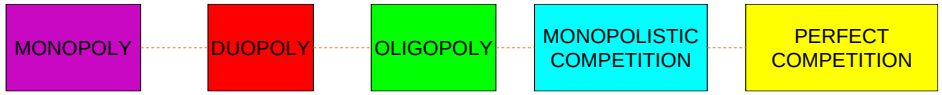
4.1.1 – Spectrum of competition

Spectrum of competition

- Market structure is the number of firms within an industry and the way in which those businesses behave e.g. differentiating products.
- The concentration ratio (CR) tells us the number of firms that dominate the market.
- This is linked to the degree of competition within the market:



Monopoly and oligopoly

- Monopoly occurs when one firm dominates the market
- Oligopoly occurs when a few firms dominate the market
- Monopolistic competition occurs when there are many firms in the market but there is some form of product differentiation

Perfect competition

- In perfect competition there are a large number of producers in the market and no barriers to entering the market exist
- Each firm is relatively small in size and sell to a large number of small buyers
- All of these producers are price takers i.e. they are not large enough to influence price
- Each firm can sell all of its output at the current market price
  - Therefore, it would not lower its price
  - If it were to raise price it would sell nothing as buyers would go to another seller
- This means that the demand curve for each firm is price elastic i.e. horizontal
- D = AR
  - Average revenue (total revenue/output) is always the same

Characteristics of monopoly

- A monopoly exists where there is only one firm in the market
- However, the Government refer to any company that has at least 25% market share as having monopoly powers
- Monopolies can exploit consumers by charging high prices. Therefore, monopolies are regulated in order to protect the customer
- Barriers to entry exist in monopoly markets that stop firms from entering the market. These include:
  - High costs to enter the market, especially high capital costs
  - Economies of scale experienced by large firms e.g. Bulk buying
  - Legal barriers e.g. Only pharmacies can sell prescription drugs
- A pure monopoly has only one firm in the industry
- Price leaders - they can charge high prices but are often restricted from doing so by government regulation
- New product development is not effected by competitors
- Monopolies will use promotion to inform and persuade customers
- They can increase sales revenue through increasing market size
- How monopolies distribute and sell goods and services depends on the type of product
  - For example, the water companies must supply water to their region

Imperfect competition

- Imperfect competition is a type of market structure that exhibits some but not all elements of perfect competition
- Differences include:
  - There are less firms in the market
  - There is some form of product differentiation
  - There are at least some barriers to entry and exit
  - The demand curve is downward sloping
  - Suppliers can influence prices

4.1.1 – Spectrum of competition

Duopoly

- A duopoly exists where there are only two firms in the market
- Like monopolies, duopolies can also exploit consumers by charging high prices
- Similar barriers to entry that exist in monopoly markets also affect duopolies
- Duopolies tend to compete on non-price competition such as promotion
- Duopolies are often accused of collusion (making agreements between each other that restrict competition). This is illegal and firms that collude can be heavily fined

Monopolistic competition

- Monopolistic competition exists where there are a large number of firms in the market selling differentiated products. This leads to a small degree of monopoly power as each firm offers something different to the others
- In this type of market barriers to entry are very low. Therefore, it is easy for firms to enter the market. This creates strong competition
- This mix between monopoly power and competition leads to the term monopolistic competition
- Firms within this market will try to brand their product. This might be through the building up of a reputation
- There are numerous examples of this type of competition such as hairdressing, restaurants and the health and beauty industry

The model of perfect competition – the assumptions

- The model of perfect competition is based on the following assumptions:
  - Large numbers of producers
  - Identical products
  - Freedom of entry and exit
  - Readily available information

Characteristics of oligopoly

- An oligopoly exists where there are only a few firms in the market. Like monopolies and duopolies, oligopolies can exploit consumers by charging high prices
- Barriers to entry exist in oligopolistic markets, particularly through advertising
- Oligopolies tend to compete on non-price competition such as promotion and there may also be an element of collusion
- It is important for oligopolists to take into account the reaction of competitors when making decisions regarding pricing. For example, if one firm cuts price, then others are likely to follow suit, resulting in a lower income for the market as a whole
- Therefore, oligopolists are unlikely to lower price as a long term strategy
- Oligopolies exhibit the following characteristics:
  - Do not tend to compete on price in the long run
  - However, oligopolists might compete on price as a tactic (short run)
  - Tend to spend heavily on new product development
  - Branding is crucial and expensive marketing budgets are available
  - Firms must ensure that their products are accessible if they are going to be successful

Large numbers of producers

- In perfect competition there are a large number of producers in the market
- Each firm is relatively small in size and sell to a large number of small buyers
- All of these producers are price takers i.e. they are not large enough to influence price
- Each firm can sell all of its output at the current market price
  - Therefore, it would not lower its price
  - If it were to raise price it would sell nothing as buyers would go to another seller
- This means that the demand curve for each firm is perfectly price elastic i.e. horizontal
- D = AR = MR
  - Average revenue (total revenue/output) is always the same
  - Marginal revenue (the additional revenue for selling an extra unit) is always the same

4.1.1 – Spectrum of competition

Identical products

- In perfect competition all products are identical or homogeneous
- Buyers cannot tell the difference between products from different firms
- Therefore, there is no branding of products and brand loyalty does not exist
- In reality firms are unlikely to sell identical products, even carrots will be of different quality and branding will differentiate the product in the eyes of the consumer

Readily available information

- In perfect competition there is readily available information or perfect knowledge
- Perfect knowledge occurs when all economic agents e.g. buyers and sellers have a comprehensive understanding of all factors within a market e.g. prices and availability
- All buyers will have information about all prices and the availability of goods and services in the market
- All sellers have the same knowhow in how to produce goods and services so produce the same quality of output

Normal and supernormal profit

- Supernormal profit is all the excess profit a firm makes above the minimum return necessary to keep a firm in business.
- Supernormal profit is calculated by Total Revenue – Total Costs (where total cost includes all fixed and variable costs, plus minimum income necessary for the owner to be happy in that business.)
- Normal profit is defined as the minimum level of profit necessary to keep a firm in that line of business. This level of normal profit enables the firm to pay a reasonable salary to its workers and managers. The definition of normal profit occurs when AR=ATC (average revenue = average total cost)
- Supernormal profit is defined as extra profit above that level of normal profit.
- Supernormal profit is also known as abnormal profit. Abnormal profit means there is an incentive for other firms to enter the industry. (If they can).

Freedom of entry and exit

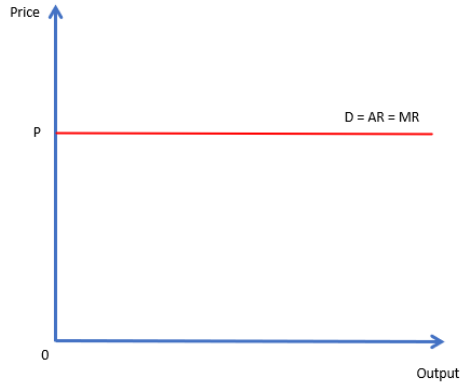
- In perfect competition there are no barriers to entry or exit
- This means firms are free to enter or exit the market if they wish to do so
- Therefore, entry costs will be low or non-existent
- Barriers to entry such as costs associated with capital expenditure, research and development and start-up of the business are low or non- existent

The shut down point

- A firm will remain in operation as long as its selling price covers its average variable cost
- Above this point it makes a contribution to paying off its fixed costs
- The shut-down point occurs when price falls below average variable costs
- At this point the firm is better off closing down rather than remaining in operation

The demand curve in perfect competition

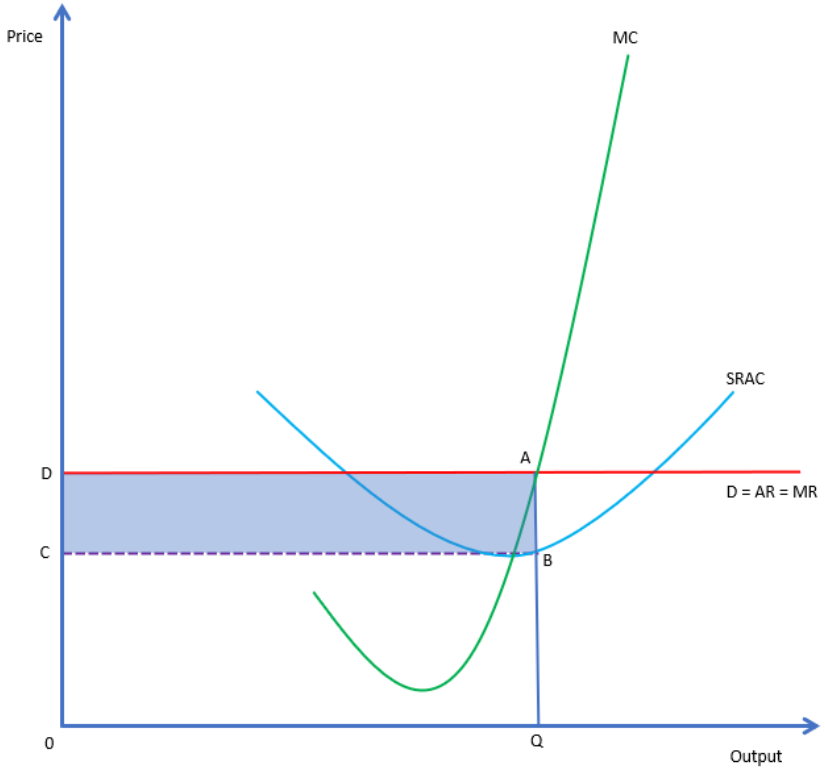
- In perfect competition firms face a perfectly elastic demand curve. Each firm can sell all of its output at the current market price, P. Therefore, it would not lower its price. If it were to raise price it would sell nothing as buyers would go to another seller. Thus, the D curve is horizontal.
- The D curve is also the AR curve as total output divided by price is always the same.
- The D curve is also the MR curve. As prices do not change, an additional unit sold will bring in the same revenue every time.



4.1.1 – Spectrum of competition

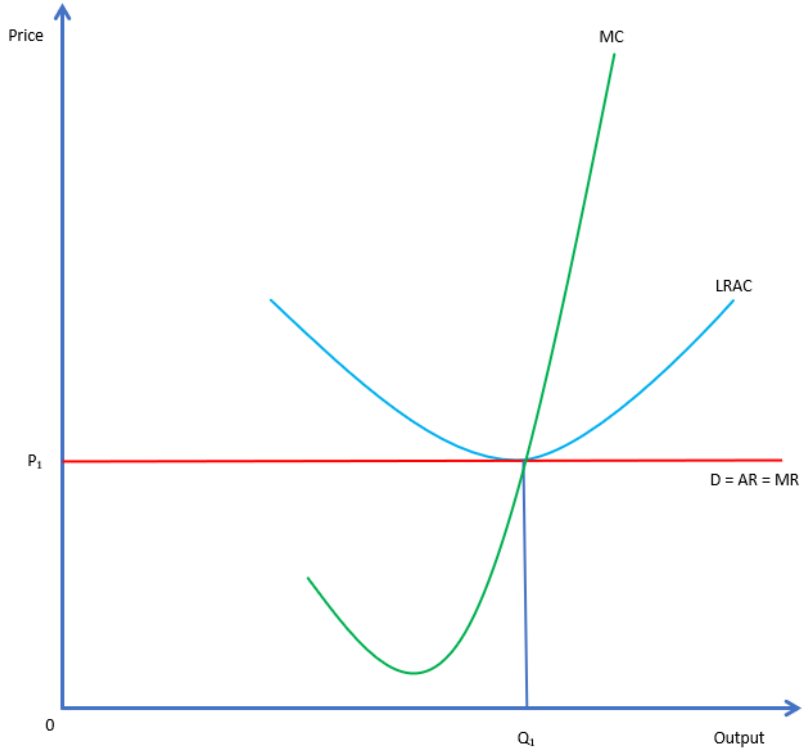
Short run profit maximisation in perfect competition

- In the short run equilibrium occurs where MC = MR. This can be seen at point A. At this point AR is greater than AC so the firm is making supernormal profits. This is equivalent to the shaded area ABCD.
- If the SRAC curve was above the AR curve the firm would be making a loss.



Long run profit maximisation in perfect competition

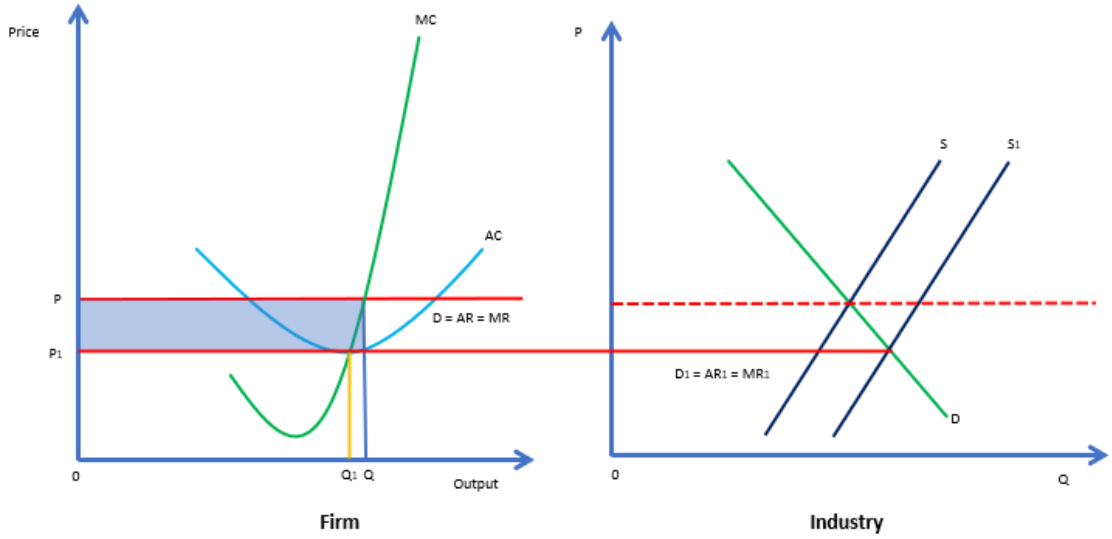
- In the long run firms will make normal profit.
- If supernormal profits are being made new firms will enter the industry to share in these. The increase in supply will see a fall in price and supernormal profits will disappear.
- If losses are being made firms will leave the industry and the decrease in supply will see a rise in price and normal profits will be made.
- There is productive efficiency as firms are operating at the lowest point on the AC curve.
- There is allocative efficiency as consumers are able to buy all that they want at the market price whilst producers can sell all of their output. At this point quantity supplied will equal quantity demanded.



4.1.1 – Spectrum of competition

Moving from supernormal profits in the short run to long run equilibrium

- The incentive of supernormal profits will lead to new firms entering the industry. This is shown by an increase in the industry supply curve from S to S1. Price will fall to P1. Output of individual firms would reduce, from Q to Q1, as they maximise profits where MC=MR but output for the industry as a whole would increase. This is unique to perfect competition.
- Although demand for the firm in perfect competition is perfectly elastic i.e. horizontal, demand for the industry as a whole is downward sloping. If price were to rise demand would fall and vice versa.



Non-price competition

- Non-price competition occurs when a firm distinguishes or differentiates its product from that of its competitors
- This can take many forms including promotion, quality, customer service and branding
- It is common in oligopoly as competing on price is likely to lead to lower profits for the oligopolist
- This will reduce the likelihood of price wars
- The additional costs of non-price competition are likely to be less than the cost of engaging in a price war

Product differentiation

- Firms try to make their product different to the competition by adapting the actual product in some way or by distinguishing the product through advertising and branding
- A business might have a product range selling a variety of goods or services to meet consumer needs
- With high competition in most markets it is important that a business tries to differentiate itself from the competition in order to sell
- A Unique Selling Point (USP) is something that distinguishes a firm's product from those of its competitors and can allow a firm to charge a premium price

Limitations of perfect competition

- In reality, there will usually always be barriers to entry for new firms
- Products are not usually homogeneous e.g. onions differ in size therefore are differentiated
- Perfect information is not always available
- Customers are influenced by things other than price i.e. brand, convenience
- Firms keep innovations and new technologies to themselves to stop people from copying them i.e. patents

Advantages	Disadvantages
• Helps allocate resources to most efficient use • Encourages efficiency • Consumers benefit: consumers charged a lower price • Responsive to consumer wishes	• The conditions are very strict, there are few perfectly competitive markets • Insufficient profits for investment • Lack of product variety • Unequal distribution of goods & income

4.1.1 – Spectrum of competition

Pricing strategies

STRATEGIES	FEATURES	ADVANTAGES	DISADVANTAGES	WHERE USED
COMPETITIVE	Pricing is based off what competitors charge to keep appeal	There is a guarantee of some market share and sales if market price is accepted	They may not be able to cover their costs if focused on competitive pricing	Used in a market with homogeneous (similar) products, or one with many substitutes
COST PLUS	This is the cost of raw materials with a calculated mark-up on each product	Reduces uncertainty if the product is sold as seller knows that costs will be covered	As price is not competitive it could lead to a fall in quantity sold, revenue and market share	Can be used when the seller wants to know the gross profit margin in advance
SKIMMING (PREMIUM)	This is a short-term technique used when competition is low. High prices are set initially	Can gain quick profits when beginning with a new product	Can lead to lack of customers as they are deterred by the high prices	Used in new markets, or with new products that have differentiated features
PENETRATION	Low prices are used initially, which are raised after customer loyalty is gained	They can gain market share quickly, and can enter the market more easily	They may make a large loss through these low prices	Used by new firms when entering the market to gain market share
PREDATORY	Low prices are set, taking losses to drive other firms out of business	Able to reduce competition in the market and therefore maintain their market power	Could possibly make a large loss from their predatory prices	Used in oligopolistic markets, by large firms to prevent new firms from entering
PSYCHOLOGICAL	Uses emotional responses to prices e.g. a 99p good seems cheaper than £1	Could increase sales revenue which leads to a gain in market share	May not have the intended effect - pointless	Can be used on cheaper/smaller products (chocolate) to encourage impulse purchases

4.1.2 – Barriers to entry

Important terminology

- A sunk cost is one that the firm cannot recover if it were to exit the market.
- Freedom to enter or exit the market means that factors of production are perfectly mobile so no barriers to entry exist.
- Perfect knowledge occurs when all producers and consumers in a market are fully aware of price, quantity available and other relevant information for all products when making buying decisions.
- Hit and run competition occurs when firms enter the market to take advantage of short-term supernormal profits.

Contestable markets and perfect competition

- Contestable markets differ to those in perfect competition as firms can:
  - Sell both homogenous (identical) or heterogeneous (different) products
  - Display elements of monopoly power e.g. by being a price leader in the market
  - Be small in number e.g. the market might be oligopolistic
- The significance of contestable markets is that firms can easily enter or exit the market to access supernormal profits
- This threat of potential entrants means that incumbent firms only make normal profits

Freedom to enter or exit the market

- Freedom to enter or exit the market means that factors of production are perfectly mobile so no barriers to entry or exit exist
- This means that all firms have access to the same technology
- The average costs of all firms are likely to be the same for both new entrants and existing firms as firms are unable to exploit economies of scale
- If firms in the market raise price and earn supernormal profits new entrants will take advantage and move into the market
- If the original firms lower price and supernormal profits no longer exist the hit and run competition will leave the market
- As there is free entry and exit the hit and run competitor does not have any substantial costs e.g. their machines can still be put to use for other purposes
- This guarantees only normal profit in the long run

Contestable markets

- A contestable market is a type of market structure that is competitive because of a lack of barriers to entry. A perfectly contestable market exhibits the following characteristics:
  - Freedom to enter or exit the market
  - No sunk costs
  - Perfect knowledge
  - Hit and run competition
- Price cannot be set above average cost as supernormal profits will attract hit and run competition to enter the market
- In reality we look at the degree of contestability in the market as perfectly contestable markets do not exist

Market contestability and the performance of an industry

- Contestability will impact on efficiency in a market:
  - Productive efficiency will exist as firms operate at the lowest point on their average cost curve. If they didn't new firms would enter the market with lower AC and could charge a lower price
  - Allocative efficiency occurs as firms:
    - only make normal profits (AR or P = AC)
    - operate at the lowest cost output (MC = AC)
    - thus, P = MC the criterion for allocative efficiency
  - Dynamic efficiency might occur as firms innovate production processes in order to lower AC. This is made easier as firms have greater access to industry wide technology

Types of barriers to entry

- Product differentiation
- Branding
- Start-up costs
- Intellectual property rights
- R&D and technology change

4.1.2 – Barriers to entry

Product differentiation

- Firms try to make their product different to the competition by adapting the actual product in some way or by distinguishing the product through advertising and branding
- A business might have a product range selling a variety of goods or services to meet consumer needs
- With high competition in most markets it is important that a business tries to differentiate itself from the competition in order to sell
- A Unique Selling Point (USP) is something that distinguishes a firm's product from those of its competitors and can allow a firm to charge a premium price

Start-up costs

- Start-up costs or sunk costs are costs that the firm cannot recover if it were to exit the market
- As these costs are irretrievable they will impede the free exit of firms from the industry
- Sunk costs should not be taken into account when making future investment decisions
- However, a firm will be aware that sunk costs will exist in a market
- This will deter hit and run entrants into a market
- Therefore, the market is less likely to be contestable

R&D and technology change

- Research and development creates barriers to entry as firms need to finance it
- In fast moving industries where products change regularly this requires investment in product innovation
- As technology changes firms need to invest heavily in process innovation
- These restrict other firms from entering a market, creating a significant barrier to entry

Branding

- A promotional method that involves the creation of an identity for the business that distinguishes that firm and its products from other firms
- Branding can add value to a product allowing firms to charge higher prices
- Ultimately leads to brand loyalty whereby customers will continue to buy products from that firm
- Organisations spend enormous amounts of time and money branding their company and products

Intellectual property rights

- Intellectual property rights create barriers to entry
- These include legal barriers that stop other firms from using ideas:
  - Patents
  - Trademarks
  - Copyright
- These restrict other firms from producing a good or service making it difficult for them to enter a market

Other types of barriers to entry and exit

- Perfect knowledge occurs when all producers and consumers in a market are fully aware of price, quantity available and other relevant information for all products when making buying and production decisions
  - This means that all firms have access to the same technology and can use it at the same cost
- If a firm has a competitive advantage due to better technology this will lower its average costs and impede the entry of new firms into the market
  - Therefore, the market is less likely to be contestable

The impact of barriers to entry on perfect competition

- In perfect competition there are no barriers to entry or exit
- This means firms are free to enter or exit the market if they wish to do so
- Therefore, entry costs will be low or non-existent
- Barriers to entry such as costs associated with capital expenditure, research and development and start-up of the business are low or non- existent

4.1.2 – Barriers to entry

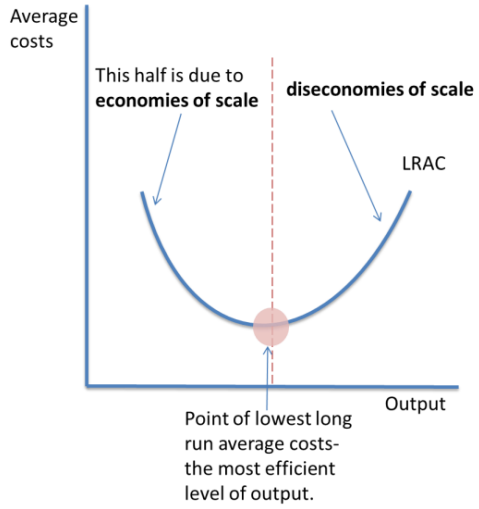
The impact of barriers to entry on imperfect markets

- Barriers to entry exist in markets with monopoly power. These stop firms from entering the market
- They include:
  - High costs to enter the market, especially high capital costs
  - Economies of scale experienced by large firms e.g. bulk buying
  - Intellectual property rights/legal barriers – patents, trademark and copyright restrict other firms from producing a good or service
  - Unfair competition e.g. predatory pricing – attempting to force competitors out of a market e.g. selling products below cost price for a time period
  - Government regulation – restricting firms from entering a market e.g. giving sole rights to one supplier
- Firms might use limit pricing, deliberately keeping price low to deter new entrants into the market
- This leads to normal profits being made in the industry
- Sunk costs are costs that the firm cannot recover if it were to exit the market
- As these costs are irretrievable they will impede the free exit of firms from the industry

Economies of scale and their impact on cost and price

- Risk-bearing
  - When a firm becomes larger, they can expand their production range. Therefore, they can spread the cost of uncertainty. If one part is not successful, they have other parts to fall back on.
- Financial
  - Banks are willing to lend loans more cheaply to larger firms, because they are deemed less risky. Therefore, larger firms can take advantage of cheaper credit.
- Managerial
  - Larger firms are more able to specialise and divide their labour. They can employ specialist managers and supervisors, which lowers average costs.
- Technological
  - Larger firms can afford to invest in more advanced and productive machinery and capital, which will lower their average costs.
- Marketing
  - Larger firms can divide their marketing budgets across larger outputs, so the average cost of advertising per unit is less than that of a smaller firm.
- Purchasing
  - Larger firms can bulk-buy, which means each unit will cost them less. For example, supermarkets have more buying power from farmers than corner shops, so they can negotiate better deals.

<u>Long run average cost curve</u>



- Initially, average costs fall, since firms can take advantage of economies of scale. This means average costs are falling as output increases.
- After the optimum level of output, where average costs are at their lowest, average costs rise due to diseconomies of scale.
- The point of lowest LRAC is the minimum efficient scale. This is where the optimum level of output is since costs are lowest, and the economies of scale of production have been fully utilised.

4.1.3 – Oligopoly

Characteristics of oligopoly

- An oligopoly exists where there are only a few firms in the market. Smaller firms are likely to operate but will not have a significant impact on market share
- Oligopolies tend to compete on non-price competition such as promotion and there may also be an element of collusion. Like monopolies and duopolies, oligopolists can exploit consumers by charging high prices
- High barriers to entry and exit exist in oligopolistic markets, particularly through advertising and R&D. This means ease of entry to the market is far more difficult for smaller firms
- It is important for oligopolists to take into account the reaction of competitors when making decisions regarding pricing. For example, if one firm cuts price, then others are likely to follow suit, resulting in a lower income for the market as a whole
- Therefore, oligopolists are unlikely to lower price as a long term strategy. This shows that interdependence of firms is important in oligopoly
- Although oligopolists do not tend to compete on price in the long run, they might compete on price as a tactic (short run)
- They tend to spend heavily on new product development
- Branding is crucial and expensive marketing budgets are available
- Firms must ensure that their products are accessible if they are going to be successful
- Products can be homogenous or differentiated

Interdependence of firms

- Firms in oligopolistic markets are interdependent
- This means that the actions of one firm will impact on other firms in the industry
- Interdependence creates uncertainty as firms are unsure of how competitors will react to their policies and whether they will be proactive in the market
- This means that interdependence and uncertainty are linked
- Firms will try to anticipate the tactics and strategies of other firms in the market
- Tacit agreement can occur in oligopolies where firms agree to manipulate the market in some form e.g. pricing strategies or geographically sharing out the market in order to create higher profits.

Concentration ratios (CR)

- The concentration ratio (CR) tells us the number of firms that dominate the market
- In oligopolistic markets there are a few firms that dominate the market
- This means that that market share is concentrated in the hands of a few firms. In other words, there is a high concentration ratio in the market
- Oligopolistic markets are composed of large firms e.g. mobile phones with Apple and Samsung; the streaming music industry with Spotify, Apple Music, Google Play Music and Amazon Prime Music

N-firm concentration ratios

- The n-firm concentration ratio (CR) is a measurement of the market share of the n firms that dominate the market
  - For example 3:75 means that 3 firms have 75% market share
- Oligopolistic markets have high concentration ratios, with the market concentrated in the hands of a few firms
- CRn = % market share
  - For example, an oligopolistic market might have CR3 = 70% where n = 3
- Here, the 3 firm concentration ratio is 70% - three firms dominate with 70% market share

Non-collusive behaviour in oligopoly

- In most parts of the world e.g. the EU and the US collusion is deemed to be illegal as it operates to the detriment of consumers by restricting output and raising price
- Non-collusive oligopoly occurs when firms do not collude when undertaking decision-making
- Firms in oligopolistic markets might cooperate if it is in the interest of the public
  - For example, firms might join together to innovate new production processes
- These might benefit society as a whole as efficiency for the industry might improve
  - This will lead to lower production costs that can benefit the consumer

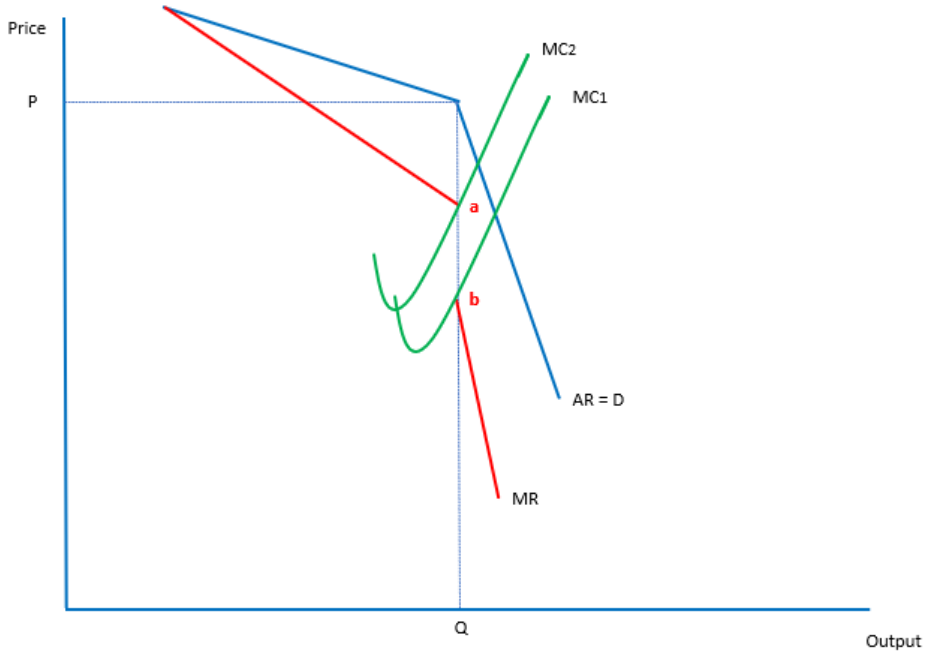
4.1.3 – Oligopoly

Non-collusive oligopoly (explained with example)

- Assume a CR4 = 80% in the market
- Firm A looks to raise price. Firms B, C and D do not follow suit as they realise that they will gain market share from firm A, who will see a large drop in sales. Its demand curve above price P is therefore price elastic
- If firm B lowers price then most consumers will switch to them. Firms A, C and D will have to lower price in order to retain market share. The demand curve below price P is therefore price inelastic
- This suggests that under conditions of oligopoly firms are unlikely to raise or lower price i.e. there is price rigidity

Non-collusive oligopoly: The kinked demand curve

- Firms try to profit maximise where MC = MR.
- This occurs at all output levels between the MC curves MC1 and MC2 or between points a and b.
- There is a discontinuous MR curve and the firm will continue to set price at P where MC = MR.



Non-collusive oligopoly: The kinked demand curve and price stability

- The kinked demand curve explains why price rigidity or price stickiness occurs in oligopoly

- Oligopolistic markets often display price rigidity where prices tend to be stuck for a period of time despite changes in demand and supply in the market.
- Price elasticity of demand differs when prices rise or fall. This is shown by a kink in the demand curve.
- Above P price will be price elastic and below P price inelastic.

Costs in the short run

- Short run cost curves tend to be U shaped because of diminishing returns.
- In the short run, capital is fixed. After a certain point, increasing extra workers leads to declining productivity. Therefore, as you employ more workers the marginal cost increases.
- Because the short run marginal cost curve is sloped like this, mathematically the average cost curve will be U shaped. Initially, average costs fall. But, when marginal cost is above the average cost, then average cost starts to rise.
- Marginal cost always passes through the lowest point of the average cost curve.

4.1.3 – Oligopoly

Costs

- **Total Fixed Cost (TFC)** – costs independent of output, e.g. paying for factory
  - Fixed costs (FC) remain constant. Therefore, the more you produce, the lower the average fixed costs will be.
- **Total variable cost (TVC)** = cost involved in producing more units, which in this case is the cost of employing workers.
- **Average Variable Cost AVC** = Total variable cost / quantity produced
- **Total cost TC** = Total variable cost (VC) + total fixed cost (FC)
- **Average Total Cost ATC** = Total cost / quantity
- **Marginal cost (MC)** – the cost of producing an extra unit of output.
  - To work out the marginal cost, you just see how much TC has increased by.
    - For example, the third unit sees TC increase from 450 to 500, therefore, the increase in MC is 50.
    - The 12th unit sees total cost rise from 1,700 to 2,400, so the marginal cost is 700.

Types of price competition

- Price and output is influenced by a variety of factors in oligopoly:
  - **Price wars** occur when a firm lowers price in order to increase market share. Other firms will react to losing market share by lowering price too. This will continue as firms seek to regain lost market share. The consumer will benefit from lower prices but the oligopolists will lose out as overall revenues will fall
  - **Predatory pricing** occurs when a firm attempts to force competition out of the market by setting low prices. This might be below average cost in the short run and is likely to see increased output as demand is higher
  - **Limit-pricing** occurs when a firm operates below the profit maximising output of MC = MR. The firm will still make a profit but potential entrants will be deterred from entering the market as lower price means that entry is not profitable

Interdependence in oligopoly: The kinked demand curve

- The Kinked Demand Curve can be used to explain interdependence in oligopoly.
- A firm is unwilling to raise price unilaterally as other firms might not follow suit. This would see a fall in market share and lower profit as the demand curve is price elastic above price P. A rise in price will lead to a fall in total revenue (TR).
- If the firm were to lower price all other firms would have to follow suit to maintain market share. Below P demand is price inelastic. Lower prices will lead to a fall in TR.

Price discrimination

- Price discrimination involves a firm charging different prices to different consumers for the same product
- The price charged will depend upon the consumer's:
  - Ability to pay
  - Willingness to pay
- Price discrimination is not illegal

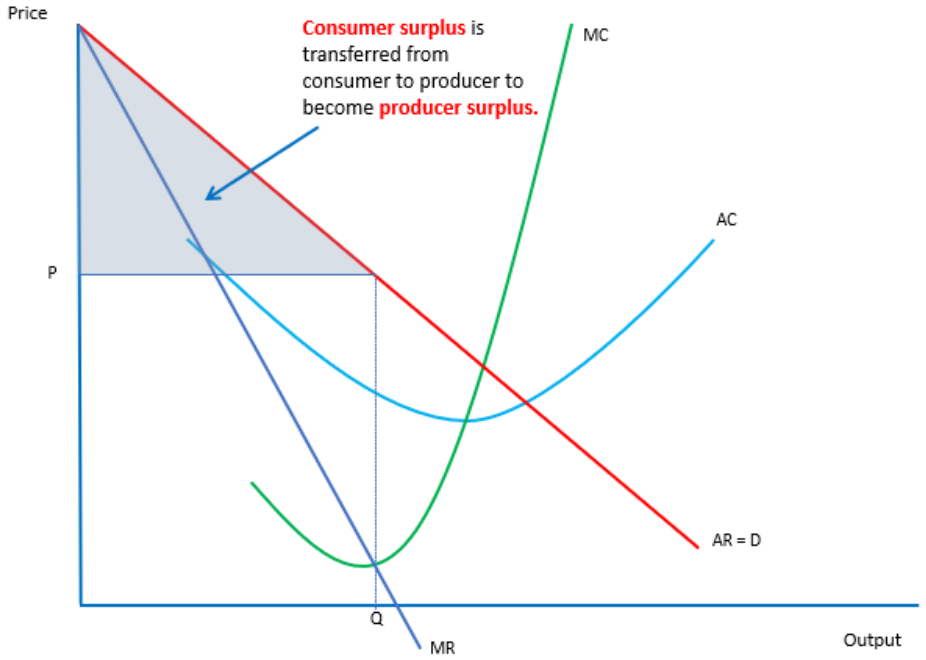
4.1.3 – Oligopoly

Levels of price discrimination

- Price discrimination can be categorised into three different levels:
  - First degree price discrimination or perfect (pure) price discrimination occurs when the firm is able to charge the maximum possible price to individual consumers
  - Second degree price discrimination occurs when the firm is able to charge the maximum possible price to different groups of consumers
  - Third degree price discrimination occurs when the firm identifies groups of consumers with similar characteristics

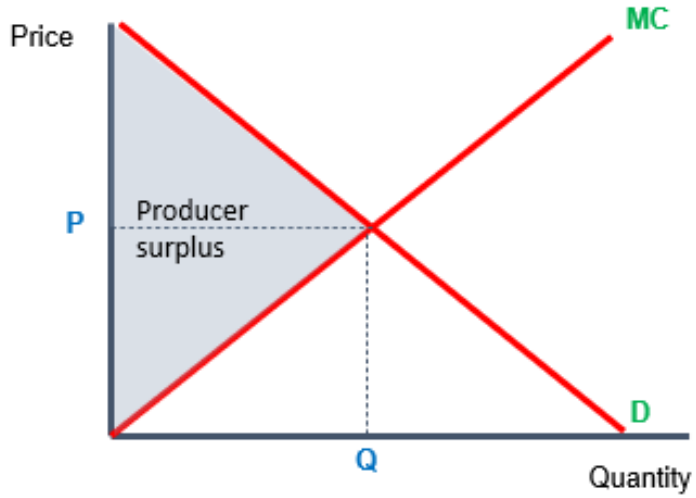
First degree price discrimination

- The firm profit maximises where MC = MR. At output Q all consumers pay price P.
- However, the firm now charges each consumer the maximum price that they are willing to pay as long as this is above the profit maximising point, MC = MR.
- The consumer surplus that originally existed is now transferred to the producer as producer surplus.



Perfect price discrimination

- In this form of price discrimination there is no consumer surplus.
- All of the consumer surplus is transferred to the producer and thus increases producer surplus.
- Under perfect price discrimination the producer transfers all of the consumer surplus to increase producer welfare.



Second degree price discrimination

- Second degree price discrimination occurs when different prices are charged based on the quantity demanded
- There is more than one group of consumers in the market and the firm is able to price discriminate by charging lower prices to those groups that are willing to buy more
  - This is also called block pricing
- A firm finds it difficult to identify the different groups of consumers so it will give different discounts depending on the size of the order. The greater the bulk buying the higher the discount
- The firm is able to extract some, but not all, of the consumer surplus available

4.1.3 – Oligopoly

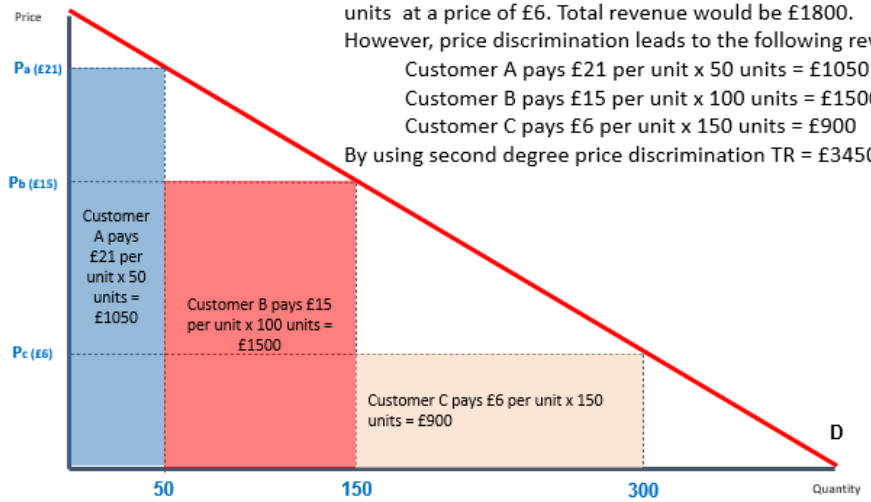
Example of second degree discrimination

A firm has three distinct groups of customers: A, B and C.

The largest customer C wants to buy 150 units and is willing and able to pay a price of £6.

The second largest customer B wants to buy 100 units and is willing and able to pay a price of £15.

The smallest customer A wants to buy 50 units and is willing and able to pay a price of £21.



If the firm was unable to price discriminate it would sell 300 units at a price of £6. Total revenue would be £1800.
However, price discrimination leads to the following revenues:

Customer A pays £21 per unit x 50 units = £1050
Customer B pays £15 per unit x 100 units = £1500
Customer C pays £6 per unit x 150 units = £900

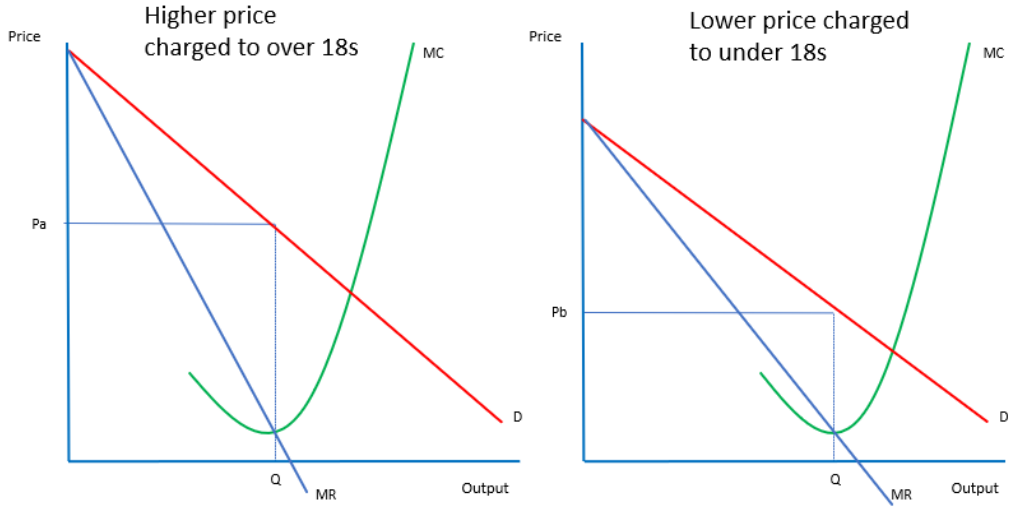
By using second degree price discrimination TR = £3450.

Third degree price discrimination

- Third degree price discrimination occurs when the firm identifies groups of consumers with similar characteristics
- The firm can then segment the market based on these characteristics e.g. sex, age, geography etc.
- The firm will charge different prices dependent on the different elasticities of demand
- Those groups that are more price inelastic will be charged higher prices
- This differs from second degree price discrimination as it is based on identifying market segments rather than the quantity demanded

Price discrimination	
Benefits	**Costs**
• Firms can offer services which otherwise would be unprofitable	• Some groups pay higher price
• Some groups benefit from cheaper prices	• Decline in consumer surplus
• Spreads out demand and avoids congestion	• Potentially unfair
• Increased investment from extra profit	• Administration costs
www.economicshelp.org	• Company profit takes higher share of GDP

Third degree price discrimination in monopoly



Third degree price discrimination by age

4.1.4 – Business objectives and pricing decisions

Definition of costs

- **Fixed cost (FC)** or **Total fixed cost (TFC)** does not vary with output. This might include rent, capital goods such as factories and machinery, or marketing costs. Therefore, the fixed cost curve is shown as a horizontal straight line. **Average fixed cost (AFC)** is: **total fixed cost/output**
- **Variable cost (VC)** varies with output. As output increases so does variable cost and vice versa. This might include the costs of raw materials. The variable cost curve slopes upwards and to the right
- **Total cost (TC)** is calculated as: **total fixed cost (TFC)** + **total variable cost (TVC)**. The total cost curve slopes upwards and to the right. It begins at the same point as the FC curve. It will incorporate the VC curve because FC + VC = TC
- **Marginal cost (MC)** is the cost of producing an additional unit of output. The marginal cost curve is U-shaped. At first, as output increases, MC falls. This means that producing an additional unit (the marginal unit), costs less than the cost of producing the previous unit. After we have reached the lowest point on the MC curve any additional unit will cost more than the previous unit
- **Average cost (AC)** or **average total Cost (ATC)** is the average cost of producing a unit of output: **total cost/output**. The average cost (AC) curve is U-shaped. The MC curve always cuts the AC curve at its lowest point. When MC is less than AC then AC is falling. When MC is greater than AC then AC is rising. At lower levels of output AC is falling steeply. At higher levels of output AC is rising steeply. **Average variable cost (AVC)** is: **total variable cost/output**
- **Short-run (SR) costs** occur where at least some costs are fixed. The time frame for this will differ between firms and industries
- **Long-run (LR) costs** occur when all costs can be variable. The time frame for this will differ between firms and industries

Marginal, average, and total revenue

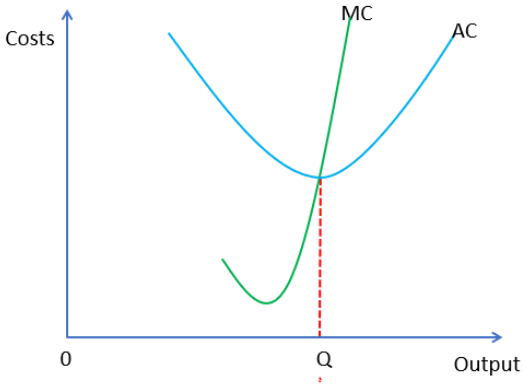
- Marginal revenue is the addition to revenue of selling an additional unit of output:
  - $\frac{\Delta\ total\ revenue}{\Delta\ quantity}$
- Average revenue (AR) is total revenue divided by output:
  - $\frac{total\ revenue}{quantity}$
- Total revenue (TR) is money received by a firm from the sale of goods or services:
  - $quantity \times price$

Calculating profit

- $Profit = total\ sales - total\ expenses$
- $Profit\ per\ unit = selling\ price - cost\ price$
- $Gross\ profit = net\ revenue - cost\ of\ goods\ sold$
- $Operating\ profit = gross\ profit - other\ operating\ expenses$
- $Operating\ profit = total\ revenue - costs\ of\ goods\ sold - operating\ expenses$
- $Net\ profit\ (profit\ for\ the\ year) = operating\ profit - interest - taxation$
- $Net\ profit\ (profit\ for\ the\ year) = total\ revenue - total\ expenses$
- $Operating\ profit\ margin = \frac{operating\ profit}{total\ revenue} \times 100$
- $Gross\ profit\ margin - \frac{gross\ profit}{total\ revenue} \times 100$
- $Net\ profit\ (profit\ for\ the\ year)\ margin = \frac{net\ profit}{total\ revenue} \times 100$

4.1.4 – Business objectives and pricing decisions

The cost curve



The golden rule:
- When MC < AC then AC is falling
- When MC > AC then AC is rising
- When MC = AC we are at the minimum point on the AC curve

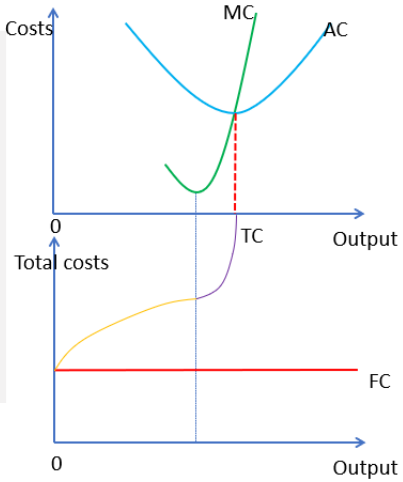
- **At first, as output increases, MC falls. This means that producing an additional unit (the marginal unit) costs less than the cost of producing the previous unit.**
- **After we reach the lowest point on the MC curve any additional unit will cost more than the previous unit.**
- **The MC curve always cuts the AC curve at its lowest point.**
- **At every point up to Q the MC is below the AC. If the cost of producing an additional unit (the MC) is below that of the average, then the average will fall.**
- **At every point after Q the MC is higher than the AC. This leads to AC starting to rise.**

- This diagram represents cost curves for **all** types of industry.
- It is an essential element of the economist's toolkit as it can be used for perfect competition, monopolistic competition, oligopoly or monopoly.
- In the top part of the diagram, we are looking at **costs per unit**. In the bottom half we look at **costs in aggregate**.

Total cost (TC) is always rising. This is because the marginal cost of producing an additional unit is always above £0. Therefore, it adds to TC. At first total cost (TC) is rising at a diminishing rate. This occurs because MC is falling **(the orange section of the TC curve).**

After the MC curve is at its lowest point TC starts to rise at an increasing rate. This occurs because MC is rising **(the purple section of the TC curve).**

We have a two-part diagram because total costs represent costs in aggregate and MC and AC represent costs per unit. Due to the difference in scale, we can't show the two types of cost (aggregate and unit) on the same diagram.

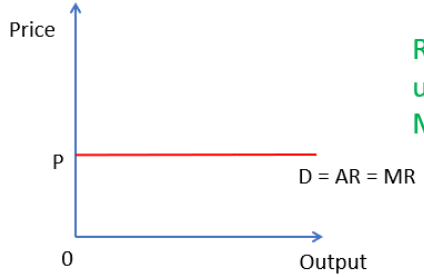


Revenues in perfect competition

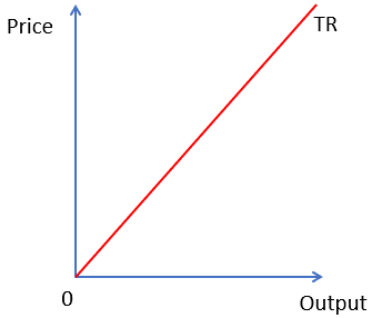
In perfect competition firms face a **perfectly elastic demand curve**. Each firm can sell all of its output at the current market price, P. Therefore, it would not lower its price. If it were to raise price it would sell nothing as buyers would go to another seller. Thus, the **D curve is horizontal**.

The D curve is also the **AR curve** as total output divided by price is always the same.

The D curve is also the **MR curve**. As prices do not change, an additional unit sold will bring in the same revenue every time.



Revenue per unit: AR and MR



Revenue in aggregate: TR

Revenues in imperfect competition

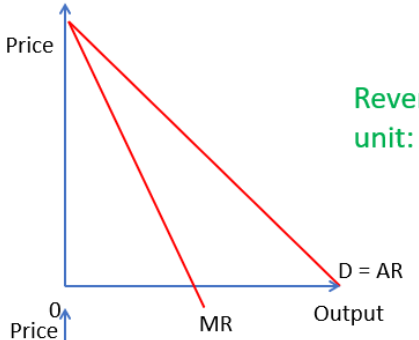
In imperfect competition firms face a **downward sloping demand curve**. The D curve is also the **AR curve**.

The **MR curve** will fall twice as steeply as the AR curve. To sell an extra unit the firm has to lower price. However, this means it must lower price for all units.

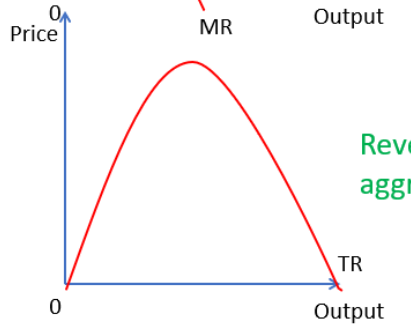
The **TR curve** peaks when MR = 0. At this point TR is maximised.

When MR is above 0 each additional unit sold adds to TR.

After this point we have **negative marginal revenue**. TR will fall.



Revenue per unit: AR and MR



Revenue in aggregate: TR

4.1.4 – Business objectives and pricing decisions

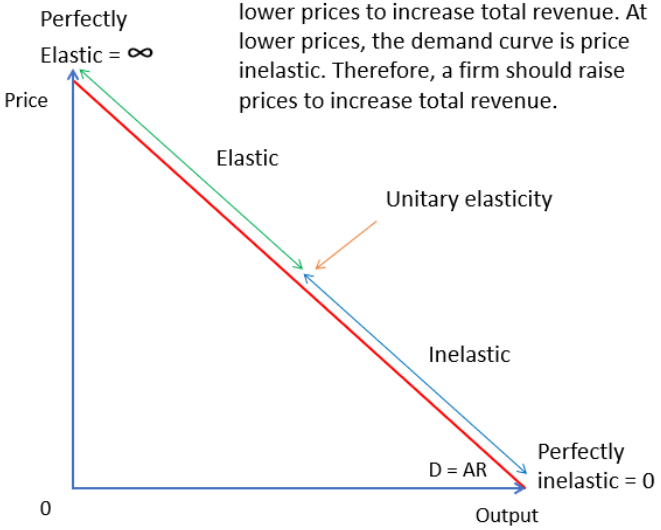
Elasticity in imperfect competition

Price elasticity changes as we move down the demand curve.

At higher prices a change in price leads to a greater change in demand.

At lower prices a change in price leads to a smaller change in demand.

This can be seen on the diagram. The demand curve is price elastic at higher prices and price inelastic at lower prices.

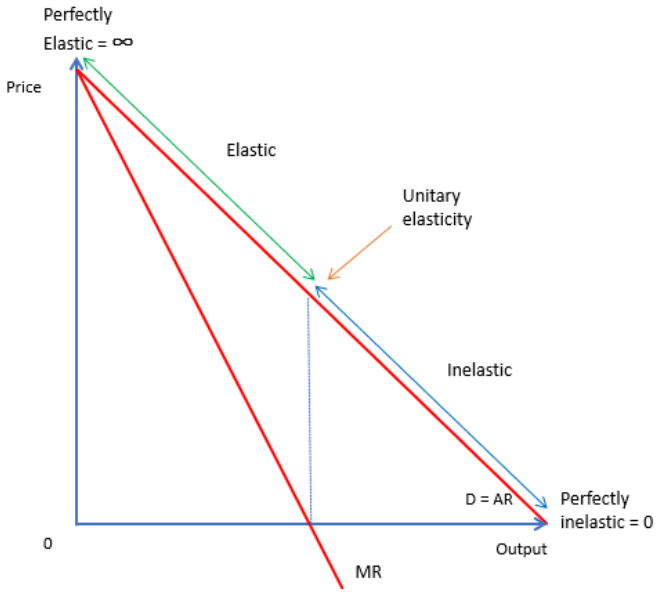


At higher prices, the demand curve is price elastic. Therefore, a firm should lower prices to increase total revenue. At lower prices, the demand curve is price inelastic. Therefore, a firm should raise prices to increase total revenue.

Elasticity and marginal revenue

When price elasticity of demand is price elastic marginal revenue is positive.

When price elasticity of demand is price inelastic marginal revenue is negative.



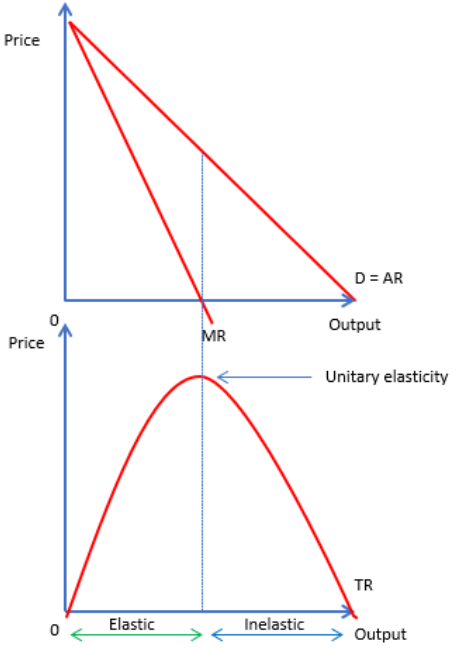
Why does the MR curve fall twice as steeply as the AR curve?

- When the demand curve is linear i.e. a straight line then mathematically the MR curve will always fall twice as steeply as the AR curve.
- The theory suggests that a firm will have to lower price in order to sell more units. However, if it lowers price for one unit it will have to do this for all units.
- As quantity increases e.g. from 1 to 2 units, AR falls by £1, but MR falls by £2. Therefore, MR has fallen by twice as much as AR.
- TR is maximised when MR = 0.

Quantity	Average Revenue (P)	Total Revenue	Marginal Revenue
1	10	10	10
2	9	18	8
3	8	24	6
4	7	28	4
5	6	30	2
6	5	30	0
7	4	28	-2

When price elasticity of demand is price elastic TR is rising and MR is positive.

When price elasticity of demand is price inelastic TR is falling and MR is negative.



4.1.4 – Business objectives and pricing decisions

Normal profit

- Normal profit is the minimum reward required for a firm to remain in an industry
- This is classed as an opportunity cost as staying in the industry is just better than the next best alternative
- Normal profit is seen as a cost and is included in a firm's average cost curve
- In the long run a firm will leave the industry if it cannot make normal profit
- Normal profit will vary between industries and is influenced by the risk involved

Supernormal (abnormal) profit

- Supernormal profit is any profit above normal profit
- If firms in an industry are seen to making supernormal profit other firms will look to join the industry
- This will compete the supernormal profit away
- The degree of competition in a market will influence the level of supernormal profit
- Monopolies and oligopolies have the power to restrict new competition, hence making supernormal profit in the long run

The objectives of firms

Profit = revenue – cost.

Profit maximisation occurs at that level of output where the difference between **total revenue** (TR) and **total cost** (TC) is at its highest.

Total revenue is:
Price x quantity sold.

Total cost is:
Fixed cost-plus variable cost.

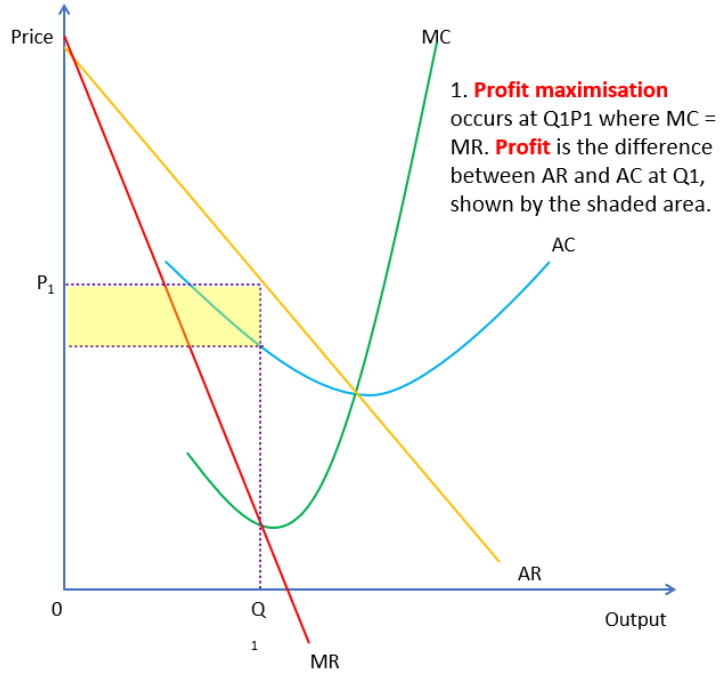
Fixed costs are costs that do not vary with output e.g. rent.

Variable costs are costs that do vary with output e.g. raw materials.

- Profit maximisation
  - Firms will seek to attain the highest level of profit available in their production of goods and services
- Profit satisficing
  - A level of profit below profit maximisation that satisfies the needs of the owners or managers of an organisation e.g. working less hours to enjoy more leisure time or behaving ethically
- Sales maximisation and increasing market share
  - Some firms will seek to maximise sales i.e. by volume, possibly to gain market share. This will increase the size of the firm and is likely to be an objective of senior management as larger businesses tend to pay higher wages than smaller, but more profitable, ones
- Revenue maximisation
  - Some firms will seek to maximise sales revenue. This will occur at the point where marginal revenue = 0

Profit maximisation: the link between marginal cost, marginal revenue and contribution

- Profit maximisation will occur where:
  - MC = MR
- Marginal cost is the cost of producing one more unit
- Marginal revenue is the revenue received from selling one more unit
- If the marginal revenue of selling an additional unit of a product is above the marginal cost of producing the additional unit, then firms should increase output. As the revenue received is above the cost of producing that unit the firm can increase output and make a contribution to profit
- If the marginal cost of producing an additional unit of a product is above the marginal revenue of selling the additional unit, then firms should reduce output. As the cost of producing the unit is above the revenue received from selling each unit the firm will make a loss if it sells the additional unit. Therefore, it should reduce output
- Therefore, when MC = MR profit maximisation occurs



4.1.4 – Business objectives and pricing decisions

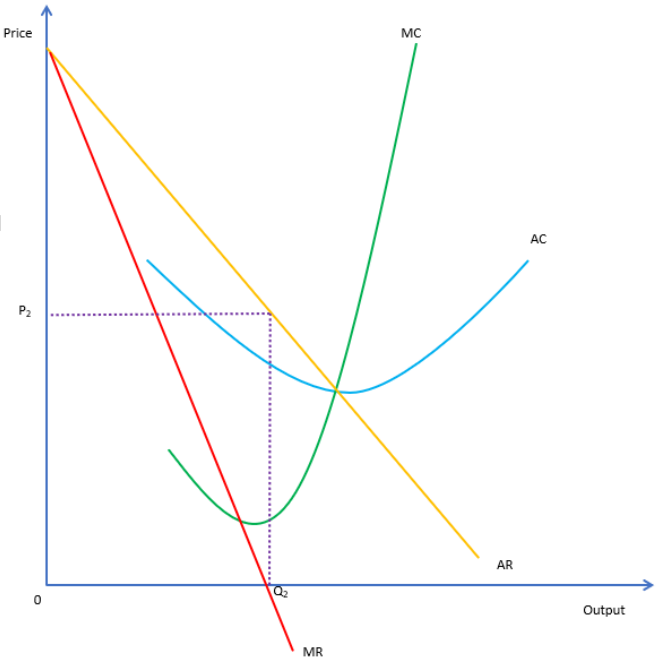
Revenue maximisation

- Revenue maximisation occurs at Q2P2 where MR = 0. If output was increased beyond this point MR would be negative. If the firm produced below this point it could increase MR by increasing output
- The firm always achieves revenue maximisation when the Price Elasticity of Demand = 1
  - If PED < 1 the firm could increase price and revenue would increase
  - If PED > 1 the firm could decrease price and revenue would increase

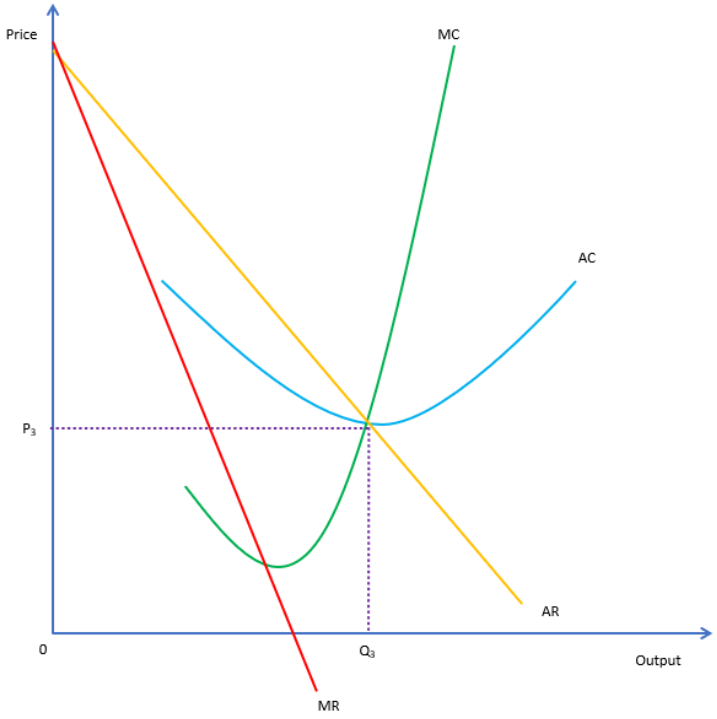
Sales maximisation

- Under sales maximisation the firm seeks to achieve the highest possible level of sales without making a loss
- Sales maximisation occurs at Q3P3 where AR = AC
- If output was increased beyond Q3 then AC would be greater than AR and the firm would make a loss
- If output was below Q3 then the firm could increase sales

2. **Revenue maximisation** occurs at Q2P2 where MR = 0. If output was increased beyond this point MR would be negative. If the firm produced below this point it could increase MR by increasing output.



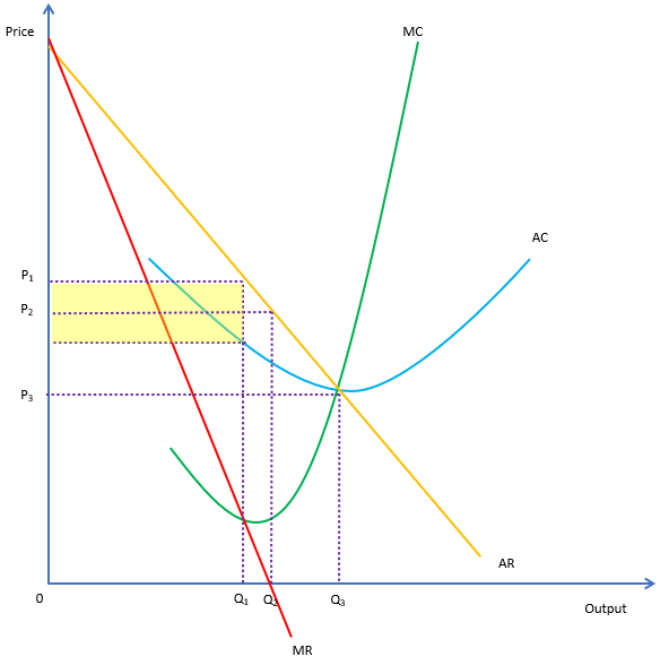
3. **Sales maximisation** occurs at Q3P3 where AR = AC. If output was increased beyond this point AC would be greater than AR and the firm would make a loss. Under sales maximisation the firm seeks to achieve the highest possible level of sales without making a loss.



By showing profit maximisation, revenue maximisation and sales maximisation on the same diagram we can see what will happen if the firm changes its objectives.

If its objective changes from profit maximisation to either of the other two price will fall and output will increase.

If they change their objective to profit maximisation, then price will rise, and output will decrease.



4.1.4 – Business objectives and pricing decisions

Profit satisficing

- Profit satisficing occurs where the firm is not operating at its profit maximising level of output
- At this point the firm is not producing to maximise profits but is satisfied with a level of output that will allow it to meet other objectives
- The firm might set a level of profit that meets the requirements of stakeholders such as shareholders, employees and consumers. For example, the firm might ensure a high level of corporate social responsibility (CSR) that will improve its ethical and environmental practices but increase costs leading to lower profits
- Profit satisficing often occurs because of the divorce of ownership and control
    - Shareholders (the owners of a business) wish to maximise profits
    - Managers/directors (who control the business) might be self-interested and maximise their own personal benefits e.g. increase job enjoyment and increase their own pay and fringe benefits

4.1.5 – Productive and allocative efficiency

Economic efficiency

- Allocative efficiency occurs where consumer satisfaction is maximised in the production of goods and services
  - At this point quantity supplied will equal quantity demanded
- Productive efficiency occurs where no additional (or maximum) output can be produced from the factor inputs available at the lowest possible average or unit cost
  - Average cost = total cost/output
- Economic efficiency occurs where we have allocative and productive efficiency at the same time
  - Both productive and allocative efficiency can be illustrated using a PPC

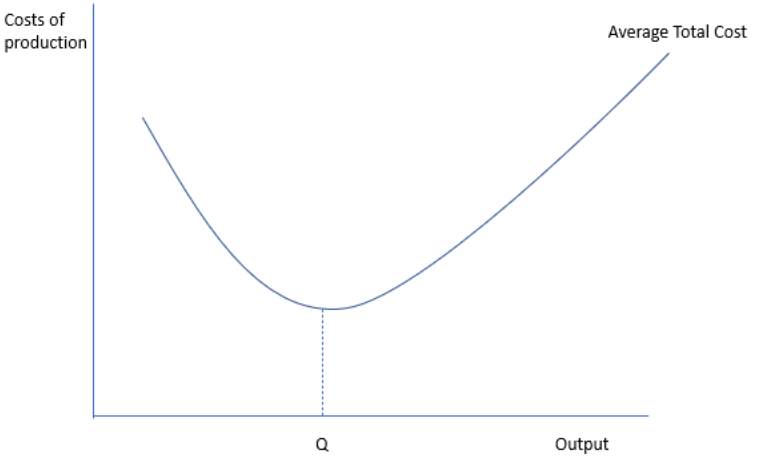
Diagrammatic representation of productive efficiency

- Productive efficiency can be shown using an average cost curve diagram

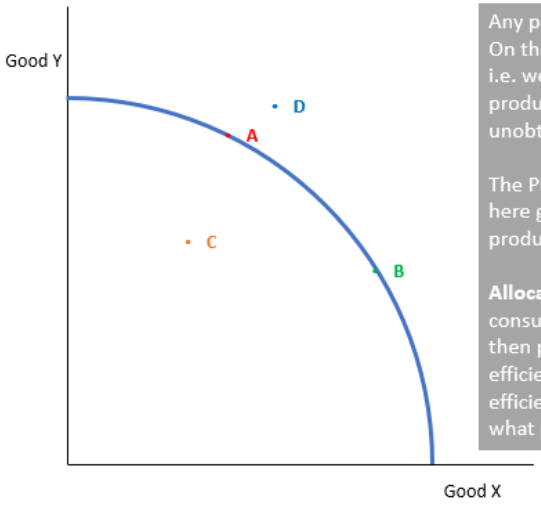
Average total cost (ATC) is total cost divided by output.

As output increases costs per unit fall. This occurs because fixed costs (those costs that do not vary with output e.g. rent) are spread over the higher output.

Productive efficiency occurs at output Q where average total costs are at their minimum.



The PPF curve



Any point on the PPC is said to be **productively efficient.** On the curve we are producing at maximum production i.e. we cannot produce any more. At point C we can produce more goods (under production). Point D is unobtainable given our current factor inputs.

The PPC also shows the **trade-off** between two variables, here good X and good Y. There is an **opportunity cost** as producing more of good X means producing less of good Y.

Allocative efficiency takes into account the desires of consumers. If good Y is in greater demand than good X then production at point A will be more allocatively efficient than that of point B. Therefore, allocative efficiency can be found somewhere on the PPC but at what point depends upon consumer preference.

When is allocative efficiency achieved?

- Allocative efficiency is difficult to identify as we need to match consumer preferences to producer output
- Put another way, we need to match demand and supply
- Markets do not always operate at the market clearing price due to:
  - Excess supply (S>D)
  - Excess demand (D>S)
- Market forces do push prices towards equilibrium where quantity demanded will equal quantity supplied
- Therefore, it is likely that competitive markets help in achieving allocative efficiency

The significance of the margin

- The margin is fundamental when firms make production choices
- They will only choose an option if marginal revenue is greater than marginal cost
- This will contribute to profits
- If the marginal cost is greater than the marginal revenue then profits will actually fall
- The firm will produce up to the point where marginal cost equals marginal revenue

4.1.5 – Productive and allocative efficiency

Increasing productivity to reduce average cost through greater efficiency

- Efficiency is influenced by:
  - Increased use of technology e.g. automation and technological change can help to reduce average costs of production. Innovation, new product and new process development are likely to occur if supernormal profits are available for investment
  - Investment in human capital will reduce costs as labour is better trained and better educated workers are employed. A better understanding of the job role will mean that output will improve, increasing productivity
  - Improved quality of management will lead to better decision making, reducing waste and bureaucracy and lowering costs through more efficient decisions being made

Matching the structure of production to the pattern of consumer preferences

- Matching production to meet consumer preferences is also known as market orientation
- Market orientation is an outward looking approach to new product development where the key focus is on what products the consumer wants
- It is heavily informed by market research
- Firms will concentrate on understanding the needs of the consumer and then adapting or producing products to meet these needs
- This reduces, but does not eliminate, the risk of new product development

Increasing productivity to reduce average cost through greater efficiency:

Minimum efficient scale (MES)

- The minimum efficient scale (MES) is that scale of production where the long run average cost curve is at its lowest point
- If the MES occurs at low levels of output in relationship to the size of the market there is likely to be a large number of firms
- As the MES increases there will be fewer firms in the market as those firms operating on a larger scale will have much lower long run average costs
- This creates a barrier to entry for new firms wishing to enter the market as smaller businesses do not have the finance to increase their scale of production
- Productive efficiency occurs where no additional output can be produced from the factor inputs available at the lowest possible average or unit cost.
- In essence, this means that a firm operating at the lowest point on the LRAC curve cannot produce in a more efficient manner – if it decreases or increases the scale of production its average costs will increase.

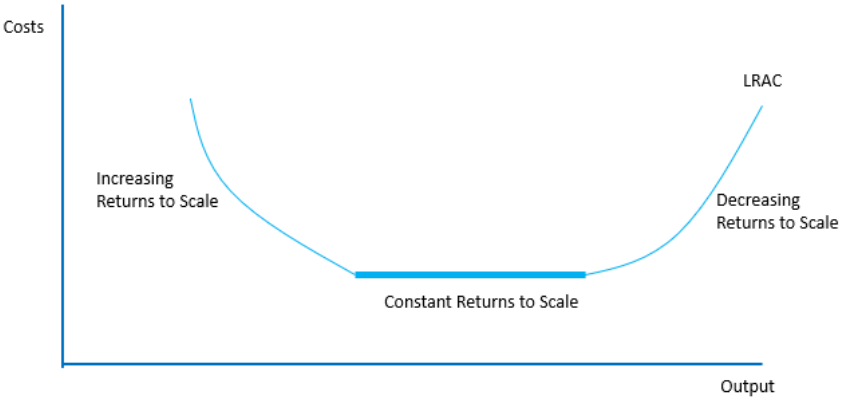
<u>Diagrammatic representation of the Minimum efficient scale (MES)</u>

The **Minimum Efficient Scale (MES)** is that point where the LRAC curve is at its lowest point.

The MES of a firm will have implications as to the degree of competition in the market.

MES is low for firms in certain industries e.g. hairdressing.

In other industries the MES can occur at high levels of output. Therefore, firms in some industries will operate on a large scale.



4.1.5 – Productive and allocative efficiency

How markets interact with one another

Apples and pears

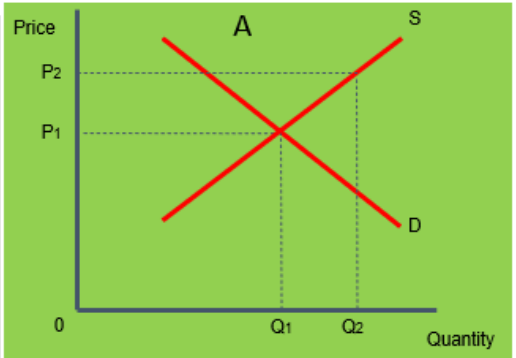
In diagram A current output of apples is Q2, above the equilibrium price.

In diagram B current output of pears is Q2, below the equilibrium price.

In both markets we have allocative inefficiency.

By reallocating resources from the production of apples to that of pears we can increase allocative efficiency.

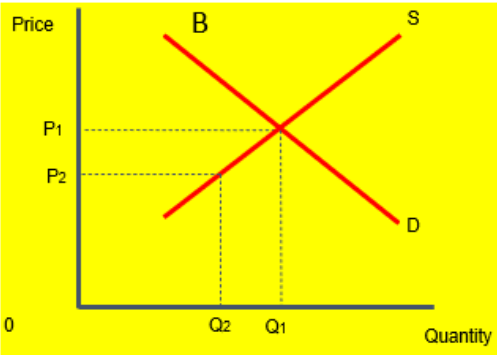
If apples were produced at Q1 and pears were produced at Q1 we have allocative efficiency.



In diagram A suppose the market price is P2. Consumers value the last unit produced at Q1, where price is P1. However, firms produce at Q2.

Consumers are not willing to pay the higher price so price will fall, and firms will reduce supply.

This might lead to a reallocation of a firms' resources to another use e.g. from apples to pears.



In diagram B suppose the market price is P2. Consumers value the last unit produced at Q1, where price is P1. However, firms produce at Q2.

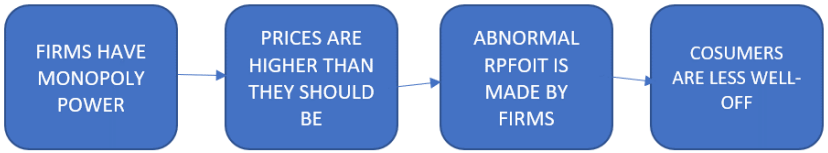
Consumers are willing to pay the higher price so price will rise to P2, and firms will increase supply.

This might lead to a reallocation of a firms' resources from another use e.g. from apples to pears.

4.2.1 – Market failure

Market failure

- Market failure occurs when there is a misallocation of resources This can be caused by:
  - Externalities
  - Under-provision of public goods
  - Information gaps
- This can lead to undesirable outcomes such as under/over production, inequality and externalities.
- In practice, there will always be market failure, also known as allocative inefficiency.
- It is the role of the government to try to eliminate market failure – government intervention



Overt and tacit collusion: Cartels

- A cartel is a formal agreement between firms to collude in the operation of the market
- This will normally take the form of price fixing
- It may involve fixing output levels
- Cartels allow member firms to operate closer to conditions of monopoly
- They are therefore seen to be against the interest of the consumer and are mostly deemed to be illegal
- Some cartels might be allowed if the scale of operations and joint cooperation is seen to be in the public interest
- Restrictive practices to trade fall short of cartels but attempt to raise prices or restrict output and might include refusing to supply stock to competitors and price discrimination to different buyers

Overt and tacit collusion: Price leadership

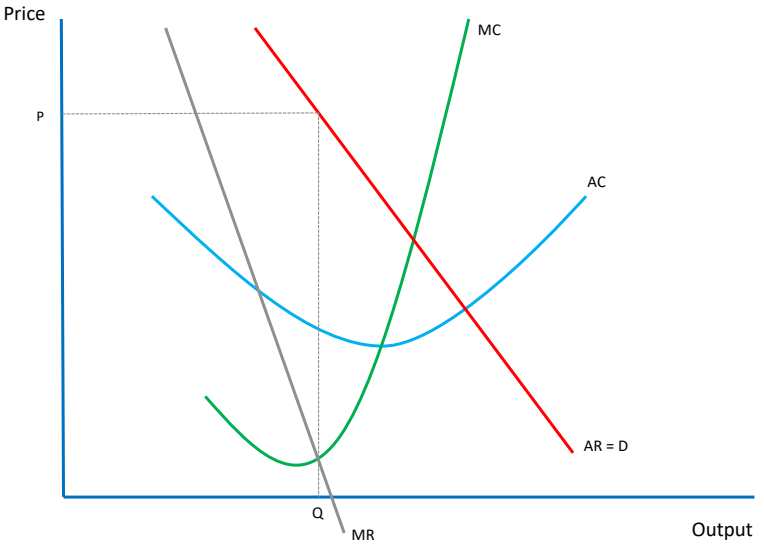
- Price leadership is common in oligopoly
- The dominant firm sets price and other firms follow suit, normally over a period of time
- This is likely to see higher prices and lower output
- As a result, the market as a whole benefits from higher revenues whilst the consumer loses out
- Price agreements may be:
  - Explicit, where the firms overtly agree to set price
  - Implicit, where there is tacit agreement over set prices that is more difficult for regulators to identify

Collusive behaviour in oligopoly

- Collusion occurs when firms in an oligopolistic market agree to act as one firm in order to benefit from elements of monopoly.
- Firms in oligopolistic markets will benefit from colluding with one another
- This will allow them to operate closer to conditions of monopoly
- Therefore, they can charge higher prices and gain higher sales revenue
- This would lead to profit maximisation
- Firms often collude to segment the market geographically
- This gives each firm monopoly power in their own geographical area as they agree not to compete with one another

<u>Collusion in oligopoly – acting like a monopoly</u>

- By colluding and acting like monopolists firms can make supernormal profits where AR is greater than AC.



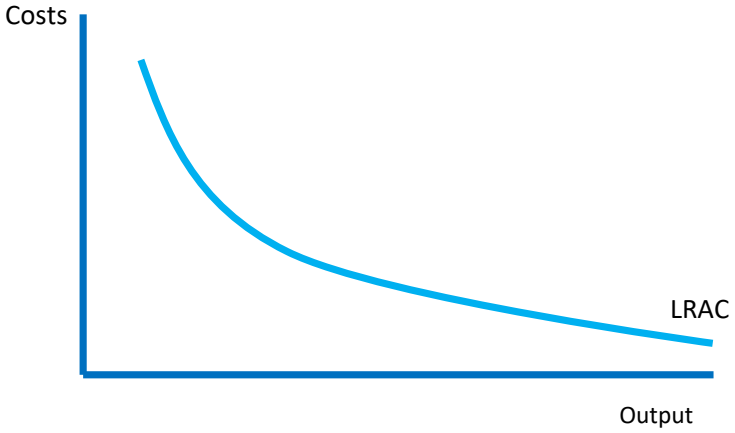
4.2.1 – Market failure

Characteristics of a monopsony

- Monopsony occurs when there is only one buyer in the market
- A monopolist can set price for its buyers
- A monopsonist can set the price it pays to its suppliers
- Price is heavily influenced by the monopsonist and the price is set at what the firm is willing to pay for good or service
- Monopsony power indicates that firms in the market face an upward sloping supply curve, unlike in perfectly competitive markets
- Oligopsony is the term used to describe a few buyers in the market

Natural monopoly

- In conditions of natural or pure monopoly we see continual returns to scale. This leads to an L-shaped LRAC curve where average costs are always falling.
- This will give a firm the incentive to keep increasing the scale of production to reduce average costs further.
- This leads to highly significant barriers to entry.
- A pure monopoly is often highly regulated by the government as there is no competition. Consumer exploitation might occur if the industry was left to its own devices.

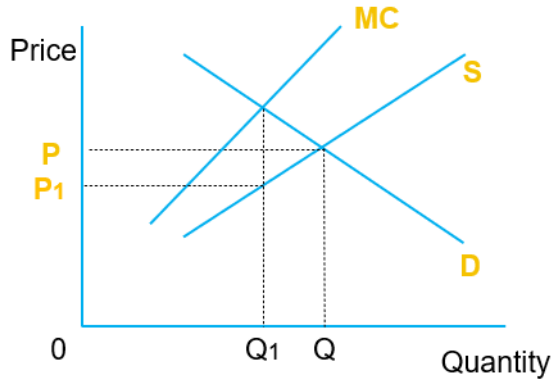


The effect of a monopsonist on a market

A perfectly competitive market is in equilibrium where D = S.

If a monopsonist operated, they might be able to bargain a lower price below that of the market equilibrium price e.g. at P_1.

The MC curve for the monopsonist is steeper than the S curve. Not only do they have to offer a higher price for the marginal unit, but they also have to pay that same rate for all units..



- **The monopsonist buys Q1, where MC = MR. If they buy more the additional cost of an extra unit would be greater than the additional revenue as MC > MR.**
- **At this output supply equates to a lower price paid of P1.**
- **Therefore, the monopsonist can use market power to reduce price and the level of output below that would exist in a perfectly competitive market.**

Costs and benefits of a monopsony

COSTS	BENEFITS
– Employees are likely to lose out with lower wages. For example, those trained to be coal miners had little choice of who to work for. This meant their labour could be exploited by the employer. – Workers might become unproductive if wages are low.	– A monopsonist can drive down the price it pays to its suppliers – As the monopsonist is the sole buyer its suppliers can either supply at the price set or not supply at all – This will lead to lower costs for the monopsonist which can be passed on to the consumer in the form of lower prices – Suppliers will have to focus on cutting costs or be driven out of business as they cannot cover their average variable costs – This can lead to dynamic efficiency as suppliers look to reduce long run average costs

4.2.1 – Market failure

Power in the labour market: Trade unions

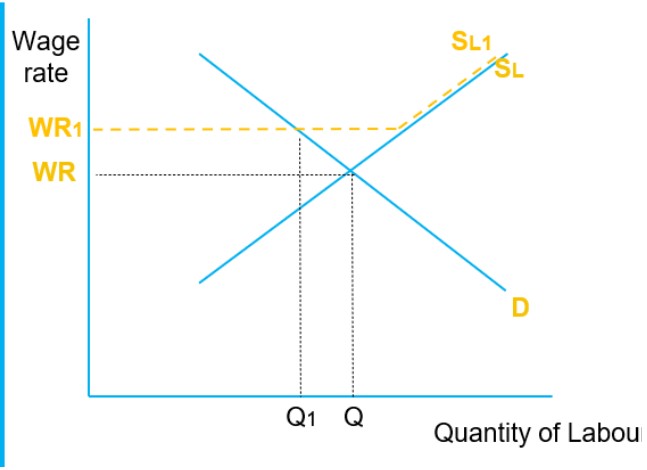
- Individual bargaining occurs when one employee negotiates with an employer on their own behalf.
- Collective bargaining occurs when a trade union negotiates with an employer on behalf of all employees.
- Industrial action occurs when trade union members engage in activities designed to reduce productivity in the workplace. This is a tool used to persuade employers to accept union demands.
- Collective bargaining and industrial action are used to influence wages and levels of employment.
- Trade union members benefit from collective bargaining as opposed to individual bargaining
  - Power gained through numbers
- If agreements can not be reached then industrial action can be taken:
  - Work to rule
  - Go slow
  - Overtime ban
  - Strike
- This can lead to increased short and long term costs for the firm

The implications of market failure

- Market failure will impact on consumers as output will be lower and prices higher than under conditions of perfect competition
- As a result firms will benefit from higher profits but consumers will lose out from higher prices
- There will be allocative and productive inefficiency and a welfare loss
- Government intervention into markets will be costly and might lead to government failure

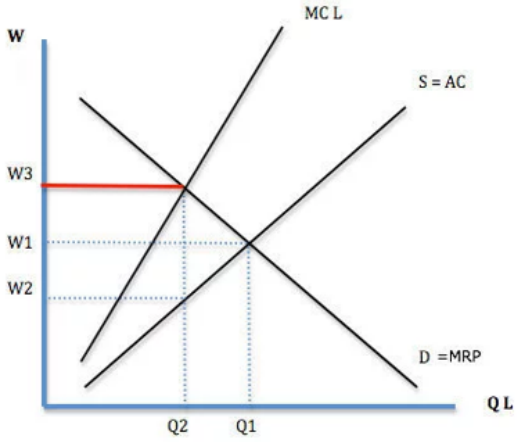
The effect of trade unions on perfectly competitive labour markets

- A perfectly competitive labour market is in equilibrium where D = S.
- If a trade union operated, they might be able to bargain a wage rate above that of the market equilibrium price e.g. at WR1.
- This would lead to a higher wage rate and therefore a greater supply of labour.
- This would create a new supply curve, S1.
- However, demand for labour would fall leading to excess supply of labour and higher unemployment of Q – Q1.



Trade unions in a monopsony

- Initially, a monopsony can pay a wage of W2 and employ just Q2. Note this profit maximising level is a lower wage and lowe employment level than a competitive equilibrium of Q1, W1.
- In this situation, if a trade union bargains for W3, it does not create unemployment but employment stays at Q2.
- We can say that a trade union is counter-balancing the monopsony power of employers.



4.2.2 – Business regulation

Promoting competition

- Competition policy seeks to improve the competitive nature of markets
- It seeks to alleviate market failure in order to protect the interests of consumers (consumer welfare) and society as a whole
- This can be achieved by:
  - Curtailing monopoly power and protecting competitive markets
  - Restricting mergers and prohibiting cartels
  - Improving the way in which markets work e.g. providing greater information
  - Creating fairness in markets for both firms and consumers so that firms don't abuse their dominant market position but are able to make acceptable profits that will drive innovation and increases in productivity
  - Increasing productive, allocative, static and dynamic efficiency

Controlling mergers and takeovers

Arguments for intervention	Arguments against intervention
Protect jobs • potential restructuring • moving abroad • closing UK plants	Competitiveness • Survival of fittest
Protect the consumer • exploitation – monopoly power • greater choice	Foreign direct investment (FDI) • creates jobs
Economic environment • protect jobs • support UK owned industries • GDP	Strategic interests • e.g. defence
British ownership • International pride • Loss of identity • Protect IP	Can other countries do a better job? • Could our resources be used more efficiently

Benefits of competition policy

- There are a number of benefits that lead to competition policy being successful:
  - **Lower price:** Increase competition leads to a shift of the supply curve to the right leading to a fall in market price
  - **Improved quality:** In order to maintain a customer base within a competitive market firms will strive to provide better quality products and customer service or risk losing market share
  - **Increased choice:** Competition creates an increased range of products which will lead to an improved allocation of resources as firms are more likely to produce products that a variety of customers will wish to buy
  - **Innovation:** Both productive and allocative efficiency will occur as firms invest in R&D and continually look to improve production processes to lower costs over time and develop new products
    - This will benefit society as a whole as these new products and processes lead to improvements e.g. technical change that can be used across markets
  - **Competitive advantage:** Internal UK and EU competition will lead to leaner, more efficient firms that have a better understanding of the requirements of the consumer. This will help EU firms compete in a global market e.g. against US, Chinese and Indian firms

Preventing anti-competitive practices

- Anti-competitive practices are those that reduce competition in markets
- These might include pricing strategies such as limit pricing and price fixing
- They also include:
  - Dumping of stock in markets at a loss in order to destroy competition
  - Bundling products together so that consumers have to buy accessories that they don't want
  - Striking exclusivity deals so that buyers can only purchase from the contracted supplier

4.2.2 – Business regulation

Privatisation

- Arguments for privatisation include:
  - Greater productive efficiency as profit maximisation leads firms to cut average costs
  - Innovation is more likely as firms strive to increase profits and market share by meeting customer needs. This leads to dynamic efficiency
  - Allocative efficiency occurs as market forces ensure that goods and services are produced to meet the needs of the consumer
    - This leads to greater choice and lower prices as firms compete supernormal profits away
  - Increased competition rather than government monopoly leads to greater economic efficiency
  - Government revenue increases by selling off state assets and expenditure falls as they no longer incur costs for the industry

The Competition and Markets Authority (CMA)

- The Competition and Markets Authority was set up in 2014 to promote competition for the benefit of consumers
- It takes over powers from the Office of Fair Trading (OFT) and the Competition Commission
- It investigates mergers and markets where there is seen to be monopoly power
- It looks into anti-competitive practices that lead to exploitation of consumers

CMA
Competition & Markets Authority

Regulating natural monopolies

- A natural monopoly occurs when there is only one producer in an industry. Barriers to entry are so high that without business regulation the consumer would face considerable exploitation
- This provides the monopolist with market power leading to higher prices and abnormal profits
- There will be allocative inefficiency and a misallocation of resources
- Therefore, a monopoly is an example of market failure
- Monopolies can exploit consumers by charging high prices. Therefore, monopolies are regulated in order to protect the customer.

Protecting consumers

- Consumer protection laws protect the consumer from firms with regards the quality of goods or services sold
- Big businesses are more powerful than individual consumers, therefore the legislation attempts to stop the consumer from being exploited
- This is becoming increasing important because of:
  - More technologically advanced products
  - Pressurised selling techniques
  - Increased globalisation

Types of consumer protection laws

Sale of Goods Act	Trade Descriptions Act	Consumer Protection Act
• Goods must be: ○ As described ○ Fit for purpose ○ Of merchantable quality	• Goods must be: ○ Fully as described i.e. descriptions cannot be in any way misleading	• Businesses are: ○ Liable for any costs occurred as a result of faulty or damaged products ○ Prices quoted must be correct and not misleading

4.2.2 – Business regulation

Employee protection

Individual labour law guarantees certain rights for individual employees:

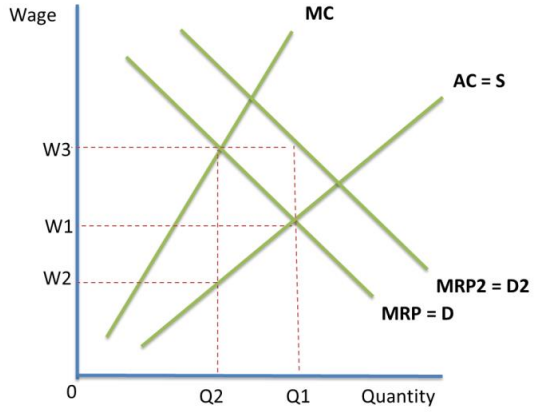
- Equal Pay Act – both sexes should be treated equally at work
- Sex Discrimination Act – this outlawed discrimination based on gender for recruitment, promotion, training or dismissal
- Race Relations Act – illegal to discriminate based on colour
- Disability Discrimination Act – illegal to discriminate against disable people and made provision to assist the employment of disabled people
- Working Time Regulations – employees cannot be forced to work more than 48 hours a week
- National Minimum Wage Act – a minimum hourly wage rate introduced across the UK

Collective labour law guarantees certain rights, and places certain restrictions, on groups of employees e.g. trade unions:

- Employment Act – 'Secondary picketing' outlawed
- Trade Union Act – a secret ballot required before strike action
- Employment Act – outlawed closed shops (where all workers belong to a single union)
- Trade Union Reform Act – unions must give employees at least 7 days notice of industrial action
- Employment Relations Act – right to recognition of a union in the workplace if 50% belong to a union

Trade union power

- If trade unions are pushing for higher wages above the market equilibrium, the labour market is likely to be more flexible. Trade unions can also increase job security. Higher wages can be demanded by limiting the supply of labour, by closing firms, or by threatening strike action.
  - Higher wages could cause unemployment, however.
  - Trade unions can counter-balance exploitative monopsony power.
- These could attract workers to the labour market, because they know their employment rights will be defended.
  - However, the limits on workers, such as limiting their ability to strike, might cause some people to withdraw from the labour market.
- Trade unions aim to protect workers, secure jobs, improve working conditions and try and achieve higher wages.
- If trade unions try and increase wage rates too much, firms might no longer be able to afford to employ workers. This could cause them to close down or reduce the number of workers they employ. Some workers might prefer a low paid job rather than be without employment.
- In a market where an employer has monopsony power, workers are only paid W2, and only Q2 number of workers is employed. This is the profit maximising level.
- A trade union aims to increase marginal revenue product in the market, as well as increase wages to the level of MRP (W3). This is to stop the exploitation of labour. The perfectly competitive level of employment and wage rate is W1, Q1.



4.2.3 – Arguments for and against regulation

Regulation

- Regulation is the creation of rules and sanctions within an industry in order to modify the economic behaviour of firms
- This helps to protect consumers against the abuse of monopoly power that would lead to higher prices, supernormal profits and allocative inefficiency
- It can create an environment that will encourage firms to strive for productive efficiency through reduced costs
- This can be achieved through capping prices on firms, forcing them to cut costs in order to increase profit

Should we regulate markets?

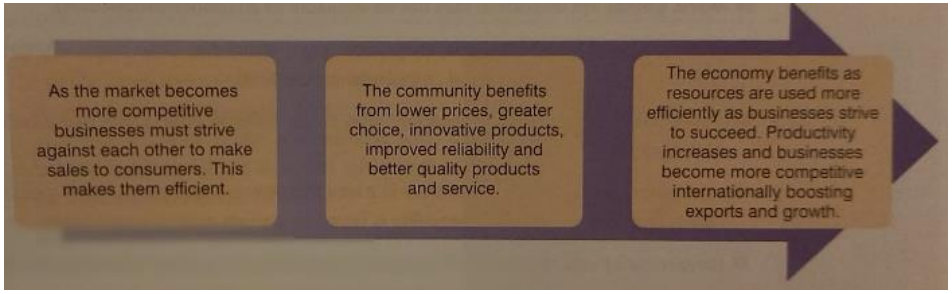
- The call for more regulation is generally used as a threat to such businesses to curb their activities or they will be forcibly stopped
- One would hope that more regulation would stop banks abusing their power and rigging the Libor rate or misselling PPI for example
- The problem was not necessarily a lack of regulation but the prevailing toxic culture in the banking sector: it was an industry-wide problem
- Increased regulation would probably force banks to reduce lending in order to build up the asset ratio on their balance sheet
- This would reduce business investment for expansion, as well as reduce the number of mortgages which would have consequences for house building and household furniture retailers
- Too much regulation would restrict the working of the free market and the efficiency that this can bring
- There has to be a flexible, pragmatic approach: where the market is working imperfectly and businesses continue to act unethically then perhaps more regulation should be carefully targeted to benefit stakeholders' interests

Benefits of regulation

- Regulation helps to ensure quality and choice are maintained in monopolistic markets
- It can reduce the monopsonistic power of firms
- It increases consumer surplus by reducing the prices of goods and services
- It helps to set standards for markets as a whole, benefitting consumers and businesses
- It provides a fair playing field so that all firms in the industry have to follow the same rules and regulations
- Reducing distortions in markets allows them to clear more efficiently and helps ensure allocative and productive efficiency

Costs of regulation

- Regulation increases costs to firms e.g. legal requirements
- This can lead to productive inefficiency
- By regulating what goods and services can be produced this might also lead to allocative inefficiency
- Profits of firms will be impacted which might lead to less investment into capacity and research and development
- This might lead to less dynamic efficiency



4.3.1 – Market failure in society

Merit goods

- A merit good is one that is deemed to be beneficial for society but is under-provided by the market.
- Therefore, the market fails to fully supply that good to meet the needs of society.
- Merit and demerit goods rely on value judgements.
- Merit goods suffer from under provision in the market
- Consumers lack perfect information and would under-consume products that society believes would benefit them
- Health and education are typical examples of merit goods
- The under-consumption of merit goods leads to market failure
- The government intervene in the market in order to increase the supply of this type of good or service

Demerit goods

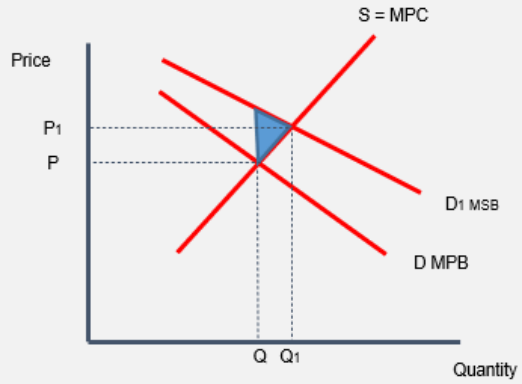
- A demerit good will operate where private benefit is greater than social benefit.
- Demerit goods are over provided by the market
- These goods produce negative externalities which are deemed to be bad for society
- Drugs and cigarettes are typical examples of demerit goods
- The over-consumption of demerit goods leads to market failure
- The government intervene in the market in order to reduce or eliminate the supply of this type of good or service

Externalities

- Externalities are the costs and benefits to a third party created by economic agents when undertaking their activities
- Externalities can be negative or positive
  - Negative externalities are those costs to a third party that are not included in the price of the economic activity
  - Positive externalities are those benefits to a third party that are not included in the price of the economic activity

Graphical representation of merit goods

- A merit good will operate where social benefit is greater than private benefit.
- There is a positive externality from providing the good, so the government is likely to intervene for the good of society.
- The good is seen to provide benefits to society over and above those to the individual consumer i.e. there is an additional external benefit of providing the good.
- This can be measured by the grey shaded area. Individuals would demand Q of the good where their private benefit equals their private cost. However, society would benefit from providing Q1 where social benefit equals social cost.



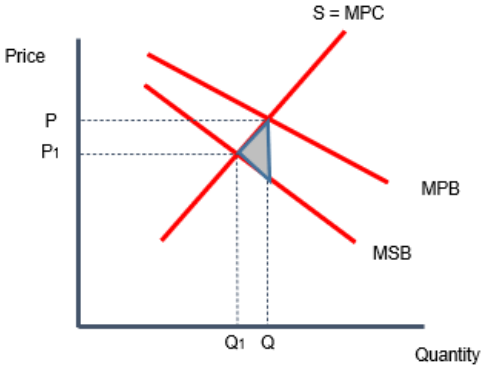
Graphical representation of demerit goods

A **demerit good** is one that is deemed to be bad for society but is over provided by the market.

There is a negative externality from providing the good so the government is likely to reduce or eliminate the supply of the good for the benefit of society.

The good is seen to be bad for society and is over-consumed by the market.

This negative externality can be measured by the grey shaded area. Individuals would demand Q of the good where their private benefit equals their private cost, but society would benefit from providing less at Q1 where social benefit equals social cost.



4.3.1 – Market failure in society

Factor immobility

- Factor immobility occurs because it is difficult for factors of production to be put to alternative uses
- The immobility of factors of production can result in a misallocation of resources
  - This leads to market failure
- Factor immobility can occur for:
  - Labour
  - Capital
  - Land

Immobility of labour

- Labour immobility can lead to structural unemployment as the result of the decline of a particular industry creating large scale unemployment in a geographical area.
- Labour immobility can occur as a result of:
  - Geographical immobility – where workers in an economy find it difficult to move from one region to another. This may occur due to:
    - The cost of moving e.g. housing costs in London
    - Imperfect information e.g. not being aware of jobs
    - Not wanting to move away from family and friends
  - Occupational immobility - workers are not equipped for different types of work e.g. a coal miner cannot easily transfer to become an accountant

Immobility of capital

- Capital goods are those that are used in the production of other goods and services. These will bring a stream of income in the future.
- Capital immobility can occur as a result of:
  - Rapid technological change
    - Changing technology can make machinery obsolete
    - This leads to costs for the firm as they update capital equipment
  - Structural change in the economy
    - As the types of industry that make up the economy change so does the type of capital equipment needed
    - We are less likely to use specialist coal mining equipment nowadays and it is difficult to put this equipment to use elsewhere

Immobility of land

- Land encompasses all of the natural resources that come from the earth that are used in the production of goods or services.
- Land immobility can occur as a result of:
  - The inability to change the use of land due to:
    - Climate conditions where it is not possible to produce certain crops e.g. the UK finds it difficult to produce grapes
    - It is almost impossible or not economically practical to move land from one area to another
    - The EU subsidises the growing of certain foodstuff so farmers and fishermen continue to produce these

Factor immobility and market failure

- Factor immobility can lead to a misallocation of resources and therefore market failure
- If factors of production are immobile then markets will find it difficult to clear when there is a change in supply and demand
- If demand increases but supply is fixed due to immobile factors then there will be distortions in the market and it will take time for market equilibrium to be reached

Consequences of environmental change

- Global economic growth has had a significant impact on the environment
- High production levels have meant the extensive use of natural resources such as fossil fuels e.g. oil and coal and there has also been deforestation
- Much of the production is unsustainable, using non-renewable resources
- Social costs are not paid for by those creating the pollution
- This has created negative externalities such as pollution and climate change

4.3.1 – Market failure in society

Imperfect and asymmetric information

- Perfect knowledge or perfect information is a theoretical concept which occurs when all consumers in a market are fully aware of price, quantity available and all other relevant information for all products when making buying decisions.
- Information asymmetry occurs when some parties in a transaction have more information regarding the product than others.
- Information failure is a type of market failure where consumers or producers:
  - Do not have perfect knowledge
  - Have asymmetric knowledge
    - This means that there is imperfect information
- Without having full information about a product it is difficult for consumers and producers to make decisions regarding price, quality and other relevant factors when buying and selling
- This can lead to the under provision of merit goods and the over provision of demerit goods as people are ill-informed regarding the benefits or other wise of such goods

4.3.2 – Externalities

Externalities

- Externalities are the costs and benefits to a third party created by economic agents when understanding their activities.
    - Negative externalities are those costs to a third party that are not included in the price of the economic activity. (e.g. They are the effects of environmental pollution) causing the social cost of production to exceed the private costs.
    - Positive externalities are those benefits to a third party that are not included in the price of the economic activity. (e.g. The provision of education and health care) causing the social benefit of consumption to exceed the private benefit.

Positive externalities

- This occurs when the consumption or production of a good causes a benefit to a third party. For example:
    - When you consume education, you get a private benefit. But there are also benefits to the rest of society. E.g. you are able to educate other people and therefore they benefit as a result of your education. (Positive consumption externality)
    - A farmer who grows apple trees provides a benefit to a beekeeper. The beekeeper gets a good source of nectar to help make more honey. (Positive production externality)
    - If you walk to work, it will reduce congestion and pollution; this will benefit everyone else in the city.

Negative externalities

- Negative externalities are regarded as being undesirable, but this does not necessarily mean that there is a case for banning the product that gives rise to them.
- Only a few people are willing to do without a car because of the negative externalities involved with car production and driving.
- On the other hand, too many cars and excessive traffic clearly create a problem that we do not want.
- So how many cars should we allow? Some of you reading this guide will be the proud owners of your first car — are you willing to give it up for the good of the environment?

Examples

Private costs	Private benefits	External costs
• Price of car and depreciation	• Independence	• Pollution may cause illness
• Running costs	• Convenience	• Congestion increases costs of transportation
• Tax	• Access to work	

Private costs

- Private costs are the costs to producers or consumers involved directly in an economic transaction.
- Private costs for a producer of a good or service include the costs the firm pays in order to produce that good or service.
- Private cost for a consumer involves giving up some income in order to consume the product.

Private benefits

- Private benefits are the benefits derived from consuming a good i.e. the satisfaction of eating a chocolate.
- Private benefits for a producer of a good or service include the profits made and the fulfilment of entrepreneurial and business objectives.
- Private benefit for a consumer is the satisfaction gained by consuming goods and services that satisfy needs and wants.

External costs

- External costs are costs or negative side-effects imposed on a third party who is neither the producer nor the consumer.

External benefits

- External benefits are benefits or positive side-effects that benefit a third party who is neither the producer nor the consumer.

Social costs

- Social costs are the total costs of producing goods and services and are calculated by adding together the private and external costs.

Social benefits

- Social benefits are the total benefits of producing goods and services and are calculated by adding together the private and external benefits.

4.3.2 – Externalities

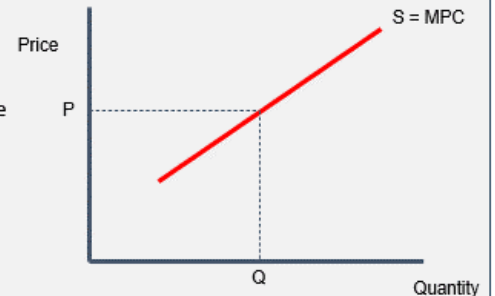
Marginal analysis

- We can use marginal analysis to enhance our understanding of externalities
- Marginal analysis looks at the benefit or cost we receive from consuming or producing one more unit
- Marginal benefit is the benefit to a consumer of consuming one more unit of a good or service
- Marginal cost is the cost to a producer of producing one more unit of a good or service

Supply is the same as marginal private cost

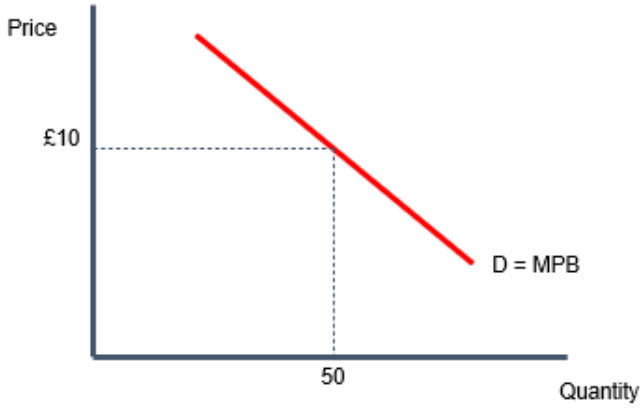
- Marginal private cost (MPC) is the cost to a producer of producing an additional unit
- MPC can be represented by the supply curve. If the price of an additional unit pays for the cost of producing the extra unit then a firm will supply it
- The supply curve reflects this as higher prices will lead to more being supplied as firms cover their costs for producing the additional unit
- As price increases we will see an increase in supply as it is more likely that producers will cover their costs

- As cost increases a producer can only make a profit from an additional unit if price is higher or equal to the cost of producing that additional unit.
- The point at which a firm stops supplying is when the additional cost is higher than the price received for selling that additional unit.
- The marginal private cost curve therefore shows the relationship between costs, price and the quantity supplied of that product.



Demand is the same as marginal private benefit

- Marginal private benefit (MPB) is the additional amount of satisfaction that a consumer gains from an additional unit of a good or service
- MPB can be represented by the demand curve. The vertical distance at each quantity e.g. 50 units shows the amount consumers are willing to pay for that unit e.g. £10
- This reflects the benefit derived from each unit
- This can be recognised in the lower price that consumers are willing to pay for an additional unit as satisfaction decreases as we consume more
- Therefore:
  - D = MPB



Price = Marginal cost

- Allocative efficiency occurs where P = MC
- If the price of producing a product is above the marginal cost of producing it then firms should increase output
- As the price is above the cost of production the firm will increase output and make additional profit
- Firms will allocate more resources into producing the product until price is equal to marginal cost (P = MC)
- At this point the firm is maximising profits
- If MC was greater than P the firm would be making a loss on producing each additional unit

4.3.2 – Externalities

Marginal social benefits and marginal social costs

- Marginal social benefits (MSB) are those benefits of consuming or producing an additional unit of goods or services that are received by society. This will include marginal private benefits.
  - MSB = MPB + MEB.
- Marginal social costs (MSC) are those costs of consuming or producing an additional unit of goods or services that are paid for by society. This will include marginal private costs.
  - MSC = MPC + MEC.
- We can use marginal social benefits (MSB) and marginal social costs (MSC) to enhance our understanding of externalities
- MSB includes MPB but also the additional benefits to society of consuming or producing one extra unit
  - We call these marginal external benefits (MEB)
- MSC includes MPC but also the additional costs to society of consuming or producing one extra unit
  - We call these marginal external costs (MEC)

Markets operate where MPB = MPC

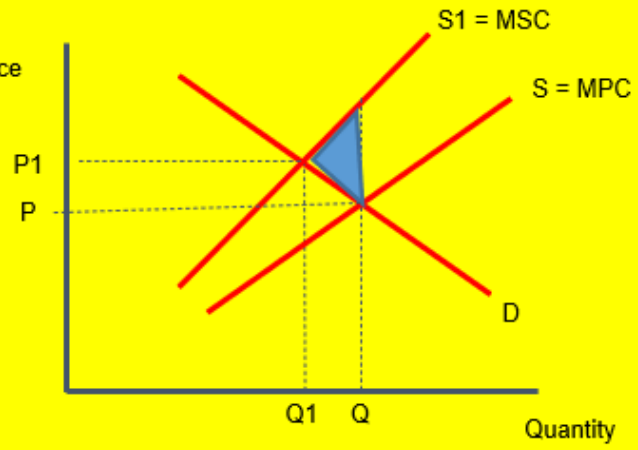
- In a market economy the economic unit only considers the private costs or benefits of its activities
- Consumers and producers will operate in a market where:
  - MPB = MPC
- This will lead to the maximisation of private benefit
- If MPB < MPC then consumers can achieve additional benefit from consuming more goods and services
- If MPB > MPC then producers can achieve additional profits by increasing supply
- When MPB = MPC the market is in equilibrium

Why externalities lead to market failure

- Both negative and positive externalities lead to market failure because the private consumer or producer is not paying for, or receiving, the full cost or benefit of the economic activity.
- In a market economy the economic unit only considers the private costs or benefits of its activities
- However, this does not take into account social benefits and costs

Negative production externalities

- The firm's optimal level of output is Q. Society's optimal level of output is Q1. Therefore, the firm is **overproducing** by Q – Q1.
- Price is too low and output too high. There is **allocative inefficiency**.
- In the diagram, the supply curve S takes into account the cost to the firm of producing the product i.e. the private cost.
- If we include the cost to society the supply curve would shift up and to the left (S1) as the costs to society of a negative externality will be greater than the costs to the producer.
- If social costs were included i.e. the full costs, then we would operate where S1 = D at P1Q1.
- The cost to society (or **welfare loss**) can be seen by the blue shaded area. This measures the difference between the social cost and private cost at output levels between Q and Q1.



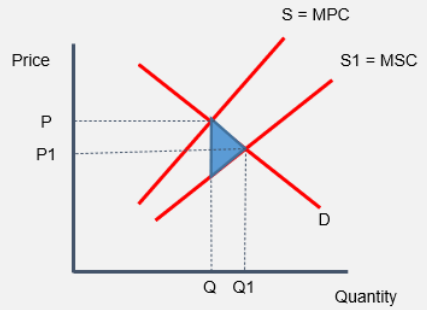
Example:
Pollution generated by a factory that imposes costs on others.

4.3.2 – Externalities

Positive production externalities

Positive production externalities occur when the activities of producers lead to benefits for a third party that are not included in the price of the economic activity.

Welfare gain can be defined as a situation where the social cost is lower than the private cost and society gains as it does not have to pay for the difference.



S1 is down and to the right of S as the costs to society of a positive externality will be less than the costs to the producer.

If social costs were included i.e. the full costs, then we would operate where S1 = D at P1Q1.

The benefit to society (or **welfare gain**) can be seen by the blue shaded area. This measures the difference between the social cost and private cost at output levels between Q and Q1.

The firm's optimal level of output is Q. Society's optimal level of output is Q1. Therefore, the firm is **underproducing** by Q – Q1.

Price is too high and output too low. There is **allocative inefficiency**.

Example:
When producing goods and services, companies may develop new technologies that benefit other companies, leading to lower costs for other firms. These spillover effects are not taken into account by the firms who develop the new technologies.

Positive consumption externalities

Positive consumption externalities occur when the activities of consumers lead to benefits to a third party that are not included in the price of the economic activity.

The consumer's optimal level of output is Q. Society's optimal level of output is Q1. Therefore, society is benefiting over and above the individual consumer by Q – Q1. The consumer is **under consuming**.

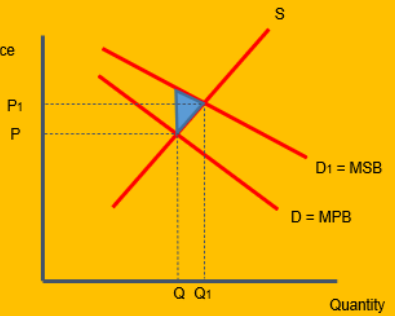
The benefit to society (or welfare gain) can be seen by the blue shaded area. This measures the difference between social benefit and private benefit at output levels between Q and Q1.

The consumer gains the benefit of consuming a good or service on the demand curve D.

Social benefit is above and to the right of private benefit (D1) as the benefits to society of a positive externality will be greater than the benefits to the individual consumer.

A consumer will maximise its private benefit by consuming where S = D at PQ.

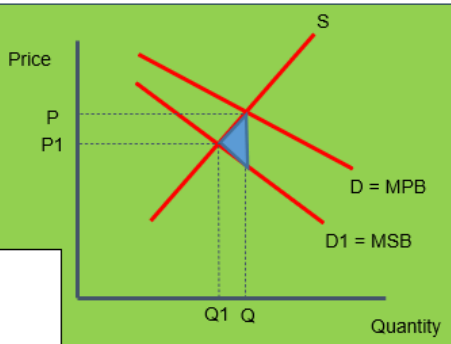
However, if social benefits were included, we would operate where S = D1 at P1Q1.



Example
Where the consumption of a merit good generates benefits for third parties, eg vaccinations

Negative consumption externalities

Negative consumption externalities occur when the activities of consumers lead to a loss of benefit to a third party that are not included in the price of the economic activity.



The consumer gains the benefit of consuming a good or service on the demand curve D.

Social benefit is below and to the left of private benefit as the benefits to society of a negative externality will be lower than the benefits to the individual consumer.

A consumer will maximise its private benefit by consuming where S = D at PQ.

However, if social benefits were included, we would operate where S = D1 at P1Q1.

The consumer's optimal level of output is Q. Society's optimal level of output is Q1. Therefore, the consumer is **overconsuming** by Q – Q1.

The loss of benefit to society (or welfare loss) can be seen by the blue shaded area. This measures the difference between social benefit and private benefit at output levels between Q and Q1.

Example:
Where the consumption of a demerit good leads to adverse consequences for third parties, eg smoking.

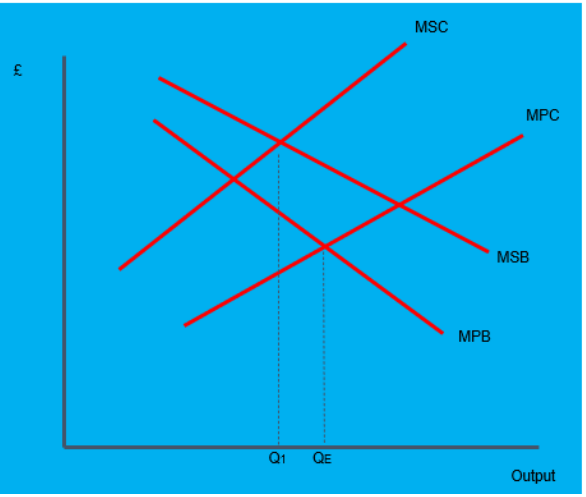
Marginal private and social cost and benefit curves

The diagram shows the marginal private and social benefit curves and the marginal private and social cost curves.

Market equilibrium occurs at an output of QE.

The allocation of resources can be improved by increasing price and reducing output so that MSB = MSC at Q1.

The optimal allocation of resources to society is where MSB = MSC.



4.3.2 – Externalities

Why externalities lead to market failure

- The social optimum position occurs where MSB = MSC.
- The divergence between private costs and benefits and social costs and benefits leads to government intervention.
- In order to eliminate externalities as a market failure the market needs to operate where MSB = MSC
- As can be seen with our look at four types of externalities this is unlikely to happen
- Economic units will look to operate where MPB = MPC
- Society will benefit where MSB = MSC
- Neither producers or consumers will take into account the needs of society
- This is where the government steps in

Environmental externalities

- The consumption of energy, sourced from resources such as coal and natural gas, results in negative externalities.
- These are visible in the form of pollution.
- There could be excess air pollution, scarring of the landscape and noise.
- However, the price of energy does not reflect the negative externalities and social costs which result from energy use.

4.3.3 – Policies to deal with market failure

Reasons for government intervention

TO REDUCE MARKET FAILURE TO:	TO SUPPORT THE UK INDUSTRY	TO REDUCE INEQUALITIES IN THE DISTRIBUTION OF INCOME AND WEALTH
• Reduce or eliminate negative externalities • Increase or maximise positive externalities • Increase the supply of merit goods • Reduce the supply of demerit goods • Supply public goods that would be undersupplied by the market	• Full employment is a government target • Certain industries are more important than others as they employ large amounts of labour • Infrastructure is essential if business are to provide quality services	• Unequal distribution can lead to poverty • Tensions in society can be created • A breakdown in society can cause further market failure

Types of government intervention

- There are a number of ways in which governments can intervene to correct market failure. These include:
  - The provision of public and merit goods
  - Indirect taxation of demerit goods
  - Tradable pollution permits
  - Provision of information
  - Legislation
  - Regulation

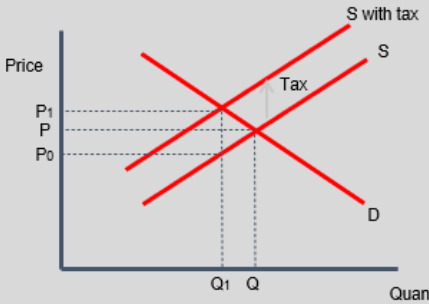
Provision of public and merit goods

- State provision occurs when goods and services are either merit goods or public goods. The government will intervene to ensure that an adequate supply of these products is available to the market.
- State provision occurs when the government (or state) intervenes in the market in order to supply a good or a service
- This will occur if the government believes that the product is:
  - A merit good
    - The government supplies goods and services such as state education and health e.g. NHS as society believes that these are under provided by the market mechanism
  - A public good
    - The government supplies goods and services such as defence and infrastructure e.g. roads as these would be under provided by the public sector due to the free rider problem

Taxation

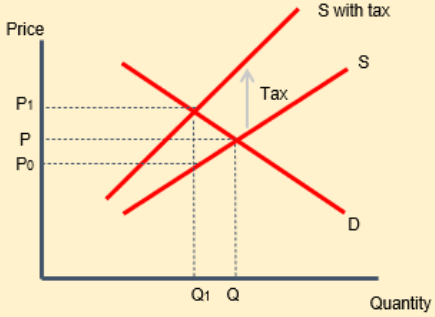
- Taxation is the medium through which governments finance their spending and control the economy. It is a charge imposed on products, individuals and businesses.
- An indirect tax is a tax on a good or a service.
- A direct tax is a tax on an individual or an organisation.
- The incidence (or burden) of tax is the amount that the consumer (or producer) will pay for the tax.

Specific tax is a set amount per unit. For example, a tax of 50p per fizzy drink.



A specific tax will lead to a parallel shift in the supply curve.

An **ad valorem tax** is a percentage of the price of the good or service. Therefore, the more expensive the product the greater the tax levied on it.

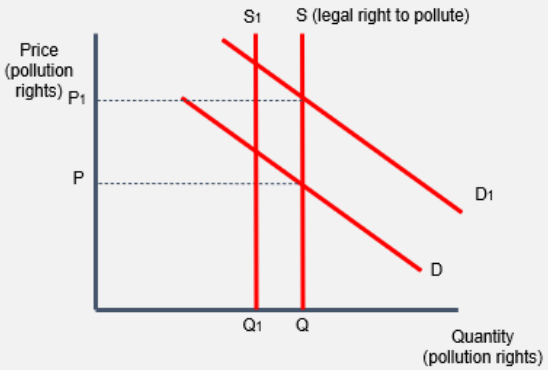


An ad valorem tax will shift the supply curve upwards whilst also tilting it. As price increases the tax increases.

4.3.3 – Policies to deal with market failure

Tradeable pollution permits

- Pollution permits seek to provide an incentive to businesses on a global scale to reduce CO2 emissions.
- Due to the recession EU production has fallen so there have been an excess of pollution permits on the market.
- This increase in supply of pollution permits has been coupled with a fall in demand as firms produce less.
- This has led to a fall in their price making the scheme less effective.
- Pollution permits allow firms to produce a legal level of pollution every year
- Permits are tradable on the market
  - If a firm does not use all of its permits it can sell them to other firms that pollute above their allowance
- This provides a financial incentive for firms to reduce pollution
- Trading schemes seek to reduce CO2 emissions globally
- It is difficult to assess the amount and level of permits to provide to firms



The government issue a fixed amount of pollution rights in the economy. Therefore, supply is perfectly inelastic as it cannot change.

If there is an increase in demand for pollution permits (the legal right to pollute) demand will shift from D to D1 and the price of these tradable permits will increase.

Governments can enforce stricter pollution control by reducing the number of tradable permits to Q1. This will lead to a shift in the supply curve to S1 leading to higher prices and a higher cost to firms of creating pollution.

Firms will either pay more for the right to pollute, or they will be incentivised to reduce pollution. Those who do not need their permits can sell them on the market.

Provision of information

- Through the provision of information governments seek to redress the problems caused by a lack of information.
- The greater the information available to consumers the more likely they are to buy goods and services with confidence.
- Provision of information ensures that economic units can maximise decisions when consuming and producing goods and services
- The government will provide information where the private sector fails to do so
- The government provides information in a variety of areas e.g.
  - The job market
  - Dangerous products e.g. cigarettes
  - Economic data to help firms plan for the future

Legislation

- Legislation involves creating and enacting laws in order to protect individuals, firms and society as a whole
- The legal environment describes the collection of legislations that impact on the activities of organisations
- Should Sunday trading hours be dictated by the Law?

Regulation

- Regulation occurs when the government seeks to provide effective competition within markets.
- Regulation is undertaken by government to create competitive markets
- The government believes that this will protect the interests of consumers so that they are not exploited by firms
- Effective regulation will lead to greater choice and lower prices
- Regulation takes place in a number of industries such as telecoms, water and energy
- A key reason for regulation is to create conditions for continued investment in infrastructure in important areas of the economy

4.3.3 – Policies to deal with market failure

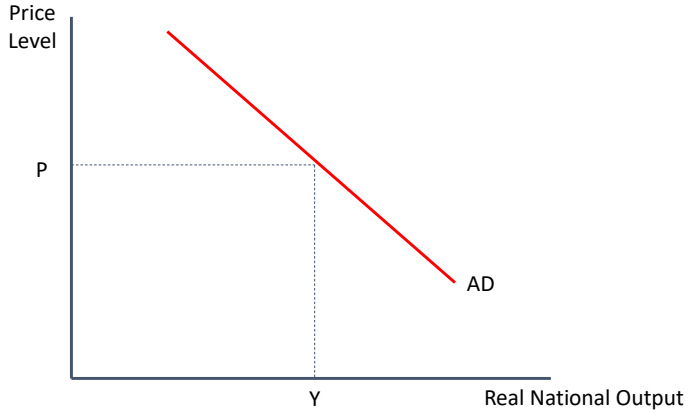
The impact of these policies on the economy and society

ECONOMIC GROWTH AS A KEY OBJECTIVE	UNEMPLOYMENT AS A KEY OBJECTIVE	INFLATION AS A KEY OBJECTIVE
– Job creation – Rising incomes – Improved standards of living – Improved international competitiveness of UK economy – Improved confidence of: – consumers to spend – business to invest – Lower government spending on job seeker's allowance and associated benefits – Tax revenues are likely to increase allowing the government to re-invest in infrastructure or spend on public services	– Higher demand – Higher incomes – Improved standards of living – Higher tax revenue for government – Lower government spending on unemployment related welfare – Improved productivity of UK economy – Reduced poverty – Social benefits (reduced crime, improved wellbeing) – Increased spending might impact on merit goods as it will probably directed at the NHS and education	– Inflation is important because it affects the value of money in your pocket, workers wage demands and consumer confidence – High, or rising inflation, damages the real value of money and erodes spending power – An inflation target of 2% has been set by the government – Reducing demand will impact on inflation but might lead to less spending on merit goods

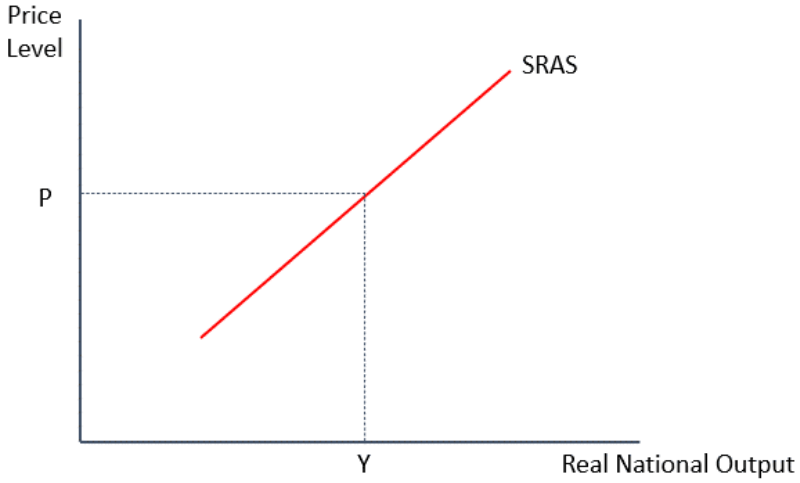
4.4.1 – The AD/AS model

The AD curve

- $AD = C + I + G + (X - M)$
- The price level is the average of prices for all goods and services in an economy.
- Real national output is the output of the economy taking into account inflation.
- We can use this formula to calculate real national output:
  - $\frac{nominal\ national\ output}{average\ price\ level}$



SRAS curve

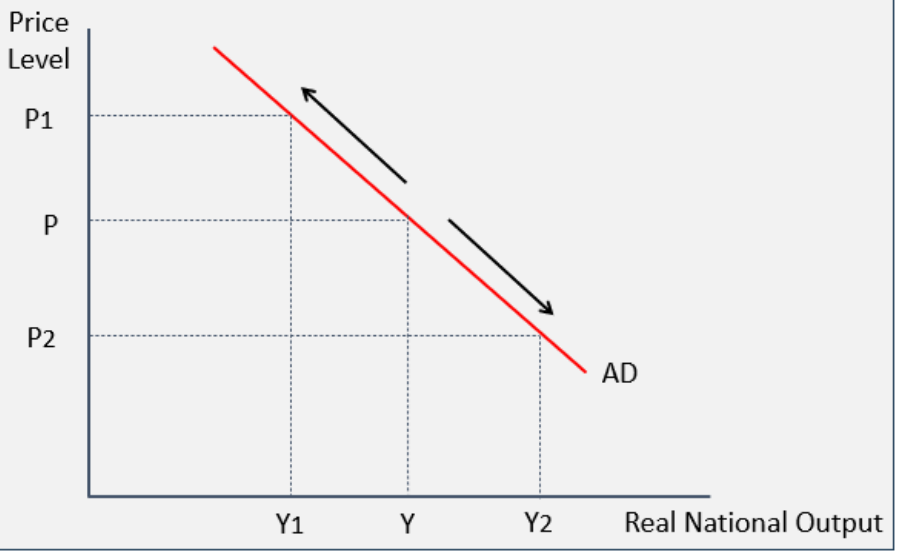


Changes in AD

A change in the price level leads to a **movement along** the AD curve

A rise in the price level leads to a **contraction** in aggregate demand.

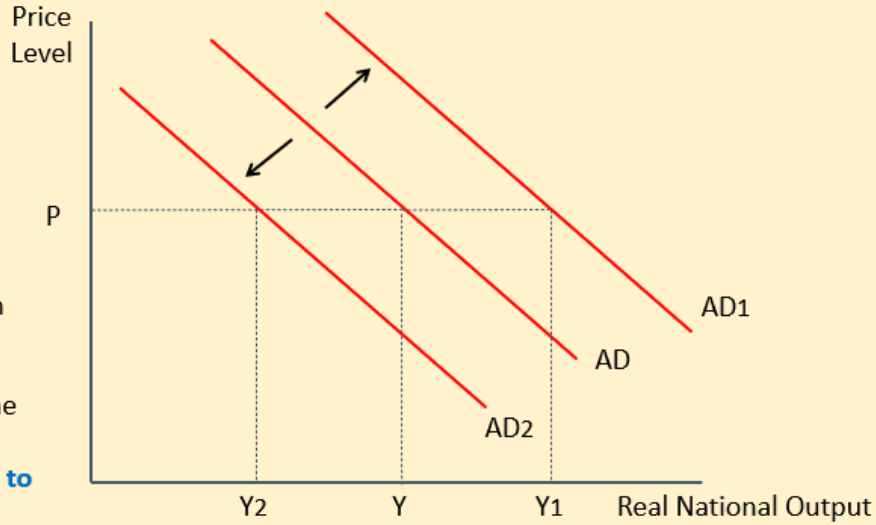
A fall in the price level leads to an **expansion** in aggregate demand.



Shifts in the AD curve will occur if there is a change in any of the components of AD (C, I, G, X or M)

An **increase** in any of the components of AD will lead to a shift from **AD to AD1.**

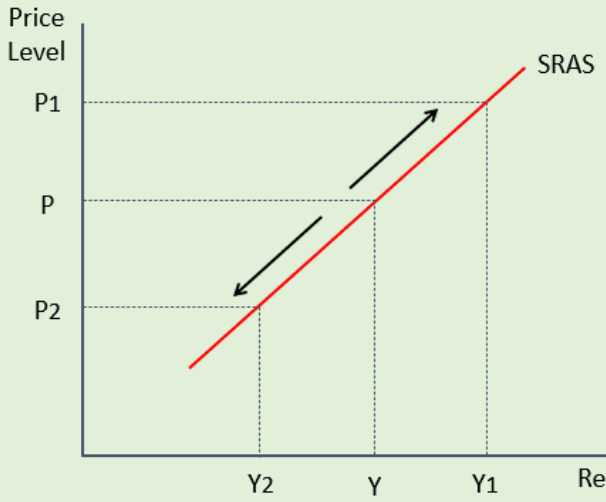
A **decrease** in any of the components of AD will lead to a shift from **AD to AD2.**



4.4.1 – The AD/AS model

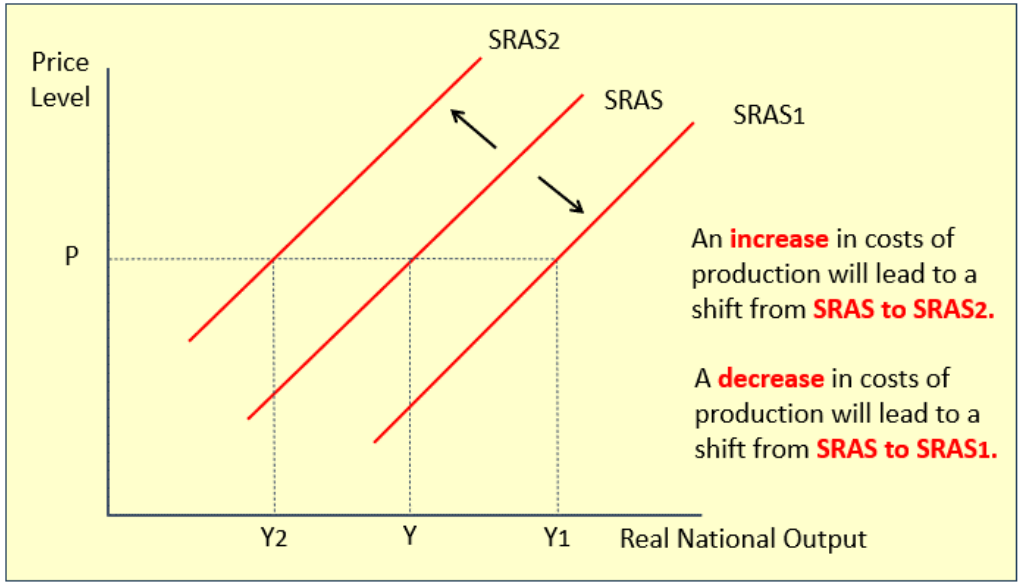
Changes in SRAS

A rise in the price level leads to an **expansion** in short-run aggregate supply.



Changes in aggregate demand leads to movements along the SRAS curve e.g. if AD increases, firms will hire more labour and make resources work harder in order to boost supply as they see an opportunity to increase profits.

A fall in the price level leads to a **contraction** in short-run aggregate supply.

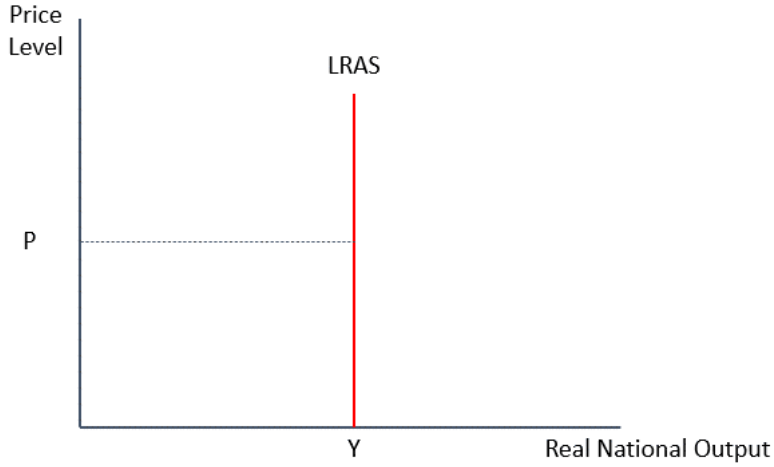


An **increase** in costs of production will lead to a shift from **SRAS to SRAS2.**

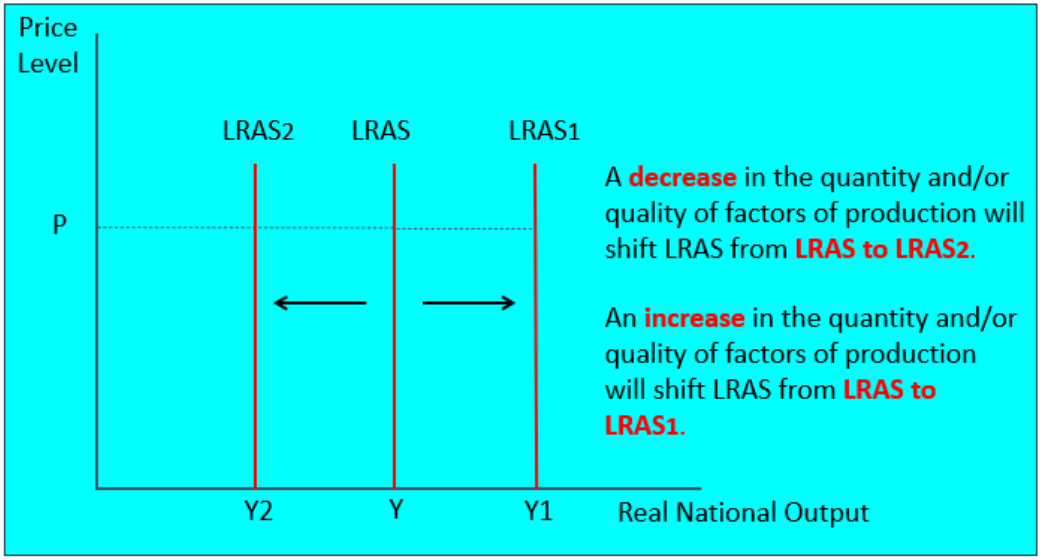
A **decrease** in costs of production will lead to a shift from **SRAS to SRAS1.**

LRAS curve

- This is known as the classical view of long-run aggregate supply.
- Y represents the full capacity output of the economy to produce goods and services i.e. there is full employment and all resources are being used efficiently.



Changes in LRAS



A **decrease** in the quantity and/or quality of factors of production will shift LRAS from **LRAS to LRAS2.**

An **increase** in the quantity and/or quality of factors of production will shift LRAS from **LRAS to LRAS1.**

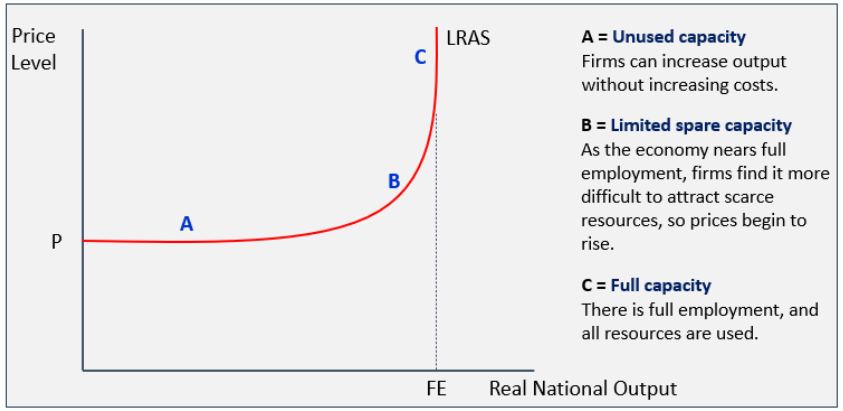
4.4.1 – The AD/AS model

Factors affecting LRAS

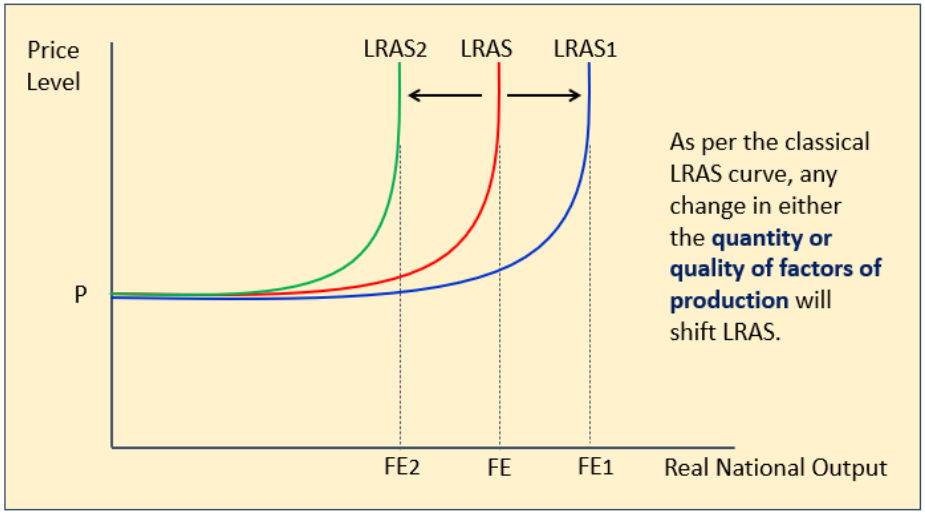
- Land
  - If additional land for production becomes available, or new primary raw materials are discovered or become available, the productive potential of the economy will improve and LRAS will increase
- Labour
  - If there is an increase in the size of the labour force, then it might be expected that output will increase
  - If there is an increase in the quality of the labour force e.g. through training and education then efficiency and productivity is enhanced and LRAS will increase
  - If there is improved occupational or geographical mobility of labour this gives firms more flexibility in production
- Capital (technical progress through technology and productivity)
  - An increase in the quantity, quality and productivity of capital will boost LRAS
  - This can often arise from improvements in technology and improved research and development
- Entrepreneurship (enterprise)
  - Improved incentives to set up new businesses, or invest in the development of new goods and services, can lead to a boost in LRAS
- Government Intervention
  - Governments will often use regulatory frameworks to improve the level of competition in different markets
  - If successful, then greater competition can drive efficiency gains amongst firms as they strive to maximise their profits

The Keynesian AS curve

- The classical view of LRAS suggests that the economy will always produce the maximum that its factor resources will allow
- Classical economists believe that markets will always function efficiently over the long-run, and so an economy will produce on the outer boundary of its production possibility curve, thus the LRAS curve is vertical, marking a maximum limit of production
- Through his study of The Great Depression of the 1930's, he concluded that the LRAS curve was upward sloping, and did have a vertical section, like the classical LRAS curve, but at times an economy could settle at a level of output below full employment



Shifts in the Keynesian LRAS curve



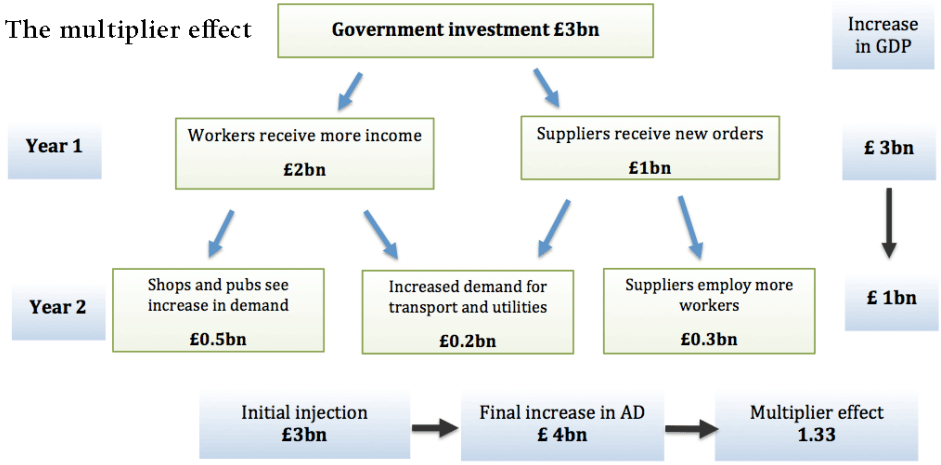
4.4.1 – The AD/AS model

Which LRAS curve should you use?

- It is crucial to understand the difference between the short-run and long-run aggregate supply curves, this is a common area of testing Economics papers
- In terms of the long-run, you should have an understanding of both models, as this will allow you to explain and evaluate more fully the impact of economic policy
- The Keynesian version is arguably more "realistic" in its approach and can often be applied to a range of explanations regarding the behaviour of an economy, but it is worth noting that neither the classical nor Keynesian model are free from problems, and both have a number of assumptions lying behind their theory
- The crucial point to note is that they are "models" and should be used as such, rather than perfect predictors of how an economy might behave

The multiplier effect

- The multiplier effect occurs when an initial injection into the economy, or circular flow of income causes a larger final increase in the level of real national income/output.

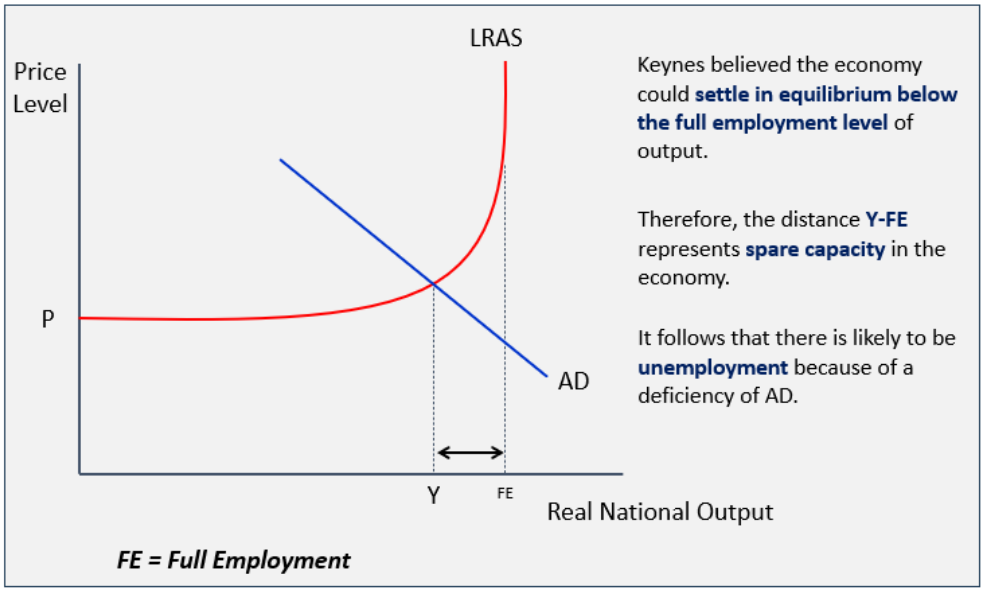


Calculating the multiplier

- Injections can include:
  - Investment (I)
  - Government Spending (G)
  - Exports (X)

$$\text{Multiplier (k)} = \frac{\text{Change in real GDP (Y)}}{\text{Change in injections (J)}}$$

Keynesian long-run equilibrium



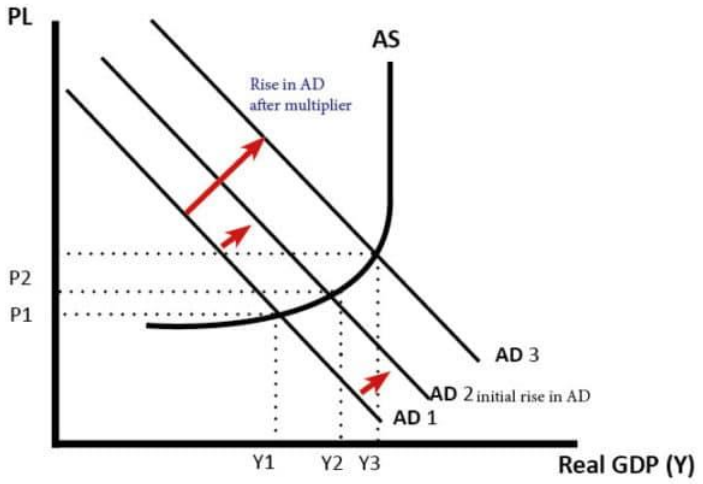
Keynes believed the economy could **settle in equilibrium below the full employment level** of output.

Therefore, the distance **Y-FE** represents **spare capacity** in the economy.

It follows that there is likely to be **unemployment** because of a deficiency of AD.

Graphical representation of the multiplier

- The initial increase in AD (aggregate demand) causes a rise in output to Y2. But secondary effects lead to a further increase in AD (AD3) and an increase in real output (Y3)

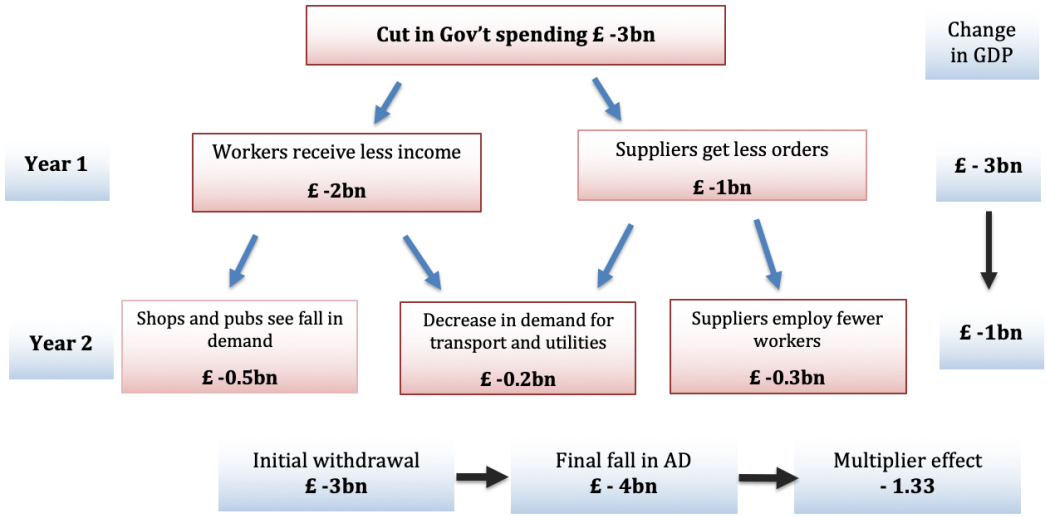


4.4.1 – The AD/AS model

The negative multiplier

- The multiplier effect can also happen in reverse i.e. a withdrawal from the economy
- Cuts in spending and increases in taxes will lead to a negative multiplier and a fall in GDP
- The size of the multiplier will be dependent on the marginal propensity to consume (MPC).
- If individual have a high MPC this will feed through to a higher value of the multiplier.
- If individuals have a high marginal propensity to save (MPS) this will lead to a lower value of the multiplier

Negative multiplier effect



How the AD/AS model sheds light on the economy as a whole

- The AS/AD model allows us to look at a variety of macroeconomic variables
- Here, we have looked at the impact on inflation and unemployment
- However, inextricably linked with these we can use ADAS to look at the impact of interest rates, discuss full capacity and economic growth, look at the impact of government policy dependent on where we are on the trade cycle and a range of other related factors
- It is expected that students will use the ADAS model to illustrate these factors

Factors affecting the size of the multiplier

Interest rates

- If interest rates are high, then consumption may not rise significantly as additional income may be saved rather than spent

Tax rates

- Taxes are a withdrawal from the circular flow, and if tax rates are high then consumers will be deterred from spending or simply have less disposable income with which to consume goods and services

Imports

- In the UK, we have a high propensity to consume imports
- If we receive increases in disposable income, but this is spent on imported goods, then this would count as a withdrawal from the circular flow of income and national income would not rise as much as anticipated

Spare capacity

- If there is very little spare capacity in the economy, then any increase in aggregate demand may not be able to be met by firms
- This is especially true in the short run. As a result, the multiplier effect will be limited, and inflation might occur

4.4.1 – The AD/AS model – Example exam questions

Discuss the impact of higher interest rates on dealing with high inflation?

- Incentivise saving, Marginal Propensity Save rises, Consumption falls, AD components © (greatest component 65%) falls and thus AD falls. AD shift to left diagram. Leads to fall in inflation. This is dependent on it being demand pull and not cost push inflation? We are a heavy importer on Price inelastic goods such as gas?
- DIAGRAM – Left shift in AD
- Increase cost of borrowing, lower investment AD Component (I), less firms investing into the economy, less growth, LRAS/AD shifting potentially? FDI may actually increase and not reduce inflation due to hot money flows.

OR

- Incentivise saving, Marginal Propensity Save rises, Consumption falls, AD components © (greatest component 65%) falls and thus AD falls. AD shift to left diagram. Leads to fall in inflation. This is dependent on it being demand pull and not cost push inflation? We are a heavy importer on Price inelastic goods such as gas?
- DIAGRAM – Left shift in AD
- Increase cost of borrowing, lower investment AD Component (I), less firms investing into the economy, less growth, LRAS/AD shifting potentially? FDI may actually increase and not reduce inflation due to hot money flows.

Discuss the most effective policy to reduce inflation.

- Increase interest rates
  - Saving more attractive
  - MPS increases
  - Consumption falls © 65%
  - AD shifts to the left (Diagram)
- Fiscal policy
  - Increase taxes on individuals
    - Less disposable income → Reduce consumption → lay workers off → higher unemployment → Less tax income→ AD falls

Discuss which type of inflation is most damaging to an economy?

- Cost push → Need for certain goods such as gas → finite resources leads to higher prices → excess demand of these goods → firms set higher prices → inelastic goods still need to be bought → increased costs to firms → higher prices for consumers/employ less staff → generate less government tax revenue.
- Demand pull → High prices need to be dealt with by fiscal or monetary policy → Discourages consumption → reducing consumer confidence → long time to recover and encourage people to spend again.

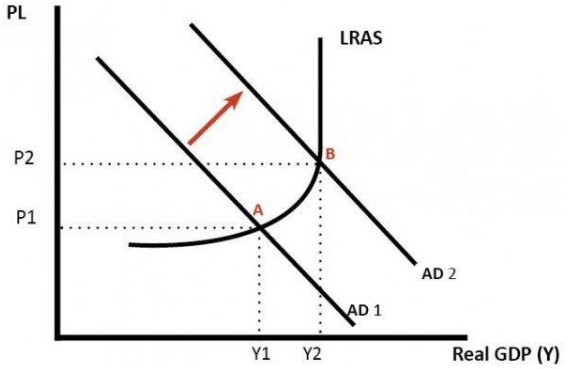
4.4.2 – Demand-side policies

Summary of main causes of inflation

- Demand-pull inflation – aggregate demand growing faster than aggregate supply (growth too rapid)
- Cost-push inflation – For example, higher oil prices feeding through into higher costs.
- Devaluation – increasing cost of imported goods, and also the boost to domestic demand.
- Rising wages – higher wages increase firms costs and increase consumers' disposable income to spend more.
- Expectations of inflation – causes workers to demand wage increases and firms to push up prices.

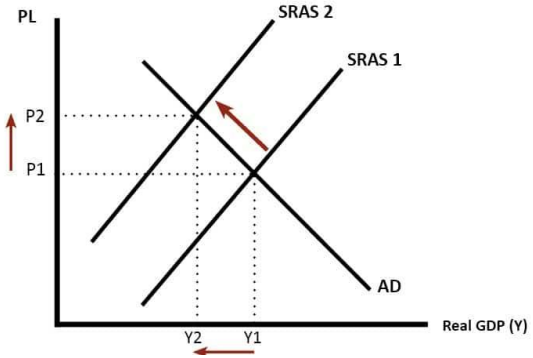
Demand-pull inflation

- If the economy is at or close to full employment, then an increase in aggregate demand (AD) leads to an increase in the price level (PL).
- As firms reach full capacity, they respond by putting up prices leading to inflation.
- Also, near full employment with labour shortages, workers can get higher wages which increase their spending power.



Cost-push inflation

- If there is an increase in the costs of firms, then businesses will pass this on to consumers. There will be a shift to the left in the AS.



Fiscal policy

- Fiscal policy is the manipulation of government spending, taxation and government borrowing to influence the level of economic activity.

<u>Fiscal policy goals</u>

- Fiscal policy is used to achieve a wide variety of objectives
  - Keep inflation on target (2%)
  - Stimulate economic growth and employment during times of recession
  - Maintain a stable economic cycle that minimises boom and bust
- Note however, that fiscal policy can have supply side effects too
- Any change in the balance between government spending and taxation, will impact upon the 4 macroeconomic targets
- However, fiscal policy has a wide variety of goals and may have microeconomic targets in addition to this, which can include improving education, health and the redistribution of income

Fiscal policy instruments – expansionary

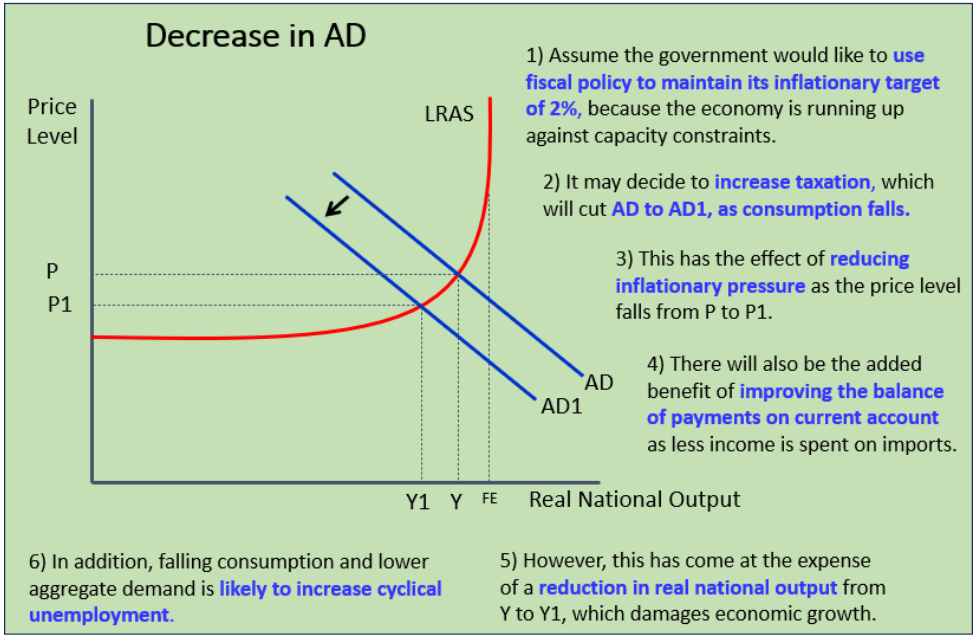
- Fiscal policy is said to be "expansionary" if the government is trying to positively stimulate economic activity. Possible methods include:
  - Cutting taxes
    - A cut in income tax may give consumers more disposable income, thus raising consumption
    - A cut in corporation tax may increase available profits for firms which may stimulate investment
  - Raising government spending
    - The government may increase its spending on core infrastructure projects or increase the pay of public sector workers
  - Increasing the budget deficit
    - Another way of increasing spending if the government do not wish to raise taxation is to increase borrowing
    - This can be spent on a variety of projects nationally
    - However, this adds to the national debt, and must be repaid with interest

4.4.2 – Demand-side policies

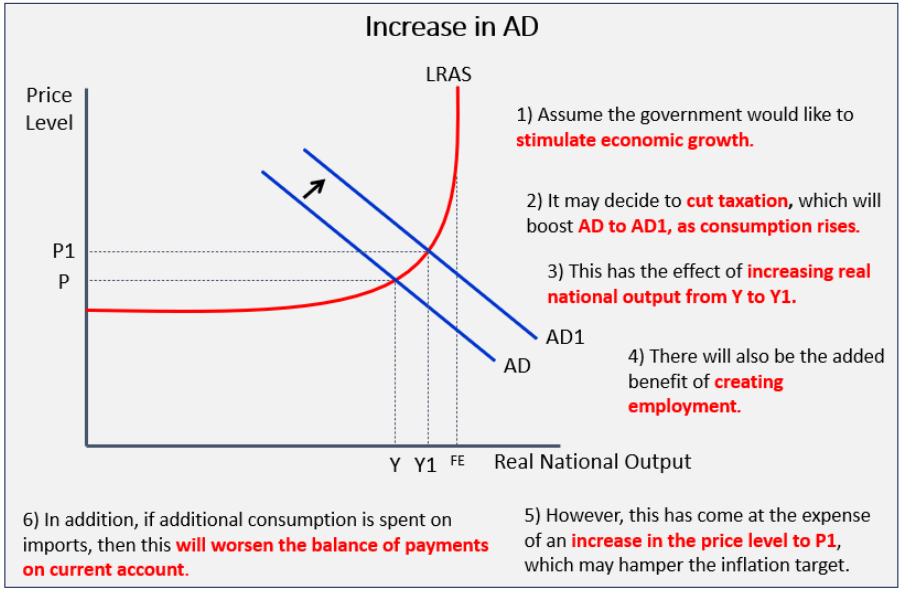
Fiscal policy instruments – contractionary

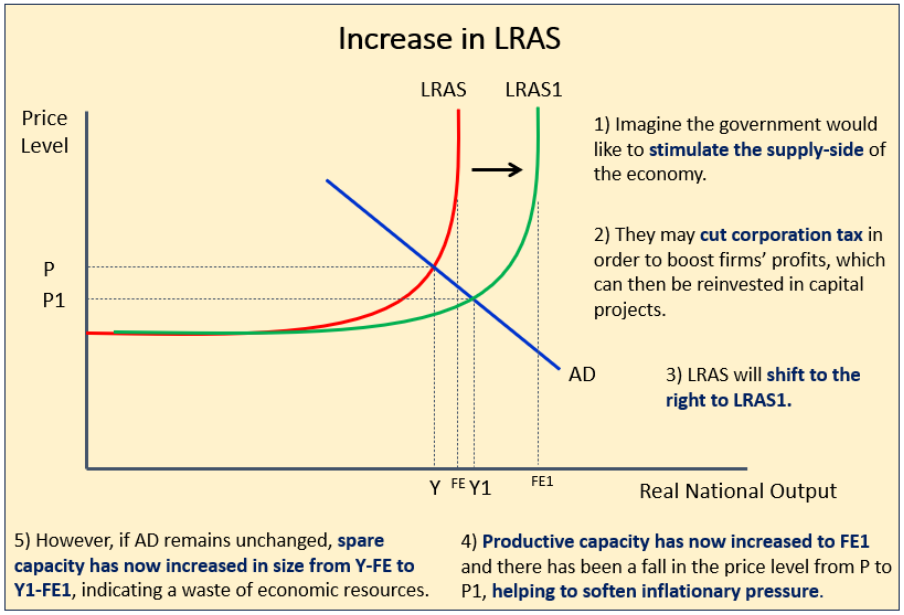
- Fiscal policy is said to be "contractionary" if the government is trying to constrain aggregate demand, reduce debt or control inflation. Possible methods include:
  - Increasing taxes
    - If income tax is raised this may discourage spending and reduce consumption
    - This will reduce aggregate demand and may help to bring inflation under control
  - Cutting government spending
    - The government may decide to reduce expenditure on public projects or cut key government budgets if it considers excessive government spending to be unaffordable or perhaps inflationary
  - Cutting the budget deficit
    - The UK budget deficit is large and thus must be repaid with interest
    - Cutting the governments long term borrowing commitments may help to stabilise economic growth as reduced debt repayments in future can be reinvested back into the economy

Diagrammatic representation of contractionary fiscal policy *(The following diagrams serve to illustrate how fiscal policy can be used to control inflation and unemployment)*



Diagrammatic representation of expansionary fiscal policy *(The following diagrams serve to illustrate how fiscal policy can be used to control inflation and unemployment)*





4.4.2 – Demand-side policies

Strengths and weaknesses of fiscal policy

STRENGTHS	WEAKNESSES
<u>Economic Growth</u> • Expansionary policy alone won't increase the long-run growth rate, but will act as a short-run stimulus to economic growth • However, fiscal stimulus through tax cuts and increasing government spending may be employed to help lift a country out of recession, therefore smoothing out fluctuations in the economic cycle • Keynesian economists favour this approach and might consider increasing the governments budget deficit in the short-run - a necessary requirement to put an economy back on target in terms of economic growth <u>Unemployment</u> • Higher government spending should lead to higher levels of employment if there are good polices to support training programmes and back to work schemes • The use of fiscal policy to improve employment statistics is a vital part of economic policy • Tax credit and welfare changes are on-going – keep up to date with these!	<u>Inflation</u> • Fiscal policy is a fairly blunt instrument with which to seek to control the price level • In theory, expansionary policy will boost AD and create inflationary pressure, whilst contractionary policy will do the opposite • In reality, it is very difficult to 'fine tune' the economy towards a 2% inflation target using broad instruments such as taxation and government spending • In any case, the causes of inflation are varied and come from many sources which fiscal policy cannot control e.g. increasing raw material costs from abroad <u>Balance of Payments on Current Account</u> • The UK has a high propensity to import, so expansionary policy tends to limit our ability to achieve this target • However, the government could employ expenditure-switching policies by e.g. taxing foreign imports to make domestic goods more attractive

Is the fiscal policy effective?

- It depends on:
  - The size of the change in government spending and/or taxation will vary the impact it has
  - The effectiveness, efficiency and timing of changes will also influence policy effectiveness
  - The size of the multiplier will influence the size of changes in AD
  - How close to full employment the economy is
    - Expansionary policy will have different effects if there is significant spare capacity compared to if it is close to full employment
  - Time – It takes time for the full effect of tax cuts or spending increases to have the desired effect on the economy

Taxation

- Direct tax is imposed on the income of individuals or profits of businesses
- This type of tax is paid directly to the government
- Examples include:
  - Income tax
  - Corporation tax
  - Inheritance tax
  - National Insurance contributions
- Indirect tax is imposed on goods or services
- This increases the price of that good or service
- Examples include:
  - Value Added Tax
  - Excise duty
  - Customs duty

Monetary policy

- Monetary policy is the manipulation of the rate of interest, the money supply and exchange rates to influence the level of economic activity.

<u>Policy goals</u>

- The primary target of monetary policy is to maintain a low rate of inflation
  - Target = 2% (CPI) +/- 1%
- Monetary policy in the UK has been delegated to the Bank of England (BoE), who have responsibility for setting interest rates (also known as the base rate) and controlling the money supply
- In recent times the Bank has also assumed a degree of responsibility for assisting in stimulating economic growth and employment

4.4.2 – Demand-side policies

How the monetary policy works

- The Bank, via the Monetary Policy Committee (MPC), meet every month to decide the level of interest rates and any other changes to policy strategy
- In order to make their decision the MPC consider a wide range of macroeconomic variables including GDP, unemployment, exchange rates, house prices, the level of investment by firms and GDP growth in other countries
- The main tool they have at their disposal is interest rates, although they may also use other tools to influence the money supply, such as quantitative easing
- In theory, if inflation remains around the target level of 2%, then this will give confidence to
  - Consumers – as regards to spending decisions
  - Firms – as regards to investment decisions
  - Workers – as regards to wage demands

Interest rates and the exchange rate

- It is important to understand the link between interest rates and exchange rates
- Global investors who have significant sums of money to deposit in banks will seek to place it in the country where they get the best return i.e. where the interest rate is highest
- If we assume that the UK has the same interest rates as the USA, then for that investor, the return is the same whether they deposit it in the UK or USA
- If the UK raises interest rates, then investors will move their money to the UK in order to get the best return
- This means they will have to sell their $s and buy £s to deposit in the UK
- This increased demand for UK pounds increases the exchange rate
- This then feeds through to exports, making them relatively less price competitive, and making imports more attractive
- This will have the effect of worsening the balance of payments on current account
- This process is sometimes referred to as Hot Money, as international funds move around the world chasing the best interest rates

The Monetary Policy Committee (MPC)

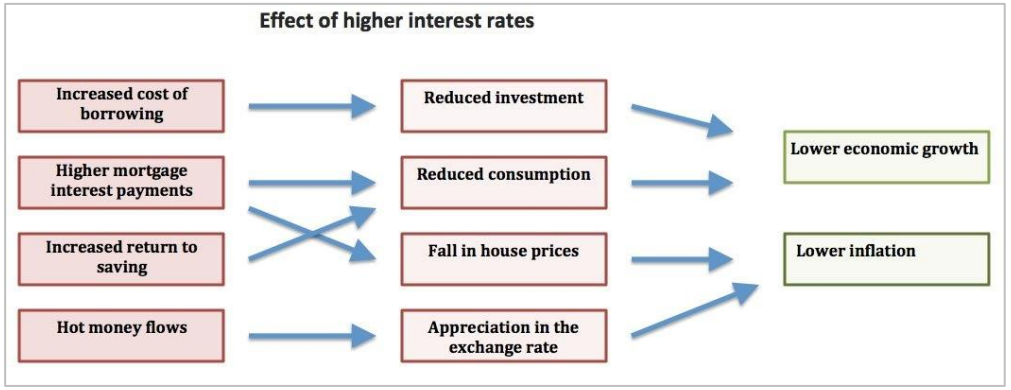
- Setting interest rates is the responsibility of the MPC
- MPC: 9 members (4 independent, 5 from within bank)
- Chaired by the Governor of the Bank of England Andrew Bailey
- The MPC meet monthly to assess the state of the economy and decide whether it is appropriate to increase, decrease or hold interest rates from their existing level
- It is independent from government, which should give it more credibility (free from political influence)

Interest rates

- Interest rates are best described as the "price of money"
- Interest rates are the cost of borrowing and the reward for saving

Effects of increase in interest rates

Personal	Economy
• Increased cost of borrowing • Improved return for savers • Higher mortgage interest payments • Increased cost of bank loans. • Banks may be more willing to lend. • Could reduce confidence of borrowers	• Currency will appreciate • making exports less competitive, imports cheaper • Inflation – will tend to be lower • Economic growth – will tend to be slower • Unemployment – could rise • Government will see rising borrowing costs



4.4.2 – Demand-side policies

Asset purchases to increase the money supply (quantitative easing – QE)

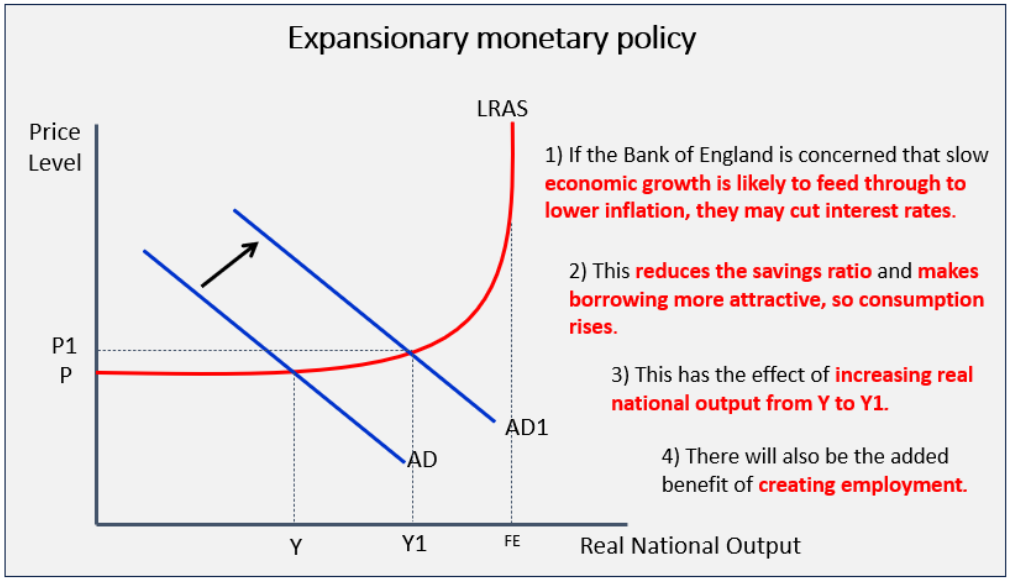
- When the recession began in the UK in 2008, the BoE would have been expected to cut interest rates in order to help stimulate economic activity
- However, with interest rates at 0.5%, they had very little downwards movement to manipulate the economy with
- In addition, banks were nervous about lending money to firms and individuals, so the BoE sought to boost the funds available for lending to businesses and firms
- In total, £375bn has been raised in QE
- How effective this has been is a matter of debate, but it could be argued that the recession may have been worse had the BoE not intervened in this manner

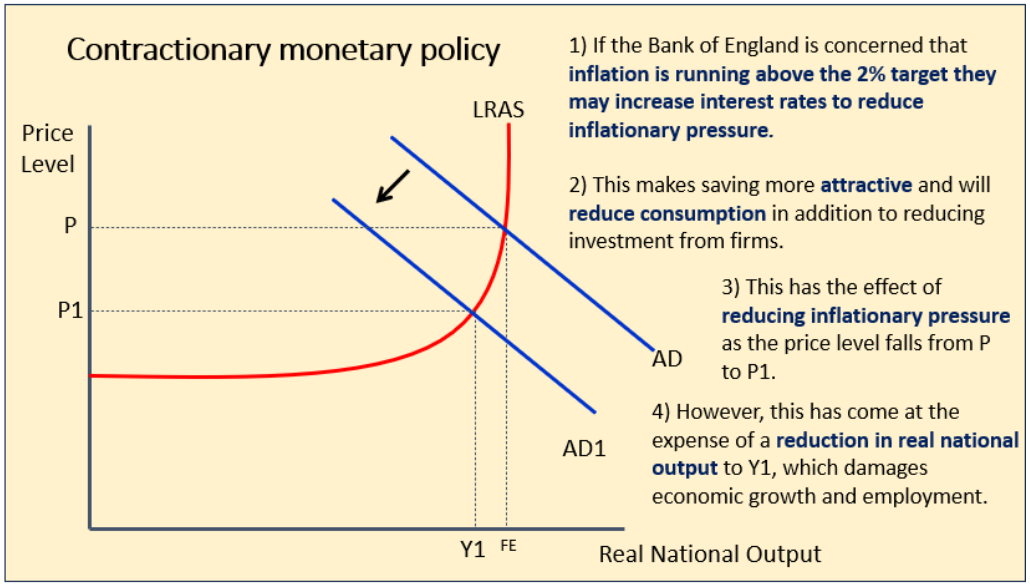
The impact of changing the level of AD on the economy as a whole

- Consumption
  - Low interest rates = less incentive to save, more incentive to borrow and therefore higher consumption
  - This affects general spending and consumer durables especially
  - Higher interest rates = vice versa
- Investment
  - Low interest rates = investment projects become less costly/more profitable thus more attractive, so investment should rise
  - High interest rates = vice versa
- Net Exports
  - Low interest rates = weaker £ as less attractive to currency investors
  - Weak £ = Stronger Exports, fewer Imports
  - High rates = vice versa

Diagrammatic representation of monetary policy

(The following diagrams serve to illustrate how monetary policy can be used to control inflation and unemployment)





4.4.2 – Demand-side policies

Strengths and weaknesses – is monetary policy effective?

- It depends on:
  - The size of the change in interest rates will vary the impact
  - Timing of rate changes
  - The size of the multiplier
  - The stage of the economic cycle the economy is at
  - Time – How long rate changes take to work
  - Primary target is control of inflation, but may conflict with other objectives
  - BoE might be hampered by poor/inaccurate data
  - Interest rates helps to solve demand-pull, but may be less effective with cost-push causes

Time lags involved

- Time lags occur where there is a delay between when a policy is implemented and its outcomes
- Policy decisions may take some time to have an effect for a number of reasons e.g. firms will wait to see the impact of government policy on the economy
- The Chancellor only announces policy decisions, through the budget, annually and the full effects of these might not be felt for several months or even years into the future

Trade-offs

- Demand-side policies have some built in trade-offs
  - E.g. 1
    - Expansionary policy → higher output + lower U
    - **BUT** at expense of high inflation
  - E.g. 2
    - Tight fiscal policy control inflation
    - **BUT** may increase U and damage GDP

Opportunity Cost	Trade-off
Is the cost of opting one course of action and foregoing another opportunity	Is the course of action given up to perform the preferred course of action

How investment, job creation and economic growth can be encouraged

- Demand-side policies encourage investment, job creation and economic growth:
  - Lower interest rates make it cheaper to borrow money and therefore finance expansion
    - At the same time firms interest payments are lower, making them more profitable. More retained profit is available for reinvestment
    - Government spending and lower taxes will lead to an increase in demand and greater confidence in the economy
    - This will lead to more firms investing for the future
  - As confidence in an economy grows firms prepare for the future, taking on more workers, thus creating jobs
    - In the long-run firms are more prepared to invest in projects
    - This leads to an increase in the productive capacity of the economy e.g. new factories and machinery
    - Therefore, we have economic growth

Links between objectives

- The achievement of one objective can often lead to other objectives being met.

<u>Example 1</u>

- If the government invests in education and training, this may result in more skilled workers who can be more productive and produce higher quality goods and services.
- These can then be exported potentially at more competitive prices, which may improve the balance of payments.
- As this is a component of aggregate demand, greater economic growth will occur, which may in turn create more jobs and lower unemployment.

<u>Example 2</u>

- If the Bank of England consistently meet its inflation target, this may give firms more confidence to invest.
- Higher capital spending will boost long term productive potential, again assisting unemployment and enhancing the competitiveness of UK exports and the balance of payments as a consequence.

4.4.2 – Demand-side policies

Possible conflicts

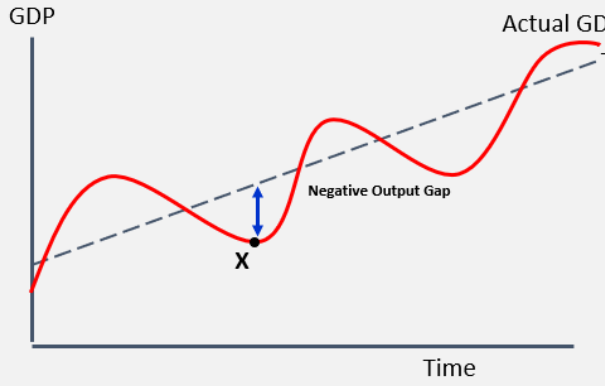
- In summary, there are a number of possible conflicts that arise through economic decision-making:
  - Unemployment v inflation – by creating unemployment e.g. through less government spending demand will fall leading to lower inflation
  - Economic growth v the balance of payments – a policy of growth e.g. expansionary fiscal policy will lead to higher employment and greater demand. Higher income will increase consumption, part of which will be spent on exports. This will lead to a deterioration in the balance of payments
  - Economic growth v inflation - a positive output gap will lead to increased demand and resultant inflationary pressures
- Therefore, policy decision- makers will have to bear in mind the side effects of any policy choices

Conflicts between fiscal policy and inflation targets

- The Government can increase government taxation in order to reduce demand in the economy, therefore reducing inflationary pressure
- In the short run this might have the opposite impact e.g. raising VAT on goods and services will see an initial increase in prices and therefore inflation
- However, in the long-run price rises will mean that there is likely to be a fall in demand for goods and services in general
- Hopefully, this will see a fall in the rate of inflation to justify the government's policy
- It will be difficult to measure the exact impact in the short-run and long-run as information is based on forecasts
- The government would be expected to prioritise the good of the economy in the long-run. However, short term decision-making might occur due to political pressures e.g. an upcoming general election

Negative output gaps: inflation and unemployment

A **negative output gap** occurs when actual output is below the trend rate. This indicates low demand so there will be a reduction in inflationary pressures. As a result of lower demand cyclical unemployment will occur.

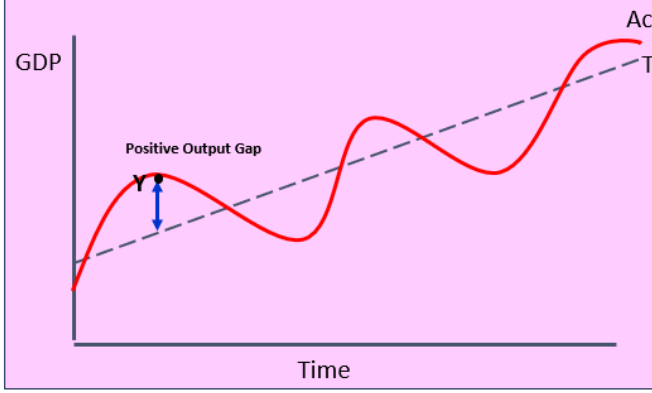


If the economy is in a recession and operating at Point X, firms do not need to employ as many workers because they do not need to produce as many goods because demand has fallen.

As the economy recovers and moves towards a positive output gap, cyclical unemployment will reduce.

Positive output gaps: inflation and unemployment

A **positive output gap** occurs when actual output is above the trend rate. This indicates high demand so there will be an increase in inflationary pressures. As a result of higher demand cyclical unemployment will fall.



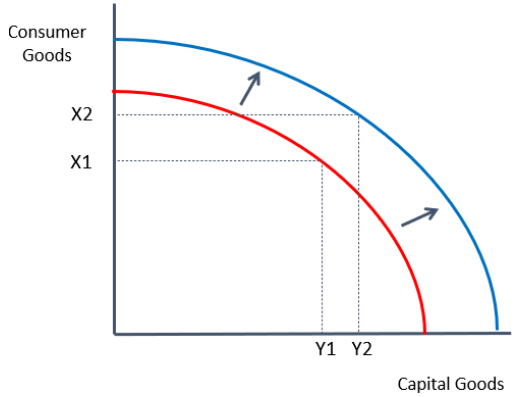
If the economy is in a boom and operating at Point Y, firms employ more workers to meet the increased demand.

Cyclical unemployment will have fallen and inflationary pressures will impact on the economy.

4.4.3 – Supply-side policies

Supply-side policy goals

- Supply-side policies are policies that seek to improve the long run productive potential of the economy.
- Goals:
  - These are policies to increase the country's long term growth potential
  - A successful supply side policy will shift a country's production possibility frontier to the right



Market-based vs Interventionist methods

- Supply side policies can be broadly split into two categories:
  - Market-based or free market supply-side policies are those which aim to make labour and product markets more flexible and efficient by reducing government involvement and interference
  - Interventionist supply-side policies are supported by those who believe the government has a key role to play in the efficient operation of markets

Supply-side policy options

Aim of Supply-side Policy	Market Based Approach	Interventionist Approach
To increase incentives	– Reducing **income/corporation tax** rates – Restructuring the **unemployment benefits** system to incentivise the unemployed to seek work	
To promote competition	– **Privatisation & deregulation** – **Trade liberalisation**	– Increased **government spending** on innovation – Direct support to firms (subsidies) promotes **international competitiveness**
To reform the labour market	– Decreasing **trade union power** so wages can be decreased – Decreasing **minimum wages** to lower costs of production	– Increased **government spending** on improving **occupational mobility**
To improve the skills and quality of the labour force		– Increasing government spending on **education** and retraining – Increasing government spending on **healthcare** so that productivity improves
To improve infrastructure		– Increased government spending on **infrastructure**

Zero-hour contracts

- Zero hour contracts means that workers are employed without any guarantee about the amount of work they will gain.
- Criticisms:
  - A worker may get a verbal promise of many hours, but then finds that they earn much less than they expected.
  - In practise, it is difficult to look for other jobs, whilst on a zero hour contract.
  - It makes it difficult to plan work and leisure because firms may call at the last minute.
  - It can lead to insufficient income, leaving workers struggling to pay bills.
  - Workers may prefer the security of a fixed income from benefits rather than the volatility of zero hour contracts.
- Benefits:
  - Enables people to work around childcare and other commitments, some workers may like the flexibility.
  - Helps firms become more competitive and hang on to workers, who otherwise would be made redundant.
  - The rise in UK unemployment since the start of recession of 2008 was relatively muted, zero hour contracts could be a reason. Since the end of the recession, unemployment has fallen quicker than in previous recessions. This fall in unemployment has corresponded with a rapid rise in zero-hour contracts.

4.4.3 – Supply-side policies

Reducing marginal tax rates

- **Marginal tax** is the percentage of tax paid on an additional £1 of earnings
- In a progressive tax regime, the marginal tax rate will increase as income increases

Band	Taxable income	Tax rate
Personal Allowance	Up to £12,570	0%
Basic rate	£12,571 - £50,270	20%
Higher rate	£50,271 - £150,000	40%
Additional rate	Over £150,000	45%

Microeconomic effects of supply-side policies

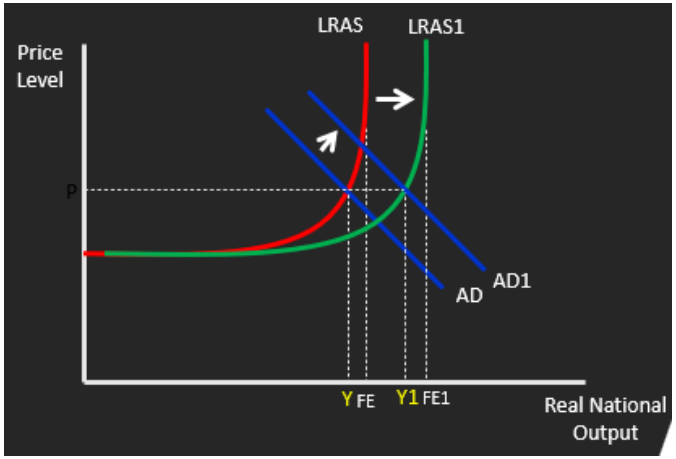
- If supply-side policies are effective, they can have a number of microeconomic benefits, such as:
  - Improved flexibility and strength of the labour market
  - Improved competitiveness within product markets
  - Higher levels of innovation within product markets
  - Greater efficiency and productivity of firms

Macroeconomic effects of supply-side policies

- If supply-side policies are effective, they can have several macroeconomic benefits, such as:
  - Lower rates of unemployment and a lower natural rate of unemployment
  - Improved international competitiveness
  - Higher rates of long-run economic growth leading to improved living standards
  - Greater flexibility within the economy to withstand economic shocks
  - Softer inflationary pressures as long-run aggregate supply reduces capacity constraints

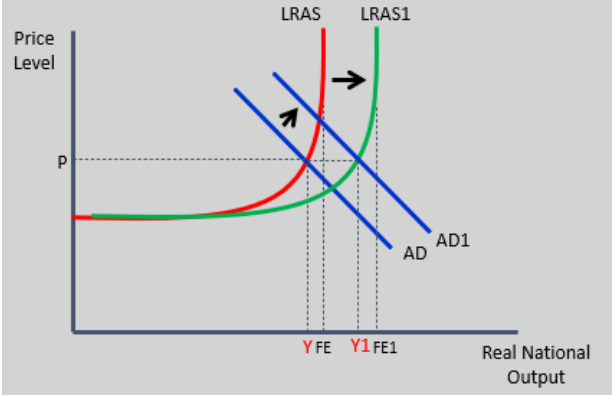
The supply-side effects of monetary policy

- Whilst monetary policy has numerous effects on AD, it can also influence LRAS.
- A cut in interest rates might stimulate businesses investment into capital process to improve their productivity and efficiency, which will shift LRAS to LRAS1.
- As Investment is a component of AD, AD will shift to AD1.
- Productive capacity has now increased to FE1 and increases in AD can feed through to higher growth and employment. In this example, there has been no change in the price level.



Expansionary Supply-Side Policy

- If the economy is running up against capacity constraints, the government might implement a supply-side policy.
- Investment, for example into training and education, should boost LRAS to LRAS1.
- This has a positive effect on inflation as the price level moves from P to P1.
- Economic growth has been enhanced to Y1, also creating employment. Productive potential has also increased to FE1.
- With a more highly skilled workforce, this may improve the competitiveness of UK exports in terms of both quantity and quality, which, all other things being equal, may improve the balance of payments on current account.



4.4.3 – Supply-side policies

Strengths of supply side policy

- Lower Inflation
  - Shifting AS to the right will cause a lower price level. By making the economy more efficient, supply-side policies will help reduce cost-push inflation. For example, if privatisation leads to more efficiency it can lead to lower prices.
- Lower Unemployment
  - Supply-side policies can contribute to reducing structural, frictional and real wage unemployment and therefore help reduce the natural rate of unemployment.
- Improved economic growth
  - Supply-side policies will increase the sustainable rate of economic growth by increasing LRAS; this enables a higher rate of economic growth without causing inflation.
- Improved trade and Balance of Payments.
  - By making firms more productive and competitive, they will be able to export more. This is important in light of the increased competition from an increasingly globalised marketplace.

Weaknesses of supply side policy

- Time Lags
  - Many policies have significant time lags in terms of effectiveness
  - Training and education may take several years for its full effects to be felt
- Cost
  - y be expensive to implement e.g. HS2 is estimated to cost at least £42bn
- Policies of competing nations
  - Our main competitors e.g. Germany, USA, China will also be introducing their own supply-side policies
  - If their policies are more effective than ours, then the anticipated gains in international trade may not occur
- Likelihood of government failure?
  - Do governments spend wisely and efficiently on projects?
  - There are a number of cases of poorly administered government supply-side polices which have not had the desired outcome

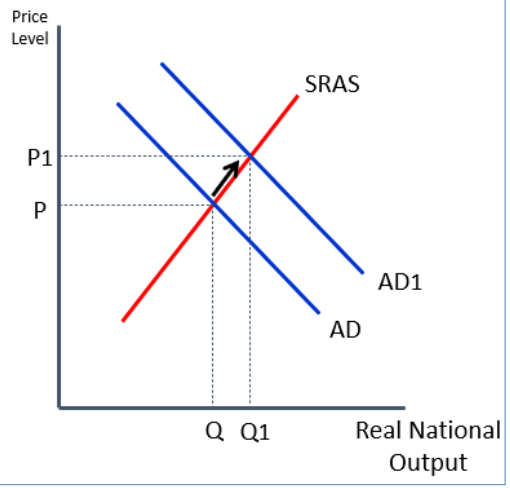
Macroeconomic policy conflicts

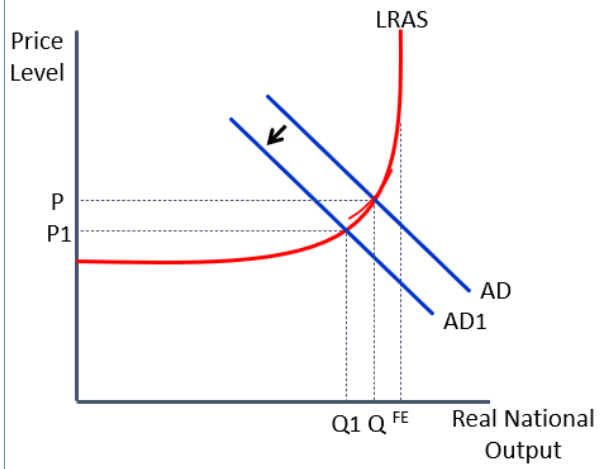
1) Consider a government wishes to **lower unemployment**.

2) It may **increase Government spending** to achieve this, so **AD shifts to the right to AD1**.

3) This has the effect of **increasing real national output** and **creating jobs** as the economy moves along the SRAS curve.

4) However, this has been at the **expense of a rise in the price level from P to P1**.





1) Imagine the economy is in **equilibrium at PQ**, and the government is concerned about **inflation**.

2) It may **increase taxes** in order to **reduce consumption**.

3) As a result, AD will **shift to the left**.

4) This will be effective in **reducing inflationary pressure** as the **price level falls from P to P1**.

5) As consumers have reduced disposable income, they may **spend less on imports, so improving the balance of payments**.

6) However, as **AD falls so does real national output and economic growth**. It is also likely that with lower AD, **unemployment would rise**.

4.4.3 – Supply-side policies

So, which objective?

- The achievement of one objective may also help to meet additional objectives
- However, the objectives also inherently conflict, so progress towards one, may hamper the progress towards others
- As a consequence, governments have to prioritise which objective they consider to be the most important

Policy conflicts and trade offs: Economic growth and negative externalities

- Negative externalities
  - The costs and benefits to a third party created by economic agents when undertaking their activities e.g. pollution
- Long term impact on the environment e.g. global warming
- Overuse of scarce resources
- Potential increase in the consumption of demerit goods
- Income and wealth inequality
- Work-life balance
- What is the opportunity cost of growth?

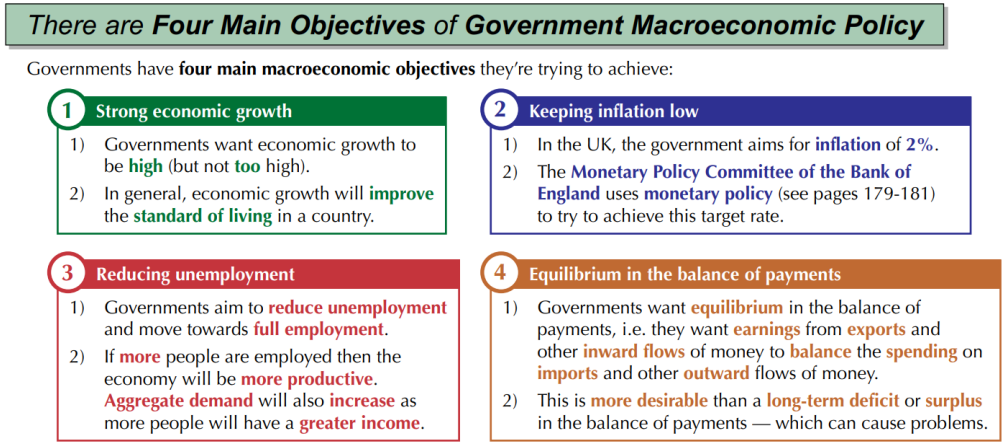
Policy conflicts and trade offs: Conflicts between fiscal and supply-side policies

- The Government can increase government spending in order to pay for merit goods in areas such as education and health. This can impact on private sector supply
- The crowding-out of the private sector as:
  - Public sector spending takes the place of the private sector
  - Public sector borrowing reduces the supply of funds available to the private sector, pushing up interest rates
- Bottlenecks occur in the production process as firms cannot cope with the increased demand brought about by government expenditure, effectively slowing down supply
- Nevertheless, spending in areas such as education are likely to boost the productive potential of the economy in the long run as the LRAS curve shifts to the right

4.4.4 – The impact of macroeconomic policies

The main macroeconomic objectives

- Macroeconomic policy aims to control the level of activity in the economy so that the standard of living improves, and stability is maintained.
    - The economy is made up of countless individual and group decisions and predicting its behaviour is, at best, an inexact science.
    - Nevertheless, all governments attempt to control the economy in order to achieve desirable objectives or prevent undesirable outcomes.
    - They use a range of macroeconomic policies to achieve their objectives.
- The current account is the sum of the balance of trade (goods and services exported less than the value of all imports), net income from abroad and net current assets.



Alternative approaches – Neo-classical economists

- Neo-classical economists believe that the focus of economic policy should be based on demand and supply, with both individuals and firms behaving rationally to maximise utility and profits
- The emphasis is on supply-side economics with little room for fiscal policy to control the economy
- The government should focus on reducing borrowing and balancing the budget as could be seen under George Osborne
- In particular, there should be an emphasis on free markets and wage flexibility
- This might include reducing the power of trade unions, making it easier to bid wages down

Alternative approaches – Classical economists

- Classical economists believed in a laissez faire approach to the economy with little government involvement
- In the long-run aggregate supply is inelastic and the economy operates at full employment. Increases in aggregate demand cause inflation
- Unemployment is caused by supply-side factors and policies should target these e.g. real wage growth
- When demand for labour falls wages will be bid down and the market will clear
- At lower wages demand for labour will increase and the labour market will operate efficiently with no interference e.g. trade unions

Alternative approaches – Keynesian economists

- Keynesian economists believe that in the long run the economy can operate below full employment
- In this situation the government should boost aggregate demand to increase economic welfare
- Unemployment is caused by a deficiency in demand
- When demand for labour falls markets do not operate efficiently and wages are 'sticky' with workers resisting wage cuts e.g. through trade union power
- If the government managed to force wages down this would impact negatively on the economy as aggregate demand would fall even further
- Keynesians believe that individuals and firms do not always behave rationally. This branch of economics has gained momentum in recent years through behavioural economics
- Keynesians would look to increase aggregate demand when the economy has a negative output gap and operates below the trend rate of economic growth
- This is particularly the case during recession, where fiscal policy should be used to increase AD
- When the economy has a positive output gap the government would pay back its borrowing
- Demand-side policies should be used in conjunction with supply-side polices which, on their own, are not enough to deal with demand deficient unemployment in times of recession

4.4.4 – The impact of macroeconomic policies

A balanced government budget

- A balanced government budget is one where government revenue is equal to government expenditure
- This means that there is not:
  - A budget surplus, where revenue is greater than expenditure
  - A budget deficit, where expenditure is greater than revenue
- Under George Osborne a priority of the Government had been to create a budget surplus

Protection of the environment

- Global warming and climate change have been on the political agenda for some time now
- Government will look to develop a sustainable future, particularly for our energy needs
- This might involve supporting businesses through the form of investment grants

Greater income equality

- Extreme income inequality is generally regarded as socially unacceptable
- As a society people believe that all citizens should be able to access fair wages for a fair day's work
- Many studies suggest that increasing income equality will lead to higher levels of economic growth, better living standards for all and a happier society overall

How successful are macroeconomic objectives

- Criteria for success might include:
  - Meeting the inflation target of 2% +/- 1% over a period of time. This provides the economy with stability so that individuals, firms and government can undertake decision-making with greater confidence
  - Having low unemployment close to 5%. Too low and there is a threat of a boom and inflationary pressure. This would lead to the economy becoming less competitive
  - Having a healthy rate of economic growth close to the trend rate. A sustainable rate might be between 2-3%. If above 4% it suggests that there is an asset bubble with speculation leading to dramatic increases in prices. A big boom tends to lead to a big bust!
  - Movement towards a balance of payments surplus. A persistent balance of payments deficit means that the economy as a whole might lack competitiveness as imports consistently exceed exports

4.5.1 – Risks and uncertainty

Risk and uncertainty

- Both risk and uncertainty deal with unknowns
- Risks
  - It is possible to add a probability to quantify the degree of risk
  - It is measurable
- Uncertainties
  - It is not possible to add a quantifiable probability as the outcome is too unpredictable
  - It is not measurable
- Economic decision making involves both risk and uncertainties

Examples of risk

- An entrepreneur takes a risk when setting up in business
  - May have given up paid employment
  - Investing personal savings into a venture that may not work
  - Personal esteem and reputation
  - Family home and possessions may be at risk
- A financial institution when lending money
  - Will it be paid back?
  - Is it secured against an asset?
  - What will happen if the business fails?
- A supplier providing goods or services on credit i.e. supply now but give the customer time to pay
  - Will the supplier get paid?
  - If not how much have they lost?
  - How serious will this loss be to their own business?

The role of insurance in business

- Insurance is a contract between two parties that looks to provide financial protection against losses incurred by a business
- The price of insurance will depend upon the risk involved
- The premium is the price of the insurance; the payout is the cost to the insurer if they have to honour the contract
- Insurance can protect a business from severe losses and provide confidence to invest time and money into the business
- There are a variety of insurance policies e.g. liability insurance in case your business has caused injury to a person or damage to a property

The impact of shocks

- A shock is an unpredictable event that has impacted on the economy
- Economic theory could not have been used to predict the shock
- Therefore, it can have a significant impact on individuals, firms and governments
- A supply-side shock will impact on the provision of a good or service and will effect price
- The global economy faces supply-side shocks, particularly in the form of food and commodities
  - Between 2005 and 2008 the prices of certain staple foods, including rice and wheat, tripled
  - In the second half of 2014 a range of global commodity prices fell significantly on global markets
- A demand-side shock will impact on the consumption of a good or service and will effect price
- Demand-side shocks often occur when there is negative news from a major economy
  - In 2008 a range of negative factors led to a decrease in consumer spending in the US economy

Exchange rate risks and forward markets

- A forward market is one that allows economic agents to set the price of an asset today for delivery in the future
- Forward markets can be used to limit exchange rate risks
- These occur as exchange rates are dynamic i.e. constantly moving
- Firms that complete a transaction today might actually settle i.e. pay for the product at a later date
- If the exchange rate changes adversely this would impact on profits
- Firms will remove this risk by agreeing a fixed price that they will pay at a future date when the transaction will be settled
  - For example, a firm might import a tonne of wheat from the US at a price of $1000. The exchange rate is currently £1=$1. So this would cost £1000. However, this will be paid for, in dollars, in three months time. If the exchange rate was to move adversely e.g. £1= $0.8 the firm would have to pay £1250 for the same transaction
- To negate this risk the firm can set an agreed price in the forward market so that they know today what price they will have to pay in three months time

4.5.2 – The role of the financial sector

The role of the financial sector

- To mobilise savings for lending to firms and individuals
- To lend to business for investment in working capital
- To lend to individuals
- To facilitate the exchange of goods and services
- To assess creditor risk
- To provide forward markets in currencies and commodities
- To provide a market for equities

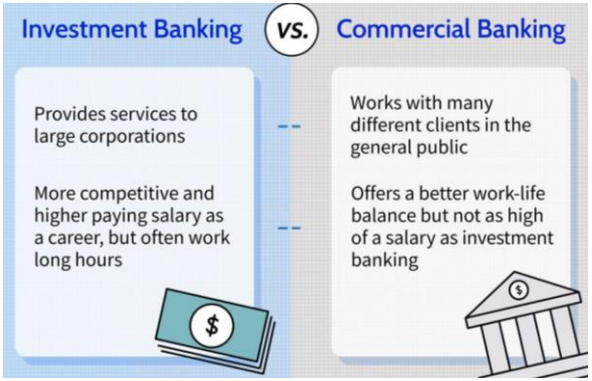
Financial markets

- A financial market is a one where buyers and sellers exchange financial assets (securities) such as shares (equities), currency or bonds
- Market forces determine the price of the financial assets being traded
- Financial markets are regulated in a number of ways
- Financial markets take many forms, including:
- Capital markets e.g. stocks (shares) and bonds
- Foreign exchange markets
- Other markets include derivatives, spot and money markets

To mobilise savings for lending to firms and individuals

Commercial Banks

- These are known as high street or retail banks e.g. Barclays, HSBC & NatWest
- Their main customers are members of the general public
- They have 3 core functions:
    1. Accepting deposits in order provide security and to facilitate saving
    2. Lending money to different economic agents who wish to borrow
    3. Providing an efficient means of payment and transferring funds between different economic agents
- They also provide some other services to customers such as: foreign exchange, insurance and brokerage services
- They typically have extensive branch networks, although in the modern economy many banking services are available online and through mobile technology
- Commercial banks are in business to make profit for their shareholders through the provision of banking services to their customers



To mobilise savings for lending to firms and individuals

Investment Banks

- Unlike commercial banks they do not directly serve households
- The key function of investment banks is to help companies, the government and other financial institutions e.g. insurance companies and pension funds raise finance by giving advice, arranging the new issues of shares or corporate bonds and helping them to manage the risk in doing so
- Some banks carry out both commercial and investment banking activities
- Provide advice and support for firms seeking a merger or takeover in terms of price, timing and strategy
- Provide advice and support to the government if it wishes to privatise a public sector enterprise. For example Goldman Sachs, Barclays, Bank of America Merill Lynch and UBS were appointed to lead the sale of the Royal Mail in 2013
- These services command large fees, and often they will guarantee to purchase any unsold shares in a stock market flotation to remove uncertainty and risk for the client
- Often involved with buying and selling corporate and government bonds and other financial instruments on behalf of their clients, but also for themselves
- Some investment banks are involved with foreign exchange and commodity trading in the secondary market
- However, whilst important to the efficient operation of global capital finance and providing important services to multinational corporations and governments, a number of their activities are inherently risky, which has led to recent changes in regulation of commercial and investment banking activities and problems of systemic risk as investment banks were criticised for excessive risk-taking and their contribution to global financial instability

4.5.2 – The role of the financial sector

To mobilise savings for lending to firms and individuals

Sources of lending

- Issuing corporate bonds
  - A corporate bond is a loan made to a company for a fixed period by an investor, for which they receive a defined return
  - Investors usually receive annual payments for their cash, usually expressed as a percentage, as well as receiving the principal sum back at the end of the term
  - Corporate bonds, once issued, can then be traded on secondary markets
- Bank borrowing
  - Perhaps the most traditional source of funds for a firm, a loan can be taken from a commercial bank and repaid with interest over a pre determined time period
  - It is likely that the loan will be secured against some of the assets of the firm, which the bank will have a claim to in the event of default

To assess creditor risk

- Financial markets assess whether individuals and firms are creditworthy
- Lending money is risky
- The higher the degree of risk the higher the interest rate is likely to be
- The borrower might default on payments of a loan and this will impact negatively on the lender and the financial sector as a whole
- There are a number of businesses that provide information on borrowers using sophisticated programmes that gather financial data about individuals and firms
- Firms will use credit checks through these firms and create their own credit scorecards assessing the suitability of a borrower for a loan or other financial product

To facilitate the exchange of goods and services

- Financial markets make it easy for individuals and firms to store and access money
- They act as a financial intermediary that facilitate the exchange of goods and services as they provide the channel through which payment can be made
- This might be in providing cash, debit and credit cards, online transactions etc. that make it quick and easy to exchange goods and services
- Financial institutions underpin the financial markets because they provide security for both buyer and seller and confidence that transactions will be undertaken successfully
- This facilitates product markets, making it easy to exchange goods and services

To provide a market for equities

Financial markets help in issuing shares (equities)	They provide a market for buying and selling shares
• These are shares sold by a company in return for a stake in the future profits of the firm • They can be issued by private (LTDs) or public limited companies (PLCs), but only shares issued by PLCs can be traded on the stock exchange • Issuing shares is a good way to raise large amounts of financial capital	• New issue and secondary markets provide businesses looking for finance an opportunity to be matched with investors seeking a return • Financial institutions must create a market for buying and selling shares. This means that they must hold an adequate supply of shares • If they start to run out of shares the share price is bid up to ensure that there are enough shares available in the market • If any of these markets become inefficient or cease to function as effectively as they might it can have large consequences on individuals, firms and governments

To provide forward markets in currencies and commodities

- A forward market is one that allows economic agents to set the price of an asset today for delivery in the future
- The agreement undertaken is called a forward contract
- Unlike futures contracts these are not traded on exchanges and are settled on delivery of the asset
- Futures contracts are undertaken to hedge against adverse movements in exchange rates or commodity prices
- The contracts are customised to individual firms and ensure price stability e.g. the food industry can guarantee the delivery price for food items allowing it to set prices for the future
- The forwards market is an enormous industry and is particularly used by firms that import/export and those that deal in commodities, with its volatile prices

4.5.2 – The role of the financial sector

Financial markets and the wider economy

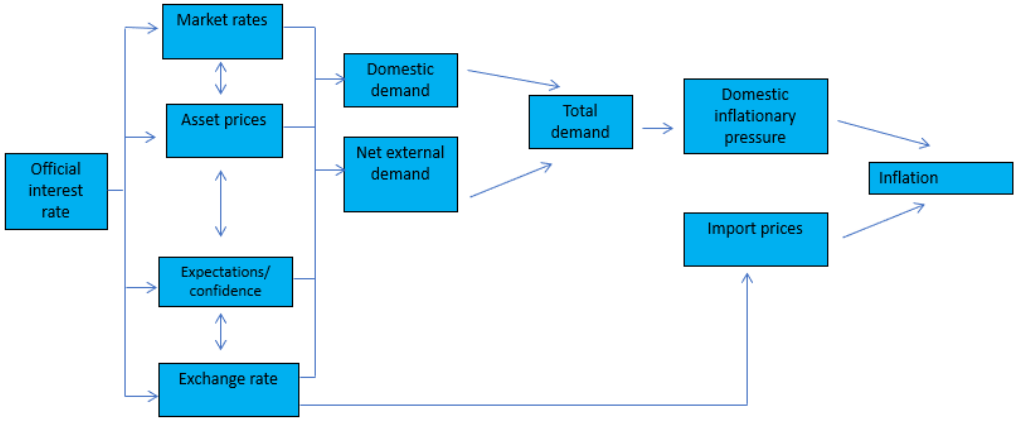
- The overall structure of financial markets and financial assets can have a significant bearing on the performance of the wider economy
- The money supply, and its control, has an impact on the rate of inflation
- Money, capital and foreign exchange markets provide individuals, businesses and governments with vital means of raising finance and trading internationally
- Financial markets enable firms to raise money for investment via both debt and equity measures which can offer a balance between different financial instruments

4.5.3 – The role of the central bank

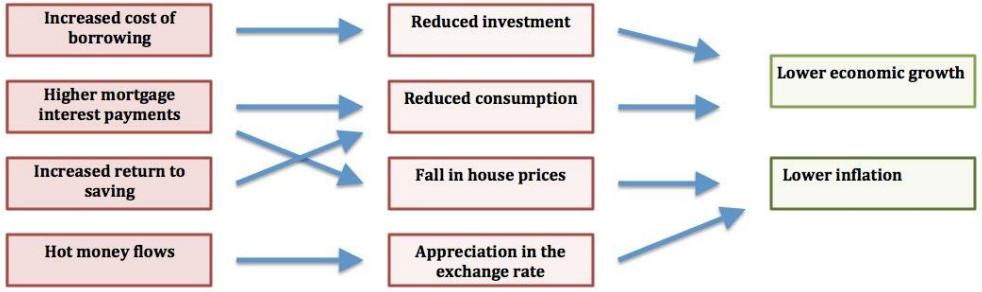
How the MPC set the official interest (base) rate

- The base rate is the rate of interest at which commercial banks borrow from the Bank of England
- This rate therefore impacts on the rate of interest that commercial banks will charge to individuals and firms
- The MPC meet on a monthly basis and vote on whether to maintain, increase or reduce the base rate
- They use the base rate to help target an inflation rate of 2% +/-1%
- There are 9 members of the MPC; each has a team of economists researching the economy
- They use inflation forecasts to vote on interest rates each month

Implementation of monetary policy to control inflation



Effect of higher interest rates



The main functions of a central bank

In the UK, the central bank is the Bank of England. It has two core functions:

- Maintain financial stability in the monetary system: banker to the banks
  - This is achieved by the central bank acting as lender of last resort, which means that if commercial banks suffer a shortfall of cash or become illiquid in the short term, they can always borrow from the BoE
  - Whilst expensive this function is vital in maintaining liquidity and confidence in the financial system and ensuring depositors are protected and systemic risk is minimised
- Help the government maintain macroeconomic stability
  - The primary remit of the BoE is to deliver price stability i.e. low inflation, and meet the governments inflation target of 2%. Decisions to achieve this objective are taken by the Monetary Policy Committee (MPC) via setting interest rates
  - It also aims to support the governments wider macroeconomic objectives to help create the right conditions for economic growth and low unemployment

Additional functions of a central bank

- The central bank carries out a number of other important functions that help to support its two core functions:
  - Controlling the issue of notes and coins
  - Acting as the bankers' bank
  - Acting as the Government's bank
  - Buying and selling currency to influence the exchange rate
  - Liaising with overseas central banks and international organisations
- In the wake of the financial crisis of 2008, the BoE has some further responsibilities:
  - To promote the safety and soundness of individual financial firms
  - To protect and enhance the resilience of the financial system as a whole to prevent future financial crises, or reduce their frequency and severity

4.5.3 – The role of the central bank

The BoE and the money supply

- Whilst the central bank has a number of functions and objectives, it does *NOT* target the rate of growth of the money supply specifically
- That said, the rate of growth of the money supply and credit has an important bearing on the current and future growth rate of the economy
- The central bank will typically affect the money supply by influencing broad money rather than narrow money i.e. notes and coins and does this in three key ways
  - The BoE agrees reserve requirements individually with each bank. Higher reserves will contract the money supply and vice versa
  - The BoE is involved in open market operations i.e. the purchase and sale of bonds and other instruments which feeds through to bond prices, yields and bank lending
  - It alters interest rates at which it lends funds to banks, which again feeds through to bank lending
- If the money supply increases quickly, or credit is too freely available, inflationary pressure is likely to accumulate quickly and lead to speculative bubbles in asset prices e.g. housing
- Conversely, contractions in the money supply or the availability of credit can stifle economic growth as economic agents find it harder to obtain finance at an affordable rate, leading to falling aggregate demand and weaker economic growth

Regulation in the UK

- Financial regulation is the laws and rules that govern what financial institutions such as banks, brokers and investment companies can do
- These rules are designed to protect investors, maintain orderly markets and promote financial stability
- Before we look at the current regulatory framework in operation, here is a brief history of financial regulation in the UK
  - 1985 – Securities and Investment Board (SIB) established with the aim of preventing fraud and insider dealing, the SIB was largely self-regulatory
  - 1997 – The functions of the SIB were transferred to the Financial Services Authority (FSA) which became an external regulator with a broader range of powers although its statutory powers weren't established until the Financial Services and Markets Act in 2000
  - 2013 – Following the financial crises of 2008 and the partial failure of the FSA, the FSA is abolished and replaced with the Prudential Regulation Authority (PRA) and the Financial Policy Committee (FPC), as well as establishing the Financial Conduct Authority (FCA)

The BoE and the money supply – Diagrams

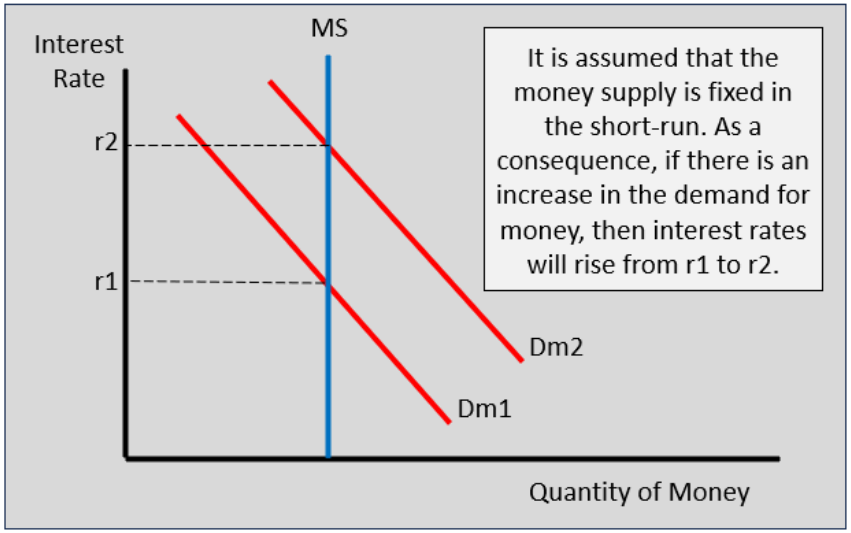
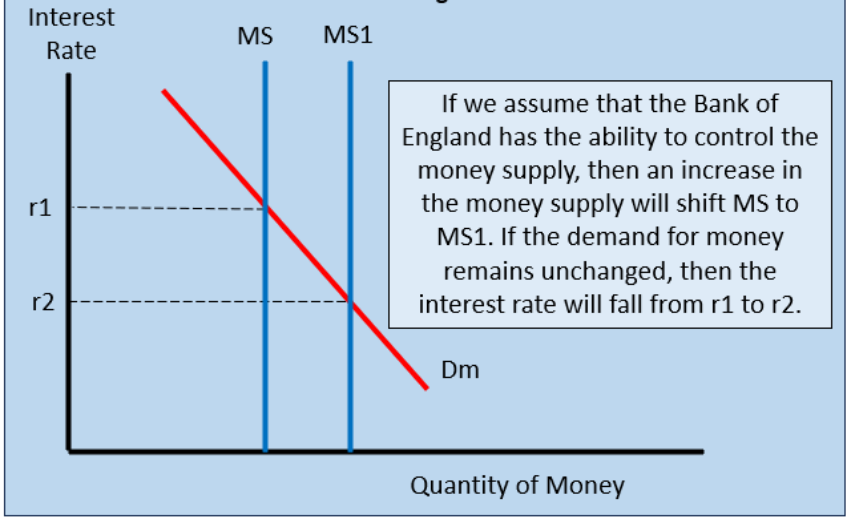


Diagram to illustrate how a contraction in the money supply would have the effect of increasing interest rates.



4.5.3 – The role of the central bank

Prudential Regulation Authority (PRA)

- The PRA was created as a part of the Bank of England by the Financial Services Act 2012 and is responsible for the prudential regulation and supervision of around 1,700 banks, building societies, credit unions, insurers and major investment firms
- The PRA ensures banks hold enough capital and liquidity to withstand shocks without the need for central bank or government intervention
- The PRA ultimately sets standards that banks have to meet and assesses risks that each firm has and seeks to ensure these are minimised so that if an individual firm does fail it avoids the significant disruption to the wider financial services system

Financial Conduct Authority (FCA)

- The FCA is a body which aims to improve the workings of financial markets and ensure consumers get a fair deal. In essence, to act as a consumer champion
- This involves ensuring that consumers are protected, the integrity of the financial system is enhanced and there is effective competition in the financial marketplace
- For example, the FCA can oversee the design of financial products, ban certain products if necessary or have them withdrawn from the market, ensure firms cannot exploit difficulties consumers have with complex financial products and change misleading promotions

Why banks might fail

- Despite wide-ranging regulation of the financial services industry and financial markets, it is still possible for banks to fail. The primary reasons for this are:
  - It suffers a fall in the value of assets so that its capital liabilities supporting them are unmatched. If a bank does not have enough capital to support its assets, the bank is insolvent
  - It does not have sufficient liquidity to meet the demands of its depositors. This can occur even if assets are greater than liabilities

Financial Policy Committee (FPC)

- The FPC is charged with a primary objective of identifying, monitoring and taking action to remove or reduce systemic risks with a view to protecting and enhancing the resilience of the UK financial system
- The FPC has a secondary objective to support the economic policy of the Government
- In other words, the FPC takes a macro over-sight of the financial system, rather than a micro overview, which is covered by the PRA
- For example, in 2013 the FPC recommended regular stress-testing of the UK banking system to continually assess the resilience of UK banks under deteriorating global economic conditions

Forward guidance

- Forward guidance is the use of communication about future central bank actions to influence present behaviour
- As governor of the Bank of England, Mark Carney has sought to provide verbal assurances to the public about its intended monetary policies
- The aim of Forward Guidance is to influence the financial decisions of households and firms by letting them know what to expect from interest rates, so as to prevent surprises, reduce speculation in financial markets and improve confidence in the economy
- In August 2013, the BoE made the following Forward Guidance statement
  - "…the MPC intends not to raise Bank Rate from its current level of 0.5% at least until the Labour Force Survey headline measure of the unemployment rate has fallen to a threshold of 7%"
- However, by February 2014 unemployment had fallen to 7.1%, which meant Forward Guidance had to evolve
- As a result, Forward Guidance has been criticised as a monetary policy tool because it showed that the BoE's predictions were inaccurate, which can damage the credibility of the central bank because Forward Guidance had to be altered only 6 months after implementation
- Currently, the only Forward Guidance states that *"…increases in interest rates are likely to be gradual and limited"*

4.5.3 – The role of the central bank

The bank rate and monetary policy objectives

- The MPC can use changes in the bank rate to try to achieve the objectives of monetary policy including the government's target rate of inflation
- For example, a *reduction* in the central bank interest rate should
  - Increase household consumption by discouraging saving, reducing the cost of borrowing, helping to increase asset prices giving a wealth effect to households and boosting overall confidence thus stimulating economic growth
  - Increased investment through lower borrowing costs for firms which helps improve confidence meaning that capital projects can add to the productive potential and total capacity of the economy in the long run
  - Improve demand for exports through a weaker currency which will improve the price competitiveness of UK exports and give a boost to the balance of payments on current account
- Conversely, an increase in the bank rate should help to stifle inflationary pressure but comes at a potential cost of hampering economic growth and employment, and harming UK exporters via a less competitive currency

4.5.4 – The global financial crisis

Liquidity ratios

- Banks typically fail through a lack of either liquidity or sufficient capital or both
- Liquidity ratios measure a company's liquid assets against its short-term liabilities and as such are a gauge of a banks ability to meet its short-term liabilities
- In general, the more liquid assets you have to cover short-term liabilities, the more likely it is that you'll be able to pay debts as they become due without running out of funds to support ongoing operations
- Banks with low liquidity ratios have a higher risk of encountering difficulty in meeting obligations
- If a bank does not hold sufficient cash or enough assets that can easily be turned into cash, depositors may lose confidence in the bank for fear of it becoming insolvent, which can lead to a run on the bank

Capital ratios

- Banks typically fail through a lack of either liquidity or sufficient capital or both
- Capital in a financial sense is best thought of as the difference between a banks assets and its liabilities, in other words its net worth to shareholders who have a stake in the bank
- A capital ratio is the amount of capital on a banks balance sheet as a proportion of its loans
- A bank with a low capital ratio can be potentially exposed if the quality of its assets falls
- For example, if a bank lends money to a number of customers who fail to repay, the value of these advances as assets to the bank reduces
- If this reduces below the level of its liabilities, the bank is insolvent and may fail without intervention
- The extensive growth of credit through the early 2000s meant that banks were able to expand their assets significantly. However, many of these "assets" have transpired to be very poor as banks chased more lucrative business and credit standards were compromised. For many banks this led to the capital ratios becoming severely weakened
- As a consequence, in 2013 the PRA set out its expectation that Tier 1 capital ratios of the largest 8 banks in the UK cannot fall below 7%

Sub-prime mortgages

- Sub-prime mortgages are ones that have been sold to individuals with poor credit records
- As the loans are riskier the rate of interest is generally higher
- Financial institutions targeted the subprime market leading up to the global financial crisis
- This was partly as the returns were higher
- Whilst the labour market and the general economy were doing well this didn't have a significant impact
- However, once the economy weakened many of these individuals lost their jobs
- They defaulted on their mortgages and financial institutions started to have liquidity problems
- This led to the 'Credit Crunch' further impacting on the economy as the financial institutions could no longer finance lending

Moral hazard

- Moral hazard can be defined as:
  - *"any situation in which one person makes the decision about how much risk to take, while someone else bears the cost if things go badly."*
- This is most often applied to the insurance industry.
  - For example, if you had no car insurance, you might be more eager to drive more safely and ensure it was locked and parked safely as the cost to you of an accident or theft is so large.
  - However, if you are fully insured, you might behave in a more reckless or careless way because the financial risk of accident or theft is borne by somebody else i.e. the insurer
- Moral hazard can be equally applied to financial markets during the crises of 2008
  - Because of the importance of banks to individuals and firms, an individual banks failure can be devastating to those customers involved.
  - However, if the bank knows that either the Bank of England in its capacity as lender of last resort or Government will intervene and save the bank from collapse they may change their behaviour and engage in more risky, but profitable, activities or advance loans to customers with poor credit history
- The existence of moral hazard and a weak regulatory framework was one of the underlying causes of the sub-prime mortgage crises which triggered the financial crises of 2008

4.5.4 – The global financial crisis

Collapse of lending to businesses

- Poor lending decisions by financial institutions led to a lack of funds for businesses to borrow
- In the UK banks stopped lending to each other and the UK Government had to bail out RBS and Lloyds; Northern Rock was nationalised
- A shortage of capital meant that businesses found it difficult to obtain loans and where they could the interest rate was increased
- Demand in the economy fell at the very time businesses needed liquidity
- The collapse in lending helped exacerbate the situation and the UK fell into a severe recession
- The effects of this still reverberate around the global economy

The role of organizational culture

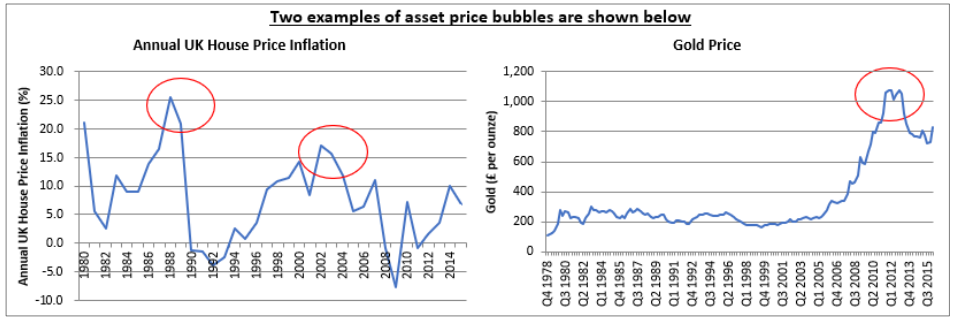
- Organisational culture is the values and standards shared by people and groups within an organisation
- These will impact on the way that people within the organisation interact with each other and with other stakeholders
- The culture of a business affects the way in which the business operates. This includes:
  - Decision making
  - Organisational structure
  - Communication
  - Leadership styles
  - Attitude towards work
  - Workforce performance

Financial institutions and organizational culture

- In many financial institutions in the run up to the financial crisis the culture was one of risk taking
- Firms were seen as short-termist, looking to make large sums of money in the short run rather than investing for the long term
- Employees such as traders were encouraged to risk clients' money with the incentive of huge bonuses
- If the 'gamble' failed then the worst that could happen to an employee is the loss of their job due to poor performance. The financial gains were enormous
- This led to risk taking in terms of the quality of financial decisions being undertaken e.g. investing in subprime mortgages
- With little regulation stopping them, bankers had free rein to proceed with their risky investments
- Clearly, moral hazard operated in these industries

Speculation and market bubbles

- Asset price bubbles are difficult to define precisely, but it typically means that the price of an asset, usually property, stocks or gold, has deviated significantly from its intrinsic value and prices rise very quickly in the short term. However, some bubbles may take longer to develop
- The causes of such price bubbles are disputed amongst economists, but they are typically unsustainable in the long run
- At a certain price, which is very difficult to predict with any accuracy, the 'bubble bursts' as prices move down to reflect more accurately their underlying economic value
- However, when asset price bubbles burst, it often brings with them a fall in confidence and a negative impact on the economic cycle, which may be quite sharp and pronounced



- Speculation is the act of trading in an asset, or conducting a financial transaction, that has a significant risk of losing most or all of the initial outlay. This is in expectation of a substantial gain with the primary motive to take advantage of fluctuations in the market
- With speculation, the risk of loss is more than offset by the possibility of a huge gain; otherwise, there would be very little motivation to speculate
- While it is often confused with gambling, the key difference is that speculation is generally tantamount to taking a calculated risk and is not dependent on pure chance, whereas gambling depends on totally random outcomes or chance
- Stocks and currencies are the most common assets upon which investors speculate, and this can drive sharp movements in the price of stock, the value of an asset or the price of a currency in the short run if investors believe that a stock, asset or currency is significantly under or over valued
- Speculation can therefore exacerbate booms and busts in an economic cycle and is often linked to asset price bubbles and bursts

4.5.4 – The global financial crisis

Systematic risk

- Systemic risk refers to the risk of a breakdown of an entire financial system rather than simply the failure of individual parts within the system
- Systemic risk can be exacerbated by:
  - Insufficient separation between a banks commercial and investment banking activities
    - The Vickers Report 2011 recommends that the core functions of the commercial arm of a bank are ring-fenced from its riskier investment banking activities. These firewalls must be in place by 2019 to reduce systemic risk
  - The growth of the shadow banking system
    - Shadow banking is a term used to describe borrowing and lending outside the regulated banking sector e.g. hedge funds, private equity funds, crowdfunding, derivatives trading
    - However, none of these activities are regulated and because of the interconnectedness of financial markets there is concern that if a shadow bank fails, it can bring down a "safe" bank
    - These shadow markets have expanded in recent years and have increased systemic risk in the system

The impact of the financial sector on economic agents and governments

- As we can see, the overall structure of financial markets and financial assets can have a significant bearing on the performance on the wider economy
- The money supply, and its control, has an impact on the rate of inflation
- Money, capital and foreign exchange markets provide individuals, businesses and governments with vital means of raising finance and trading internationally
- Financial markets enable firms to raise money for investment via both debt and equity measures which can offer a balance between different financial instruments
- Both new issue and secondary markets provide businesses looking for finance an opportunity to be matched with investors seeking a return
- If any of these markets become inefficient or cease to function as effectively as they might it can have large consequences on individuals, firms and governments
- Corporate and government bonds provide additional methods of raising finance
- The 10-year bond yield experience of the UK v Greece provides a good example of the potential impact that financial markets and their instruments can have on the ability of an economy to meet its productive potential and remain internationally competitive

The role of banking regulation

- Governments might regulate banks with regulation and guidelines. This helps to ensure the behaviour of banks is clear to institutions and individuals who conduct business with the bank.
- Some economists argue that the banks have a huge influence in the economy; if they failed it would have huge consequences. Therefore, it is important to regulate the banking industry.
- The UK banking industry is regulated by the Prudential Regulation Authority (PRA) and the Financial Conduct Authority (FCA).
  - The FCA regulates financial firms to ensure they are being honest to consumers and they seek to protect consumer interests. The FCA also aims to promote competition which is in the interests of consumers.
  - The PRA promotes the safety and stability of banks, building societies, investment firms and credit unions, and ensures policyholders are protected.
  - The Financial Policy Committee (FPC) regulates risk in banking and ensures the financial system is stable. It clamps down on unregulated parts and loose credit. The committee monitors overall risks to the financial system as well as regulating individual groups.
- After 2008, banks were more tightly regulated which included the following measures:
  - Have more equity (money from shareholders)
  - Hold larger reserves of cash to cover losses from risky loans
  - Accept limits on bonuses which encourage risky borrowing and lending