SL IB Economics

Your notes

3.3 Macroeconomic Objectives

Contents

3.3.1 An Introduction to Macroeconomic Objectives

Economic Growth

- Economic growth is a central macroeconomic aim of most governments
- Many developed nations have an annual target rate of 2–3%
  - This is considered to be **sustainable growth**
  - Growth at this rate is **less likely** to cause excessive demand pull inflation
- **Politicians** often use the economic growth rate as a metric of the effectiveness of their **policies** and leadership
- Economic growth has **positive impacts** on confidence, consumption, investment, employment, incomes, living standards and government budgets
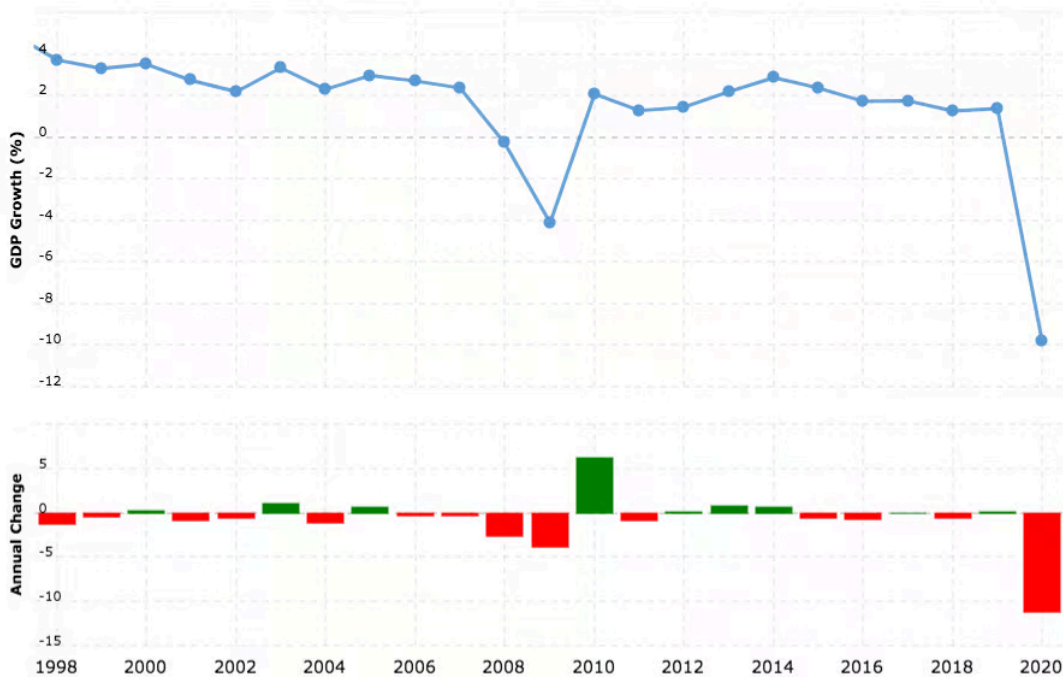
The economic growth rate of the UK since 1998
Source: Macrotrends

Some of the Economic Growth Trends in the UK Since 1998

1998 – 2007	2008 – 2015	2016 – 2019	2020 –

|			
▪ **Steady growth** fluctuating between 2–4%	▪ **Global financial crisis** followed by a rapid bounce back due to **government intervention** - and then steady growth	▪ Gradual disinflation possibly due to future expectations regarding the impact of the **Brexit** vote	▪ **Supply chain issues due to Brexit.** Decreased **consumption** due to the impact of Covid 19. These created a **deep** recession (short-lived due to government intervention)

Your notes

Low Unemployment

- The **target unemployment rate** for many economies is between 2–5%. In December 2022 the unemployment rate in the USA was 3.7% and in Singapore it was 2.6%

- Low unemployment rates like this are close to the **full employment level** of labour (Y_{FE})
    - There will always be a level of frictional, seasonal and structural unemployment
    - This makes it **impossible to achieve 100% employment** and is called the natural rate of unemployment (NRU)

- Different economies have **different unemployment rates** that are considered to be close to the full employment level of labour e.g. Japan's level is about 2.5% while India's is about 5.7%

- Within the broader **unemployment rate**, there is an **increased emphasis** on the unemployment rate within different **sections of the population**
    - E.g. **youth unemployment**, ethnic/racial unemployment by group
        - In 2021, black unemployment in the UK was 11% and white unemployment was 4.%
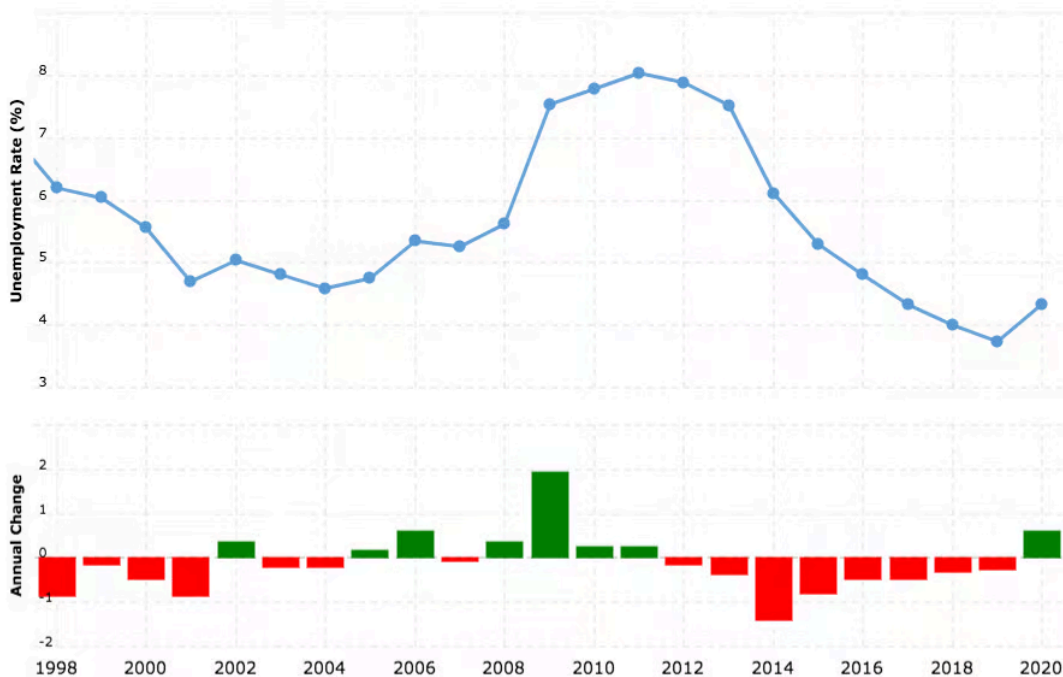
The unemployment rate in the UK from 1998 – 2020
Source: Macrotrends

- Unemployment tends to be **inversely proportional to real GDP** growth
    - When real GDP increases, unemployment falls

- When real GDP decreases, unemployment rises

Your notes

Low and Stable Rate of Inflation

- Many economies have a **target** inflation rate of 2% using the Consumer Price Index (CPI**)**

- A low rate of inflation is desirable as it is a **symptom of economic growth**

- The different causes of inflation (cost push or demand pull) require different policy responses from the Government
  - Demand-side policies ease demand pull inflation
  - Supply-side policies ease cost push inflation

The inflation rate in the UK from 2012 to 2021 using the CPI

- In the UK, a **continual deviation** from the target of 2% would **not be considered stable**
  - An inflation rate in April 2022 of 4–5% was considered to be unstable, eroding household purchasing power
  - By October 2022 the inflation rate had risen to 11.1%

- A **low and stable rate of inflation** is important as it
  - Allows firms to **confidently plan** for future investment

- Offers **price stability** to consumers

Your notes

3.3.2 Economic Growth

Short-term Growth

- Economic growth can occur in the short-term or long-term and each is explained differently

- Changes to any of the components of aggregate demand (AD) will cause **short-term economic growth** to occur
  - This is illustrated on an **AD/AS diagram** by a **rightward shift in AD**
  - It can also be illustrated by using the production possibilities curves model by moving from a **point inside** the curve to a **point closer to the curve**

1. Short-term Economic Growth on an AD/AS Diagram
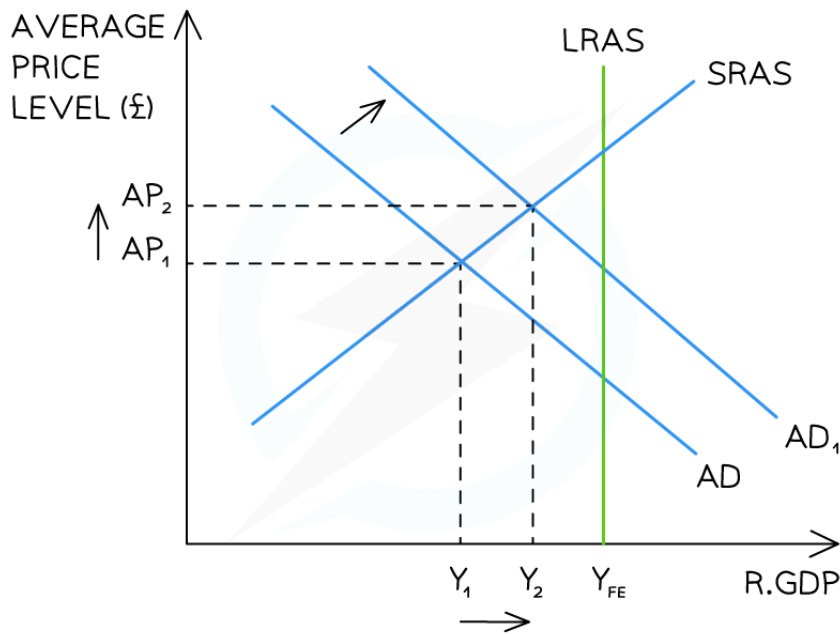
Short-term economic growth through a shift of aggregate demand from AD→AD₁

Diagram Analysis

- An increase in consumption, investment, government spending or net exports has caused a **shift in AD** from $AD{\rightarrow}AD_1$
- The current **real output has increased from $Y_1{\rightarrow}Y_2$** which represents an increase in real GDP
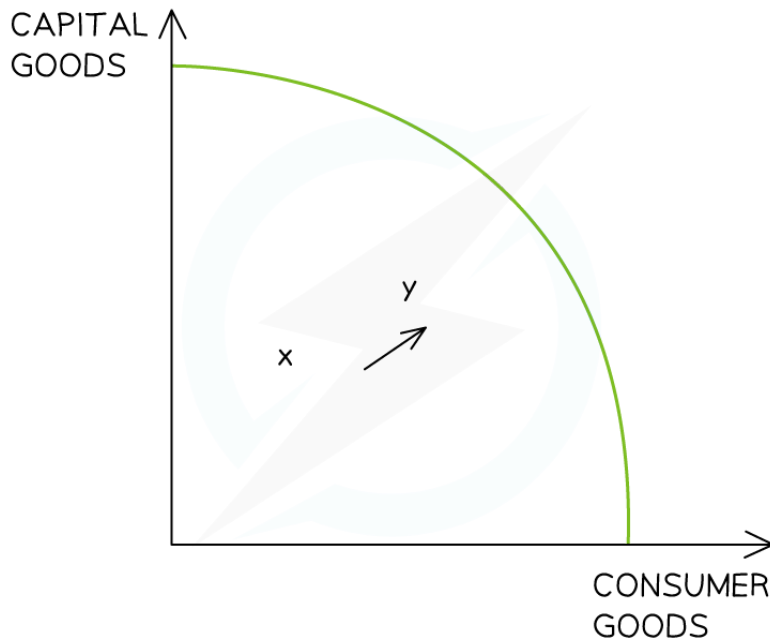 - An increase in real GDP = economic growth

Your notes

■ This **short-term growth** has led to an increase in **average prices from $AP_1 \rightarrow AP_2$**

2. Short-term Economic Growth on a Production Possibilities Curve (PPC)

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

Diagram Analysis

■ An increase in production 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
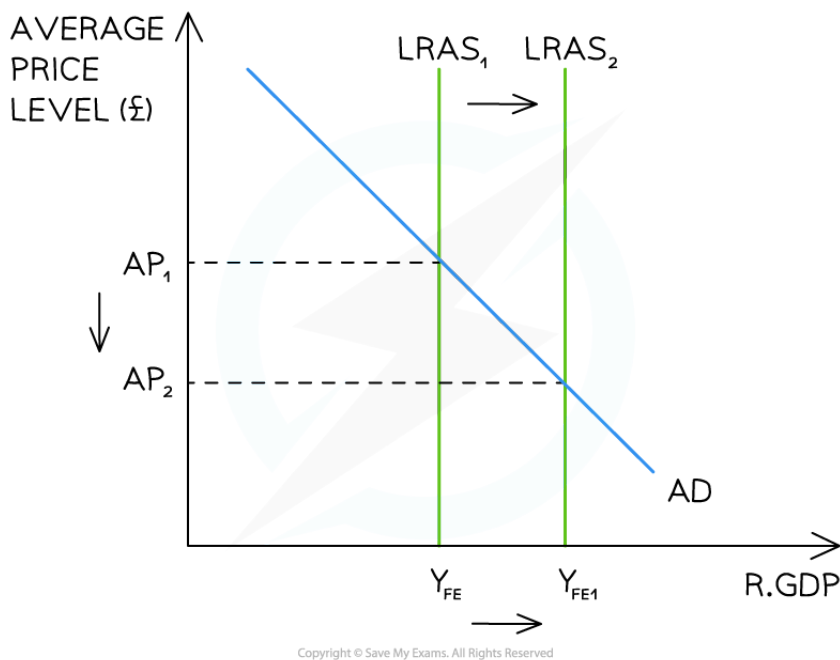 ■ An increase in real GDP = economic growth

Long-term Growth

- Long-term 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**
  - It can also be illustrated using the PPC model through a shift outwards of the entire curve

1. Long-term Economic Growth on an AD/AS Diagram

Long-term economic growth 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 $LRAS_1 \rightarrow LRAS_2$ resulting in economic growth
- The final **impact on price levels** depends on the **shape of the long-run aggregate supply** curve (Keynesian or Classical)

2. Long-term Economic Growth Using a PPC Model

- The entire PPC of an economy can shift inwards or outwards thereby changing its production possibilities
- An outward shift demonstrates long-term economic growth
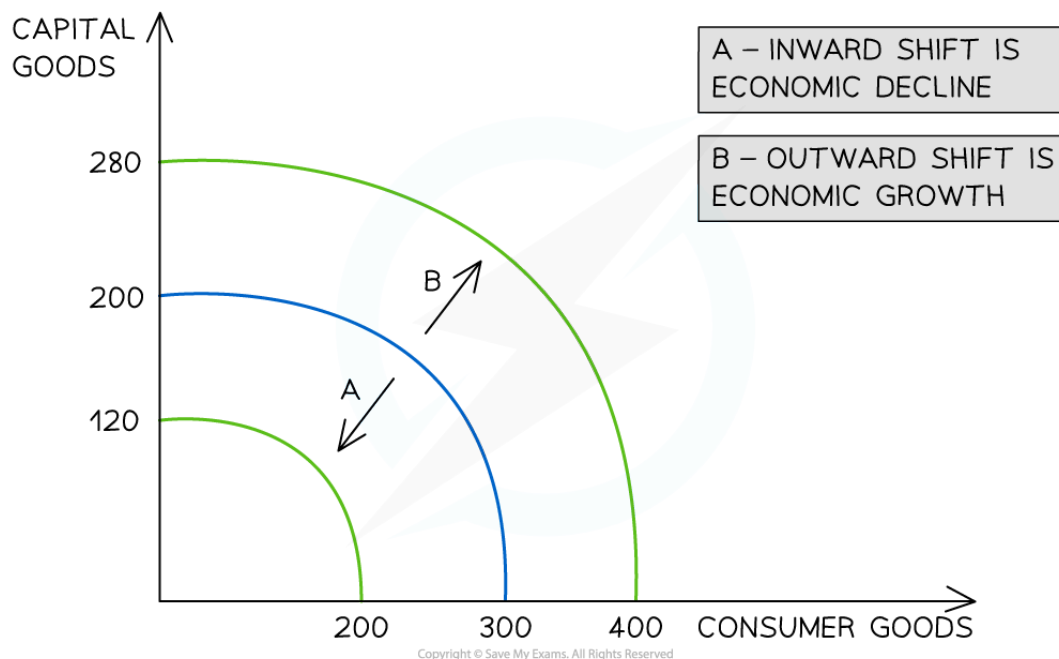
Outward shifts of a PPC show long-run economic growth

Diagram Explanation

- **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**

Consequences of Economic Growth

- **Economic growth** is considered to be the main contributor to an improvement in the **standards of living**
- Due to the **negative aspects** of economic growth, there is much controversy about maintaining it as a central **macroeconomic aim**
  - Instead, arguments for a focus on **societal well-being** are gaining traction

An Evaluation of Economic Growth

Impact	Benefits of Economic Growth	Costs of Economic Growth
Living standards	**Increased incomes** lead to better standards of living **Increased employment** resolves some of the negative social impacts of unemployment	- Rising aggregate demand causes demand pull inflation and the **purchasing power** of people on fixed incomes may fall - Increased income usually leads to **greater consumption of demerit goods** - Greater output often requires **more time from workers** and can decrease leisure time and **well-being**
The Environment	Improvement in the quality/quantity of **environmentally friendly technologies**	- Environmental damage caused by negative externalities of production and consumption increases **Resources** are depleted more rapidly
Income distribution	- Decreased levels of absolute poverty - Higher levels of employment mean that there is **more tax revenue** for governments to redistribute on welfare payments	**Lack of equity** in the distribution of income – the rich may get richer and the poor poorer

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💡 Examiner Tip

In the Paper 2 data response material, you may see the phrases '**at constant prices**' or '**at current prices**'. 'Constant prices' refers to price levels which have been adjusted for inflation whereas 'current prices' refers to nominal price levels.

Calculating Economic Growth Rates

- Economic growth is measured by calculating the change in the real GDP between two time periods (usually quarterly or annually)
- The **growth rate** is expressed as a percentage
- Several steps can be included in the **calculation of an economic growth rate**
1. **Calculate nominal GDP** from a set of data for two time periods
2. **Calculate the real GDP** for each time period using the GDP deflator
3. **Calculate the percentage change** in real GDP between the two time periods

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✏️ Worked example

Using the information provided in Table 1 and Table 2, **calculate** the economic growth rate for Vietnam
[4]

Table 1

Category	2018 Value in US$ billions	2019 Value in US$ billions
Consumption	11255	11945
Investment	8927	11100
Income tax	59577	62545
Government spending	15697	16500
Imports	4957	3988
Exports	8532	10300
Net Income	4349	5350

Table 2

GDP Deflator 2018	GDP Deflator 2019
103.8	107.2

Step 1: **Determine which of the data presented is relevant to the calculation**

Nominal GDP = C + I = G = (X–M)

So *income tax* and *net income* are not relevant

Step 2: Substitute the relevant values into the GDP formula for 2018

Nominal GDP 2018 = C + I + G + (X–M)

Nominal GDP 2018 = 11255 + 8927 + 15697 + (8532 – 4957)

Nominal GDP 2018 = $39,454 billion

Step 3: Substitute the relevant values into the GDP formula for 2019

Nominal GDP 2019 = 11945 + 11100 + 16500 + (10300 – 3988)

Nominal GDP 2019 = $45,857 billion

Step 4: Calculate the real GDP for each year using the GDP deflator

$$\text{Real GDP 2018} = \frac{\text{Nominal GDP}}{\text{GDP Deflator}} \times 100$$

$$\text{Real GDP 2018} = \frac{39,454}{103.8} \times 100 = \$38,009.63 \text{ billion}$$

$$\text{Real GDP 2019} = \frac{45,857}{107.2} \times 100 = \$42,777.05 \text{ billion}$$

Step 5: Calculate the real economic growth rate (the % change in real GDP)

$$\% \text{ Change} = \frac{\text{new value} - \text{old value}}{\text{old value}} \times 100$$

$$\% \text{ Change} = \frac{42,777.05 - 38,009.63}{38,009.63} \times 100$$

$$\% \text{ Change} = 12.54\%$$

(4 Marks for the correct answer or one mark for any correct work in the process. Final answer must be rounded to 2 decimal places)

> 💡 **Examiner Tip**
>
> Remember that an increase in the economic growth rate may not lead to inflation as the increase in economic growth may be caused by higher levels of aggregate supply which lead to lower average price levels.

3.3.3 Low Unemployment

An Introduction to Unemployment

- Key terms to understand are **employment, labour force, unemployment, and full employment**
1. **Employment:** refers to the economic use of labour as a factor of production

2. **Unemployment:** Someone is considered to be **unemployed** if they are **not working but actively seeking work**

3. **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 PLUS** the **unemployed (who are seeking work)**
   - The **non labour force** includes all those **not seeking work** e.g. stay at home parents, pensioners, and school children (these people are economically inactive)

4. **Full employment:** describes the ideal situation when everyone in the economy who is willing and able to work **has a job**

Measuring Unemployment

Your notes

- **Unemployment** is measured in many countries using two different approaches
  - The **International Labour Organisation (ILO)** Survey
  - The **Claimant Count**

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

The ILO Labour Force Survey	The Claimant Count

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

Three Metrics are Commonly used when Analysing the Labour Market in an Economy

Unemployment rate	Employment rate	Labor force participation rate
$= \dfrac{\text{no. actively seeking}}{\text{total labour force}} \times 100$	$= \dfrac{\text{no. in employment}}{\text{population of working age}} \times 100$	$= \dfrac{\text{labour force}}{\text{total population}} \times 100$

- The **employment rate** could be increasing even as the **unemployment rate** is increasing:
  - May be caused by **increased immigration** which causes **working age population to increase**
  - May be caused as people move from being economically inactive to employed

- **Unemployment rates** do not capture the **hidden unemployment** that occurs in the **long term**
  - **Workers** look for a job but may eventually **give up** and become **economically inactive**
  - This actually **improves the unemployment rate** as fewer people are **actively seeking work**

> ✅ **Worked example**
>
> The table provides information about a country's labour market
>
> | | |
> |---|---|
> | Population size | 4000000 |
> | Labour force size | 2400000 |
> | Number employed | 1800000 |
> | Number of full-time students | 200000 |
>
> Calculate the unemployment rate of this country **[2]**

Step 1: Decide which information in the table is useful

- The number of full time students would not be included in the labour force size, so it is not useful (it is a distraction)
- The key infromation is the labour force size and the number employed

Step 2: Calculate the number of unemployed in the labour force

- Labour force - employed = unemployed
- 2,400,000 - 1,800,000 = 600,000 unemployed

Step 3: Calculate the unemployment rate

$$\text{Unemployment rate} = \frac{\text{no. actively seeking}}{\text{total labour force}} \times 100$$

$$\text{Unemployment rate} = \frac{600,000}{2,400,000} \times 100$$

$$\text{Unemployment rate} = 25\%$$

Difficulties in Measuring Unemployment

- There are several difficulties involved in the measurement and use of unemployment statistics

1. Underemployment

- Workers who are underemployed do not appear in unemployment statistics
- Unlike the unemployed, people who are **underemployed** are working

- Someone is **underemployed** when:
    - They want **to work more hours** than they currently work
    - They are **working in a job that requires lower skills** than they have e.g. an architect working as a gym instructor
- **Underemployment** is often a consequence of cyclical unemployment
    - **Workers** who have lost their jobs in a weak economy are willing to take **part-time jobs** or accept roles outside of their main **skill base**
- **Underemployment** is also a consequence of structural unemployment
    - Unless workers **retrain** and **gain new skills**, it will be hard for them to gain **full employment**

2. Hidden unemployment

- **Hidden unemployment** occurs when workers lose their jobs and then attempt to get a new job, usually for a very long period of time, after which, they give up
    - This often occurs during **severe recessions**
    - **They give up looking for work** as they feel that they no longer have the skills desired by the market
    - Once they stop looking for work, they are no longer considered to be unemployed
- **Unemployment rates** would be much higher if this hidden unemployment was considered

3. Unemployment disparities

- The headline unemployment rate is an average
- It does not provide insight into ethnic, regional, gender or youth unemployment disparities which may exist in an economy e.g. in 2022 the USA unemployment rate was 3.8% with Nebraska having the lowest unemployment level at 2%.and the District of Columbia the highest at 6%. White workers had an unemployment rate of 3% and black workers 6.5%

Understanding Labour Market Diagrams

- **Labour market equilibrium** occurs where the **demand for labour (D_L)** is equal to the **supply of labour (S_L)**
  - The D_L is the demand **by firms** for workers
  - The S_L is the supply of labour **by workers**

- Individual firms are price takers in the labour market as they have to accept the **wage rate** that workers are being paid in the industry
  - If they offer a **lower wage,** they will likely struggle to recruit workers
  - If they offer a **higher wage** there will be a large number of workers applying to work there
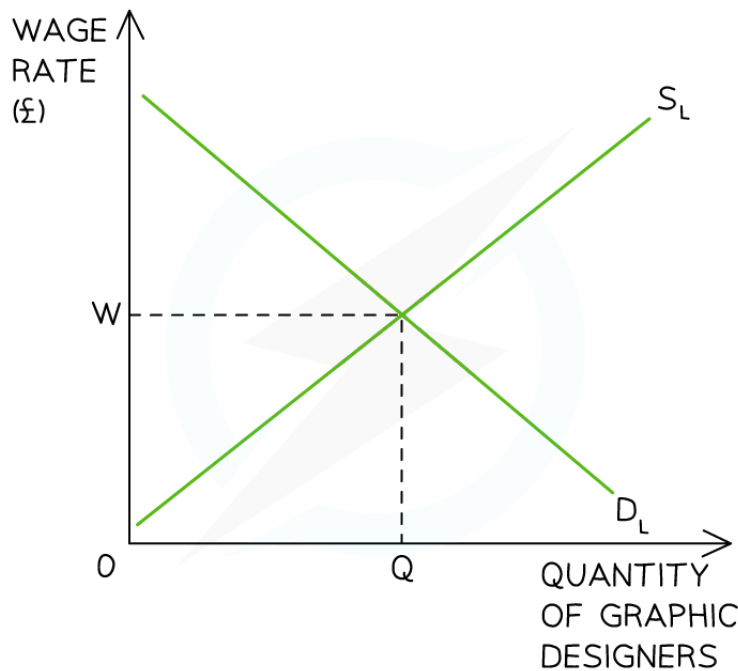
In the labour market for graphic designers, the equilibrium wage rate is W and the equilibrium quantity is Q. At this point the $D_L = S_L$

Diagram Analysis

- The market for graphic designers is in **equilibrium where $D_L = S_L$**
- The **equilibrium wage** is W and the **quantity** of labour is Q
- There is no excess supply of labour
- There is no excess demand for labour

Your notes

- There are several **causes of unemployment,** all of which cause disequilibrium in the labour market. These include:
  - Real wage unemployment (minimum wages)
  - Structural unemployment
  - Cyclical (demand deficient) unemployment
  - Frictional unemployment
 - Seasonal unemployment

Real Wage Unemployment (Minimum Wages)

Your notes

- **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**

  - A **minimum wage** is a **legally imposed wage level** that employers must pay their workers
    - It is set **above** the market rate
    - The minimum wage/hour varies **based on age**
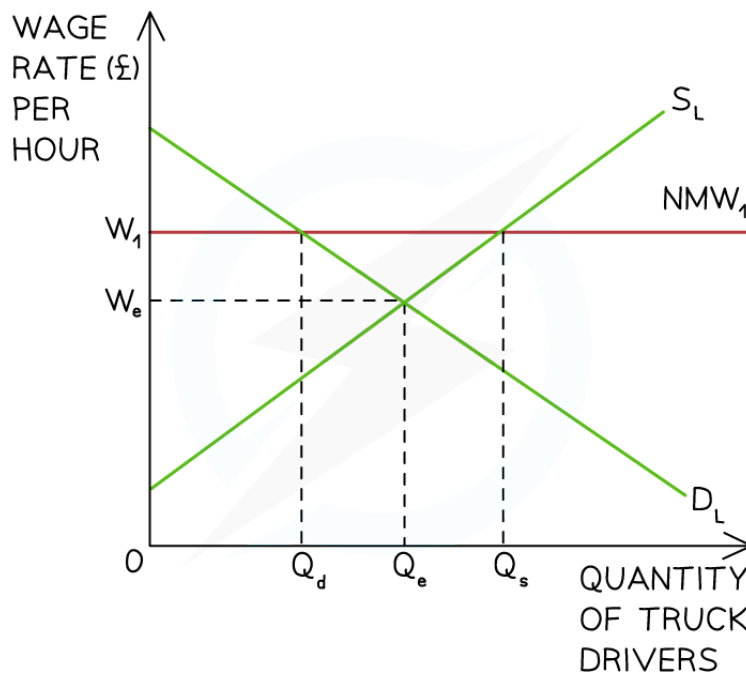
A national minimum wage (NMW₁) is imposed above the market wage rate (Wₑ) at W₁

Diagram Analysis

- The **market equilibrium** wage and quantity for truck drivers in the UK is seen at W_eQ_e
- The UK government imposes a **national minimum wage** (NMW) at W_1
- Incentivised by higher wages, the **supply of labour increases** from Q_e to Q_s
- Facing higher production costs, the **demand for labour** by firms **decreases** from Q_e to Q_d
- This means that **at a wage rate of W_1** there is **an excess supply of labour** and the potential for real wage unemployment equal to Q_dQ_s

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. shipbuilders in Glasgow
- Many Western industries have **relocated production** to China causing structural unemployment in their economies
- Unless workers receive help to **retrain,** they are often left unemployed or under-employed
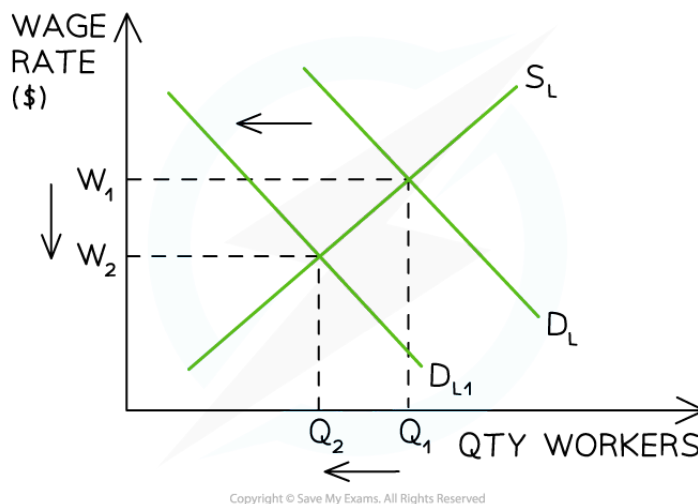
Structural unemployment occurs in a specific industry when the demand for labour (D_L) shifts left as workers are no longer required
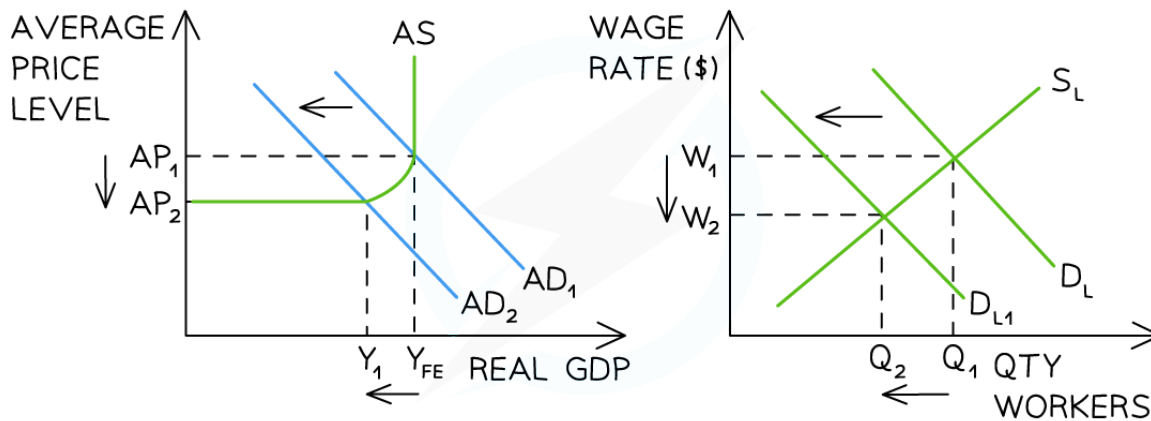
Diagram Analysis

- The initial **labour market equilibrium** in the USA steel industry can be seen at W_1Q_1
- The USA began to import more and more steel from China and with fewer workers required the **demand for labour (D_L)** shifted left from $D_L{\rightarrow}D_{L1}$
- Wages fell from $W_1{\rightarrow}W_2$ and the quantity of workers in the industry reduced from $Q_1{\rightarrow}Q_2$ (structurally unemployed)

Cyclical (Demand Deficient) 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 **derived** from the **demand for goods/services**
  - As output falls in the economy, firms **lay off workers**

A fall in aggregate demand (AD) leads to a fall in output. Fewer workers are required so the demand for labour (D_L) shifts left and wage rates fall

Diagram Analysis

- Using a **Keynesian national income model**, the macroeconomic equilibrium is initially at **AP1Y$_{FE}$**
- At this level of national output, the **labour market** is in equilibrium at **W$_1$Q$_1$**
- A **recession** causes AD to shift left from $AD_1 \rightarrow AD_2$
- This leads to a fall in real GDP from YFE $\rightarrow$ Y1
- With lower levels of output, **fewer workers are required** and the demand for labour (D_L) in the labour market shifts left from $D_L \rightarrow D_{L1}$
- The **new labour market equilibrium** is now at W$_2$Q$_2$
- The labour market has a lower wage rate and **increased unemployment equal to Q$_1$ – Q$_2$**

Frictional and 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** occurs when workers are between jobs
  - This is usually short-term unemployment
  - Workers have **voluntarily** left their previous job to search for another
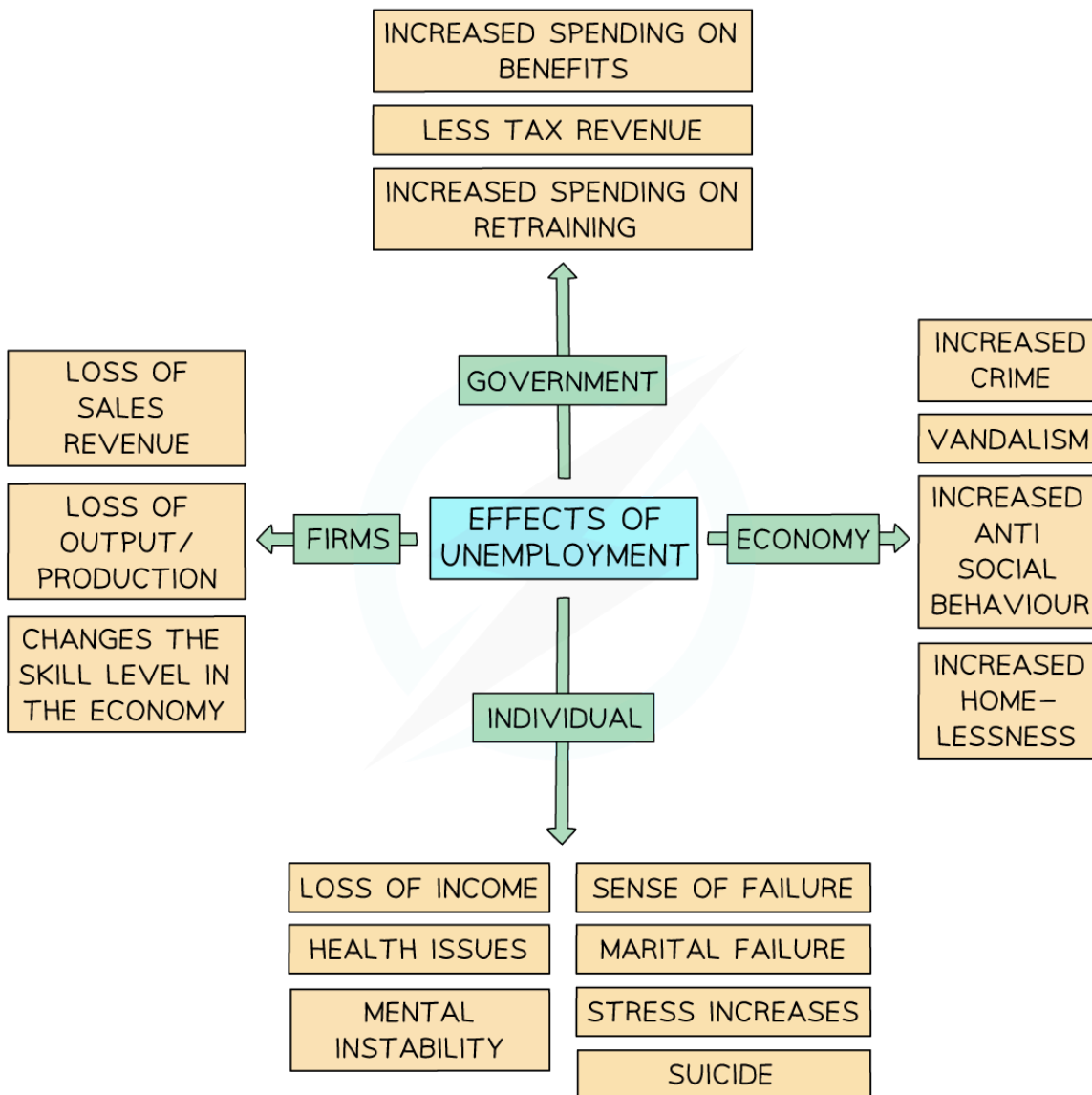
The Natural Rate of Unemployment

- The **natural rate of unemployment (NRU)** is the lowest achievable level of unemployment in an economy
- The unemployment rate can never be 0% as there is always some unemployment due to the existence of frictional, seasonal and structural unemployment
- **The natural rate of unemployment = frictional + seasonal + structural unemployment**

Your notes

The Costs of Unemployment

- The effects of unemployment, especially **long-term unemployment,** are extremely damaging
  - There are impacts on the individual, the economy, the government, and firms

INCREASED SPENDING ON BENEFITS

LESS TAX REVENUE

INCREASED SPENDING ON RETRAINING

GOVERNMENT

LOSS OF SALES REVENUE

LOSS OF OUTPUT/ PRODUCTION

CHANGES THE SKILL LEVEL IN THE ECONOMY

FIRMS

EFFECTS OF UNEMPLOYMENT

ECONOMY

INCREASED CRIME

VANDALISM

INCREASED ANTI SOCIAL BEHAVIOUR

INCREASED HOME-LESSNESS

INDIVIDUAL

LOSS OF INCOME

HEALTH ISSUES

MENTAL INSTABILITY

SENSE OF FAILURE

MARITAL FAILURE

STRESS INCREASES

SUICIDE

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

- Government's receive **less tax revenue** and have **higher expenditures** in the form of welfare payments
- Individuals suffer significant emotional, relational and financial consequences

- Firms may find it harder to **find workers to employ** (as they have moved on) once the economy starts to recover
- The economy contracts as there is a higher level of **inefficient use of available resources**

Your notes

3.3.4 Low & Stable Rate of Inflation

An Introduction to Inflation

- **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** is still **rising**, but **at a lower rate** than before
  - These figures demonstrate **disinflation:** Y1 = 5% Y2 = 4% Y3 = 2%
    - **Inflation** is increasing but at a decreasing rate

✏️ **Worked example**

How would you characterise the fall in the CPI from 2018 to 2021? Explain your answer **[3]**

CONSUMER PRICES INDEX

BANK OF ENGLAND TARGET

4.2%

UK INFLATION ROSE TO 4.2%

Step 1: Study the time period and decide if you are witnessing inflation, disinflation or deflation

Disinflation (1 mark)

Step 2: Explain your answer

According to the CPI data, prices are still rising but at a decreasing rate. For example, in 2018 prices were rising at around 3%. In 2019 this increase fell to roughly 1.8%. In 2021, they were still rising but by a much lower 0.5%

(2 marks for an answer with a correct explanation which references the data)

Measuring Inflation Using the Consumer Price Index (CPI)

Your notes

- **Inflation** is the **sustained increase** in the **average price level** of goods/services in an economy
  - The **average price level** is measured by checking the prices of a **'basket'** of goods/services that an average household will purchase each month
  - This **basket of goods** is turned into an **index** and it is called the **consumer price index (CPI)**
  - Many economies have an **inflation target** of 2% per annum
    - **Low inflation** is better than **no inflation** as it is a sign of **economic growth**

- The **inflation rate** is the change in average price levels in a **given time period**
  - The inflation rate is calculated using an **index with 100 as the base year**
  - If the index is 100 in year 1 and 107 in year 2 then the inflation rate is 7%

The Consumer Price Index (CPI)

- A **'household basket'** of goods/services that an **average family** would purchase is compiled on an annual basis
  - A **household expenditure survey** is conducted to determine what goes **into the basket**
  - Each year, some goods/services **exit the basket** and **new ones are added**
  - The number of goods in the basket varies from country to country e.g. the UK has 700 'goods' in their basket and Singapore has 4,800

- Goods/services in the basket are **weighted** based on the **proportion of household spending**
  - E.g. More money is spent on food than shoes, so shoes have a **lower weight** in the basket

- Each month, **prices** for these goods/services are gathered from **many locations** across the country
  - These prices are **averaged out**

- The **price x the weighting** determines the final value of the good/service in the basket
  - These final values are added together to determine the price of the 'basket'

- $$CPI = \frac{Cost\ of\ basket\ in\ year\ X}{Cost\ of\ basket\ in\ base\ year} \times 100$$

- The **percentage difference in CPI** between the two years is the **inflation rate** for the period

Your notes

✏️ Worked example

Using the information in the table, **calculate the inflation rate** for 2021 if the price of the basket in the base year (2019) was $400 **[3]**

Good	Price 2020	Price 2021	Weight	Basket 2020 (Price x weight)	Basket 2021 (Price x weight)
Housing, water, electricity, gas	950	1200	34%	323.00	408.00
Transport	250	325	11%	27.50	35.75
Food	500	620	9%	45.00	55.80
Recreation and culture	300	340	10%	30.00	34.00
Clothing and footwear	190	210	5%	9.50	10.50
				$435.00	**$544.05**

Step 1: Calculate the CPI for 2020

$$\text{CPI} = \frac{\text{Cost of basket in 2020}}{\text{Cost of basket in base year}} \times 100$$

$$= \frac{435}{400} \times 100$$

$$= 108.75$$

Step 2: Calculate the CPI for 2021

$$\text{CPI} = \frac{\text{Cost of basket in 2021}}{\text{Cost of basket in base year}} \times 100$$

$$= \frac{544.05}{400} \times 100$$

$$= 136.01$$

Step 3: Calculate the percentage difference between the CPI for 2021 and 2020

$$\text{Inflation rate} = \frac{\text{New CPI} - \text{Old CPI}}{\text{Old CPI}} \text{ x } 100$$

$$= \frac{136.01 - 108.75}{108.75} \text{ x } 100$$

$$= 25.07\%$$

(3 marks for the correct answer or 1 mark for any correct working. Answers should be rounded to 2 decimal places to be correct)

The Limitations of Using the CPI

- The **CPI** provides a level of inflation for the **average basket** and the basket of **many households** is not the **average basket**
  - Depending on what **households buy** the level of inflation for each one can **vary significantly**
  - As an average, it also **ignores regional differences** in inflation e.g. London's inflation may be much higher than Manchester's inflation

- The CPI is **one of several methods** used by countries in **determining inflation** - another is the retail price index (RPI)
  - This can make **comparisons** between countries **less meaningful** as one may use the RPI and another the CPI

- The CPI does not capture the **quality of the products** in the basket
  - Product quality changes over time and so the **comparison with different time periods** is less useful

- The CPI only measures changes in consumption on an **annual basis**
  - Changes in consumption can occur more frequently and the **index is always behind** these changes

- The CPI is prone to **errors in data collection**
  - It is based on a survey that goes to thousands of households each year, yet it is still a **small sample**
 - The respondents have **no incentive** to fill in the survey carefully and **accurately**

The Causes of Inflation

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

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)**
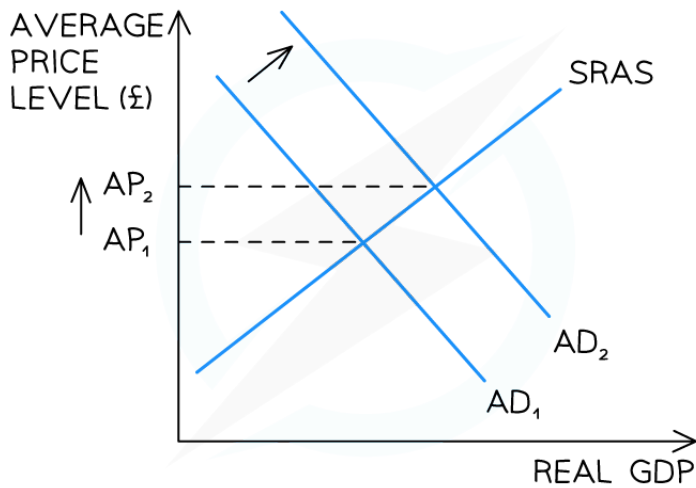
An increase in aggregate demand (AD) raises the average price level in an economy leading to demand pull inflation
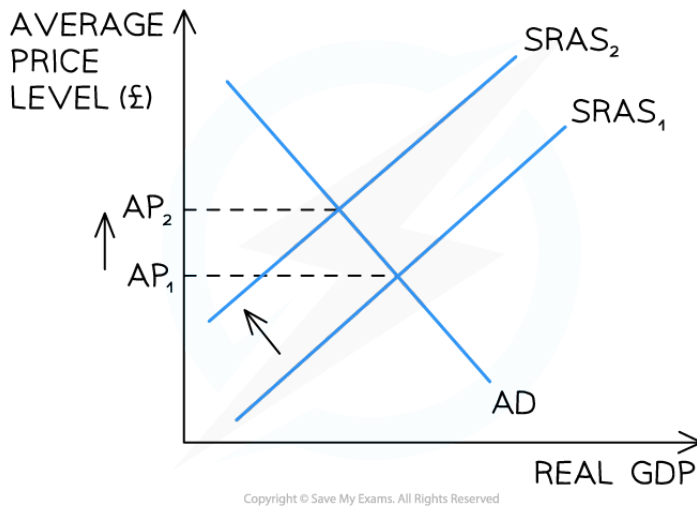
Diagram Analysis

- If any of the **four components of AD** increase (ceteris paribus), 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**
- As prices rise, there is a **contraction of AD** and an **extension of SRAS**
- **Prices** for goods/services are **bid up** from $AP_1 \rightarrow AP_2$
- **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 i**nvestment**
  - It is likely to lead to a form of **demand–pull inflation**

2. Cost Push Inflation

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

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$_1$→SRAS$_2$**
- At the original price **(AP$_1$),** 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$_1$→AP$_2$**
- **Cost push inflation** has occurred

The Costs of Inflation

The Impact of Inflation on Different Stakeholders

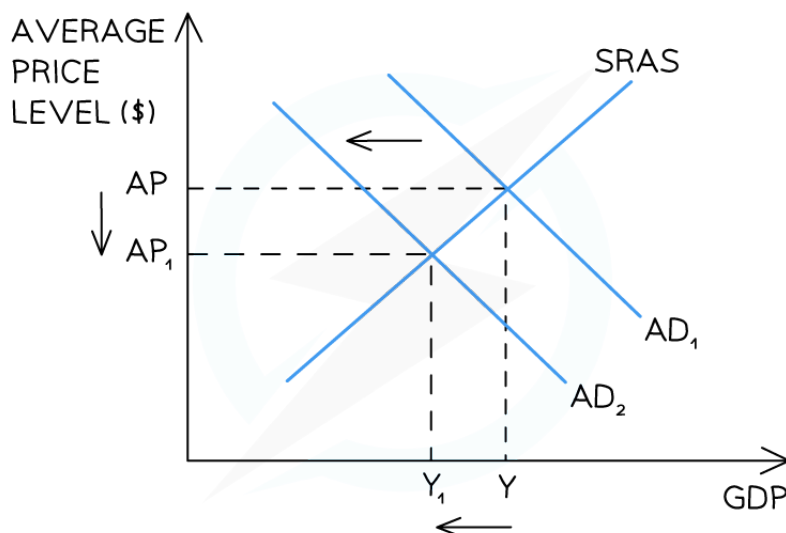| Stakeholder	Explanation of Impact
Firms	▪ **Uncertainty.** Rapid price changes create uncertainty and delay investment ▪ **Menu change costs**. Price changes force firms to change their menu prices too and this can be expensive
Consumers	▪ **Decrease in** purchasing power ▪ **Decrease in the real value of savings** (as money will be worth less in real terms) ▪ **Fall in real income** for those on fixed incomes/pension ▪ 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

The Causes and Costs 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 the aggregate demand in the economy leading to a decrease in the **general price level**
  - **Demand-side deflation** has occurred

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

Diagram Analysis

- The initial **macroeconomic equilibrium** is at AP Y

Your notes

- 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 AP_1
- 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**	**Exports**
- 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)

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

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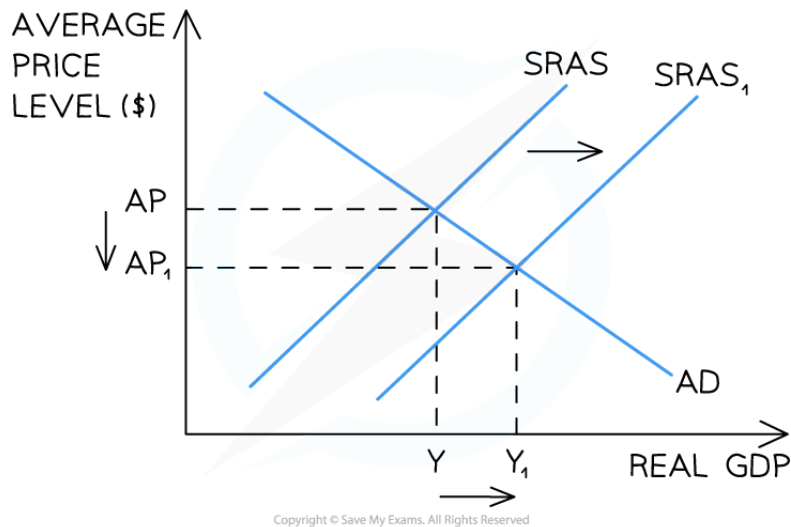
Short-run aggregate supply (SRAS) has increased leading to a reduction in the average price level (AP)

Diagram Analysis

- The initial **macroeconomic equilibrium** is at AP Y
- 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

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	▪ Persistently falling prices boost **international**	

gain confidence and increase **investment**, thereby increasing rGDP	**competitiveness** and exports increase	

Your notes

> 💡 **Examiner Tip**
>
> Understanding the cause of deflation is vital to analysing the consequences of the deflation.
>
> 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/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/services so unemployment will decrease.

The Relative Costs of Unemployment Versus Inflation

- Generally, there is an **inverse relationship** between inflation and unemployment
  - When inflation increases unemployment decreases and vice versa
- Each situation has consequences for the economy and governments try to limit the negative consequences

The Costs of Unemployment Versus Inflation

Unemployment	Inflation
- **Personal costs** such as depression, suicide, marital failure, stress - **Economic costs** such as inefficient use of resources, increased benefit payments, less tax revenue - **Social costs** such as increased homelessness, vandalism, anti-social behaviour	- Decrease in **purchasing power** leads to a worse standard of living - Reduction in the **international competitiveness** of exports which may be decreased AD - **Loss of worker productivity** when any wage increases do not equal the rate of inflation - Creates an **uncertain environment** which may prevent firms from investing - Erodes the **real value of savings** with the biggest impact on low income households and households on a fixed income (such as pensioners)

> 💡 **Examiner Tip**
>
> 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 healthy economy as it is indicative of economic growth.

Your notes

3.3.5 Potential Conflicts Between Macroeconomic Objectives

Your notes

Common Conflicts Between the Macroeconomic Objectives

- Policy decisions by **governments** often create **trade-offs** in the **macroeconomic objectives**
- Achieving one objective may come at the cost of **worsening** progress in another objective

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**

> 🔎 **Examiner Tip**
>
> 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