AQA A Level Economics

Your notes

11. Economic Performance

Contents

- Economic Growth
- The Impact of Economic Growth
- The Economic Cycle
- Employment & Unemployment
- Price Level: Inflation
- Price Level: Deflation
- Price Level: Global Influences
- Conflicts Between the Macroeconomic Objectives

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Economic Growth

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The Distinction Between Short-run & Long-run Economic Growth

- **Economic growth** can occur in the short-run or long run, and each is explained differently

- **Short-run growth** is growth that occurs as a result of using existing resources more efficiently
  - Short-run growth is usually **driven by changes in aggregate demand** and is referred to as **demand-side growth**
  - Short-run growth can also be **driven by changes in the factors that influence short-run aggregate supply**, leading to **supply-side growth**
- **Long-run growth** occurs when there are sustained improvements in the quantity or quality of the factors of production, leading to an increase in the production of goods and services over a period of time
  - This growth is driven by factors such as technological advancements, investment in human capital, capital accumulation, institutional and policy factors, population growth, and research and development

Causes of Short-run Economic Growth

Short-run demand-side growth

- Changes to any of the **components of aggregate demand** (AD) will cause **short-run economic growth** to occur
  - Demand-side growth can be illustrated by using the **production possibilities curves model**. Growth occurs when there is a movement from a **point inside** the curve to a **point closer to the curve**
  - Demand-side growth can also be illustrated on an **AD/AS diagram** through a **rightward shift in AD**

Diagram: Short-run Economic Growth on a PPC)

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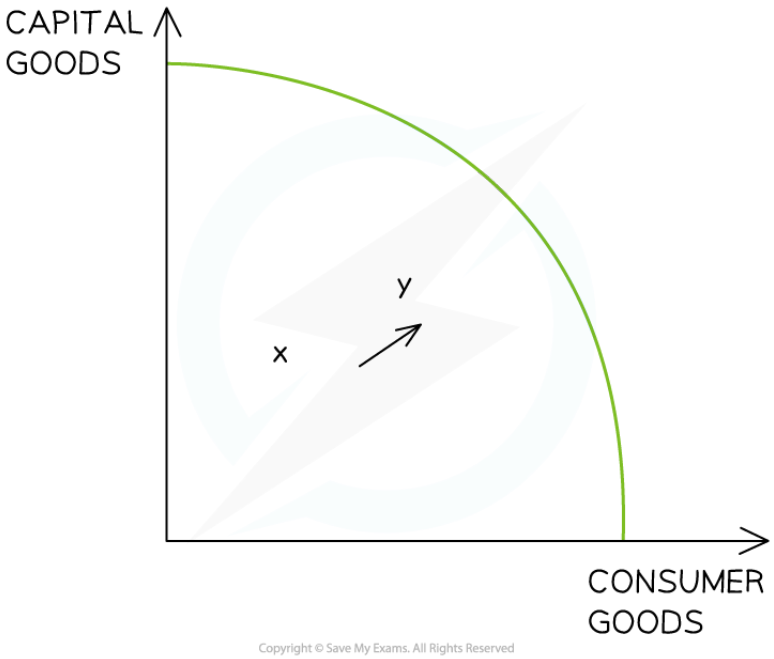

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Short-term economic growth on a production possibilities curve (PPC) model

Diagram analysis

- **Economic growth** in the short run involves using more of the available resources (the factors of production)
- As the economy is operating below full potential, there is spare capacity available
  If the economy is operating inside the curve, there is room for growth without the need for additional resources
  - This is seen as movements within the Production Possibilities Frontier
- An increase in output has caused a shift in production combinations from ***X→Y***
  - The current **real output has increased, moving closer to the maximum possible output of the economy**
    - This represents an increase in real GDP
    - An increase in real GDP = economic growth

Diagram: Short-run Economic Growth using AD/AS

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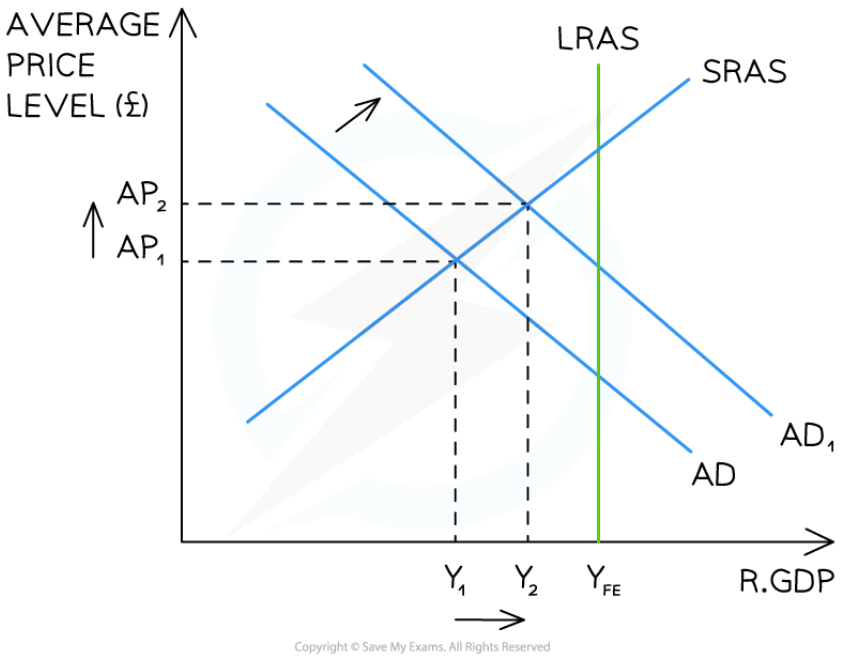

Short-term economic growth through a shift of aggregate demand from AD → AD1

Diagram analysis

- An increase in consumption, investment, government spending or net exports has caused a **shift in AD from *AD →A D_1***
- The current **real output has increased from $Y_1 \rightarrow Y_2$** which represents an increase in **real GDP**
  - An increase in real GDP = economic growth
- This **short-term growth** has led to an increase in **average prices from $AP_1 \rightarrow AP_2$**

Short-run Supply-side Growth

- **Short-run supply side growth** is caused by anything that shifts the SRAS curve in an economy
  - E.g. A fall in the costs of production, a decrease in taxes, or an increase in the level of subsidies
  - It effectively creates a condition of **excess supply** in the economy
  - Average price levels fall
  - National output (rGDP) increases

Diagram: Short-run Supply-side Growth

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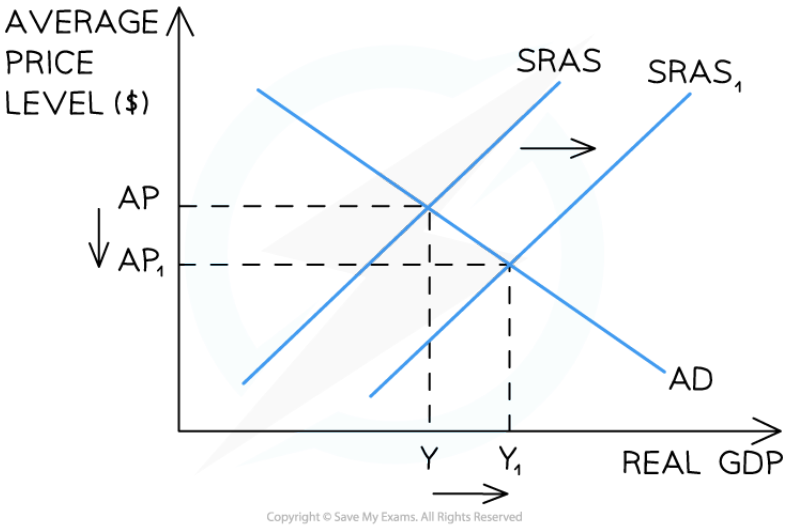

Short-run aggregate supply (SRAS) has increased, leading to an increase in output and national income

Diagram analysis

- The initial **macroeconomic equilibrium** is at AP Y
- Any factor which causes an increase in the SRAS will result in the SRAS curve shifting right from SRAS → $SRAS_1$
- This shift causes a **fall** in average price levels from AP → AP_1
- The new macroeconomic equilibrium is now at AP_1 Y_1
- **Short-run supply-side growth** has occurred

Causes of Long-run Economic Growth

- Long-run economic growth is caused by any improvements to the **determinants of long-run aggregate supply**
  - This is illustrated on an **AD/AS diagram** by a **rightward shift in the LRAS**
  - This represents a change to the **normal production output** of an economy

Diagram: Long-run Economic Growth Using AD/AS

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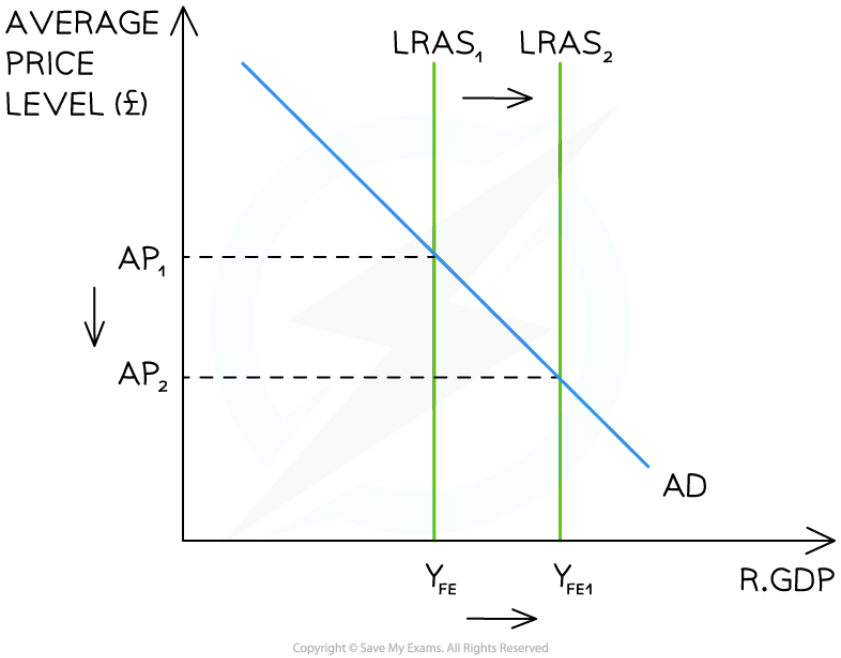

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Long-run economic growth occurs through an increase in the long-run aggregate supply (LRAS) of the economy

Diagram analysis

- A change to the **quantity/quality** of the factors of production has increased potential output of the economy from $Y_{FE} \rightarrow Y_{FE1}$
  - E.g. More **rigorous competition policy** creates a higher number of firms in each industry, leading to **greater aggregate supply** in the economy
    - **This shifts the long-run aggregate supply** curve to the right (LRAS1→LRAS2), resulting in economic growth
- The final **impact on price levels** depends on the **shape of the long-run aggregate supply** curve (Keynesian or Classical)
- Long-run economic growth can also be illustrated using the **PPC model** through a shift outwards of the entire curve
- The entire PPC of an economy can shift inward or outward, thereby changing its production possibilities
- An outward shift demonstrates long-term **economic growth**

Diagram: Long-term Economic Growth Using a PPC

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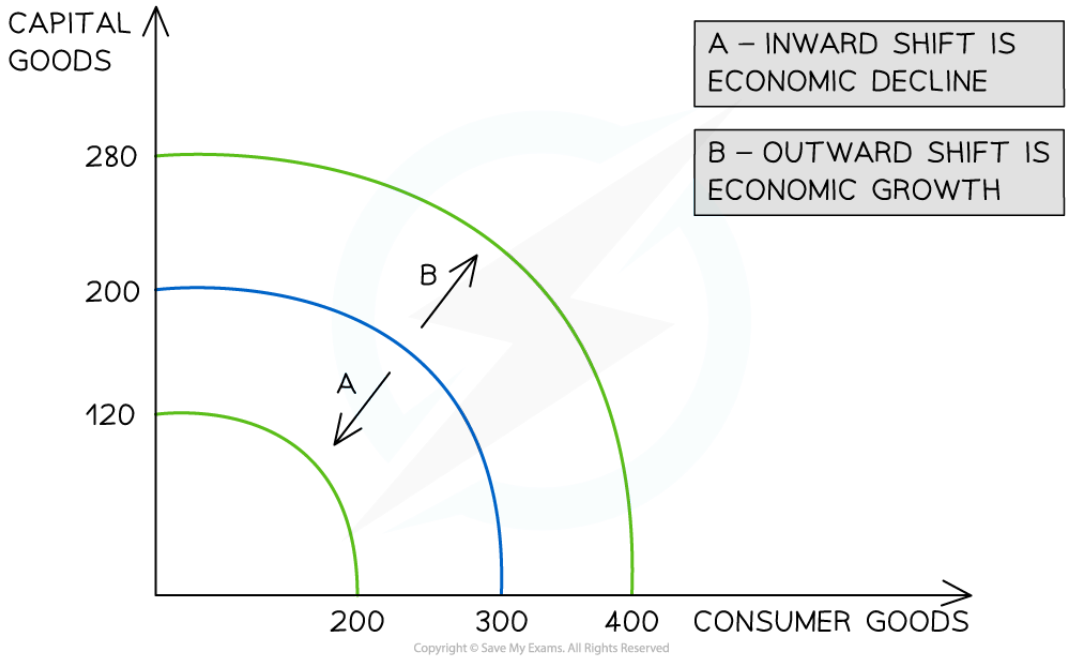

Outward shifts of a PPC show long-run economic growth

Diagram analysis

- **Economic growth** occurs when there is an increase in the **productive potential of an economy**
  - This is demonstrated by an **outward shift** of the entire curve
  - **More consumer goods** and **more capital goods** can now be produced using all of the **available resources**
- This shift is caused by an increase in the **quality or quantity of the available factors of production**
  - One example of how the **quality** of a factor of production can be **improved** is through the impact of **training and education on labour**. An educated workforce is a **more productive workforce** and the **production possibilities increase**
  - One example of how the **quantity** of a factor of production can be **increased** is through a change in migration policies. If an economy allows **more foreign workers** to work productively in the economy, then the **production possibilities increase**

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Examiner Tips and Tricks

Some of the terminology in this section can be confusing! In your exams, you are also expected to recognise that the term **'long-run economic growth'** refers to the trend rate of growth of real national output in an economy over time.

- Real national output is the value of the output adjusted for inflation. It is also often called real gross domestic product (r. GDP)
- The trend rate of growth refers to the average or long-term rate at which an economy expands over time. On the diagrams above, it would be shown by annual movements outwards of the LRAS curve or the PPC

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The Impact of Economic Growth

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The Costs & Benefits of Economic Growth

- When evaluating the impact of economic growth, it is useful to consider both the cost and benefits it offers to society

Evaluating Economic Growth

The Benefits	The Costs
▪ Increased **employment** and productivity contribute to a growth in wages and overall income levels ▪ As economic output expands, there is a potential for **higher incomes** for individuals	▪ Economic growth often leads to **negative externalities** such as increased air pollution, the generation of plastic waste, and the degradation of natural resources ▪ These **environmental costs** can have long-term consequences on ecosystems and public health
▪ A higher GDP can lead to improved **standards of living** for the population ▪ This includes access to better **healthcare, education**, and an overall enhanced quality of life	▪ Intensive economic growth can lead to the **depletion of natural resources** ▪ Extracting resources at **unsustainable** rates can jeopardise the long-term availability of essential inputs for various industries
▪ Economic growth often facilitates investments in **infrastructure** ▪ Governments may allocate funds to build better roads, public transport systems, and broadband networks. Improved infrastructure contributes to overall economic efficiency	▪ Unequal distribution of wealth ▪ If the benefits of growth are concentrated among a small portion of the population, it can exacerbate income inequality and social tensions
▪ Economic growth fosters a more competitive marketplace, leading to increased competition and **innovation**	▪ Economic growth may **not be evenly distributed** across regions, leading to unbalanced development

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▪ As businesses thrive, consumers benefit from a greater variety of goods and services. This variety enhances **consumer choice** and promotes innovation	▪ Some areas may experience rapid growth while others lag behind, contributing to **regional disparitie**s in infrastructure, employment opportunities, and living standards


Your notes

The Impact of Economic Growth on key Stakeholders

The impact of economic growth on individuals

- Economic growth can lead to an increase in **income levels** for many individuals. As businesses expand and create more jobs, individuals may experience **rising wages** and higher income
- However, the benefits of economic growth may **not be evenly distributed**. Higher-income individuals, particularly those who own assets or hold positions in industries experiencing significant growth, may see disproportionately larger increases in their incomes compared to lower-income individuals, which can result in significant **disparities** between the rich and the poor

The impact of economic growth on the economy

- With economic growth, several macroeconomic goals can be achieved. **Employment rates** may rise, **standards of living** might improve, and there's potential for increased investment in education, healthcare, and infrastructure
- However, it's crucial to note that high levels of economic growth may also lead to elevated **inflation,** making exports more expensive

The impact of economic growth on the environment

- The pursuit of economic growth often comes with **negative externalities**. This includes an increase in air pollution, the generation of plastic waste, and the degradation of natural resources
- Rapid economic growth can lead to increased demand for **natural resources,** potentially resulting in **overexploitation** and depletion of these resources. This can have detrimental effects on ecosystems and biodiversity
- It can lead to higher levels of **waste production.** Inadequate waste management practices can result in pollution and environmental degradation
- The environmental costs associated with growth can have lasting consequences on **ecosystems** and **public health**

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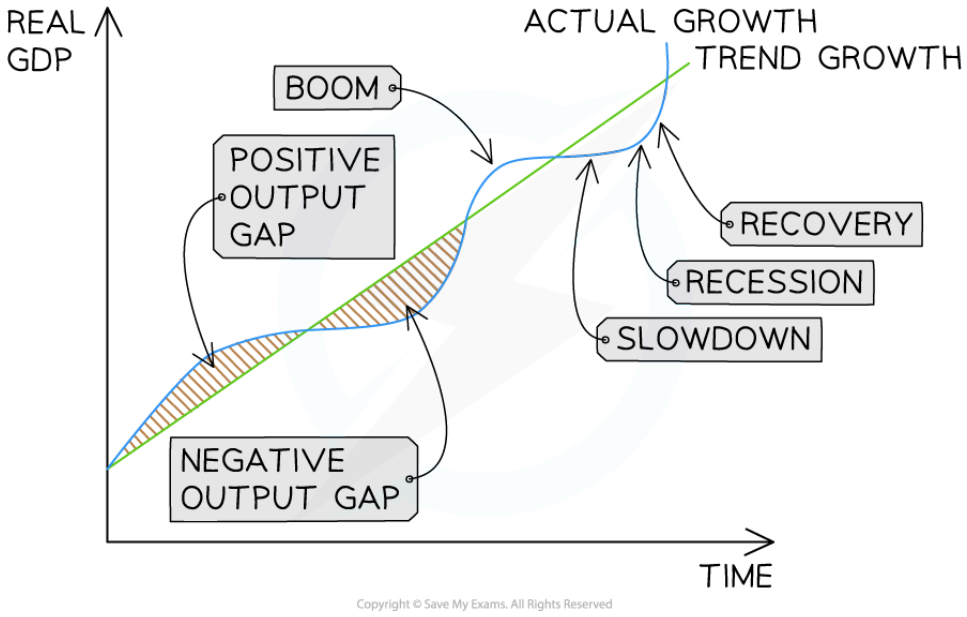
The Economic Cycle

- An **economic (or business) cycle** refers to the **changes in real GDP** that occur in an economy over time
  - This is the **actual growth**
- The real GDP will fluctuate above and below the **long-term trend rate of growth**
  - **The long-term trend rate of growth** refers to the average or long-term rate at which an economy expands over time
  - It represents the **underlying, sustainable rate of growth** that an economy can achieve over the long run, after accounting for fluctuations caused by the economic cycle
- There are four recognisable points in the cycle
  - Peak/boom; slowdown/downturn; **recession**, recovery

Diagram: The Economic Cycle



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An economic cycle diagram illustrates the fluctuations of real GDP (actual growth) around long-term trend growth

Diagram analysis

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- A **positive output gap** is identified as growth of real GDP that is **above** the trend
- A **negative output gap** is identified as growth of GDP that is below the trend
- There is often a natural flow through the **different stages,** from boom to slowdown to recession to recovery
- This flow of real GDP can be moderated by **government intervention**
  - E.g. Increasing taxes in a **boom** period or increasing spending in a recession will help the economy stay closer to the long term trend


Your notes

A Table Explaining the Characteristics of a Boom & Recession

Characteristics of a Recession	Characteristics of a Boom
▪ Two consecutive quarters (6 months) or more of **negative economic growth** ▪ Increasing/high unemployment ▪ Increasing negative output gap and **spare production capacity** ▪ Low confidence for firms and households ▪ Usually, **low inflation**	▪ Increasing/high rates of **economic growth** ▪ Decreasing unemployment and increasing job vacancies ▪ Reduction of the **negative output gap** or creation of a positive gap. Spare capacity is reduced or eliminated ▪ High confidence and more **risky decisions** taken ▪ Increasing rate of inflation - usually **demand pull** ▪ An improvement in the **government budget** as tax revenues rise and expenditures fall

Examiner Tips and Tricks

You will often be examined on the **characteristics of the economic cycle.** Remember to demonstrate **critical thinking** around the assumptions of the model. For example, some firms may thrive during a **recession** as consumers switch to purchasing inferior goods (Poundland).

Additionally, the components of aggregate demand do not rise/fall at the same rate. For example, during a recovery, consumption may increase well ahead of investment by firms.

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An economy may also experience some fundamental **restructuring** during a prolonged recession, and the **composition of real GDP growth** may be significantly different to what is was before the recession.

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The Difference Between Positive & Negative Output Gaps

- It is difficult to measure **output gaps** accurately
  - This is because it is hard to know exactly what the maximum productive potential of an economy is
  - Rapidly rising prices can indicate a **positive gap** is developing
  - Rising unemployment and slowdown in economic growth can indicate that a **negative gap** is increasing

Negative Output Gap on an AD/AS Diagram

- A negative output gap occurs when the economy is operating below its full potential

Diagram: Negative Output Gap

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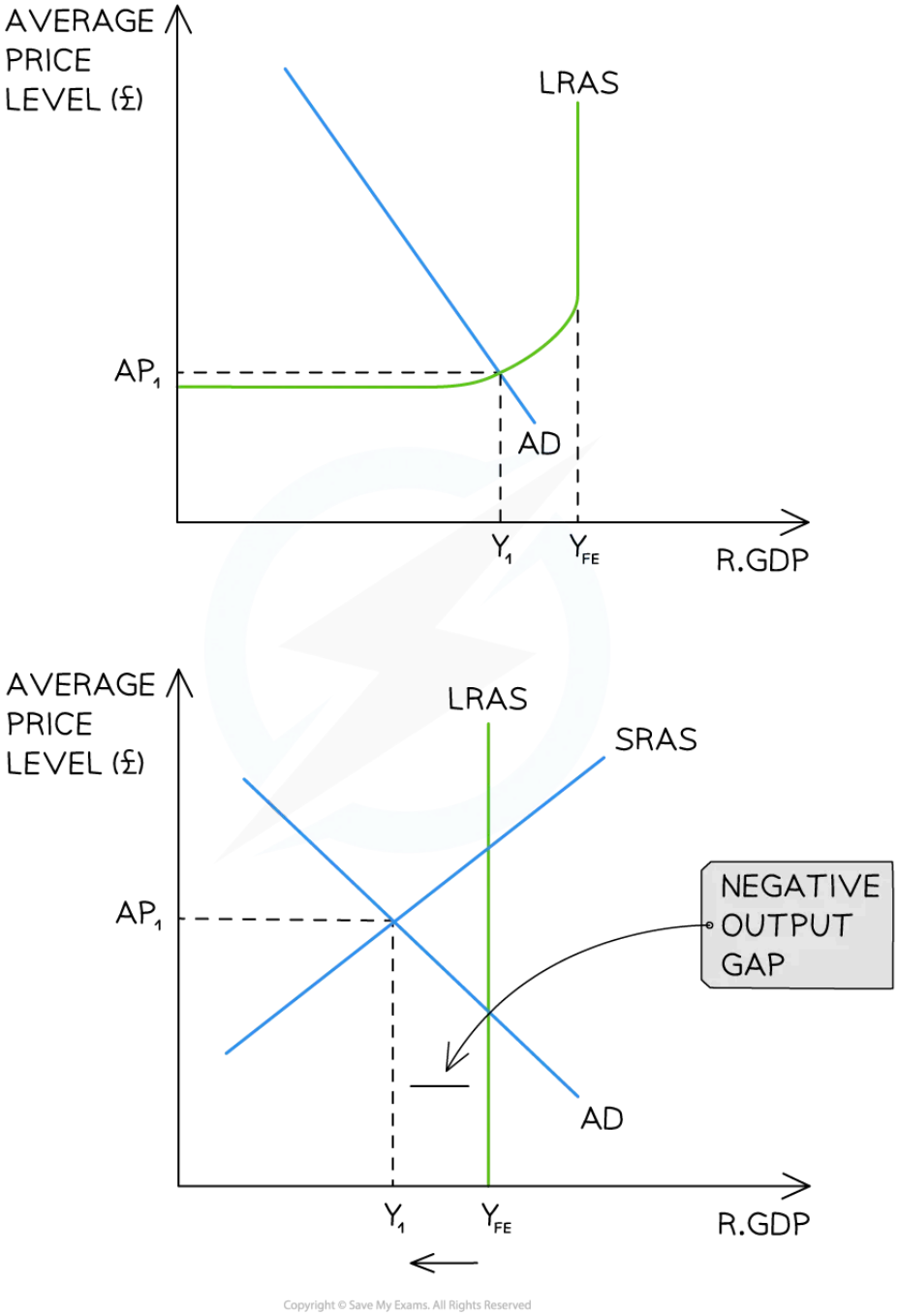

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An Keynesian (top) and Classical (bottom) diagram illustrating an economy that has a negative output gap (Y1 – YFE) and is currently producing less than its potential output

Diagram analysis

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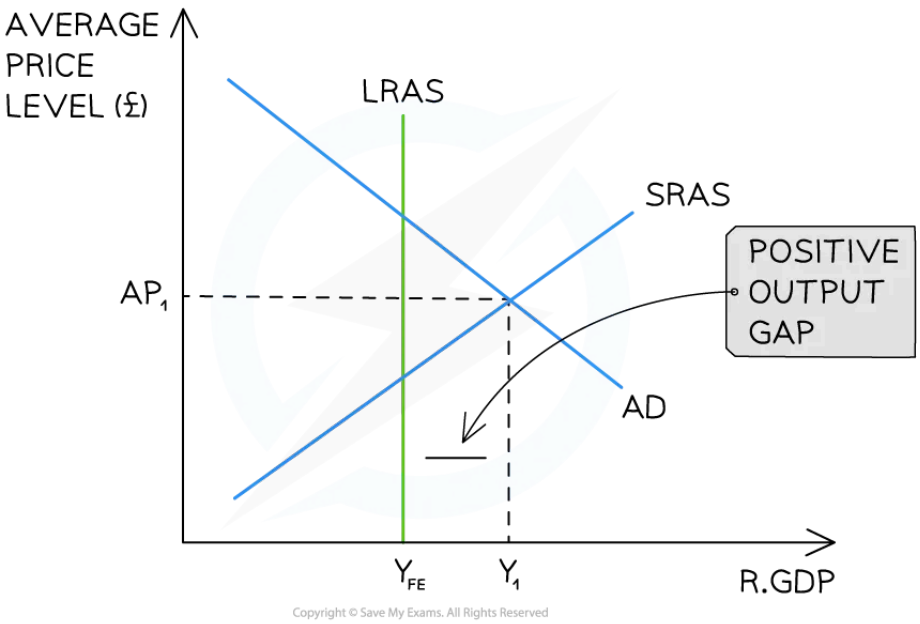
- The potential output of this economy is at $\mathbf{Y_{FE}}$
- The economy is in a **short-run equilibrium** at AP_1Y_1
  - A **negative output gap** exists at $Y_1 - Y_{FE}$
    - This effectively gives the economy **spare capacity** in the **short-term**
  - One cause of this may be that the AD has recently decreased due to a fall in **consumption**
  - The Classical view is that the output will return to Y_{FE} in the **long-run**, but at a lower average price level
  - The **Keynesian view i**s that an economy may be stuck in a **negative output gap** for a long period of time

Positive Output Gap on an AD/AS Diagram

- A positive output gap occurs when the economy is operating beyond its full potential

Diagram: Positive Output Gap



An AD/AS diagram illustrating an economy that has a positive output gap (YFE - Y1) and is currently producing more than its potential output

Diagram analysis

- The potential output of this economy is at $\mathbf{Y_{FE}}$

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- The economy is in a **short-run equilibrium** at AP_1Y_1
  - A **positive output gap** exists at $Y_{FE} - Y_1$
    - This effectively gives the economy **more productive capacity** in the short-term
  - One cause of this may be that workers are willing to work overtime once full capacity is reached
    - It is **not sustainable** and the Classical view is that the output will **return to Y_{FE},** but at a higher price level

Your notes

Factors that Change the Phase of the Economic Cycle

- Numerous factors can cause an economy to **move between the different phases in its economic cycle**
- In one period, it may be enjoying a considerable boom, only for a global catastrophe to occur (e.g. war) which may **lead to a slowdown, or even recession**
- Both global and domestic demand-side and supply-side shocks have the ability to influence the cycle

Causes of Change in Phases of Economic Cycle

Causes	Explanation
Excessive growth in credit and levels of debt	▪ High levels of borrowing and spending occur during an **economic boom** ▪ The period leading up to the 2008 **financial crisis** saw a surge in mortgage lending and high levels of **household debt** ▪ Which in turn led to economic downturn (**recession**) when the level of debt became unsustainable
Asset price bubbles	▪ Rapid increases in **asset prices**, such as real estate or stocks, occur during the **expansion phase** when **consumer confidence** is high ▪ This is often driven by access to low interest loans ▪ The housing market **boom** in the UK in the early 2000s resulted in **inflated** property values ▪ The housing bubble burst in 2008, signalling an onset of a **recession**
Animal spirit / herding	▪ **Keynes** coined the term **animal spirits** to describe how investment prices rise/fall based on human emotion rather than intrinsic value

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	▪ **Herd behaviour occurs when** individuals mimic the actions of others, assuming that a collective decision is more accurate or rational than an individual one, in financial markets
	▪ Eg. The **dot-com bubble** in the UK was characterised by herd behaviour and animal spirits
	  ▪ Bullish behaviour drove stock prices well beyond any rational valuation, leading to asset price bubbles
	  ▪ When the bubble burst, the economy can swing from a boom to a recession

Role of speculative bubbles	▪ Speculative bubbles can create an environment where people anticipate **further price increases**, and **excessive buying** may occur. The burst of such bubbles can lead to a sudden halt in spending ▪ Eg. After the burst of the UK housing bubble in 2008, consumer spending **contracted** as consumer and business confidence decreased, marking the transition to the **recession phase**
Economic shocks	▪ **Demand and supply side shocks** in the economy can lead to sudden and significant changes in economic conditions ▪ The Covid Crisis and the fallout from Brexit impacted the supply side, leading to stagflation in the UK with **high inflation** and economic **recession**


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Employment & Unemployment

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UK Measures of Unemployment

- Someone is considered to be unemployed if they are **not working** but **actively seeking** work
  - They are part of the labour force
- A country's population is divided into the **labour force** and **non labour force**
  - The labour force consists of all workers actively working and the unemployed (who are seeking work)
    - Usually between the ages of **16-65**
  - The non labour force includes all those **not seeking work** e.g. stay at home parents, pensioners, school children
    - **Economically inactive** are those people who are between 16-65 and not working or not seeking work
- Unemployment in the UK is measured using two different approaches
  - The International Labour Organisation (ILO) Survey
  - The Claimant Count

The Differences Between the ILO Labour Force Survey & the Claimant Count

The ILO & UK Labour Force Survey	The Claimant Count

▪ An extensive survey is sent to a random sample of approximately **60,000** UK households every quarter
▪ Respondents **self-determine** if they are unemployed based on the ILO criteria
  ▪ **Ready to work** within the next two weeks
  ▪ Have **actively looked** for work in the past month
▪ The same survey is used globally so it's useful for making **international comparisons**
	▪ Counts the number of people claiming **job seekers allowance** (JSA) in the UK
	▪ There is a more stringent requirement to be considered unemployed than with the ILO survey
	▪ Requires claimants to meet regularly with a **'work coach'**

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The concepts of voluntary and involuntary unemployment


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- **Involuntary unemployment** occurs when workers are **willing to work** at the current market wage rates but there are no jobs available
  - This type of unemployment is often associated with economic downturns, recessions, or structural shifts in industries.
- **Voluntary unemployment** occurs when workers **choose** to remain unemployed and reduce job offers at current market wages
  - Eg. Waiting for a better job opportunity or taking a break to travel

Types of Unemployment

- There are specific causes of unemployment
- They can generally be classified according to four different types

Types of Unemployment

Type	Explanation
Seasonal Unemployment	▪ Seasonal unemployment occurs as certain seasons come to an end and **labour is not required until the next season** ▪ E.g. Fruit pickers; summer seaside resort workers; ski instructors
Frictional Unemployment	▪ Frictional unemployment occurs when workers are **between jobs** ▪ This is usually short-term unemployment ▪ Workers have voluntarily left their previous job to search for another
Structural Unemployment	▪ Structural unemployment occurs when there is a **mismatch between jobs and skills** in the economy ▪ It usually happens as the structure of an economy changes, e.g. the secondary sector is declining and the tertiary sector is growing ▪ There is **no longer a need for a specific type of worker**, e.g. ship builders in Glasgow ▪ Many Western industries have relocated production to China, causing structural unemployment in their economies

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	▪ Unless workers receive help to retrain, they are often left unemployed or under-employed
Cyclical Unemployment	▪ Cyclical or demand deficient unemployment is caused by a fall in AD in an economy ▪ This typically happens during a **slow down or recession** ▪ The demand for labour is a derived demand. It stems from the demand for goods/services ▪ As output falls in the economy, firms lay off workers

Your notes

Unemployment caused by demand and supply side factors

- **Demand-side** unemployment is caused by a l**ack of aggregate demand** in the economy and this is often related to a recession in the economic cycle
- **Frictional** and **structural** unemployment emerge from factors affecting the **supply side** of the economy
- The appropriate **government interventions** to alleviate different types of unemployment depend on whether they stem from **demand-side or supply-side factors**

Government Response to each type of Unemployment

Type of Unemployment	Government Response	Demand or Supply-side Factor
Structural unemployment	▪ **Retrain** workers for needed employment areas ▪ Focus on enhancing unemployed individuals' characteristics for improved employability.	▪ Supply side
Seasonal Unemployment	▪ Extend **operational seasons** ▪ Eg. Hotels could attract customers with various packages during different times of the year ▪ The government can **subsidise innovation in industries** where the operational season could be extended e.g.	▪ Demand side

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	helping farmers to develop polytunnels on their farms extends the growing season	
Frictional Unemployment	▪ Implement **retraining schemes** for workers. Aim for a better match of workers' skills with employers' needs ▪ Reduce workers' **search periods** between jobs by ensuring awareness of job openings	▪ Supply side
Cyclical Unemployment	▪ Take measures to **stimulate aggregate demand** ▪ Monetary & fiscal policy to counteract unemployment	▪ Demand side (cyclical fluctuations)


Your notes

Real Wage Unemployment

- Real wage unemployment occurs when wages are **inflexible** at a point higher than the free-market equilibrium wage
  - Usually caused by the existence of **minimum wage laws**
  - The higher wage creates an **excess supply** of labour
  - This excess supply represents **real wage unemployment**

Diagram: Real Wage Unemployment

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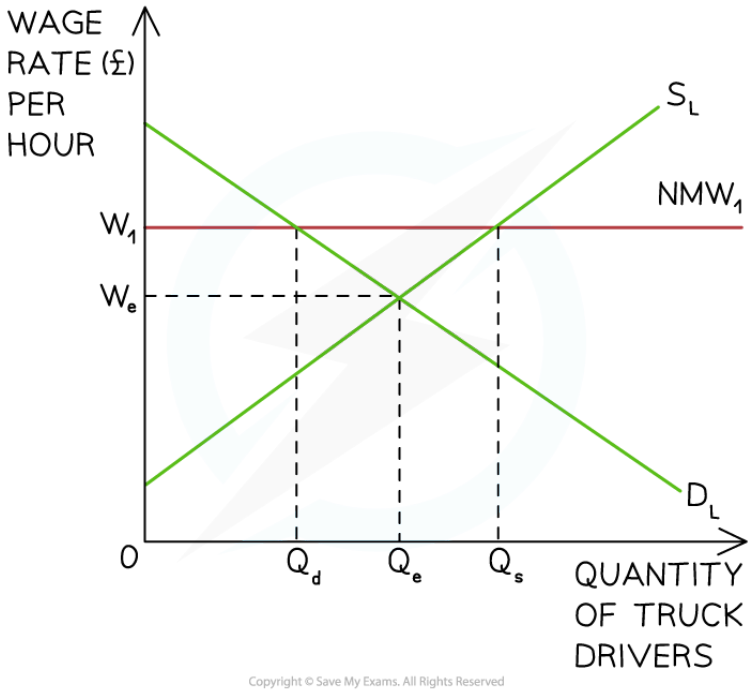

Labour market diagram illustrating real wage unemployment caused by the imposition of a minimum wage

Diagram analysis

- Equilibrium employment occurs when demand for labour equals the supply of labour
  - This determines the equilibrium real wage rate (W_e) and quantity (Q_e)
- If wages are fixed above the equilibrium (W_1), more workers will supply labour (Qs of labour)
- Fewer firms are willing to pay the higher wage, therefore demand for labour falls to Qd for labour
- At this point, quantity supplied of labour is greater than quantity demanded of labour (Qs > Qd)
- This leads to an **excess supply of labour**, creating real-wage unemployment

- **Free market economists** argue that, in a competitive labour market, real wage unemployment should be temporary
  - Competitive forces are expected to bring down the real wage to W_e, eliminating the excess supply of labour and **restoring full employment**
  - However, if labour market **rigidity or 'stickiness'** exists, often caused by factors like trade union power, that prevents real wages from falling below W_1, the market mechanism may fail to clear

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excess supply

Natural rate of Unemployment

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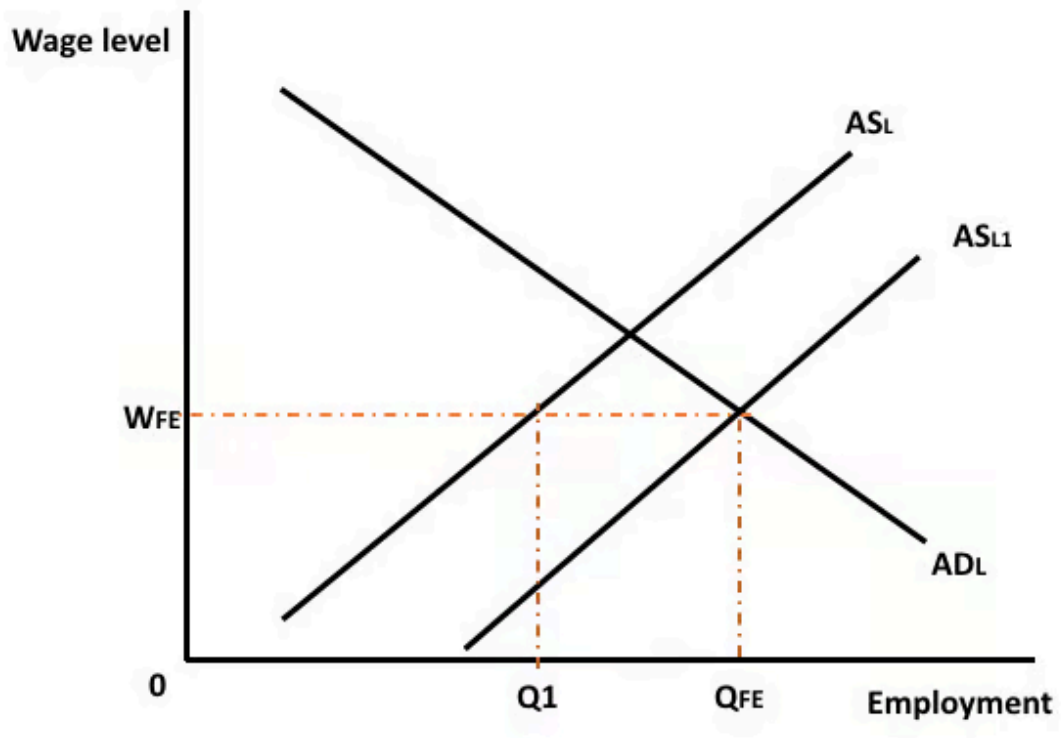
- Full employment does not mean that everyone in the **working population** is willing to work
  - There will always be people moving between jobs (frictional unemployment) or a level of structural unemployment
  - **Frictional and structural** unemployment make up what is called equilibrium unemployment
  - Equilibrium unemployment exists when the economy's aggregate labour market is in equilibrium. It is the same as the **natural *level* of unemployment**

Diagram: The Natural rate of Unemployment



Labour market diagram illustrating the natural rate of unemployment, which is the difference between Q1 and QFE

Diagram analysis

- Q_1 indicates the number of workers willing to work at the full employment real wage rate W_{FE}
- Q_{FE} is the '**full employment**' level of employment

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- Q_{FE} includes those workers willing to work, plus the number of workers who are structurally and cyclically unemployed

- The **natural rate of unemployment** is the difference between **between Q_1 and Q_{FE}**

- The distance between AS_L and the curve AS_{L1} shows the amount of frictional and structural unemployment in the economy at the full employment wage rate W_{FE}, namely the number of workers who are willing and able to work at this wage rate


Your notes

The Consequences of Unemployment

- The effects of unemployment, e**specially long-term unemployment,** are extremely damaging

  - There are impacts on the individual, the economy, the government, and firms

Diagram: The Effects of Unemployment

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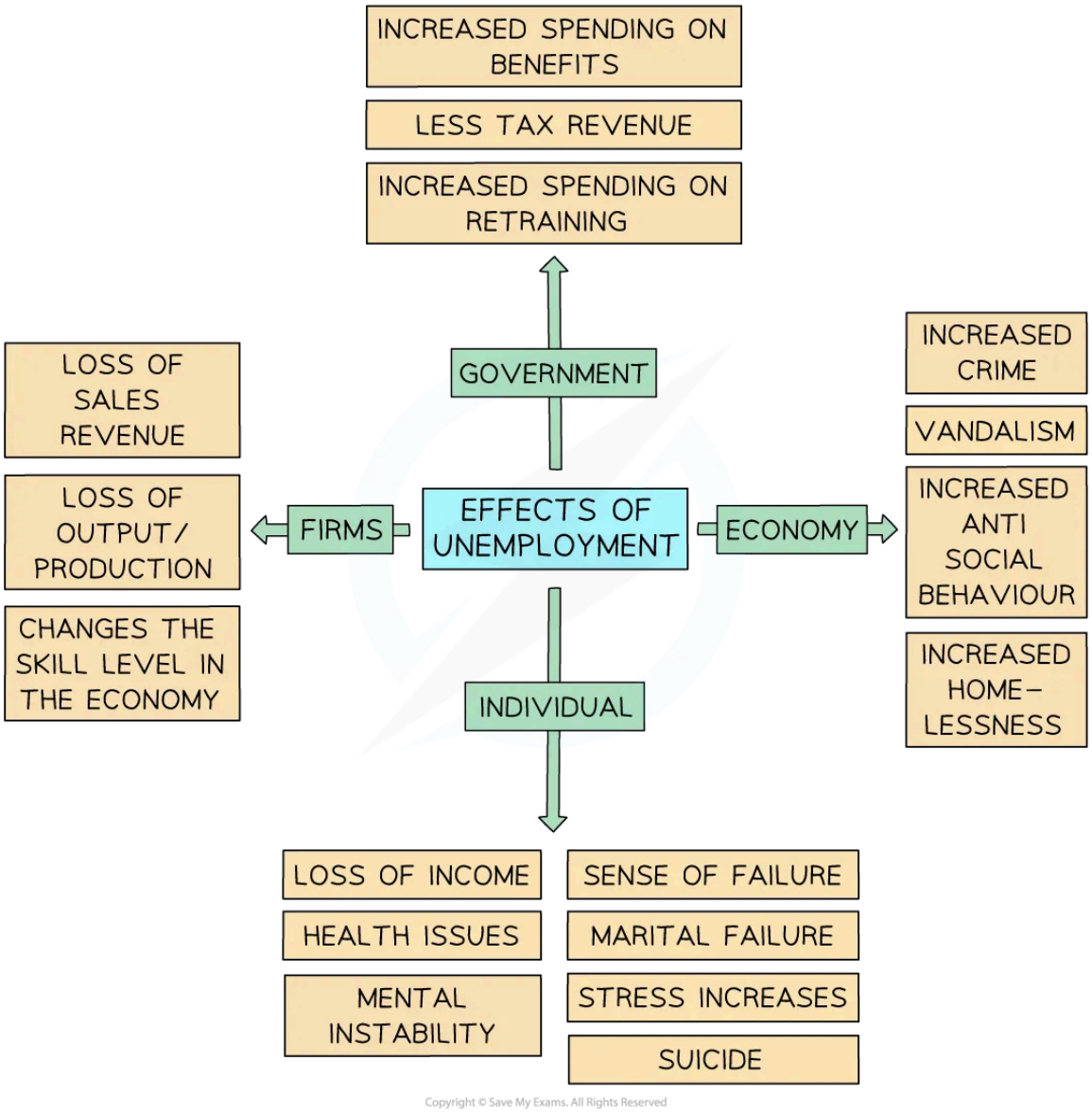
Your notes



Long-term unemployment affects individuals, the economy, government, and firms

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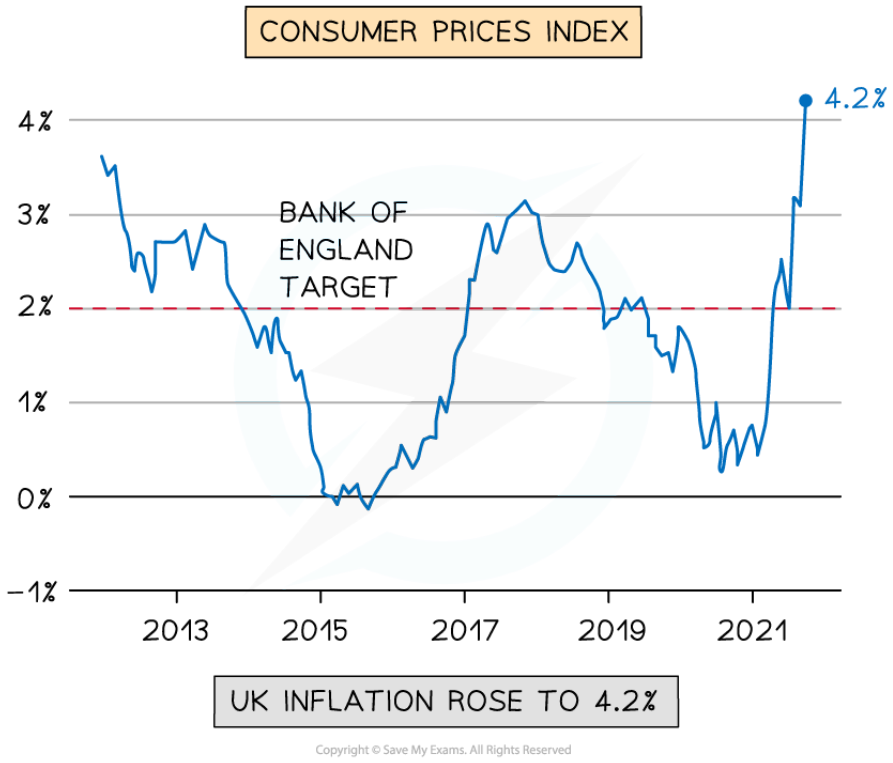
Price Level: Inflation

Your notes

Inflation, Deflation & Disinflation

- **Inflation** is the sustained **increase** in the average price level of goods/services in an economy
- **Deflation** occurs when there is a **fall** in the average price level of goods/services in an economy
  - Deflation only occurs when the percentage change in prices falls below zero %
- **Disinflation** occurs when the average price level **increases but at a decreasing rate** than before
  - These figures demonstrate disinflation: Y1 = 5% Y2 = 4% Y3 = 2%

Diagram: UK Inflation, Disinflation and Deflation



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Between 2013 and 2015, the UK experienced disinflation, with inflation falling from 3.5% to just on 0%. From 2021, it experienced sustained inflation, rising to 4.2%

Causes of Inflation

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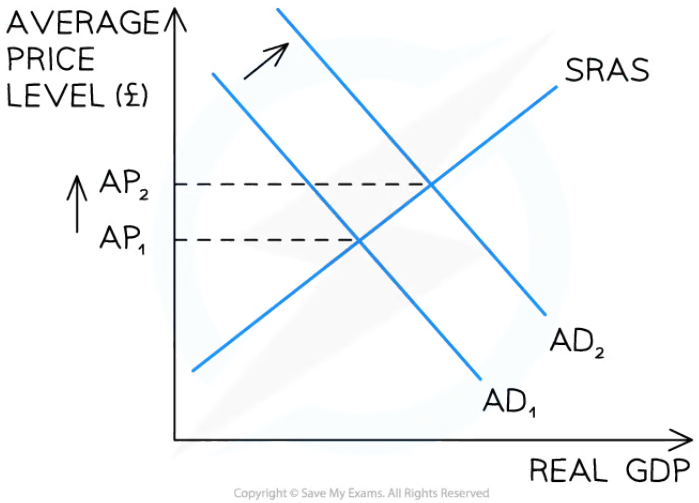
- An increase in the average prices in an economy can be caused by **demand pull** inflation or **cost push** inflation

Your notes

1. Demand pull inflation

- Demand pull inflation is caused by **excess demand** in the economy
- **Aggregate demand (AD)** is the sum of all expenditure in the economy
  - AD = Consumption (C) + Investment (I) + Government spending (G) + Net Exports (X-M)

Diagram: Demand Pull Inflation



An increase in aggregate demand (AD) raises the average price level in an economy

Diagram analysis

- If any of the four components of **AD increase**, there will be a **shift to the right** of the AD curve from $AD_1 \rightarrow AD_2$
- At the original price (AP_1), there is now a condition of **excess demand** in the economy (extend the dotted line across until it hits the new demand curve to identify the excess demand)
- Prices for goods/services are **bid up** from $AP_1 \rightarrow AP_2$
- Demand pull inflation has occurred
- If the **Central Bank** lowers the base rate, there is likely to be increased **borrowing** by firms and consumers
  - This will result in an increase in **consumption and investment**

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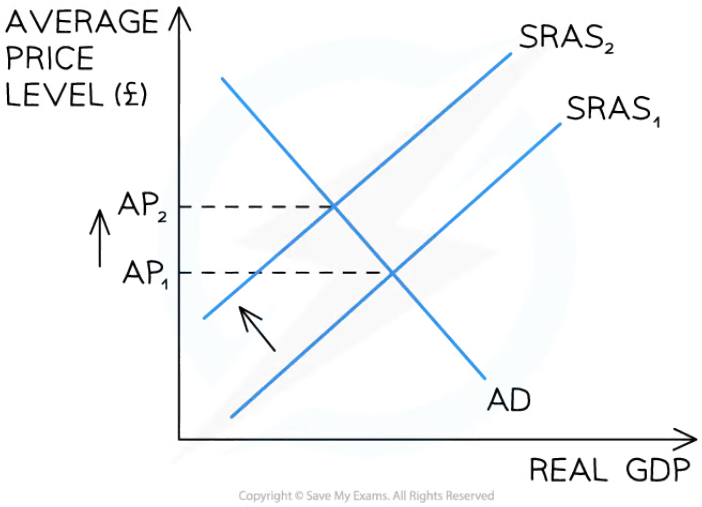
- It is likely to lead to a form of demand-pull inflation

Your notes

2. Cost push inflation

- Cost push inflation is caused by increases in the **costs of production** in an economy

Diagram: Cost Push Inflation



An increase in the costs of production raises the average price level in an economy, leading to cost push inflation

Diagram analysis

- If any of the costs of production **increase** (labour, raw materials etc.), or if there is a fall in productivity, there will be a **shift to the left** of the SRAS curve from $SRAS_1 \rightarrow SRAS_2$
- At the original price (AP1), there is now a condition of **excess demand** in the economy
- As prices rise, there is a contraction of AD and an extension of SRAS
- Prices for goods/services are **bid up** from $AP_1 \rightarrow AP_2$
- Cost push inflation has occurred

The Quantity Theory of Money

- The Monetarist model, strongly influenced by economists like Milton Friedman, believe that an increase in money supply can lead to inflation, while a decrease can result in deflation
- Monetarists believe that central banks should focus on controlling the money supply to achieve price stability. They argue that a steady and predictable growth rate in the money supply can contribute to

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stable economic conditions

- Fisher's equation of exchange **MV = PQ** and the Quantity Theory of Money is a key component of the monetarist model
  - **Equation of exchange** (**MV = PQ**)
    - M represents money supply in the economy
    - V signifies the velocity or speed at which money circulates in the economy. It measures how many times, on average, a unit of currency changes hands in a given time period
    - P represents the general price level of goods/services in the economy. It reflects the average prices of a basket of goods
    - Q stands for the real output or quantity of goods/services produced in the economy
- All other things being equal, if the velocity of circulation is constant, the quantity theory of money based on Fisher's equation of exchange, MV=PQ, predicts that an x% increase in the money supply will always cause an x% increase in **nominal national income,** i.e there will be inflation


Your notes

The Relationship Between Expectations and Changes in the Price Level

- Expectations refer to individuals' anticipations of future economic conditions
  - Often, if consumers expect prices to fall, they will delay purchases in the hope of purchasing good/services at lower prices
    - The delay in consumption then helps prices to fall!
  - Often, if consumers expect prices to rise, they will rush to purchase good/services at lower prices before they rise
    - The increase in consumption then helps prices to rise!
- **Inflation psychology** refers to the psychological factors that influence how individuals and businesses anticipate and react to inflation

Types of Inflation Psychology

Adaptive Expectations	Rational Expectations
▪ Adaptive expectations assume that individuals base their expectations on past observations and experiences ▪ If consumers / investors have experienced high inflation in the past, they may expect it to	▪ Rational expectations assume that individuals form expectations based on all available information, including current and past data, and that these expectations are unbiased

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continue and adjust their behaviour accordingly. This can lead to persistent inflationary pressures	▪ Individuals are forward-looking and make decisions considering the most relevant and up-to-date information

Your notes

The Consequences of Inflation

- The consequences of inflation are different for **different stakeholders** in the economy
- The consequences are also dependent on the household level of **wealth and income**

The Impact of Inflation on Different Stakeholders

Stakeholder	Explanation of Impact
Firms	▪ Rapid price changes create **uncertainty** and **delay investment** ▪ Price changes force firms to change their **menu prices** too and this can be expensive
Consumers	▪ Decrease in **purchasing power** ▪ Decrease in the real value of savings (as money will be worth less in real terms) ▪ Fall in real income for those on **fixed incomes or pensions** ▪ Inflation is more harmful to **low income households**
Government	▪ Inflation erodes **international competitiveness** of export industries as the country's exports are now relatively more expensive ▪ Economic growth may slow due to a **fall in exports** and a possible fall in consumption ▪ **Trade-offs** involved in tackling inflation, e.g reducing inflation may increase unemployment and/or reduce economic growth
Workers	▪ **Demand higher wages** to compensate for reduced purchasing power ▪ If wage increases ≠ inflation, **motivation** and **productivity may fall**

Examiner Tips and Tricks

When analysing inflation in data response questions, or evaluating it in longer essay questions, make certain that you consider the size of any inflation. Low inflation is not bad but is actually a sign of a

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healthy economy as it is indicative of economic growth.

Your notes

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Price Level: Deflation

Your notes

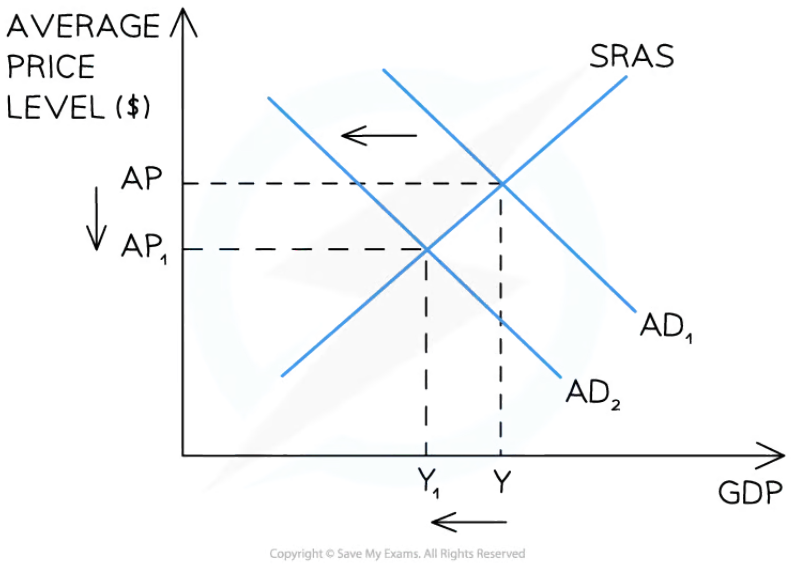
The Consequences of Deflation

- **Deflation** occurs when there is a **fall** in the average price level of goods/services in an economy, as measured by the consumer price index (CPI)
  - Deflation only occurs when the percentage change in prices falls below zero %
- Deflation can be caused by either **demand-side** or **supply-side factors**
  - The two different causes of deflation have very different consequences for the economy

1. Demand-side deflation (bad deflation)

- Demand-side deflation is caused by a **fall in total (aggregate) demand** in the economy
- Aggregate demand is the sum of all expenditures in the economy as measured by the real gross domestic product (rGDP)
  - rGDP = Consumption (C) + Investment (I) + Government spending (G) + Net Exports (X-M)
- If any of the four components of rGDP decrease, there will possibly be a decrease in aggregate demand in the economy, leading to a decrease in the general price level
  - **Demand-side deflation** has occurred

Diagram: Demand Side Deflation



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Aggregate demand (AD) has fallen leading to a reduction in the average price level (AP) and a fall in output

Your notes

Diagram analysis

- The initial macroeconomic equilibrium is at **AP Y**
- Any factor which causes a reduction in one or more of the determinants of real GDP may cause the AD curve to shift left from **$AD_1 \rightarrow AD_2$**
- This shift causes a fall in average price levels from **AP to AP1**
- The new macroeconomic equilibrium is now at AP_1 Y_1
- Demand-side deflation has occurred

The Consequences of Demand-side Deflation

Government Challenges	Consumers Lose Confidence	Debt
▪ With a decrease in output, fewer workers are required and so unemployment increases ▪ Fiscal and monetary policy is less effective at combating deflation than inflation as consumers get into a habit of waiting for lower prices prior to making purchases	▪ With falling output and rising unemployment, households lose confidence choosing to save instead of spend ▪ Consumption falls and rGDP reduces even more ▪ Consumers delay purchasing goods/services as they believe prices will be cheaper in a few weeks or months	▪ Debt feels more burdensome as the value of any debt is worth more ▪ The real cost of borrowing increases as real interest rates rise when the price level falls e.g. if interest rates are 1.5% and the inflation rate is -1.5%, then the real interest rate is 3%
Firms Lose Confidence	**Bankruptcies**	**Export**

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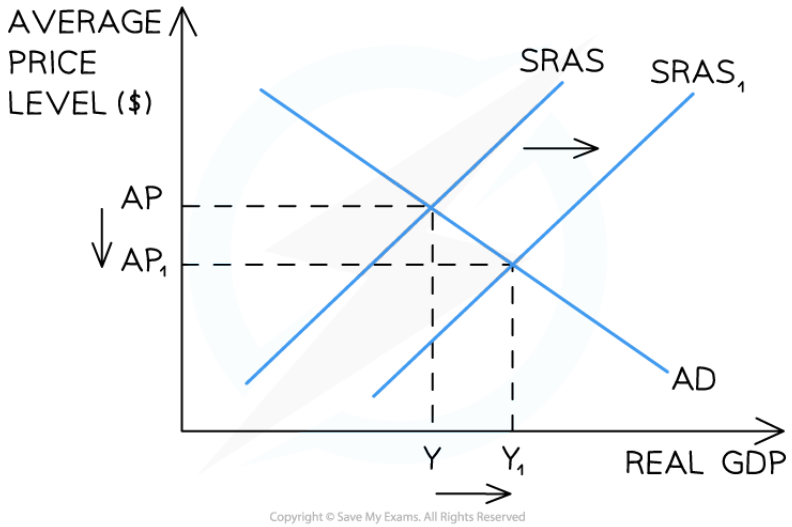
▪ Falling output and falling prices cause firms to lose confidence and so they delay investment, further reducing rGDP	▪ Falling output and falling prices reduce the profits of firms ▪ Some firms will be unable to continue and will go out of business	▪ Persistently falling prices can prove attractive to foreigners and the level of exports may increase (this helps offset some of the reduction in rGDP)

Your notes

2. Supply-side Deflation

- Supply-side deflation is caused by **increases in the productive capacity** of the economy
  - This is brought about by any increase in the **quantity/quality** of the factors of production
  - It effectively creates a condition of **excess supply** in the economy
  - Average price levels **fall**
  - National output (rGDP) increases

Diagram: Supply Side Deflation



Short-run aggregate supply (SRAS) has increased, leading to a reduction in the average price level (AP)

Diagram analysis

- The initial macroeconomic equilibrium is at AP Y

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- Any factor which causes an increase in the SRAS will result in the SRAS curve shifting right from SRAS → $SRAS_1$
- This shift causes a fall in average price levels from **AP → AP_1**
- The new macroeconomic equilibrium is now at **AP_1 Y_1**
- Supply-side deflation has occurred

Your notes

The Consequences of Supply-side Deflation

Unemployment	Consumers Gain Confidence	Debt
▪ With a decrease in costs, the output of firms increases. More workers are required and so **unemployment falls**	▪ With rising output and falling price levels, households become more confident and the consumption increasing - **increasing rGDP** even more	▪ Debt still feels more **burdensome,** as the value of any debt is worth more
Firms Gain Confidence	**Exports**	
▪ Rising output and falling costs of production cause firms to gain confidence and increase investment, thereby **increasing rGDP**	▪ Persistently falling prices boost **international competitiveness** and exports increase	

Examiner Tips and Tricks

Understanding the cause of deflation is vital to analysing the consequences of it.

Falling prices caused by a recession are not good for an economy. In this scenario, national output is falling, which means that fewer workers will be required to produce goods and services, so unemployment will increase.

Falling prices caused by an increase in supply are good for an economy. In this scenario, national output is rising, which means that more workers will be required to produce goods and services, so unemployment will decrease.

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Price Level: Global Influences

Your notes

How Changes in the World Commodity Prices Affect UK Inflation

- **Imported inflation** in the UK occurs when the prices of goods and services imported from other countries increase, contributing to an overall rise in the domestic price level
- **Commodity** prices play a crucial role in imported inflation, as they impact the cost of raw materials and goods purchased from abroad
- Two common sources of imported inflation in the UK occur in food and oil supplies

Oil prices

- The UK heavily relies on **imported oil** for energy
- When global oil prices rise, it increases costs for the UK affecting various sectors such as transportation, manufacturing, and energy production
  - This, in turn, contributes to import inflation

Food prices

- The UK imports a significant portion of its food and changes in global commodity prices, such as those for **wheat, soybeans, or livestock**, directly influence the cost of imported food products
- Eg. Global wheat prices increased in 2023 due to Ukraine-Russia geopolitical conflict
  - This resulted in higher costs for imported wheat-based products in the UK

How Changes in Other Economies can Affect Inflation in the UK

- The world is **more connected** than ever and there is a **high level of interdependence** between economies
  - Covid 19 and the Ukraine War demonstrated how **disruptions in one part** of the world cause **widespread problems** in others
- One country's **imports** are another country's **exports**
- Theoretically, the global **value of exports** will be **equal** to the global **value of imports**
- **Producers** all over the world are often highly **dependent on imported raw materials** used in production; e.g. a motor car has around **30,000** individual parts

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- Building a car is a **global effort** and requires a **high level of interconnectedness** between multiple economies
- Changes in other economies can be good or bad for the domestic economy

Your notes

How Changes in Other Economies can Affect inflation in the UK

Factor	Explanation	Impact on Inflation
Exchange rates	▪ Changes in exchange rates between the UK and other economies can **affect the cost of imports and exports**	▪ A **depreciation** of the UK pound could lead to **higher import prices**, increasing the price of imported goods for UK consumers and raising inflation ▪ Conversely, a **strengthening pound** could lower import prices, **dampening inflationary pressures**
Economic growth in trading partners	▪ Economic growth in other economies can affect demand for UK exports	▪ Strong economic growth in major trading partners **may increase demand for UK exports**, contributing to inflation in the UK ▪ Conversely, weak economic growth in trading partners **may reduce demand for UK exports**, leading to lower prices and reducing inflation
Global shocks	▪ Events like wars, political instability, or natural disasters in other economies can **lead to global shocks**	▪ Global shocks tend to **increase inflationary pressures** ▪ Periods of global stability and peace tend to dampen inflationary pressures

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Conflicts Between the Macroeconomic Objectives

Your notes

How Output Gaps Relate to Unemployment & Inflation

- Understanding the relationship between **output gaps**, **unemployment**, and **inflation** is crucial for policymakers
  - Reducing a negative output gap by stimulating demand may lead to **lower unemployment** but could also **contribute to inflation**
  - Conversely, efforts to cool down an overheating economy with a **positive output gap** might **reduce inflation** but could result in **higher unemployment**

Relationship Between Output gaps & Unemployment / Inflationary Pressures

Macroeconomic Goal	Positive Output Gap	Negative Output Gap
Low unemployment	▪ A **positive output gap** is associated with higher levels of GDP in the economy, firms operate near or at **full capacity** ▪ The demand for labour is high, leading to **lower unemployment rates**	▪ A **negative output gap** is associated with low levels of economic growth ▪ There is **excess capacity** and unused resources in the economy. ▪ Firms may not be operating at full capacity, leading to layoffs and a **higher unemployment rate**

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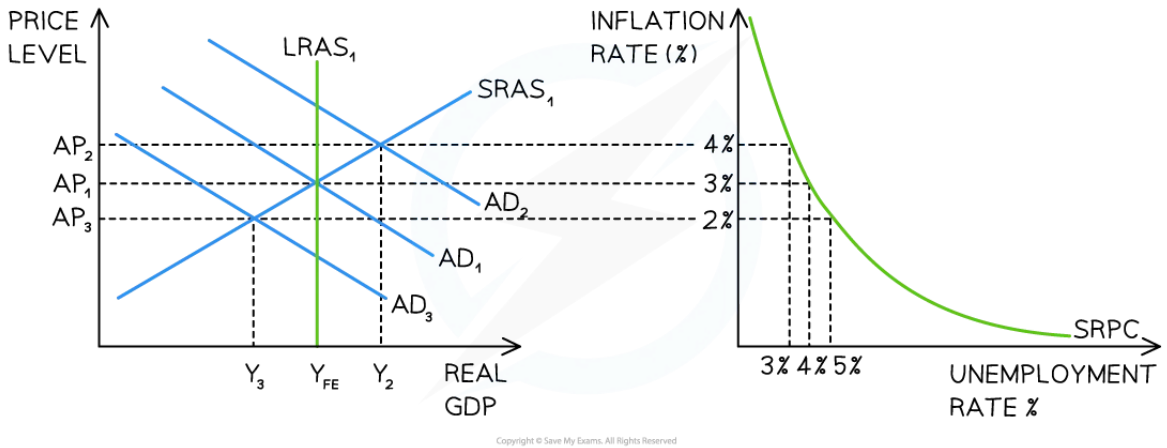
Low and stable inflation	▪ In a positive output gap scenario, there is **upward pressure** on prices and wages ▪ With firms operating at or near **full capacity**, they may struggle to meet increasing demand, leading to **higher production costs** ▪ As a result, firms may raise prices, contributing to **inflationary pressures** ▪ Additionally, low unemployment can empower workers to demand higher wages, further fueling inflation	▪ In a negative output gap scenario, there is **downward pressure** on prices and wages. ▪ High unemployment reduces workers bargaining power, making it difficult for them to negotiate higher wages ▪ As a result, firms may not face significant cost pressures, and there is a risk of **deflation or very low inflation**

Your notes

The Short Run Phillips Curve

- The Short-run Phillips Curve (SRPC) observes that there may be a **trade-off** between **unemployment and inflation**
  - Rising inflation is often accompanied by falling unemployment
  - Rising unemployment is often accompanied by falling inflation
  - This trade-off makes it **difficult** for the government to **achieve both low unemployment and low inflation**

Diagram: The Short-run Phillips Curve



The relationship between changes to aggregate demand (AD), inflation and unemployment

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Diagram analysis

Your notes

- The economy is initially in equilibrium at **AP_1Y_{FE}**
- At this point, unemployment is at 4% and inflation is at 3% and this is considered to be **full employment (Y_{FE})**
  - There is always some unemployment due to the **frictional and structural** unemployment that exists
- An increase in AD from $AD_1 \rightarrow AD_2$ causes a **positive output gap** ($Y_{FE} - Y_2$)
  - With an increase in output the demand for labour rises and **unemployment falls** from 4% → 3%
  - The remaining labour in the market is scarcer and workers are able to **negotiate higher wages**
    - This causes **wage inflation** in the economy
  - Wage inflation leads to an increase in inflation from 3% → 4%
- A decrease in AD from $AD_1 \rightarrow AD_3$ causes a **negative output gap** ($Y_{FE} - Y_3$)
  - With a decrease in output, the demand for labour falls and **unemployment rises** from 4% → 5%
  - Labour is more abundant, and to get hired workers have to **accept lower wages**
    - This causes **wage deflation** in the economy
  - Wage deflation leads to a decrease in inflation from 3% → 2%

The Long Run Phillips Curve

- The long-run Phillips curve (LRPC) suggests there is **no trade-off** between inflation and unemployment in the long run
- The curve is based on the idea of a **natural rate of unemployment (NRU)**
  - This is the unemployment rate that prevails when the economy is operating at its **full potential**
  - It represents the level of unemployment consistent with **non-accelerating inflation**, meaning that further reductions in the unemployment rate cannot be achieved without generating inflationary pressures
- The LRPC is **vertical** at the natural rate of unemployment
  - In the long-run, the short-run Phillips curve moves around the vertical long run curve as the labour market self corrects in the long run
  - In the long-run **wages and prices are flexible**

Diagram: SRPC Self Correction to LRPC

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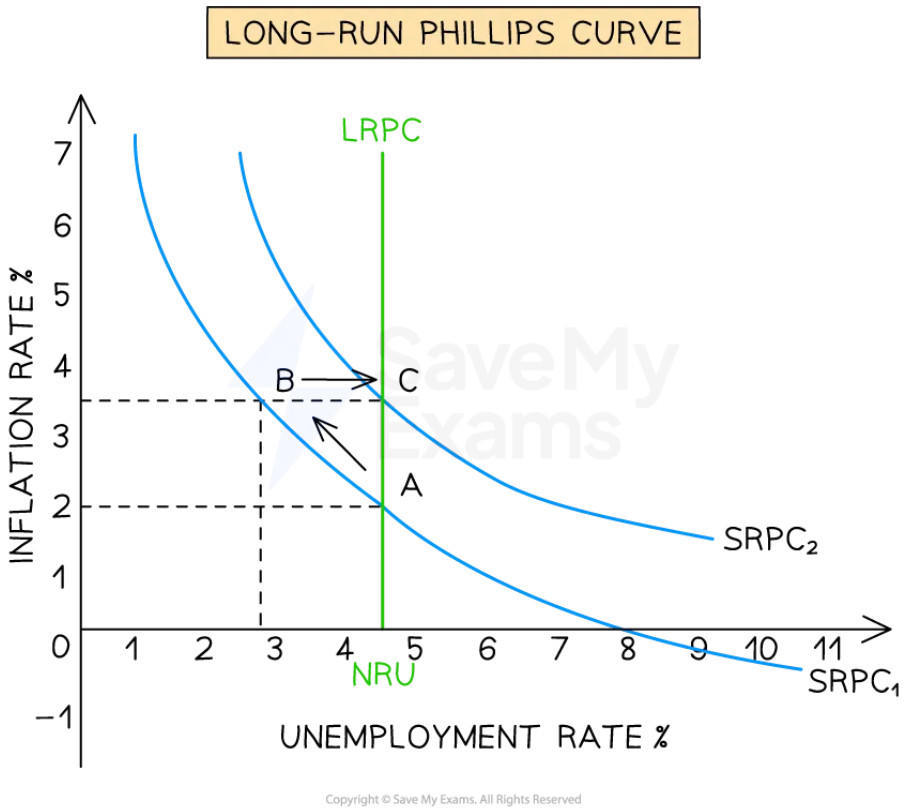
Your notes



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The LRPC for India is evident at the NRU (around 4.5%). In the long-run the SRPC will self-correct by moving right to the LRPC

Diagram analysis

- The **NRU** of 4.5% represents the **LRPC**
- in the short-run, **AD has increased** causing a leftward movement along the SRPC from point A → B (higher inflation and lower unemployment)
- In the l**ong-run**, the economy will move from point B to C as following the increase in AD, workers see their **real wages fall** and so eventually **demand higher wages**
  - In response, **firms reduce employment** and raise prices, returning unemployment to its natural rate (NRU), now at a **higher inflation rate**
- If there has been deflation in the economy, workers will accept lower wages in the long-run and employment and output will return to the full-employment level

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The Implications of the Phillips Curve for Economic Policy

Your notes

The implications for short-run policy decisions

- Governments have to accept **trade-offs** in the macroeconomic objectives
- Achieving one objective may come at the cost of worsening progress in another objective
  - Increasing economic growth causes the economy to move closer to **full employment**
  - However, prices for remaining resources are bid up leading to **inflation** which may outpace the target inflation rate of 2%

An Explanation of the Common Trade-offs that Exist Between the Macroeconomic Objectives

Trade-off	Explanation
High economic growth and inflation	▪ Increasing **economic growth** causes the economy to move closer to **full employment** ▪ Prices for remaining resources are bid up leading to inflation which may outpace the **target inflation rate of 2%**
High economic growth and environmental sustainability	▪ Economic growth often increases **pollution, negative externalities** and the **depletion of non-renewable resources** ▪ The higher the growth, the faster the depletion
Economic growth and inequality	▪ During periods of high economic growth, the **profits the owners** of the factors of production receive are **disproportionate** to any increase in **workers' wages** leading to greater inequality
Low unemployment and low inflation	▪ The closer an economy moves to **full employment,** the less workers will be available for hire and **wage inflation** will help increase **overall inflation**

The implications for long-run policy decisions

- LRPC suggests that there is **no permanent trade-off** between inflation and unemployment over an extended period

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- In the long run, the economy tends to return to its **natural or potential level of output**
  - Policymakers should not use demand side policies (monetary/fiscal) to permanently reduce unemployment below its natural rate.
    - Attempts to do so may lead to higher inflation without sustaining lower unemployment
  - Instead, policymakers should consider **supply-side policies,** such as education and training programs, labour market reforms, and measures that enhance productivity and efficiency

Your notes

Examiner Tips and Tricks

If you are asked to **explain** a particular trade off, make sure you **explain** all of the steps in the process E.g. if economic growth increases too quickly, there is likely to be demand-pull inflation, which raises the cost of living for the citizens, resulting in them feeling poorer, as the purchasing power of their wage has decreased

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