resources:** Because the firm is not producing at the lowest point of the AC curve it is wasting scarce resources.

NOTE: When asked a question about the equilibrium position in Monopoly, just reproduce this page exactly as it is.

Affects of Deregulation

We said earlier that Monopolies may arise due to the government passing an act of Oireachtas granting one firm the sole right to produce a good or service. As we have seen from above, Monopolies are inefficient (They earn SNP in the Longrun and they do not produce at the minimum point of the AC curve) and as such should not be encouraged. Also, with competition laws enacted by the EU parliament, all monopolies (including semi-state monopolies) are illegal. As such the government is now forced to allow competition in industries which they previously had a monopoly. We will now look at the affects that deregulation has on the different elements of society.

How Deregulation of Semi-State Bodies affects the Consumer

Positive

1) **Increased Efficiency:** The increased competition accruing from the entry of new firms, may force the semi-state companies to improve the efficiency of the services they provide.
2) **More Competitive Prices:** Increased competition resulting from the entry of new firms will force the semi-state body to offer consumers more competitive prices. Also, an increase in industry supply causes a reduction in price.
3) **Increased Choice:** With an increased number of firms producing a greater variety of goods, consumers are now able to avail themselves of a wider choice of services.
4) **Increased Availability of Service:** Following an increase in industry supply, the ease with which a consumer can avail of a service also increases. E.g. Taxis in Dublin.

Negative

1) **Loss of Non-Profit Making Services**: Non-profit making services may be discontinued by the semi-state company in an effort to reduce costs.
   E.g. Unprofitable bus routes are cancelled leaving the people relying on those routes without the service.
2) **Possible Reduction in Safety Standards:** In the drive towards increased efficiency shortcuts may be taken resulting in a possible decline in safety.
   E.g. Ryanair tried to get the maximum age limit on planes increased.
3) **Decline in Standards of Service:** The service provided by the semi-state company may deteriorate in quality in an effort to save costs. E.g. DART carriages may be cleaned less often etc.
4) **Disruption to Supply of Service:** The fear of workers about the effects of competition may cause them to engage in industrial disputes disrupting the service for consumers.

How Deregulation affects Employees in the industry

Positive

1) **More Motivated Workforce:** Competition may pressurise the workforce to become more productive in their jobs.
2) **Incentive for Innovation:** If the semi-state firm can meet the challenges of competition, employees may reap more rewards for their innovation i.e. higher bonuses.
3) **Provision of Extra Services:** It may now be possible for the company to aggressively pursue its share of the market, without state restrictions, ensuring a growth in employment / additional job security.
4) **Opportunities from Settlement Packages:** Workers might take the opportunity to change career / use their settlement packages to invest / start a business.
5) **Job opportunities with new suppliers:** New suppliers may offer increased employment opportunities to workers currently in the industry.

Negative

1) **Reduced Job Security:** Public Sector employees enjoy a huge amount of job security. Following privatization of Semi-State bodies or the deregulation of monopoly markets, the biggest risk to employees is the loss of their job through rationalisation of services.
2) **Changes in Conditions of Employment:** In an effort to increase efficiency, the firm may change the conditions of employment for its employees resulting in less amenities available to each worker.
3) **Curtailment in Pay / Pensions Increases:** The main aim of almost any private company is to maximise profit. In an attempt to achieve this objective, the firm may limit the pay and/or pension increases due to its employees.

How Deregulation affects Profits of firms already in the Industry

Positive

1) **Increased profits:** If the existing businesses are able to meet the new competition and expand their business activities the opposite of the above may occur. Business may experience economies of scale

Negative

1) **Decreased profits:** If existing businesses experience a loss of business, their market share falls resulting in a loss of profits

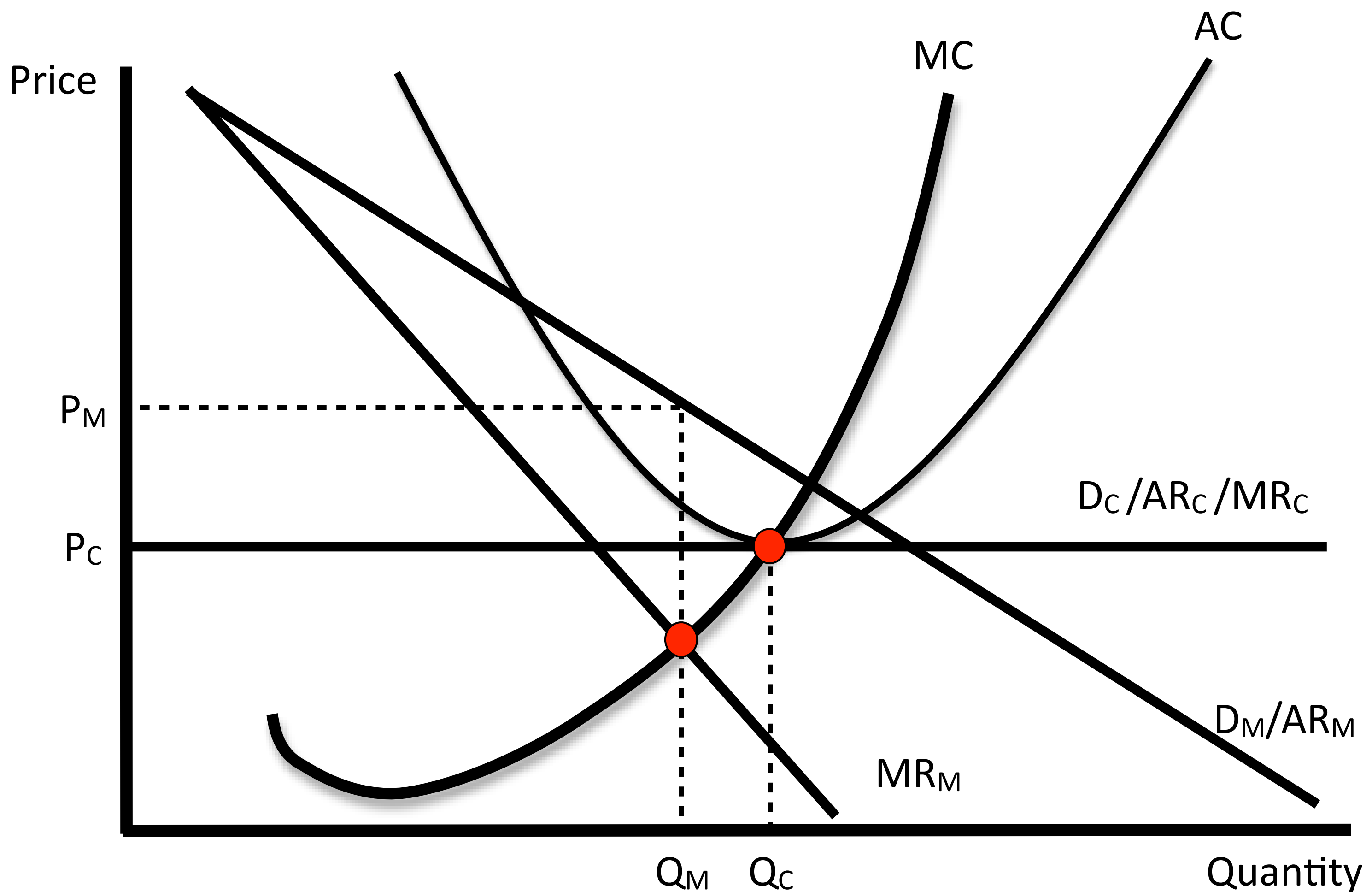
Possible Advantages of Monopoly

We know from previous discussion that Monopolies are inefficient and as such the government should make it it's business to increase competition in any monopoly market structure. However, there are potential advantages that a monopoly may have over other market structures. With this in mind, the possible advantages of monopoly never outweigh the disadvantages and as such governments should continue to increase competition when any monopoly exists.

1) **Economies of scale:** Production on a large scale may help the firm benefit from economies of scale and these cost savings may be passed on to the consumer in the form of lower prices.
2) **Guarantee supply of product / service:** The supply of the product / service may be guaranteed and provided where profit is minimal (e.g. a state monopoly) so consumers benefit e.g. provision of bus services in areas of low population.
3) **Employment:** As there is no competition employees have greater security of employment/may benefit from preferential conditions of employment /better rates of pay and pensions.
4) **Reduced use of scarce resources:** There may be less duplication in the provision of products / services. There may be less need for competitive advertising so society's resources are not wasted. Certain services may be best provided by one provider e.g. train tracks /electricity grid so as to avoid duplication.
5) **Potential for innovation/ R & D:** The (supernormal) profits that monopolies may make could be used for investment in R&D and secure their dominance in the market. Inventors/creators need patent protection otherwise they may not invent.

Comparing Perfect Competition and Monopoly

In order to show the inefficiencies that occur under Monopoly, it can be useful to compare a Monopoly firm to the most efficient type of firm, a Perfectly Competitive firm. In order to make this comparison easier, both firms will face the same costs.



1) **Price:** A firm in a monopoly position sells it output at a **higher price**, P_M, than a firm operating under Perfect Competition, P_C.
2) **Output:** A firm in a monopoly position produces a **smaller quantity** of output, Q_M, than a firm operating under Perfect Competition, Q_M.
3) **Profits:** In Perfect Competition, a firm produces where AR = AC and as such earns Normal Profit. In Monopoly, the firm produces where AR > AC and as such earns Super Normal Profit (SNP).
4) **Efficiency:** A Perfectly Competitive firm produces at the minimum point of the AC curve, the most efficient level of production, and as such is efficient. A Monopoly may not produce at the minimum point of the AC curve and as such may not be efficient.

Price Discrimination

Price Discrimination: is when a good or service is sold to different consumers at different prices and the difference in price is not due to a difference in the cost of production.

Conditions necessary for Price Discrimination

1) **Monopoly Power:** If freedom of entry existed into the industry, competitors would enter where the firm was charging the higher price and earning SNP. This would continue until all the SNP had been competed away and only normal profit was being earned.
2) **Separation of Markets:** The good bought in the low priced market cannot be offered for resale in the higher priced market. If it was not possible to separate the markets then the above would occur until no price difference existed.
3) **Different Consumer Price Elasticities of Demand:** Consumers with the high price elasticity of demand are charged the lower prices for their goods e.g. students are assumed to have lower incomes and so are not in the position to pay the full price for certain goods and services.
4) **Consumer Indifference:** The difference in price may be so small that consumers are indifferent and so don't mind paying the slightly higher price.
5) **Consumer Ignorance:** Consumers may be unaware that the good is available elsewhere at a lower price.
6) **Consumer Attitudes to the Goods:** A consumer may be willing to pay a higher price for a good which he considers to be in fashion / provide status e.g. people and their desire for 'branded' products.

NOTE (1): The conditions listed above also answer the question “Can any monopolist who so wishes engage in price discrimination”. To this you would answer “ No, there must be certain conditions in place in order for a monopolist to price discriminate”, and then just list the conditions.

NOTE (2): The last three conditions are conditions regarding the consumer. If asked “what characteristics of a consumer are necessary for a monopolist to price discriminate”, just list the last three.

Types (Degrees) of Price Discrimination

1) **First Degree Price Discrimination:** A monopolist attempts to remove consumer surplus. A monopolist identifies those consumers who are prepared to pay a higher price and consequently charges them that higher price. This type of price discrimination can occur in one-to-one confidential services. E.g. A solicitor charging a richer client more than a client who is less well off.

2) **Second Degree Price Discrimination:** A monopolist gives discounts for bulk buying. E.g. 3 for 2 offers. This price reduction is a recognition by the seller that the buyer is subject to the Law of Diminishing Marginal Utility (LDMU). In order to persuade the buyer to purchase more of the good or service, the seller must make additional units available at a lower unit price.

3) **Third Degree Price Discrimination:** Consumers have different price elasticities of demand. Consumers with inelastic demand pay a higher price than consumers with elastic demand. Student rates for bus journeys, train journeys etc.

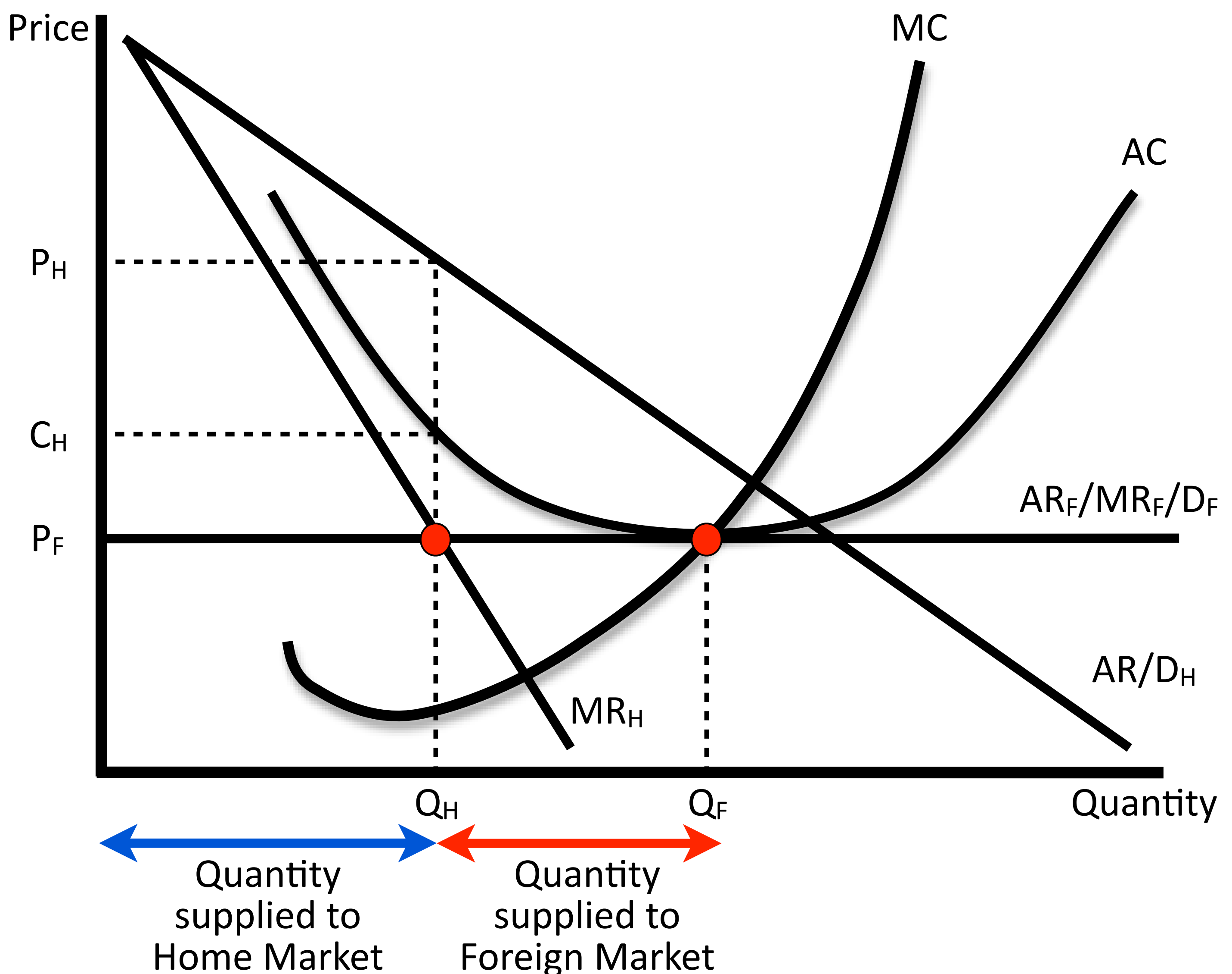
Longrun Equilibrium position of a Price Discriminating Monopolist

L.C.Q. A firm is a Monopolist in the home market and exports to Perfectly Competitive markets abroad. Explain, with the aid of a clearly labelled diagram, the long run equilibrium of this price discriminating monopolist.

Answer

Because the firm is selling on two separate markets, the firm faces two separate separate sets of revenue curves. One for the home market (downward sloping Average Revenue and Marginal Revenue curves as it is a monopoly here), and one for the foreign market (perfectly elastic Average Revenue and Marginal Revenue as it operates in a Perfectly Competitive market there). See graph below.

Longrun Equilibrium position of a Price Discriminating Monopolist



Explanation

The home Monopoly market is represented by the normal downward sloping monopoly revenue curves. Average Revenue (AR_H) and Marginal Revenue (MR_H).

The export market, where Perfect Competition exists, is represented by the normal perfectly elastic revenue curves. Average Revenue (AR_F) and Marginal Revenue (MR_F).

Up to the quantity Q_H, the Marginal Revenue on the home market (MR_H), is greater than the Marginal Revenue on the foreign market (MR_F).

Therefore the firm would receive greater revenue selling the quantity Q_H on the home market at the higher price of P_H than it would selling them on the foreign market at the lower price of P_F. This is the reason that the firm sells up to quantity Q_H on the home market.

Beyond the quantity Q_H, the Marginal Revenue on the foreign markets is greater than the Marginal Revenue on the home market. ($MR_F > MR_H$).

Therefore the firm could increase its profits by selling the quantity from Q_H to Q_F on the foreign markets. At the quantity Q_F, MC = MR_F and MC is rising. This is the profit maximising condition and the firm cannot increase profit by selling extra goods on wither the foreign or the home markets.

Finally, looking closer at the diagram we see that MC, MR_H and MR_F are all at the same level. From this we can conclude the profit maximising condition for any Price Discriminating Monopolist.

A Price Discriminiating Monopolist is maximising revenue when he produces at that quantity where MC = MR_H = MR_F.