

1. How and why firms expand and grow

Economies of scale

- Economies of scale occur when there is a fall in average total cost as the scale of production increases
- Internal economies of scale occur due to an increase in the scale of production of a firm
- External economies of scale occur due to an increase in the scale of production within the industry in which the firm operates

Internal economies of scale

- These occur when a firm becomes larger. Average costs of production fall as output increases. Examples include:

Managerial economies of scale

- Employing specialist labour e.g. accountants, lawyers, technical etc. Division of labour allows staff to focus on particular areas
- As the employee is allowed to concentrate on a specific job they are likely to be better qualified, more experienced, more efficient.
- The manager of a small firm will often do the accounts, marketing and look after human resource management issues i.e. a 'Jack of all trades'
- In larger firms we might see a highly qualified accountant working in finance or a personnel department dealing with recruitment and selection

Purchasing economies of scale

- Discounts for bulk-buying. As the firm is buying in bulk, they are able to secure lower prices per unit

Risk-bearing economies of scale

- 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.

Technical economies of scale

- The use of specialist, often expensive, capital e.g. machines
- Large firms are able to spend more on bigger and more efficient machinery. They are able to spread fixed costs over greater output. They are likely to obtain lower costs per unit through this method, increasing competitiveness
- Large firms can also spend more money on *scientific* Research and *technical* Development (R&D)

Marketing economies of scale

- 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.

Financial economies of scale

- Better credit ratings as large firms are seen to be less likely to fail and can borrow money at lower interest rates

External economies of scale

- These occur within the industry. A fall in average total cost due to factors outside of the control of the firm
- They will impact on firms within the same industry or geographical region. They will create positive externalities
- Examples include: Improved transport infrastructure, a pool of skilled workers, more advanced communication systems
- These will benefit all firms within an industry or region

Diseconomies of scale

- Diseconomies of scale occur when there is an increase in average total cost as the scale of production increases

Internal communication

- Larger firms find it more difficult to communicate efficiently within the organisation
- There will be an increased cost for communication methods within the firm
- The manager of a small firm will be able to communicate effectively with all members of the workforce

Coordination

- Larger firms find it more difficult to manage the increased number of personnel and customers
- It might become increasingly difficult to delegate to and motivate workers

Control

- It becomes harder to monitor how productive the workforce is, as the firm becomes larger.

Increased market share

- Lack of competition can help them to develop and maintain customer loyalty, and restrict output and charge higher prices
- Economies of scale such as: bulk buying, reducing unit costs or advertising, helping to develop brand image
- Use its financial resources to maintain its position:
 - Predator pricing, selling at a loss to price new firms out of the market
 - Research and Development, to produce new products
- Larger firms can exploit consumers by charging high prices due to less competition. Therefore, they are likely to be regulated in order to protect the consumer
- They can force suppliers to lower prices by threatening to cancel contracts. Suppliers are less likely to argue with larger customers so are more likely to agree to lower prices or risk losing significant trade
- There are fewer substitutes when a firm begins to increase market share, so consumers have less choice in where they buy from
- The greater the degree of competition the less likely is a firm to have monopoly power

Organic growth

- Internal or organic growth occurs when a business expands in size by opening new stores, branches, functions, or plants
- Innovation: Developing new products or improving existing ones can help to increase a company's market share and drive organic growth.
- Marketing: Greater investment in promotion can lead to an increase in sales, thereby encouraging growth.
- E-commerce: The growth of online shopping has allowed many businesses to expand their reach and serve customers globally.
- For example, Apple has grown through creating new products such as iPads and iPhones.

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> - More control over how the business expands and less conflicts between shareholder objectives - There is less money paid in upfront costs - Growth is more sustainable as the company is using retained profits rather than borrowing which avoids debt - Less risky than inorganic growth and allows the business to build on its existing strengths 	<ul style="list-style-type: none"> - No new ideas from outside the firm to stimulate innovation - Risk of overextending capacity of management team or workers - Growth achieved is dependent on the strength of the market, which limits how much and how fast they can grow. - Growth is slow, and may not fulfil shareholder objectives of fast growth of revenues and profits

Inorganic growth

- Integration is the bringing together of two or more firms
- Merger is when two or more firms agree to become integrated to form one firm under joint ownership. It is an agreement.
- Takeover is when one firm gains control over another and becomes the owner, can be achieved by buying 51% of the shares. Can be hostile
- Joint Ventures: Creating partnerships or alliances with other companies can help a business to quickly increase its scale or access new resources.
- Licensing and Franchising: These strategies can allow a business to rapidly expand its brand into new markets without needing to establish new operations.

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> - Fast once the negotiations or purchase has been agreed - Removes a competitor from the market and enhances market share - Possible synergy from combining ideas - Often potential for rationalisation (lowered costs), leading to economies of scale 	<ul style="list-style-type: none"> - Debt burden created if takeover includes buying out shares - Risks of culture clash and dilution of management focus - Efficiency saving can add to owners' profits but can cost employees' jobs - Customers could lose beloved brands

Types of integration

	DEFINITION	ADVANTAGES	DISADVANTAGES
VERTICAL	<ul style="list-style-type: none"> - Vertical integration occurs when two firms at different stages within a process integrate - Forward vertical integration – when the firm integrates with a firm closer to the consumer. This involves taking over a distributor. E.g. a coffee producer might buy the café where the coffee is sold. - Backward vertical integration – when a firm integrates with a firm closer to the producer. This involves gaining control of suppliers. E.g. a coffee producer might buy a coffee farm. 	<ul style="list-style-type: none"> - Firms can gain economies of scale, reducing avg. costs resulting in lower prices - Firms can increase control of the market; backward vertical means they control supply prices for themselves and can raise them for other firms, giving them a cost advantage over competitors - More certainty over production, esp. with quality, quantity and price 	<ul style="list-style-type: none"> - Diseconomies of scale which creates higher avg. costs. - Possibly create barriers to entry which could discourage new firms entering the market. This could lead to a less efficient market as firms has little incentive to reduce avg. costs when they have a high market share.
HORIZONTAL	<ul style="list-style-type: none"> - Horizontal integration occurs when two firms at the same stage within a process integrate - e.g. 2 car manufacturers 	<ul style="list-style-type: none"> - Firms can grow quickly which gives them a competitive advantage against rivals. - They can increase output quickly so can achieve economies of scale. - The firm will have similar expertise as in the same market so merged firm will have advantages 	<ul style="list-style-type: none"> - The quick growth may lead to monopoly power, creating potential of higher inefficiency. - There may be disagreements between the objectives of the two merged firms.
CONGLOMERATE	<ul style="list-style-type: none"> - Conglomerate integration (also known as diversification) occurs when two unrelated firms integrate - e.g. A car manufacturer merges with a bookstore 	<ul style="list-style-type: none"> - Can help both firms become stronger in the market than if they were individual. - Economies of scale (risk-bearing esp.) - Can reach a wider customer base + reduction in market competition. 	<ul style="list-style-type: none"> - There is a risk of the product range being spread too thinly and there not being sufficient focus on each product. This could cause a drop in quality and increase production costs.

Examples of growth

- Organic – Amazon is a company that has focused on product development and market expansion. Amazon Prime helped to attract new customers and generate more global sales.
- Vertical merger – In an attempt to help eBay further purchases made on their online marketplace, they acquired PayPal to help their online users transfer money more easily.
- Takeover – The acquisition of Android in 2005 for \$50 million, enabled Google to enter the cellular phone market for the first time.

Competition

- Monopoly occurs when one firm dominates the market
- A duopoly exists where there are only two firms in 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
- In perfect competition there are a large number of producers in the market and no barriers to entering the market exist



Non-price competition

- Non-price competition occurs when a firm distinguishes or differentiates its product from that of its competitors

Advertising and other promotional methods

- Advertising is an example of a sunk cost and deters new entrants
- Firms will spend heavily trying to establish brand loyalty and repeat custom
- This may take the form of loyalty schemes where incentives e.g. loyalty cards are offered to buy from the firm

Media advertising

- Media Advertising is communication used to inform potential customers about products and persuade them to buy the products.
- Advertising takes a variety of forms: television and radio, newspapers and magazines, posters and bill boards

Sales promotion

- Sales promotions are short-term method designed to attract customers into purchasing a product.
- Sales promotion can take a variety of forms, including: competitions, special offers (e.g. Buy one get one free), free samples

Direct marketing

- Direct marketing is any marketing activity that is aimed directly at the customer.
- Direct marketing can take a variety of forms, including: direct mail – sometimes referred to as junk mail, electronic mail – may be seen as spam, door to door selling

Competing on price

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 as a good priced at 99p may seem cheaper to a customer 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

What is R&D?

- R&D is investment in research with the intention of improving goods and services, introducing new ones, or improving methods of production.
- This is vital to companies maintaining a competitive advantage through innovation.

Product and process innovation

- Product innovation – changing a product that already exists or developing an invention into a brand new product
- Process innovation – changing a process of production that already exists or putting into practise a brand new production process
- An innovation is likely to have a patent as the firm looks to recoup the cost of research and development by stopping other firms from copying their product or process

Innovation and competitive advantage

- Innovation is the development of an idea into a new product or process. Businesses invest time and money in order to make a profit. Product innovation occurs through adapting a product that already exists
- An innovation is likely to have a patent as the business looks to recoup the cost of research and development by stopping other firms from copying their product. Often, a small business will sell out to a larger one.
- Competitive advantage – a business' ability to differentiate themselves over competitors
- Comparative advantage – ability of a business to produce a cheaper good compared with other businesses

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> – Creates a USP for the product – strengthens brand – Less competition due to patent – higher market share – More efficient and cost effecting production process – Likely to be a premium product with high prices 	<ul style="list-style-type: none"> – Can be very costly in the R&D stage and therefore a drain on resources – For all innovations there is an opportunity cost – Few innovations see the light of day, so the firm is effectively financing waste – Creative destruction (Joseph Schumpeter) means that creation of new products makes older ones obsolete e.g. each new iPhone makes the previous one more undesirable.

Incentive to increase market power

- Investment in R&D is expensive
- High fixed costs:
 - Lead to a requirement to produce a significant output in some industries in order to recoup start-up and R&D costs
 - Require increased scale of production
 - Thus creating barriers to entry and a tendency towards less competition in the market
 - This increases the market power of the firm
- Through R&D a firm can differentiate its product leading to success in either a mass or niche market
- Differentiation means being able to offer a product or service that stands out from the competition:
 - Product – has to appear better than the competition, USP, patents
 - Promotion – create desire, exclusivity, brand loyalty
 - Operational objectives will focus on R&D and innovation
- This will lead to increased market power

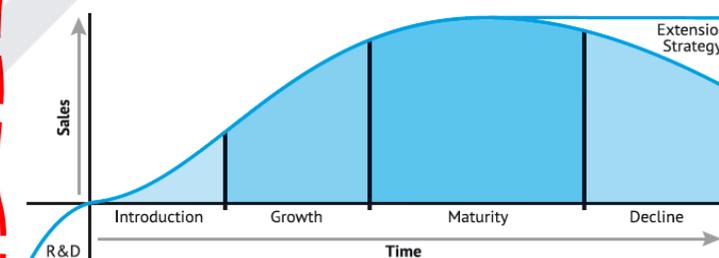
Role of state funding

- The state will often provide funding for firms that are innovative
- The government will fund innovation in a number of areas including science, technology and engineering
- This will help high-tech industries to grow, creating highly differentiated UK industries in the future

BENEFITS	DRAWBACKS
<ul style="list-style-type: none"> – Costs can fall so rise in real wages, increase in employment levels and exports – Helps to increase GDP 	<ul style="list-style-type: none"> – Opportunity cost to government of spending – Potential high taxes to fund extra spending – Firms could be inefficient if they rely on subsidies, since they have less incentive to lower costs – Causes government failure if inefficient industries are subsidised

Product life cycle

Product Life Cycle: The stages that a product will go through in its lifetime.



1. Development – negative cash flow due to market research and R&D. No sales revenue before launch
2. Introduction – production and promotion costs can be high
3. Growth – sales revenue increases but as more units are sold production costs also increase. However, there will be economies of scale
4. Maturity – sales stabilise and the product acts as a cash flow
5. Decline – at some point the product will start to lose sales
6. Extension strategies – aim to lengthen the useful life of a product before it goes into decline. E.g. increase advertising.

Multinational corporation (MNC)

- A multinational corporation (MNC) has facilities and other assets in at least one country other than its home country.
- A multinational company generally has offices and/or factories in different countries and a centralised head office where they coordinate global management

Characteristics of MNCs

- Dominant players in the market
- Complex structures, multi site and multi product
- Grown through organic and inorganic growth
- Heavy investment in R&D
- Globally recognised brands

Off-shoring

- Off-shoring occurs when a business relocates production and operations to another country
- The key reason for this is cost minimisation as the production process can be undertaken at a reduced cost in comparison to the domestic economy
- Closeness to market will reduce transport costs for businesses and might allow for easier access to consumers, particularly if operating in the country being targeted e.g. Jaguar Land Rover have set up production in China

Re-shoring

- Reshoring happens when a transnational business decides to bring previously off-shored manufacturing back to the home country.
- Reshoring is often motivated by the business objective of producing intermediate and finished products with the cheapest input factor.
- The strong rise in wage / unit labour costs in many emerging countries in recent years has accelerated the process of reshoring.
- Other aims include improved certainty around delivery times (including shorter delivery times) and minimising the risk of supply chain disruptions perhaps at a time of growing trade tensions between countries.

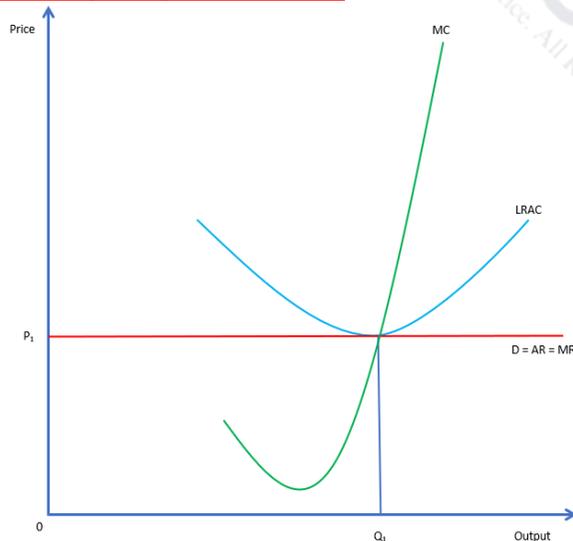
Outsourcing

- Outsourcing occurs when a business contracts out production to another business. This might lead to a loss of quality control but can allow the business to match supply to meet demand
- The outsource business might be a specialist, which is likely to lead to an improvement in the quality of the product

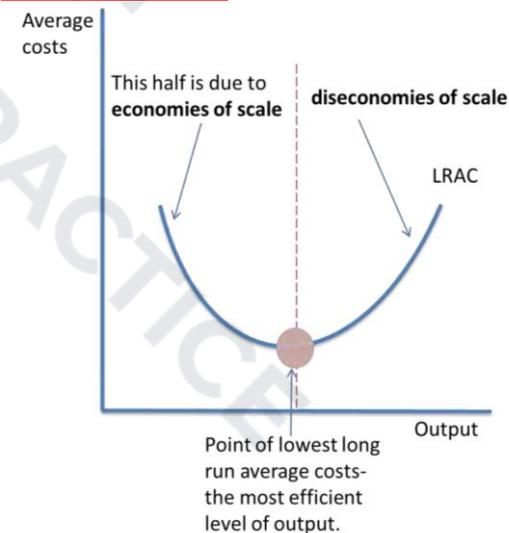
Extending the product life cycles by selling in multiple markets

- One of the main reasons for operating in a global market is to extend the life cycle of a product
- As the product being sold reaches the decline stage in a mature market the business can increase the product's life by introducing it to other, mainly less mature, markets
- This might require adapting the product to suit local tastes or a large promotional budget to raise awareness
- However, if successful, this might extend the life of the product for a number of years
- Each market is different so this will require local knowledge if it is to be successful

Perfectly competitive market



Average cost curve



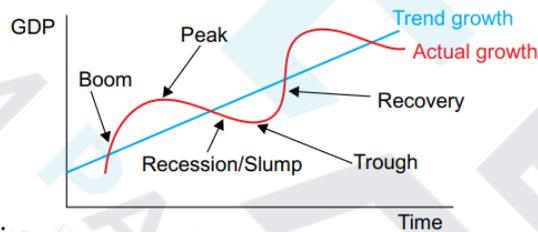
2. How and why economies expand and grow

Understanding the economic cycle

The Economic Cycle has Different Phases

- 1) The actual growth of an economy **fluctuates** over time. These **fluctuations** are known as the **economic cycle**.
- 2) A **boom** is when the economy is **growing quickly**. Aggregate demand will be **rising**, leading to a **fall in unemployment** and a **rise in inflation**.
- 3) A **recession** is when there's **negative economic growth** for at least **two consecutive quarters**. Aggregate demand will be **falling**, causing **unemployment to rise** and a **fall in price levels**.
- 4) During a **recovery** the economy begins to **grow again**, going from **negative economic growth to positive economic growth**. Aggregate demand will be **rising**, so **unemployment will be falling** and **inflation will be rising**.
- 5) **Long run** growth is shown by an **increase in the trend rate** of growth. The trend rate of growth is the **average rate** of economic growth over a period of both economic **booms** and **slumps**.

'Trade cycle' and 'business cycle' are alternative names for the economic cycle.



Levels of investment tend to match the rate of change of GDP (see p.147). This means that investment will be greatest when the red line is steepest.

Output gaps

- A negative output gap occurs when the actual level of output is less than the potential level of output.
- A positive output gap occurs when the actual level of output is greater than the potential level of output.

The impact of injections and withdrawals

- An injection into the circular flow of income is money which enters the economy. This is in the form of government spending, investment and exports.
- A withdrawal (also known as a leakage) from the circular flow of income is money which leaves the economy. This can be from taxes, saving and imports.
- If there are net injections into the economy, there will be an expansion of national output.
- If there are net withdrawals from the economy, there will be a contraction of production, so output decreases.

Marginal propensity

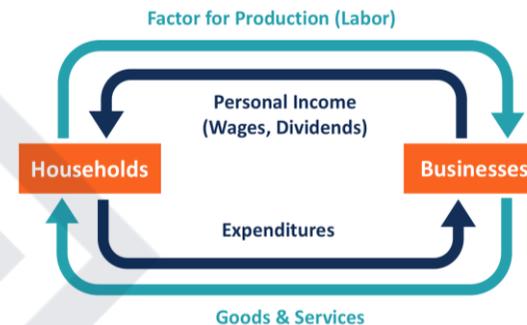
- Marginal propensity to consume (MPC) measures how much more individuals will spend for every additional dollar of income.
- Marginal propensity to save (MPS) is an economic measure of how savings change, given a change in income. A larger MPS indicates that small changes in income lead to large changes in savings, and vice-versa.

$$\text{Marginal propensity to consume (MPC)} = \frac{\text{Change in consumption}}{\text{Change in income}} = \frac{\Delta C}{\Delta Y}$$

$$\text{Marginal propensity to save (MPS)} = \frac{\text{Change in saving}}{\text{Change in income}} = \frac{\Delta S}{\Delta Y}$$

The circular flow of income

- The circular flow of income models the basic working of the economy.
- Resources, income, expenditure, and output are shown as flows of money that continuously circulate around the economy.
- In the circular flow of income: $income = output = expenditure$.



- Households supply factors of production to businesses. In return they receive income.
- Businesses supply goods and services to households, which pay for them, providing sales revenue.
- Households do not spend all the income they receive; they save some of it. Savings are a leakage from the circular flow, usually put in the bank.
- Other leakages are taxes, paid to the government and spending on imports, which goes abroad.
- Banks provide finance which businesses use to pay for investment, which is an injection into the circular flow.
- Government spending is also an injection, as are exports: money comes from abroad to pay for them.

The multiplier effect

- The fiscal multiplier effect occurs when an initial injection into the economy causes a bigger final increase in national income.
 - For example, if the government increased spending by £1 billion but this caused real GDP to increase by a total of £1.7 billion, then the multiplier would have a value of 1.7.
- $multiplier = \frac{\text{change in national income}}{\text{initial change in aggregate demand}}$
 - The higher the multiplier, the better.

What effects aggregate consumption?

- Confidence
 - The higher the confidence levels, the more investment and spending consumers will do.
- Disposable income
 - An increase in disposable income will lead to more spending. There will be increased marginal propensity to consume. Therefore, there will be an increase in consumption (60% of AD). There will be a shift to the right in AD.
- Availability of cheap credit
 - Cheaper interest rates on businesses/personal loans leads to more businesses taking on infrastructure projects. This will see an increase in investment and will cause a shift to the right in AD.
 - Cheaper interest rates on personal loans/credit means people are more likely to spend using credit cards/other forms of credit. There will be an increased consumption of goods and there will be a shift to the right in AD.
- Outlook for the future
 - If predictions show that the economy will do well in the future, people are more likely to spend less now. They are more likely to save their money and wait for the economy to do well before spending.
 - If predictions show that the economy will be worse in the future, people are more likely to spend now. They will be less likely to spend in the future.
- The weather
 - In the summer people are more likely to go out because it is hotter and less rain. Therefore, people are more likely to spend. Therefore, aggregate demand increases in the summer and there is a shift to the right in AD.
 - In the winter, people are less likely to go out as it is colder and more chance of rain. Some businesses may have to close earlier as it gets darker earlier. Therefore, people are less likely to spend in winter and hence aggregate demand decreases. There will be a shift to the left in the AD curve.
- Availability of new products
 - If there are more available products, people are more likely to spend as they have a choice of products to choose from. People also tend to want new products as soon as they come out. Therefore, aggregate consumption will increase that there will be a shift to the right in AD.
- Interest rates
 - If interest rates increase, people will have less disposable income as they will be encouraged to save and spend less. Therefore, there will be a decrease in aggregate demand. And the AD curve will shift to the left.
- Inflation rates
 - An increase in interest rates means there will be higher prices for goods and services. Therefore, people will spend less as the demand for the higher priced goods and services will decrease. Therefore, aggregate consumption will decrease, and the AD curve will shift to the left.

Impact on AD

- Consumption is a large proportion of AD (60%) and therefore plays a crucial role in maintaining and improving economic growth.

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

Macroeconomic objectives

1 Strong economic growth

- 1) Governments want economic growth to be **high** (but not **too high**).
- 2) In general, economic growth will **improve the standard of living** in a country.

2 Keeping inflation low

- 1) In the UK, the government aims for **inflation of 2%**.
- 2) The **Monetary Policy Committee of the Bank of England** uses **monetary policy** (see pages 179-181) to try to achieve this target rate.

3 Reducing unemployment

- 1) Governments aim to **reduce unemployment** and move towards **full employment**.
- 2) If **more** people are employed then the economy will be **more productive**. **Aggregate demand** will also **increase** as more people will have a **greater income**.

4 Equilibrium in the balance of payments

- 1) Governments want **equilibrium** in the balance of payments, i.e. they want **earnings** from **exports** and other **inward flows** of money to **balance the spending** on **imports** and other **outward flows** of money.
- 2) This is **more desirable** than a **long-term deficit** or **surplus** in the balance of payments — which can cause problems.

Types of economic growth

- 1) **Economic growth** is an **increase** in the **productive potential** of an economy.
- 2) In the **short run**, economic growth is measured by the **percentage change** in real national output (real GDP — see p.128). This is known as **actual** (real) growth (this just means that the **effect of inflation** has been **removed** from the growth figure).
- 3) Increases in actual growth are usually due to an **increase** in **aggregate demand**, but they can also be caused by **increases** in **aggregate supply**. Actual growth doesn't always increase — it tends to **fluctuate up** and **down**.
- 4) **Long run growth** (also known as **potential growth**) is caused by an **increase** in the **capacity**, or **productive potential**, of the economy. This usually happens due to a **rise** in the **quality** or **quantity** of **inputs** (the **factors of production**) — for example, more **advanced** machinery or a more **highly skilled** labour force.
- 5) Long run growth is shown by an **increase** in the **trend rate** of growth. The **trend rate** of growth is the **average rate** of economic growth over a period of both economic **booms** and **slumps**. It **rises smoothly** rather than fluctuating like actual economic growth, so the **actual rate** of growth often doesn't **match** the **trend rate**.
- 6) **Increases** in long run growth are caused by an increase in **aggregate supply**.

Policy instruments

- If the economy is growing too quickly and inflationary pressure is building up during a boom, contractionary policies will be used to reduce the level of economic activity and national income. This will also slow down the demand for imports.
- If there is a recession, or if the economy is not growing quickly enough and/or unemployment is too high, expansionary policies will be used to stimulate the level of economic activity, raise national income and, in turn, stimulate growth and reduce unemployment.
- Fiscal and monetary policies are designed to affect aggregate demand and the level of economic activity, stabilising the economy.

Contractionary policy

- Higher interest rates.
- Tax increases.
- Cuts in government expenditure.

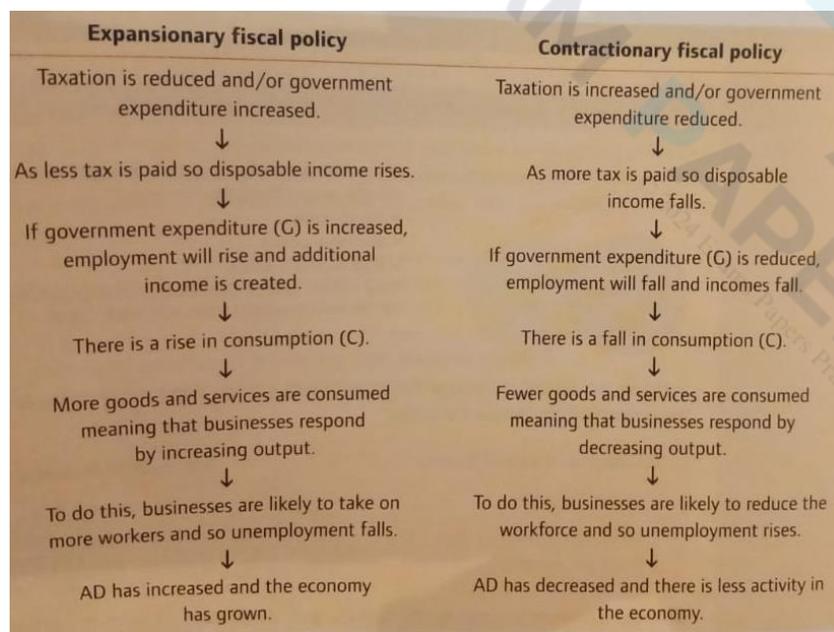
Expansionary policy

- Lower interest rates.
- Tax cuts.
- Increased government expenditure.



Fiscal policy

- Fiscal policy involves changes in the levels of taxation and/or government expenditure in order to influence the level of activity in the economy.
- The government gains income from taxation and then spends it on providing services.
- The levels of either of these can be altered to reduce or increase the amount of economic activity.
- The level of spending does not have to match the level of taxation; the government can borrow and go into deficit. This will allow the government to stimulate growth in the economy with extra spending. This makes sense in a recession.
- A public sector deficit occurs when government spending exceeds the government's income, and it must borrow to fund the difference.

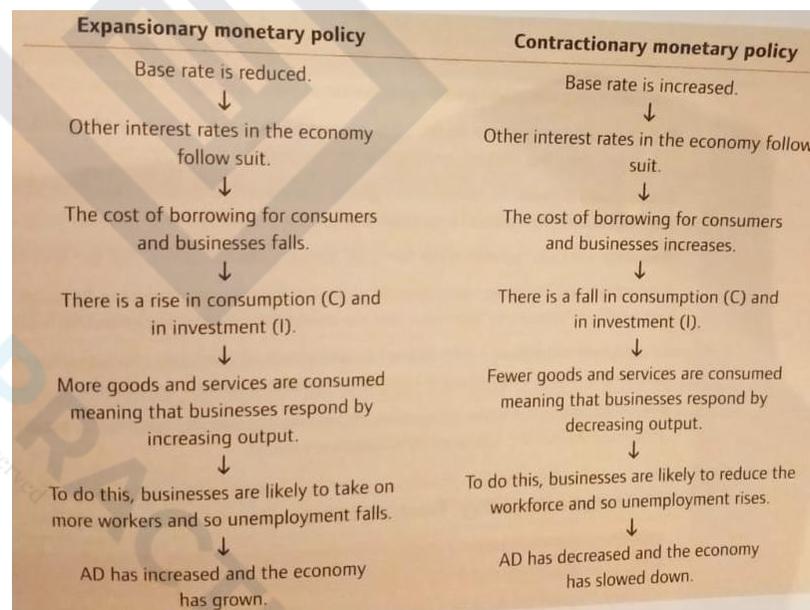


Limitations of fiscal policy

- Limits Government spending (with expansionary policy).
- If interest rates are high, fiscal policy may not be effective for increasing demand.
- If the Government spends too much there could be an increased deficit making it difficult to borrow in future.
- If the government has imperfect information about the economy, it could lead to inefficient spending.

Monetary policy

- Monetary policy uses interest rates to vary the costs of borrowing and influence the level of aggregate demand. Changes in the Bank of England's base rate will affect interest rates across the economy.
- In 1997 the incoming Labour government made the Bank of England independent of government control. The idea was to avoid making policy changes for political reasons.
- The Bank was also given the responsibility for ensuring monetary stability. This means stable prices — low inflation ~ and confidence in the currency. The government's inflation target is 2% +/- 1%.
- The Bank tries to achieve stability through decisions taken by the Monetary Policy Committee (MPC) which meets once a month to decide on the level of base rate. This is the rate charged by the Bank of England when banks need to borrow to cover their day-to-day needs.
- The base rate influences all the interest rates set by commercial banks, building societies and other institutions for their own savers and borrowers.
- It may also affect the price of financial assets, such as bonds and shares, and the exchange rate.
- Reducing or increasing interest rates affects spending in the economy.



Limitations of monetary policy

- There are time lags with the changing of the base rate to affect the interest rates as banks adopt the change.
- Banks may not pass the base rate onto consumers therefore it may not have the intended effect.
- Even if the cost of borrowing is low, banks may not be willing to lend as they are risk averse.
- Interest rates are less effective if firm and consumer confidence is low as if the economy seems risky they are less likely to spend despite low interest rates.

Supply-side policies

- Supply-side policies include all measures designed to increase the productive capacity of the economy by influencing aggregate supply.
- Some are based on long experience backed by economic arguments, others on political viewpoints.
- Supply-side policies are both more numerous and narrower in scope than fiscal and monetary policies. As the name suggests, they affect aggregate supply rather than aggregate demand.
- Supply-side policies can be useful in helping to reduce inflationary pressures. If AS is growing, then AD can be expanded without causing the excess demand that leads to inflation.
- Examples of supply-side policies include:
 - Taxes — cuts in taxes are thought to increase the incentive to work, though there is little hard evidence of this. Tax credits provide an incentive to work.
 - Benefits — cuts in benefits make living off benefits less attractive and can decrease unemployment.
 - Education and training — improves the skills and flexibility of the labour force, can reduce the occupational immobility of labour and help maintain the competitiveness of the economy.
 - Grants and subsidies - can support development of desirable outcomes, for example, by encouraging sustainable and environmentally friendly production or energy generation or raising R&D spending.
 - Privatisation is a supply-side policy, resting on the assumption that competition will lead to greater efficiency; in fact the outcomes have been very varied.

STRENGTHS	LIMITATIONS
<ul style="list-style-type: none"> - They are the only policies which can deal with structural unemployment as the labour market can be directly improved with education and training. 	<ul style="list-style-type: none"> - Significant time lags for people to enter the labour market. - Some policies, such as reducing the rate of tax, could lead to a more unequal distribution of wealth. - Demand-side policies are more effective dealing with cyclical unemployment since they can reduce a negative output gap.

Productivity and wages

- Productivity is linked to labour productivity which is a measure of output per worker.
- $labour\ productivity = \frac{output\ per\ period}{number\ of\ employees}$
- Labour productivity will be influenced by multiple factors including:
 - Training and skills of the workforce
 - Motivation
 - Complexity of the product
- Increasing labour productivity lowers labour cost per unit (assuming employee costs stay the same – However in most cases, this is not the same, employees expect to be paid for their skills and expertise.
- Therefore, there is an inverse relationship between productivity and wages
- However, workers may be motivated to increase productivity through financial incentives
- Piece rate is when workers are paid per unit produced, in which case the relationship would not be inverse but there is positive correlation i.e. as productivity goes up wages go up.

Exchange rate policy

- The exchange rate affects the economy because changes can alter the prices of exports and imports. Most economies have floating exchange rates which can up to a point be manipulated by monetary policy.
- With a floating exchange rate, the price (exchange rate) of the currency is determined by market forces i.e. demand and supply. It behaves just like any good or service. The demand for and supply of the currency are created by trade and capital flows.
- Higher interest rates tend to make the pound appreciate because investment in sterling assets becomes more attractive compared to other currencies.
 - This increases the demand for pounds.
 - Lower interest rates have the opposite effect.
- The Bank of England does not specifically target the exchange rate, but the Monetary Policy Committee (MPC) will take exchange rates into account.
 - Although a relatively high base rate will lead to appreciation, reducing the price of imports and helping reduce inflationary pressure, UK exports will become less competitive.

Productivity

- Productivity measures the output created, in relation to units of input within a given time period.
- High productivity means more output with the same amount of input over the same period of time, this reduces average costs.
- On the other hand, lower productivity means less output with the same input and period of time which in turn increases costs. This requires a larger input/period of time to reach the same output.
- Rising productivity almost always leads to a fall in unit costs and may lead to increased output levels.
 - To customers: Customers may experience lower prices, this may lead to increased demand and possibly returning customers.
 - To businesses: Using fewer resources, lower unit costs, increased output, allows opportunity for reinvestment into the business for further projects/developing further. Gives opportunity to develop a competitive advantage.

Factors influencing productivity

- Age of machinery and maintenance
- Training of operatives
- Quality of inputs e.g. a high-quality printer can jam if cheap paper is used
- Hours used vs down time
- Efficiency of programming
- Unforeseen events e.g. power cuts



Difficulties increasing labour productivity

- May impact negatively on quality and customer satisfaction
 - Damage to long term reputation
 - Increase waste affecting unit cost
- Employees may feel exploited
 - Working harder for the same pay, may work with unions to negotiate higher wages
 - Business benefiting but not the employees
 - Increased workload leading to stress, demotivation and lower staff morale.

Productivity and economic growth

- Productivity and economic growth: as businesses become more productive, the supply of consumer goods increases, costs and prices may fall, standards of living rise and real incomes increase.
- Productivity is an important element in economic growth. But it does involve structural change — some employees will be made redundant and will have to look for new jobs where demand is growing.
- Governments can increase productivity and hence, improve economic growth by increasing spending on education and training. This will lead to a more skilled and productive workforce.

Factors influencing the supply of labour

Population migration	<ul style="list-style-type: none"> – Increase the supply of labour as more people come into a country seeking employment – Often willing to work for the minimum wage – EU offers free movement of labour
Income tax and benefits	<ul style="list-style-type: none"> – High income tax and high benefits act as a deterrent to the supply of labour
Government regulations	<p>National minimum wage:</p> <ul style="list-style-type: none"> – An increase in the minimum wage may encourage more people to supply their services – However, it may also cause a fall in demand
Trade unions	<ul style="list-style-type: none"> – Improve pay and working conditions attracting more people to supply labour – Take industrial action to withdraw the supply of labour – Push wage rates up through negotiations with employers

Market failure in labour markets

- Labour immobility occurs because it is difficult for labour to be put to alternative uses due to lack of skills or experience
- The immobility of labour can result in a misallocation of resources. This leads to market failure. Labour immobility can occur for:
 - Lack of appropriate skills
 - Lack of appropriate training
 - Lack of appropriate education
- Labour immobility can lead to a misallocation of resources and therefore market failure
- If labour is 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 labour then there will be distortions in the market and it will take time for market equilibrium to be reached

3. The impact of expansion and growth on individuals, firms, and economies

Specialisation

- Specialisation occurs when economic units such as individuals, firms, regions or countries concentrate on producing specific goods or services
- Specialised use of workers within an organisation is called the division of labour
- Specialisation is likely to lead to increased output per worker (productivity) as the workforce have a better understanding of their job role
- This will help to address the problem of scarcity as there will be a greater supply of goods and services to meet unlimited wants

	ADVANTAGES	DISADVANTAGES
FIRM	<ul style="list-style-type: none"> • Specialisation increases output as economic units become more effective and efficient in what they produce due to: <ul style="list-style-type: none"> • Greater understanding of the requirements of production • Each economic unit can specialise in what they are best at • Efficient use of time as there is no switching between tasks • Technical economies of scale as capital equipment is used to produce goods and services • The increased output can then be exchanged for other goods and services that the economic unit is not as good at producing • Specialisation allows for the exchange of goods and services between the economic units 	<ul style="list-style-type: none"> • There are also disadvantages to specialisation and division of labour • Work can become monotonous • This can affect quality and productivity • Can increase absenteeism • May be limited by the size of the market • Small firms can not afford to introduce specialisation • Threat of structural unemployment if an industry goes into decline • Reduces flexibility of the workforce • Production flows may be stopped affecting the ability to meet demand
COUNTRIES	<ul style="list-style-type: none"> • Allows for trade • Improved national income (GDP) • Economies of scale leading to lower costs • Greater choice for consumers • Better quality goods • Interdependence leading to better relations between countries 	<ul style="list-style-type: none"> • Over-reliance on a limited number of industries • Risk of structural unemployment • Reliance on other nations • Threat of external factors e.g. political unrest or natural disasters can cut of supplies • Less developed countries may be discouraged from moving into new industries or specialising in tertiary industries

Specialisation in the production of goods and services to trade

- Countries can specialise in the production of certain goods. For example, Norway is one of the world's largest oil exporters. Countries trade to get the goods and services they are unable to produce.
- Countries can exploit their comparative advantage in a good, which means they can produce a good at a lower opportunity cost to another.
- Absolute advantage occurs when a country can produce more of a good with the same factor inputs.

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> – Greater world output, so there is a gain in economic welfare. – Lower average costs, since the market becomes more competitive. – There is an increased supply of goods to choose from. – There is an outward shift in the PPF curve. 	<ul style="list-style-type: none"> – Less developed countries might use up their non-renewable resources too quickly, so they might run out. – Countries could become over dependent on the export of one commodity, such as wheat. If there are poor weather conditions, or the price falls, then the economy would suffer.

The division of labour

The division of labour occurs when workers are assigned specific tasks to do in the workplace. Constantly doing the same job improves workforce performance and leads to increased efficiency.

This cuts down on production costs creating a competitive advantage.

Production or assembly lines can increase the speed and accuracy of the work even further.

Problems occur with the division of labour, particularly in low skilled jobs.

The work can become monotonous.

This leads to issues with the workforce such as high absenteeism and labour turnover.

The UK has higher wage rates than most countries so tends to be undercut by low cost foreign competition.

Therefore, UK businesses often produce highly differentiated products where quality rather than price is the main issue.

	ADVANTAGES	DISADVANTAGES
EMPLOYEE	<ul style="list-style-type: none"> Less responsibility and are able to work in an area which they perhaps enjoy/understand/specialised in. Sometimes get incentives and benefits such as healthcare insurance. More specialised = more power, they might ask for more money. 	<ul style="list-style-type: none"> Work becomes repetitive, which could lower the motivation of workers, potentially affecting quality and productivity. Workers could become dissatisfied. There could be higher worker turnover for firms, which means employees become dissatisfied with their jobs and leave regularly.
EMPLOYER / FIRM	<ul style="list-style-type: none"> There could be a greater variety of goods and services produced. There are more opportunities for economies of scale, so the size of the market increases. There is more competition, and this gives an incentive for firms to lower their costs, which helps to keep prices down. Higher output and potentially higher quality, since production focusses on what people and businesses are best at. 	<ul style="list-style-type: none"> By producing a lot of one type of good through specialisation, variety could in fact decrease for consumers. More specialised = workers have more power over firm. Work becomes repetitive, which could lower the motivation of workers, potentially affecting quality and productivity.

The role of specialisation and increasing specialisation by country

BENEFITS	DRAWBACKS
Countries increase output in their specialised product so they can achieve economies of scale → lower average costs.	Countries can become too reliant on the export of their specialised product → poor weather conditions etc. may cause uncertainty about export earnings.
Higher volume of exports will lead to higher sales revenues → further investment.	Prices in international markets may fall → appreciation of currency will make them less price-competitive.
If the specialised product is price inelastic, higher prices can be charged → steady flow of income and higher profit margin.	Countries become dependent on imports of products they don't have → become vulnerable tariffs.
Exports increase leading to higher demand for the currency so the exchange rate may rise → raw materials (imports) become cheaper.	Competitors may enter the market with substitute products or form trading blocs with other countries → fall in prices so lower export earnings.

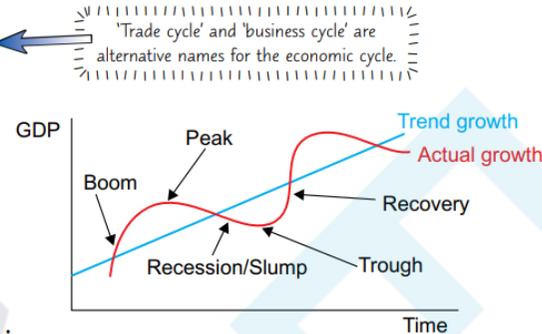
Specialisation causes unemployment

- Structural unemployment** → This is when there is a long-term decline in the demand for goods and services in an industry through structural change i.e. no longer need for the mining industry. People have the wrong skills for the employment on offer or labour is replaced by capital decreasing job opportunities.
- Frictional unemployment** → This is the least problematic type of unemployment as it refers to when a person is between jobs. It is present in any economy as it is necessary but usually temporary.
- Occupational immobility** → This is when the unemployed have a lack of transferable skills to move from one career to another. This is especially troubling when structural change in the economy makes industries redundant. This is caused by insufficient education, skills and training and can also be known as a skills mismatch.
- Geographical immobility** → This is when employees (labour) cannot move to areas where jobs are available possibly due to family ties or housing costs. There is also variation in availability of housing and regional differences in housing costs.
- Technological unemployment** → This when workers jobs are replaced by machines due to technological advances. This links to structural unemployment, as fewer employees are needed in more and more industries due to this.
- Demand deficiency (cyclical) unemployment** → This is caused by a downturn in the economic cycle. During these times overall demand will fall due to economic decline. Firms will either make workers redundant or pay lower wages which further reduces spending as well as output. This can be caused by increased productivity as each worker has a higher output meaning less workers are needed to produce the same quantity of goods.

Understanding the economic cycle

The Economic Cycle has Different Phases

- 1) The actual growth of an economy **fluctuates** over time. These **fluctuations** are known as the **economic cycle**.
- 2) A **boom** is when the economy is **growing quickly**. Aggregate demand will be **rising**, leading to a **fall in unemployment** and a **rise in inflation**.
- 3) A **recession** is when there's **negative economic growth** for at least **two consecutive quarters**. Aggregate demand will be **falling**, causing **unemployment to rise** and a **fall in price levels**.
- 4) During a **recovery** the economy begins to **grow again**, going from **negative economic growth to positive economic growth**. Aggregate demand will be **rising**, so **unemployment will be falling** and **inflation will be rising**.
- 5) **Long run** growth is shown by an **increase** in the **trend rate** of growth. The trend rate of growth is the **average rate** of economic growth over a period of both economic **booms** and **slumps**.



Re-shoring

- Reshoring happens when a transnational business decides to bring previously off-shored manufacturing back to the home country.
- Reshoring is often motivated by the business objective of producing intermediate and finished products with the cheapest input factor.
- The strong rise in wage / unit labour costs in many emerging countries in recent years has accelerated the process of reshoring.
- Other aims include improved certainty around delivery times (including shorter delivery times) and minimising the risk of supply chain disruptions perhaps at a time of growing trade tensions between countries.

Off-shoring

- Off-shoring occurs when a business relocates production and operations to another country
- The key reason for this is cost minimisation as the production process can be undertaken at a reduced cost in comparison to the domestic economy
- Closeness to market will reduce transport costs for businesses and might allow for easier access to consumers, particularly if operating in the country being targeted e.g. Jaguar Land Rover have set up production in China

Output gaps

- A negative output gap occurs when the actual level of output is less than the potential level of output.
- A positive output gap occurs when the actual level of output is greater than the potential level of output.

Multinational corporation (MNC)

- A multinational corporation (MNC) has facilities and other assets in at least one country other than its home country.
- A multinational company generally has offices and/or factories in different countries and a centralised head office where they coordinate global management

Characteristics of MNCs

- Dominant players in the market
- Complex structures, multi site and multi product
- Grown through organic and inorganic growth
- Heavy investment in R&D
- Globally recognised brands



Pros and cons of MNCs

Good

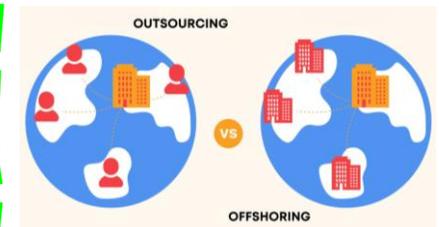
- Creates FDI
- Brings jobs
- Regional multiplier effect
- Skills and technology transfer
- Increased demand for local businesses/suppliers
- Increased tax revenues – Government has more revenue to spend
- Export earnings
- Other MNCs may follow
- CSR policies bring benefits

Bad

- Illegal and unethical behaviour
- Exploitation of labour – low wages, poor working conditions, lack of health and safety, child labour
- Environmental degradation/pollution
- Unsustainable practices
- Tax avoidance
- 'Race to the bottom'
- Cultural imperialism
- Local businesses pushed out
- Profits repatriated and not put back into local economy

Outsourcing

- Outsourcing occurs when a business contracts out production to another business. This might lead to a loss of quality control but can allow the business to match supply to meet demand
- The outsource business might be a specialist, which is likely to lead to an improvement in the quality of the product



Corporate social responsibility

- Corporate Social Responsibility (CSR) is the continuing commitment by business to behave ethically and contribute to economic developments while improving the quality of life of the workforce and their families as well as of the local community and society at large.
- CSR is a firm's decision to accept responsibility to its stakeholders for its social, environmental and ethical actions
- A firm will produce a Corporate Social Report to set targets that will be used to meet its social responsibilities and to assess how far it has met previous targets

Impact of MNCs on host countries

POSITIVES TO HOST COUNTRIES	NEGATIVES TO HOST COUNTRIES
<ul style="list-style-type: none"> - Provision of significant employment and training to the labour force in the host country - Transfer of skills and expertise, helping to develop the quality of the host labour force - MNCs add to the host country GDP through their spending, for example with local suppliers and through capital investment - Competition from MNCs acts as an incentive to domestic firms in the host country to improve their competitiveness, perhaps by raising quality and/or efficiency - MNCs extend consumer and business choice in the host country - Profitable MNCs are a source of significant tax revenues for the host economy (for example on profits earned as well as payroll and sales-related taxes) 	<ul style="list-style-type: none"> - Domestic businesses may not be able to compete with MNCs and some will fail - MNCs may not feel that they need to meet the host country expectations for acting ethically and/or in a socially-responsible way - MNCs may be accused of imposing their culture on the host country, perhaps at the expense of the richness of local culture. Might MNCs reduce cultural diversity around the world as they continue to expand, particularly into less developed or developing countries? - Profits earned by MNCs may be remitted back to the MNC's base country rather than reinvested in the host economy. - MNCs may make use of transfer pricing and other tax avoidance measures

Impact of MNCs on the local economy

	BENEFITS	NEGATIVES
LOCAL COMMUNITY AND ENVIRONMENT	<ul style="list-style-type: none"> - Higher employment, less poverty, lower crime - Improved infrastructure e.g. hospitals and roads - Improved education - Increased funds for local governments from the payment of taxes - Projects to improve environmental standards 	<ul style="list-style-type: none"> - Environmental disasters - Loss of traditions and cultures - Damage to traditional industries e.g. land for farmers
LOCAL LABOUR, WAGES, WORKING CONDITIONS AND JOB CREATION	<ul style="list-style-type: none"> - Create jobs with better opportunities e.g. training, shared expertise, full-time, promotions - Push wages up improving overall standard of living - Skills development - Better working conditions as businesses look to maintain their own reputation 	<ul style="list-style-type: none"> - Creates wage inflation for local businesses - May look to exploit cheap workers - Bring in own managers only offering low skilled jobs to workers - Working conditions may be poor - Lack of union representation
LOCAL FIRMS	<ul style="list-style-type: none"> - Local firms supplying MNCs (ancillary businesses) will have increased business. - MNCs may help develop reliable infrastructure if they require it for business e.g. Chinese Harbor Engineering in Sri Lanka built a port which stimulated investment. 	<ul style="list-style-type: none"> - If local regulations are poor, MNCs may manipulate this to the detriment of others - Less demand is present for local firms and workers may get unskilled work – no change.

Impact of MNCs on the national economy

	BENEFITS	NEGATIVES
FDI FLOWS	<ul style="list-style-type: none"> - The costs associated with setting up operations abroad is likely to be substantial - An injection into the host economy will cause: <ul style="list-style-type: none"> o Economic growth (GDP) o Generation of revenue for the local government o Job creation and related wealth 	<ul style="list-style-type: none"> - However following the initial investment a lot of the profits are likely to flow back to the domestic economy
ECONOMIC GROWTH	<ul style="list-style-type: none"> - Rising GDP in both the domestic and host countries - This leads to increased demand and employment - Tax revenues increase allowing for reinvestment into infrastructure and on welfare - As individuals earn more and the profits of local firms increase there is more finance available for investment, further increasing economic growth in the future 	<ul style="list-style-type: none"> - However, inflationary pressure can occur if the economy has little spare productive capacity - Resources are used up and negative externalities may occur
BALANCE OF PAYMENTS	<ul style="list-style-type: none"> - A record of a country's trade/transactions with the rest of the world <ul style="list-style-type: none"> o A surplus is when the sum of exports of goods, services, investment income and transfers is greater than imports o A deficit is when the sum of exports of goods, services, investment income and transfers is less than imports - FDI represents a flow of investment into the host country and will therefore improve the BoP - Exports sold from the MNC will also represent an inward flow of cash 	<ul style="list-style-type: none"> - However, if materials and services are imported to support the MNC in the host country this represents an outward flow and will have a negative impact on the BoP
TECHNOLOGY AND SKILLS TRANSFER	<ul style="list-style-type: none"> - New technologies and skills will be introduced to the host economies - Collaborative work between countries to further development - Spread of technology and skills across sectors and to domestic companies 	<ul style="list-style-type: none"> - However, may lead to "brain drain" <ul style="list-style-type: none"> o Brain drain occurs when skilled individuals leave their home nations to take advantage of better opportunities elsewhere.
CONSUMERS	<ul style="list-style-type: none"> - Wider choice of goods and services - Access to global brands - Better quality products 	<ul style="list-style-type: none"> - However, may lose local, more traditional, businesses
BUSINESS CULTURE	<ul style="list-style-type: none"> - May introduce more aggressive cultures based on a profit motive - Traditional businesses may be more likely to be family based - Encourage enterprise due to recognising capitalism 	
TAX REVENUES	<ul style="list-style-type: none"> - Taxes paid within the host country will boost the governments revenue allowing for greater spending on public services such as health care and infrastructure 	<ul style="list-style-type: none"> - However, MNCs may spread their tax liabilities amongst a number of countries many of which will have different rates of tax <ul style="list-style-type: none"> o This allows MNC to minimise its tax liability
TRANSFER PRICING	<ul style="list-style-type: none"> - The price charged by one company to another within the same MNC <ul style="list-style-type: none"> - Should be appropriate: <ul style="list-style-type: none"> o Price that the supplier would be willing to supply at in the market o Price that the buyer would be willing to pay in a market - Can be used by MNCs to manipulate profits between subsidiaries and hence tax liabilities <ul style="list-style-type: none"> - Governed by legislation 	



Primary sector vs Secondary sector vs Tertiary sector

PRIMARY SECTOR	SECONDARY SECTOR	TERTIARY SECTOR
The agricultural and allied sector services are known as the Primary Sector.	The manufacturing sector is known as the Secondary Sector.	The service sector is known as the Tertiary Sector.
Raw materials for goods and services are provided for the Primary Sector.	Secondary sector changes one good into another by building more from it	This sector provides services to both the primary and secondary sector
It uses traditional techniques and is mostly unorganised.	It uses more reliable methods of production and is organised.	It uses modern-day logistics methods to execute its functions & is well organised.
This sector consists of forestry, agriculture and mining activities.	It involves manufacturing units, large firms, small scale units and multi-national organisations.	Insurance trade, Banking and communications come under this sector.
In comparison to other developed nations, India has a large workforce employed.	The employment rate is in balance, as a specific set of skills is needed to find a workforce in this sector	This sector's employment share has developed in the ensuing years.

Industrialisation

- Industrialisation is the process of transforming the economy of a nation or region from a focus on agriculture to a reliance on manufacturing. Mechanized methods of mass production are an essential component of this transition.

Impact of industrialisation on economic expansion

- Increased productivity:** Industrialization typically involves the introduction of machinery and technology into production processes, which leads to increased efficiency and productivity. This allows firms to produce more goods and services with the same or fewer resources, leading to economic expansion.
- Job creation:** While industrialization may lead to job losses in some sectors due to automation, it also creates new employment opportunities in manufacturing, construction, and related industries. This leads to a growth in the labour force and increased consumer spending, both of which contribute to economic expansion.
- Urbanization:** Industrialization often leads to the growth of urban areas as people move from rural areas to cities in search of employment opportunities. This concentration of people in urban areas can stimulate economic growth through increased demand for goods and services, as well as the development of infrastructure and support services.
- Technology diffusion:** Industrialization is often accompanied by technological advancements, which can have spillover effects across the economy. New technologies developed for industrial purposes can often be adapted and applied in other sectors, leading to further innovation and economic expansion.
- Trade opportunities:** Industrialization typically increases a country's capacity to produce goods for both domestic consumption and export. This can lead to increased trade opportunities, as countries specialize in the production of goods in which they have a comparative advantage. Trade can further stimulate economic growth by allowing countries to access new markets and resources.
- Infrastructure development:** Industrialization requires significant investments in infrastructure, such as transportation networks, energy systems, and telecommunications. These investments not only support industrial activities but also create multiplier effects throughout the economy, leading to further economic expansion.

The different sectors in different economies

Primary Sector:

- Developing Economies: The primary sector often plays a significant role in developing economies, with a large portion of the population engaged in agriculture, fishing, forestry, and mining.

Secondary Sector:

- Developed Economies: Developed economies typically have a strong industrial base and a significant share of their GDP and employment in manufacturing and industrial activities.

Tertiary Sector:

- Emerging Economies: Emerging economies often experience rapid growth in the tertiary sector as they urbanize, experience rising incomes, and demand more services. This sector includes activities such as retail, finance, healthcare, education, tourism, and information technology.

**Globalisation**

- This is the process in which national economies have become increasingly integrated and interdependent.
- Causes of globalisation – Trade liberalization, trading blocs, growth of MNC's, technological advancements and mobility of labour and capital.

Implications of economic growth – Trade opportunities for firms

- Opens up new markets
 - Increasing wealth in countries such as China who want Western brands
 - British provenance creates opportunities for individuals with the appropriate skills
 - Fashion
 - Finance
 - Cars
 - Arts
 - Education
- Access to raw materials
- Greater movement of goods and services between countries
- Opportunities for cheaper production
- Greater investment opportunities

Implications of economic growth – Increased profits for firms

- Trade opportunities will arise in new markets leading to an increase in demand and increased revenue and profit
- The owners of businesses will see an increase in income e.g. through higher dividends
- Businesses can use retained profits to reinvest into productive capacity e.g. new machinery
- Access to growing economies will create business confidence benefiting the UK economy as a whole
- As economies get wealthier the UK will start to produce even more highly differentiated products to meet global demand. This will lead to changes in employment patterns as businesses will demand highly skilled workers

Implications of economic growth – Shifting employment patterns

- Increased economic growth leads to improvements in the standard of living for consumers
 - Increased income allows people to spend more on necessities at lower levels of income and more on luxuries at higher income levels
- As real wages increase labour can substitute work for leisure and see dramatic changes in their level of income
- At some point, they might wish to substitute leisure for work as, at higher levels of income, they satisfy their financial requirements. This will change employment patterns
- Increased incomes allow workers more free time and the ability to retire, and enjoy the quality of their life, at an earlier age
- There will also be a shift in the type of employment, moving from more agricultural or low skilled jobs to more technological and high skills jobs

Growing power of Asia (China and India)

	CHINA	INDIA
POPULATION	World's biggest: 1 in 5 of people worldwide live there. By 2019 – 1.4 billion. This will fall after 2030. One child policy slowed growth	By 2022 expected to surpass China's population and become the largest
POPULATION STRUCTURE	Aging population – known as the 4-2- phenomenon. Reduced supply of labour and upward pressure on wages	Young population (ICT literate and 50 million English speaking). Good for jobs and economic growth
GOVERNMENT	Communist Government (less strict than previously). Setting up a business requires Gov. permission	Democratic Government but not keen on foreign businesses in India (wants to retain culture)
GDP GROWTH	Annual GDP growth from 1989-2011 was 9.3%. Likely to become world's largest economy in 2020	Annual GDP growth from 2004-2011 was 8.3%. will overtake China by 2020 as fastest-growing economy.

Implications of economic growth – Rationalisation opportunities for firms

- Rationalisation is a reorganisation in the scale of a firm's operations in order to increase efficiency
- This can be through reducing or increasing the scale of production
- Economic growth will impact on the firm by creating the demand that will lead it to increase in size
- Firms have been able to rationalise operations by moving operations abroad. This has led to:
 - Economies of scale e.g. bulk buying
 - Restructuring to increase efficiency
 - Turning around poor performance
 - Focusing on core business opportunities globally
 - Selling off less profitable parts of the business to improve overall performance
- Consolidating operations in certain countries, particularly ones that offer low cost labour and utilities, has enabled firms to benefit through lower costs and increased efficiency

4. The benefits of expansion and growth

Economic growth leads to higher living standards

- Higher Incomes:** Economic growth often results in increased productivity, which in turn leads to higher wages and profits. When individuals earn more income, they can afford a better quality of life, including improved housing, healthcare, education, and access to goods and services.
- Job Creation:** Economic growth creates employment opportunities as businesses expand to meet rising demand for goods and services. More jobs mean lower unemployment rates and greater financial security for individuals and families.
- Investment in Human Capital:** With economic growth, there is usually greater investment in education, training, and skill development. This leads to a more skilled and productive workforce, which can command higher wages and contribute to innovation and technological advancement.
- Improved Infrastructure:** Economic growth often translates into investments in infrastructure such as roads, bridges, transportation systems, and communication networks. Better infrastructure enhances efficiency in production and distribution, reduces costs, and improves the overall quality of life.
- Access to Basic Services:** Economic growth enables governments to invest in public services such as healthcare, sanitation, clean water, and education. Also more likely to attract greater FDI. These services are essential for human development and contribute to higher living standards by promoting health, reducing poverty, and increasing productivity.
- Technological Progress:** Economic growth fosters technological innovation and adoption, leading to the development of new products, processes, and industries. Technological advancements can improve efficiency, reduce costs, and enhance the quality of goods and services available to consumers.
- Social Welfare Programs:** Economic growth often provides governments with increased tax revenues, which can be used to fund social welfare programs such as unemployment benefits, social security, and healthcare subsidies. These programs help to support individuals during periods of economic uncertainty and improve overall social well-being.
- Increased tax revenues:** Higher tax revenue for governments through increased VAT due to spending and increased corporation tax due to increased profits for businesses. Government will have more revenue to spend elsewhere (e.g. healthcare) to improve living standards, reduce inequality, and reduce poverty.
- MNC's:** Create lots of jobs for local community. They bring advanced technologies and knowledge to host countries. Greater competition for local consumers leads to lower prices and higher quality, as well as greater consumer choice.

Does economic growth improve living standards?

YES	NO
- Improved resources for education	- Increased crime rates
- More spending on healthcare	- Diseases of affluence
- Increased tax revenues	- Environmental costs – pollution
- Enables more consumption	- Diminishing utility of income

How living standards vary in each stage of the economic cycle

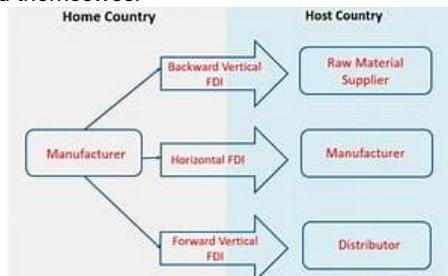
	CHARACTERISTICS
BOOM	<ul style="list-style-type: none"> - Unemployment decreases - Output increases as demand rises with more disposable income - Income levels rise as there is more competition for skilled employees - High interest rates to combat inflation - High capacity – near full - Demand-pull inflation - Government budgets improve, due to higher tax revenues and less spending on welfare payments - = highest living standards
RECESSION	<ul style="list-style-type: none"> - Consumer confidence will fall leading to less spending in the economy - Businesses will cut investment - Unemployment rises - Low interest rates to encourage consumer spending - = decreasing living standards
SLUMP	<ul style="list-style-type: none"> - Leads to falling sales and profits and encourages gloomy expectations - Lots of spare capacity and negative output - Unemployment rises as firms need less workers - Real wages may fall as there is less competition for work - Less disposable income causing demand in the economy to fall - Firms lose confidence and are reluctant to invest, slowing the economy - Government budgets worsen due to more spending on welfare payments and lower tax revenues - = lowest living standards
RECOVERY	<ul style="list-style-type: none"> - Increase in consumers' confidence of the market - Increase in productivity to the increased aggregate demand in the economy - Unemployment begins to fall as companies increase output - Low interest rates charged by banks in the early years of the recovery phase act as an incentive to producers to borrow money – investment rises - = increasing living standards

Increasing trade liberalisation

- Exports are the selling of goods and services to other countries
- Imports are the buying of goods and services from other countries
- Exports minus imports makes up the Balance of Payments on Current Account.
- As global demand and supply changes so will imports and exports
- The US is the biggest economy in terms of global imports
 - However, newly rich countries are increasing their demand for goods and services
 - As these countries see economic growth the state of the world economy changes, as does the pattern of imports and exports
- China is the biggest economy in terms of global exports
 - They have used their low costs to supply everything from textiles to electronics
 - As China sees economic growth their costs will increase e.g. higher wage costs making it more difficult to maintain demand for exports
 - Many countries utilise their natural resources in order to export e.g. Saudi Arabia is oil rich

Foreign direct investment (FDI) and link to growth

- Foreign Direct Investment (FDI) is investment made by a business or other entity from one country into the production capacity of a business or other entity from another country e.g. factories.
- It was originally believed that FDI occurred due to differing interest rates in different countries. Businesses would transfer money globally to where they could obtain the highest interest rate.
- Other theories believe that businesses cluster production together geographically or operate in countries that are close to them geographically.
- At first, we have a less developed country that can be exploited in terms of costs e.g. labour by multinational corporations. This benefits the MNC but also creates income and wealth in a country.
- This leads to economic growth that attracts inflows of FDI but also creates wealthier domestic businesses. As a result the economy and domestic businesses grow.
- Finally, rising standards of living and greater use of technology lead to more FDI, both in and out of the country. Domestic businesses have acquired the skill and knowledge base of the MNC. External economies of scale occur, where domestic businesses grow in order to supply the MNC. Eventually, some domestic businesses are so large that they start to invest abroad themselves.



Trade liberalisation and economic growth

- Globalisation is the process of greater integration and inter-connectedness between countries
- Globalisation usually includes the following features and characteristics:
 - Free movement of goods and services
 - Free movement of labour
 - Free movement of capital
 - Increased cultural exchange
- The International Monetary Fund (IMF) define globalisation as “The process through which an increasingly free flow of ideas, people, goods, services and capital leads to the integration of economies and societies.”

Reduced cost of transportation and communication

- This has made the movement of goods and services across the globe faster and cheaper
- Improved transportation services such as shipping and airlines have made this possible
- Improved infrastructure e.g. roads and internet has also made globalisation easier
- Use of the internet, e-commerce and mobile technology has made it quicker and easier to communicate
- Advances in technology have revolutionised communications, making it easier to communicate globally and lowered the cost of communication e.g. teleconference and Skype v face to face meetings

Increased significance of global (transnational) companies

- Many large organisations have taken advantage of lower trade barriers, labour mobility and cheaper transportation to grow rapidly and enter previously untapped markets

Increased investment flows (FDI)

- There has been a significant relaxation on the rules and regulations surrounding the movement of capital, which can move either freely or at very low cost quickly across the globe.
 - This has led to an increase in foreign direct investment.
- The greater freedom of movement of capital enables businesses to invest outside their country of origin.

This may lower their own costs of production and improve economic prospects and job opportunities in the invested

Growth of the global labour force

- Growth, in terms of both quantity and quality, has led to a diverse international workforce. With increasingly freer movement of labour this has transformed workforces globally
- In many economies, such as the UK, we are seeing low skilled foreign workers employed in industries that do not require high rates of human capital
- At the same time we are seeing highly skilled workers from the same countries, but employed in industries where there is a high human capital requirement

Structural change

- National economies have been transformed with countries moving away from the primary sector to manufacturing, whilst other economies have moved from the secondary sector to services

Removing trade barriers and an increase in movement of labour has contributed to the trend of increased interconnectedness of national economies over the past 40 years.

Trading blocs

- Trading blocs are when the governments of a group of countries agree to trade together freely i.e. normally with no trade barriers
- The countries are normally grouped together geographically e.g. the European Union (EU)
- The members of a trading bloc make preferential economic, and sometimes political, arrangements to boost trade within the member states

Trade creation

- Trade creation is when trade shifts as a result of membership of a trading bloc from a high cost producer to a low cost producer
- Membership allows the business to buy from the most efficient producer, that is also a member, without having to pay tariffs

Trade diversion

- Trade diversion is when trade shifts as a result of membership of a trading bloc from a low cost producer to a high cost producer
- A member shifts from buying from a low cost supplier outside of the trading bloc to a high cost producer within the trading bloc. This is due to not having to pay tariffs to that producer

Types of trading blocs

- Preferential trade areas
 - Members agree to either reduce or eliminate trade barriers for a select number of goods or services, resulting in partial trade liberalisation
- Free trade areas
 - Members agree to either reduce or eliminate trade barriers for all goods and services, resulting in trade liberalisation
- Customs unions
 - Members agree to the removal of trade barriers amongst themselves and a common approach to trade barriers when dealing with countries outside of the bloc
 - In a sense the bloc is now acting as one homogenous group
- Common markets
 - Members agree to the removal of trade barriers as well as the freedom of movement of factors of production within the bloc
 - Often also involves the agreement of common economic policies
- Economic unions
 - Comprises of the features of both a customs union and a common market, including common economic policies
- Monetary unions
 - A monetary union is a system in which multiple countries share a common currency and have a unified monetary policy managed by a central authority.

Pros and cons of trading within a trading bloc (e.g. EU or NAFTA)

Benefits	Constraints
<ul style="list-style-type: none"> • Access to member country markets without trade restrictions means export levels increase. • No tariffs on imports from bloc members; lower prices benefit business and consumers. • Possibility of economies of scale. • Spreading of risk. • A trading bloc creates a larger market which attracts foreign direct investment (FDI). • Greater competition within the trade bloc can increase incentives for firms to strive for efficiency, cutting costs and prices. 	<p><i>For free trade areas:</i></p> <ul style="list-style-type: none"> • No protection for domestic industries competing with other bloc members. • Stiffer competition for domestic producers. • Reaching agreement with member states is a slow process. <p><i>For common markets:</i></p> <ul style="list-style-type: none"> • A common external tariff can increase costs of raw materials or supplies from outside the bloc. • Harmonised regulations may not suit all businesses, especially those without ethical commitments.

	NO INTERNAL TRADE BARRIERS	COMMON EXTERNAL TARIFF	FACTOR AND ASSET MOBILITY	COMMON CURRENCY	COMMON ECONOMIC POLICY
FREE TRADE AREA	X				
CUSTOMS UNION	X	X			
SINGLE MARKET	X	X	X		
MONETARY UNION	X	X	X	X	
ECONOMIC UNION	X	X	X	X	X

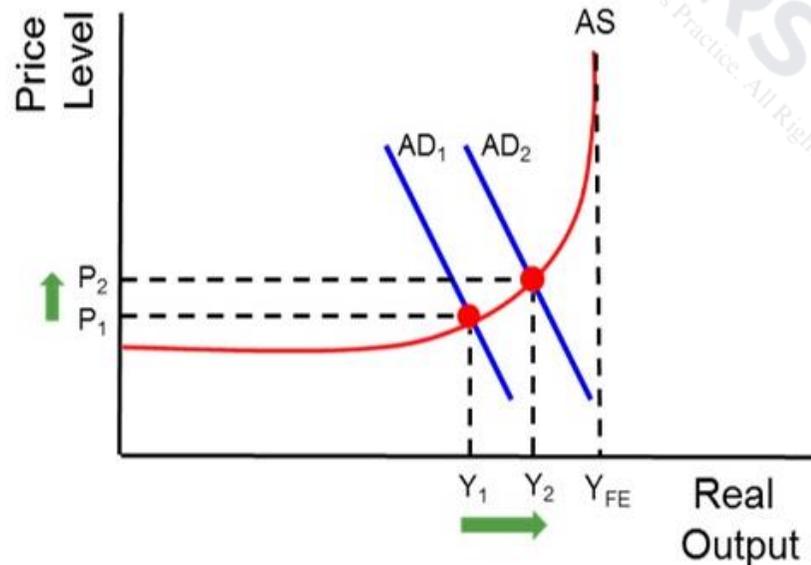
Other benefits of the growth and expansion of firms

1. **Job Creation:** Growing firms typically require additional labour, leading to job creation and reduced unemployment rates within the local economy, thereby improving livelihoods and increasing consumer spending power.
2. **Increased Innovation:** Expansion often necessitates investments in research and development, leading to innovation and technological advancement within the industry, which can drive productivity improvements and competitiveness.
3. **Economies of Scale:** Larger firms can take advantage of economies of scale, reducing average costs per unit of production through increased efficiency, bulk purchasing, and streamlined operations, which can lead to lower prices for consumers and higher profits for the firm.
4. **Access to New Markets:** Firm growth enables access to new markets, both domestically and internationally, allowing for diversification of revenue streams and reducing reliance on specific markets or products, thereby enhancing resilience to economic fluctuations.
5. **Increased Tax Revenues:** Growing firms generate higher revenues, leading to increased tax contributions to government coffers, which can be used to fund public services, infrastructure projects, and social welfare programs, benefiting the broader community.
6. **Improved Access to Capital:** Larger firms often have greater access to financing options, such as bank loans, equity financing, or bond issuance, which can facilitate further expansion, investment in new technologies, and strategic acquisitions.

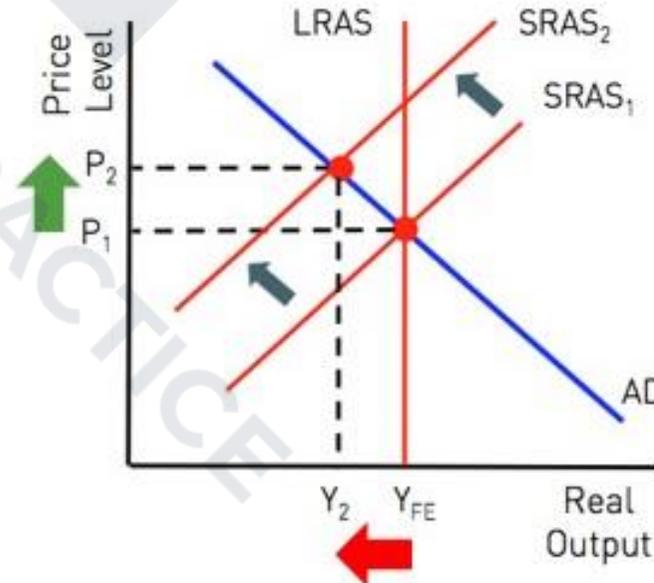
Other benefits of the growth and expansion of economies

1. **Innovation and Technological Advancement:** Economic expansion fosters innovation and technological progress as businesses invest in research and development to remain competitive, leading to the creation of new products, processes, and industries that drive further economic growth and enhance productivity.
2. **Reduced Poverty:** Economic growth can help alleviate poverty by providing opportunities for economic participation and upward mobility, lifting people out of poverty through job creation, income growth, and social welfare programs funded by increased tax revenues.
3. **Investment Opportunities:** Expanding economies attract domestic and foreign investment, providing entrepreneurs and businesses with opportunities to expand operations, develop new markets, and generate wealth, while also stimulating economic activity and employment.
4. **International Trade and Cooperation:** Growing economies often engage in international trade, fostering cooperation and mutual benefit with trading partners, promoting global economic integration, and expanding market opportunities for businesses and consumers.
5. **Social Stability and Development:** Economic growth contributes to social stability by reducing income inequality, providing resources for social programs and infrastructure development, and fostering a sense of prosperity and optimism within society.

Demand-pull inflation



Cost push inflation



5. The problems of expansion and growth

Characteristics of monopoly

- Economic growth can create economies of scale for firms. The firms will have a desire to increase market share and market power, which can lead to the formation of monopolies.
- 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

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

Negatives of monopolies and oligopolies

1. **Higher Prices:** Monopolies and oligopolies have significant market power, allowing them to raise prices above competitive levels without fear of losing customers to rivals. This results in higher prices for consumers, leading to reduced purchasing power and potentially decreased consumer welfare.
2. **Reduced Consumer Choice:** In monopolistic or oligopolistic markets, consumers often have limited options for goods or services, as a small number of firms dominate the market. This lack of choice can lead to diminished product variety, innovation, and quality, as firms may have little incentive to compete on these factors.
3. **Inefficiency:** Monopolies and oligopolies may lack incentives to operate efficiently or innovate, as they face little competitive pressure to do so. This can result in allocative inefficiency, where resources are not allocated to their most productive uses, leading to a loss of economic welfare.
4. **Barriers to Entry:** Monopolies and oligopolies may erect barriers to entry, such as high capital requirements, exclusive contracts, or control over essential resources, preventing new firms from entering the market and competing effectively. This reduces competition and innovation, stifling entrepreneurship and economic dynamism.
5. **Reduced Innovation:** Lack of competition can stifle innovation, as monopolies and oligopolies may have little incentive to invest in research and development or bring new products to market. This can impede technological progress, hinder economic growth, and limit consumer welfare in the long run.

Collusion in oligopolies

1. **Price Fixing:** Colluding firms may agree to set prices at artificially high levels, thereby reducing price competition and allowing them to earn higher profits than they would in a competitive market. Price-fixing agreements can take the form of explicit collusion through formal agreements or implicit collusion through tacit understandings.
2. **Market Allocation:** Colluding firms may agree to divide the market among themselves, with each firm serving specific geographic regions or customer segments. By avoiding direct competition with each other, colluding firms can maintain higher prices and profit margins within their respective territories.
3. **Output Restriction:** Colluding firms may agree to limit the quantity of goods or services they produce or sell in the market, artificially constraining supply to keep prices elevated. This can lead to higher prices for consumers and reduced consumer welfare.



Economic growth can cause increased uncertainty

1. **Volatility in Financial Markets:** Rapid economic growth can lead to increased volatility in financial markets as investors react to changing economic conditions and market expectations. Fluctuations in stock prices, bond yields, and currency exchange rates can create uncertainty for businesses, investors, and consumers.
2. **Inflationary Pressures:** Strong economic growth can lead to higher demand for goods and services, putting upward pressure on prices. If demand outpaces supply, it can result in inflation, which can erode purchasing power, reduce consumer confidence, and create uncertainty about future price levels and economic stability.
3. **Policy Uncertainty:** During periods of economic growth, policymakers may face challenges in managing inflation, interest rates, and fiscal policy to sustain growth while maintaining price stability. Uncertainty about government policies and regulations can affect business investment decisions, consumer spending, and overall economic sentiment.
4. **Geopolitical Risks:** Economic growth can be influenced by geopolitical factors such as trade tensions, conflicts, and political instability. Disruptions to global supply chains, changes in trade policies, or geopolitical conflicts can create uncertainty for businesses operating in international markets and affect global economic prospects.
5. **Technological Disruption:** Economic growth driven by technological advancements can disrupt traditional industries, jobs, and business models, leading to uncertainty about the future of work, skills requirements, and income distribution. Businesses may face challenges in adapting to rapid technological change and innovation, leading to uncertainty about future market dynamics and competitiveness.
6. **Environmental Risks:** Economic growth can place strains on natural resources, ecosystems, and climate systems, leading to environmental degradation, resource depletion, and climate change. Uncertainty about the long-term sustainability of economic growth and the potential impacts of environmental risks can affect investment decisions, regulatory frameworks, and business strategies.
7. **Social and Economic Inequality:** While economic growth can lead to higher incomes and improved living standards for many, it may also exacerbate social and economic inequalities within society. Rising inequality can create social tensions, political instability, and uncertainty about future social cohesion and policy responses.

The global financial crisis and uncertainty

- The global financial crisis caused uncertainty by triggering a collapse in financial markets, leading to widespread panic, volatility, and a loss of confidence among investors, businesses, and consumers.
- Uncertainty arose from concerns about the stability of financial institutions, the health of the global economy, the effectiveness of policy responses, and the potential for further economic downturns, contributing to a period of heightened economic and financial instability.

Negative externalities

- 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.

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.

External costs

- External costs are costs or negative side-effects imposed on 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.

Negative externalities of economic growth

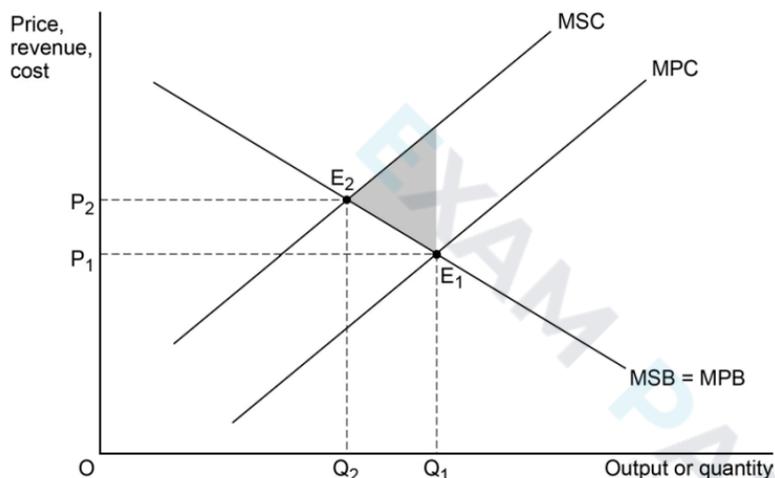
1. **Environmental Degradation:** Economic growth often leads to increased pollution, deforestation, habitat destruction, and resource depletion, which can have long-term negative impacts on ecosystems, biodiversity, and human health.
2. **Climate Change:** Economic growth driven by fossil fuel consumption and industrial activities contributes to greenhouse gas emissions, leading to global warming, sea level rise, extreme weather events, and other climate-related risks and impacts.
3. **Public Health Risks:** Industrialization and urbanization associated with economic growth can lead to air and water pollution, exposure to harmful chemicals, and inadequate access to healthcare, resulting in negative health outcomes such as respiratory diseases, waterborne illnesses, and increased mortality rates.
4. **Income Inequality:** While economic growth can lead to higher incomes and improved living standards for many, it may also exacerbate income inequality by disproportionately benefiting the wealthy or certain industries, leading to social tensions, political instability, and reduced social cohesion.
5. **Resource Scarcity:** Economic growth can strain natural resources such as water, energy, and arable land, leading to shortages, conflicts over resource allocation, and increased competition for limited resources, particularly in regions experiencing rapid population growth and industrialization.
6. **Loss of Cultural Heritage:** Economic growth and globalization can lead to the homogenization of cultures, loss of traditional practices, languages, and cultural heritage, as well as the commodification of cultural artifacts and traditions, eroding cultural diversity and identity.
7. **Financial Instability:** Rapid economic growth can lead to asset bubbles, excessive risk-taking, and unsustainable levels of debt, increasing the likelihood of financial crises, market volatility, and economic downturns, with adverse consequences for households, businesses, and governments.



Negative externalities in production

Example:

Pollution generated by a factory that imposes costs on others.

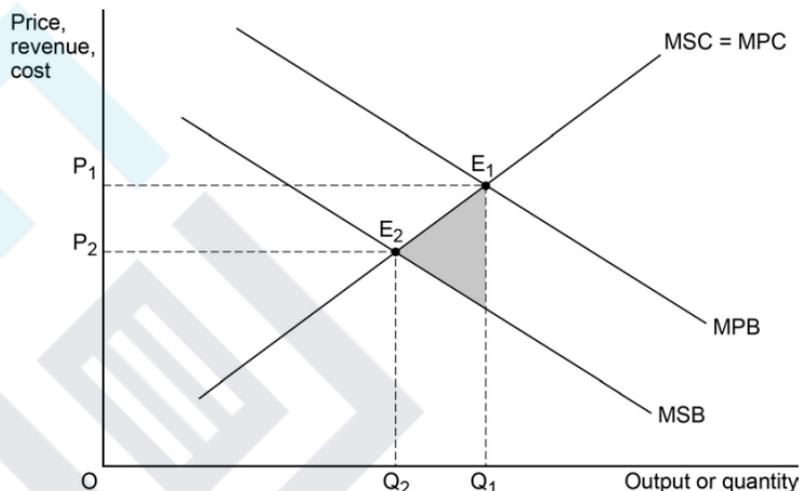


The shaded area illustrates the 'loss' of welfare or deadweight welfare loss (DWL), which exists at the free market output, Q_1 (where $MPC = MPB$). The socially optimum output is Q_2 (where $MSC = MSB$). At outputs between Q_1 and Q_2 , the MSC is greater than MSB and hence there is a net welfare loss on each of these items. Social welfare would be higher if these items weren't produced and resources were reallocated to producing other goods and services. When production takes place at the socially optimal output, ie where $MSB = MSC$, the DWL is eliminated.

Negative externalities in consumption

Example:

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



The shaded area illustrates the 'loss' of welfare or deadweight welfare loss (DWL), which exists at the free market output, Q_1 (where $MPC = MPB$). When consumption takes place at the socially optimal output, ie where $MSB = MSC$, the DWL is eliminated.

The Lorenz curve

