



Course Companion

For A Level Edexcel B Economics:

Theme 4: Making Markets Work

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Teacher's Introduction

This resource has been written to support the learning of Theme 4: Making Markets Work Better for the World, part of the Edexcel Level 3 Advanced GCE in Economics B. It gives an in-depth view of the specification points students need to know, plus extras along the way for extra practice.

At the beginning of this resource you will find a list of contents showing every specification point. There are also questions at the end of each topic, with answers at the end of the resource. The resource is designed to test their knowledge to real-life economic contexts. Key terms are revised as a glossary.

Students are given information about and opportunities to practise quantitative skills, as well as the listed skills from Appendix 3 of the A Level specification.

While extremely valuable to a student's revision, this resource should be treated as a supplement to other textbooks and activity guides available. As with any subject, it is good to read widely.

The notes included in this resource can be given to students before a lesson as preparation, or afterwards in order to help consolidate their knowledge, or can be used by teachers for class exercises and activities.

It is hoped that this resource, as well as offering support for teaching the essential content for the examination, will help students build on their research and dissemination skills. Economics is a constantly changing one, full of fascinating stories. This resource attempts to utilise the latest information as a basis for teaching in the most interesting way possible, meanwhile encouraging the next generation of economic analysts!

T Phelps, Z Mujib, D Ollerenshaw

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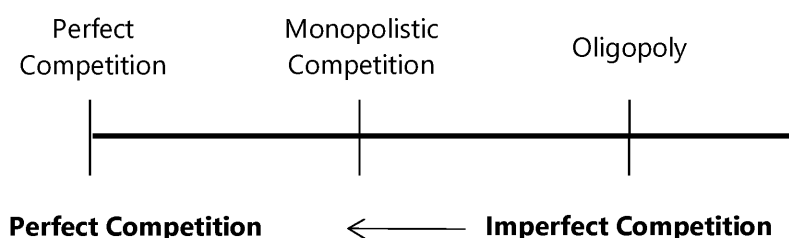
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Theme 4 – Making Markets

Competition and Market Power

Spectrum of Competition



Types of Market Structures and Their Characteristics

Markets may differ in the following ways:

- **The Number of Producers**

The number of producers that exist within a market will greatly affect how the market determines the concentration ratio. If there is a high number of producers, there is more competition, whereas low numbers of producers will probably mean there is less competition.

- **Concentration Ratio**

Concentration ratios show the proportion of the market that the top X-number of firms worked out by the total market share held by the number of firms specified in the ratio. A three-firm concentration ratio means the market share of the three biggest firms. A four-firm ratio is the market share of the four biggest firms. Imagine a market had five firms. The whole market (all five firms) was 1,000. Firm A produces 300 goods and so has a market share of 30%. Firm B produces 260 goods so has a market share of 26%. Firm C produces 200 goods so has a market share of 20%. Firms D and E have a market share of 12% because they produce 120 goods each. The concentration ratio would be 76% (30%+26%+20%).

QUANTITATIVE SKILLS

You are required to 'calculate, use and understand ratios' as part of the quantitative skills part of the course. The concentration ratio is one of the most direct applications of this skill. It is calculated as the proportion of X-number of firms in an industry.

- **Barriers to Entry**

Barriers to entry are obstacles or difficulties that exist which may prevent a firm from entering a market. These barriers can be cost associated (such as high sunk costs), legal protection (patents), even the level of knowledge and experience a firm requires before entering a market. Markets where well-known brands exist can prevent a firm from entering a market. Marketing and advertising are needed in order to compete with the high levels of brand loyalty that have and their high market power. Markets with very few barriers to entry often exist because it is easy for somebody to start up a new business and it is, therefore, easy to enter the market.

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- **Product Differentiation**

The products that are produced in a market can be very few or lots of differing 'homogeneous' or 'heterogeneous'. A commodity is a raw material, such as wheat. These goods tend to be homogeneous and it is difficult to differentiate between them. For example, is milk regardless of who produced it and it is not easy to tell the difference between one milk and another's. Whereas a product such as a phone is heterogeneous: it is easy to tell the difference between the different producers' products, because they have varying qualities and abilities.

- **Homogeneous** = goods that are identical
- **Heterogeneous** = goods that are different and have varying qualities

- **Price Taker or Price Maker**

This also determines the ability to change the price of a good. If the product is unique, consumers will use other 'non-price' factors to help with the decision-making process, such as appearance. Producers can then charge a different price according to their individual market value. This means they are a 'price maker' because they can charge what the market will just accept it. In this market structure, firms can develop their loyalty to certain brands. If the products were identical, the firms would have to charge the same price. Changing prices will have little effect on the market equilibrium as consumers will switch from one product to another producer. The firms operating in a market with this style are 'price takers'; they have to take and use the price that the market gives.

- **Knowledge**

If there is perfect knowledge within an industry, then all firms will know every detail about the market. For consumers in a market with perfect knowledge, they may not know all the prices of all the producers within a market and, therefore, they will choose the cheapest good.

Perfect Competition

A firm in a perfectly competitive market cannot change the price of its goods. It is a price-taker because consumers have perfect knowledge of all prices within the market and a variety of producers from which to buy and there is no product differentiation.

Firms, therefore, cannot set the price – the market sets the price. The supply within the whole market is made up by adding up all the quantity each individual firm makes. As a market supply curve, at higher prices there will be more firms willing to supply. At lower prices, fewer firms would be willing to supply. The market demand is made up of all the individual consumers' demand curves. The price of the market, and, therefore, the price of each firm, is set by the interaction of these two market forces.

In the short run, perfectly competitive firms can make large profits or losses. But they always gravitate back to normal levels of profit. In the short run, firms will enter the market with perfect information and zero barriers to entry – in the hope of making supernormal profits. If firms are making a profit, they will be enticed by such profits and choose to enter the market, supply of the product will increase. This will cause the price to fall until all supernormal profits are eliminated and firms only make normal profits.

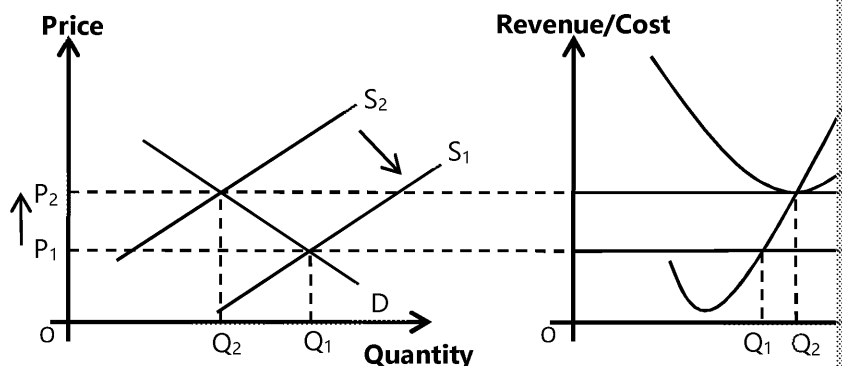
If firms are making a loss, then in the long run the loss will drive firms out of business. They will sell off their factors of production. Because there are no barriers to exit, there is nothing to stop them leaving the market. The supply in the market will fall as firms exit and price is brought upward until it is back to making normal profits (see figure below).

PERFECT COMPETITION

- Aim to make normal profits
- Number of firms is large
- Concentration of market power is low
- Knowledge of the market is perfect
- Product differentiation is not possible
- Price-takers
- Barriers to entry are zero
- No externalities

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In this model, firms are highly competitive and so will aim to improve efficiency in prices. This is beneficial not just for consumers, but for better and more efficient production. With no barriers, other entrepreneurs can start up business and enjoy the financial advantages. Because of these benefits that policymakers aim to influence the characteristics of markets to behave more like a perfectly competitive market.

Buying Money Perfectly

Currency markets are another example of near-perfect competition. Can you explain why?

However, perfect competition is a model where the assumptions are too idealistic to be applied in reality. Commodity markets are almost perfectly competitive. Basic, 'common' goods, such as wheat or oil, are examples. Equally, commodity markets often have barriers to entry. In reality, some milk producers (for example, in the UK) have differentiated their products, such as Cravendale, and have completely perfect competition markets. Monopolistically competitive markets are more realistic.

Monopolistic Competition

Monopolistic competition is a more realistic market structure, as perfect competition is mostly theoretical. Any market structures that deviate from perfect competition become 'imperfectly competitive'.

Because there is some product differentiation, firms are to some degree 'price makers'. This creates a downwards sloping demand curve as consumers' willingness to purchase changes with the price and their price elasticities are not perfectly elastic. However, there is not a high degree of differentiation so the price elasticity of demand is relatively high.

Like perfect competition, monopolistically competitive firms can only make a loss in the short run. Firms are able to enter and exit the market (in the long run) relatively easily. Entry and exit. In the short run, firms will enter the market because of low barriers to entry and supernormal profits. However, as more and more firms will be enticed by such profits, the supply of those goods and services will increase. This will cause the price to fall until the supernormal profits are eliminated. Thus, in the long run, firms will only make normal profits.

Oligopoly

A market where a small number of businesses dominate is an oligopoly. The mobile phone market and supermarket industry are good examples of oligopolistic markets, where there are a few but large firms who compete with each other. Oligopolies will be covered in more detail in topic 4.1.3 later, where their methods of competition will be discussed.

MONOPOLISTIC COMPETITION

- Aim to differentiate products
- Number of firms is large
- Concentration of market power is low
- Knowledge of other firms' actions is imperfect
- Product differentiation is key
- Price-setting power is limited
- Barriers to entry are low

- Number of firms is small
- Concentration of market power is high
- Knowledge of other firms' actions is perfect
- Product differentiation is key
- Price-setting power is high
- Barriers to entry are high

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Monopoly

A monopoly is another market structure that is very seldom witnessed in real life. Monopolies are in direct contrast to perfect competition. It is essentially the existence of just one producer in the whole industry. An example of a sole producer would be the Royal Mint, who, by law, is the only legal printer of UK notes and coins. Since single producers are hard to find in real life, the UK government considers a monopoly firm to be one that owns over 25% of the market.

The demand for a monopoly's product and the output of the firm is the market demand and supply. Barriers to entry are high in this market structure – as a result other firms are unable to enter the market. Thus, monopolies are the only producers (there are no alternative price-makers. Barriers to entry can be created in a variety of ways; the knowledge of entry as there is imperfect information and competitors are unable to obtain the price because there are no substitutes, consumers have very inelastic price elasticity of demand).

These market characteristics means monopolies are able to abuse their market power. Because consumers and producers have contrasting and conflicting desires, wants and needs means almost always monopolies work against the consumer. However, there are some benefits to a monopoly making firm.

Costs and Benefits of Monopolies

- + Monopolies can reinvest their supernormal profits into risky business investment companies. Many medicine developments have high risks associated with them but if they gain enough and gain enough profit can provide the money for the research and development.
- + Monopolies are generally large enough to compete with global companies.
- + The supernormal profits that monopolies earn can be reinvested into becoming more competitive, which will have spillover effects for other firms within the market.
- + Monopolies can take advantage of economies of scale which smaller companies cannot. This will lower average costs for firms, thereby allowing lower prices to be made available.
- The supernormal profits that monopolies gain, however, can make the incentive to improve efficiency redundant.
- The supernormal profits can be used to protect monopolies' high market power by driving other firms out of the market or preventing new firms from entering.
- Monopolies generally charge higher prices and reduce supply.
- Monopolies may use price discrimination to increase producer surplus at the expense of consumer surplus.
- Monopolies are inefficient as they do not produce where average costs are at a minimum. Resources are wasted as average revenue (price) is higher than marginal costs.

- Number of firms
- Concentration of ownership
- Knowledge of the market that is used
- Product differentiation
- Price-making power
- Barriers to entry

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The Impact of Market Structure on Pricing Strategies and Competition

Businesses are more likely to use competitive pricing when the markets they sell to have many buyers. For instance, customers have bargaining power and so may react differently to different pricing strategies than on their prices.

Market Type	Examples	Pricing Strategies
Perfect competition	Eggs and milk on the high street. Companies can only differentiate through price since the majority of consumers do not see any difference between one company's brand of eggs/milk and another.	Businesses may choose psychological pricing to convince customers that their prices are low. Competitive pricing is prevalent when one company is the price leader and other businesses will charge the same. A loss leader method, in which a business sells one of its goods at a price below its actual cost as a way to encourage customers to buy other goods in their store.
Monopolistic competition	Restaurants on a high street. They are vying for the same customers, though they all sell different goods/services.	Some businesses use price discrimination, charging less for the 'early bird' or 'night owl' (e.g. restaurants charging less for the 'early bird' or 'night owl' dinner). Firms can do this because they have a degree of monopoly of customers (e.g. a restaurant specializing in Mediterranean food).
Oligopoly	Manufacturers of video game consoles, such as Nintendo and Sony, are part of a small number of businesses that control most of their market.	Although competition is present, firms in an oligopoly are unable to freely enter or exit the market, so they are interdependent and, thus, they do not lose out. For example, if one firm lowers its price to attract more consumers, others will follow. However, they do have the power to collude. A business might employ predatory pricing, charging a higher price on one product to subsidize a lower price on another. This would allow the firm to maintain its market power and development because it can recoup its costs through the release of each new product.
Monopoly	When one company has majority control of a particular market (e.g. Microsoft during the 1980s and 1990s).	A company that has the market power to engage in predatory pricing (i.e. offering a low price to destroy all other competitors). A business would find itself in a monopoly if it is the only firm in a market. Another method is cost-plus pricing, where a business can decrease their production costs and then decide whether to offer the most attractive price.

Marketing Magic

When the seventh and final instalment of J K Rowling's best-selling Harry Potter series was released, adults and children worldwide prepared to camp outside bookshops and supermarkets, perhaps feeling threatened by the possible competition, demanding the book from the £17.99 price recommended by publisher Bloomsbury.

ASDA sold Harry Potter and the Deathly Hallows for £5.00. Tesco did the same, but spent at least £50 in store. Morrisons went one (tiny) step further, charging £8.87, priced the book higher at £8.87. Regular booksellers, unable to compete with the big supermarkets, sold the book.

Each supermarket priced the book cheaper than they had originally paid for it. The technique worked, as it encouraged consumers across the UK to come to the supermarket. People bought plenty of other products, too!

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Non-Price Competition

Businesses employ non-price strategies when faced with any form of imperfect competition. More companies compete for customers while offering different products/services. These products are often slightly similar (e.g. Henry vacuums vs Dyson, or Amazon Prime vs Netflix). Companies often compete through clarifying what sets their goods apart, i.e. demonstrating their unique selling point.

Marketing Methods

In support of its design mix, a business can choose from several marketing methods: advertising and promotion, distribution, or differentiation from rivals.

Branding and Promotion

Businesses achieve this in many ways, including:

- **public relations** (e.g. pitching products to newspapers and websites)
- **direct marketing** (e.g. delivering advertising to potential customers, via email)
- **personal selling** (e.g. one-to-one sales)
- **advertising** (e.g. web page banners or magazine ads)
- **sponsorship** (e.g. financially backing a new television programme or live event)
- **digital communications** (e.g. social media)
- **sales promotions** (e.g. in-store demonstrations and buy-one-get-one-free offers)
- **branding** (e.g. publicising the fact that a product is of better quality or looks more appealing)
- **rebranding** (e.g. taking a product, usually an unsuccessful one, and repackaging it to satisfy a different customer group)

Rebranding Fail

In 1985, as a way to increase sales against main competitor Pepsi, Coca-Cola changed its formula and released 'New Coke'. The drink performed well in initial market tests but consumers reacted badly once New Coke hit the shelves. Coca-Cola received so many negative responses that it recalled New Coke from all stores and replaced them with the original, real Coca-Cola. The original New Coke are now considered collectors' items.

Distribution

Businesses can compete on distribution terms by offering the safest, cheapest, most convenient form of distribution to their customers. In September 2011, Amazon launched its Amazon Prime service in New York, London and other large cities. By 2016, the service had spread worldwide. Amazon Prime is the Amazon service. Amazon locker is a preferred method of distribution for many customers. Customers can rely on the local postal service. Instead of waiting for a parcel to arrive at their door, they can go to the Amazon locker when their parcel arrives. They can then walk to their nearest supermarket or convenience store to pick up the item themselves.

Differentiation

Differentiation is how different a product appears compared to its competitors'. Many businesses use differentiation rather than cutting prices for several reasons:

- Price cutting can create a negative image for a product or service, because many customers associate quality with price
- If a product appears different enough from its competitors (in a positive way), customers are more likely to remain loyal
- A brand image of high quality allows the producer to charge a premium without losing sales

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One way that a business can achieve differentiation is through *unique selling points (USPs)*. Examples of types of USP include:

- Design
- After-sales service
- Unique features
- Distribution
- Quality
- Durability

Known

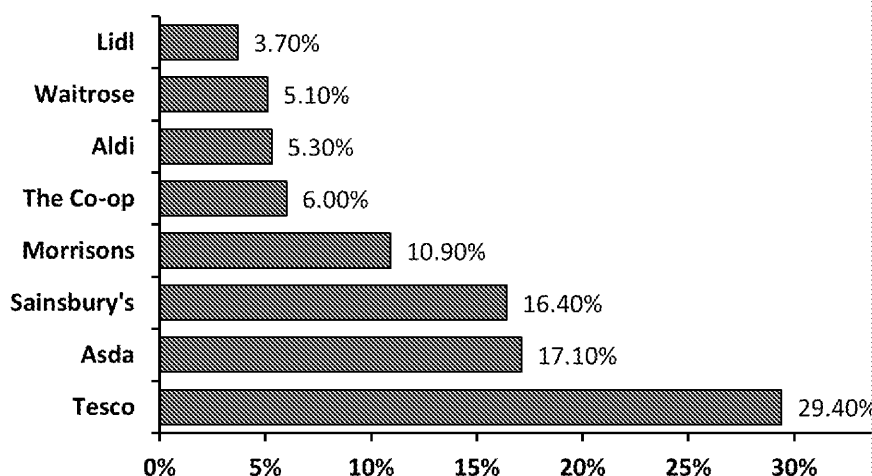
Dyson are well known for their high-quality designs. The company believes in investing in research and development as a way to compete with China and other countries that produce cheaper, says Dyson want to keep ahead in the market.

A business looking to differentiate itself from competitors must first understand what its target markets want. In some markets, for instance, quality is the most important factor while, in other markets, a convenient form of distribution (e.g. online, home delivery).

Questions: Spectrum of competition (4.1.1)

1. What are the characteristics of a perfectly competitive market?
2. What are the characteristics of an imperfectly competitive market?
3. This question refers to the bar chart below showing the UK supermarkets' market share.

UK Supermarkets' market share (2014)



Explain why the UK supermarket industry is not perfectly competitive and give two reasons for the case.

4. The Rubik's cube is the bestselling toy of all time; an estimated 350 million sold worldwide. How does the Rubik's cube differentiate itself from other toys?
5. Identify and explain the most suitable pricing strategy or strategies for the following products:
 - a. Virgin Trains
 - b. Latest version of Samsung mobile phone
 - c. Tesco orange squash
 - d. Sky broadband
 - e. Amazon

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Barriers to Entry

Types of Barriers

- **Product Differentiation**
Firms can easily create substitutes and customers will need very little convincing if products are relatively homogeneous and, therefore, easily enter into products within a market are individualistic (heterogeneous), then it will be hard for entrepreneurs will need very unique ideas in order to compete.
- **Branding**
Branding can be a barrier to entry. This is because if there is strong brand loyalty, it will be difficult for new firms to convince consumers to buy their product instead of the established brand. A lot of money on advertising in order to remain in the market. Entrepreneurs who have profitable businesses, will not be able to enter the market.
- **Start-up Costs**
There can be many things that increase the start-up cost, such as needing to rent a shop, or purchasing expensive machinery. The higher the start-up cost the more difficult it is to enter the market because they will require a larger initial investment.
- **Intellectual Property Rights**
If the products within a market have intellectual property rights (e.g. patents) then other firms cannot copy them. This means, in order to compete, entrepreneurs will need to create their own products.
- **Research and Development (R&D) and Technology Change**
In order to enter a market, firms may need to create goods of better quality or reduce costs. New firms will be able to compete in a market if they are able to create better goods, but in order to do so, they will need to invest in new technology or innovation before they can start producing.

Impact of Barriers to Entry on Market Structure

Barriers to entry can determine the market structure. Low barriers to entry will mean that it is easy to set up a new business; equally, large firms from other markets can enter if they are seen to have a competitive advantage. Because competitors can easily join the market, there will be high levels of competition on prices. It is likely these markets will be perfectly or monopolistically competitive.

Whereas high barriers to entry will prevent new firms from entering and there are few competitors, those that do enter will be big firms who can afford to overcome the barriers. This indicates high barriers to entry will lead to an oligopolistic or monopolistic market structure.

Contestable Markets

- Barriers to entry or exit: none
 - o No sunk costs (these are costs that cannot be retrieved, e.g. marketing costs)
- New entrants suffer no competitive disadvantage to incumbents
 - o Perfect access to technology

Contestability refers to the ease with which new firms can enter the market and exit. Markets/sectors with low barriers to entry (for example, where marketing costs are low) and exit (for example, ease of selling assets or low fixed costs) are highly contestable. A contestable market is bed and breakfast. Entrepreneurs need a relatively low amount of capital and no special use/understanding of complex technology required. On the other hand, the airline market has a very low degree of contestability. This is because a very high start-up cost is required to enter the market. Even if someone can arrange for the investment cost, keeping up with existing firms will be very hard.

Contestable markets can occur in a variety of structures (e.g. perfect competition). The characteristics of the market structure allow firms to 'come and go as they please' and are not vulnerable to 'hit and run' firms.

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When a market has the possibility of making large levels of profits, new entrants will enter the market to their advantage. Because there are no barriers to entry, firms can easily join the market and not be disadvantaged due to being new and unestablished compared to the incumbents. Firms can take full advantage of the market and reap the profits. Once the price has been driven down to supply to the point where profits become normal again, firms are able to leave the market as there are no barriers to exit.

Implications for Firms' Behaviour

The implication of these 'hit and run' firms is that the 'threat' of new firms increases the competition in the market. Firms will behave as though they are perfectly competitive even if there are not. This is because large profits will not last as it entices new firms into the market. Due to the competitive and profit fluctuation, firms will not follow a profit-maximising objective but rather a goal equal to average costs.

Economies of Scale, Cost and Price

Economies of scale are opportunities that arise from growth. They offer businesses the chance of reducing costs, a business is then able to reduce the price of its goods and gain a competitive advantage. This presents a barrier to entry. New firms entering the market will not be able to compete as they have not exploited their economies of scale because the new firms will face much higher costs.

Economies of scale that result from the firm itself growing are known as internal economies of scale. Economies of scale that result from the market as a whole growing are known as external economies of scale. Some internal economies of scale already known are:

Technical Economies of Scale

As a firm grows, it is more able to buy expensive and specialised machinery or invest in new production processes. This, in turn, will increase efficiency and lower its costs. The more the firm produces, such as loan repayments for specialist machinery, will be spread over a larger output. As the firm grows and increases production. Spreading fixed costs across larger outputs will lead to lower average costs.

For example: a car manufacturer may be able to benefit from employing mass-production techniques and division of labour. This may incur costs of organisation and management, but should lead to increasing efficiency and output.

Marketing Economies of Scale

Advertising and marketing can be costly. Larger firms can benefit from spreading their advertising costs over a larger output than smaller businesses and thereby keep their average costs low.

Risk-bearing Economies of Scale

Investments can be risky and expensive. Larger firms are more financially able to bear the risk than smaller firms because they often have a 'financial cushion' and are able to rely on their diversified portfolio.

For example: pharmaceutical companies need to invest in the research and development of new drugs. They have many unknown effects which can have severe and costly consequences. This investment allows companies to take on the creation and production of new and possibly revolutionary drugs.

Questions: Barriers to entry (4.1.2)

1. A US company called Turing Pharmaceuticals bought the rights to produce Daraprim, and promptly increased the price from \$13.50 a pill to \$750 a pill (the drug has been around for over 60 years), but a complex and expensive patent prevented other companies from producing it (the drug has been around for over 60 years), but a complex and expensive patent prevented other companies from producing it. Given that the market for Daraprim is small (few prescriptions per year in the US), it would not be financially viable for another company to undercut Turing. Given this, identify one barrier to entry in the pharmaceutical market.
2. State two features of perfectly contestable markets.
3. Evaluate the extent to which the market for automobiles is contestable.

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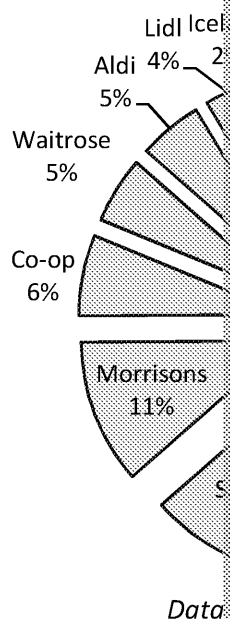
Oligopoly

Competition Ratios

Concentration ratio refers to the total share of market that the top few firms (say, three or four) have. Market structures with low number of firms tend to have high concentration ratios or four-firm concentration ratios, which means you look at the share of the market of the four firms in the market.

The pie chart shows the market share of nine supermarkets in the UK in 2014. The concentration ratio would be calculated by adding up the market share for the 'N' number biggest supermarkets.

- The three-firm concentration ratio would be calculated by adding up the market share of the three biggest supermarkets. Using this data it would be Tesco with 29% plus Asda with 18% plus Sainsbury's with 17%, equating to 64%.
- The four-firm concentration ratio would be calculated by adding up the market share of the four biggest supermarkets. Using this data it would be Tesco with 29% plus Asda with 18% plus Sainsbury's with 17% plus Morrisons with 11%, equating to 75%.
- The five-firm concentration ratio would be calculated by adding up the market share of the five biggest supermarkets. Using this data it would be Tesco with 29% plus Asda with 18% plus Sainsbury's with 17% plus Morrisons with 11% plus Co-op with 6% equating to 81%.



Competition in an oligopoly

Above are all examples of an oligopolistic market structure. In other words, oligopolies tend to have a highly concentrated market. As a result, it is not easy for firms to cut prices in order to attract customers from rival firms. This means that firms are interdependent. They cannot make decisions on price independently, as firms will retaliate and everyone ends up with a much lower profit margin. Thus, firms tend to cooperate, either openly or tacitly, to ensure they are able to charge a high price. This ensures some degree of price stability. However, since only a few firms dominate the market, there is always very fierce non-price competition. This may include things such as product differentiation, offers and marketing.

Tacit Agreements and Competing

Tacit (Implicit) Agreements = when firms do not want to engage in competitive behaviour uncompetitively. This is done without a formal agreement or mention. Because firms collude and the actions are hidden, tacit collusion is hard to detect because it is hard to prove price fixing.

Oligopolistic firms are interdependent so their decisions affect each other and their profit margins. The market structure encourages firms to act together. Imagine one firm cuts costs and is able to cut prices. It is unlikely to because, by cutting prices, it steals business from the other firms and so they are also likely to cut prices. Ultimately this just ends with everybody receiving less profit for the goods they sell and so instead, firms are likely to keep prices higher than they could be in order to avoid a 'price war'.

Learn More!

Watch this video
<https://www.youtube.com/watch?v=...>
 This video explains
 of oligopolistic firms
<https://www.youtube.com/watch?v=...>

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Price Discrimination

Price discrimination occurs when firms charge different prices to different consumers. A consumer's willingness and ability to pay varies from one another. By charging an individual price to each consumer, firms would be able to gain more from the sale of their products and obtain more profit.

For example, a student may be less able or less willing to afford train travel. Therefore, there are different prices to students via 'student discounts'. Cinemas may find demand is greater at peak times would be identified as 'peak times' and cinema companies may charge higher prices.

Conditions

- **Market power**
A firm participating in price discrimination must have enough market power to charge a different price.
- **Information**
These groups with differing willingness and elasticities must be identifiable. Firms charge a higher price to peak-time users or students if they were unable to distinguish and distinguish the groups.
- **Limited ability to resell**
If consumers were able to resell the product, then firms would not be able to charge different prices to certain groups. For instance, a festival company may sell cheaper tickets to students. If students resell the tickets, nobody would pay the non-student price and would instead purchase the cheaper tickets.

Costs and Benefits of Third Degree Price Discrimination

Producers

- + Firms can gain more revenue which may allow some firms to remain in the market and invest in research and development for improvements in the goods and services.
- + Producer surplus can be increased.
- There are costs associated with price discrimination from administration of selling and enforcement costs of ensuring prices stay with the assigned group.

Consumers

- + Some consumers can benefit from lower prices, usually those who cannot afford higher prices.
- Some consumers will be faced with higher prices; this is likely to be an allocation of resources where average revenue is higher than marginal costs.
- Consumer surplus has been minimised and turned to producer surplus.

Questions: Oligopoly (4.1.3)

Here are some cosmetics firms and their market shares.

Firms	Market share (%)
Firm A	30%
Firm B	27%
Firm C	26%
Firm D	10%
Firm E	7%

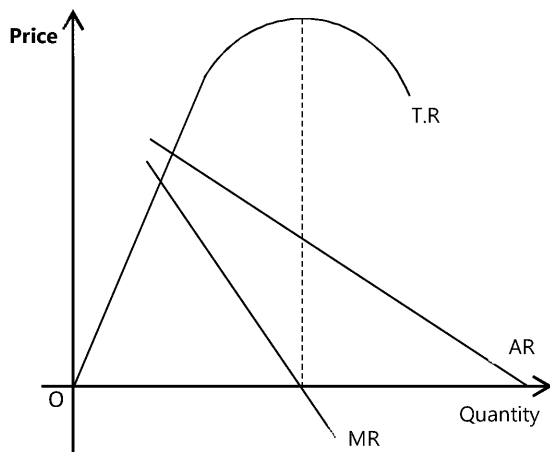
1. What is the three-firm concentration ratio?
2. Assess the benefits to consumers and producers of third-degree price discrimination.
3. Assess the disadvantages to consumers and producers of third-degree price discrimination.

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Business Objectives and Pricing Decisions

Average and Marginal, Revenue and Cost



For this section you will need profit formulas first introduced in the previous section.

Revenues

Total Revenue = Price \times Quantity

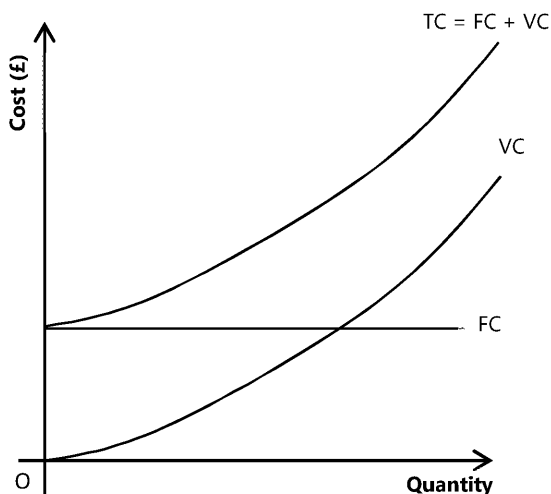
$$\text{Average Revenue} = \frac{\text{Total Revenue}}{\text{Quantity}}$$

These two formulas can be rearranged to give:

Marginal revenue describes the amount of revenue that a firm gets for selling an extra unit of goods/services.

Example: a telecommunications firm builds mobile phones. It receives £10 million for selling 10,000 phones. If it sells 120,001 phones, however, it receives £10.5 million. The marginal revenue of the 120,001st phone, therefore, is £0.5 million.

$$\text{Marginal Revenue (MR)} = \frac{\text{Change in Total Revenue}}{\text{Change in Quantity}}$$



Cost

Total Costs = Fixed Costs + Variable Costs

Variable costs are costs that change with the level of production.

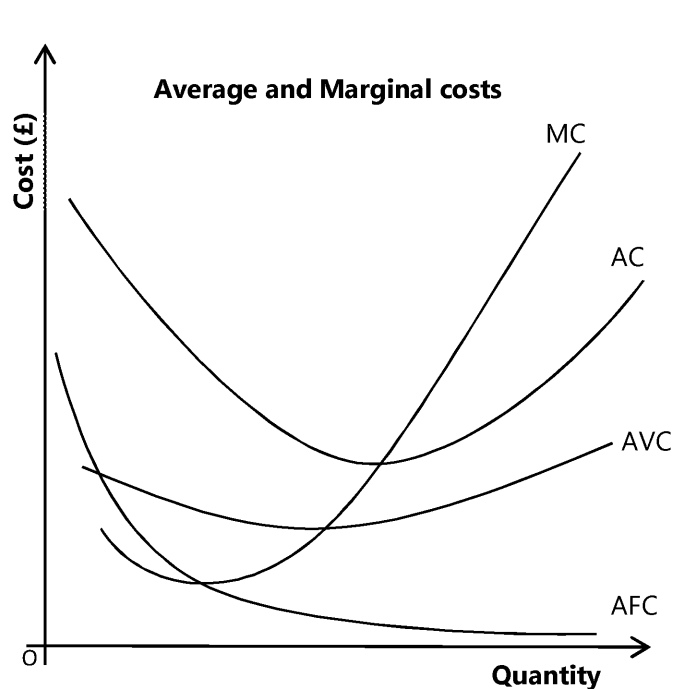
Fixed costs are costs that do not change with the level of production. They are the costs of how much a firm produces, regardless of how much it produces. A firm must pay its fixed costs even if it produces nothing.

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Because total costs include variable costs, the total cost will change as production includes fixed costs, the level of fixed costs represents where the total cost curve will be on the y-axis. The y-intercept represents the fixed cost if the firm didn't produce anything.



Average Total Cost

The distance between the marginal cost curve and average total cost curve increases. This is because as production increases, the marginal cost curve is closer to average total cost curve, including the effects of diminishing productivity.

Average Fixed Costs =

Although total fixed costs are constant, average fixed costs change as production increases. The average fixed cost curve is the top number (total fixed cost) being shared across a larger quantity. So the average fixed cost curve is downward sloping.

Average Variable Costs =

The **marginal cost** is the additional cost of producing one extra good. The marginal cost curve intersects the average cost curve at its minimum point.

$$\text{Marginal Cost (MC)} = \frac{\text{Change in Total Costs}}{\text{Change in Quantity}}$$

After a point, average cost stops falling with increased production and instead begins to rise due to the law of diminishing marginal productivity.

Law of Diminishing Marginal Productivity (the law of diminishing returns)

There is a point where the additional output created from using an extra (marginal) unit of a resource is less than the additional output that was created from using the previous marginal resource. This is the law of diminishing returns – which a firm experiences in the short run where one factor of production is fixed.

For example: a firm produces books. They have one table with four chairs and two writers, so the firm hires another writer. Increasing the amount of labour will cause the number of books produced to increase from 20 to 30.

Increasing the amount of labour again by one writer so that now all the chairs are full. The number of books produced increases to 40 books.

An additional writer (fifth writer) will increase the number of books the firm produces to 46 books. The fifth writer has no chair. Each writer can only write one book a day. The firm might make each writer take lunch on a rota in order to manage the writers will get in the way of each other and the efficiency has been reduced due to the law of diminishing returns. Increasing to five writers has increased production to 46 books. An increase of 6 books is less than the previous 10-book increase.

This is the law of diminishing marginal productivity; the productive return from increasing a variable factor of production diminishes. The law of diminishing marginal productivity is a short-run phenomenon. It can be corrected and improved in the long run; in this example, in the long run the firm can increase the number of tables and chairs.

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Importance of Marginal Analysis and Profit Maximisation

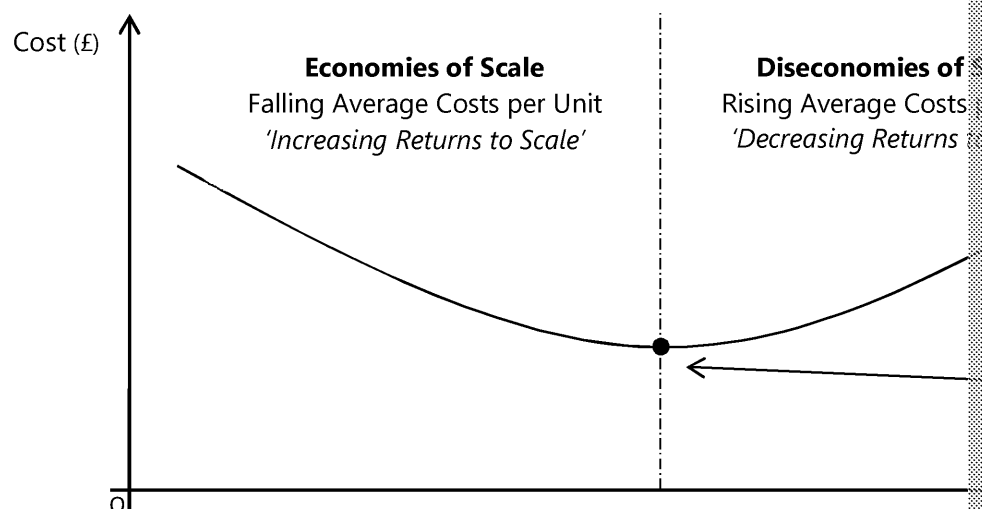
The profit maximisation point is where the marginal cost curve meets the marginal revenue curve.

Profit maximisation is when $MC = MR$

The idea of the 'margin' is important in economics. It refers to the idea of *one additional unit* based at the margins and it allows them to make little changes in response to market changes. If production by a few units, they can maximise their profit. If a firm is producing at a level where marginal cost is less than marginal revenue then they can benefit by increasing production. Although the profit will gain proportionally more profit.

Economies of Scale and the Average Cost Curve

The theory goes that as a firm grows they have a greater opportunity and are more likely to reduce the average cost per unit. These abilities are called economies of scale and they affect the average cost curve. Economies of scale reduce the possible costs that firms can get in the long run (when they have changed their production). Diseconomies of scale occur when a firm becomes too big. The firm's average cost per unit and the average cost per unit begins to rise again. Economies and diseconomies of scale can occur internally or externally.



As a firm takes advantage of its economies of scale, it is able to move down the average cost curve. After a certain point, firms will be disadvantaged from their diseconomies of scale and the average cost per unit to increase.

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Link between Marginal cost and Revenue and Contribution

Contribution, Marginal Cost and Marginal Revenue

You may remember learning contribution in an earlier part of your Economics B syllabus. Contribution, which is linked to break-even analysis, is calculated per unit.

$$\text{Contribution (per unit)} = \text{Selling price per unit} - \text{Variable costs per unit}$$

Contribution shows a business how much of a good's revenue remains following the variable costs. The calculation does not consider fixed costs; it is only concerned with costs of production of the good. In other words, contribution is that which *contributes* to covering fixed costs.

Break-even analysis tells a company how many units it needs to produce in order to cover its total costs. Businesses need to know the contribution per unit in order to calculate the break-even point.

$$\text{Break-even point} = \frac{\text{Total Fixed Costs}}{\text{Contribution Per Unit}}$$

If a company's total fixed costs were £1,058 and its contribution per unit was £23.00, the break-even point would be:

$$\begin{aligned} \text{Break-even point} &= \frac{1,058}{23} \\ \text{Break-even point} &= 46 \text{ units} \end{aligned}$$

This figure tells us that the firm would need to produce 46 units before it could pay for its fixed costs. Using this outcome, a firm's leadership could then propose to go ahead with its plan. However, they should also consider external factors, such as changing trends and economic stability, plus the risk of the plan not actually paying off.

Example: If a high-quality car manufacturer reduced the selling price of one of its models, it would lose less in contribution. However, by lowering its prices, the firm could potentially earn a much higher contribution in total.

This idea also relates to marginal costs and marginal revenue. The difference between the marginal revenue of a business producing one more item shows how much cash would be added to the business. If this is positive, it is worthwhile for the business to go ahead and produce an extra unit. At the break-even, however, marginal costs and revenue cannot exist alone. A business must consider its market (customers, suppliers, rivals, government, etc.) and where trends are moving. It must also consider the risk of producing an extra unit. What if production of an extra item takes three months? That is a long time to wait for that point.

- If marginal costs clearly outweigh marginal revenue, production of an extra unit is not a sustainable decision.
- If marginal revenue outweighs marginal costs, but the probability of success is low, it is an unsustainable decision.

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Impact of Objectives on Pricing Strategies

An organisation makes pricing decisions based on its current objective. If the objective of a firm may look to make as many sales as possible without setting its prices too low, revenue maximisation on the other hand, the same firm may choose to set its prices as low as possible to encourage the most customers.

Which business objective a firm chooses can be influenced by a variety of factors, and the pricing strategy a firm chooses.

- **Level of Competition:** Are there other similar products or services available? Consumers may react to a product differently depending on its price.
- **Amount of Differentiation:** The unique selling points (USPs) of a good can influence how much consumers value it and so businesses can use this to decide on appropriate pricing. However, care, though: make their products/services too different from the crowd and they may lose their audience.
- **Costs and the Need to Make a Profit:** Can the product be manufactured at a low cost? It is important to understand how much it costs them to introduce a product to the market.
- **Price Elasticity of Demand:** Businesses must understand the price elasticity of demand for a good. If demand for a good is very *price elastic*, any increases to its price could *significantly* reduce demand (e.g. avocados or mangos: people can live without these goods and may choose to switch to alternatives). Conversely, if demand for a good is quite *price inelastic*, any increases to its price will *not make much difference* to quantity demanded (e.g. petrol or bread: these are necessities and so people will probably continue to purchase them even when prices go up).
- **Pricing Objective:** What is the business objective? Is it looking to expand? This will have bearing on which strategy a business chooses.
- **Target Audience:** Does the business want to sell to the general public or to a specific group? Does the product or service have a particular age range? A business must consider this when setting a price.
- **Stage in the Product Life Cycle:** Does the product have a long or short life cycle? If the life cycle is long, the business can afford to charge less because it will make sales over a longer period. However, this also depends on the stage in the product life cycle. If the product has already reached the saturation stage, its sales may not be long until quantity demanded begins to drop.
- **Strength of the Brand:** How different is the product/service from its competitors? Does the brand have a strong presence within the market? A business must also consider whether it is a price leader or taker. If the business is a leader with a strong brand, its product will be less price elastic.

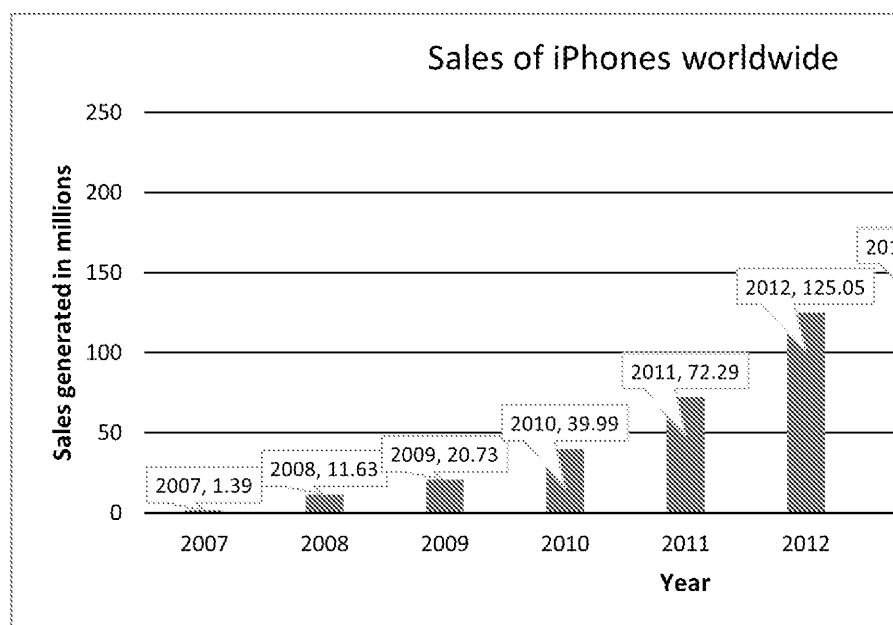
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Questions: Business objectives and pricing decisions (4)

1. Explain why it is important for a company to understand its marginal revenue.
Apple, Inc. is a global player in the technology industry known for producing products that are often priced higher than those of its competitors.

When Apple launched its original iPhone in 2007, the company priced it at \$499. At the launch, the firm reduced this price to around \$400. Today, consumers can purchase the iPhone for £250.



Graph: Annual sales of iPhones worldwide between 2007 and 2012

Source: <http://www.statista.com/statistics/276306/global-apple-iphone-sales/>

2. Identify which pricing strategies Apple may have used between 2007 and 2012, and explain the reasons of business objectives on choosing these strategies.

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Productive and Allocative Efficiency

- **Productive efficiency** is about getting the most out of a resource, productive efficiency occurs when all the resources are the most productive they can be, i.e. when average costs are at their lowest. In other words, this happens when a firm produces at the lowest point on the LRAC curve.
- **Allocative efficiency** is about the efficiency of businesses to respond to consumers' preferences. When resources are allocated perfectly to meet the preferences of consumers there is allocative efficiency. This happens when price equals a firm's marginal cost.

Significance of the Margin (Opportunity Costs, Trade-offs and Scarcity)

The basic economic problem is that resources are finite but the wants of people are infinite. This means the resources that are used to manufacture goods and provide services are fixed; there is only a set amount. However, there is no limit to our wants, whether that be our want of food, want of a new pair of shoes or want of emergency services; our wants are infinite. There are not enough resources available to 'satisfy' our wants, not enough resources to make all the things we want. This is the problem of scarcity. Choices and decisions exist as to what we could use the limited resources for and how best to use them.

Scarcity is the result of limited resources.

For example, if you want to go to a concert, you may have to choose between going to the concert or staying at home to watch a show. These choices are not free; they have a cost to satisfy the ticket price.

Opportunity cost is the cost of a choice; the cost of the next best alternative forgone.

When a choice is made, one thing is picked over another option has been 'given up'; a sacrifice has been made. The sacrificed option is the opportunity cost of the chosen option. The sacrificed option is the choice costs the opportunity you gave up.

For example: You want a packet of crisps (worth 50p) and a chocolate bar (also worth 50p). Your wants are infinite and so you'd like both. However, your resources are finite; you only have £1. Which do you choose? If you choose the chocolate bar, you have given up having the opportunity to eat crisps in order to have the chocolate bar. The crisps are your opportunity cost.

An option that is given up for another means there is a trade-off. With the example between crisps and chocolate bars. If you had £3, you could buy six chocolate bars or a mixture of the both (three bars and three crisps). For every extra chocolate bar you give up one packet of crisps. This is a trade-off, something you give up in order to get something else.

Decisions have trade-offs and opportunity costs.

Because resources are finite, producers must make a choice of how best to allocate resources to maximise profit. If a producer responds accurately to what the consumers want, then they are allocatively efficient. This means, to attain allocative efficiency, producers must make their decisions to allocate resources to produce what consumers want. For example, a government may need to spend heavily on education, as well as welfare. To achieve allocative efficiency, it must stick to a choice that reflects the nature of resources, to achieve allocative efficiency, it must stick to a choice that reflects the nature of resources.

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Increasing Efficiency = Increasing Productivity = Lower Average Costs

A firm is productively efficient when its resources are being used to produce their maximum output. This means firms can increase their productivity if they become more productively efficient. If this happens across the whole economy. Due to cost spreading, by improving productivity, and this will lower their average costs.

Increasing the productive efficiency of something can be done through a variety of ways:

- **Technology**
New technology improves the productivity of factors of production. Generally, new capital that is more resourceful and able to produce more goods. This is because, Equally, resources used in the production process will be used more efficiently when new technologies are invented.
- **Human Capital (Skills Training and Education)**
Increased training programmes and improved education will increase worker productivity. Workers should be able to produce output more quickly and cheaply.
- **Quality of Management**
If the quality of management is improved resources will be handled more efficiently. If the business is inefficient then the business will be able to produce more goods with the same resources. Time-wasting procedures will only add costs to the business. If the quality of management can add value to its products and increase its revenue. Equally, if the management is poor, the business can run with fewer management staff, thereby cutting unnecessary costs.

Market Structure and Consumer Preference

Markets with many firms need to compete with each other to gain customers. If a firm produces better goods, customers will buy that firm's products rather than those of competing firms. This competition provides an incentive to firms to lower the price of their goods or increase their quality by cutting costs or research and development. Improving efficiency within a firm can allow a firm to reduce the price or reallocate the newly freed-up money to higher quality goods.

One way to be allocatively efficient is for a firm to listen to the demands and preferences of its customers. Firms take a *product-orientated* approach. The traditional attitude to production of consumer goods by concentrating on the product itself (quality and performance) without taking potential consumer needs, wants and attitudes into account. In today's marketing environment, not focusing on the customer is a very risky strategy.

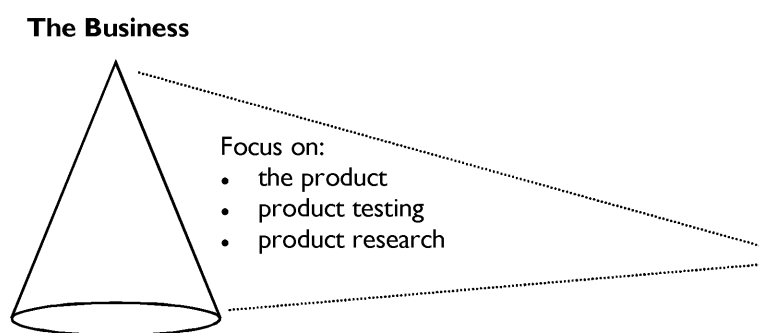


Diagram: Product-orientated business

Businesses that adopt this strategy are *taking the customer for granted*, believing that their product is 'good enough' for the customer and will sell no matter what. The technology of a product-orientated business. The company focuses on the quality and performance of the product, without considering what consumers want or need. Apple's brand is strong enough that every product they launch generates worldwide news, generating buzz, interest and high-volume sales.

Product orientation does not work for everyone, though. IBM (International Business Machines Corporation), fell into a self-made trap with the launch of their first personal computer in 1981. IBM came late to the personal computer market long after other companies had established themselves. IBM believed that their well-established name and excellent reputation in the business would carry them through to the personal computer market. The firm then concentrated on marketing *IBM's name and reputation*, not fully focusing on the customer. This was *not* a successful strategy as sales were much lower than expected.

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Taking a *customer- or market-orientated* approach is now much more common and puts the customer *at the centre* of the business's decision-making process. It focuses on customer demand and then attempts to satisfy that demand. It involves *continuously reviewing* the product and processes appropriately to meet them. A good example of a market-orientated business is the major-chain supermarket, which continuously aims to stock the right products to attract customers to come back.

The Business



Focus on:

- the customer
- market testing
- market research

Diagram: Market-orientated business

A market-orientated business will make decisions on a continuous cycle:

1. *Gathering information* about all actual and potential stakeholders, the market trends so they can provide the customer with what they want at a price they can afford. This involves gathering information on existing customers, potential customers, competitors etc.
2. *Undertaking SWOT analysis* to evaluate the Strengths and Weaknesses of the business, its competitors and identify Opportunities and Threats that exist in their market.
3. Ensuring that the business *always focuses* on providing customers with *exactly what they want* at an *affordable* price.

By better meeting customer preference, a firm will become more allocatively efficient.

How Markets Interact with One Another

Firms base their decisions on external changes. Firms will look at their competitors' prices. If their competitors lower prices, then the firm may want to follow or it will lose customers. A firm may want to improve the quality of its goods or advertise more in order to keep customers. Similarly, firms will look at the prices of complement goods. A mint sauce producer will look at the prices of lamb producers. If lamb producers lower their prices, then the mint sauce producer may want to lower their prices.

Firms interact with each other all over the economy, whether competitors or suppliers. If a supplier increases its prices, then the costs of production for a firm will increase, which may reduce the quantity it produces, or perhaps it will increase the price of its goods. If a firm within the production chain improves its efficiency, then other firms will feel the benefit. This can benefit the whole economy. Firms buy and sell parts from a production chain. If a production chain increases efficiency, then the whole market will benefit from reduced costs.

Questions: Productive and allocative efficiency (4.1.5)

1. What is the difference between efficiency and productivity?
2. A farmer can either produce 10,000 tonnes of wheat or 5,000 tonnes of tomatoes. Can't they produce both?

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Market Power and Market Failure

Market Failure

Significance of Market Power

In order to compete and sell their goods, firms must compete for consumers. The price of their product. If the market runs in this way, then there is greater efficiency. Standards in society will increase. Inefficient firms will go out of business and free more efficient firms that satisfy consumer demands; allocative efficiency. Competition increases living standards in a few ways. Firstly, if firms compete on prices, then consumers get more goods with their money as cost-cutting measures will lead to a fall in prices. Secondly, they will look to create new and better products; improved products are generally higher standards as well as increase efficiency. Striving to cut costs and improve product quality through methods of production and new technology to boost productivity. This can have a positive impact on the industry and further.

Anticompetitive practices prevent this mechanism. They can distort the market and lower standards. There are a variety of market failures that exist; below are four failures you will see in your exam.

Cartels, Collusion, Restrictive Practices and Tacit Agreements

A cartel is an agreement between two or more firms to partake in anticompetitive practices that restrict the free market. Tacit agreements are when firms have not formally agreed to behave uncompetitively. It is far harder to identify tacit agreements than explicit ones.

If firms are behaving uncompetitively, then they are able to artificially boost their prices. This will mean some consumers are unable to purchase their product and consumer spending power will be reduced.

Monopsony Power

A monopsony is similar to a monopoly, but rather than being the only seller in the market, it is the only consumer. Monopsonists can have direct adverse effects on workers and suppliers. Large supermarkets represent both monopolists and monopsonists. As the only consumer of milk for many dairy farmers, they are able to push down the price of milk, forcing some out of business and leave most with a lowered income. This has a positive second-order effect in the form of lower prices for their milk.

Natural Monopolies

Utility companies are good examples of natural monopolies. Utility companies need to be established before entering into the market. The high sunk costs cause a long L-shaped average cost curve. Waterwork companies will first have to pay large sums of money in order to set up the infrastructure to extract and sterilise the water. The cost of entering the market is high, but the cost of producing for an additional customer (the extra cost to produce one more unit of quantity) is very low. This makes the natural monopolist has, the better off the firm is because the market creates an average cost curve that starts with but sharply falls.

This means more consumers will reduce a firm's average costs, but if another firm enters the market then the firm would have to share its customers. Average costs will greatly increase and prices will rise.

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Natural monopolies have very little downward pressure from competition. Because worried that prices from utility companies, such as telecommunications, would be too high, there is little benefit from allowing more firms to enter the market, due to the high fixed cost problem, the government 'opened up the infrastructure'. By this it is meant that the infrastructure was given to a new company to look after. This allowed new firms to enter the market without the up costs, as they could use the infrastructure that already existed, bringing with it the same benefits but without the price-inflating problems of an L-shaped average cost curve. With the telephone wires were given to Transco who are now known as the National Grid.

Power in the Labour Market

In the labour market, monopsonists and monopolists can be found. Trade unions represent workers with similar skills. In this situation, trade unions are seen as the only supplier of appropriate labour. With their collective bargaining power, monopsonist trade unions are able to gain more choice but to pay more for labour. This increase in cost will mean firms will need to raise the price of goods and consequently, living standards for consumers will fall.

If there is only one firm employing workers with a certain skill set, then that firm is the monopsonist consumer of appropriately skilled labour. This means they are able to bargain for lower wages, which means firms can pass on the savings in the form of lower prices, workers will have reduced income.

Implications of Market Failure

Decisions from firms focus on the more profitable option; however, this choice may not be in the best interests of consumers. Often, consumer interests directly oppose those of producers and as such, the market fails to benefit at the other's expense.

Economies of scale can enhance a firm's market power. Increased market power can be seen as it gives the firm the ability to manipulate the market for its own gain. However, this can be brought about by a lowering of prices (creating an increase in living standards) because the firm has to cut its average cost.

As was discussed earlier, natural monopolies also demonstrate how a seemingly natural monopoly can be beneficial for the consumer. Natural monopolies hold a huge market share and have no close substitutes. If the market had greater numbers of producers (theoretically the solution) this would be dramatically different.

Often the outcomes of market conflicts and negotiations are decided by the side with the most power. A firm with large market control, such as a monopolistic employer, has a great deal of power. In this scenario, is able to drive down the cost of labour (wages). If, on the other hand, workers have bargaining power, because, for example, they can easily live without the good (a natural monopoly), other options (lots of strong substitutes), then the consumer is able to drive down the price of the good.

Questions: Market failure (4.2.1)

1. How does the monopsony power of the NHS lead to market failure? (2 marks)
2. How might trade unions lead to market failure? (2 marks)

Remember to write in the first person.

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Business Regulation

Promoting Competition

- **Preventing Anti-Competitive Practices**

Anti-competitive practices are bad for public welfare and reduce living standards. The government will try to prevent such behaviour that reduces competition within the market. The government will monitor the economy and restrict anticompetitive practices. This is done through changes, prohibiting, and fining and in some cases arresting those considered to be anti-competitive.

- **Controlling Mergers and Takeovers**

The concern with mergers is that they may grow too large and gain the ability to act in their own benefit (recall monopoly power). This will restrict competition, which leads to higher and high prices for the consumers.

In order to merge, firms must get permission from the Competition and Markets Authority. They must contemplate how the merger may affect the consumer and from this decide whether to approve the merger.

- **Privatisation**

Privatisation occurs when the government relinquishes control of a business to the private sector. Economists say this is 'a transfer of ownership from the public sector to the private sector'. The Royal Mail was owned by the government, but is now a private-sector organisation. As the Royal Mail needs to keep costs low and is threatened by potential new firms, it has greater competition from the public sector.

Regulating Natural Monopolies

Governments have tried to regulate natural monopolies in a variety of ways over the years. In the past, natural monopolies were nationalised. Nationalisation is the opposite of privatisation; the government takes control of a privately owned business; a transfer of ownership from the private sector to the public sector. The private sector, without intervention or public opinion, encourages firms to operate without competition. Firms have little incentive to look after their employees and provide the lowest possible price. Government-run organisations are not run for profit and their motives are generally to serve the public and provide the best service.

However, publicly run organisations suffer from inefficiencies causing huge costs that the public cannot afford. In the 1980s, a lot of natural monopolies were privatised again in order to introduce competition to the market. Often, firms within naturally monopolistic industries were given the ability to recoup their costs by elevating the high sunk costs that create the L-shaped average cost curve. This means that firms can raise prices without duplicating the resources.

However, there were still low levels of competition within these industries and this allowed firms to charge high prices. Instead, the government created regulatory bodies that have the power to set the prices firms can charge. They often taken into consideration the expected level of efficiency, the time (thus by what level they should reduce their costs over time), the level of inflation, increasing input prices and wages) and the costs of needing to renew and replace assets.

Protecting Consumers

If prices rise then it can have two diminishing effects on living standards. As prices rise, consumers are less able to buy goods as their pounds won't stretch as far. Being less able to purchase goods leads to a fall in living standards. Equally, as prices rise on essential items such as food and energy, living costs increase. Increasing living costs can leave some people unable to afford essential items.

CMA regulates unfair practices and misleading pricing strategies. Furniture stores often use a 'bait and switch' tactic to trick consumers into thinking they have a bargain. After the sale the price will go up. Instead of discounting the price, the firms have only inflated the prices during certain time periods. Prices seem appealing during periods claimed as 'sales'.

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Competition and Markets Authority (CMA)

A common type of intervention is when the government has to ensure that there is fair competition. Competition policies are designed to protect the consumer from the monopolistic manipulation of the market and abuse of market power from firms with high market share. It is believed that increased competition in an industry will reduce inefficiency and improve resource allocation.

In the UK, the Competition and Markets Authority (CMA) is in charge of promoting competition and reducing monopoly power. It also attempts to prohibit cartels and collusive behaviour. It took over the Competition Commission and Office of Fair Trading (OFT) back in 2014.

Competition Authorities and the EU Competition Policy

Globalisation means that firms interact across national borders and can't prevent competition within and across boundaries, making it harder for national competition authorities to detect and limit. Individual competition authorities have different approaches to limiting anti-competitive behaviour and each identifies potential threats in different ways.

In the USA, the Federal Trade Commission is responsible for monitoring competition within the market place. A firm in the USA is considered a monopoly when it has a market share of over 60%. The EU considers a firm a monopoly when it has a market share of 38%. The CMA in the UK has a more relaxed approach to monopolies than other competition authorities, but this is because it considers a firm to be a monopoly at a much lower market share of 25%.

The EU competition policy aims to promote competition among firms interacting within the EU. It prevents and corrects anti-competitive practices in many ways. It fines collusive behaviour and cartels, breaks up monopolies, prevents abuse of dominant market positions and analyses merges before allowing or prohibiting them. As well as culling the market share a firm may have, it attempts to 'open up' markets to greater levels of competition, thus making each firm within the market act more competitively. It also gives aid to firms that are considered to create effective competition within market. Lastly, it works closely with each EU member's competition authority, such as the CMA. By doing so, the EU Commission is able to monitor and regulate monopolies across borders and it ensures the competition policy is equally applied across member states.

Employee Protection

This ensures that employees and employers deal fairly with one another. Employee protection also addresses labour laws for collective bargaining and industrial action. An example piece of legislation is the *Disability Discrimination Act of 1995*, which works to prevent firms from treating disabled workers any differently from any other worker. Working environments must be suitable for all.

Some of the effects businesses feel from employee protection legislation include:

- Decrease in industrial action (such as strikes) since worker conditions are improved
- Costs to businesses that comply with the legislation
- With equal opportunities, businesses have full pick of candidates and so, in theory, can employ the very best suited for the job
- Motivation increases as working conditions increase

Questions: Business regulation (4.2.2)

1. Why might a government need to intervene to control mergers and monopolies? (2 marks)
2. What is the impact of policies that regulate firms to increase competition on the following?
 - a) prices
 - b) profit
 - c) efficiency
 - d) quality
 - e) choice(5 marks)
3. Suppose that a single firm had a monopoly over the air flights between two countries. Discuss the extent to which a government should seek to promote greater competition in this market. Use a diagram in your answer. (10 marks)

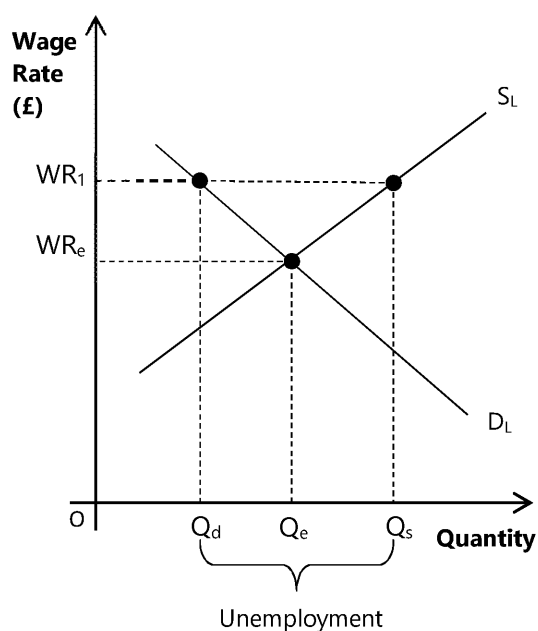
Arguments For and Against Regulation

Benefits

Regulation in a business sense is generally seen as a negative; however, its primary purpose is to protect and improve the health and living standards for society. Regulations around the workplace have ensured that employees are protected. They have also ensured that the goods produced are of a certain standard. Due to regulations, people are able to purchase and consume goods with the knowledge that they are safe, e.g. knowing the food they buy from your local supermarket is safe to consume.

Regulations on the market place mean businesses aren't allowed to collude. This is a benefit for consumers as firms have to compete on prices. Increased competition from new firms means firms have to compete on quality. This means the whole economy can benefit from improved standards.

The EU has tried to create a level playing field across all its member countries. By having common rules within the EU, employees and consumers can feel the same benefit whichever country they live in. Firms that operate in more than one country in the EU will have to produce products under the same standards as their employees the same in each country.



The minimum wage is a factor that affects the labour market. The national minimum wage is the lowest wage that employers are legally allowed to offer. The diagram to the right shows the effect of the national minimum wage; it is shown as a horizontal line at W_{R_1} . This is because the national minimum wage is set above the market clearing wage (W_{R_e}).

The minimum wage raises the wage rate, which means that those earning the least are brought up to a level where they can earn enough to cover their basic needs.

However, the higher labour costs means firms' profits fall and they may decide to reduce the number of employees (income effect). As labour is more expensive, firms will look to switch to other methods of production. At the new minimum wage rate, the quantity demanded (Q_d) is less than the quantity supplied (Q_s), as firms are less willing to purchase labour. On the flip side, more people would be willing to work (income effect). As the benefits of working (income) are higher than the benefits of being unemployed (Q_s), there is an excess of labour available for work is greater than the number of jobs offering to employ. The spare labour is the unemployment rate. This means the national minimum wage causes unemployment in the market.

Other disadvantages of the national minimum wage can include inflation. This is because the higher labour costs are passed on to the consumer in the form of higher prices. Equally, as labour is more expensive, firms may decide to move production to countries such as China. This means that the UK may lose its competitive edge, which can have an effect on the balance of payments.

Flexible labour markets have been accredited with high levels of job creation. However, they also provide less protection for employees.

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Costs

There are a few costs to regulation. Some have been discussed earlier with the market. Regulation is costly. The bureaucratic procedures that are involved to ensure regulation add additional cost to the firm. This means firms' costs of production will increase, margins falling or increase their prices to compensate. Some firms may even go out of business. If margins mean the government will gain less tax revenue and the firm will have less profit. Increasing prices can cause inflation as well as reducing purchasing power for consumers.

If firms are unable to collude, then they will have to compete on price and quality. For consumers, it is harder for firms, and some firms may find they are unable to compete. Firms generally don't like regulation and governments may find they are making themselves unpopular in the business sector.

Questions: Arguments for and against regulation (4.2.3)

1. Analyse one benefit of regulation.
2. Analyse one cost of regulation.

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Market Failure across the Econ

Market Failure in Society

The market mechanism is not perfect, and there are occasions where the free market does not allocate resources efficiently and is unable to find the optimal market equilibrium. Market failures occur when the free market leads to a misallocation of resources leading to goods that are undersupplied or oversupplied, or cases aren't provided at all.

Under-provision and Underconsumption

Goods and services can be classed as either public goods or private goods. The classification depends on the degree of excludability and rivalry, and this determines their ability to be provided in a free market.

When a good is **excludable** it means people can be excluded (prevented) from consuming it. **Rivalrous** means supply diminishes with use (it cannot be consumed by another if it has been consumed). Private goods have these characteristics, whereas public goods are non-excludable and non-rivalrous. With this understanding, it is good to think of some examples:

- **1a Street lights – public good**
Street lights are non-excludable because you cannot easily prevent other people from using them if they have been provided. Equally they are non-rivalrous, because somebody using them does not mean another person cannot use them. Walking down the pavement does not mean another person cannot use the light.
- **2a A chocolate bar – private good**
A chocolate bar is excludable; it will only be provided to those who pay for it. It is also rivalrous because once you have consumed it, that same bite is gone. There is only a finite amount of chocolate in the bar and eventually the supply diminishes.

Some goods suffer from the 'free-rider' problem. 'Free riders' are people who do not pay or intend to pay for the good but still use it. This means they will not be provided for by the free market because the producer cannot force people to pay for the good and/or force everyone else to pay for it once the producers have supplied it. To further explain this, the examples above have been reused to show how 'free riders' may or may not occur.

The free-rider problem occurs with non-rivalrous goods that are non-excludable. This can lead to under-provision of goods – or the free-rider problem.

- **1b Street lights – public good – has a free-rider problem**
The light from street lights cannot be easily confined to just the person who bought a street light for outside their house, but this means others can use the light. If we were to put a high wall around the area of the pavement that the street light is on, it would be unfeasible and hazardous to other pedestrians. Neighbours wouldn't buy them because they would already be one supplied and they could use it free of charge. Nobody would buy them because they would just wait until their neighbour bought one. They could coordinate between them, but this is effectively what the council does. Because nobody would manufacture one. Instead a governing body charges taxes to purchase street lights.
- **2b A chocolate bar – private good – does not have a free-rider problem**
Chocolate bar producers can ensure a chocolate bar is only supplied to those who pay for it. If you eat some of the chocolate, but you have purchased each gram of the chocolate, somebody else does. By the other person eating some, supply has still diminished for you to eat. Therefore, a chocolate bar does not have a free-rider problem and is provided in a free market.

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Positive and Negative Externalities

Costs occur during the production of a good and during the consumption of a good (when it is purchased). Benefits also occur during both the manufacturing of a good (the revenue producers receive) and the consumption of a good.

Producers weigh up the costs they incur against the benefits they'll receive before deciding to manufacture a good and will do so if $\text{benefits} \geq \text{costs}$. Equally, consumers weigh up the costs they incur against the benefits they receive before deciding to purchase a good and will do so if $\text{benefits} \geq \text{costs}$. If there are additional costs or benefits not directly experienced by the producer or consumer, then these will not be accounted for. These external costs and benefits 'externalities'. Externalities will be covered in more detail in the next section.

Overconsumption of Demerit Goods

Goods with negative externalities are seen as demerit goods because they have negative externalities. Because these goods do not take into account the additional costs that exist, they are overconsumed. As per the law of demand, the lower the price the greater the quantity demanded. Demerit goods, which have unrepresentatively low prices, are demanded more than they are, therefore, overconsumed.

Factor Immobility (Occupational and Geographical)

Geographical Immobility: the inability of resources to move geographically

Occupation Immobility: the inability of labour to move between industries, as they lack the necessary skills

Structural unemployment is caused by inflexibility in labour. As economies change, an economy can shift between major industries. We assume there are no barriers to entry. If an industry declines, workers are unemployed because of a mismatch in skills. Structural unemployment exists because the supply and demand for labour are unevenly distributed across the country and across industries.

Imperfect and Asymmetric Information

An assumption in economics is that there is perfect knowledge and there is symmetry of information between economic agents. In order to make consumption decisions, consumers need information about the valuations of goods and services. Consumers may make decisions that don't maximize their utility due to imperfect knowledge of a good or have incorrect information. This leads to a market failure. Producers may not market signals if they have the incorrect information, and make inaccurate decisions leading to a market failure.

Asymmetric information = participants have differing levels of knowledge

Symmetric information = all parties have the same level of knowledge

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The Lemon Law – An Example of Asymmetric information

The problem of asymmetric information in which one party knows more than the other. So-called 'lemon laws' exist in various states of the USA to protect purchasers. 'Lemon' is a name given to bad cars with hidden mechanical problems.

Car sellers know the good and bad qualities of the vehicles they sell – and whether buyers will not discover any problems until after purchase. As a result, buyers were overpaying prices but end up with a lemon – and so sellers found that they could not sell goods. The loss of buyers led to the collapse of the second-hand car market. This is an example of asymmetric information.

Imperfect information can explain why the market price does not always reflect the true value of a good. Negative externalities, such as pollution, the costs are not always known by the consumer. People are willing to purchase the good than they might be had there been perfect information. For example, people were smoking. In the early 1900s, lots of people smoked because they were unaware of the effects of smoking on someone's health. Nowadays, people are more aware of the effects of smoking and as a result, a lot of people choose not to smoke.

Environmental Change

With the increase of production and globalisation over the hundreds of years humans have been producing, we have changed the environment around us. This is a failure of the market because it does not consider the damage done to our surroundings. Congestion from transport (increased demand for labour) and general travelling negatively affects humans and wildlife by being noisy and polluting the environment. Pollution can also affect health and contribute to global warming and climate change.

Questions: Market failure in society (4.3.1)

1.
 - a) What is meant by the term 'immobility'?
 - b) What two immobility market failures exist within the labour market?
 - c) How do these immobilities affect the labour market?
2. Give an example of a demerit good and explain how its overconsumption can lead to market failure.

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Externalities

Costs and Benefits: Private, External and Social

Externalities can be seen as the side effects of economic activity that affect those who are not directly involved in the transaction. These effects, therefore, are not paid for by the consumer or producer and are not part of the decision-making process. You will need to understand the different benefits and costs associated with externalities. The costs and benefits are not always quantifiable and so are hard to measure.

- × **Private costs** are costs that impact the economic agents directly involved in the transaction.
- × **External costs** are negative externalities, they are costs that impact a third party who is not part of the market transaction.
- × **Social costs** are the total costs involved in the market transaction, including both private and external costs.
- ✓ **Private benefits** are benefits that impact the economic agents directly involved in the transaction.
- ✓ **External benefits** are positive externalities, they are benefits that impact a third party who is not part of the market transaction.
- ✓ **Social benefits** are the total benefits involved in the market transaction including both private and external benefits.

Impacts of Unreflective Prices

Because these external effects are not considered when producers are deciding how much to produce or when consumers are deciding how much to purchase, goods with externalities are priced based on free market forces.

Goods that produce high pollution levels, or require a lot of transportation and create congestion, impact a third party. The cost, the pollution and congestion, will not be paid by the producer or consumer, which means the price of the good will be undervalued and will lead to an overconsumption of the good.

A good that provides additional benefit to a third party, such as flu vaccines, which protect the individual vaccinated but also reduce the risk of a third party catching flu, will be underconsumed because the benefit is not felt by the producer or consumer and so they are less willing to produce or purchase.

Governments can try to realign the market forces of supply and demand by changing the price of the good. For example, assigning a tax to goods with negative externalities, the additional cost of the good will be passed on to the producer, who in turn will increase the price, and less of the good will be consumed. For goods with positive externalities, governments can provide subsidies to producers in order to encourage them to produce more goods at a cheaper price thus encouraging consumption of the good.

Environmental Externalities

One of the biggest externality problems faced by our society today is the environmental impact of the modern world. Fuel and gas are non-renewable resources. Non-renewable resources are those that, once used, or are not replenished quickly enough. Fossil fuels are a non-renewable resource as they take thousands of years to replenish over thousands of years which is not nearly quickly enough to refill the tanks.

Energy is an essential today, it is used in both manufacturing and in the homes of consumers. The consumption of gas releases harmful toxins into the atmosphere. The generation of electricity from the burning of fossil fuels. There is a negative externality that exists from the production of energy, with the environment being the third party affected.

Questions: Externalities (4.3.2)

1. What types of costs/benefits are the following examples of?
 - a) Price of a car
 - b) Ripple effects of education
 - c) Pollution from factories
2. What is the impact on society of charging prices that do not reflect external costs/benefits?

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Policies to Deal with Market Failure

Provision of Public and Merit Goods

Due to the characteristics of public goods (non-excludability and non-rivalrous), no one can purchase them; as such, they will not be provided by the free market. In most cases, public goods are provided by society, such as street lights or national defence. The failure of merit goods is that they are not provided in sufficient quantities. In order to correct this failure, governments will need to encourage the provision of these goods. Therefore, government intervention is justified in order to provide these goods.

The government can intervene by simply providing these goods, or it can subsidise their production. It is argued that government provision of goods and services eliminates the market failure. This is mostly irrelevant as there is little to no market for public goods originally.

Indirect Taxation of Demerit Goods

Adding a tax to a good with a negative external cost will push up the cost of production, making producers less willing to supply the good and, therefore, the extent of the externality decreases as the quantity supplied falls. This will in turn push the price of the good up and fewer consumers will demand the good at this price and, again, the extent of the externality will decrease along with the quantity demanded. The aim of the tax is to restrict consumption and production of the good.

However, the incidence of the tax may mean the consumer ends up paying the burden of the tax. In the tobacco and cigarette market, this may be a good thing and may give a greater incentive to reduce consumption. In the case of the non-renewable energy markets, however, there could be some unintended consequences. The generation of electricity in this market uses fossil fuels which release harmful pollutants. The same is true for the extraction and consumption of petrol and gas. A tax may be levied on these goods to reduce the externality, but energy is a modern-day necessity and, with the burden falling on the consumer, some people may be unable to cover their costs of living, which presents a social and economic problem.

Tradeable Pollution Permits

Pollution is a negative externality and is a critical modern-day problem. A 'polluter pays' system, however, there is no guarantee firms will reduce the pollution they produce. Firms are often relatively inelastic to increasing pollution costs because energy is essential to production. A tax on pollution will increase but it is unlikely to affect pollution levels. Furthermore, firms may pass on the cost of the tax more and will carry on polluting and producing and just pay more. This may make it harder to cover their increasing costs.

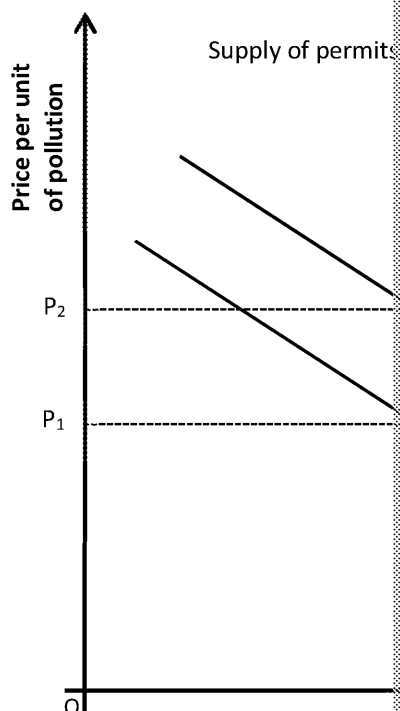
Taxes attempt to manipulate the market and thereby distort the price mechanism. A market-based approach, tradeable pollution permits, is used to try to limit pollution using a more market-based system. Pollution permits allow firms to produce a set amount of carbon. If they produce less than their allowance, firms are able to sell their excess permits. This provides an incentive to firms to produce less and increase the money they receive and thereby reduce the total amount of pollution. As firms produce less, polluting firms will become more competitive and the demand for their good will increase, leading to a change in consumption habits of consumers towards lower-polluting goods. If firms produce more than their allowance, they can buy extra permits from lower-polluting companies. This provides an incentive to firms to produce less and increase their cost and the consequential increase in price will shift consumers away from their product. By creating a market function for pollution, intervention attempts to work with the market rather than distort it.

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The tradeable permits allow pollution to be distributed to various firms depending on their needs, but the aim is to reduce the total pollution emitted. However, high-polluting firms are usually richer firms, and as with taxes, the poorer firms will find they are unable to produce their goods while rich firms carry on polluting.

The diagram, right, shows how the ideas of supply and demand apply to a market for tradeable pollution permits. The key idea is that *supply is fixed* (it is vertical on the diagram). The supply of permits equals the total amount of pollution allowable, which is determined by the authorities. This means that if demand rises (perhaps economic growth leads to a manufacturing boom and more factories being built) then the price of the permits must rise (P_1 to P_2).



The system means that the most efficient firms – those that produce the least pollution – are more affordable. For those firms that are heavy polluters there will be a lot of incentive to reduce their emissions. A lot of research and development in pollution reduction has taken place in the industry.

Provision of Information

It was found that a lack of information could lead some markets to completely collapse. In the early 1900s, consumers and producers may make incorrect or inefficient decisions if they are not informed or misinformed. The government may intervene in order to improve the information available. This can be done through legal requirements, such as the requirement to add the list of ingredients to food labels. This improves consumers' knowledge. For the car market it is the law to take cars for MOT. This improves information available to the buyer on the condition of the car. The purpose of this is to ensure that cars are checked to meet standards, and improves the information available to consumers.

Legislation and Regulation

The government can control the market by making laws and regulations in order to correct market failures. It can put an outright ban on certain goods or enforce limits. Another solution would be to regulate certain markets, such as MOTs for cars, or preventing certain behaviour such as advertising cigarettes.

Impact of Policies

Some impacts of policies have already been described above. As a summary:

- Provision of public and merit goods could destroy the market for these goods.
- Some people may be left unable to afford necessary goods if taxes are implemented (see the topic in this topic).
- Policies can increase the costs of production and cause inflation or put some firms out of business.

One impact of policy intervention is the potential for government failure. Where the government can step in (intervene) in order to correct market failures, such as externalities, provision of public goods, and to reallocate resources to the more socially optimal market equilibrium. The government also intervenes in order to protect the well-being of the environment, society and the economy.

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However, the government may instead create further market failures that result in a net welfare loss than the free market outcome. This can present itself in a variety of ways:

- **Price signal distortion**
 - Changing prices manipulates the market and falsely represents changes in supply and demand.
- **Unintended consequences**
 - Regressive taxes represent an unintended consequence because they represent a larger burden on low-income earners more than high-income earners. For example, an environmental tax on petrol is paid by low-income earners because they cannot always afford new, green cars. This is a 'guzzle' fuel.
- **Excessive admin costs**
 - There are costs involved with implementing policies and with monitoring compliance. If the costs outweigh the benefits of the scheme, it would have been better for the government to do nothing.
- **Information gaps**
 - Governments can cause information gaps, but equally the information gaps can mean governments are misinformed. They may cause failures because they are based on models built from inaccurate models and predictions.

Questions: Policies to deal with market failure (4.3.3)

1. Which of the following statements is false?
 - a) An industry that is privatised is likely to be more efficient, because the firms have an incentive to cut costs
 - b) A private monopoly that is nationalised is likely to increase output and efficiency
 - c) Private firms have no incentive to innovate
 - d) A nationalised industry may suffer from x-inefficiency
2. A market competition regulator is least likely to intervene in which of the following?
 - a) Investigating a suspected cartel
 - b) Preventing a merger between two firms that each control 30% of the market
 - c) Forcing financial services firms to provide clearer information about their products
 - d) Setting a maximum price in a monopolistically competitive market
3. Evaluate the relative effectiveness of tradeable pollution permits and pollution taxes in reducing environmental damage by firms.

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Macroeconomic Policies and I

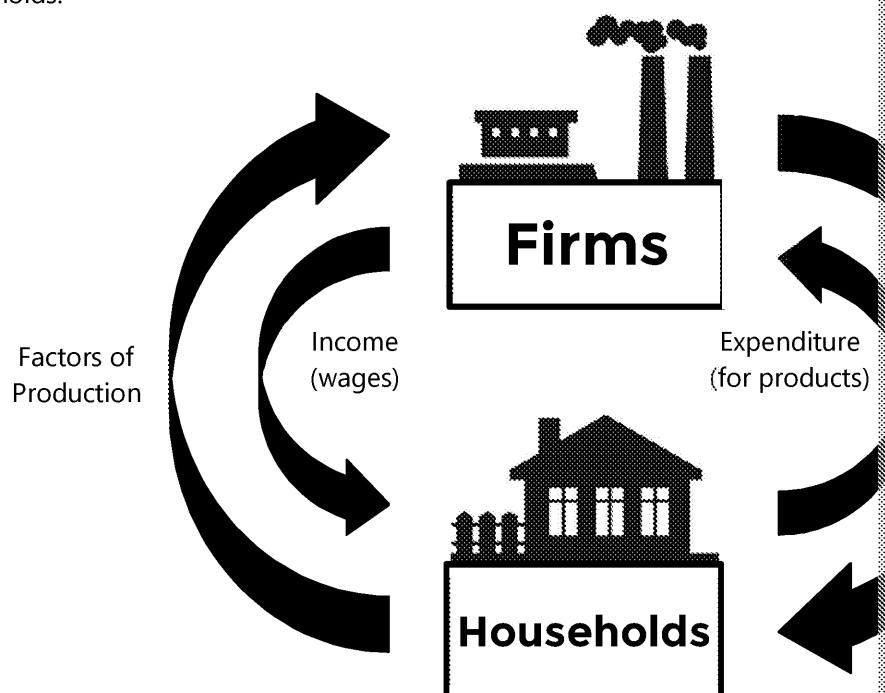
Firms and Individuals (4

The Aggregate Demand (AD) and Aggregate Su

Changes in AD and the Circular Flow of Income

Firstly, to understand the AS/AD model, you will need to understand the economy agents interact.

This diagram assumes a very simple economy. There is no government and no international trade. There are only households and firms. A 'household' is a unit of people of any number. Households receive income from where they work (at the firms) and spend this income on goods and services produced by firms. Firms receive factors of production, such as labour, from households and produce goods and services that are bought by consumers. Income flows round and round between firms and households.



This is a very simplified model of the economy. In reality, firms do much more than produce goods; similarly, consumers do more than spend their wages on goods. There are many other factors that may intervene and we interact with other economies.

Think of the circular flow of income diagram as a circular flow of water. Water flows in and out of the system, but you can 'inject' more water into the system and the system will grow. If you withdraw water from the system and the system will shrink. If the total sum of injections is bigger than the total sum of withdrawals, then more money will be flowing into the economy and so it will grow. If the total sum of injections is smaller than the total sum of withdrawals, then more money will be flowing out of the economy and so it will shrink.

Withdrawals are things that economic agents (within the system) do with their income that result in money leaving the circular flow. By taking money out of the circular flow it is no longer going around the system.

Injections are things that outside economic agents do with their incomes that result in money entering the circular flow. There is now more money going around the system.

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Injectors and withdrawals can be grouped together into opposite pairs:

- **Savings and Investments**

Savings are a withdrawal because instead of spending income and keeping it, people may instead put it into a savings account. This takes it out of the system. Investments are injections because they put money into the economy in order to improve or expand production. Savings and investments can be influenced indirectly by changing the rate of interest. If interest rates go up, people are more likely to save because they will receive more money from the bank. If interest rates go up, investment is likely to fall because people will have to pay back more. To further your knowledge and understanding, see the Keynesian marginal efficiency schedule which follows later.

- **Taxes and Government Spending**

These injections and withdrawals can be directly influenced by the government. Taxes are a withdrawal because instead of letting income flow around the economy, a proportion of it is taken out and given to the government. Government spending is an injection as it is the government putting money into the economy in order to provide things such as schools and roads.

- **Imports and Exports**

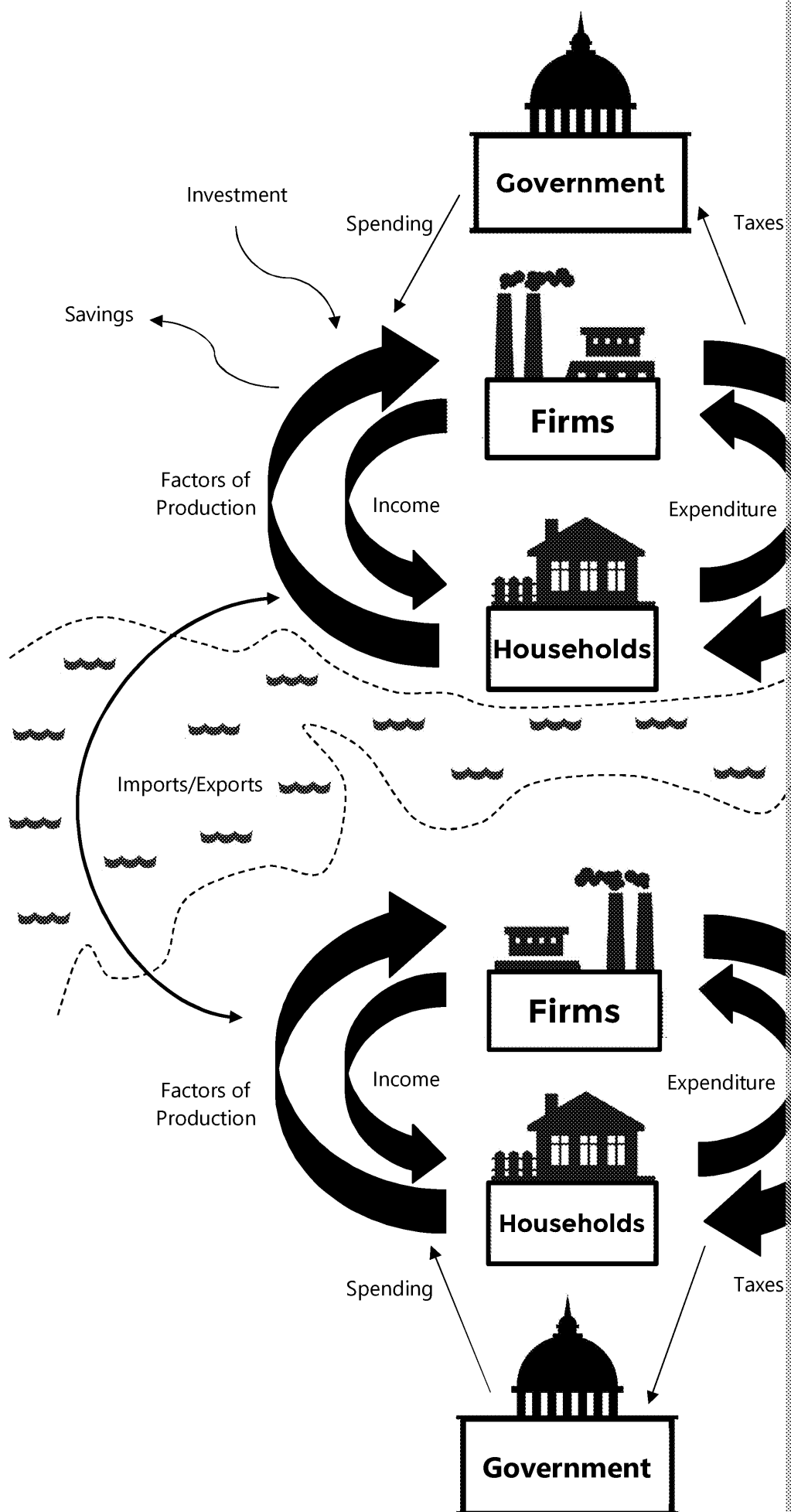
In reality our economy interacts with other economies. When we buy foreign goods we send money from our economy to the other economy and receive a good from their economy into ours. The good is an imported good, but the money for it is a withdrawal. We may make a good that is bought by an economic agent in another country. In this instance our economy receives money as an injection and our good is exported to their economy.

! *Be careful! When you buy a good in another country, you are sending money out of your economy and receiving a good into your economy. This is a flow of money out of your economy and a flow of goods into your economy. Similar to an injection of money into your economy.*

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A circular flow diagram of two economies with injections a



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Now you have an understanding of the economy and interaction within, you can see how demand and supply interact. Just as you learnt in micro, when looking at the economy there is demand and supply. Demand represents an aggregate (a total) of the demand and supply in the economy. An individual person's demand curve and each demand curve for every market and good can be added together to create the aggregate demand curve:

$$AD = C + I + G + (X - M)$$

60% 15% 25% 1%

The components of AD are consumption (C), investment (I), government spending (G), and net exports (X - M), also known as net exports (NX). These are explained further in each section. When looking at the aggregate demand curve, there is a difference between **movements along** and **shifts in** the curve. A movement along the curve occurs when you move to a different point on the curve, whereas a shift occurs when the curve moves to another position. Shifts occur when the components of AD change.

Each component has a relative importance to aggregate demand. Consumption represents 60% of aggregate demand, whereas investment only makes up 15%. An equal change in each component will have a disproportionate change in aggregate demand; for example, a 10% change in consumption will have a far bigger effect on aggregate demand than a 10% change in net exports.

The Aggregate Demand Curve (AD)

A movement along the AD curve occurs because of a change in the price level and moving from one point to another point on the same curve. A shift in the curve occurs when there is a change in aggregate demand and the whole curve moves either inwards or outwards.

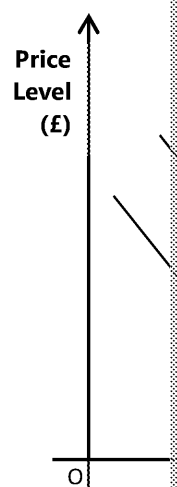
There are two reasons why the aggregate demand curve slopes downwards.

- **Real-balance Effect**

As the price level increases, the purchasing power of people's incomes falls. If people cannot buy as many items with their money, then they will purchase fewer items and aggregate demand in the economy will be lower. Hence, as price level rises, aggregate demand falls.

- **International Competitiveness**

As UK prices rise, UK goods will appear more expensive in relation to other countries' goods. Therefore, fewer people will demand UK exports, and more domestic consumers will demand UK imports from abroad. If demand for exports increases and demand for imports decreases, then aggregate demand will be lower.



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Consumption (C)

When people buy goods/services, they are demanding goods/services just as with Consumption is the total amount of spending by households, individuals and companies. If people go out and consume more goods, this means consumption has increased, which will shift the AD curve outwards. On the other hand, if consumption falls, aggregate demand curve shifts inwards. Consumption makes up the biggest proportion of aggregate demand, the most influential component.

Relationship of Savings and Consumption

There are only two things that a person can do with their income: they can either consume or save. That influence consumption can also influence savings. For example, if consumers expect a fall in return on saving rises and so the opportunity cost of spending (rather than saving) rises, then interest rates rise.

The savings ratio is the amount the average household saves in the UK. It is calculated as the amount saved from their disposable income. The UK has a savings ratio of around 5%; the USA has a savings ratio of around 10%; China, which has a savings ratio of 30–40%.

Investment (I)

Investment is like consumption for firms. Firms invest money either to increase the capacity of what they produce or to replace their old machines. If investment increases then this will increase aggregate demand. Aggregate demand increases if investment increases and this will push the AD curve outwards.

Distinction between Gross and Net Investment

Investment is made either to buy more capital and increase production, or to replace worn-out capital (production stays the same). **Gross investment** is the total amount spent on investment in new capital or buy additional capital. **Net investment** is the additional gains of capital after replacing any replacement investment. Imagine a company had 50 machines originally and 15 of which were to replace broken machines. They would now have 60 machines. Their gross investment would be 25 but their net investment would be 10 (25 – 15). If net investment is greater than zero, then this shows an expansion and is, therefore, linked with economic growth.

Government Expenditure (G)

Government spending is mostly autonomous, i.e. it is unaffected by other variables such as interest rates or confidence. Government expenditure is determined by the government.

If taxes decrease and spending increases, then the government budget deficit. But this depends on the size of the increase in spending and taxes, how big the increase in spending is.

Instead it is better to say 'an increase in the budget deficit'.

Net Trade (X – M)

Net trade is the sum total of income flowing out of the economy from imports and all the money flowing into the economy from exports. If exports increase and/or imports fall, net trade increases, which increases aggregate demand. If there is more money coming into the economy than leaving (if exports are greater than imports) then there is a trade surplus. This was discussed in Topic 2.4 and Topic 2.1.4. If imports are greater than exports then there is a trade deficit. The amount of exports sold and imports bought not only depends on their price, but also the price of foreign goods relative to UK goods. If UK goods are cheaper relative to foreign goods then UK goods are 'more competitive'. Then, the foreign demand for UK exports would increase (as for buying UK goods) and UK demand for imports would fall (as domestic consumers switch to domestic goods). Exports would increase, imports would decrease, net trade would increase (X > M), aggregate demand would increase and the AD curve would shift outwards.

If net trade increases, then this does not necessarily create a trade surplus. The economy was in a trade deficit and net trade has increased. It is better to say 'an increase in net trade' or 'a decrease in any trade deficit and more net trade'.

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Changes in AS

Aggregate supply is the total supply in the economy. Just like any curve there is a movement *along* and *shifts in* the AS curve. A reduction in demand causes a retraction (movement along the AS curve) – businesses cut back on production – this does not change the capacity of the economy. A movement along occurs when you move to a different point on the curve. A shift occurs when the whole curve moves to another position and the price level changes for every level of output.

Aggregate supply is the sum total of all the supply curves for every firm, in every industry. If a firm switches to producing the goods with the greatest price. However, because many firms switching from one industry to another makes no difference to the overall supply. Aggregate supply links with the output that is produced at full capacity; this is discussed in the next topic.

Short Run and Long Run

Firstly, in this topic you need to understand the difference between short-run and long-run aggregate supply. Let's consider an example:

! Be careful! Do not confuse short-run and long-run aggregate supply. They are instead two different concepts with different implications.

A fisherman has a fishing rod (capital), a river running through his garden (land) and his own labour. The people in his village have recently heard that fish is good for you. The price of fish has risen.

*The fisherman decides to increase his supply of fish. He buys more bait: one factor of production has changed (labour has changed); capital, land and labour are still constant; this is the **short run**.*

*He buys a better fishing rod that allows him to catch bigger fish: another factor of production has changed (capital has changed); labour and land are still constant; this is the **short run**.*

*He buys more fishing rods and asks his children to help him catch more fish: two factors of production have changed (labour has changed and capital has changed again); land is still constant; this is the **short run**.*

*The river also runs through his neighbour's garden. He decides to buy some of his neighbour's land to increase the amount of river that he can fish from. Now, all the factors of production have changed; this is the **long run**.*

Short-run aggregate supply is the total amount of goods and services supplied in the short run.

Short run: at least one factor of production is fixed, they are not all variable

Long run: all factors of production are variable

Firms are able to change most of their factors of production to react to price changes. In the long run, the total amount of goods and services supplied in the economy is the **long run aggregate supply**. In the long run, all factors of production can be changed to increase aggregate supply to meet its maximum productive potential. A point on the long run aggregate supply (LRAS) curve means the economy is producing at its maximum productive potential.

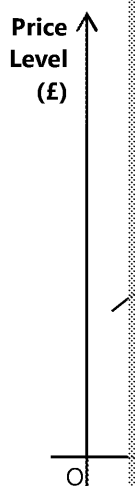
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Factors that Influence the Short-run Aggregate Supply (SRAS)

These influences will affect firms in the short run where they can change some of their inputs. Short-run aggregate supply can easily be increased or decreased to react to changes in the economy.

The short-run aggregate supply (SRAS) curve is upward sloping because all the supply curves for all the firms in the economy are upward sloping and when they all come together to create the aggregate supply curve, it creates an overall upward-sloping curve. In the short run, as output increases, firms' costs increase. This is because firms will have to pay extra (premium prices) to get workers to work overtime and increase their order of raw materials. These increased costs are passed on to consumers in the form of higher prices.



The SRAS curve can be shifted up or down as shown in the diagram to the right. Shifts in the SRAS curve can be caused by various factors:

- **Raw Materials and Energy**

If the price of the raw materials used in the production of a good/service increase, the cost of production will increase. Firms will reduce supply at each and every price level. The short-run aggregate supply curve shifts inwards if the costs of the raw materials increased.

Energy is an influential cost within the economy because all firms need energy to produce goods and services. Factories and offices need electricity to light and heat rooms, and for capital equipment like computers, for example. If energy prices increase, firms may cut back on production. This would see the aggregate supply curve shift inwards.

- **Exchange Rates**

The exchange rate will affect the prices of exported goods and goods that are imported. For example, a table-making company may import the timber. If the exchange rate changes so that the pound becomes expensive then aggregate supply will fall as firms will not be able to produce as much at each and every price level.

- **Tax Rates**

The government may change the tax rate on certain goods or add taxes / take away taxes. Increasing a tax will increase the costs of production and reduce aggregate supply.

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Factors that Influence the Long-run Aggregate Supply (LRAS)

In the long run all factors of production will be changed. Therefore, only factors that change the capacity of the economy affect long-run aggregate supply.

- **Technological Advances**

Technological advances tend to mean there is an improvement in technology. More productive capital means output per unit is greater, and, therefore, the capacity of an economy is greater and long-run aggregate supply will increase.

- **Relative Productivity**

Productivity refers to the amount of output a single unit of a resource could produce. If a worker could produce five units of a good in one working day, but through either training or new machinery the worker could now produce eight units of a good in one working day, then productivity has increased. If the resources in an economy become more productive, i.e. they can produce more, the economy's long-run aggregate supply will increase.

- **Education and Skills (Human Capital)**

The ability of the workforce is a constant variable and can only really be improved through education. A wider economy, such as school-leaving age. If the workforce is more educated, then they will be more productive. A more productive workforce will be able to produce more, so the long-run aggregate supply curve will increase.

- **Government Regulation**

The government can add or remove regulations that will affect the efficiency of production. If the government increases the level of health and safety in order to protect workers, then this will slow down production processes, making them less efficient, or stop potentially quick but unsafe production, so the number of goods produced will decrease.

- **Demographic and Migration**

The labour supply available to an economy is often fixed. If all workers are employed, then the labour supply is fixed. Migration allows the supply of labour to increase or decrease long-run aggregate supply respectively. The age of the working population is important. The working age is 18 to 65 by UK standards, and so if migration or simply time results in more people in the working age, then this will cause a little increase to the maximum capacity of the economy. If there is an influx of younger people, either from a previous baby boom or immigration, then this will increase the long-run aggregate supply because this has increased the supply of workers.

- **Competition Policy**

If there is greater competition within markets then firms will have to attract more customers by producing goods that are cheaper and/or better than their rivals. This will drive firms to find more productive means of producing in order to cut costs to obtain lower prices. Firms will therefore, will encourage productivity gains and thereby increase long-run aggregate supply.

Full Capacity Output

The full capacity output is the maximum amount of goods and service the economy can produce when all resources are employed. This includes labour resources and so at full capacity output, all labour is in employment (i.e. every person who is able and willing to work at the current wage rate).

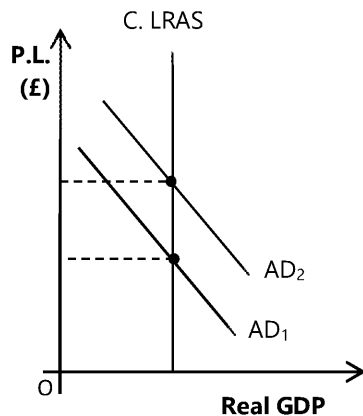
Equally, at full capacity output, economists would expect to have a healthy economy. If there are no jobs and income, there will be an increase in aggregate demand which will fuel the economy.

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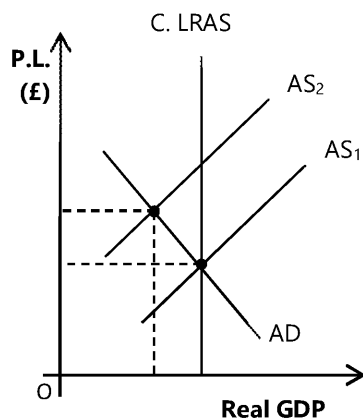
Impact of Changes to AS/AD on...

Inflation



Classical economists believe that in the long run, the price level is fixed. If all resources are being used on the PPF curve and it is not possible to produce any more goods/services. At this point aggregate supply is price inelastic. Firms cannot produce any more goods/services but aggregate supply cannot increase, leading to a shortage of goods. Imports can satisfy excess demand but this is usually more expensive. Some consumers will increase prices to ensure they get the goods. With full knowledge, the economy is at full capacity, then growth is not possible. This is referred to as the demand-pull effect.

The diagram above shows that any increase in aggregate demand leads to price-level changes and not output changes at full employment (where all resources are being used) and the market will always revert back to full employment.



The diagram below shows that an increase in costs (e.g., higher wages or higher prices for raw materials) will shift the SRAS to the left. This leads to cost-push inflation, where the price level increases without a change in aggregate demand.

There is the idea that in the long run, the economy will return to full employment because the increased profits from higher prices will encourage firms to improve the economy and shift the aggregate demand curve to the right (increase output). However, during times of high inflation, the government can be used to limit aggregate demand, reducing the pressure effect on prices from investment.

Unemployment

During periods of low aggregate demand, firms will find they have an excess of goods in production (supply) in order to meet this fall in demand. As firms begin to cut back on employing resources, i.e. workers will lose their jobs. This means unemployment will begin to shrink. In times of falling aggregate demand, expansionary policy will be used to increase aggregate demand.

What has been described in this topic underlies the cyclical effects of aggregate demand and supply.

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Multiplier Effect

Let's start with an example to illustrate the idea of the multiplier:

The government decides to build more colleges and sixth forms to encourage sixth form education. They have £20 million that they give to various building contractors. The contractors put £20 million into the economy. The economy grows by £20 million. The contractors pay their workers in return for their labour. The income flows from firms to households. The households will then spend their incomes on bills to buy electricity for their houses. The electricity flows from households to firms.

As the money goes round and round, it generates more and more income. The economy grows by the initial injection and grows. The income then flows around the economy and the economy grows.

The money may be saved instead of spent, or it may be spent on imports instead of domestic goods. If households receive the income, it will be taxed. This means the economy will keep growing, but the additional income has been withdrawn.

The size of the multiplier depends on two things: the amount of income that is injected into the economy and the amount of income that is withdrawn each time. If injections are large, then the economy will grow by a large amount. If withdrawals are large, then the economy won't grow by much each time. This creates the multiplier effect between leakages and withdrawals and the proportions of each.

A formula for the multiplier can be derived to give policymakers an idea of how much the economy will grow with an injection. Something multiplied by one equals the same amount. The multiplier is less than one but by a little less than the original amount because some income has been leaked out of the economy. It is one divided by the amount of income that is likely to be withdrawn. This is shown as:

$$\text{Multiplier} = \frac{1}{\text{marginal propensity to withdraw}}$$

Marginal propensity to withdraw (MPW) is the proportion of income that will be withdrawn from the economy. The income withdrawn from the economy will be spent differently on each withdrawal. The higher these marginal propensities, the more income will be withdrawn. The multiplier will be smaller and the economy won't grow by as much.

The marginal propensity to save (MPS) = the proportion of income that will be leaked out of the economy.

The marginal propensity to tax (MPT) = the proportion of income that will be leaked out of the economy.

The marginal propensity to import (MPM) = the proportion of income that will be leaked out of the economy.

Above are the marginal propensities for withdrawals. Adding these marginal propensities together equates to the marginal propensity to withdraw (MPW = MPS + MPT + MPM). The marginal propensity to consume (MPC) is somewhat the opposite of the marginal propensity to withdraw. MPC is the proportion of income that will be spent on consumption of goods and services – the proportion of income that will go around the economy. If you take away the MPC, then what is left will be the proportion of income that is withdrawn from the economy through either taxing, saving or importing.

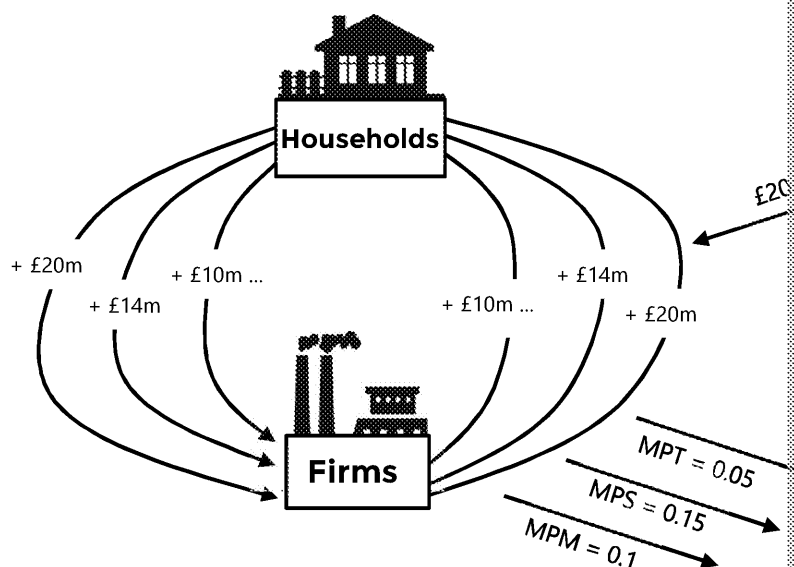
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Below are the two formulas you need to know for your exam to work out the multiplier effect on the economy will grow by from an injection.

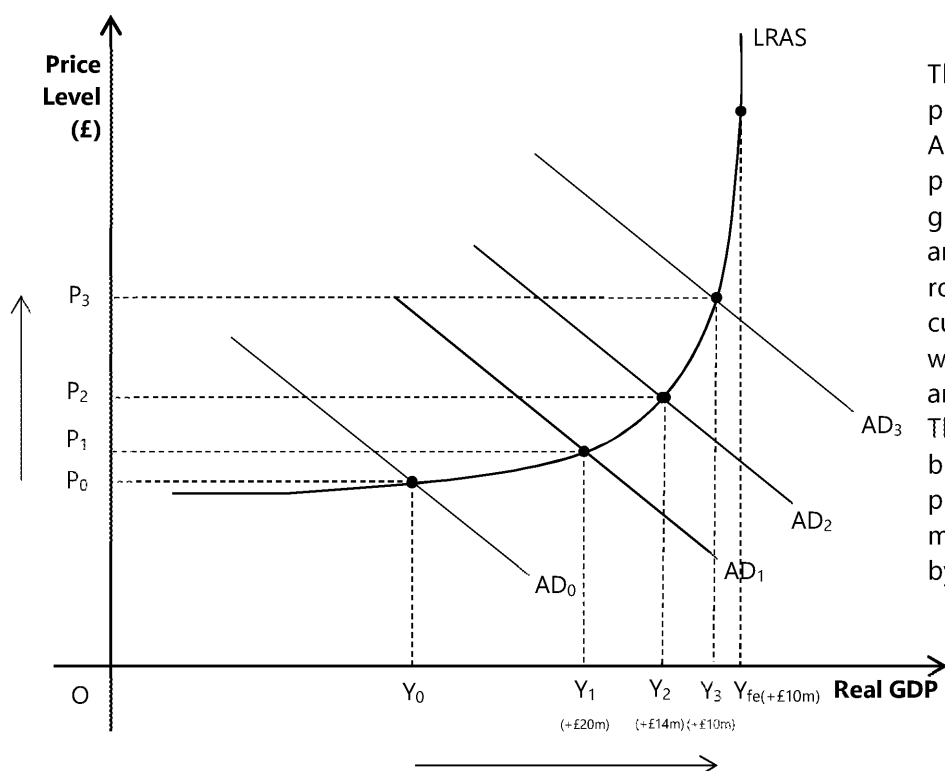
$$MPW = 1 - MPC = MPS + MPT + MPM$$

$$\text{Multiplier} = \frac{1}{MPW} = \frac{1}{(1 - MPC)}$$



If, in the example given at the beginning, MPT was 0.05, MPS was 0.15 and MPM was 0.3 and the multiplier would be about 3. The economy would increase output by £20 million injection. £20 million would go round the economy and for every £1, 5p would be saved and 10p would be spent on imports. So 30% of the £20 million would be leaked, leaving £14 million to be circulated round the next time. Then 30% of the £14 million would be leaked, leaving only about £10 million to circulate round the next time. This goes on and on, and the economy would have grown by £60 million.

So how does this link with aggregate demand? Every time the income flows around the economy, the aggregate demand curve is shifted out. Using the same example, the Keynesian AS/AD diagram



The push AD curve goes up and round the curve when the price level rises. This is the multiplier effect.

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AS/AD and the Economy

The economy functions as components that are all interdependent. As was described, a fall in demand will cause output to fall, incomes to fall and unemployment to rise. Similarly, an increase in aggregate supply will increase output. This can lead to economic growth without inflation. A fall in costs (e.g. due to an increase in production without increasing costs. The reduction in costs means firms can offer lower prices for competing) to spend on investment.

The AS/AD model can be criticised because it has assumptions that ignore imports and exports. For example, consumers and producers will have expectations of the economy's performance and their behaviour. Policies that are built from the AS/AD model and are designed to boost demand by encouraging investment can be undermined if businesses choose to save rather than invest if their expectations are lower. The AS/AD model also doesn't consider the effects of an income distribution. Those who have high levels of income are less likely to change their consumption patterns than those who have lower levels of income.

Questions: The aggregate demand (AD) and aggregate supply model

1. Suppose that £5m is injected into the economy by the government. For every £1 of income, households spend 40p and save 60p. Calculate:
 - a) The value of the multiplier
 - b) The total increase in income in the economy
2. Show the effect of an increase in aggregate demand on the equilibrium quantity of output on a Keynesian LRAS curve.
3. Decide whether each of the following scenarios in the UK would lead to a shift in aggregate demand. If so, in which direction? (also state the direction of the shift):
 - a) An increase in immigration
 - b) A cut in education spending
 - c) A rise in the world price of oil (Note: the UK is a net importer of oil)
 - d) A cut in VAT

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Demand-side Policies

Fiscal and Monetary Policy

Fiscal Policy

Government spending is an injection into the economy and taxation is a withdrawal from the economy. These two instruments work in a similar but opposing fashion and together to create an expenditure ratio. The government can directly change this by choosing to tax at a different level or choosing to spend a different amount.

Deflationary fiscal policy is where the government tries to 'deflate' or reduce the economy towards or currently in a boom. To deflate the economy, the government will reduce government expenditure and increase taxation. This will decrease the AD curve from AD_2 to AD_1 ; price level has fallen (deflation).

Expansionary fiscal policy is where the government tries to 'inflate' or boost the economy during a recession. To inflate the economy, the government will increase government spending and decrease taxation. This will increase the AD curve from AD_1 to AD_2 . GDP has risen but there is also inflation.

Indirect Taxation is where taxes are imposed on an economic agent but are not directly paid by them. They can be imposed on a producer but are passed on to a consumer. The tax is indirectly paid by the consumer. The party does not have to pay the tax, i.e. they can choose not to buy the product that has the tax. Taxes on fuel, or other goods and services, are indirect taxes; VAT is an indirect tax because there are very few goods/services the tax doesn't apply to.

Direct Taxation is where taxes are paid directly by the economic agent that they are imposed on. Income tax, inheritance tax, student loans or poll tax are imposed on an agent and the government. These taxes cannot be avoided through consumption choice.

Government Budget (Fiscal) Deficit is when the money coming into the government (tax revenue) is less than the money going out (government spending). A fiscal deficit is not the same thing as the idea of stocks and flows. The overall debt is a stock, or the total amount of money owed by the government, which is a variable amount measured over a period of time. A government will need to borrow money to cover a deficit. Over time, borrowing creates debt.

Government Budget (Fiscal) Surplus is when the money coming into the government (tax revenue) is more than the money going out (government spending).

Monetary

Monetary policy is set in a different way to fiscal policy and this is mainly because the monetary instruments are not directly controlled by the government. Interest rates affect consumption and investment because consumers and firms may increase their consumption and investment if the cost of borrowing is lowered.

Tight (deflationary) monetary policy is implemented when inflation is expected to rise. To restrict aggregate demand, the government will increase interest rates and/or decrease the money supply. This will decrease the AD curve from AD_2 to AD_1 ; price level has fallen (deflation).

Loose (expansionary) monetary policy is when inflation is expected to fall below target. To increase aggregate demand, the government will decrease interest rates and/or increase the money supply. This will increase the AD curve from AD_1 to AD_2 ; price level has risen and so has GDP.

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Bank of England and the Monetary Policy Committee

Firstly, you need to understand the role of a 'central bank'. There are many tasks – controlling stock of foreign reserves, maintaining the exchange rate, issuing notes. The Bank of England is the UK's central bank and it is used to maintain the exchange rate in a floating exchange-rate market.

The responsibility for setting interest rates was passed from the government to the Bank of England under the leadership of Gordon Brown as Chancellor and Tony Blair as Prime Minister. Previously, that governments had been manipulating the interest rate for political purposes. Before elections, aggregate demand would rise and the economy would boom. This would be a good election for the incumbent government – but also increase the peaks and troughs of the business cycle, leading to more volatility, uncertainty and deeper recessions.

Now the Monetary Policy Committee (MPC) of the Bank of England sets interest rates. It has to balance political pressures and looks to set the optimal rate to maximise *long-term* growth, maintain the stock of foreign reserves and issues notes and coins (via the Royal Mint). Its main objective is to control prices (inflation control), which is done by manipulating interest rates and by using quantitative easing.

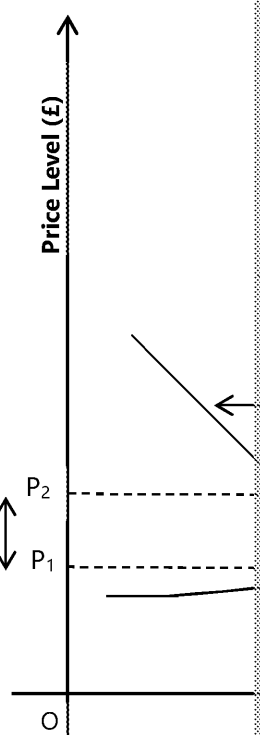
Quantitative Easing

The Bank of England may also use 'quantitative easing' to encourage banks to lend more and increase the amount of borrowing. The Bank of England does this by effectively printing more money. Instead of physical money, it assumes it has more money and with these new funds, the Bank buys government and corporate bonds from commercial banks. This means banks will have more money in transaction rather than exchange of physical coins and notes. The money they gain from the sale of these bonds, they are, therefore, more able to lend money to economic agents. Quantitative easing increases the money supply in the economy, and as a means to boost growth through greater spending. Monetary policy is seen as a blunter policy than fiscal policy because it affects the whole economy, whereas fiscal policy could be targeted to selected markets. However, interest rates can be changed more easily and quickly than tax rates.

Demand-side Policy on an AS/AD Diagram and the Impact

If governments reduce taxes then consumers and businesses will have more money to buy goods which will increase aggregate demand. Fiscal policy also dictates that governments could increase spending. This will also increase aggregate demand in the economy but due to the multiplier, it is likely to have a bigger effect on the economy than the initial injection. Both of these will push the aggregate demand curve outwards from AD_1 to AD_2 . As can be seen on the diagram, this will increase output, but unfortunately also increase the price level. The increase in aggregate demand, however, will mean firms will increase production in order to meet it (movement along the AS) and will, therefore, employ more resources. If the government does increase taxes and reduce government spending, then the opposite will happen: output would decrease, prices fall and unemployment rise.

If the MPC decided to increase interest rates, then the cost of borrowing will fall and households and firms will be less inclined to consume and invest. This will decrease aggregate demand, which can be seen on the diagram as a movement from AD_2 to AD_1 . A fall in price level from P_2 to P_1 shows the downward pressure the MPC can have on inflation. If the MPC was to reduce interest rates and use quantitative easing, then borrowing would be cheaper and easier. This will push out aggregate and increase output; however, prices will also rise.



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The Encouragement of Investment, Job Creation and Economic Growth

Jobs will be created when firms expand production or enter into new markets. This is because demand will increase because firms will want to make more goods to sell to willing buyers. Equally, interest rates are low because it will be cheaper to invest. This means the government can encourage growth by using demand-side policies to increase economic growth.

The government could also increase economic growth and job creation by supplying more money into the economy. The amount of money it spends on it. Spending on research and development of new technology will lower prices and become more productive, so firms can produce more goods with each resource and use the saved money to invest.

Because job creation, investment and economic growth can be encouraged using demand-side policies, the government should use all policies available to them effectively.

Controlling Unemployment and Inflation

Inflation can be limited by restricting inflation or by improving the full capacity output of the economy. This can be controlled using demand-side policy, as explained above with the creation of jobs and income. Supply-side policies, however, often only affect the economy in the long run due to large time lags, so unemployment is often controlled using demand-side policies.

Strengths, Weaknesses and Time Lags

Below is a summary table of the two demand-side policies and their time lags, i.e. the time between implementing the policy until the point where changes in the economy can be observed. Within economics, unemployment usually persists for a further 12–18 months after a policy can take up to two years to take effect, then unemployment may not improve until economists have detected a recession.

	Monetary	
Policymaker	Bank of England's Monetary Policy Committee	Government
Instruments	Interest Rates and Quantitative Easing	Government
Time lags	6–12 months due to adjustment in habits and expectations	Up to 18 months due to frictions
Trade cycle	Better in boom, worse in recession	Better in recession

Strengths

- Although demand-side policies have a time lag of about a year, they are much more effective than supply-side policies and are, therefore, used to respond to changes in the economy.

Weaknesses

- Classical economists believe any increase in aggregate demand will only cause inflation.
- Although the government can manipulate the economy, the global market has a lot of power and the government has no control over it. The government policy is weak to external shocks.
- Data collection is slow and long-winded. The information provided to government is often inaccurate but also out of date, causing the government to react slowly and poorly.
- Some demand-side policies, especially austerity measures, are unpopular with voters. Governments won't use them because voters may oppose them.

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Potential Policy Conflicts and Trade-offs

Trade-offs of macroeconomic objectives will be discussed at the end of the supply and demand-side policies. Conflicts of demand-side policies are described. See the box at the end of this section for more on the government's macroeconomic objectives.

Fiscal Policy Conflicts

Increased government spending may help to boost an economy out of a recession but will likely result in increased taxes in the future. This tax increase not only conflicts with the objective of low inflation but will also reduce incentives to work and could worsen income distribution depending on how the tax is levied.

Reducing government spending may mean cutting benefits or reducing investment in infrastructure, which can have a negative impact on the living standards within an economy. After the 2010 election, the government shifted focus to reduce government debt by cutting spending; however, this was not without controversy, with many who feared losing the NHS and the adverse effect on education quality. Cutting benefits can also worsen income distribution and disadvantage those who may need the benefits for social mobility.

Monetary Policy Conflicts

The Bank of England has independent control over the interest rates in order to limit inflation. However, high interest rates can be damaging to some people; for example, new homeowners with variable rate mortgages. This could worsen wealth distribution. Monetary policy can also conflict with the objective of low unemployment. If interest rates are high then this will discourage new start-up businesses and reduce job creation.

Possible Macroeconomic Objectives

The government is tasked with steering the economy with the aim of making the economy grow and raising living standards. Higher growth and stability are the keys to this but there are many other factors too. The main objectives of government economic policy can be summarised as follows:

1. Economic growth

Economic growth indicates more jobs, increased income and greater opportunities for the population. A sustainable level of economic growth is needed to improve living standards.

2. Low unemployment (less than 5%)

The government aims to have full employment because this indicates the economy is using its maximum productive potential. In the UK, 5% is considered the natural rate of unemployment; therefore, the level the government aims for.

3. Low and stable rate of inflation (less than 2%)

Price stability is important for economic agents to function properly. As demand falls, it can create a stagnant and potentially diminishing market; therefore, the government aims to keep levels of inflation at around 2%.

4. Balance of payments current account equilibrium

A balanced current account means there is a balance of injections and withdrawals. If there is more than the other it can cause the economy to boom above or deflate below the equilibrium.

5. Balanced government budget (tax revenue = spending)

The government budget refers to the levels of government spending compared to tax revenue. High debt levels are unsustainable for a government and can lead to financial crisis. The 2008 recession has highlighted. In order to have sustainable government finances, tax revenue must equal spending.

6. Protect the environment

In order to meet growing demand from infinite wants and population growth, natural resources are used up, leading us to a bottleneck. Without a healthy environment, the economy will cease to function, whereas a healthy environment is beneficial for well-being. Therefore, it is imperative to protect and maintain it.

7. Greater income equality

A more equal distribution of income creates a fairer economy and allows the economy to grow more efficiently to increase living standards; however, a gap is still needed to encourage investment. Reducing relative poverty will create greater income equality.

Questions: Demand-side policies (4.4.2)

1. Assess two macroeconomic effects of the government changing the tax rate.
2. Analyse the policies that a government could adopt to...
 - a) reduce poverty and inequality
 - b) increase international competitiveness

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Supply-side Policies

Supply-side Methods: Market-based and Interventionist Policies

Market-based Policies: There is very little government intervention with market-based policies is to support and use the forces of the free market to increase efficiency, productivity. Market-based policies try to boost aggregate supply by improving the ability of the free market to overcome any barriers.

Interventionist Policies: Interventionist policies are the opposite of market-based policies. They take quite an active role within the economy. Their role is to intervene in order to correct any imbalances, generate and to guide an economy to a better equilibrium.

There is a wide range of things that affect the aggregate supply, none of which the government has direct control over as it does with demand-side policy instruments. The main way the government affects aggregate supply is through spending on supply-affecting investments or by changing the institutional framework.

- **Increase Incentives**

The government might reduce taxes in order to make wages more appealing and encourage people to work longer hours. The government could also incentivise people to work by lowering Job Seeker's Allowance or the minimum wage. Often policies that increase the incentive to work are controversial.

- **Promote Competition**

If there are lots of producers in a market, then there is more competition between producers an incentive to find ways to cut production costs because then they can sell at a lower price, thereby gaining more customers. To do this the government could give subsidies to companies, reduce barriers to entry (obstacles that may prevent a firm from entering a market) that prevent monopolies (large firms that others cannot compete against). By giving subsidies to domestic firms, there will be an influx of foreign firms which will enter the market. By reducing taxes on imports, allowing foreign firms to enter a market, it increases competition for domestic firms, an economy can increase competition while still allowing domestic production. This drives the firms to become more productive, thereby pushing out the LRAS curve. Increased competition. Governments are not worried about increasing revenues or cutting costs. Therefore, they aren't very competitive. By giving the business to the private sector, as the new owners will compete against other market players.

- **Reform Labour Market**

Reforming the labour market refers to the quantity and quality of labour, and the forces acting freely within this market. Structural unemployment is a result of changes in the demand for labour. Trade unions are another barrier to the free market system. Trade unions represent individual workers by uniting them together as one large body. This gives workers more power when it comes to wage and working conditions negotiations. By opening up the market, it can gain workers and thereby increase its ability to produce goods. Because this is about the labour market, around migration are supply-side policies. By increasing minimum wage, more people will work. Equally, by reducing unemployment benefits, this would disincentivise people from claiming benefit and encourage them to work. However, unemployment benefits are a safety net for incomes and so there is a trade-off between protection and incentive.

- **Improve Skills and Quality of the Labour Force**

If the government invested in schools by, for example, buying new learning materials, it could create a better education system, creating a more productive workforce. Equally, the government could provide financial assistance for pupils to continue into further education. For example, the Education Maintenance Allowance (EMA) was granted to students from poorer families but has been scrapped in England. Investing in training courses for workers will also help to increase the productivity of an economy. This is particularly useful if there are structural changes to an economy, such as the mobility of workers between markets.

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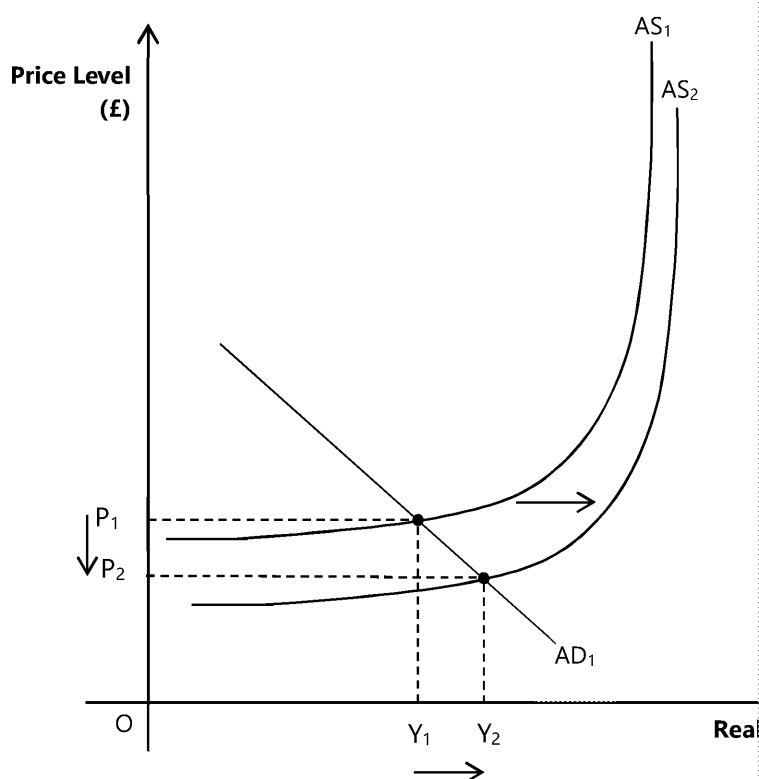


- **Improve the Infrastructure**

Spending on infrastructure means investing to improve the physical condition – for example, investing in transport systems such as railways and roads, or in offices or houses. By improving these factors, society will be happier and the economy will grow more smoothly. If there were adequate housing, then the workforce would be happier and straighter, then the lorries could move between factories more easily.

Supply-side Policy on an AS/AD Diagram

Let's remind ourselves of AS/AD analysis. If aggregate supply shifts outward then the price level and output will be equal:



Supply-side policies can increase an economy's productive capacity as it often improves the efficiency of resources. This can be shown by a rightward shift of the aggregate supply curve. As can be seen by the diagram, national output will increase, suggesting economic growth. Although supply-side policies create a long-term growth increase, they take a long time to show an effect.

Strength and Weaknesses

Strengths

- Shifting the aggregate supply curve outwards will not cause inflation as it creates more output at the same price level through competition and improvements to production.
- Increasing aggregate supply is an increase in production, as long as it is met by demand (movement along the AD curve). This indicates a rate of economic growth as resources are generally improved or increased in the long term.
- Increasing production and economic growth will mean there is job creation, which reduces the level of unemployment.
- By improving the productive capacity of an economy and reducing the costs of production, businesses will become more competitive in the global market. This will mean exports will increase and the trade deficit will be reduced.

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Weaknesses

- Supply-side policies have long time lags. Improving the quality of the workforce can take 13 years, as children start aged 4–5 and finish aged 17–18. There is a long time lag between the policy and the effect.
- These policies can be very costly, which would have a negative impact on the economy.
- Although the government can manipulate the economy, the global market has a lot of power and the government has no control over it. Government policy is weak to external shocks.
- Data collection is slow and long-winded. The information provided to government is often inaccurate but also out of date, causing the government to react slowly and poorly.
- Supply-side policies are rarely adopted due to the long time lags. Governments often implement demand-side policies because, despite their non-inflationary benefits to growth, the effects are more visible after elections.
- Some supply-side policies are unpopular with people and so governments will often have to oppose them.

Potential Policy Conflicts and Trade-offs

Supply-side Policy Conflicts

Supply-side policies that improve infrastructure will improve the efficiency of the economy and the environment. Areas of forests, for example, may be cut down in order to build roads. Infrastructure investments will come out of the government's budget, which may contradict a desire to reduce the budget. Flexible labour markets can result in increased redundancies and fewer employment opportunities. Supply-side policies could conflict with politicians' decisions for austerity measures.

Trade-offs in Macroeconomic Objectives

There may also be conflicts between macroeconomic objectives, i.e. in the process of achieving one objective, another objective is impaired. The most famous trade-off is the one that is shown by the Phillips Curve. The Phillips Curve trade-off to be explained because it is, perhaps, the most complicated to understand.

Economic Growth versus Inflation

Economic growth usually results from an increase in aggregate demand. An increase in aggregate demand only increases growth but also increases the price level. Therefore, as an economy grows, it also has growing rates of inflation too. One way to increase growth without increasing price levels is to increase supply; classical economists believe this is the only way to create economic growth. On the short-run LRAS curve, any increase in aggregate demand will only result in price increases in the short run.

Economic Growth versus the Current Account

As the economy grows and people's incomes rise, people will spend more on imports and exports will worsen a trade deficit (or improve a surplus). Equally, as the economy grows and the price level rises, exports will appear more expensive in relation to foreign goods. This means exports will fall and imports could create a negative current account (deficit).

Economic Growth versus Environment

Pollution and environmental degradation are social costs. Remember negative externalities. The cost of the environment is not accounted for in the market system. Economies generally grow and the environment which will use up more of the finite resources. With more production comes the impact on the environment. With the expansion of new factories, offices, hospitals, etc. comes the consumption of resources. The environment inhabited by nature. China is a clear example of the trade-off between their high growth rates and their low rates of clean air and healthy environment. Countries are particularly damaged during their industrialisation stage, where environmental concerns are quickly forced to the side in favour of growth rates, and countries switch to more capital-intensive forms of production.

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Inflation versus Unemployment (Phillips Curve)

In 1958, Bill Phillips hypothesised a relationship between unemployment and inflation. He believed that if there was high unemployment in an economy (spare resources), then firms could offer relatively low wages as most people would be without an income. Another way to look at this is in terms of competition; there was very little competition within the labour market as the supply of jobs was low relative to the supply of available workers. On the other hand, when the economy was near full employment, attempting to expand would be more costly because firms would have to offer wages that were much higher than the market equilibrium in order to tempt already employed workers away from their current jobs. So, as unemployment fell, expanding production would become more costly and prices would increase to compensate.

Long-run and Short-run Phillips Curve

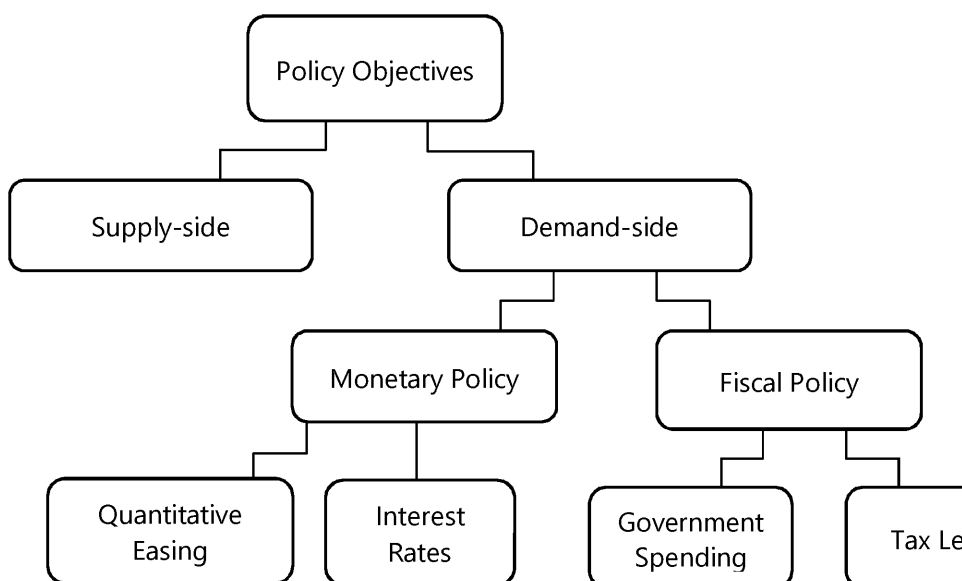
The economy went through a period of stagflation in the 1970s that seemed to disprove the Phillips curve trade-off. Stagflation is when the economy has low growth and high levels of both inflation and unemployment, rather than a compromise between the two. It was instead theorised that expectations had adjusted to the high levels of inflation and these new expectations of inflation were incorporated into wage negotiations. Equally, the strong union power in the UK at the time meant the market was restricted from adjusting to the market equilibrium, resulting in high unemployment (remember the Keynesian idea of sticky wages).

With this idea the theory of the short-run Phillips curve was created. The relationship in the short run remains true to Phillips' relationship; the curve may simply shift in the short run so that decreasing unemployment still results in increasing inflation but at high or low levels. In the long run, however, it appears there is no such relationship and therefore the Phillips curve is a straight line in the long run. It is believed the long-run Phillips curve lies at the natural rate of unemployment.

Inflation

Inflation

Natural rate of unemployment



Questions: Supply-side policies (4.4.3)

1. Give an example of one free-market supply-side policy and one interventionist supply-side policy.
2. One of the key features of Ireland's economic boom (and subsequent bust) was the deregulation of the financial services industry. Using an AD/AS diagram, discuss the effectiveness of deregulation as a supply-side policy.

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The Impact of Macroeconomic Policies

Possible Impact of Macroeconomic Policies

The impact of policies on the economy can have a variety of effects depending on the state of the economy. If the economy is in a recession, then monetary policy will not be very effective. When expectations fall and they lose their confidence in the economy when they are in a recession, they will not increase their spending and investments regardless of the interest rate. In this case, the government should consider using fiscal policy in addition to monetary policy. This also links to the position of the economy. If the economy is operating at the inelastic part of the AS curve (i.e. it is near full capacity), then a movement in aggregate demand can cause a big change in price, but little change in output. If the economy is operating at the elastic part of the AS curve (i.e. it has lots of unemployed resources), then the economy would require a large change in aggregate demand to change output, but prices will not change much. To determine whereabouts the economy is on the business cycle and where the AD curve is, the government needs to be complex and hard to measure. Therefore, the policymaker may work on incorrect assumptions and much they need to change policy instruments. Overshooting or undershooting can occur.

The size of the multiplier will determine how effective the injections from fiscal and monetary policy will be. A multiplier will 'amplify' any changes made by the government or from changing in the economy. This means the government needs only make small changes in order to have large effects on the economy. It does not bolster changes to tax or spending and therefore larger changes will be needed.

The principal problem of policy implementation is that there are time lags between the announcement and implementation of a policy. It takes time to pass regulation and there are long-winded processes. However, once implemented, the effects of fiscal policy are felt within a year and monetary policy is felt due to the time it takes economic agents to adjust their consumption and investment. Monetary policy can take many more years. Time lags are problematic because the government can't correct a fluctuating market regardless of its severity. Equally, even if the government had perfect information about their instruments in accordance with the economy, there is no telling what will happen. External shocks that occur after policy implementation can cause the economy to react differently. The remnants of the policy and the new state of the economy could result in further problems. The government's attempts are slow to correct.

Comparing Alternative Approaches

Macroeconomic problems, such as high inflation or low economic growth, rarely have simple solutions. Multiple policy measures are needed to remedy macroeconomic problems. This means the government needs to be compared and assessed.

Ultimately, the 'right' solution depends on the situation. Suppose the economy is in a recession with low growth. What should policymakers do in response? Some might argue for increasing government spending or lower taxes. This might work. However, if the economy is already heavily indebted, then increasing government spending to an unsustainable level and create more problems in the future. Another solution is to loosen monetary policy, but this may be less effective if monetary policy is already loose. If interest rates are already near zero and if the money supply has already been increased via quantitative easing, then perhaps a complementary strategy would be to look at the factors underlying the recession. Because unemployment is high, the government should try to adopt policies that stimulate demand. If it is because consumers have too much debt and are restricting their spending, then the government should try to cut to increase people's disposable incomes. There is never a 'one-size-fits-all' solution to economic problems: it always depends on the situation.

It is often easier to see in hindsight why macroeconomic policies might have failed. The bailout programme (and the continuous bailouts) imposed by the EU on Greece seems to have been a failure. An economy can't hope to pay its debts if the economy is not growing at all. The problem was not for Greece not to get into such a precarious position in the first place, but since it was, there was no long-term solution that tackles Greece's underlying economic problems (poor competitiveness in the eurozone), rather than short-term bailout packages that have no real effect on the economy.

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Identifying Criteria for Success and Evaluating Effectiveness

The choice of policy instruments links back to the government's economic and political objectives. Governments aim to achieve the following objectives:

- Sustainable economic growth
- Low and stable inflation
- Low unemployment
- Low national debt
- Equilibrium in the current account of the balance of payments (or at least no large deficit)
- Greater income/wealth equality
- Protecting the environment

Any policy changes are likely to have one or more of these objectives as a goal. Sometimes the government might have political objectives that depart slightly from these objectives: for example, a government might be tempted to use fiscal policy to boost economic growth in the short term to increase their chances of being re-elected, even if this hurts the economy's long-term growth potential. Other governments might have ideological preferences about the government's role in the economy that influence the government's tax and spending policies.

The success of a policy can only really be evaluated in retrospect, since there are time lags involved with any policy. A government might intend to boost economic growth by lowering tax rates today, but it won't find out if that policy was effective or not until some time further on. Even then, it can be difficult to distinguish between the effects of different policies/shocks (economic growth might have picked up for a different reason, e.g. a surge in exports).

Nevertheless, we can make informed guesses about the success of a policy based on how well it addresses the underlying economic problems, and whether it is implemented successfully.

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Discussion Point

Using the data provided below, describe what is happening in the economy in terms of growth and inflation. Explain what policies you would use as an economic adviser to help it achieve its macroeconomic objectives of low unemployment and inflation.

Year	Quarter	Unemployment rates
1	1	5.00%
	2	4.50%
	3	4.70%
	4	5.40%
2	1	6.70%
	2	6.50%
	3	6.90%
	4	7.20%
3	1	8.00%
	2	8.50%
	3	8.30%
	4	8.60%
4	1	8.80%
	2	9.20%
	3	9.50%
	4	8.80%
5	1	8.60%
	2	8.30%
	3	7.80%
	4	8.00%
6	1	7.40%
	2	7.40%
	3	7.50%
	4	7.60%
7	1	7.40%
	2	7.30%
	3	7.00%
	4	6.80%
8	1	6.60%
	2	6.00%
	3	5.80%
	4	6.00%
9	1	6.00%
	2	5.70%
	3	5.50%
	4	5.30%
10	1	5.00%
	2	5.00%
	3	4.90%
	4	4.80%

Year	Quarter	Change in GDP
1	1	2.3
	3	1.9
2	1	1.3
	3	0.5
3	1	-0.4
	3	-1.2
4	1	-1.0
	3	-0.8
5	1	-0.2
	3	0.1
6	1	0.5
	3	1.1
7	1	1.8
	3	2.5
8	1	3.0
	3	3.9
9	1	4.5
	3	5.2
10	1	5.4
	3	5.2

Year	Inflation in Gas, Electric and Water Prices
1	2.3
2	0.9
3	0.8
4	0.8
5	0.9
6	0.9
7	1.8
8	2.5
9	3.0
10	3.9

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Risk and the Financial Sector

Risk and Uncertainty

In economics, risk is not the same thing as uncertainty. Risks are things that can be measured and quantified. For example, a firm lending to a business might estimate that there is a 10% chance that the loan will not be repaid. Similarly, an exporting firm might estimate that there is a 20% chance that the value of the pound will fall and the goods will not be appreciated in a month's time. Since the chance of different risks occurring can be measured, firms can make plans with these risks in mind.

On the other hand, uncertainty cannot be quantified; it is inherently unpredictable. For example, businesses, governments and individuals can't reasonably account for when a global financial crisis might occur. This makes it more difficult to make good economic policy decisions, and often leads to more conservative and cautious behaviour. For example, in 2014 the Bank of England predicted that favourable economic conditions would allow them to increase the interest rate, which had been stuck at 0.5% since the financial crisis emerged, such as the economic slowdown in China, that would have been almost certain. However, any potential interest rate rise. Then in 2016, the 'Brexit' vote for the UK to leave the EU led to a 300-year low of 0.25%.

The difference between risk and uncertainty is important for economics as a discipline because variables such as GDP growth or inflation cannot include uncertainty in their models. If the models turn out to be wrong, the models are less useful.

Economic shocks

Economic shocks are events that have an important impact on the economy: these are unpredictable (uncertainty rather than risk). If they were predictable, then the economy could be prepared before the event occurred, reducing the impact. Shocks can be positive or negative.

The most recent example of a large economic shock was the 2008 financial crisis, which was a global event caused a recession in the UK and many other large economies.

Other examples of economic shocks include:

- The oil price shocks in the 1970s (when a large increase in the price of oil had a major impact on the economy)
- The Great Depression, beginning in 1929 (the deepest recession in the history of the United States)
- China's move to capitalism (communism ended in 1978)
- Introduction of the euro (1999)
- The invention of new technology (e.g. electricity, the Internet: these are usually positive shocks)
- The 'Brexit' vote for the UK to leave the EU (2016)

Exchange rate risk and forward markets

An important risk for businesses that use foreign currencies is exchange rate risk. This is the risk that the exchange rate between currencies will change in a way that puts them at a disadvantage. For example, a British firm that has agreed to pay one of its suppliers in euros at a fixed date in the future. If the pound falls against the euro, and then, this payment will become more expensive for the British firm.

Exchange rate risk has led to the emergence of 'forward markets' in currencies. A firm can agree to a fixed exchange rate between two currencies in the future. This is a forward contract (although they might have to pay slightly above the current market rate to allow for the risk). For example, if the exchange rate is currently £1 = €1.50, and a firm reckons that there is a high chance that the exchange rate will rise to £1 = €1.80 by the time they have to make a payment in euros, they might agree to £1 = €1.60 on a forward market.

Forward markets don't just exist for exchange rates between currencies; they also exist for commodities, for example. A variation of a forward market is the options market. In this case, a firm would have the option to pay the agreed exchange rate of £1 = €1.60 by this contract (so if it turned out that the exchange rate was more favourable, it could choose not to exercise the option and pay the market rate instead).

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The role of insurance in business

The forward market for currencies is an example of an insurance market: businesses hedge against exchange rate risk. Insurance markets exist for many different types of risk, e.g. car insurance.

Businesses also buy insurance against a range of risks, some examples include:

- Insurance against employee injury/illness
- Professional indemnity insurance (this applies for businesses that give paid advice. If a business argues that the advice was wrong, businesses can be financially exposed.)
- Property insurance (e.g. in case of any damage to a shop, or theft)
- Cyber insurance (in case of losses due to a cyberattack)

Businesses have to pay an insurance premium to be covered against these types of risks. The cost of insurance premiums is counted as a cost of production, and may be included in their product prices.

Questions: Risk and uncertainty (4.5.1)

1. What is a forward market and what is its purpose?

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The Role of the Financial Sector

The financial sector consists of a variety of business types, from commercial and investment banks to stock and bond exchanges. All of these play an important role in the modern economy.

To mobilise savings for lending to firms and individuals	<p>One of the primary functions of the financial sector is to mobilise savings. Commercial banks accept deposits from people to keep their money in return (as opposed to investment banks, which are much safer for people than storing their money under a mattress). In fact, 97% of the money in the economy is kept in the form of deposits in the form of cash.</p> <p>Traditionally, banks use their deposits to lend out to individuals at a higher interest rate, generating profit. Recently, though, this has become outdated: in the run-up to the financial crisis, banks began to lend out loans regardless of their level of deposits. When banks lend out a deposit for the person they lend to. If someone borrows from a bank, they aren't given £10,000 in cash; instead they are given a loan account. So the bank doesn't need to have that money in the vault; effectively they create new money.</p> <p>Of course, this system is only sustainable so long as everyone doesn't withdraw their deposits all at once (a 'bank run'). In the financial crisis, the government provided emergency support to banks that suffered from a loss of confidence which collapsed in 2008).</p>
To lend to business for investment in working capital	<p>Businesses tend to incur costs of production before they can sell their products. A car manufacturer has to invest heavily in material and labour before products are sold. To deal with this, businesses need 'working capital' to bridge this gap. Banks are one of the main sources of this capital. Both short- and long-term lending to businesses (this is one of the main ways businesses are financed, the other being issuing shares – see later).</p>
To lend to individuals	<p>As well as businesses, individuals (or households) might need to borrow money – for example, to buy a house, or some other high-value asset. An important function of the financial sector is to lend to individuals.</p> <p>The ease with which individuals can borrow from banks has been reduced. In the financial crisis, the 'credit crunch' made it very difficult for individuals to get a loan. Before the financial crisis, however, optimism in the financial sector meant banks were much more relaxed with their credit requirements. In the US, where many 'sub-prime' loans were extended, many of these were not repaid).</p>
To facilitate the exchange of goods and services	<p>Nowadays, goods and services are often exchanged using money. The financial sector is an important provider of these payment services for convenience and security. For example, now it is very simple to pay in a different currency (e.g. US dollars) using a debit or credit card. Our methods for conducting transactions will become even more streamlined.</p>

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To assess creditor risk	<p>As mentioned earlier, when banks lend to individuals they assess their creditworthiness. If individuals are unlikely to be profitable for a bank to lend to them.</p> <p>Banks do face problems when it comes to assessing creditworthiness. There is an incentive to lie on their applications, and it is costly for banks to do checks.</p> <p>Prior to the financial crisis, underestimation of credit risk was a problem. Financial markets were booming, and banks had a lot of money, so it was possible, since these loans could be packaged up and sold on to other parties. Unfortunately, these financial traders weren't aware of how risky they actually were (they were exposed to the risks of customers defaulting). So when they sold their loans, the financial crisis was particularly damaging. (Short explains this issue very well!)</p>
To provide forward markets in currencies and commodities	<p>The importance of forward markets in currencies is discussed in Section 4.5.1. Financial markets provide a way of hedging risk.</p>
To provide a market for equities	<p>The equity market is the market for shares in firms. The buyers of the shares hope that the firm will go up, and they can be sold for a profit.</p> <p>Banks have an important role in providing a market for equities to the general public. Before 1987, normal investors had to buy shares via an intermediary (a stockbroker).</p>



Further your economic knowledge... Talking about Debt

There's plenty of additional reading you could do on the financial sector:

Phillip Coggan, *Paper Promises – Money, Debt and the New World*

Phillip Coggan, *The Money Machine – How the City Works*

An excellent (and not too long) book on the financial crisis (written in 2009) is *Everyone Owes Everyone and No One Can Pay*.

If you're considering studying economics at university, it's definitely worth mentioning this subject to show that you're interested!

Questions: The role of the financial sector (4.5.2)

- Which of the following is not a function of an investment bank?
 - advising on mergers and acquisitions between companies
 - receiving deposits from the general public
 - trading on the foreign exchange market
 - buying and selling mortgage-backed securities
- Explain any two roles of the financial sector.

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The Role of the Central Bank

The Monetary Policy Committee and setting the official interest rate

The central bank is a highly important institution in the financial system. Some central banks include the Bank of England, the European Central Bank and the Federal Reserve. The Bank of England has been independent from government since 1997, to prevent the government from using the financial system for short-term political gain.

The role of the central bank is to:

- (1) Help the government maintain macroeconomic stability (particularly by targeting inflation and keeping the money supply at an appropriate level).
- (2) Help maintain confidence and stability in the financial system. The central bank works with other banks and banks to help achieve this objective.

The central banks' tool for achieving its goals is **monetary policy**. Traditionally, monetary policy uses the following tools:

- Changing the base interest rate – the interest rate set by the central bank's monetary policy committee. The central bank can use the interest rate to control economic activity; high interest rates cool the economy and low interest rates heat it up (see monetary policy transmission mechanism).
- Adjusting the money supply – the central bank has the power to issue notes and coins, which can influence the amount of money circulating in the economy.

More recently, central banks have been using quantitative easing (QE) as an additional way of stimulating the economy. QE involves the purchasing of various assets, which expands the money supply (since those who sold the assets now have money in the form of a deposit). The intention is to encourage more lending and activity in the economy (a common misconception is that QE is physically printing money – but this is not the case). Since the financial crisis, the Bank of England has used several rounds of QE to try to boost the economy, totalling around £375bn.

I'm still confused about what quantitative easing is. The following video from the Bank of England explains the concept.
<http://www.bankofengland.org/policy/pages/qe/>

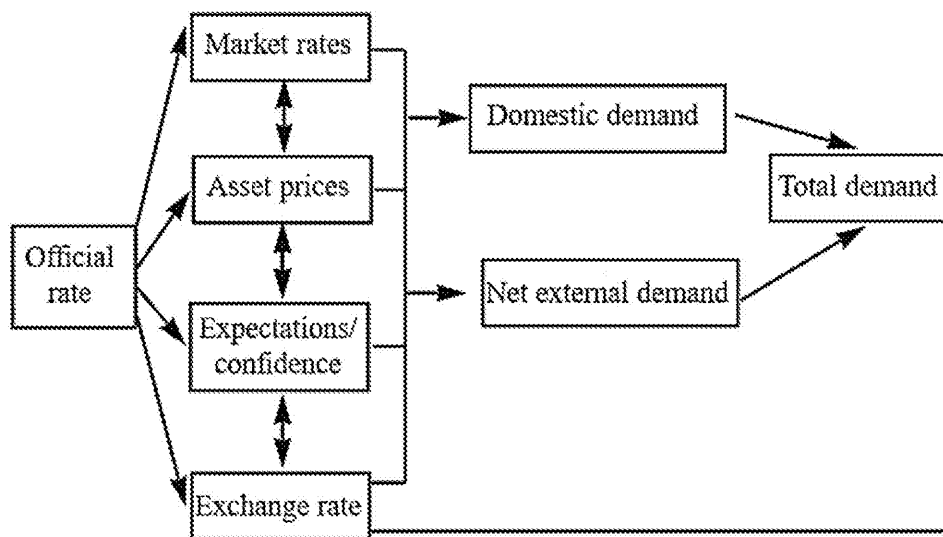
On a separate note, the central bank can also influence the exchange rate of a country's currencies on the foreign exchange market. China has been accused of keeping its currency undervalued in this manner.

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The monetary policy transmission mechanism

The main tool that the central bank has at its disposal is changing the bank rate. The Monetary Policy Committee of the Bank of England (consisting of nine senior members) meets once a month to change the bank rate. The bank rate affects the economy through various 'channels'. The following diagram shows a simple version of **transmission mechanism of monetary policy**.



The financial crisis, and historically low interest rates, have changed this model so much that it is difficult to explain how it should work normally.

Suppose that the bank rate starts at 5%. The central bank notices that economic growth is very low (nearing deflation). So it decides to reduce the rate to 3%. What happens to the economy?

- Market interest rates also fall – since banks and other financial institutions can borrow from the central bank, they can offer more competitive rates on their loans
- When the interest rate falls, the price of assets (such as government bonds) goes up. Assets were priced based on the higher interest rate of 5%, so they are likely to rise in price.
- A fall in the interest rate is likely to lead to a fall in the exchange rate. A lower interest rate means that investors are interested in saving in pounds, so the demand for pounds falls. The pound depreciates.

These factors all act to boost aggregate demand in the economy. Low market interest rates mean that households are more likely to take out loans, increasing consumption and investment (shifting AD to the right). High asset prices lead to a fall in demand for these assets, which leaves more money in the economy. Finally, a low exchange rate makes exports relatively cheap and imports relatively expensive, increasing the net export component of AD. This could also help to reduce a current account deficit, if the deficit is large.

As you know from Year 1 macro, a shift to the right in AD should increase economic growth in the economy (using a Keynesian LRAS). Of course, the eventual change in the economy depends on the shape of the LRAS – this is something that is beyond the control of the central bank, but they can influence it before taking important decisions such as whether or not to change the bank rate.

Note that the monetary policy transmission mechanism diagram also points out that there is an effect on expectations and confidence. However, whether a fall in the bank rate increases confidence is hard to say. On the one hand, it might indicate to markets that the central bank is handing over control to the market. Alternatively, it could indicate to markets that the central bank is handing over control to the market. The net effect is ambiguous.

This analysis can be repeated for an increase in the interest rate, although at the time of writing, the bank rate has been at an all-time low of 0.25%, and some countries (including Japan and the UK) have introduced negative interest rates to try to boost aggregate demand in their economies. Negative interest rates mean that people's savings are guaranteed to be losing value, encouraging them to spend rather than save (which is the opposite of deflation).

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Regulation of the banking industry

The financial crisis highlighted the importance of effective regulation of the banking industry. Economists prefer the market to operate freely, in order to maximise efficiency. In the UK, however, more effective regulation might have prevented (or at least mitigated) the run up to the financial crisis, regulators were 'asleep at the wheel'.

In the UK, various bodies are responsible for regulating finance. This section discusses the main regulators in turn:

The Bank of England's Financial Policy Committee (FPC)

Different divisions within the Bank, including the FPC and the PRA, have specific responsibilities for different parts of the financial sector. For your exams, you need to know about the FPC. Set up fairly recently, in the wake of the financial crisis, the FPC's role is to look at long-term systemic risks in the banking system, as opposed to risks in individual firms (which is the PRA's role). An important feature of the financial system is the interconnectedness of banks, and the fact that if one failed, others would likely fail. The FPC is responsible for monitoring system-wide risks such as these, with a view to making the system safer.



Further your economic knowledge... The Prudential Regulator

The PRA works to ensure that banks operate sensibly and do not take excessive risks. It sets the rules that individual firms must adhere to, such as how much capital they must set aside in reserve. In the event where a firm is likely to fail, the PRA is responsible for making sure that this takes place with minimal disruption to the wider financial system. The PRA was set up in 2009 as part of the new regulatory regime. It was hoped that the new system, where individual authorities have specific responsibilities, would be more effective than the old system where the FCA had a very broad remit.

Financial Conduct Authority (FCA)

The FCA works to protect consumers and promote competition with the financial system. It provides information to consumers, handles complaints, and sets rules for financial firms to follow.

Banker to the banks – lender of last resort

In order to maintain stability in the financial system, the central bank is also responsible for acting as a lender of last resort to banks in the event of a crisis. If there is a bank run, instead of letting people lose their money, the central bank can temporarily support commercial banks via loans. This is why the central bank is known as the 'lender of last resort'. The central bank also acts as the lender of last resort to the government. If government spending exceeds tax revenues, the government tries to finance this excess spending by selling bonds. If the government is unable to sell enough bonds, the central bank can step in and make a loan, preventing a liquidity crisis and restoring confidence in investors.

Questions: The role of the central bank (4.5.3)

1. Which of the following statements about the monetary policy transmission mechanism are correct?
 - a) the official bank rate affects confidence and expectations
 - b) aggregate demand affects inflation
 - c) market interest rates affect the official bank rate
 - d) the official bank rate affects the exchange rate
2. Examine the role of the central bank in the UK financial sector.

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The Global Financial Crisis

The Global Financial Crisis had multiple causes. The popular perception is of bank destabilising the system, and although this is true, it is also important to understand that encouraged risk-taking behaviour.

Since around 2000, there had been steady economic growth and low and stable interest rates in many economies (including the UK). This unusually long period of economic stability (so-called 'Great Moderation') gave the illusion that it would last forever and that economic problems were unlikely. Complacency applied to both banks and economists, most of whom did not identify the economy as fragile.

Furthermore, during this period the level of savings in Asian economies was exceptional, and interest rates around the globe were low. Low interest rates stimulate economic activity, and encourage borrowing (and, therefore, the level of debt) by individuals and governments. The risks of this were assumed to be low since economies were performing so well, but the system was much more fragile.

Sub-prime mortgages and market bubbles

The optimism of the 'Great Moderation' period manifested itself in banks agreeing to lend to people who would normally be considered very risky prospects. Because the housing market was in a 'bubble', and because new financial innovations gave banks the option of transferring risk to other parties (known as 'credit default swaps'), few realised how risky this 'sub-prime' lending was. When the economic boom finally began to run out of steam and unemployment rose, many borrowers were defaulted on. Now banks held huge numbers of 'toxic assets' (the loans that had no value). All financial institutions were exposed to these losses (since during the boom, banks had bought all types of assets).

A market bubble is when a particular asset increases in value very rapidly, as people believe it will. Before the financial crisis, one of the biggest market bubbles was the 'dot com boom'. People, seeing the new opportunities offered by the Internet, invested heavily in online firms, sometimes just for their actual chance of success. Market bubbles tend to end in crashes (when people realise that the market isn't actually as profitable as it seems). Prices fall as investors sell their overpriced assets, and some people end up losing lots of money. Before the financial crisis, there was a bubble in housing (in the US and UK, but also very clearly in Ireland).

Moral hazard

When the scale of the financial crisis became clear, governments had a dilemma: should they let banks shut down (as they would in the free market) or should they be bailed out to protect the financial system? Since almost all the banks were heavily interdependent, if one big bank collapsed, that others would have fallen as well (a kind of domino effect). Therefore, governments bailed out banks (hence the term 'too big to fail').

This creates a problem known as moral hazard: this is when someone's behaviour changes because they are insured against a risk (as a non-financial example, if someone is insured against a car accident, they take fewer precautions, since they know they won't have to pay the cost of any damage).

In the context of the financial sector, if banks were aware that they would be bailed out, they would be more likely to take dangerous risks, since they wouldn't incur the full cost of failure.

Collapse of lending to businesses – the credit crunch

One reason that the crisis was so prolonged is that lending dried up after the crisis. Banks, which had previously lent recklessly, swung the other way and cut off lending to all but the safest firms. This meant that firms who need access to lending (and would normally be able to qualify for it) could not get it, reducing the ability of firms to grow, and further reduced economic growth. It also became much harder for individuals to qualify for mortgages as banks toughened up their lending requirements.

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The role of organisational culture

Before the financial crisis, regulation of the financial sector had been relaxed some banks' activities. This, combined with the optimism of the long economic boom, led to a profit-driven culture at some financial institutions. Since many employees were rewarded for good performance, it encouraged risky behaviour that was profitable in the short term (but booming) but turned out to be completely unsustainable. Essentially, it was a culture where the fundamental features of the market changed, with some bankers actually making profits (e.g. the LIBOR rigging scandal, or the mis-selling of financial products to investors).

The Role of Banking Regulation

The role of UK authorities set up after the financial crisis to provide better regulation (the FCA) was discussed in 4.5.3. They represent a ramping up of the degree to which the financial sector is regulated before the financial crisis, although it is too early to tell whether they have got the balance right between regulating the banking system and allowing banks to flourish.

The extent to which banks are regulated has fluctuated considerably over time. Financial regulation is still an unresolved problem, and we can expect to see it debated more in the future.

The Impact of the Financial Sector on Economic Agents and the Economy

The experience of the financial crisis tells us that turmoil in the financial sector can have a significant impact on economic agents. However, we should remember that the financial sector does not always cause problems in modern economies when working well.

A healthy financial sector allows people to safely save money, facilitates exchange, and permits higher economic growth through sensible lending and borrowing. The UK is highly reliant on financial services as a source of economic growth. One of the key reasons for the struggle to advance is because their financial institutions are weak or absent.

Questions: The global financial crisis (4.5.3)

1. How did sub-prime mortgages lead to the Global Financial Crisis of 2008?
2. Briefly analyse the issue of moral hazard in the banking sector.
3. What, in your opinion, is the main impact of the Global Financial Crisis and how can it be avoided?

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Answers

Competition and Market Power (4.1)

Spectrum of Competition

1.
 - Firms aim to maximise profits
 - There is an infinite number of producers, which means the concentration ratio is low
 - There is perfect knowledge
 - Homogeneous product differentiation, which makes the firm a price-taker
 - There are no barriers to entry and exit
2.
 - Firms aim to maximise profits
 - There are high numbers of producers, which means the concentration ratio is low
 - There is almost perfect knowledge
 - Products are similar but there is still room for product differentiation, which makes the firm a price-taker
 - There are low barriers to entry and exit
3. The UK supermarket industry is not perfectly competitive due to the market structure. Firms can make use of economies of scale to keep their costs lower than rivals and prevent new entrants.
4. Learners should show that USPs play an important role in the success of the firm's marketing initiatives. Specific USPs include design of the cube, its unique features, high quality, etc.
5.
 - a) Price discrimination: Virgin Trains might use this pricing strategy in order to attract customers on the most-used routes, e.g. rush-hour trips to London. This way, people who travel at off-peak times (e.g. breaks) get a cheaper deal and develop a loyalty to the brand.
 - b) Price skimming: Like many telecommunications companies, Samsung can recover its high development costs as it innovates on its products; therefore, it may choose a high price as a way to offset these costs in the beginning.
 - c) Competitive pricing: Orange squash is commonplace in most UK homes. A firm that sells it in any other way than by offering a decent price would be a waste of money for consumers.
 - d) Penetration pricing: It is common for consumers to receive direct market offers from firms like Virgin Media, TalkTalk and any other broadband firm that is constantly advertising. A firm could try more penetration-style pricing; however, every company must be able to compete with BT, the firm that owns the majority of UK telephone lines.
 - e) Predatory penetration: Amazon has won over the UK and much of the world with its wide range of services and rock-bottom pricing. The lower Amazon keeps its prices, the more likely customers will stay loyal.

Barriers to Entry

1. According to the article, the regulatory process is a barrier to entry.
2. Possible features include: no barriers to entry and exit, no sunk costs, no competition, all firms have access to the same technology.
3. For this question, you should go through the characteristics of a contestable market and identify in which the automobile market has these characteristics:
 - There are certainly barriers to entry in the automobile market. Incumbent firms have a high level of scale in production, something that would be hard for new firms to overcome.
 - There would be large sunk costs in the automobile industry, as there would be high costs of setting up a production facility, for example.
 - There may be some competitive disadvantages for new firms, perhaps related to the fact that most automobile manufacturers are transnational.
 - New firms may not have access to the latest technology available to other firms.

These considerations suggest that the automobile industry is mostly uncontested. However, you could argue that the industry is contestable in the sense that new firms can compete in certain areas of the market if one firm raised their prices too much. You could also argue that since there is so much variation between automobiles (product differentiation), there are opportunities for new firms to be innovative and capture some of the market.

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Oligopoly

1. $83\% = 30 + 27 + 26$
2. **Consumers:** Some groups of consumers can benefit from lower prices; these only afford the good at the lower prices and so are subsidised by those who can afford it.
Producers: Producers can maximise their revenues and increase their production.
3. **Consumers:** Consumer surplus has been minimised and some groups of consumers are left out.
Producers: There are administration and enforcement costs of identifying and discriminating between different groups of consumers.

Business Objectives and Pricing Decisions

1. A business needs to understand marginal costs because it shows how much it costs to produce an extra unit. Similarly with marginal revenue, a business needs to know how much it could receive as a result of selling one more unit. Both of these figures help a business decide the rewards for taking on a particular venture. The figures should be used in conjunction with other measures, such as sales forecasts, rather than stand-alone.
2. Students should consider how business objectives affect pricing strategies and how Apple may have had at different stages of the iPhone's product life cycle.

2007: iPhone is new on the market and Apple needs to ensure that it makes a profit. The pricing strategy at this point, therefore, may have been profit maximisation. The pricing strategy at this point, therefore, may have been profit maximisation, used as a way to claw back any high research and development costs.

2008: Apple is known around the world as a top-quality brand and so it is competing for more on market share (by working on improving its brand reputation) following the iPhone's launch. This is backed up by the fact that the firm reduced the price of its iPhone from £1,200 to £1,000. The pricing strategy at this point, therefore, may have been cost-plus pricing. Apple researched the price that its customers would be willing to pay and considered the profit it would like to generate.

2009–2015: Sales of the iPhone increased year on year, making huge leaps in sales. This may indicate that Apple was most interested in sales maximisation in these years. The mobile phone industry is an extremely dynamic one and so Apple's response to this. The pricing at this point, therefore, may have been competitive pricing (to maintain leadership), used as a way to ensure brand loyalty from consumers who view the iPhone as a quality. This strategy could also ensure that the company receives repeat purchases.

Productive and Allocative Efficiency

1. Productivity looks at the number of goods a resource can produce whereas efficiency looks at how much resource has been used.
2. A farmer cannot produce both as resources (including land) are in limited supply. The farmer must make a trade-off between wheat and tomatoes. If they choose to produce wheat, they cannot produce 5,000 tonnes of tomatoes. This idea is known as the opportunity cost of taking a decision.

Market Power and Market Failure (4.2)

Market Failure

1. Monopsony power refers to the buying power of a firm that is a sole buyer in a market. NHS is the main buyer of doctors, it is able to decide what wages it gives. And this is lower than under the free market. As a result, this will lead to an excess demand for doctors.
2. Trade unions advocate workers' rights and demand higher wages and better working conditions. If a firm increases a firm's costs, it is likely to lower demand for labour. And as supply is lower, unemployment is created. So in effect, a strong trade union obtains monopsony power.

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Business Regulation

1. Firms with large market power are able to manipulate the market for their own benefit, restrict supply and raise the price of their goods. This is bad for consumers and the government has a need to control monopolies or prevent mergers and takeovers that may result in higher prices to protect consumers.
2.
 - a) **prices**
The policies are designed to increase competition and as such this will help to lower prices.
 - b) **profit**
The policies try to restrict profit levels as this can restrict a firm's power to raise prices in the market.
 - c) **efficiency**
Because competition policies restrict prices, firms will want to lower their costs to maintain their profits. This means competition policies can inadvertently increase efficiency.
 - d) **quality**
Firms may be restricted on prices and profits, and so may instead choose to improve other ways, such as on the quality of their products.
 - e) **choice**
Competition policies increase competition in the market by increasing the number of firms. This means consumers have a greater choice of whom they can purchase from.

3. Your answer should first explain some of the basic characteristics of a monopoly. A monopoly is characterised by a single firm that has significant market power in setting prices. Barriers to entry are high in this market, otherwise other firms would be tempted to enter. Assuming that the monopoly is aiming to maximise profit, at a lower output than in a competitive market, it is also likely that the firm will not be productively efficient (at the minimum).

If this is the case, then clearly it is a bad situation for consumers: the firm is making a profit at the expense of consumers, and the government would be justified in trying to intervene. This could be achieved by, for example, imposing a maximum price, taxing the monopoly (the tax could end up being passed on to consumers), or lowering barriers to entry (perhaps by encouraging new entry, although this strategy has some drawbacks).

However, it is not always the case that a monopoly is bad for consumers. The firm may have a corporate social responsibility, and be using its profits to reinvest in the business to improve the quality of the flying experience for consumers, the convenience of flight times, the safety of the aircraft, for example.

In the case of a natural monopoly, it may also be too expensive to encourage competition since fixed costs are so high (this is unlikely to be the case in this type of market).

In summary, your answer should identify the main advantages and disadvantages of a monopoly (in this market when possible) and explain some situations in which it might be justified for the government to intervene.

Arguments for and against Regulation

1. Regulating businesses allows competition to flourish, as businesses cannot collude to raise the prices of goods for consumers. Increased competition from regulated markets means firms must compete on quality. This means the whole economy can benefit from improved efficiency.
2. The bureaucratic procedures that are involved to ensure regulation is met can be a significant cost to the firm. This means firms' costs of production will increase. Firms will either reduce output, falling or increase their prices to compensate. Some firms may even go out of business. This means the government will gain less tax revenue and the firm will have to pay higher wages. Increasing prices can cause inflation as well as reducing purchasing power.

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Market Failure across the Economy (4.3)

Market Failure in Society

- The inability to move. In an economic sense, this may mean workers can't move between sectors or industries.
 - Occupational and geographical immobility
 - Because they represent the inability of workers to adapt their skills to new areas where work may be; then they can create structural and geographical unemployment.
- One possible example of a demerit good could be cigarettes. Cigarettes are harmful to human health, and so if individuals overconsume cigarettes, the cost is limited to the price charged to individuals for buying the cigarettes. Harmful cigarettes also impose increased costs to the health-care service. This means the government needs to allocate resources compared to other important things, e.g. education, thereby inducing an opportunity cost. Increased spending on health care may well have to be financed through increased taxes, which reduce people's disposable income and these people are forced to reduce their consumption of other goods. This has further negative effects on the economy – i.e. falling profits, increased unemployment, etc.

Externalities

- Price of a car – private cost
 - Ripple effects of education – social benefit
 - Pollution from factories – external cost
- Goods that produce high pollution levels or create congestion negatively impact society. The additional costs of pollution and congestion will not be paid by the consumer. The price of the good will be undervalued and this will lead to an overconsumption of the good, creating negative externalities.

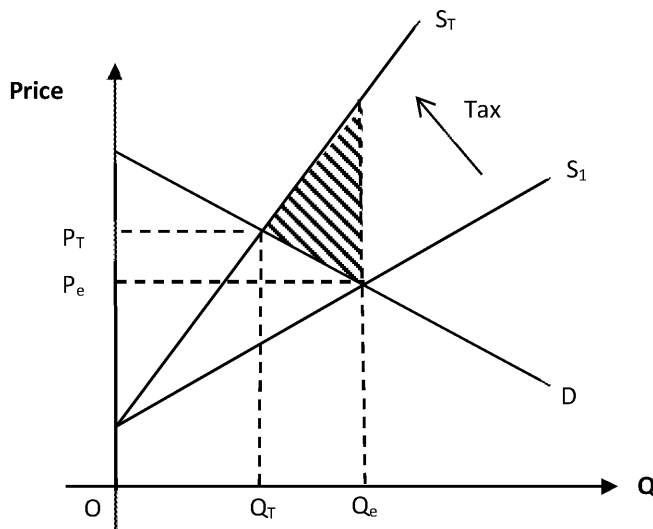
A good that provides additional benefit to a third party, such as flu vaccines, will be underconsumed. A person vaccinated but also reduce the risk of a third party catching flu, will be underconsumed. The extra benefit is not felt by the producer or consumer and so they are less willing to produce or consume that good.

Policies to Deal with Market Failure

- c
- d. It would be expected that prices would be low in a monopolistically competitive market. The need for a maximum price on goods.
- Your answer should first explain how both of the policies work.

Tradeable pollution permits are distributed to firms by the government, setting a total level of pollution allowed as a whole. Firms then trade the permits (leading to a market and a price for permits). This means that there is an incentive for firms to avoid polluting in the first place (or to pay for permits).

A pollution tax has the effect of shifting (or pivoting) supply by firms to the left to the optimum level:



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Both policies aim to reduce the level of pollution to the socially optimum level. Differences (and similarities) in the outcomes for each policy.

A tradeable pollution permit scheme makes it much less difficult (but still by the government) to target a set level of pollution. Tradeable pollution permits fix pollution levels in the economy, whereas with a tax scheme, the government cannot easily predict pollution levels.

However, a tax scheme should generate more revenue for the government (and a permit scheme if it auctions the permits to firms, rather than handing them out for free).

It can be argued that a permit scheme is more efficient, since market forces will allocate permits to the firms that value them most. With a tax scheme, it may be that certain firms end up paying too much on their energy efficiency. This is a problem that should be avoided with a permit scheme.

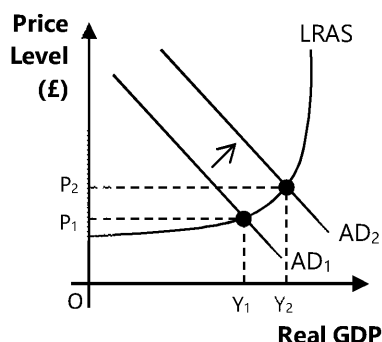
Finally, both policies may have problems with enforcement: in both cases firms can move to a less strict country (these policies are unlikely to be global). Both policies may result in higher prices for consumers, if demand for products is inelastic enough. Both policies may result in higher costs for firms.

Macroeconomic Policies and Impact on Firms and the Economy

The Aggregate Demand (AD) and Aggregate Supply Model

1. a) If households spend 40p from every extra £1, then the marginal propensity to consume (MPC) is 0.4. The multiplier is equal to $1 / (1 - \text{MPC})$, so in this case the multiplier is 2.5.
- b) If the initial injection is £5m, then the eventual increase in income in the economy is £12.5m.

2.



3. a) This is likely to shift both AS and AD to the right. More immigrants mean more workers, which increases aggregate supply. Immigrants also demand goods and services, which increases aggregate demand.
- b) This is likely to lead to a shift to the left in AS, since it could lead to a fall in productivity. There would probably be a long time lag for this effect to be felt.
- c) This should shift both AS and AD to the left. AD would fall since the (X-M) balance would worsen (since the UK imports more oil than it exports). AS would fall since that their real incomes are being squeezed by higher fuel or energy costs. Since oil is a raw material used in production for many industries, and a higher cost of oil is more expensive for firms to produce goods.
- d) This should shift aggregate demand to the right, since it will encourage more spending (on consumption). You could argue that it would reduce government tax revenue, which would reduce government spending, shifting AD to the left; but government spending is likely to be more than consumption, so it is likely that the consumption effect would be larger.

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Demand-side Policies

1. **Incentive to Work:** People can become discouraged if their disposable income is spent on taxes.
Income Distribution: Taxing high-income earners can reduce the higher-level income distribution.
Real Output and Employment: If taxes decrease the incentive to work, then people may choose to leave the labour market, and/or unemployment will rise as being seen as a better option. This fall in labour resources can decrease an economy's potential. Equally, taxes are a withdrawal from the circular flow, as they prevent people from spending and investing their income.
Price Level (Inflation): Increased taxes mean a decrease in disposable income, so firms may increase wages to compensate. This will increase the costs of production, and on top of that, the increasing tax costs. As a response, firms will increase their prices and inflation will rise.
Trade Balance: An increase in the tax rate could increase the costs of production, so firms may increase their prices as a response. This means their goods will appear less competitive, so exports will fall (potentially worsening a trade deficit). A rise in direct taxes can also reduce disposable income, so people may reduce their spending on imports. This will mean people reduce their spending on imports, and potentially will improve the trade balance.
2. a) **reduce poverty and inequality**
 Making the tax system more progressive can help to even out inequality, so those in need can help to support people out of poverty. Similarly, supply-side policies such as occupational and geographical mobility can help assist people to acquire higher wages.
 b) **increase international competitiveness**
 Supply-side policies can be used to improve efficiency and productivity, which can improve competitiveness. Reducing taxes can also reduce the cost of goods, making them more competitive in the international market. The government could also adopt an exchange rate policy, allowing its currency to make exports appear cheaper.

Supply-side Policies

1. Free-market policies could include: tax cuts, deregulation (e.g. of the financial sector), labour market reforms (e.g. reducing the power of trade unions). Interventionist policies could include: spending on education/training, spending on infrastructure, nationalisation, regulation (e.g. of the financial sector), industrial policy (e.g. subsidising key industries).
2. Your answer should note that deregulation of markets is traditionally seen as increasing the productive capacity of an economy, shifting LRAS to the right. This should be marked (marks given for correct labelling, and shift in AS shown correctly). You could also note that the removal of unnecessary rules / red tape is generally seen as positive (it often increases efficiency, enhance international competitiveness and encourage foreign investment into the country). It also has little or no opportunity cost, unlike many other supply-side policies. On the negative side, clearly in Ireland's case too much deregulation was a bad idea, and a high level of risk-taking behaviour to emerge. If financial institutions cannot effectively self-regulate, then the government must set standards or oversee the industry to some degree. On an AD/AS diagram, this would be shown by an initial increase in AS (during the boom) following by a fall in AS (during the recession). This is required for full marks, though. A good conclusion should mention that the success of supply-side policies depends on the degree of regulation/deregulation in the industry to start with.

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Risk and the Financial Sector (4.5)

Risk and Uncertainty

1. A forward currency market allows a firm to agree to a fixed exchange rate before the future. This eliminates exchange rate risk (although they might have to pay a premium rate to allow for the risk). For example, if the exchange rate is currently £1 = €1.60 and there is a high chance of the exchange rate changing to £1 = €1.80 by the time the firm needs it in euros, they might agree to an exchange rate of £1 = €1.60 on a forward market.

The Role of the Financial Sector

1. b
2. (Any two of the following)
 - The financial market is a market where people buy and sell commodities and services. It is a market for money. In other words, money is what is being bought and sold (demand and supply).
 - Financial markets come in a number of forms, such as the money market, the bond market, the exchange market.
 - The main role of financial markets is to provide funds to those who want them. They do so by taking money from those who have excess money. This excess is left over following consumer spending. Banks facilitate in this channelling of funds.
 - Therefore, the financial markets help people to save. This money is then used by firms that want additional funds.
 - Financial markets also assist in the buying and selling of currency. In fact, they can be used to buy currency in the future at a rate decided today for that future sale. This prevents exchange rate instability. This is known as the forward market.
 - Financial markets also provide a market for equities (i.e. shares and bonds). Firms can go on the stock market to raise capital for firms. Government bonds can also be used to finance debts.

The Role of the Central Bank

1. c
2. The central bank (the Bank of England in the UK) has many different roles to perform, including:
 - Setting monetary policy – the base interest rate set by the central bank influences the financial sector. Furthermore, the central bank can provide liquidity to banks by easing (one way of lending to banks to increase the money supply). This helps banks to firms and households.
 - Regulating the financial sector – the Bank of England plays an important role, for example, requiring banks to hold certain amounts of capital in case of a crisis, to protect consumers and promote competition in the financial sector, as well as to maintain the financial system.
 - Lender of last resort – the central bank can provide emergency funding to banks in the event of a crisis, to prevent a bank run (which is when people with deposits at the bank try to withdraw their money at the same time – this happened to Northern Rock in 2007).
 - Promoting financial stability – the central bank is charged with maintaining the stability of the financial system as a whole. It achieves this through the functions mentioned above and its 'forward guidance' strategy, where the bank announces future policy decisions to give markets that there won't be any sudden surprises.

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The Global Financial Crisis

1. One of the key causes of the financial crisis was that banks were making riskier investments for higher returns, often without appreciating how risky they actually were, and with insufficient liquid reserves. Clever financial innovations such as 'collateralised debt obligations' made it seem as if risk was being eliminated from the system, but in reality many of these assets that were never likely to be paid back ('toxic' assets).

When the crisis finally hit, it was difficult to tell who was going to incur the losses. The trading arrangements were so complex and interlinked. Also, since most of the banks held the same kind of assets, they were all exposed to the eventual losses, and ended up needing bailouts.

2. In the context of the financial sector, it is argued that there is a moral hazard: banks 'too big to fail' know that they will be bailed out by the government. This encourages the idea that the cost of a banking crisis falls disproportionately on the economy at large, rather than on the banks.

Some argue that this isn't a completely accurate explanation of the financial crisis. Banks were aware that they were putting the whole system at risk, and there was still a share of the cost in banks during the crisis (so they did bear some of the cost).

However, going forward, the problem of moral hazard should be taken seriously. It should not allow banks to think that they are guaranteed to be bailed out in the event of a crisis, or encourage more irresponsible behaviour today.

3. One of the key consequences of a financial crisis is a fall in lending (a credit crunch) to ordinary households and businesses, reducing aggregate demand in the economy. An important role here too: less confident consumers are likely to save (often in cash) rather than spend, which causes an economic slowdown.

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