Zig Zag Education

Economics AS and A Level | AQA | 7135 / 7136

Course Companion

For AS and A Level Year 1 AQA Economics: Macroeconomics

zigzageducation.co.uk

POD 6214

Contents

Teacher's Introduction

This resource is designed to supplement and enhance your teaching of the 2015
It has been written to include every aspect of the AQA AS Level Macroeconomics
further research and study for keen and interested students. As up to 20% of the
quantitative skills, this resource has ensured all the relevant maths is covered (ho
students have a basic GCSE-level understanding).

These notes can be given to students before a lesson, to allow students to read a
lesson, as a revision tool to strengthen and build on current knowledge, or for st
through in class to complement lessons. The course companion largely follows t
been reordered to follow a logical route that allows students to build on their un
order and the course companion order are listed on the next page. However, be
written and structured to each specification topic, the notes can easily be reorde
the teacher wishes.

At the **beginning** of every section is a list of content that the students will cover.
for the lessons that follow and it can also be used as a checklist, either after learn
revision, to remind students of the content they have studied and ensure they ha
specification. **Review questions** and **exam-style questions** are provided at the e
consolidate and develop pupils' learning. Answers can be found at the end of th

Each specification point has complete notes with all the relevant diagrams clearl
where possible to help students relate their theoretical knowledge to real-life sit
defined either at the beginning of a topic or in key-term boxes throughout.

Other boxes include:
Further Your Economic Knowledge: These boxes are designed for students who
and learn more about certain topics. The content in these boxes is relevant to th
essential, they can be used in the exam to gain A* points.

Activity! These boxes include a wide range of interactive or visual activities to se
provide materials for reading around the topic. These can be used to break up le
types of learner.

Learn More! These boxes provide links to extra materials such as articles and vi
to read around a topic.

Be careful! These boxes highlight common mistakes that pupils make and explai

Link Circles: The exam board wants students to be able to make connections acr
the course companion, for example linking negative externalities to the theory o
which is covered separately. The numbering used relates to the specification nu

*A webpage containing all the links listed in this resource is convenien
Education's website at **zzed.uk/6214***

You may find this helpful for accessing the websites rather than typi

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** resulting from minor specification changes, suggestions from teachers and peer reviews, or occasional errors reported by customers*

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Student's Introduction

Macroeconomics

In the first part of the course we looked at ***microeconomics***, which focuses on ind
about the supply and demand of goods and services: how much more will compa
higher price for their goods? How will consumers respond? We looked at decisi
individual people and firms. Does the demand for apples change if pears becom

We now turn our attention to ***macroeconomics*** and take a much broader look at
examines the economy *as a whole*. Instead of thinking about a firm's output, we
of a country. Supply and demand become *aggregate* supply and *aggregate* dem
each across a whole economy.

In microeconomics we looked at how the government might intervene to correct
Macroeconomics considers the role of the government in the entire economic sy
causes an economy to grow, why growth is important and the tools at the gover

When looking at an entire economy, we have to extend our analysis to *other* eco
open economies and trade with other nations. What's the balance between imp
the exchange rate to change?

Macroeconomics might seem more relevant: it considers the big issues such as in
that politicians are invariably talking about on the news. However, it's importan
microeconomic principles which underpin a lot of macroeconomic theory.

As well as understanding the theory, though, it's important to be able to relate c
and have familiarity with global economic conditions. Below are a few links for c
regard:

- The Office for National Statistics – *in particular their Monthly Economic Revi
  and graphs – very useful for the quantitative skills element of the course.
  www.ons.gov.uk

- The Bank of England – *in particular their Inflation Reports and minutes of me
  Committee (this will be more relevant to the macroeconomics component of*
  www.bankofengland.co.uk

- The Economist – *for coverage of politics, international relations and econom
  based but a certain number of articles can be accessed for free each month.*
  www.economist.com

3.2.1: The measurement
macroeconomic perform

By the end of this topic, you should understand...

- ✓ **The main objectives of government economic policy**
  - Economic growth
  - Price stability
  - Minimising unemployment
  - Stable balance of payments on the current account
- ✓ **Macroeconomic indicators**
  - Data that is used to measure the performance of an economy
  - The difference between real and nominal values
- ✓ **The use of index numbers**
  - Why index numbers are used
  - How index numbers are calculated
  - Index numbers and the price level
- ✓ **The circular flow of income concept**
  - What national income measures
  - The circular flow of income concept
  - Injections and withdrawals

The objectives of government economic policy

A good way to introduce the macroeconomy – the economy as a whole – is to co
economic policy aims are (i.e. the macroeconomic objectives). The government
economy with the aim of making the population more prosperous and raising liv
stability are the keys to this, but policymakers have to account for other factors t
main objectives of government economic policy; all the concepts here are expan

Primary objectives:

1. **Economic growth**
   Economic growth refers to the increase in an economy's total output, i.e. ar
   and services a country is able to produce. Economic growth indicates more
   greater opportunity. The government aims for a sustainable level of econor
   then the result could be high inflation, which can cause all sorts of problems
2. **Low unemployment**
   The government wants to have as many people in work as possible. More p
   the economy can produce more, plus the government has a lower bill for be
   unemployment is acceptable; for example, people may be moving between
   job then firms would find it hard to attract new workers and expand. In the
   keep unemployment below about 5%. During the recent financial crisis une
3. **Low and stable rate of inflation**
   Inflation is a sustained increase in the prices of goods over time. A low rate
   for the economy. It encourages people to spend money today (since money
   low enough to mean that borrowing money is affordable (high inflation rate
   rates, which makes borrowing expensive). The rate should be stable too; in
   the rate of inflation is uncertain.
4. **Balance of payments current account equilibrium**
   The 'current account' component of the balance of payments measures a co
   services with the rest of the world. A current account deficit means that the
   lower than the value of their imports (this is the case for the UK). A current
   value of a country's exports is higher than the value of their imports (this is
   government usually aims for a stable current account balance, as persistent
   economy (this is discussed in more detail later).

Other objectives:

5. Balanced government budget (tax revenue = spending)
The government budget refers to the levels of government spending compared to the levels of tax revenue.
The government can run a deficit and spend more than it brings in. However, this causes debt levels to rise as the government has to borrow money (by issuing interest paying bonds). This is fine in the short term, but as debt levels rise the government has to spend more and more of its revenue on debt payments which reduces its ability to spend elsewhere. Thus, this takes us back to the conce
microeconomics). The opportunity cost of spending more on debt repayme
goods, for example, as this would help the economy to grow. Accordingly, g
a balanced government budget – or a surplus in good times to ease the pres
during downturns and recessions.

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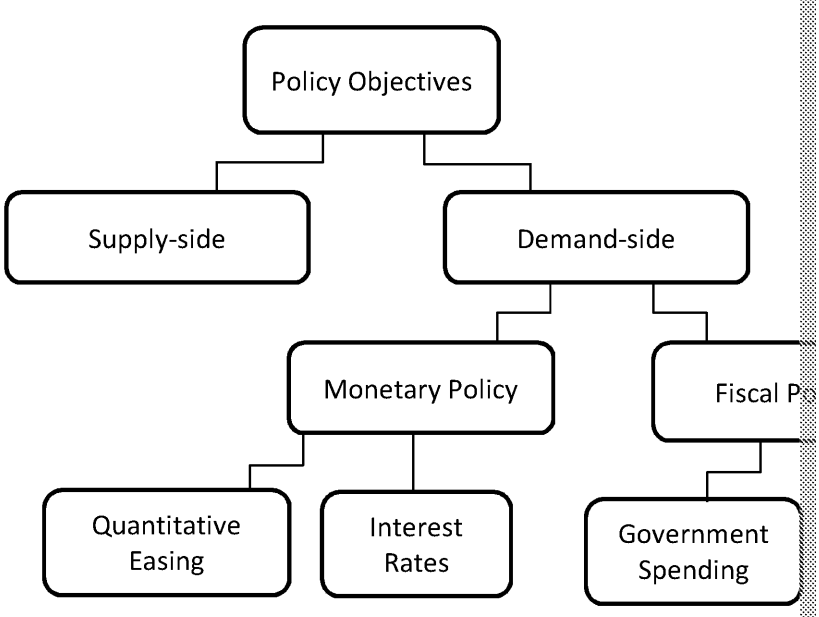
6. Protect the environment
Economic growth is often bad for the environment – generating power from
and waste enter the water system, green spaces are tarmacked over, and so
to protect the environment – not only for the current population to enjoy, b

7. Greater income equality
A government may aim to reduce inequality by taxing the richest at increasi
increasing benefits to the poorer members of society. Increasing marginal r
increased as the income increases. Hence, the richer are taxed at a higher r
less. In a more equal society there may be higher aggregate demand for go
have a reasonable amount of disposable income – and this could increase g

The main government objectives can be achieved using various policies. Each po
instruments'; this means variables that the government can control in order to n
achieve the various policy objectives. These instruments control the economy by
demand or aggregate supply. Aggregate supply is the total amount that produce
price level.

Policies that use instruments to influence aggregate supply are called 'supply-sid
instruments to influence aggregate demand are called 'demand-side policies'. Th
policies: monetary policy and fiscal policy. These policies are discussed in the su



The possibility of conflict

There may be conflicts between macroeconomic objectives, i.e. in the process of i objective is impaired. The most famous trade-off is the one that is shown by the P relationship between inflation and unemployment. These ideas will be covered in companion, but here are some examples of how conflicts might arise:

Economic growth might lead to high inflation; if the economy is thriving it co leading to higher than desired inflation.

Economic growth might be damaging for the environment, depending on th

Low inflation could be associated with high unemployment, and high inflati unemployment; this is covered later (see the 'Phillips Curve').

Economic growth could lead to a trade deficit if people end up spending mor

How objectives change over time

Shocks

The government may have defined economic policies that are spelled out in Parl However, these objectives may change.

A common idea in macroeconomic theory is the impact of *shocks*. In ecor unpredicted and unexpected event which affects the economy – either negat shock might be a natural disaster. An example of a positive shock is a techno increases supply.

Even if governments have rigid economic plans, they often find themselves resp crisis of 2008 was a large negative shock. Governments that had committed to r more than they received through taxes) suddenly found the need to open the pu recession deepening further.

Evolving economic theory

Changing economic theory also has an impact on government policy. The discipl scientific as possible. However, the main problem is that economists can't hold a other sciences such as chemistry and physics) in order to test just one factor.

For example, it's impossible to estimate the optimum rate of inflation in a purely are so many other factors which affect the economy, such as unemployment, exc so on, which all are changing at the same time. Growth may be highest when inf be due to the level of government spending at that time – or any of a number of

In the absence of controlled experiments all we can do is observe economies and means that economic theory is constantly evolving – we are developing more ac can take into account more factors as the power of computers increases. Simila and more data.

The lack of scientific proof of theories means that often there is a lack of consens action for a government is. During the 2015 General Election there was a lot of d the deficit (how much more the government spends than it raises through taxes) government spending should be cut to reduce the deficit – while many others ar problem and cutting spending would cost the economy more than it would gain.

Macroeconomic indicators

Economists look at various statistics in order to judge economies. These are known as indicators – they indicate how well an economy is performing. Indicators are usually published regularly by government agencies. In the UK the main two are the Office for National Statistics (ONS) and the Bank of England. In this section we will go through the most important macroeconomic indicators.

The Fi
dashboard
resource. I
the key, up
one page –
See **http://i**
dashboard

The key macroeconomic indicators

- GDP
  - *per capita*
  - *real and nominal*
- Inflation
  - *RPI*
  - *CPI*
- Unemployment
- Productivity
- Balance of payments

QUANTITATIVE SKILLS

The **ONS** publishes monthly
look at the latest issues in th
macroeconomic indicators.
Review – interpreting the ch
the quantitative component

See **http://www.ons.gov.u**
review/index.html
Warning: some of this is qui

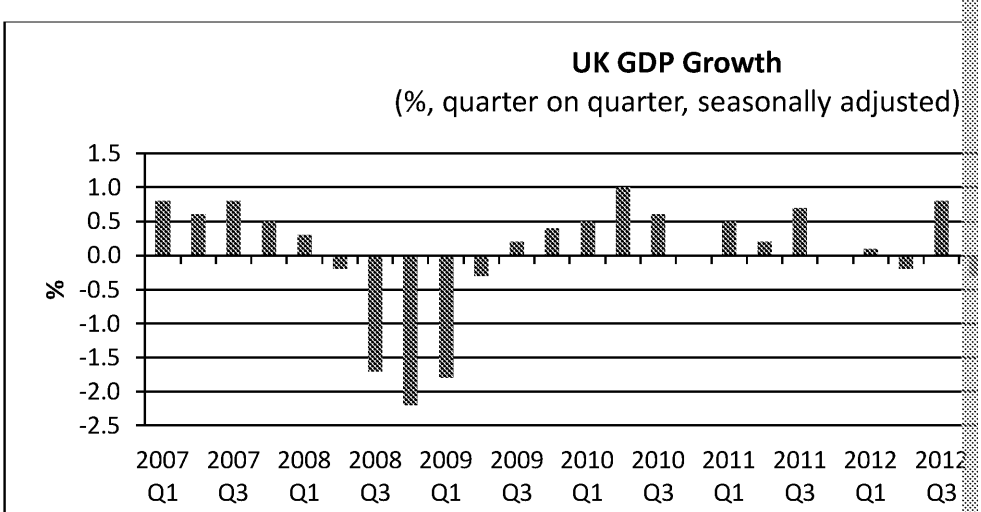
Gross Domestic Product (GDP)

Growth Domestic Product (GDP) is the sum market value of all the goods and ser
in one year. It is calculated in one of three ways: income method (adding up inco
production); expenditure method (adding up all the spending in the economy); a
the value of all goods and services in the economy). Every time somebody spend
producer has earned that money (income), therefore expenditure should equal i
Income diagram in section 3.2.2.1.

The technical definition of a recession is two consecutive quarters of negative growth. With this definition in mind, consider the chart below. How many recessions has the UK been in since 2007?

Because GDP shows the size of an econ
shows the growth (or decline) of an ec
value of the percentage change in GDP
(PPF) shows the maximum potential th
all its resources were efficiently used a
the PPF curve means an economy has a
goods and services and is more likely to
economic growth.

The chart below shows the growth of GDP in the UK between 2007 and 2015. Th
that the change in GDP is calculated every 3 months. For example, the figure of a
that GDP was 0.8% larger in January–March 2007 than in October–December 20



Real GDP

Prices, however, change over time. The price of something is established by the
demand – the market equilibrium will change over time, such as for beef or oil.
horsemeat scandal, which caused a fall in demand and a consequent fall in beef
in 2015 due to a massive oversupply on the world markets, but prices rose again
measurement, and if this keeps changing it means the unit of measurement is no

The nominal price is the current price of the good at the time of recording. Price
any nominal values in measurements will also rise over time. This means when c
economy has produced from one year to the next, growth will be exaggerated.

For example: *an economy producing 50 socks at £1 each will have a nominal GDP
£1.50 but the economy is still only producing 50 socks, the economy's nominal GD
appears to have grown by 50%. However, in reality the economy has not grown a*

Instead we would rather look at the 'real' change when comparing GDP over tim
in 'real' value of the goods without the effect of rising prices (inflation). To do th
volume of goods and services produced in a country in one year and give them th
had in a certain year. The year that is picked is called the 'base year' and it is the
measurements are based on.

Real GDP growth is one of the key economic variables that politicians will use to
economic policies, and which may even make front-page news when growth plu
of the direction of the economy over the last period, giving everyone an indicatio
heading right now!

Real GDP per capita

The USA is a large country, whereas somewhere like the UK is much smaller. The
has less labour and fewer resources than the USA and will, therefore, be able to
produce far fewer goods and services. Comparing GDP across countries is difficu
have much higher GDP levels than a smaller country, but this does not necessaril
Instead, economists may look at GDP per capita which accounts for the size of th
the country (total GDP) and divides by the population of the country in order to g

$$\frac{\text{GDP}}{\text{Population}} = \text{GDP per capita}$$

Consider the following example;

	GDP	GDP per capita
USA	$16.77 trillion	$53,041
UK	$2.67 trillion	$41,787

The above example shows that there is a huge difference between the GDPs of th
difference between their GDP per capita is much smaller.

CPI and RPI

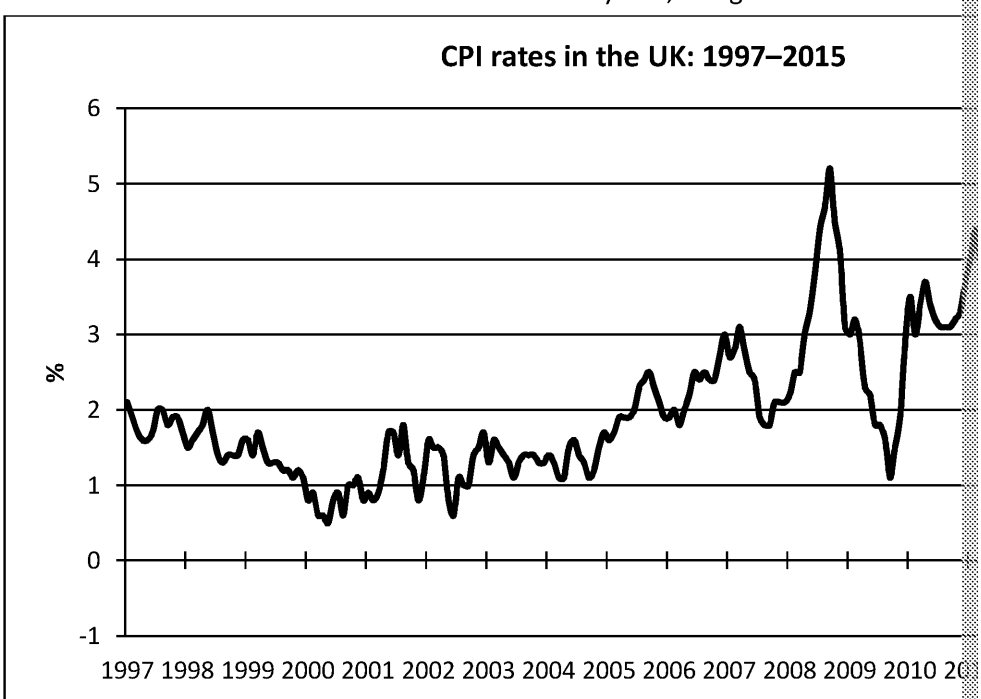
Inflation is another key macroeconomic indicator. The ideal is a stable inflation r

Higher inflation rates tend to mean higher interest rates, which makes borrowing e goods and services whether they need them or not because of the anticipation tha in the future. This could lead to high personal debt. Deflation, or negative inflatio forecasted to be cheaper in the future, people won't buy any inessential items at t

Lots of things are linked to inflation, from pensions to train tickets. Accordingly, level. There are two main ones used in the UK: **RPI** and **CPI**.

Consumer Price Index (CPI)

The Consumer Price Index (CPI) is the official measure of inflation in the UK. It u this in the next section) to estimate average price changes for all goods and serv below shows how inflation has varied over recent years, using the CPI method:



Note that CPI rates were generally quite stable and close to the 2% target before then, though, CPI has been much more volatile – reaching highs of over 5% but a early 2015.

Retail Price Index (RPI)

The Retail Price Index (RPI) is another measure of inflation used in the UK. It was inflation but has now been replaced by CPI. RPI is calculated slightly differently t includes housing costs (whereas CPI does not). RPI is an arithmetic mean. It is ca the prices and dividing by the number of items there are in the economy.

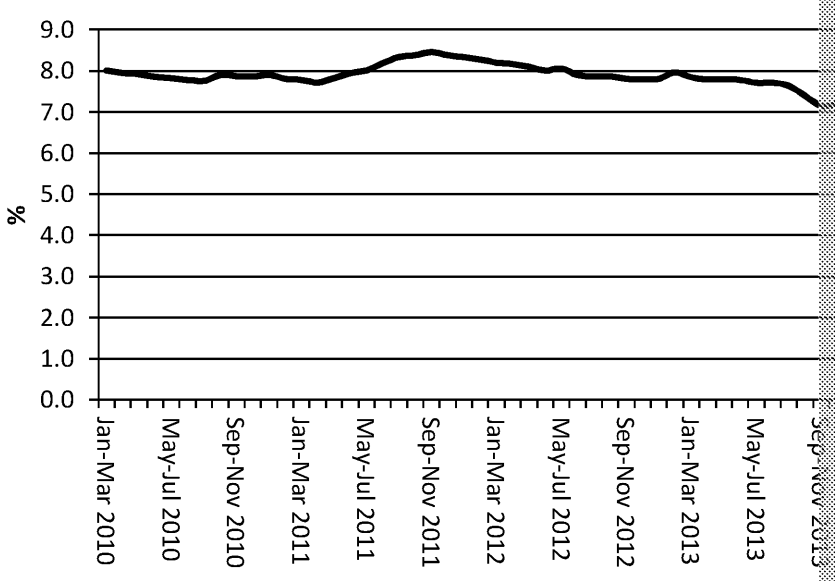
Unemployment

Unemployment is a very important economic indicator. Fewer people in work m productive capacity of a country. More people working means more goods and s unemployment also means a higher welfare bill for the government as people cl Aside from the economic costs, unemployment can be very damaging socially.

Unemployment can never be eliminated completely, however. There will always move between jobs. Accordingly, the 'full employment' rate for a country is usu which takes into account natural joblessness.

Below is a chart showing the unemployment rate for those aged 16 and above in
It has steadily decreased since the financial crisis and is close to a healthy 5% at t
there are some concerns that more people are having to work part-time rather t

Unemployment rate for those aged 16+ in the
(seasonally adjusted)

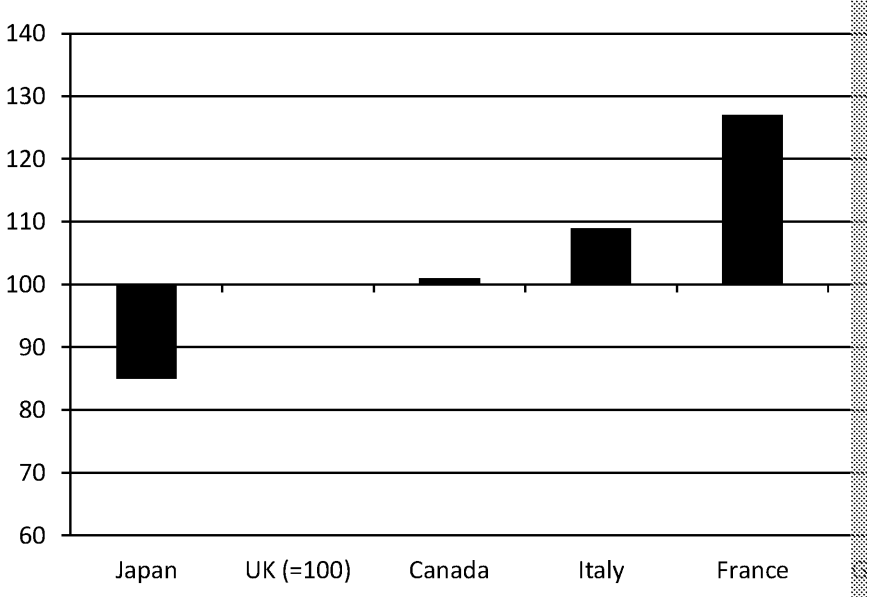


Productivity

Productivity measures how well an economy uses its resources to create goods a
units of output per unit of input. Inputs are capital and labour. Productivity is a
increases in GDP; if the economy uses its resources more efficiently, there is like
increase due to factors such as technology advancements or better skills and edu

A common measure of (labour) productivity is the GDP divided by the total numb
chart showing how the productivity of the UK compares to the other G7 countrie
economies). The values for the other countries have been normalised to the UK
The UK had higher productivity than Japan in 2014, and similar to Canada, but le

Labour productivity: 2014 GDP per hour worked, G7

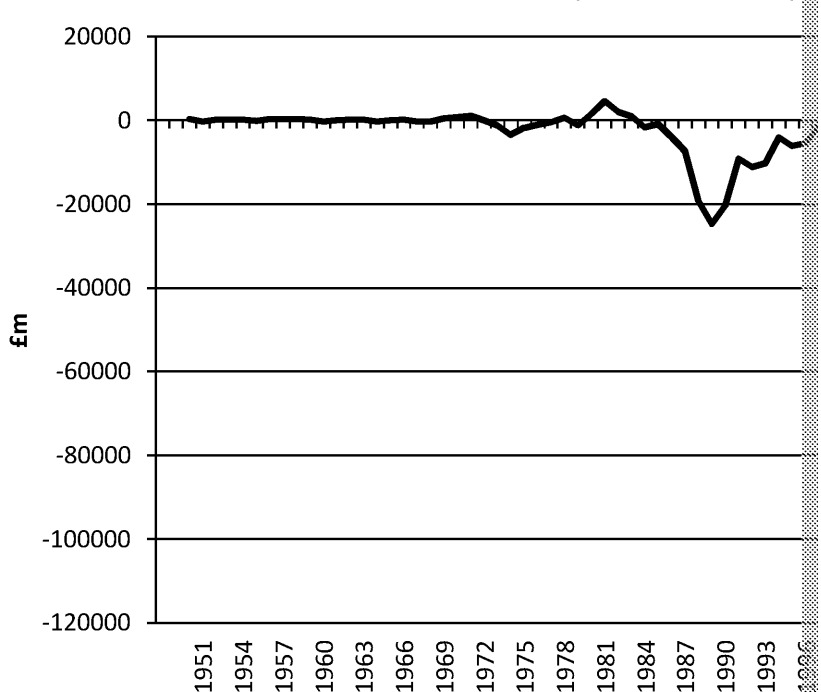


The balance of payments on the current account

The balance of payments on the current account is another macroeconomic indi
and outflows from a country of goods, services and investment. If a country run
must run a surplus on its capital and financial accounts. This is because a countr
made up of the current, capital and financial accounts) is always balanced (i.e. it
negative). Below is a chart showing the UK's balance of payments on its current
have not been adjusted for inflation. A consistent balance of payments surplus i
indicate that the country is a debtor (i.e. a borrower) to the rest of world. Lookin
good way of analysing how an economy works in relation to the rest of the worl
much countries export and import, thereby revealing their global competitivene

UK Balance of Payments: 1946–2014

current account balance, nominal prices, seasonally

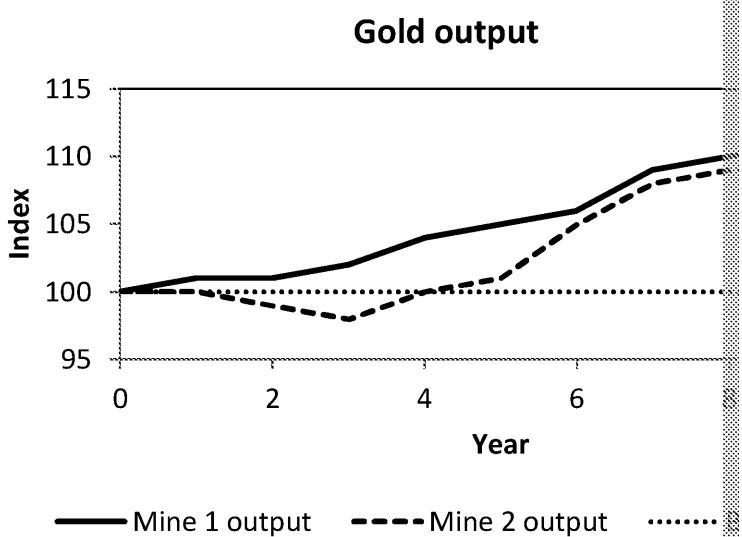


Uses of index numbers

The use of index numbers has already been mentioned in the previous section w
Both measures of inflation use an index approach.

Economists use index numbers to make comparisons over time. The main idea i
compared back to an initial 'base'. The base is always shown with an index of 10
then following data points are adjusted to this value.

It is useful to think about a visual example. Below you will see a line graph show
gold mines in index form:



First note how the output of each mine starts at 100 at year 0, the base year. Th
had the same output in year 0. Rather, it just shows 100% of their respective sta
with the subsequent changes for each output over time, relative to this starting p

We can see that the output for Mine 1 generally increases over time. In year 4 it
that its output has increased 4% relative to the base year.

The output for Mine 2, however, decreases relative to the base year between ye
year 3 tells us that output has decreased by 2% compared to the base year.

Sometimes it is appropriate to use **weights** when calculating index numbers. Im
index combining the output of *both* goldmines. However, Mine 1 produces 80%
produces 20%. In order to create the collective index we multiply the output for
reflects their respective importance. In this case, we would multiply the output
of Mine 2 by 0.2. The sum of both would represent our overall index.

Index numbers and the price level

CPI is the main measure of inflation and uses an index method. There are far too many goods and services in the UK produced by a variety of suppliers and sold at a variety of outlets to measure all of them. Instead, CPI measures the prices of a representative proportion of aggregate consumption, i.e. CPI measures the price change for 650 goods and services that average household. These 650 goods/services are referred to as a 'basket of goo Costs and Food Survey (a successor to the Family Expenditure Survey). This is wh record their expenditure for a month and this is used to determine an average h relative and changing price of this basket is used to give the rate of average price Preferences change, meaning the basket of goods changes and so the survey is d the basket of goods revised and up to date.

The Living Costs and Food Survey has another use as well. Inflation on expensive
impact on the economy than inflation on cheaper products. Equally, prices of es
such as energy and food, will have a more significant impact on the economy tha
bought too often. For this reason, some goods need greater importance attache
of inflation. 'Weights' are given to items to account for their various impacts. Th
by the Family Expenditure Survey.

Let's use an example to show how an index is calculated to show inflation.

Year	Goods		
	Good name	Price	Items bought as a percentage of total items bought (weight)
2013 (base year)	Good A	£25	10% (0.1)
	Good B	£1.50	65% (0.65)
	Good C	£5.00	15% (0.15)
	Good D	£7.50	10% (0.1)
2014	Good A	£25.50	10% (0.1)
	Good B	£1.60	65% (0.65)
	Good C	£5.50	20% (0.15)
	Good D	£7.50	5% (0.05)
2015	Good A	£26	10% (0.1)
	Good B	£1.60	60% (0.6)
	Good C	£5.50	20% (0.2)
	Good D	£7.50	5% (0.05)
	Good E	£7.00	5% (0.05)
2016	Good A	£27	10% (0.1)
	Good B	£1.60	60% (0.6)
	Good C	£5.60	15% (0.15)
	Good E	£7.50	15% (0.15)

1. First you need to select a base year. There may be particular reasons for a y
but otherwise it can be any. In this example 2013 will be the base year beca
data for.

2. From the survey, the goods bought by most households and their weights fo
the survey. The goods and their weights may change slightly according to p
years.

3. The price level for each year is then found from the representative sample o
each good by its weight and adding them together.

$\text{Price Level}_{\text{Year}} = (\text{Price}_{\text{A}} \times \text{Weight}_{\text{A}}) + (\text{Price}_{\text{B}} \times \text{Weight}_{\text{B}}) + (\text{Price}_{\text{C}} \times \text{Weigl}$
$\text{Price Level}_{2013} = (£25 \times 0.1) + (£1.5 \times 0.65) + (£5 \times 0.15) + (£7.5 \times 0.1) =$

This is done for all the years and is shown on the table.

4. Then the index value is found by: $\left(\frac{\text{Price Value of Year}}{\text{Price Value of Base Year}}\right) \times 100.$
So the year 2014 would be $\left(\frac{£5.02}{£4.98}\right) \times 100 = 101.$

5. The base year is always 100 $\left[100 = \left(\frac{£4.98}{£4.98}\right) \times 100\right]$. Any index above 100 s price level and therefore inflation, e.g. from 2013 to 2014 (index 101) there to 2015 (index 108) there was 8% inflation. If the index was 98 then there w

6. To find the inflation between years, you first find the difference between th the base number. $\text{Inflation} = \left[\frac{(\text{Index}_B - \text{Index}_A)}{\text{Index}_{Base}}\right] \times 100$. So the inflation fro $\left[\frac{(108-101)}{100}\right] \times 100$.

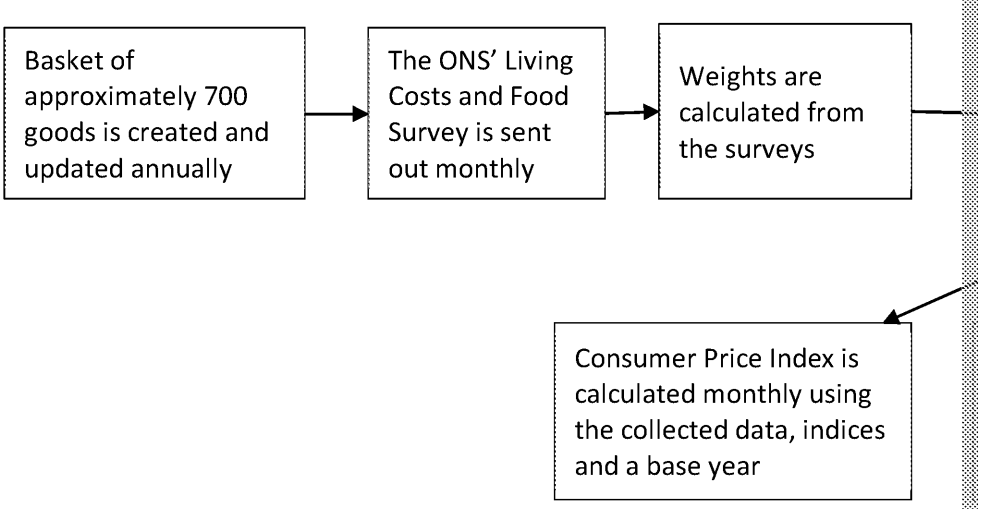
   Because the base year is always 100, finding inflation from the base year ca

   $\text{Inflation} = \text{Difference between two years}$

Retail Price Index (RPI)

The RPI is another measure of inflation. Both measures use a representative pro consumption, i.e. the basket of goods, and they both record their prices for a var and retail outlets (e.g. corner shops, independent stores and large chains). They calculate indexes to follow and record price change from a base year.

The difference between the two measures is very complicated and does not nee CPI uses a geometric average, whereas RPI uses an arithmetic average. But the r includes housing costs and CPI does not, which means RPI is always higher than C



Limitations of measuring inflation

- Measures do not take into account any improvements in the quality of a pro increase in the price of a good or service is due to the advancements in the
- Temporary shocks can change prices, which, measured as inflation with no e
- Inflation may be different for various households. For example, a greater pr food for pensioners than most other households. Hence, there will be a gre pensioners – but the RPI measures the 'average' inflation (thus, this may no inflation in the economy).

Review questions 1: The measurement of macroec

1. What is a basket of goods?

2. These questions refer to measuring inflation.
   a) How is inflation measured using the CPI?
   b) What is another measure of inflation?
   c) What are the limitations of measuring inflation?
   d) Using the information in the table below:
      i) Fill in the missing columns.
      ii) What is the rate of inflation in Year 1, Year 2 and Year 3?
      iii) Using inflation, deflation and disinflation, can you describe t

Year	Goods				I
	Good name	Price	Items bought as a percentage of total items bought (weight)		
Year 1 (base year)	Good A	£5.00	20%	0.20	
	Good B	£3.00	15%	0.15	
	Good C	£0.50	35%	0.35	
	Good D	£9.50	30%	0.30	
Year 2	Good A	£5.25	21%	0.21	
	Good B	£3.50	15%	0.15	
	Good C	£0.65	35%	0.35	
	Good D	£9.60	29%	0.29	
Year 3	Good A	£5.75	21%	0.21	
	Good B	£3.75	16%	0.16	
	Good C	£0.75	35%	0.35	
	Good D	£10.00	28%	0.28	
Year 4	Good A	£5.75	18%	0.18	
	Good B	£3.75	14%	0.14	
	Good C	£0.75	35%	0.35	
	Good D	£10.00	27%	0.27	
	Good E	£2.00	6%	0.06	

3. Why are inflation, economic growth, the balance of payments and une for economic performance?

4. a) What is GDP?
   b) How do real and nominal GDP differ?
   c) How can GDP be adjusted to account for population size?

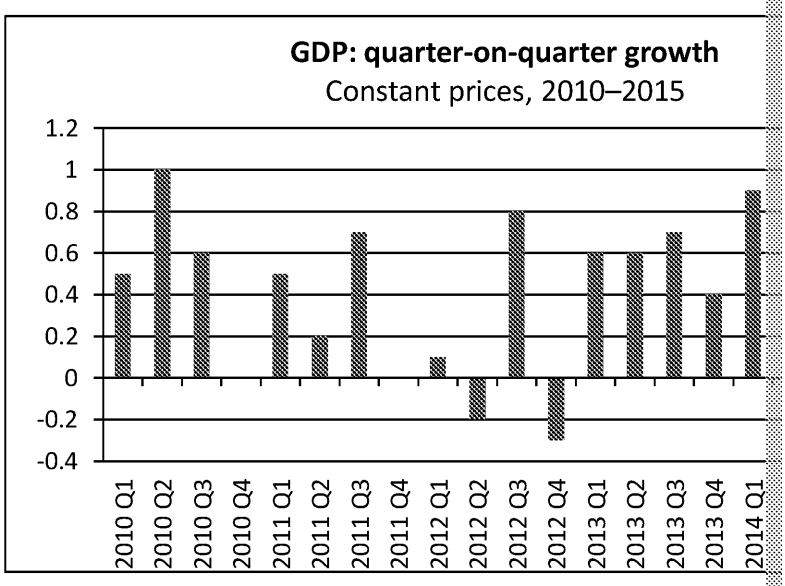
5. Name and explain three conflicts that might arise in the government's

Exam-style questions 1: The measurement of macroeco

1. Which **one** of the following **is not a main objective of the governmen**
   A Economic growth
   B 0% interest rates
   C Low and stable inflation
   D Low unemployment

2. Which **one** of the following **is not a key macroeconomic indicator**?
   A GDP
   B Unemployment
   C ONS
   D CPI

3. Which **one** of the following **can** be inferred from the chart below?
   A The UK's economy shrank between Q2 2014 and Q1 2015.
   B Between 2010 and 2015 the UK's economy had consecutive quar
   C The highest growth during the period was in 2014.
   D The UK's economy grew overall in 2010.



4. Describe the difference between real GDP and nominal GDP.

   .....

   .....

5. Describe the process of creating an index for inflation.

   .....

   .....

   .....

   .....

   .....

   .....

6. Which **one** of the following is correct?
   A The CPI method of recording inflation aggregates price changes f
   economy.
   B CPI and RPI are identical measures.
   C Some goods are given more importance than others when calcula
   D CPI is always positive.

3.2.2: How the macroeconomy wor
flow of income, aggregate demanc
supply analysis, and related c

By the end of this topic, you should understand...

- ✓ **The circular flow of income**
  - National income
  - The circular flow of income concept
  - Injections and withdrawals
- ✓ **Aggregate demand and aggregate supply analysis**
  - The concepts of aggregate demand and aggregate supply
  - Factors that can cause shifts in aggregate demand and aggregate supply
  - AD/AS and macroeconomic equilibrium
  - Demand-side and supply-side shocks
- ✓ **The determinants of aggregate demand**
  - How AD is determined
  - The basic accelerator process
  - The determinants of savings
  - The difference between savings and investments
- ✓ **Aggregate demand and the level of economic activity**
  - The role of AD in influencing economic activity
  - The multiplier process
- ✓ **Determinants of short-run aggregate supply**
  - The main determinants of short-run AS
- ✓ **Determinants of long-run aggregate supply**
  - The main determinants of long-run AS
  - The vertical long-run AS curve

The circular flow of income

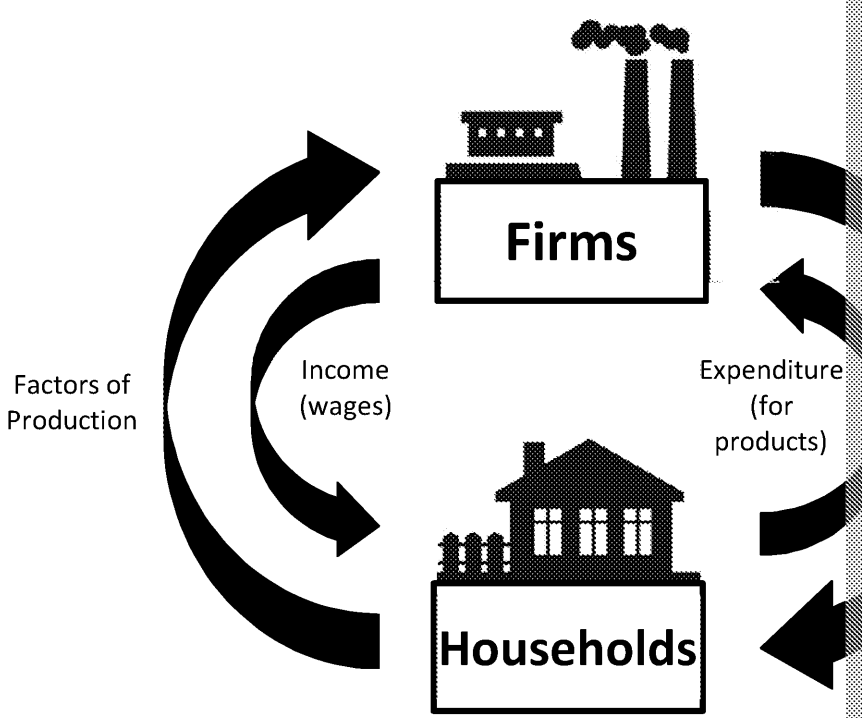
National income

In the previous section we talked about GDP, which is a measure of national inco
of all the goods and services that an economy produces in a given year. It is the
around the economy. Because that income is used to purchase goods and servic
be a measure of the total expenditure in an economy or the total amount of out

Income *is the money that a person receives in exchange for something, e.g. wages from labour or the rent from letting a property. It moves from one agent to another; it is seen as a* ***flow*** *of money.*

Wealth *is the money that a per
from wages or investment retu
is seen as a* ***stock*** *as it is mone
savings accounts or items such*

Wealth can create income – the money and items stored can generate a flow of
house. If you own the house then it can be considered as wealth – but if you let
receive a flow of income back from it in the form of rent.



With this in mind, let's look at the diagram above which shows a circular flow of
very simple economy (remember the importance of assumptions covered in the
companion). There is no government or interaction with other economies; there
By 'household' it is meant a unit of people of any amount, one individual or a fa
from where they work (at the firms) and spend their incomes buying the goods a
Firms receive factors of production, such as labour, from households and produc
bought by consumers. Income flows round and round the economy from firms t

National income, therefore, is a measure of all the output produced by the firms
services) **or** the total amount spent on these goods and services by the househol
Therefore the following equation holds when thinking about national income:

Income = Output = Expenditure

Accordingly, measurements of national income such as GDP can take various app
income, total output *or* total expenditure.

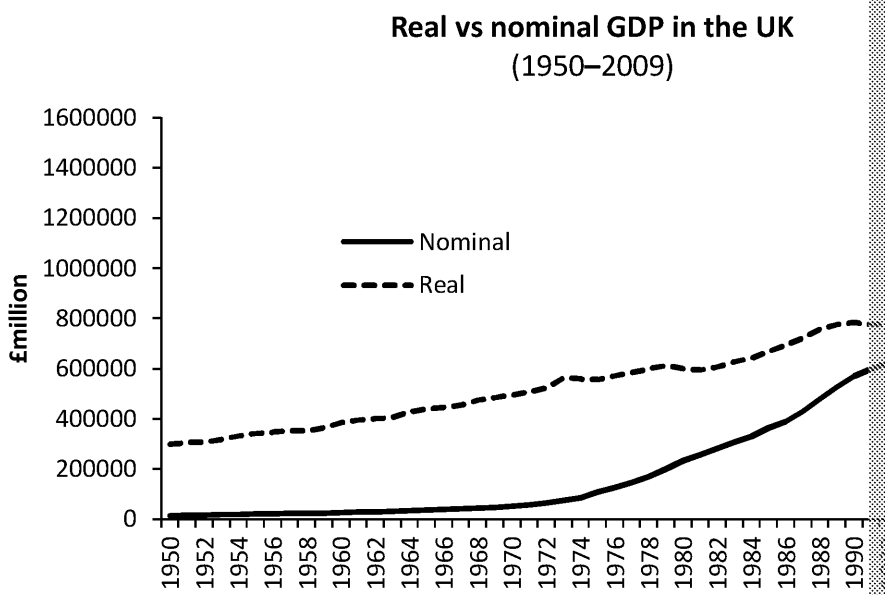
Nominal vs real income

One of the main reasons to measure national income is to allow for comparisons
how the economy compares to last year, the year before that – or even decades

However, as mentioned in the previous section, prices change over time. A pou
a pound today because it could be invested and earn a return. Therefore it's imp
between **real** and **nominal** national income. **Nominal** national income is the sum
produced that year *at that year's prices*. This means that comparisons with othe
Nominal national income growth will look higher than in reality because althoug
levels increase too.

To account for this, economists use **real** national income as a measure of an eco
This accounts for rises in price levels by 'deflating' the nominal amounts by the i
more meaningful comparison of values over time.

Let's look at an example which illustrates these ideas. On the following page is a
Bank of England. It shows real and nominal GDP in the UK between 1950 and 20
market prices from each year. The real GDP figures, on the other hand, adjust al
So, in 1950 the national income was about £13,000 million, but in 2006 prices th
£30,000 million.



As you can see from the chart, the nominal GDP rises much more dramatically th are rising at the same time. By looking at real GDP we get a much better picture economy. Since 1950, real GDP has grown at an average of 2.6% a year in the UI

Real national income as an indicator of economic performa

In the previous section we went through why real national income allows for a m economy's growth than nominal national income. But how effective is real natio economic performance?

Real GDP – the most common measure of real national income – is often criticise information that it ignores. However, solely as a measure of income it is an exce performance.

- It captures how the production of goods and services in an economy has inc growth.
- It shows clearly the economic cycle of expansions and contractions.
- It allows for direct comparison with other countries which can be useful wh different economic policies or regimes.

However, it ignores equality, it only measures creation and not destruction, it do economy (black market where all goods and services are sold illegally) and it doe environmental destruction which may occur as a result of economic growth.

Is GDP a perfect measure?

Think about the following:

- If you mow your lawn then GDP is unchanged. Employ a gardener to do lawnmower breaks and you buy a new one then GDP rises further.
- The production of tobacco products which cause illness and reduce life e
- A country may be dependent on extracting coal and oil for its growth. G generations will not have access to the resources once they are used up.

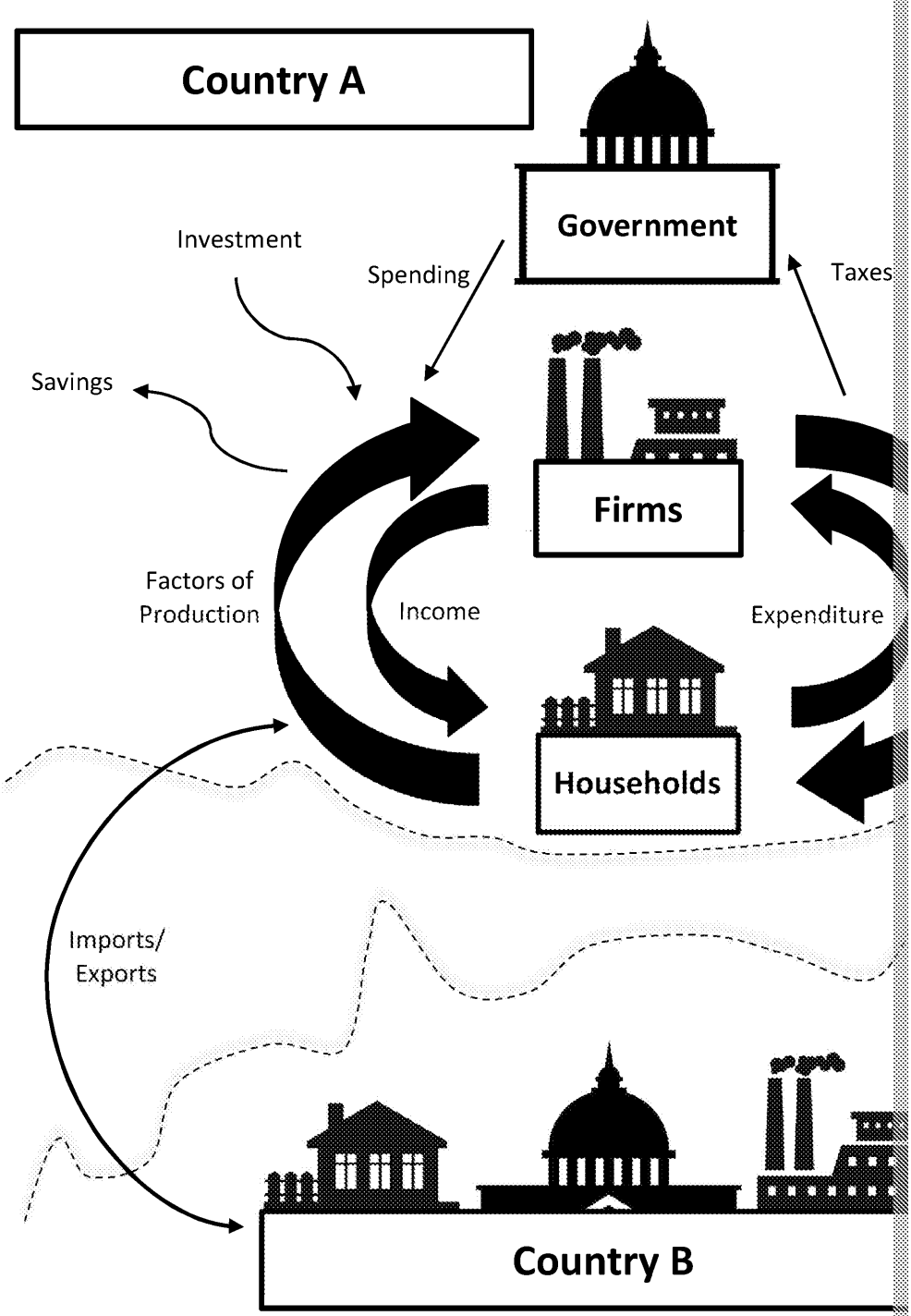
In short, real national income is a good indicator of income – as the name sugges how well the economy is performing. However, we shouldn't expect too much f information about well-being and living standards, and economists should look t these aspects of an economy.

Small differences in growth rates can have big effects on the economy if m The UK's average growth rate over the last 50 years is 2.6%. At a constant ra double in size every 27 years. If this is increased to 3.2% a year then the time 22 years – five years sooner!

The circular flow of income

Earlier we introduced a very basic circular flow diagram. This was extremely sim
the interactions between households and firms. In reality, there are other econo
involved as well. Let's dive in and look at a diagram that shows how **two** econon
income between households, firms and their governments:

A circular flow diagram of two economies with injections



At first glance this diagram might look quite daunting; there's a lot going on! But
detailed before, households provide labour – a factor of production – to firms in
The households spend this income on the goods and services produced by other
money out of the system in the form of taxes, but adds money back in through s
welfare payments to building roads). Households and firms may invest or save n
and exports goods to the other economy which has an identical system.

Full employment income is said to be the maximum level of output that an econ
economy is functioning at full employment (i.e. all those who want to work have

Injections and withdrawals

We can group each movement of income in the circular flow diagram into two ca
withdrawals.

> ***Withdrawals*** *are things that economic agents (within the system) do with their incom*
> *of the circular flow. By taking money out of the circular flow it is no longer going arou*

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

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

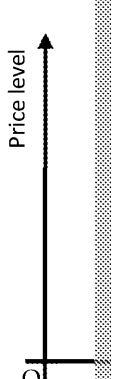
Injections and withdrawals can be grouped together into opposite pairs:

- **Savings and investments:** Savings are a withdrawal because instead of spen
flowing around the economy, people may instead put it into a savings accou
system. Investments, however, are injections because they put money into
or increase production. The level of savings and investments can be influen
rate of interest. If interest rates go up, people are more likely to save becau
from their savings account. If interest rates go up, investment is likely to fal
back more money when they borrow it.
- **Taxes and government spending:** These injections and withdrawals can be
government. Taxes are a withdrawal because instead of letting income flow
proportion of income is taken out of the system and given to the governme
injection as it is the money that the government puts into the economy in o
schools and roads.
- **Imports and exports:** In reality our economy does interact with other economies. When we buy foreign goods we send money from our economy to the other economy and receive a good from their economy into ours. The good is an imported good, but the money for it is a withdrawal. We may make a good that is bought by an economic agent in another country. In this instance our economy receives money as an injection and our good is exported to their economy.

The effect of injections and withdrawals on national income

The levels of injections and withdrawals can vary and have an effect on national income. Consider the following:

- If the level of injections is higher than the level of withdrawals, national income **rises**. Aggregate demand is higher.
- Inflation will tend to rise as firms find that they approach maximum output and can't produce more to reach the extra demand – and so raise prices.
- Similarly, employment rises as firms seek more workers.
- Higher domestic demand means that imports rise.
- Exports tend to fall following domestic inflation – domestic goods become less competitive abroad.



Aggregate demand and aggregate supply analy

You will have covered the idea of idea of demand and supply in the first section o looks at the operation of markets on an individual scale. We can take these idea **macroeconomic** level to look at the economy as a *whole*.

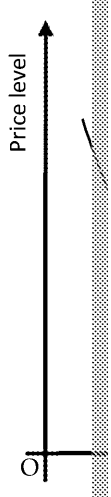
That is, we can apply the same principles to the total supply and total demand in **as Aggregate Supply (AS) and Aggregate Demand (AD).** AS and AD curves sum demand and supply curves for each firm that you will have already come across i total economy.

Changes in the price level

Changes in the price level are represented by movements along th

Aggregate demand curve

The aggregate demand curve slopes downwards, just like demand curves at a micro level. However, because we are looking at the economy as a whole the vertical axis is labelled 'price level' rather than just 'price' – this is important when drawing the diagram in your exams. Similarly, the horizontal axis is labelled 'real output' (it could equally be 'real GDP') and describes the output of all goods and services in the economy, as discussed in the previous section.



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

- **Real-balance effect**
  As the price level increases, the purchasing power of people's incomes falls. If people cannot buy as many items with their money, then they will purchase fewer items and aggregate demand in the economy will be lower. Hence, as price level rises, aggregate demand falls.
- **International competitiveness**
  As UK prices rise, UK goods will appear more expensive in relation to other c fewer people will demand UK exports, and more domestic consumers will d abroad. If demand for exports increases and demand for imports decreases be lower.

Aggregate supply curve

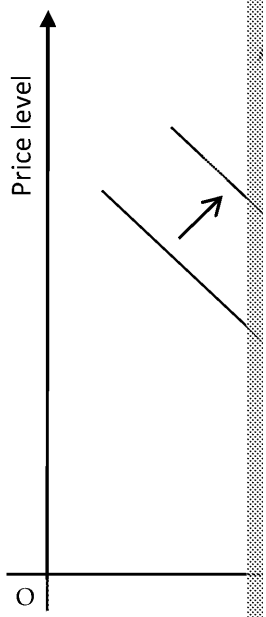
Aggregate supply is the sum total of all the supply curves for every firm, every m microeconomic supply, firms would switch to producing the goods with the grea macroeconomics we look at aggregate supply, firms switching from one industry to the overall supply from the economy.

The short-run aggregate supply (SRAS) curve slopes upwards, as shown in the dia distinction between short-run and long-run aggregate supply is important and w let's start by considering aggregate supply in the short run only.

Shifts in the AD curve

As mentioned above, changes in the price level cause *movements along* the AD c
shift? The answer is a change in any relevant factor other than the price level.

The most important is a change in the **propensity to consume** of the population. If people are confident about the state of the economy and feel wealthy, they will allocate more of their income to consumption rather than saving. They may borrow money to spend on goods and services. This would cause an outward shift in the AD curve – the population is more willing in general to consume and aggregate demand expands.



Increased consumer spending is not due to lower prices – instead it is the result of other non-price-level influences. For example, an increase in house prices may lead to a positive wealth effect, which would encourage consumer spending.

Increased **investment** can also cause the AD curve to shift – for example, if business confidence grows and firms start to raise their investment spending.

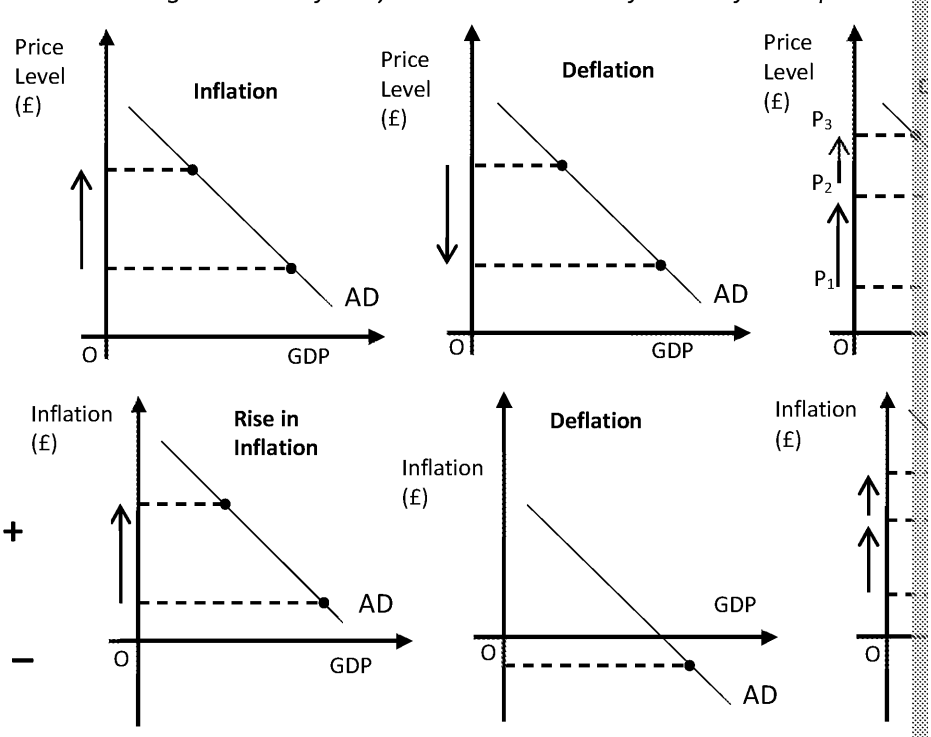
Increased **government expenditure** can have a similar effect – an outward shift i
taxation levels are not increased as well (recall the idea of *ceteris paribus*).

Finally, the balance between **imports and exports** can affect aggregate demand.
imports will cause AD to shift outward.

Be careful!

*If it is labelled 'Price Level', and the equilibrium level rises, this means there is i
falls, this means there is deflation. Disinflation is when price level rises (inflati
than previously.*

*However, if it is labelled 'Inflation', any point on the positive side of the y-axis
point on the negative side of the y-axis would show deflation. If the equilibriu*



Short run and long run

Reminder from Microeconomics Course Companion

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

The aggregate supply curve is different depending on the time frame. It's worth between the short run and the long run before we proceed.

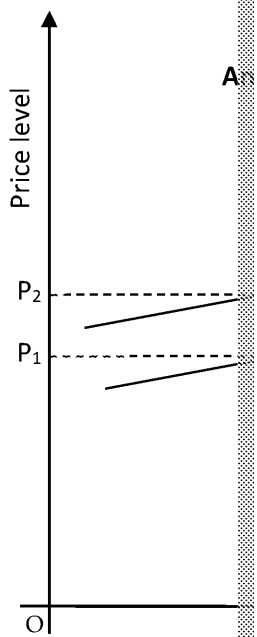
Keynes said that the idea of the *long run* was 'misleading to current affairs' – fan *run*, we are all dead'. Nonetheless, it serves a purpose to us, as economists, to d the short run. Let's consider an example:

> *A fisherman has a fishing rod (capital), a river running through his garden (la materials) and, of course, himself (labour). The people in his village have rec you. The price of fish has increased.*
>
> *The fisherman decides to increase his supply of fish. He buys more bait: one changed; capital, land and labour are still constant; this is the* ***short run****.*
>
> *He buys a better fishing rod that allows him to catch bigger fish: another fac labour and land are still constant; this is the* ***short run****.*
>
> *He buys more fishing rods and asks his children to help him catch more fish: changed (labour has changed and capital has changed again); land is still co*
>
> *The river also runs through his neighbour's garden. He decides to buy some to increase the amount of river that he can fish from. Now, all the factors of is the* ***long run****.*

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

Shifts in the short-run AS curve

In the short run, the aggregate supply curve slopes slightly upwards. It is assumed that wages are constant, but some costs increase as firms expand their output, such as overtime payments to workers.



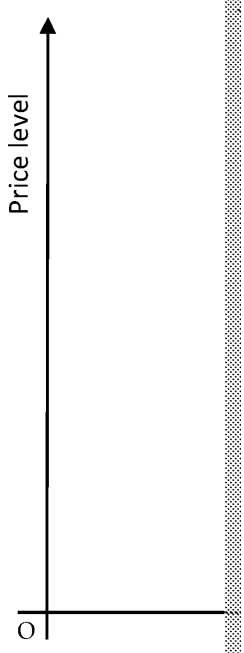
However, if **wage rates** do increase, the short-run aggregate supply (SRAS) curve does shift. Production is more expensive at any level of output; the SRAS shifts upwards.

An increase in **raw material prices** can cause the SRAS to shift too. For example, a surge in oil prices, often important in the production process for energy and transport, will cause the SRAS to shift upwards.

Finally, **increased taxes** will cause the SRAS to shift upwards if they result in production being more expensive.

Shifts in the long-run AS curve

In the long run the AS curve takes on a different shape – and is affected by different factors.



The long-run aggregate supply curve (LRAS) is *vertical*. This is because firms can't increase their supply infinitely. Once capacity has been reached (productivity is at its maximum), it can be argued that supply is fixed at a certain output – whatever the price level.

In the long run, it is assumed there is no unemployment. Any worker who wants a job will have one. There is equilibrium between labour supply and labour demanded.

Think back to the microeconomics section of your course. The LRAS is located at an output, Q*, equal to the output on the boundary of the production possibility frontier (PPF).

The same factors the shift that PPF outward cause the LRAS to move to the right potential of the economy. These are:

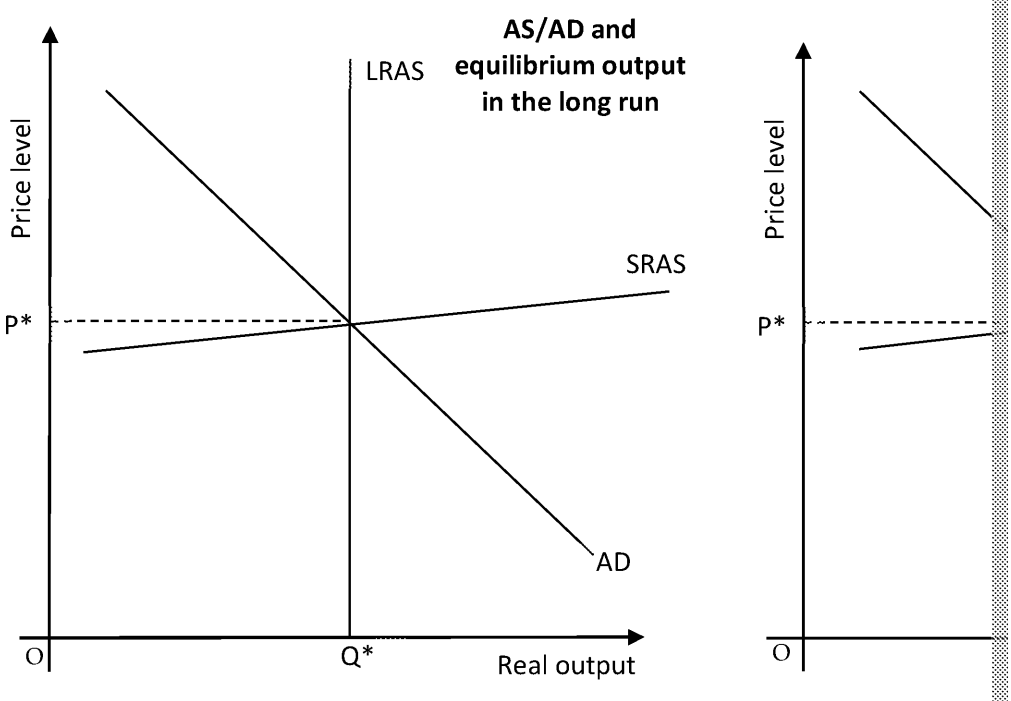
- **Technological advances** which allow goods and services to be produced mo
- **Education or training** which increase human capital (the skill of workers)
- **Investment in capital** which allows for greater production
- **Immigration** may increase productivity as labour force is increased

The productive potential of an economy can decrease too – the LRAS can shift inw reduction in capital as worn-out and depreciated machinery is not replaced. It cou *drain'*. This occurs in an economy if skilled and talented workers leave to work abr

AD/AS diagrams and macroeconomic equilibrium

The economy is in *macroeconomic equilibrium* when aggregate supply is equal to
a short-run equilibrium (when AD equals SRAS) or a long-run equilibrium (when A

In the short run this means that firms and households are content with the price
not alter their behaviour in the next time period. In the long run it means that G



Shocks and the macroeconomy

Recall our definition of an 'economic shock' from Section 3.2.1: *an unpredicted a*
affects the economy – either negatively or positively.

We can separate economic shocks into two categories: demand-side or supply-si
shock affects aggregate demand or aggregate supply respectively. They can also
shocks (which shift AD or AS backwards) and *positive* shocks (which shift AD or A

The table below shows some examples of each. Think about why they can be cla

Demand-side		
Positive	**Negative**	**Positive**
Increase in housing prices (wealth effect) • This will increase consumer spending.	Decrease in stock prices	Labour immigration • This will potentia increase the workforce.
Construction boom	Global credit crunch • This will reduce consumer and business confidence, thereby decreasing spending and investment.	Increased productivi
Increased disposable income (e.g. tax cut) • This will increase consumer spending.	Rise in interest rates • This will discourage investment as this will increase the cost of borrowing.	Introduction of production subsidies • This will increase productivity.

The determinants of aggregate demand

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

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

Each component has a relative importance to aggregate demand. In the UK, con of aggregate demand, whereas investment only makes up 15%. For example:

$$AD = C + I + G + (X - M)$$
$$= 60\% + 15\% + 24\% + 1\%$$

An equal change in each of these components would have a disproportionate ch example, a 10% change in government spending would have a far bigger effect o change in net exports. Let's examine each component in turn.

Consumption (C)

When people buy goods/services, they are demanding goods/services just like w Consumption is the total amount of spending by households, individuals and con people go out and consume more goods, this means consumption has increased demand and push the AD curve outwards. On the other hand, if consumption fa the AD curve shifts inwards. Consumption makes up the biggest proportion of a the most influential component.

The main influences on the level of consumption

- **Disposable income**
  Disposable income is the proportion of their income that people actually have to do with as they please. It is the income left over once taxes have been subtracted and any benefits have been added. People may wish to spend this money on consuming goods. If disposable income increases, people are likely to go off and spend more money. Thus, if incomes increase, it is likely consumption will increase (even if not by a proportional amount), which will push up aggregate demand and push out the AD curve.

- **Marginal propensity to consume**
  If incomes increase by £1,000 per annum, consumption will increase but it is unlikely to increase by £1,000. People don't tend to spend all their marginal income (all their extra bit of income). They may wish to save or invest a proportion of their marginal income. The marginal propensity to consume is the amount of their extra income they will use for consumption.

  For example: *The marginal propensity to consume is 0.3. This means that 3 be used for increased consumption. For every £1,000 increase in incomes, c*

  Consumption Increase = Marginal Propensity to Consume × In

Marg
Prop
do so
Marg
propo
that g

Inves
mean
to inc
consu
Inves
capac
profit

- **Interest rates**
  In order to buy expensive goods such as houses or cars, people may have to borrow money. Borrowing money is expensive because not only do you hav pay back the money you borrowed, you also have to pay back the interest which can be thought of as the cost of borrowing money. The interest rate determines the extra amount that somebody pays back. If interest rates go borrowing money becomes more expensive because you will have to pay ba more. Equally, the interest rate affects the return on savings.

  Consumption is likely to fall if interest rates go up. This is because it costs m – effectively, become more expensive. Higher interest rates deter people fr expensive goods so consumption falls. People will also be more tempted to spending it, thus reducing consumption. Aggregate demand falls and the AD interest rates fall, saving becomes less attractive and borrowing becomes ch aggregate demand goes up, and the AD curve shifts outwards.

  The wealth effect also comes into play with interest rates…

- **Wealth effect**
  Remember the difference between wealth and income. We've already spok in income on consumption. Wealth, the stock of money somebody holds, fo of a house. If house prices increase, people feel wealthier because their ass they now have more wealth. If people feel wealthier, they are more likely t people feel wealthier, consumption goes up, aggregate demand goes up an

  If interest rates decrease and borrowing becomes cheaper, the demand for people are more able to afford them. This will cause house prices to rise in people feel wealthier.

- **Consumer confidence**
  Consumer confidence refers to the level of confidence people have in the ec is low, people have little faith in the economy; they believe the economy is believe the economy is unstable they are more likely to withhold their mone likely to spend their money if the future economy seems uncertain. This me confidence is low, and so aggregate demand will fall and the AD curve will shift inwards.

  If consumer confidence is high, people believe the economy is doing well an spending their money because they believe the economy is stable. This me consumption increases, aggregate demand increases and the AD curve is pu

Relationship between savings and consumption

There are only two things that a person can do with their income: they can either s that influence consumption can also influence savings. For example, if consumer c their money because savings provide a 'safety net' during rough times. Equally, if saving rises and so the opportunity cost of spending (rather than saving) rises. Sav

The savings ratio is the amount the average household saves in the UK. It is calcu save from their disposable income. The UK has a savings ratio of around 5%; this China which has a savings ratio of 30–40%.

Investment (I)

Investment is like consumption for firms. Firms invest money either to increase t they produce or to replace their old machines. If investment increases, this is an Aggregate demand increases if investment increases and this will push the AD cu

Distinction between gross and net investment

Investment is made either to buy more capital and increase production, or to rep (production stays the same). ***Gross investment*** is the total amount spent on inve capital or buy additional capital. ***Net investment*** is the additional gains of capita replacement investment. Imagine a company had 50 machines originally and inv which were to replace broken machines. They would now have 60 machines; the but their net investment would be 10 (25 – 15). If net investment is greater than shows an expansion and is therefore linked with economic growth.

The main influences on the level of investment

- **Rate of economic growth**
  The level of investment depends on the demand for the good. If people fin are likely to spend more. This means the demand for a product will increas increase in demand, a firm will undertake net investment in order to increa rate of economic growth can influence the level of investment because as g incomes increase and employment increases, leading to increasing demand order to keep up.

- **Business expectation and confidence: Keynes' animal spirits**
  This is similar to consumer confidence. Investing money means firms are u but the reward is more money in the future, or so is the plan. Firms are less confidence or low expectations of the economy because firms are uncertain hold back their spending on investment. If the economy crashes or there is will lose profits and those firms that have invested may be unable to cover t reserves (stored money for future use, usually made up of things such as pa investments. On the other hand, if expectations of the future are high, or fi stability of the economy, then they will feel safer about investing their mon need it any time soon and so will continue business with less 'safety-net' m returns in the future.

  Keynes coined the term 'animal spirits' to explain economic agents' behavio psychology teamed with economics in order to account for irrational behavi risky ventures despite logic or maths because of their irrational instinct or c avoid investing if they are hesitant, even if the maths shows it is a good inve may be irrational or even reckless; animal spirits attempts to calculate and e investment decisions firms make.

- **Exports**
  There is a variety of factors that increase the level of exports, as will be disc demand for exports increases, firms producing exported goods will need to production to meet demand. Increasing exports will boost the economy; th incomes rising and will increase their demand. Firms will have to increase p

- **Interest rates**
  Firms may need to borrow money in order to invest. Interest rates determine how much extra money a firm pays back when it borrows money If interest rates go up, the cost of borrowing increases and firms are less likely to invest. Equally, investing money has an opportunity cost. The retu a firm gets from investing needs to outweigh the interest the firm would receive from saving the money. Because interest rates affect the amount o money a firm gains from saving, the effect of interest rates on investment is twofold. If interest rates go up, investing becomes more expensive and its opportunity cost also increases, therefore investment levels fall, aggregate demand falls and the AD curve will shift inwards. Remember the Keynesian marginal efficiency of capital curve!

- **Access to credit**
  In order to make an investment, a firm needs money. If a firm does not hav borrow the money on the condition it will pay it back in the future. This is w it is the ability to borrow; it is money available to firms. If firms have easy a obtain the funds needed to invest and are therefore more likely to. If there will fall and aggregate demand will shift inwards because firms will find it ha need to invest.

- **Influence of government and regulation**
  Because the government has a large influence on the economy and can cha can determine the outcome of an investment. If the government creates re particular investment, firms are less likely to invest. Equally, if governments investments, firms are more likely to invest.

Government expenditure (G)

Government spending is mostly autonomous, i.e. it is unaffected by other variab
confidence. Government expenditure is determined by the government.

The main influences on the level of government expenditu

- **Trade cycle**

  As the economy goes into recession, people lose their jobs and firms find their revenues falling. This means there is less tax revenue for the government and the injection shrinks. Equally, as people become unemployed, governments spend more on unemployment benefits. There will be a budget deficit as the government spends more than it receives. It is likely to lead to (increasing) government debt as the government borrows to cover its expenditure.

  As the economy goes into a boom, there will be more jobs for people, so unemployment will fall and recently employed people will increase their spending. Firms will find their revenues increase. The government will receive more tax revenue as there are more firms and employed workers paying taxes. Equa less unemployment benefits expenditure. There will be a budget surplus as tax than it spends.

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- **Fiscal policy**

  The government can directly change the amount it spends in the economy a interest rate is determined by monetary policy, the level of taxation and gov by fiscal policy. Both policies are used to control, stabilise and manipulate t decides to change its fiscal approach then the level of government expendit For example, in the aftermath of the 2007/8 recession, the UK government measures, i.e. the government cut down on public spending and increased t

Net trade (X – M)

Net trade is the sum total of income flowing out of the economy from imports ar economy from exports. If exports increase and/or imports fall, net trade increas demand. If there is more money coming into the economy than leaving (if expor there is a trade surplus. If imports are greater than exports, there is a trade defi and imports bought not only depends on their price, but also the price of foreign UK goods are cheaper relative to foreign goods, we would say 'UK goods are mo demand for UK exports would increase (as foreign consumers would switch to bu for imports would fall (as domestic consumers would switch from foreign goods would increase, imports would decrease, net trade would increase and there wo aggregate demand would increase and the AD curve would shift outwards.

The main influences on the (net) trade balance

Just like within the domestic market, prices can play a big factor in the global market. People are more likely to choose the good that is cheaper. The important part to remember about this sentence is: it is the good that appears cheaper ***relative*** to other goods. There are many things that can affect the relative prices of goods on the global market, as will be discussed in a minute. One assumption we make as economists is that there are no transport costs. A good produced in the USA may be cheaper than a good produced in France, but once the costs of posting have been added, the US good may be more expensive than the French good.

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- **Real income**
  Normal goods are goods that are demanded more when incomes rise. Mos
  therefore, as UK real incomes rise, the demand for imports will also rise. Th
  deficit.

- **Exchange rates**
  If the pound appreciates, UK goods will appear more expensive in comparison to foreign goods (assuming their currency stays the same; ceteris paribus). This means demand for UK goods will fall and demand for foreign goods will rise; demand for UK exports will fall and demand for imports will rise. Exports will decrease, imports will increase and so net trade and aggregate demand will decrease. If exports fall and imports rise this could lead to a trade deficit.

  If the pound depreciates, UK goods appear cheaper in relation to foreign goods. The demand for UK exports will rise, and domestic consumers will shift away from buying imports so the demand for imports will fall. Exports rise and imports fall which means net trade rises and aggregate demand does too. This will push the AD curve outwards.

- **State of the world economy**
  A recession usually results in falling price level (disinflation and potentially deflation). This means an economy in recession is likely to have more competitive goods. Also, in a recession, incomes fall which leads to falling consumption of both foreign and domestic goods.

  If the world economy is in recession, domestic consumers will buy fewer im
  domestic goods falling) and foreign consumers will buy fewer UK exports. A
  unknown, i.e. whether imports fall more than exports leading to a trade sur
  fall more than imports, because exports and imports have fallen, total trade
  aggregate demand.

  If France is in a recession, but the UK is not, the UK will see exports to Franc
  incomes have fallen. Equally, French goods will probably appear cheaper ar
  French imports. With decreasing exports and increasing imports there is lik

- **Degree of protectionism**
  Governments may put in place protectionism in order to protect the domes
  competition. They do this by distorting the price of UK goods and/or the pr

  By giving subsidies, the government can reduce the price of UK goods; dema
  and the demand for imports will fall as domestic consumers switch to buyin
  imports decrease, meaning overall net trade increases and so too does dem

  By taxing imports, governments can increase the price of foreign goods rela
  consumers will switch to domestic goods and the demand for imports will fa
  too will aggregate demand.

- **Non-price factors**
  The sale of a commodity would depend on its price because it is a homogeneous good. However, some countries may sell heterogeneous goods and therefore the sale of these goods would depend on factors other than the price: 'non-price factors'. One example would be that countries may sell specialised equipment that has been patented. The result of this is that no other country or firm can make it, and therefore the export or import of this good will depend on countries' need to carry out the specialised task the machine is designed for and the machine's ability to do so.

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Determinants of savings

It is useful to note that factors that affect savings are similar to those that affect
savings come from our disposable income that is not spent. Therefore, the dete
income itself, the interest rate, level of inflation, wealth, etc. However, it is also
European countries, where average incomes are relatively high, the average pro
divided by total income) is quite low. This implies that income is not as importan
other factors.

Activity: Explain how the above factors are likely to affect *your* savings.

The accelerator process

The accelerator process refers to the idea that an increase in national income wi
increase in private investment. Investment tends to rise sharply as economies re
recession – but slow down equally quickly as economies begin to show signs of s

Why does investment rise? An increase in national income signifies a rise in aggregate demand. Firms can either raise their prices following a rise in demand, or they can choose to invest in capital (machinery, etc.) to raise their output and match the new, higher demand. Firms will opt for the latter if they feel that the increase in demand will be sustained. Conversely, a suggestion that growth and demand are falling will cause firms to decrease investment.

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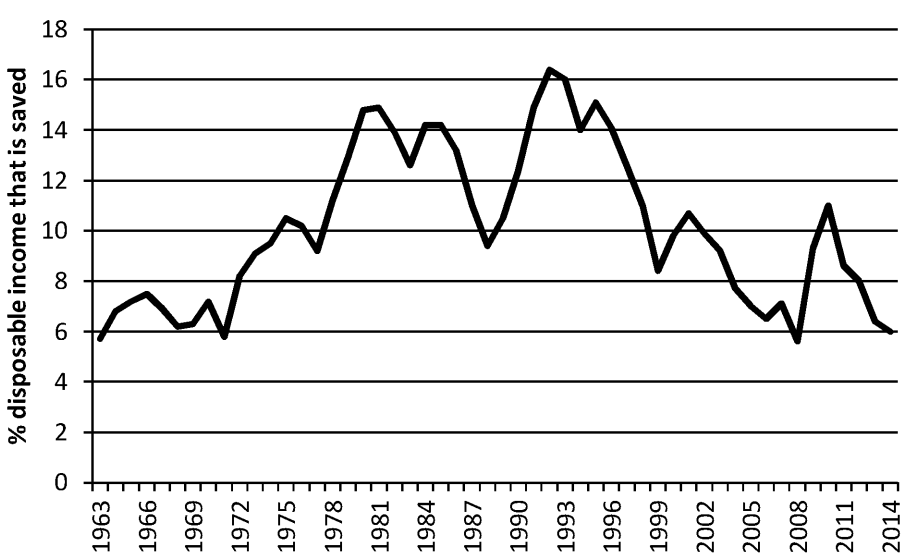
Saving vs investment

It's worth quickly underlining the distinction between saving and investment.

Saving is carried out by households. People may want to put money aside in order
that they can't afford, or to smooth their consumption once their income drops in r
put in a bank account but may equally be held in cash under a mattress. Saving is a
of income. Below is a chart showing the UK savings ratio (the percentage of disposa



Investment, on the other hand, is an injection into the circular flow of income. I
new capital (e.g. machinery) to either replace existing but worn-out capital, or to

However, there is a degree of interdependence between the two. If more peopl
have a greater amount to lend to firms for investment, for example. But a highe
consumption rate is lower (households can choose to save or spend their disposa
less of their goods and services consumed because people are opting to save, the
to expand future output.

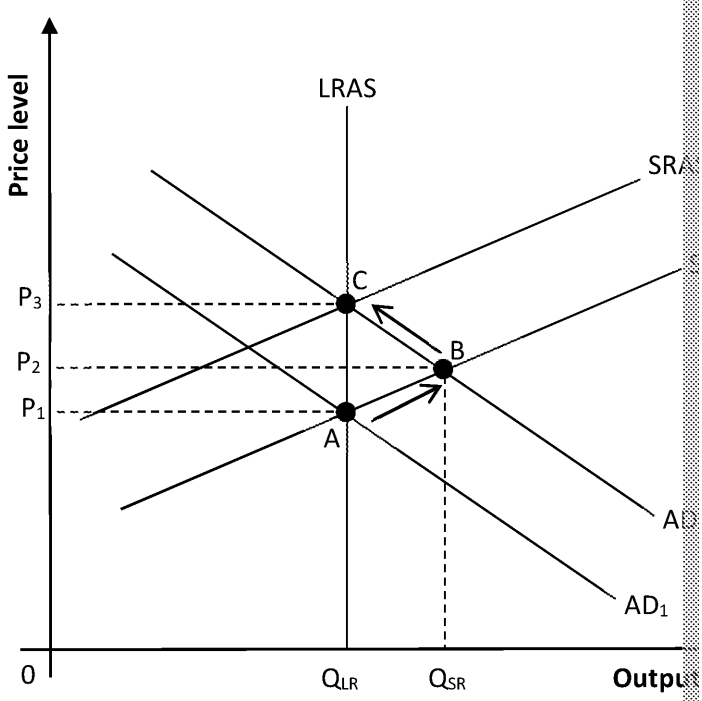
Aggregate demand and the level of economic ac

AD and the level of economic activity

An increase in aggregate demand causes growth in an economy. The AD curve s
reached, and output is higher.

In the long run, an increase in AD will only lead to a greater price level (inflation)
The LRAS curve shows the maximum amount of output possible in the economy.

In the short run, however, an outward shift in the AD curve will cause an increas
This increase is only sustainable if the LRAS shifts outwards as well.



This is shown in the diagram above. Aggregate demand shifts from AD_1 to AD_2.
Q_{SR} and the price to rise to P_2. Thus, both the price and output will increase in th
however, the SRAS will have to shift up to get to the new equilibrium point at po
reaches its full employment level at LRAS. Thus, an increase in AD causes the pri
the output.

The multiplier process

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

> *The government decides to build more colleges and sixth forms to encourage students to go on to higher education. They have £20 million that they give to various building contractors. There is an injection of £20 million into the economy. The economy grows by £20 million. The building contractors then give the money to builders in return for their labour. The income flows from firms to households. The builders will then spend their incomes on bills to buy electricity for their houses. The income then flows from households to firms.*

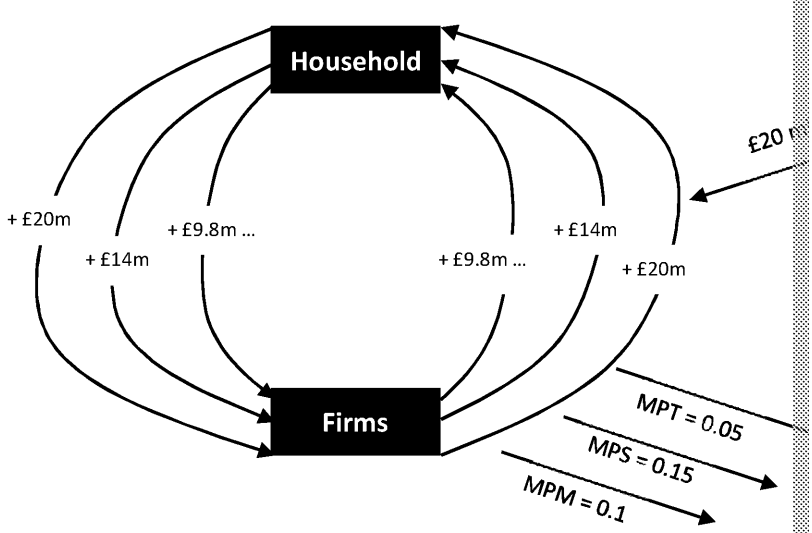
As the money goes round and round, it generates more and more income. The e
injection and grows. The income then flows around the economy and the econo

The money may be saved instead of spent, or it may be spent on imports instead
households receive the income, it will be taxed. This means the economy will ke
all the additional income has been withdrawn.

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

A formula for the multiplier can be derived to give policymakers an idea of how r
with an injection. Something multiplied by 1 equals the same amount. The mult
but by a little less than the original amount because some income has been leake
is 1 divided by the amount of income that is likely to be withdrawn. This is show

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



Marginal propensity to withdraw (MPW) is the proportion of income that will be
The income withdrawn from the economy will be spent differently on each witho
different marginal propensity. The higher these marginal propensities, the more

Therefore the multiplier will be smaller and the economy won't grow by as much

The marginal propensity to save (MPS) = *the proportion of income that will be leake*
The marginal propensity to tax (MPT) = *the proportion of income that will be leaked*
The marginal propensity to import (MPM) = *the proportion of income that will be l*

Above are the marginal propensities for withdrawals. Adding these marginal pro
marginal propensity to withdraw (MPW = MPS + MPT + MPM). The marginal p
somewhat the opposite of the marginal propensity to withdraw. MPC is the pro
spent on consumption of goods and services – the proportion of income that wil
take away the MPC, then what is left will be the proportion of income that is wit
through either taxing, saving or importing.

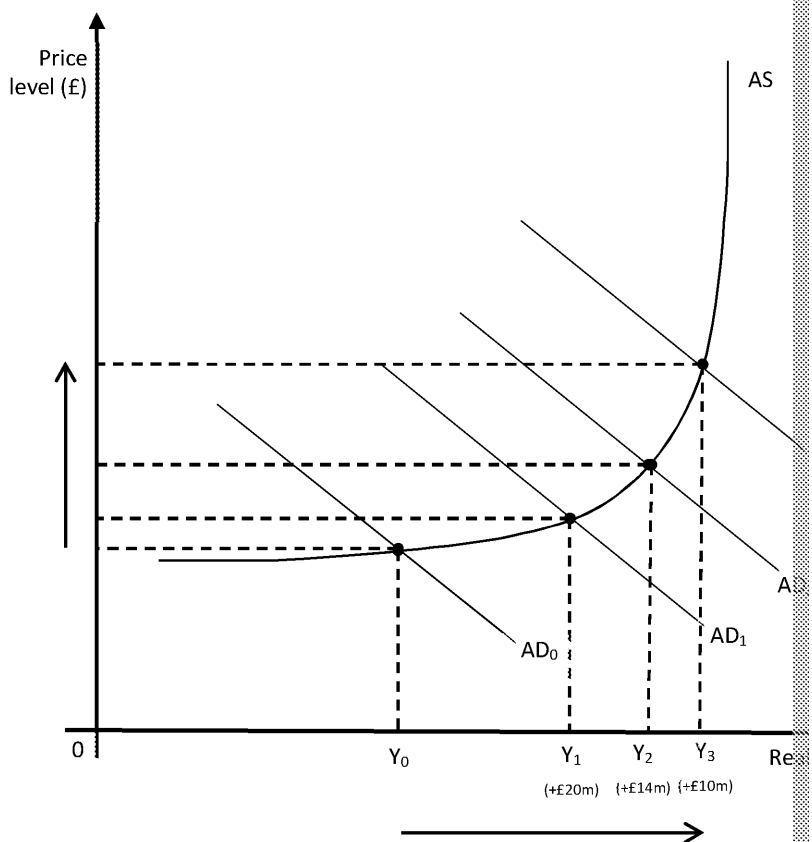
Below are the two formulas you need to know for your exam to work out the mu
economy will grow by from an injection.

$$\mathbf{MPW} = 1 - \mathbf{MPC} = \mathbf{MPS} + \mathbf{MPT} + \mathbf{MPM}$$

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

If, in the example given at the beginning, MPT was 0.05, MPS was 0.15 and MPM be 0.3 and the multiplier would be about 3.33. The economy would increase out £20 million injection. £20 million would go round the economy and for every £1 would be saved and 10p would be spent on imports. So 30% of the £20 million w leaving only £14 million to be circulated round the next time. Then 30% of the £ million), leaving about only £9.8 million to circulate round the next time. This go has been leaked and the economy would have grown by £66.67 million.

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



The initial £20 million injection pushes the AD curve outwards to AD_1. The econo £20 million worth of goods. £6 million was withdrawn and the other £14 million the AD curve is pushed out again to AD_2 where the economy is producing anothe goes on until all the income has been withdrawn from the economy, production and the economy has grown by a multiple of 3.33.

Determinants of short-run aggregate supply

In microeconomics we look at supply; in this topic we look at aggregate supply w
economy. Just like the supply curve there is a difference between movements a
movement along occurs when you move to a different point on the curve, where
curve moves to another position.

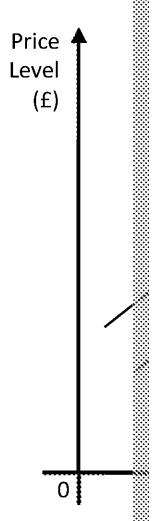
Aggregate supply is the sum total of all the supply curves for every firm, every m
would switch to producing the goods with the greatest price. However, because
firms switching from one industry to another makes no difference to the overall
Aggregate supply links with microeconomics where the PPF and maximum produ

There are various schools of thought within economics and some have conflictin
exam you need to be able to differentiate between the Keynesian AS curve and t
schools have different-shaped AS curves. Firstly, in this topic you need to unders
short-run and long-run aggregate supply.

Factors that influence the short-run aggregate supply (SRA

These influences will affect firms in the short run where they can change some of t
run aggregate supply can easily be increased or decreased to react to changes in th

The short-run aggregate supply (SRAS) curve is upward-sloping as it represents the benefit all producers gain by increasing prices.



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

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

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

Exchange rates
The exchange rate will affect the prices of exported goods and goods that are im
A table-making company may import the timber. If the exchange rate changes s
expensive, aggregate supply will fall as firms will not be able to produce the sam
every price level.

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

Factors that influence the long-run aggregate supply (LRAS

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

Technological advances

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

Relative productivity

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

Education and skills (human capital)

The ability of the workforce is a constant variable and can only really be improve economy, such as school leaving age. If the workforce is more educated or obta productive. A more productive workforce will be able to produce more goods p aggregate supply curve will increase.

Attitudes

Similarly, if the workforce has a hard-working attitude – a preference for work o supply will be higher. Similarly, managers can improve the morale of the worke employers.

Enterprise

The idea of enterprise and entrepreneurship is important when considering the people are willing to invest their own money to set up a new business? It depen economy and expectations of the future. If more people choose to set up their successful – then AS should shift outwards.

Factor mobility

The demand for various goods and services changes over time. How easily can f labour or capital – shift to adapt to changing tastes for consumption? If firms ca from one type of good or service to another, the aggregate supply in an econom to factor mobility *between* economies.

Government regulation

The government can add or remove regulations that will affect the efficiency of f increases the level of health and safety in order to protect workers, this could sl making them less efficient, or stop potentially quick but unsafe processes, there goods produced.

Demographic change and migration

The labour supply available to an economy is often fixed. If all workers are empl goods an economy can produce. Migration allows the supply of labour to increa increase or decrease long-run aggregate supply respectively. The age of the pop Working age is 18 to 65 by UK standards, and so if migration or simply time mea people above working age, then this will cause little increase to the maximum pr younger people, either from a previous baby boom or immigration, is likely to in supply because this has increased the supply of workers.

Competition policy

If there is greater competition within markets, firms will have to attract more cu are cheaper and/or better than their rivals'. This will drive firms to find more eff producing in order to cut costs to obtain lower prices. Policies that increase com encourage productivity gains and thereby increase long-run aggregate supply.

LRAS and SRAS curves

Classical economists believe the market will gravitate towards equilibrium at full believe this will happen straight away. Some classical economists believe there r the market will find equilibrium. Friedman is a famous economist from the mon not agree with Keynes and amended the classical model as a response.

The classical model can be adapted to include a short-run aggregate supply (SRA when it is temporarily out of equilibrium and not on the LRAS curve. This can ex is under full employment, but also when it is producing above full employment (demand increases and shifts the AD curve out, then the economy will move alon goods are produced to meet this increase of demand (Y_e to Y_1). Production is ab done temporarily by, for example, paying overtime to workers to encourage the overtime pay for 'out-of-hours work' is more expensive and it is unlikely firms wi increase their wage expectations and the wage rate will increase. This means th and the SRAS curve will shift back in until it meets the equilibrium point C on the

The vertical long-run AS curve

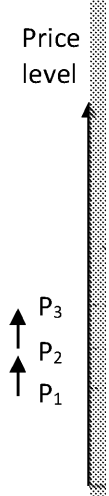
In the long run it is often assumed that the AS curve is vertical. It represents economy. Real supply does not respond at all to change in aggregate deman

Determinants of / shifts in the short-run AS

In the short run there are various factors that can determine the SRAS curve. Th are the price level and production costs. Another important aspect is how much by how much firms can increase their output. If there is lots of spare capacity, fi without seeing a great increase in costs. However, if they are close to capacity th returns to scale (perhaps they have to pay lots of overtime to increase productio are close to full capacity, the SRAS curve becomes steeper. Any increase in aggre proportionally higher price rises than increases in output.

In the short run, changes in costs will shift the AS curve as follows:

- Money wage rates
  - Labour is a factor of production. If wages increase in real terms the cost of production will rise, shifting the SRAS in.
- Raw material prices
  - A change in raw material prices will cause a shift in the SRAS. One of the most important is oil. If oil prices fall, the SRAS will shift out as firms exploit the cheaper energy to produce more.
- Business taxation
  - A decrease in corporation tax or other tax on businesses will reduce costs and shift the SRAS out.
- Productivity
  - An increase in productivity (either of labour or of capital) will shift the SRAS out as firms can produce more output for each unit of input.



Review questions 2: How the macroeconomy works: t
income, aggregate demand / aggregate supply analys

1. What is the difference between income and wealth?

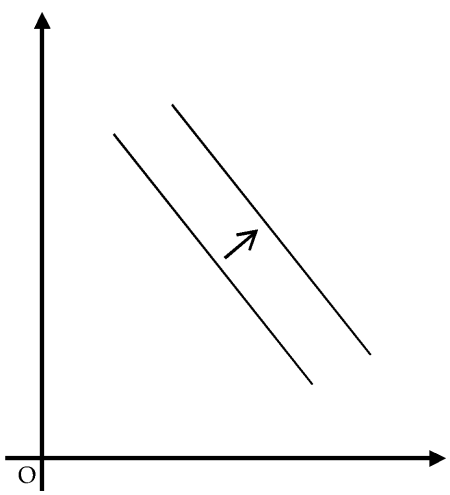
2. What is the difference between injections and withdrawals? Please pr

3. a) When is a firm in the long run and the short run?
   b) What factors could affect long-run aggregate supply?
   c) What factors could affect short-run aggregate supply?

4. Fill in the blanks:

$$AD = C + I + \_ + (\_ -$$

5. Complete this diagram showing aggregate demand by labelling the cu



   a) What has happened to this curve?
   b) i) What four main factors can shift the AD curve?
      For each factor, give two reasons to explain the shift in the cu

6. Use a diagram to show how an outward shift in the AD curve will cau
   how this is only sustainable if the LRAS shifts too.

7. a) How do Keynesian and classical assumptions in the labour marke
   b) i) Draw a classical aggregate supply diagram.
      ii) Explain what the curves show.
   c) i) Draw a Keynesian aggregate supply diagram.
      ii) Explain what the curves show.

8. What is meant by growth in money supply?

Exam-style questions 2: How the macroeconomy works income, aggregate demand / aggregate supply analysis

1. Define the term 'disposable income'.

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2. An individual receives a windfall of £1,600. Their marginal propensity **Calculate** how much of the extra income the individual will use for co

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3. Suppose that the individual chooses to save all of the extra income an the MPC be?

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4. Explain **one** factor that may influence the level of aggregate investme

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5. Define the term 'aggregate supply'.

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3.2.3: Economic performa

By the end of this topic, you should understand...

- ✓ **Economic growth and the economic cycle**
  - The difference between short-run and long-run growth
  - Supply-side and demand-side determinants of short-run and long-run growth
  - The economic cycle
  - Output gaps
  - Demand-side and supply-side shocks
- ✓ **Employment and unemployment**
  - The main measures of unemployment used in the UK
  - Various types of unemployment
  - Demand-side and supply-side factors
  - Changes in the rest of the world and unemployment in the UK
- ✓ **Inflation and deflation**
  - The concepts of inflation and deflation
  - Demand-pull and cost-push inflation
  - Commodity prices and inflation
  - Changes in other economies and inflation in the UK
- ✓ **The balance of payments on the current account**
  - International trade and the UK
  - The current account, deficits and surpluses
  - Factors that influence the current account balance
- ✓ **Possible conflicts between macroeconomic policy objectives**
  - Output gaps and inflation and unemployment
  - Economic policies and conflicts in the short run and the long run

Economic growth and the economic cycle

Determinants of the growth of real national income

A lot of economic theory is devoted to how and why economies grow. Below is a
In a nutshell, anything that increases the number of goods and services in an eco
factors of production will cause economic growth.

- **Technological advances**
  If technology improves, it improves the ability of factors of production. This
  productive potential and will cause the economy to grow as it can produce m
  resources available.
- **Education and skills**
  This is an investment in human capital and will create a more productive wo
  grow and produce more goods and services in the long run.
- **Government regulation**
  By changing laws and legislations, a government can affect the efficiency in
  investment or promote competition and innovation which will improve the
  create new goods that need fewer inputs. This will allow an economy to pro
  bringing the potential to grow economically.
- **Demographic and migration**
  Migration and changing the demographic of an economy will change the am
  Generally, populations grow over time and so the economy will generally ex
- **Investment**
  Positive net investment will create economic growth, whereas gross investm
  maximum amount an economy can produce. This highlights the criterion th
  growth-related investment. Investment in research and development, hosp
  increase the efficiency in resources.
- **Natural disasters or war**
  Natural disasters and war will cause an economy to lose resources as they b
  taken out of production and instead used for war.

- **Export-led growth**
  For some countries, such as China, the high levels of exports are what fuel t
  export-led growth. For these countries, international trade is highly import
  their foreign trading partners is what boosts their economy; without interna
  cease and the economy would not grow.

It is useful to distinguish between different types of economic growth: short-run

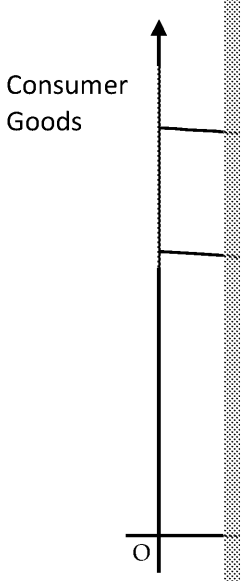
Short-run and long-run growth

In the section on AD and AS curves we have already discussed the distinction bet
run. The same ideas are important when considering economic growth. Recall t
time for each. Rather, it refers to how much flexibility the decision makers have
production can be changed.

When referring to growth the decision makers are governments. Often there is
decide to change a policy and the time it comes into effect. For example, suppos
radically change the education system. This would take months to debate and p
seven years for the changes to take effect (the time it takes pupils to go through
can affect growth so the change might be useful – but only in the *long run*.

By contrast, in the short run the government has some flexibility, but not total flexibility. For example, interest rate changes are effective and can be changed quickly (although note that these are no longer set by the government, rather the Bank of England).

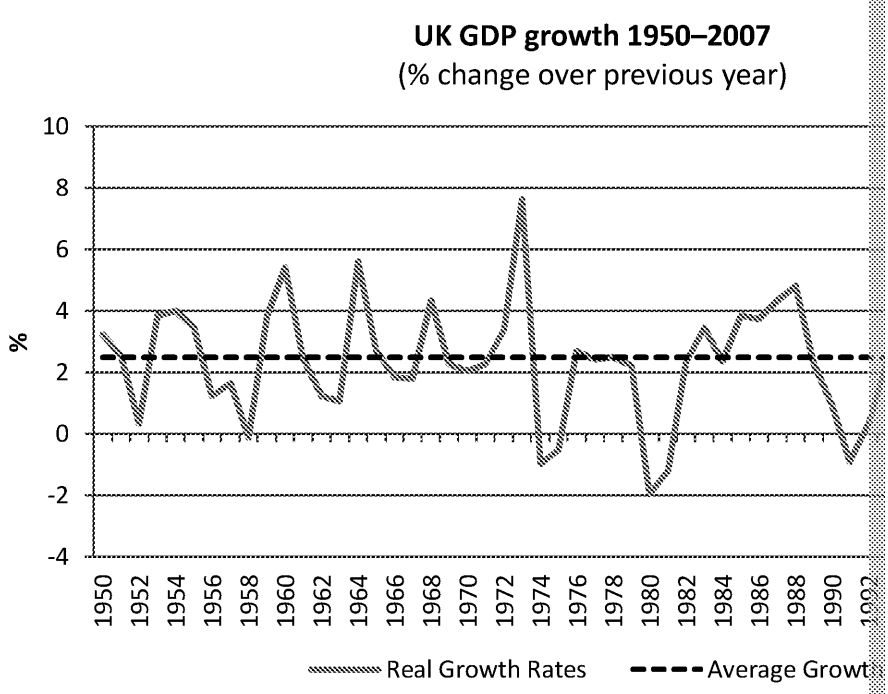
Recall the idea of the production possibility frontier (PPF) than was covered in the microeconomics section of the AS course. Long-run growth can be indicated by an outward shift in the PPF. This means that in order to increase production of one type of good (capital or consumer) there does not need to be a trade-off. The curve has shifted out (caused by a factor described above such as technological advance or investment) and the production of both types of good can be increased in equal measure. This is shown in the graph to the right:



The long-run trend rate of economic growth

In the short run, the economy may experience negative growth. These recessio
(see the next section on the Economic Cycle). If you just look at the short-run gr
you wouldn't see a true representation of the economy's historical growth and p

By looking at an average figure for growth over a longer period, we can see **the l**
growth. Below is a chart showing the UK growth rates (percentage change on th
and 2007. As you can see, the line is quite volatile with constant peaks and trou
trend growth rate we calculate the average amount – shown by the dotted line.
indicative of the trend growth over the longer period. **It also suggests the amou
aim for in the long-run future.**



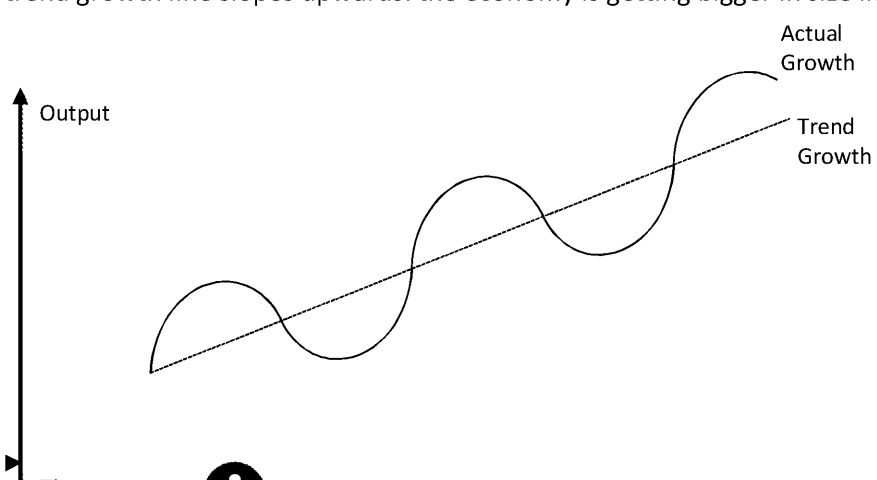
An increasing long-run growth rate means that the productive capacity of the ec

The economic cycle

Looking at the graph on the previous page you can see how economic growth tends to peak and fall. This is known as the economic cycle.

The growth rates tend to move around the underlying trend or average. When g boom period. When growth is falling, this is known as a slowdown. A slowdown rates are negative for at least two consecutive quarters.

These ideas are shown in the diagram below. Note that this diagram shows the the y-axis, rather than the year-on-year growth rates as in the diagram on the pr trend growth line slopes upwards: the economy is getting bigger in size in real te



A lot of recent research is in the area of 'behavioural ecor humans as non-rational decision makers. Behavioural theor cycle of booms and busts. If the economy is performing wel spend more money on goods and services. If the economy e consumers lose confidence and stop purchasing goods – whi worse as firms see their business fall.

Economic indicators and the economic cycle

Real GDP

Real GDP rates are the most obvious indicator of the economic cycle. Growth ra
when an economy is growing or declining. However, care should be taken: GDP
a while to calculate and is usually revised up or down a few months or even year
information becomes available.

Unemployment

Unemployment is another good indicator of the economic cycle. During downtu
unemployment will increase. During expansionary phases and booms unemploy
natural rate of unemployment. Like GDP figures, though, unemployment rates a
takes a while to collect all the data from surveys and so on (see the next section

Inflation

The link between inflation and growth isn't clear, but inflation rates tend to be h
fall during recessions.

Investment

Businesses will invest more in capital during boom periods – whether labour (hir
on unemployment) or capital (new factories and machines, etc.). How much bus
good indicator of where an economy is in the cycle. Business confidence surveys
(Confederation of British Industry) are useful in this regard.

Output gaps

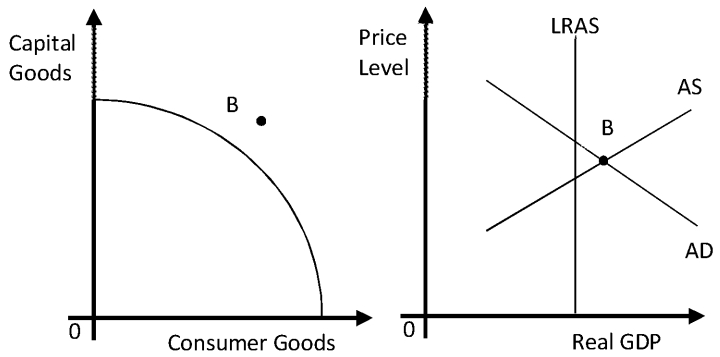
In order to follow the trend growth rate, an economy needs to have economic st
the measures of macroeconomic performance remain steady and there should b
as price, unemployment, growth and balance of payments. The economy should
long-run equilibrium. However, in reality it is difficult to keep these variables un
economy will swing above and below this trend rate.

	In Recovery	In a Boom	In a Slov
Confidence and Expectation	Remain low, but begin to rise	High	Remain hig begin to fall
Unemployment	Starts to fall	Barely any	Starts to ris
Inflation	Remains low, but begins to rise	High inflation	Disinflation
Exports and Imports		UK prices are high, exports fall and imports rise	
Gov. Spending on Benefits	Begins to fall as employment rises	Low	Begins to ris people are redundant
Taxation Revenue	Begins to rise as consumption, investment and job creation increase	High	Begins to fa people stop and investi incomes fal

An output gap occurs whenever there is a difference between trend growth and
measure these output gaps for a variety of reasons. Firstly, measuring actual gro
have already seen. Secondly, trend growth rates are a theoretical concept and,
they are hard to place in real life. Different statistical equations have been const
fluctuations in actual growth in order to find the true trend. Some equations att
resources that exist in the country and estimate their productivity in order to fin
productive potential. However, without physically counting the output of every
can only be an estimate. The economy is too widespread and complex to collect

Booms: positive output gaps

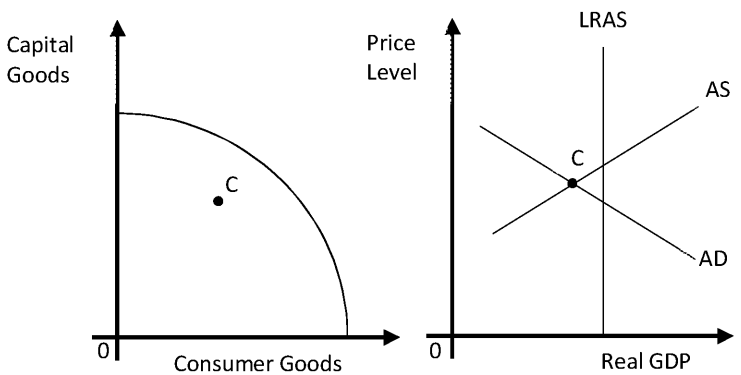
A positive output gap is when the economy is producing above its long-trend gro
economy is producing beyond its PPF, i.e. it is using more resources than it curre
capacity. An economy can do this in the short run by, for example, employing w
are often associated with high levels of inflation but low levels of unemployment
are being used and there is higher demand from increased incomes.



Recovery

Recessions: negative output gaps

A negative output gap is when the economy is producing below its long-trend gr
economy is producing within its PPF, i.e. there are unemployed resources within
with spare capacity. Recessions are often associated with low levels of inflation
This is because most resources are not being used and confidence is low.



Slowdown

Shocks

Recall that in the first section we defined shocks as **unpredicted and unexpected
economy either negatively *or* positively**. These don't have to be as sudden as th
can just represent a gradual shift.

Shocks can be categorised as either demand-side or supply-side. A demand-side
goods or services; a supply-side shock affects the supply of goods or services. He

Demand-side

- **Asset prices: houses**
  For example, if asset prices increase, there will be a positive wealth effect o
  spending will increase and the economy would grow.
- **Consumer confidence**
  When consumer confidence is high, again spending will increase and the ec
- **Financial sector**
  If banks lower the interest rate, the cost of borrowing will decrease and this
  (as savings will reap a lower return).
- **Inflation**
  When inflation goes down, consumers will reduce spending as they will anti
  will decrease aggregate demand and the economy would shrink.
- **Exchange rate:** A stronger pound means that UK exports become less comp
  cheaper. This would lead to a trade deficit. The opposite is true if the poun

Supply-side

- ***Change in wage levels***
  When wages rise, the cost of production increases. Hence, aggregate suppl
- ***Green taxes***
  When environmental taxes increase, they too increase the cost of productio have to fall.
- ***Subsidies***
  Subsidies lower the cost of production, as the government bears some of the cost. This allows aggregate supply to increase.
- ***Productivity of labour*** (change in human capital)
  If the productivity of each worker improves, the firm could use fewer workers. Hence, this too will lower the cost of production and so aggregate supply will increase.
- ***Length of the working week***
  If the length of the working week is shortened, fewer goods and services will be produced and this will have a direct effect on the aggregate supply.

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Employment and unemployment

Unemployment occurs when all those willing and able to work are without jobs. T are not seeking employment are *not* counted as being unemployed – e.g. stay-at-

Underemployment occurs when a job requires less of a worker than the worker is able or willing to do, e.g. part-time or reduced hours when the worker wishes to do more hours, or the requirements of a job are less than the skill set or education level a worker possesses. Underemployment in an economy can mean the economy is producing within its production possibility frontier (PPF) because, even if all resources are used, they are not used most efficiently. Recent university graduates are often underemployed as financial struggles can cause them to take jobs that are below their skill sets.

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Employment does not fall just because unemployment has risen; they are separate v of each other. For example, if there is an increase in the number of people who are people find jobs, then the level of employment has risen but unemployment has re

Economically Active: *People who are willing and able to work whether they are empl*

Economically Inactive: *People who are of working age (16–64) but are not available o are unable due to a disability, those who have chosen to stay at home (homemaker) or th*

Causes of unemployment

- **Structural unemployment**
  When the demand for labour is low and doesn't meet the supply of labour, people will find they are unemployed. This can happen in a variety of ways and is caused by the immobility and inflexibility in labour. As economists, we assume the resources in an economy can shift between markets to react to price change. We assume there are no barriers to factor mobility. However, when industries decline, workers are unable to adapt to rising industries because of a mismatch in skills. Structural unemployment can also exist because the supply and demand of labour is distributed unevenly across the country and mismatched.

- **Frictional unemployment**
  While people change from one job to another there is a period of unemploy
  unemployment. It refers to people who are 'between jobs'. Most economi
  unemployment as a problem.

- **Seasonal unemployment**
  Workers in tourist-reliant industries tend to suffer from seasonal unemploy
  will find they are out of work during certain periods. Generally, seasonal un
  and high in winter.

- **Demand deficiency and cyclical unemployment**
  Unemployment occurs when an economy is in recession. Recessions are wh
  falling GDP levels. In order to cut back on production and reduce costs, firm
  resources they use; one of these resources is labour, i.e. people will lose the
  unemployment will rise. This is likely to occur whenever demand falls, whe
  because firms will restrict supply by making resources redundant (such as la
  demand levels.

- **Real-wage inflexibility**
  If the actual wage rate exceeds the market equilibrium wage rate, there will
  more people would be willing to supply labour than people would be willing
  supply of labour represents unemployed labour.

  If the market equilibrium wage rate fell because demand for labour fell, for
  may remain at the same point rather than falling. This is because the labou
  and wages are 'sticky'. **Sticky wages** are wages that do not change or are sl
  unemployment rises in the economy in general. This happens because peop
  because they are lower than their expectations. If the labour market were
  equilibrium more closely and unemployment would be reduced.

Further your economic knowledge... natural rate of unemploy

The natural rate of unemployment is the level of unemployment that woul
labour market is in equilibrium. Any attempts to decrease unemployment
temporary as the economy will gravitate towards this level in the long run.
want a job at the wage level and those who are willing and able to work is
This means it includes frictional and structural unemployment – those who
but are not working because they are waiting for another job to start or do
current structure.

Inflation will increase if unemployment is less than its natural rate. Equally
unemployment is greater than its natural rate. For this reason the natural
called the non-accelerating inflation rate of unemployment.

Effects of unemployment

Workers

- Unemployed workers are not receiving an income and will find they are less
  services.
- Those who are unemployed for a long period of time will find it harder to ac
  may become redundant.
- Claiming unemployment benefits has a stigma attached to it. Unemployed
  esteem and higher levels of depression.

Consumers

- Consumers will reduce their spending if their income falls.

Firms

- Falling incomes and falling spending will mean firms will find demand falls fo revenue.
- However, if firms did want to increase supply there would be a pool of unus flatten their supply curves (make supply more elastic).

The government

- Higher levels of unemployment mean there are more people claiming Jobse spending will increase.
- Lower employment means fewer people are receiving an income and the go revenue from incomes and national insurance, for example.
- Falling tax revenue and increased government spending will mean the gove expenditure deficit which may lead to higher levels of national debt.

The benefits of employment

If somebody becomes employed, they will gain an income. This increase in incor easier to buy the goods and services that they need, which will improve living sta to purchase the goods that make them happy, which will also increase living stan is that with increased incomes comes increased spending, which will benefit firm audience to buy their goods.

If more people are earning an income and firms are making more profits from th government will gain more revenue from taxes. This in turn will go back into the spending on roads or hospitals, for example. Equally, as employment rises, there and the government can reduce its spending on unemployment benefits.

If people have jobs, it gives them a chance to improve their skill set and increase the worker but the overall economy will benefit from increased human capital be in human capital will improve efficiency and allow the economy to increase its m

Measures of unemployment

There are two main measures of unemployment: ILO unemployment rate and cla claimant count tend to differ by a greater amount when the economy is successf economy is declining.

ILO unemployment rate

The International Labour Organisation (ILO) defines unemployment as 'those wh seeking work but have not yet found it'. To identify the level of unemployment, out to a sample of households. The survey asks whether people are in or out of and whether they are seeking or not seeking work. From the sample an estimate can be calculated for the economy.

Claimant count

This measures unemployment by counting the number of people who have regis 'unemployed' and are claiming Jobseeker's Allowance. To be eligible to claim Jo must be, of course, out of work but also economically active (i.e. able to work an The claimant count is quite a broad measure of unemployment as it counts all th rather than just a sample of people. However, it is inaccurate at measuring the l economy because it may include people who are economically inactive, i.e. those or unwilling to work. The claimant count generally underestimates the level of u it only counts those who are claiming; there are many who are unemployed but Allowance. For many there is a stigma attached to 'being on the dole' and they looking for a new job.

Migration and employment

Immigration: *an inward flow of people (people moving to a country)*

Emigration: *an outward flow of people (people moving away from a country)*

Migration: *movement of people between countries*

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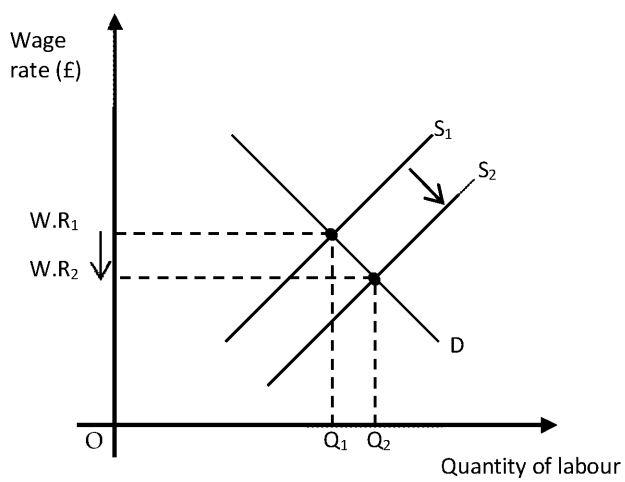
Migration occurs for a variety of reasons and its effects differ depending on these
find work or for a specific job, such as a foreign company headhunting a worker, o
needs an existing employee to help set up a new firm in a foreign market. Some m
oppressive regimes in their home countries. Others may migrate for greater oppo
attending a foreign university.

Those who immigrate to find work but do not find any will not affect employmer
number of people unemployed. Those who have immigrated for a specific job o
work will increase employment, but the number of unemployed will not be affec
can fill shortages in certain industries and increase levels of employment.



It can be argued that in
the labour supply curve
of labour to fall. It shou
is a minimum wage in t
beyond this level whate

Effect of migration on the economy

Increased immigration will increase demand in the economy, which will cause the economy to grow and create more jobs. Aggregate demand is discussed earlier in Topic 3.2.2.2. Economic growth can also occur from immigration because the resources available to an economy have increased. If the volume of labour resource available has increased, the economy can increase its maximum productive potential (remember PPFs). Working immigrants will pay income taxes which means the government will have higher tax revenues.

Migration will carry human capital. Countries with high levels of immigration will find there is an influx of skills and education. Economies with high levels of emigration, on the other hand, may find themselves in a 'brain drain' with their most skilled and educated workers leaving to work abroad. Some worry that perfect mobility of labour will damage developing countries by enabling exploitation of their resources as workers emigrate, leaving the country drained of human capital.

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Why is unemployment a measure of economic performance?
Low levels of unemployment are generally associated with economic growth because as the economy grows and expands, new industries, markets and firms are created which bring with them more jobs. More jobs means more people are employed and so low levels of unemployment can indicate the economy is expanding.

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Unemployment can also indicate high levels of poverty. This is because those wi
income. The economy is performing well if there are fewer people in poverty (re
people are able to afford the goods or services they desire.

Most relevantly, unemployment means there are unused resources within an economy. Unused resources indicate the economy is not producing its maximum productive potential and is within its PPF. This means there is room for improvement.

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The two links below
- *http://thegreatdepr*
- *http://bigmateo0.t*

Factors affecting employment

Unemployment has a variety of causes and, therefore, a variety of solutions.

- **Economic environment**
  A growing economy will provide more opportunities for employment and vi
- **Technological advancement**
  Breakthroughs in technology will replace some workers with machines, but
  others.
- **Foreign direct investment**
  Foreign firms may bring their own workers and their cheaper products may
  down. Alternatively, foreign firms could hire local labour and reduce unemp

Demand-side
On the demand side, lower demand for goods and services will result in lower sa
generating less revenue, they might be inclined to make workers redundant or h
demand-side factors such as consumer confidence, asset prices (wealth effect) a
employment levels to vary.

Supply-side
Supply-side factors can equally affect employment. Government subsidies can e
firms to hire more workers. If productivity of labour increases (following an incr
firms will hire more workers. An increase in the price of natural resources – if es
– might lead to increased unemployment, by contrast.

Further your economic knowledge... the three-day working week

In 1974 the UK government introduced a three-day working week in order to r
electricity following a strike by coal miners which reduced the output of powe
prevent the whole country grinding to a halt and keep businesses ticking over
to hospitals and other essential services.

The three-day week remained in operation for about two months and represe
supply-side shock to the economy.

The rest of the world and employment in the UK

In an increasingly globalised and integrated world, foreign factors have a big imp

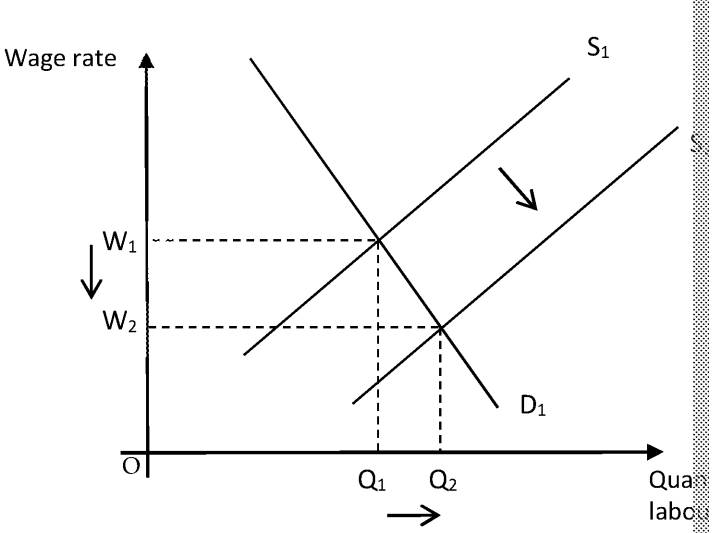
Interconnectedness of the global economy

The UK is very interconnected with the rest of the world. A downturn in fortune impact on confidence here and reduce investment and aggregate demand, and, Uncertainty over the eurozone economies, the USA, China, etc., can all have an e especially export- and import-orientated sectors.

Immigration

Immigration is a politically sensitive issue. It's certainly true that many migrants Britain: in March 2015, 3.1 million foreign-born nationals were employed in the over half a million people immigrating during the preceding year.

The recent trend has been for immigration levels to increase while emigration re increasing population puts downwards pressure on wages. Think of a basic supp



If the demand for labour stays constant then an increase in labour supply means lower wage rate. This is bad for native workers who may experience downwards short term.

However, in the long term, economists are generally quite positive about immigration. Migrants tend to be young and well motivated, and willing to work. They are also much less likely to claim benefits, and often return to their native country when older. Evidence suggests that immigration can raise aggregate demand, output and employment over the longer term.

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Immigrants may take jobs away from natives – but they also spend on goods and to be shared between more people, but it is a bigger pie to share.

Inflation and deflation

Inflation

Microeconomics talks about prices for individual goods in the context of individual businesses or markets. However, with macroeconomics the focus is on the 'price level' in the economy – that is, the general level of all the prices for all goods in the economy. Economists are not concerned with the level of the prices in the economy, but instead the rate of change of price level, i.e. by how much the prices have risen or fallen.

Country A's inflation rate was 3% in June, but in July its inflation was 2%. This would be disinflation because the rate has fallen but there is still a rise in general price.

Country B's inflation over a four-year period is shown below…

Year	Inflation
Year 1	2.0%
Year 2	1.4%
Year 3	0.3%
Year 4	–0.6%

For the first three years, country B experienced disinflation. It wasn't until year 4 0.6%, that the country experienced deflating prices.

Causes of inflation

Inflation has three main causes. However, this will be covered further after you information. For those who like a very simplified and quick explanation, see the

Can't wait…?

Remember the supply and demand diagram! If demand or supply change the rise if supply retracts or if demand increases.

Do not use the simple supply and demand diagram when discussing macroec microeconomic concept – you will be marked down in the exam! Inflation lo so these changes should be the overall sum change of all the demand curves the supply curves for all the goods/services in the economy. A micro supply a appropriate.

Effects of inflation

There is a variety of problems that arise from price changes. Inflation can be associated with economic growth because, often, inflation follows growth. Deflation, therefore, is associated with negative economic growth. However, deflation can also cause negative growth rates. If prices are falling, firms and consumers know that if they wait, they can get a better deal because things will be cheaper. If people stop buying goods or investing their money, the economy will stop expanding (think about the circular flow of income diagram). It is generally believed that inflation should be positive; however, high levels of inflation can still have undesirable effects.

- **Diminishes the value of savings**
  Because inflation decreases purchasing power, money kept aside will lose v usually diminished by inflation. High enough interest rates (the money rece money with them) can help mitigate the value-diminishing effects of inflatio susceptible to inflation for the same reason.

- **Shoe-leather costs**
  As a consumer, if you know roughly the relative prices of similar goods then price is acceptable. Firms need knowledge of relative prices in order to judg determining a price. Inflation means prices are changing, which makes it dif good. This idea of a 'shoe-leather' cost comes from the notion that shoe lea walking between various shops to gather knowledge of the prices of goods.

  Another effect of inflation that wears shoe leather comes from the first poin debit and credit cards. People need cash, i.e. they need to hold cash in its n notes), but holding money will lose its value because of inflation. For this re money in a bank account hoping to reduce the effects of inflation, but they travelling to the bank to withdraw money. Travelling to and from the bank will wear down shoe leather. (Note that it's not the shoe leather itself that
- **Menu costs**
  Changing prices mean firms have to change their labels, print new menus, e is costly, such as on tills, vending machines, etc. This is most relevant to cou high inflation known as hyperinflation. Zimbabwe is the best-known examp hyperinflation problem prices were doubling *every 24 hours.* This meant tha to maintain price lists.
- **Disposable income**
  If prices rise, the purchasing power of people's income falls. By this, it is mea that money doesn't go as far. Imagine you have £5; it costs £1 for the bus to school, lunch is £1.50 and at the end of the day you still have £2.50 to do wit you please. Maybe you buy a magazine at £2 and buy a 50p bag of crisps. N inflation is at 20%. The bus to school now costs £1.20, lunch is £1.80 and you you please. But the magazine is £2.40 and the crisps are 60p; you are unable before. This is of particular concern for those who are on a fixed income. Pu wages are 'frozen' when the government is trying to cut back. A 'pay freeze' the same nominal value. In real terms, this equates to a pay cut as prices ris
- **Distribution of income**
  Inflation can alter the distribution of income and can, thereby add to the inc example, those who have a fixed income will be affected negatively by infla only able to buy a lesser quantity of goods and services. This implies that th
- **Costs of living**
  If prices increase, people's costs of living increase. This can be problematic living on or close to the poverty line. For workers with low bargaining powe determination, they may find themselves in a squeeze from rising living cost increase at least with inflation.
- **Discontent**
  Periods of high inflation have been known to start riots and revolts. If price change to incomes, people feel worse off.
- **Government taxation**
  If the government doesn't raise personal income tax allowance with inflatio be greater but the government will receive more tax revenue. Income tax a can earn before being taxed. Equally, if specific taxes on goods aren't increa government will receive less tax revenue than it could.
- **Unemployment**
  The New Zealand economist William Phillips found an inverse relationship b inflation. He found that as inflation increases, unemployment rates tend to
- **International competitiveness**
  As UK prices rise, UK goods will appear more expensive on the global marke ceteris paribus. Therefore, inflation can diminish UK competitiveness, as it relatively expensive.
- **Anticipated inflation**
  If inflation is anticipated, firms and governments can include it in planning, t from inflation and mitigating its effects. Unanticipated inflation can throw o which will lead to problems. If inflation is anticipated, people can take steps unanticipated inflation can create uncertainty in business planning and inve

Further your economic knowledge… fiscal drag

When incomes rise, people who were close to a tax-bracket boundary will be c
bracket. This means more people will be paying the higher income tax and the
more tax revenue without having changed fiscal policy and the tax rate.

Deflation

Deflation, as defined above, is a sustained fall in the general price level.

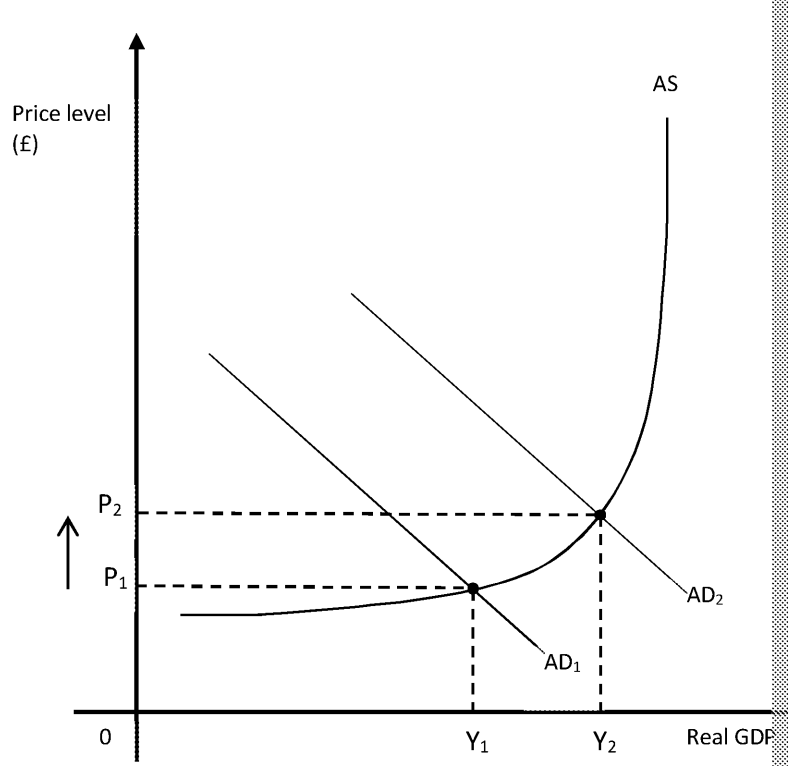
Deflation is generally bad news for an economy. If prices are falling, consumers
services – why buy now if it will be cheaper in the future? – which means reduce
probable recession. It can also lead to a deflationary spiral as wages and deman
prices down further with them.

In a few cases a spell of mild deflation does not have to be cause for concern. In
slight deflation (–0.1%). This was mainly due to falling food prices and oil prices.
consumption of these to take advantage of possible lower prices in the future so
Some economists presented it as a good thing – because food and petrol were c
in their pockets to spend on other goods and services in the economy.

Demand-pull inflation

Demand-pull inflation occurs when aggregate demand increases and pulls up the
diagram 1 where AD_1 shifts out to AD_2 and prices rise from P_1 to P_2. This happens
supply, producers will find they are running into shortages. In order to ration the
pulled upwards with demand. It is more prominent when the economy is near fu
people have an income and can therefore go out and spend it.

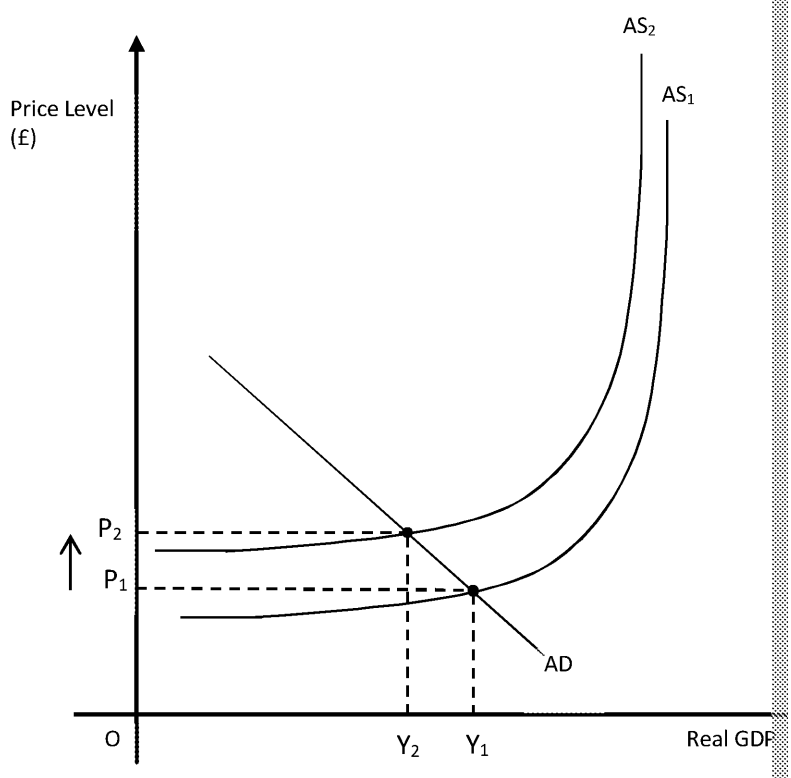
Demand-pull inflation occurs when any of the factors of aggregate demand incre
rise, maybe because income tax has fallen, consumption will increase and the AD
confidence and expectations are high, firms and consumers are likely to increase
which will push the AD curve outwards and pull up price level.



Cost-push inflation

Cost-push inflation occurs when aggregate supply decreases and the price level i
seen on diagram 2 where AS_1 shifts into AS_2 and prices rise from P_1 to P_2. This ha
increase. In order to cover these new costs, firms will push the costs on to the c
higher prices.

Cost-push inflation occurs when any of the factors of production increase in cost.
materials such as oil are one of the most common sources of cost-push inflation.
rates – perhaps due to trade union pressure – which increase firms' costs and pus
rises can also cause cost-push inflation if firms have to pass the tax onto consume



Inflation and the rest of the world

Commodity prices

As mentioned in the section on deflation, UK inflation was very low – about 0% –
turning slightly negative. This was largely down to a sustained fall in world oil pr
how world commodity prices can affect the price level in the UK.

Other economies

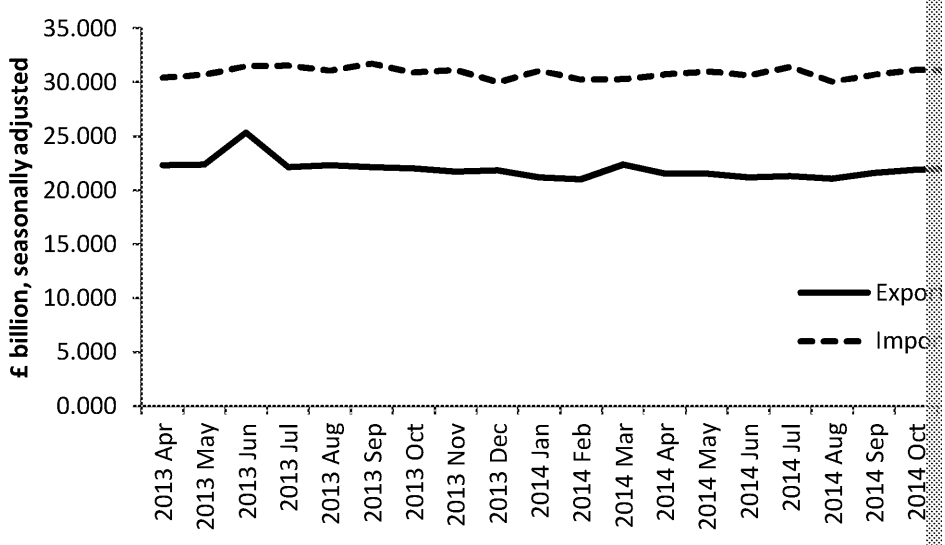
Further, the relationship between other economies and the UK can affect inflatio
import prices rise. This can depend on the exchange rate (a weaker pound make
the supply of goods and services in other countries (supply might be reduced foll
increase in prices).

The balance of payments on the current accoun

International trade and the UK

A lot of the UK's economy is based on international trade. We export a lot, and i
below shows the value of the UK's trade in goods (excluding oil) from April 2013
quite constant and show that we export less than we import. Our main trade pa
EU, the USA and Switzerland. We export most to the USA and we import most fr

Value of UK trade in goods April 2013–April 2015



It's useful to try to measure the financial dealings between economies to give a p
into and out of an economy. In this section will we cover a method used for this
current account.

The current account

In economics, the so-called current account looks at the following factors:

Trade in goods

This is the trade in visible, tangible goods. In the UK we import mainly machiner
transport goods, chemicals and mineral fuels. Our exports are very similar.
When goods enter a country, money flows out to pay for them – imports have a
payments.

Trade in services

Services are invisible and intangible. For example, a guided tour of London given
export of a service. A UK citizen hiring a car in Spain is an invisible import of serv
dominated by services (about 80% of the economy), with financial services being

Invisible imports are flows of money abroad, while invisible exports (such as insu
flows of money into the economy.

Income flows and transfers

Income may also flow into an economy from interest, dividends and profit gener
out to foreign owners of UK assets. Transfers are also known as secondary incor
workers or investment are known as primary income.

There may also be 'remittances' which are payments made by immigrants worki
family in their native country. An American might make a lot of money working
some of it back to pay for their child's education in the USA, for example.

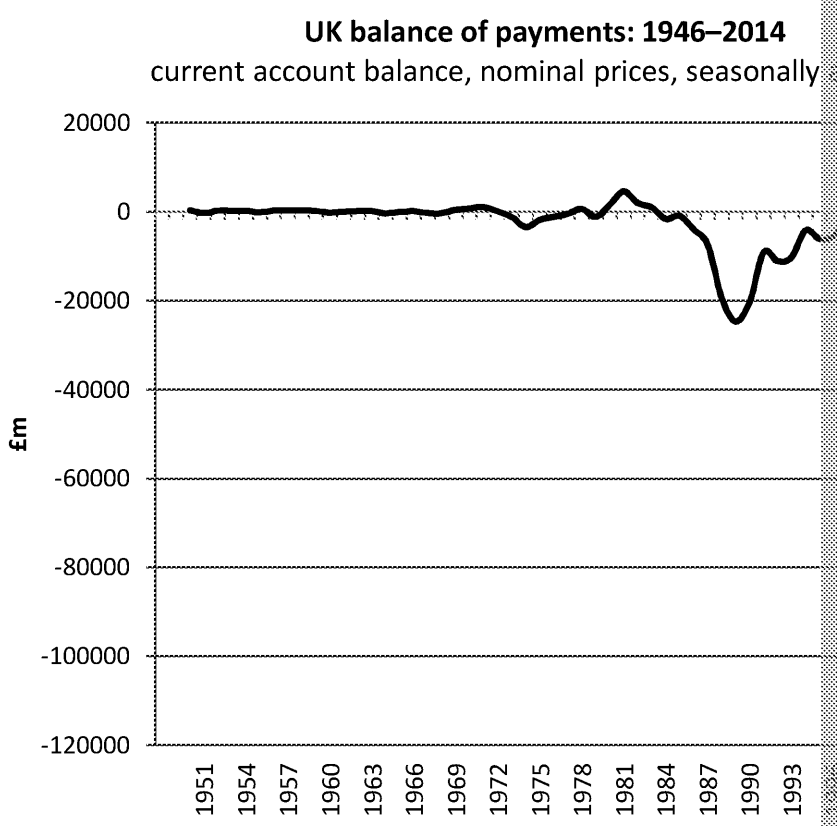
There may also be transfers from the government to international organisations contribution of around £8 billion a year to the European Union, for example. It a International Monetary Fund (IMF).

The current account balance

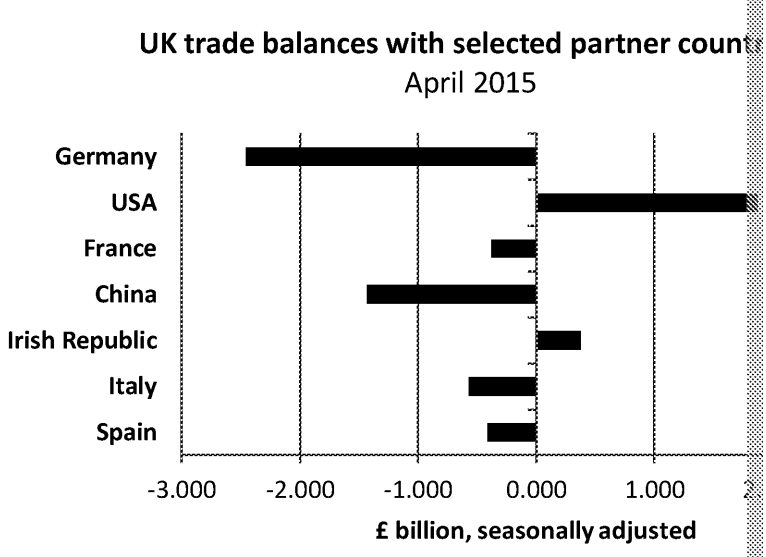
The current account balance is the balance between the imports and exports des trade in services, and income flows and transfers).

> **Exam Tip:** There are other components of the balance of payments for an eco accounts) but you are only required to know about the current account balanc

Below is a chart showing the UK's balance of payments between 1946 and 2014.



Below is a chart showing the UK's trade balances with selected partner countries



Current account deficits and surpluses

As shown in the charts above, the UK has a large current account *deficit*. That is, account from the UK are larger than all of the inflows into the current account fr current account can also occur if countries export more than they import. For ex surplus with the USA – we export to them more than we import from them. The an effect on a country's welfare. For example, when imports are higher than exp there may be emigration of workers to USA; etc.

Factors affecting the current account balance

Various factors can affect the current account balance, including:

Productivity

If labour productivity increases, a fall in the costs of production will lead to lowe exports of the good – or reduced imports if it becomes relatively cheaper to pro

Inflation

Inflation might lead to higher production costs if it causes workers to demand hi become less competitive relative to foreign producers.

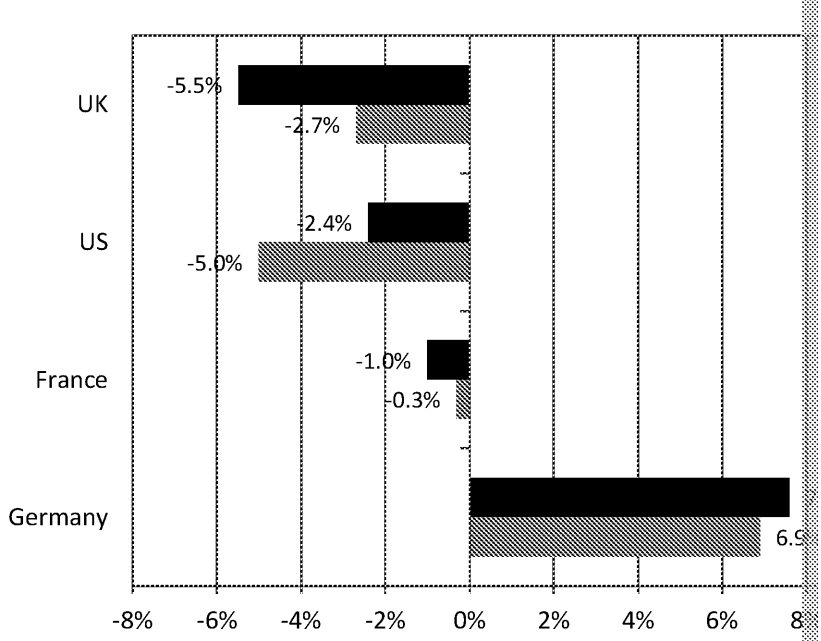
The exchange rate

A rise in the exchange rate will increase imports (as they become relatively chea become relatively more expensive).

Economic activity in other countries

The UK's economy is very interrelated with other economies. A recession in a m lower exports to that country. Similarly, a UK recession will lead to lower import

Current account balance in the UK and selected c
(% of nominal GDP)



Source: ONS, Eurostat, US B

Possible conflicts between macroeconomic policy o

Conflicts between macroeconomic policy objectives (of economic growth, low un balanced current account) can occur, at least in the short term.

Economic growth versus inflation

Economic growth usually results from an increase in aggregate demand. An increa increases growth but also increases the price level. This is because economic grow the economy and these jobs translate into an increase in demand. This increased equilibrium is restored. Therefore, as an economy grows, it will tend to see growin to increase growth without increasing prices is to increase aggregate supply; classi only way to create economic growth because without moving the LRAS curve (see aggregate demand will only result in price increases in the long run.

Economic growth versus the current account

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

Economic growth versus environment

Pollution and environmental degradation is a social cost. Remember negative ex component of your course. Polluting the environment is not accounted for in th generally require more inputs as they grow, which will use up more of the finite comes the increased use of fossil fuels, and with the expansion of new factories, consumption of space, which may currently be inhabited by nature. China is a cl between their high rates of economic growth and their low rates of clean air and are particularly damaging to the environment during their industrialisation stage are quickly forgotten with the rapid rise in growth rates, and countries switch to production.

Inflation versus unemployment (Phillips curve)

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

Long-run and short-run Phillips curve

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

With this idea the theory of the short-run Phillips curve was created. The relatio
true to Phillips' relationship; the curve may simply shift in the short run so that d
results in increasing inflation but at high or low levels. In the long run, however,
relationship and therefore the Phillips curve is a straight line. It is believed the lo
natural rate of unemployment. The natural rate of unemployment is where supp
meet, i.e. all those wanting to work are able to find work. There still remains sor
usually voluntary.

Macroeconomic Policy

Fiscal policy conflicts

Increased government spending may help to boost an economy out of a recessio
will be likely to result in increased taxes in the future. This tax increase not only
approach, but will reduce incentives to work and could worsen income distributi
is implemented. Moreover, indirect taxes tend to be regressive in nature, which
proportion of the income of a low-income person. This means that this creates i
as the rich become richer and the poor become poorer.

Reducing government spending may mean cutting benefits or reducing investme
can have a negative impact on the living standards within an economy. After the
shifted focus to reduce government debt by cutting spending; however, this was
who feared losing the NHS and the adverse effect on education quality. Cutting
worsen income distribution and put at a disadvantage those who may need the l

Monetary policy conflicts

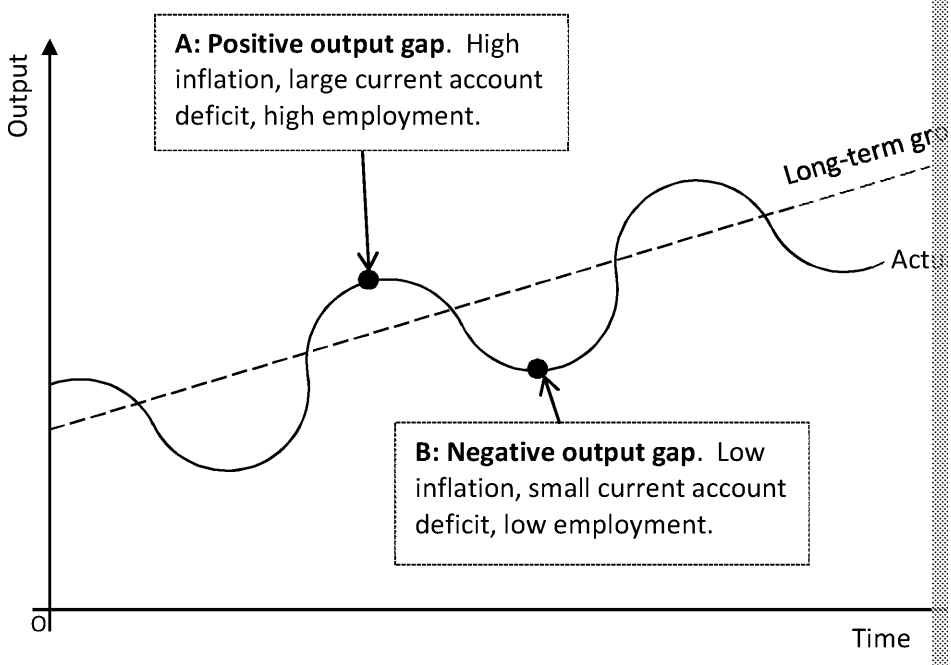
The Bank of England has independent control over the interest rates in order to i
increasing interest rates can be damaging to some people; for example, new hor
pay a mortgage. This could worsen wealth distribution. Monetary policy can als
policy. If interest rates are high, this will discourage new start-up businesses and
the market.

Supply-side policy conflicts

Supply-side policies that improve infrastructure will improve the efficiency of the
likely to damage the environment. Areas of forests, for example, may be cut dow
new roads. Equally, supply-side investments will come out of the government's
contradict a deflationary fiscal policy.

The business cycleRecall the idea of positive and negative output gaps from secti
These relate to the business cycle. When an economy is expanding we see point
diagram below (high inflation, large current account deficit, high employment).
demand is expanding and the economy is producing *above* potential output. Thi
pull inflation and a current account deficit (the UK is consuming more imports).

When an economy is contracting we see point B (low inflation, small current acc
There is falling aggregate demand, slowing inflation and the balance of payment



What can the government do at point B? If it 'reflates' the economy by loosenin introducing fiscal stimuli, growth and unemployment will improve – but inflation will worsen.

By contrast, if the government tightens monetary and fiscal policy then the oppo current account balance improve, but unemployment increases and growth goes

The long run

In the longer term, all objectives can worsen – or all get better. The long run is a section 3.2.4.3) designed to improve the overall potential output of an economy fundamental questions about unemployment, such as how to sort out structural improve skills and productivity more generally. There will also be questions abo UK has consistently run a deficit on the current account for about 50 years – is th debt to future generations – and is this fair?

Review questions 3: Economic performance

1. Provide four factors that cause economic growth.

2. What is the difference between inflation, deflation and disinflation?

3. What is the difference between employment, unemployment and und

4. a) What are the five main causes of unemployment?
   b) Can you explain these causes?

5. These questions refer to the measures of unemployment.
   a) What are the two main measures of unemployment?
   b) How do these measures attempt to quantify unemployment?
   c) How accurate are these measures?

6. What is meant when economists say there is a current account deficit?

Exam-style questions 3: Economic performance

1. Which **one** of the following is correct?
   A In the case of constant prices (0% inflation), real GDP will rise fas
   B Real GDP is adjusted using the unemployment rate.
   C Nominal GDP adjusts all values relative to a base year.
   D If inflation is positive, nominal GDP will rise faster than real GDI

2. Define the term 'disinflation'.

   .....

   .....

   .....

3. Which of the following statements is not true?
   A In a boom an economy produces above its long-term trend rate
   B An output gap is the difference between actual growth and the
   C In the long term, the trend rate of growth is always 0%.
   D During a recession there is spare capacity in an economy that is

4. Name and briefly explain **three** different effects of inflation.

   1.....

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   2.....

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   3.....

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5. The table below shows the **claimant count** measure of unemployment and Northern Ireland, and the UK as a whole, in March 2015.

	Total level of workforce (thousands)	Clair
		Total level (thousands)
England	28,678	625.5
Wales	1,432	44.8
Scotland	2,704	78.1
Northern Ireland	843	43.4
United Kingdom	33,673	791.8

5a. Define the claimant count measure of unemployment.

.....

.....

5b. Which **one** of the following **cannot** be inferred from information in th

A More people were unemployed in England than in Wales.

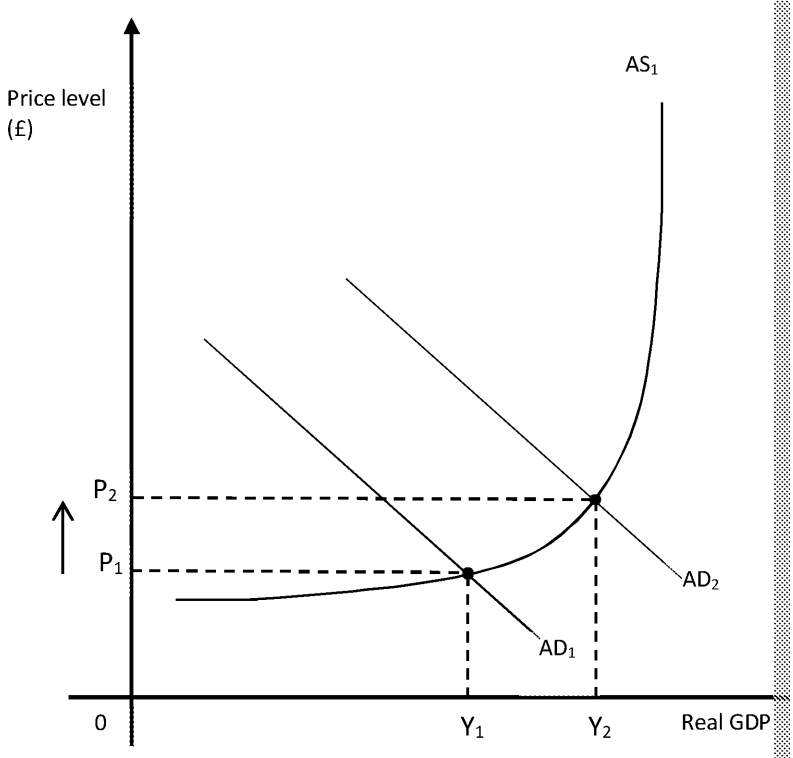
B A higher proportion of people in Northern Ireland were unemplo or Wales.

C England has more people in its workforce than Wales, Scotland o

D A higher proportion of Scottish people were unemployed than W

6. What type of inflation is shown by the diagram below?

.....



3.2.4: Macroeconomic po

By the end of this topic, you should understand...

- ✓ **Monetary policy**
  - What is meant by monetary policy
  - The government's monetary policy objectives
  - The UK's Monetary Policy Committee (MPC)
  - Factors considered by the MPC when setting the bank rate
  - The exchange rate and aggregate demand
- ✓ **Fiscal policy**
  - What is meant by fiscal policy
  - The macroeconomic and microeconomic functions of fiscal policy
  - Fiscal policy and aggregate demand and aggregate supply
  - Different types of taxes
  - The budget balance and national debt
- ✓ **Supply-side policies**
  - The difference between supply-side policies and supply-side improvements
  - Examples of supply-side policies

The government has two broad tools it can use to implement the objectives we i
this course companion: monetary policy and fiscal policy. Let's look at each in tu

Monetary policy

Monetary policy is an approach by the government or central bank of an econom
controlling monetary variables: interest rates, the supply of money and the credi
its role is to control inflation and avoid deflation.

Interest rates

Traditionally, the most important monetary policy instrument is the interest rate. Think of interest rates as the cost of borrowing money. By setting the interest rate the central bank can influence the rate of borrowing. When interest rates are high the cost of money goes up and individuals borrow less and consume less. Likewise, firms will invest less in infrastructure if it's expensive to borrow money.

Interest rate manipulations are most important during the boom period of the economic cycle. If the central bank thinks that the economy is close to overheating – when growth rates are above trend and output can't keep up with the rise in aggregate – then it can increase interest rates. This dampens down aggregate demand and reduces the price level.

Similarly, if the economy is in a downturn the central bank can reduce interest rates. This makes the cost of borrowing money cheaper. With more access to credit, consumers should spend more and businesses should invest more. Both will increase aggregate demand and increase growth rates.

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Brown as Chan
minister.

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would rise and
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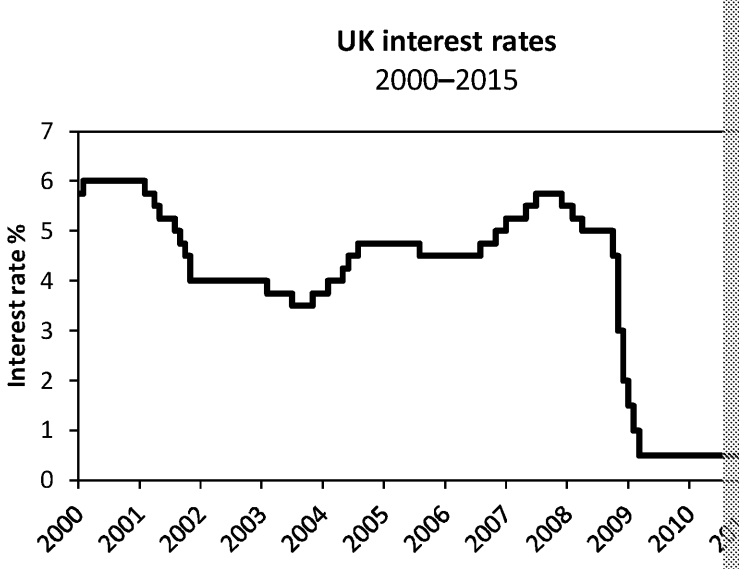
the peaks and t
leading to more
deeper recessio

Now the Mone
the Bank of Eng
MPC is indepen
looks to set the
term growth of

Below is a chart showing the interest rates set by the Bank of England between 2



Sourc

Quantitative easing

The trouble with setting interest rates is that once they reach close to zero there Look at the chart above which shows the recent history of interest rates in the U 2008, the MPC slashed interest rates to 0.5% in an attempt to introduce credit a economy.

While rates can theoretically decrease to any number (and some countries such negative interest rates), 0.5% is the 'effective lower bound'.

ACTIVITY

The Bank of Japan was the first to use a program of quantitative easing in the early 2000s. Research why this was necessary: read about Japan's 'Lost Decade'.

When this failed to boost ag amount, the government tu Quantitative easing is a way often called 'printing money the government purchases a – from commercial banks. T supply and encourage the b

The government's monetary policy objectives

The Bank of England's target rate of inflation is 2%. The target is judged on the that inflation *below* the target is seen to be just as bad as inflation above it.

Recall that if aggregate demand exceeds aggregate supply, price levels – inflatio therefore, is to keep aggregate supply and aggregate demand roughly at equilibr

The main method used by the bank to do this is to change the interest rate. Spe the **bank rate**. This is the rate of interest that the Bank of England pays on reser banks. This influences how much these commercial banks, and building societie and borrow. This affects the whole economy. If money is cheap to borrow, and spending goes up. Borrowers tend to spend more than lenders. The opposite is aggregate demand tends to fall.

There are other effects following a change in the bank rate. First, asset prices te the interest rate (since they are now relatively more affordable). If shareholders of their assets rise, they respond to the increase in wealth by spending and cons

The Monetary Policy Committee

The Monetary Policy Committee (MPC) of the Bank of England sets the bank rate members – including the Governor and the Chief Economist – and meets once a committee votes independently on what the bank rate should be going forward. transparent as possible and publishes all minutes of its meetings. If the inflation higher or lower than the 2% target (below 1% or above 3%), the Governor has to Chancellor of the Exchequer explaining the circumstances.

If interest rates are adjusted to increase spending, this feeds through to output a

A loose monetary policy is where the government tries to increase the money su example, by decreasing interest rates, which reduces the cost of borrowing.

A tight monetary policy is where the government tries to decrease the money supply to discourage spending – for example, by increasing interest rates, which increases the cost of borrowing.

ACTIVITY

Read the recen explaining why the 2% target *www.bankofengland.co.uk/mone*

Factors considered when setting the bank rate

Changes in the bank rate take a while to come into effect because of time lags. following a change in the rate it can take up to a year to affect output and up to For this reason it is important for the MPC to set the rate based on the expectati in the future, rather than what it is on the day of their meeting.

The exchange rate

The bank rate can also affect the exchange rate of the pound with the rest of the also our patterns of trade. If interest rates in the UK rise, it means that British as foreigners. A stronger pound makes UK exports more expensive for foreigners, are cheaper for us.

Exchange rate and changes in macroeconomic policy objec

An increase in the exchange rate will cause the sterling to appreciate. Henc more expensive, while imports will become cheaper. Hence, as more good aggregate demand falls. Moreover, as imports increase, aggregate supply price level, i.e. inflation will fall. However, this would lead to a current acco imports rises due to a rise in the exchange rate, this may cause local produ imports – resulting in increased unemployment.

Fiscal policy

The word 'fiscal' refers to government finance. Fiscal policy, therefore, is decisio about its spending, taxation and the budget balance.

Fiscal policy is used to promote employment, decrease inflation and smooth out business cycle. Between the Second World War and the 1970s, fiscal policy was economy. Since the 1970s it has been used to support monetary policy.

Government spending

Recall that government spending is an injection into the circular flow model. The increasing spending – although this also causes an increase in the price level. Ho is in increasing output depends on the size of the multiplier.

Taxation

The government has to raise enough taxation to pay for the public goods and services it provides, as well as paying debt interest and welfare payments. Taxation is a controversial issue: people don't like losing chunks of their hard-earned income, and there are political and ideological differences in attitudes towards taxation. Some say that lower taxes mean that there are higher incentives to work and produce output if you get to keep more of your income, and this is best for the overall economy. Others argue that taxation should be higher in order for the state to play a bigger role and provide a safety net for the least well-off members of society.

EVALUATION PO

The Laffer curve is a relationship betwe suggests that initia the tax rate, tax rev However, after a ce the tax rate causes because high tax ra or people may be e abroad (known as '

The government can change taxation rates to try to influence the level of econor following the financial crisis of 2008 the government announced a temporary cu This was designed to increase consumer spending and raise aggregate demand c

The budget balance

Perhaps the most important element of fiscal policy is the **balance** between gove expenditure. If the government runs a surplus – it spends less than it brings in – surplus would be better off spent increasing the output and overall growth rates government can run a deficit during downturns in order to prevent an even furth running a deficit means increasing debt and debt interest payments. This reduce government can spend on public goods and services, as well as passing costs of c generations.

The concept of **automatic stabilisers** helps smooth the budget balance over the without any changes in policy from the government. During a boom period, sala so do tax receipts, swelling the government's coffers. Higher levels of taxation c overheating. By contrast, during a recession incomes fall and so does the govern this, unemployment benefits should rise so government spending has to increase may *automatically* run a surplus during the good times and a deficit during the b

Fiscal policy and AD/AS

Fiscal policy and aggregate demand

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

Government spending (G) is a component of aggregate demand. An increase in This raises real output and the price level.

Fiscal policy and aggregate supply

Generally it is believed that fiscal policy has more of an effect on aggregate dem However, so-called **supply-side economists** argue that lowering tax rates increas and output.

Also, if the economy has confidence in the government and believes its fiscal pol for the future will be higher. This leads to more investment and, hopefully, highe shifts.

Direct vs indirect taxes

Taxes can be grouped into two categories: direct and indirect.

Direct taxes

Direct taxes are paid directly from the taxpayer to the government or authority. consumption choice. Examples include:

- Income Tax
- National Insurance
- Capital Gains Tax
- Council Tax

Indirect taxes
Indirect taxes are paid by an intermediary (middle person). VAT is added onto most goods by firms, who pay it to the government. However, these firms pass the costs onto the consumer in the form of higher prices. If the government imposes a high levy on new cars, the car salesrooms will pay this amount for each vehicle that they sell. However, they will increase the price of their cars by the same amount, meaning that ultimately the consumer bears the cost of the tax.

VAT is
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of fuel is.

Examples of indirect taxes include:
- Expenditure tax (VAT)
- Excise duties (paid in addition to VAT on goods such as fuel and alcohol)
- Customs duties (tariffs)

Progressive, proportional and regressive taxes

Taxes can also be grouped according to their level of 'progressiveness'. This is h
changes as incomes rise. For a tax to help achieve greater equality, it needs to ir

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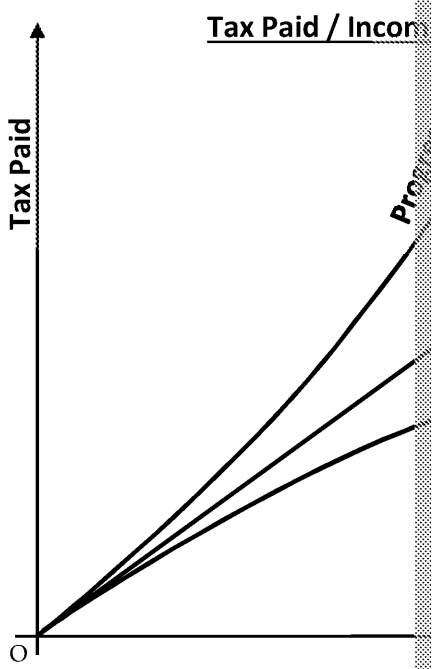
Progressive
Under a progressive tax regime, people pay a higher **proportion** of their income in taxes as their salary rises. So, somebody earning £1,000 may pay 10% income tax (£100), but somebody earning £100,000 may pay income tax of 30% (£30,000). The average rate of tax (tax/income) rises as income rises.

Proportional
Proportional taxes are constant and do not change with the income level of the taxpayer. They are also known as 'flat taxes' because taxpayers will pay, for example, 10% of their income whether they earn £1,000 (and pay £100) or they earn £100,000 (and pay £10,000).

Regressive
Under a regressive tax regime people pay a smaller **proportion** of their income in taxes as their salary rises. For example, a government may impose an environmental tax on fuel in order to reduce the negative environmental externalities. However, it is generally low-income earners who will purchase old cars because they cannot always afford the new, greener cars. Therefore, low-income earners will pay more in fuel tax.

A lump sum tax is a very regressive tax. The amount paid stays the same no matter the level of income.

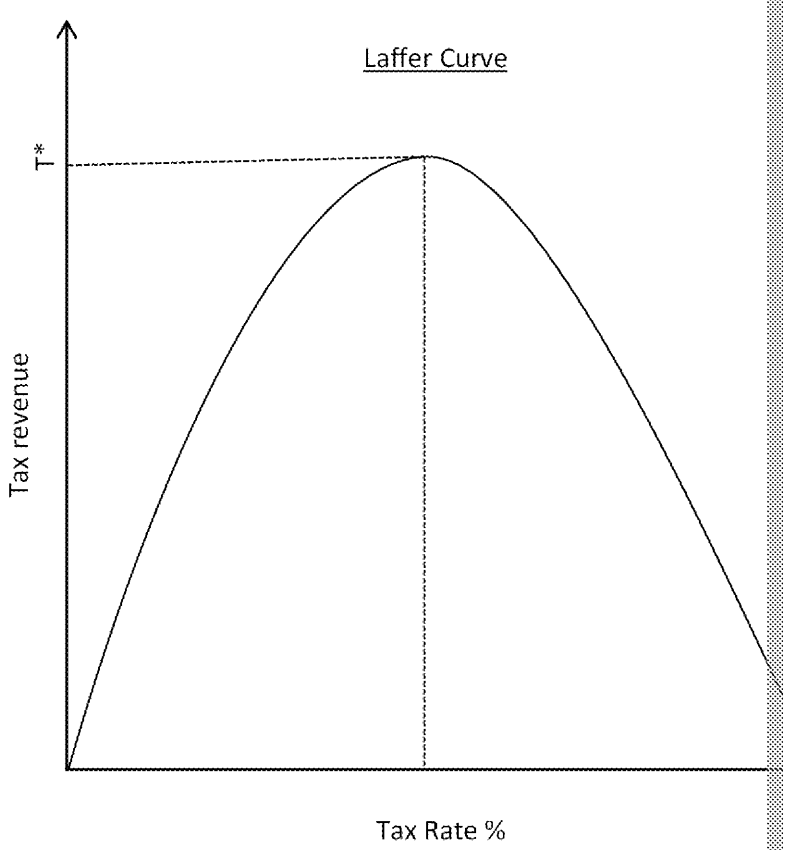
The diagram to the right shows a graphical illustration of the three types of tax. Note how the average rate of tax paid rises with income under a progressive tax system, but falls with income for a regressive tax system. Tax/income is constant for proportional taxes.



Further your economic knowledge… Can decreasing tax rates incre

Supply-side theory suggests that cutting tax rates can lead to an increase in ou revenues. The idea is that if income taxes are lower and people keep more of incentive to work harder and for longer hours. Similarly, if business tax rates a incentive to produce more, and invest more in research and development.

The idea can be shown graphically using a *Laffer* curve, named after the econo example is shown below. Note that no tax revenue is generated at 0% (there is taxed then nobody will work). The Laffer curve suggests that there must be revenue generated at a certain point between these two extremes. In this cas



In reality, the shape of the Laffer curve is unclear. Tax rates aren't changed th data – and they're usually only changed in 'good' or 'bad' times so there are o and productivity (remember the idea of 'ceteris paribus'). Supply-side econon that the curve peaks at a relatively low tax rate.

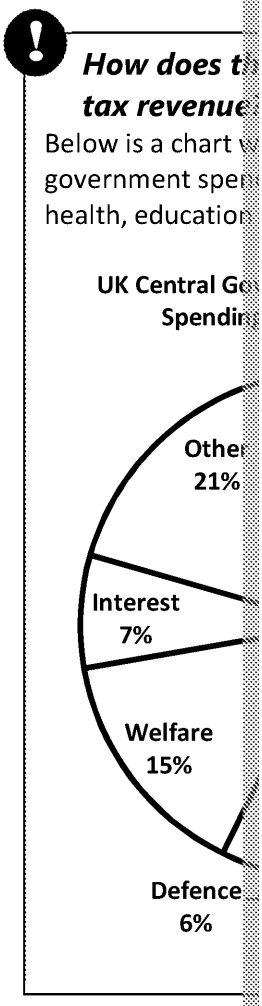
The budget balance and the national debt

Debt and deficit in the uk

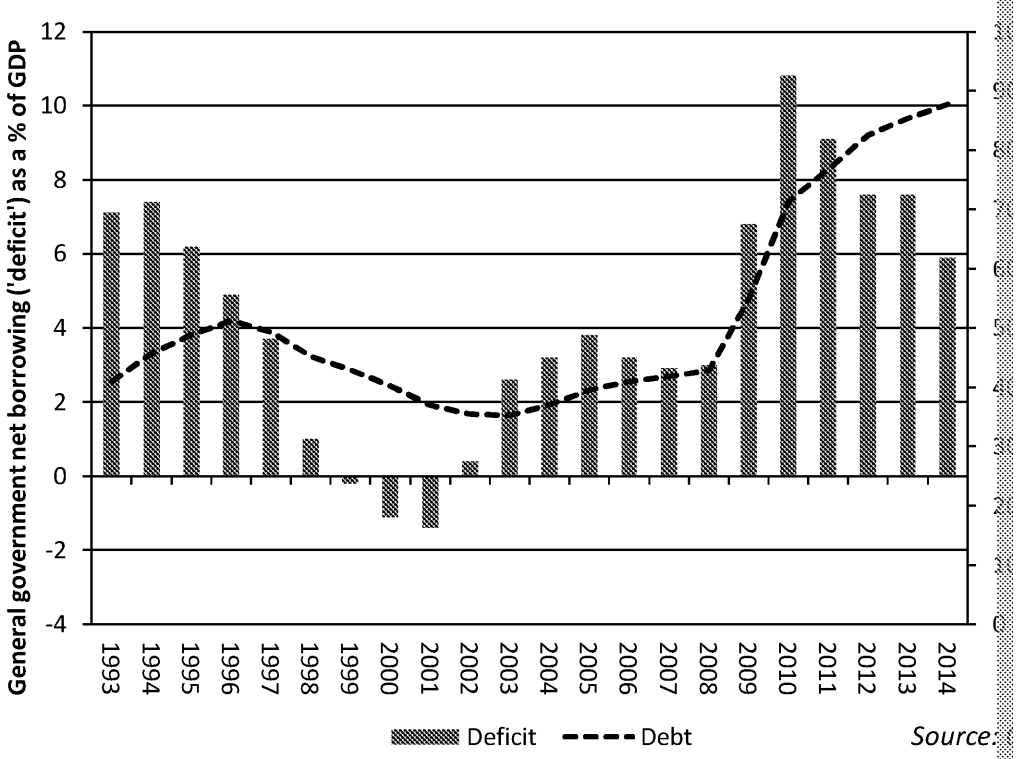
Note that in the pie chart (see box), 7% of government spending goes on interest. This refers to the interest that the government has to pay to service its debt. To finance spending, the government issues bonds which pay a fixed amount at regular intervals (before returning the initial amount at the end of a defined period). In the UK, government bonds are known as **gilts**.

As discussed in the section on fiscal policy, the government can choose to run a deficit in order to maintain spending and boost aggregate demand. The deficit is financed by issuing government bonds. The recent history of the UK's debt and deficit is shown below in the chart below. Note that there are different *y*-axes: the deficit is shown on the left-hand axis, and the debt as a percentage of GDP is shown on the right-hand axis. A negative deficit indicates a surplus.

The chart shows how the government has generally run a deficit in recent years. The government debt as a percentage of GDP has risen as a result. There have been exceptional circumstances, of course, with the financial crisis of 2008 requiring the government to borrow more to spend and boost aggregate demand.



Debt and deficit in the uk
% of GDP, 1993–2014

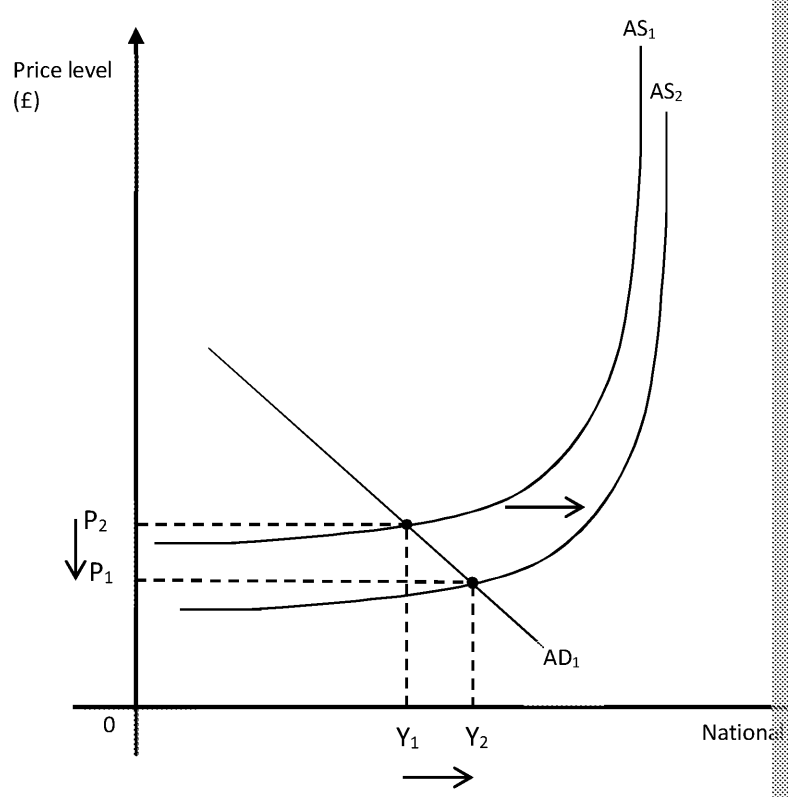


Source:

Supply-side policies

Supply-side policies vs supply-side improvements

Supply-side policies are government policies aimed at increasing the productive c
example of such a policy may be lowering tax rates, as this creates an incentive f
thereby increasing productivity. There is a wide range of things that affect the a
the government has the same level of control over as it does with demand-side p
the government can control aggregate supply is through spending on supply-affe
rules and regulations. Below are some conditions that affect aggregate supply a
government may make policies to affect those conditions.



- **Promote competition**
  If there are lots of producers in a market, there is more competition betwee
  producers an incentive to find ways to cut production costs because then th
  price, thereby gaining more customers. To do this the government could gi
  companies, reduce barriers to entry (obstacles that may prevent a firm from
  laws that prevent monopolies (large firms that others cannot compete agai
  imports or subsidies for domestic firms, there will be an influx of foreign firm
  competition within the market. By reducing taxes on imports, allowing fore
  providing subsidies to domestic firms, an economy can increase competitio
  firms to remain. This will boost LRAS because domestic production has not
  production, but the competition drives the firms to become more productiv
  curve. Privatisation can also boost competition. Governments are not worr
  cutting costs to boost profits, therefore they aren't very competitive. By giv
  sector, it will increase competition as the new owners will compete against

- **Reform labour market**
  Reforming the labour market refers to the quantity and quality of labour and ba
  forces acting freely within this market. Structural unemployment is a result of l
  Trade unions are another barrier to the free-market system. Trade unions wor
  individual worker by uniting them together as one large body. This gives worke
  comes to wage and working conditions negotiations. By opening up to immigra
  workers and thereby increase its ability to produce goods. Because this affects
  migration are supply-side policies. By increasing minimum wage, more workers

by reducing unemployment benefits, this would disincentivise workers from ac
them to work. However, unemployment benefits are there to protect those wi
trade-off between protection and incentive.

- **Quality of workforce (skills and education)**
  If the government invested in schools by, for example, buying new learning
  have a better education system, creating a more productive workforce. Equ
  provide financial assistance for pupils to continue into further education. Fo
  Educational Maintenance Allowance (EMA) was granted to students from p
  now been scrapped in England. Investing in training courses for workers wi
  capital of an economy. This is particularly useful if there are structural chan
  help the mobility of workers between markets.

- **Infrastructure**
  Spending on infrastructure means investing to improve the physical conditions or organisation of the economy – for example, investing in transport systems such as railways and roads, or investing in buildings for factories, offices or houses. By improving these factors, society will be happier and the economy will function more smoothly. If there were ad
  would be happier; if the roads were smoother and straighter, the lorries cou
  easily.

  Learn More!
  To see what t
  infrastructure
  https://www.
  ons/infrastruc

- **Quality of capital and production processes**
  Investment into research and development will create a technological adva
  machines are invented and more efficient methods of production are create
  curve out because a more productive and efficient economy can produce m
  net investment will indicate increased capital stock. Greater quantity of cap
  there is the possibility for more production.

Strengths

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

Weaknesses

- Supply-side policies have long time lags. Improving the quality of the workf
  can take 13 years, as children start aged 4–5 and finish aged 17–18.
- These policies can be very costly, which would have a negative impact on th
- Although the government can manipulate the economy, the global market h
  government has no control over. The government policy is weak to externa
- Data collection is slow and long-winded. The information provided to gover
  inaccurate but also out of date, causing the government to react slowly and

Supply-side improvements may originate in the *private* sector. Any increase in p
investment will cause a supply-side improvement and often changes in practice b

Further your economic knowledge… interventionist vs laissez-faire

The government can take one of two broad approaches to markets in the eco
laissez-faire.

Forms of government **intervention** include taxes and subsidies, laws and regu
public provision of goods and services. These can all be used to correct *marke*
the market price mechanism does not allocate resources efficiently (at the wr
quantity). An example would be when marginal social cost exceeds the margi
produces a good, perhaps because of pollution. The government could interv
the failure.

The alternative to government intervention is the **laissez-faire** approach. 'Lais
translated as 'leave alone' or 'let it be'. The idea is that the government shoul
as possible, if at all, and the 'invisible hand' of the market should allocate reso

Advocates of the laissez-faire approach don't pretend that the market is perfe
not exist. Rather, they suggest that government intervention is *worse*, citing i
reduction in market incentives and a lack of information about the costs of ma

The question of how much government intervention is 'optimal' is impossible
normative question and the costs and benefits of each approach are impossib

Review questions 4: Macroeconomic policy

1. a) What are the economic objectives of the government?
   b) Why are these the objectives of the government?

2. a) What are the three macroeconomic policies?
   b) What are the demand-side policy tools and how can each of these manipulate the economy?
   c) Who is in charge of the three policies?

3. What is meant by a fiscal deficit and why is this problematic?

4. What is the difference between direct and indirect taxes?

5. What is the role of the Bank of England?

6. 'Supply-side policies are better for the economy than demand-side po are not used is because the time lags mean politicians won't see result what extent do you agree with this statement?

7. How does fiscal policy conflict with other policies and the governmer

8. How does monetary policy conflict with other policies and the goverr

9. How do supply-side policies conflict with other policies and the gove

Exam-style questions 4: Macroeconomic policy

1. Describe the idea of loose monetary policy and how it can be used to st

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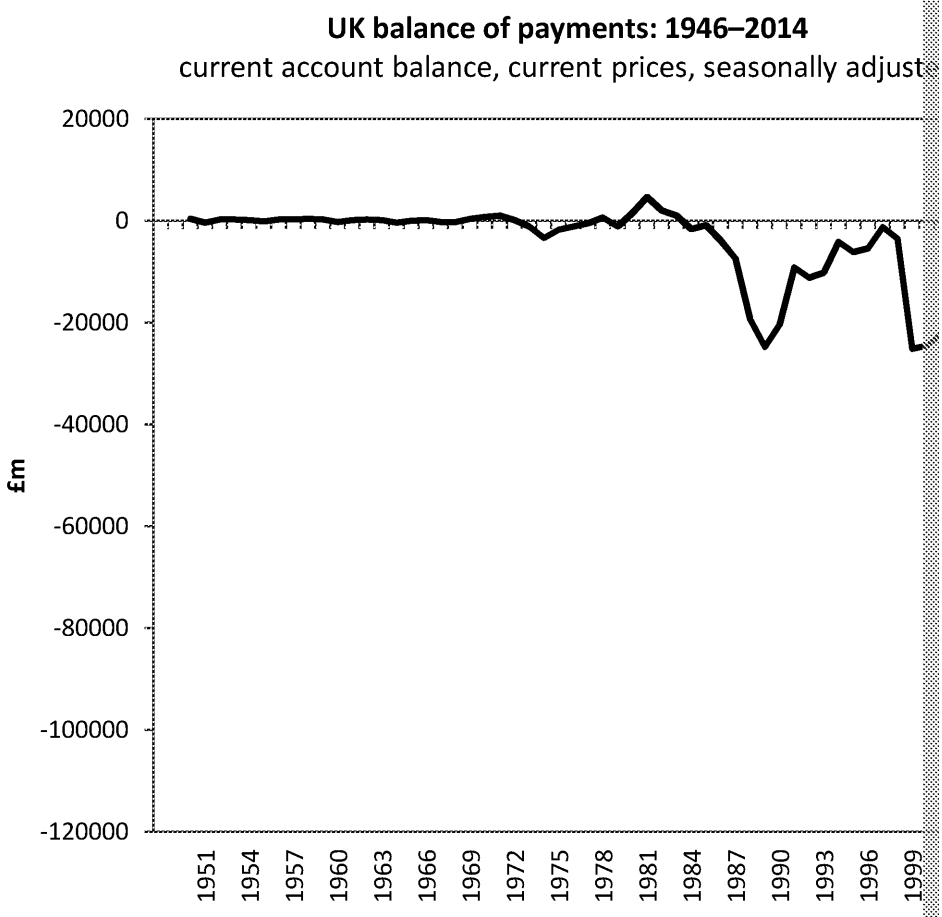
2. The chart below shows the UK balance of payments on the current ac in current prices.



a) Describe what you can infer from the chart.

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b) The chart shows data in current prices. What effect might this ha
the trend for price levels to rise over time?

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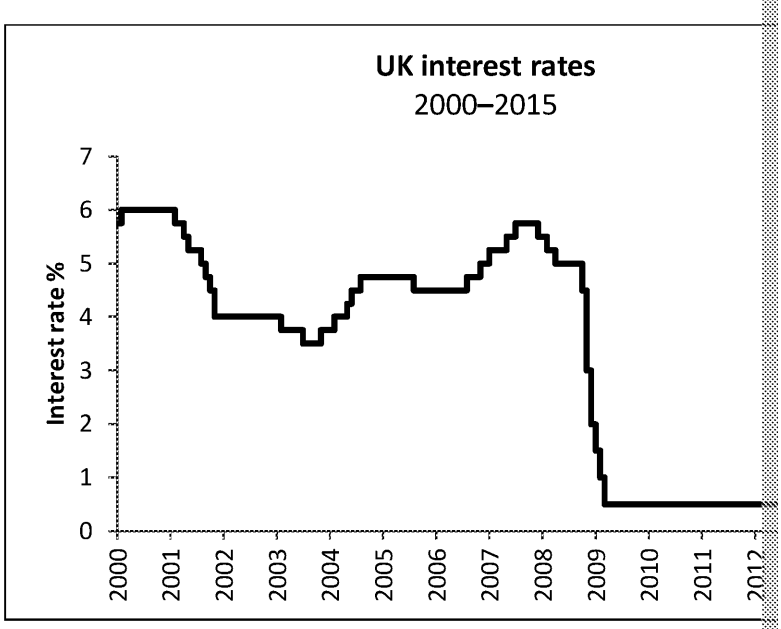
4. Look at the chart below which shows the interest rates in the UK set b
Committee (MPC) of the Bank of England between 2000 and 2015.



Source

Describe the main trends shown in the graph.

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5. Explain the difference between direct and indirect taxes.

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Answers to review que

The measurement of macroeconomic performance

1. **What is a basket of goods?**
   It is a list of items that are bought by the average household.

2. **These questions refer to measuring inflation.**
   a) **How is inflation measured using the CPI?**
   First, a basket of goods is created. Then the ONS sends out the Living C calculate the weights and average prices of each good in the basket.

   b) **What is the other measure of inflation?**
   Retail Price Index (RPI)

   c) **What are the limitations of measuring inflation?**
   Neither CPI nor RPI account for change in quality. If a good has improv likely to cost more, but this is only seen as inflation, and not an improv shocks can change prices, which, measured as inflation with no explana difference between CPI and RPI is that the latter includes things such a mortgage interest payments, council tax, etc.) – and, hence, they give a which shows neither is accurate. Although they attempt to, CPI and RP some cohorts. They don't account for cheaper substitutes. Another lir that each household may have a different inflation rate. For example, larger proportion of their income on food than most other households. data from the Living Cost and Food Survey, a rise in the prices of food v inflation for pensioners compared to most other households.

   d) **Using the information in the table below:**
      i) **Fill in the missing columns.**
      See table.
      ii) **What is the rate of inflation in Year 1, Year 2 and Year 3?**
      Year 1 = 4%, Year 2 = 5%, Year 3 = 4%
      iii) **Using inflation, deflation and disinflation, can you describe the tr**
      In years 1, 2 and 3 there is inflation; in year 4 there is disinflation.

Year	Goods			
	Good name	Price	Items bought as a percentag total items bought (weigh	
Year 1 (base year)	Good A	£5.00	20%	0.20
	Good B	£3.00	15%	0.15
	Good C	£0.50	35%	0.35
	Good D	£9.50	30%	0.30
Year 2	Good A	£5.25	21%	0.21
	Good B	£3.50	15%	0.15
	Good C	£0.65	35%	0.35
	Good D	£9.60	29%	0.29
Year 3	Good A	£5.75	21%	0.21
	Good B	£3.75	16%	0.16
	Good C	£0.75	35%	0.35
	Good D	£10.00	28%	0.28
Year 4	Good A	£5.75	18%	0.18
	Good B	£3.75	14%	0.14
	Good C	£0.75	35%	0.35
	Good D	£10.00	27%	0.27
	Good E	£2.00	6%	0.06

3. **Why are inflation, economic growth, the balance of payments and unemp economic performance?**
   - **Inflation**: High levels of inflation are associated with instability.
   - **Economic Growth**: Economic growth is linked to a stable and improvin
   - **Balance of Payments**: A deficit indicates more money is leaving the ec unsustainable.
   - **Unemployment**: High levels of unemployment mean resources are not economy and so it is underperforming. Equally, if people are unemplo and so are not spending money to boost the economy.

4. a) **What is GDP?**
   Gross Domestic Product: the total number of goods and services produ

   b) **How do real and nominal GDP differ?**
   Real GDP accounts for inflation, whereas nominal inflation is merely th

   c) **How can GDP be adjusted to account for population size?**
   By dividing the total GDP of a country by the population, GDP can be ca

5. **Name and explain three other conflicts that might arise in the governmen**
   There is a conflict between economic growth and inflation. Economic grow increase in aggregate demand. An increase in aggregate demand not only i increases the price level. Therefore, as an economy grows, it will tend to se One way to increase growth without increasing prices is to increase aggrega believe this is the only way to create economic growth because without mo in aggregate demand will only result in price increases in the long run.

   There is also a conflict between economic growth and the current account. people's incomes rise, people will spend more on imports. As imports rise t (or improve a surplus). Equally, as the economy grows and inflation rises, d expensive in relation to foreign goods. This means exports will fall. Falling e create a negative current account (deficit).

   Lastly, economic growth also conflicts with the government's environmenta failure of negative externalities. Pollution and environmental degradation i environment is not accounted for in the market system. Economies genera grow, which will use up more of the finite resources. With more production fossil fuels and with the expansion of new factories, offices, hospitals, etc. c which may currently be inhabited by nature. China is a clear example of the rates of economic growth and their low rates of clean air and healthy enviro particularly damaging to the environment during their industrialisation stag are quickly forgotten with the rapid rise in growth rates, and countries swit of production.

   Additionally, there may be conflict between inflation and unemployment. T conflict. The curve shows that if there were high unemployment in an econ could offer relatively low wages as most people would be without an incom in terms of competition; there was very little competition within the labour low relative to the supply of available workers. On the other hand, when th employment, attempting to expand would be more costly because firms wo were much higher than the market equilibrium in order to tempt already en current jobs. So, as unemployment falls, expanding production becomes m increase to compensate.

How the macroeconomy works: the circular flow of inc
demand / aggregate supply analysis, and related conce

1. **What is the difference between income and wealth?**
   Income is a 'flow' concept and wealth is a 'stock' concept. Income is money
   wealth is money that is saved or stored.

2. **What is the difference between injections and withdrawals? Please provid**
   Injections are sums of money that enter the circular flow model, while with
   exit the circular flow model. For example, savings, taxes and imports are wi
   government spending and exports are injections.

3. a) **When is a firm in the long run and the short run?**
   A firm is in the long run when it is able to change all their factors of pro
   run when it is unable to change one factor of production.

   b) **What factors could affect long-run aggregate supply?**
   Technological advances, relative productivity, worker human capital, g
   demographic, migration and competition policy. The long-run aggrega
   by the long-run effects of short-run investment.

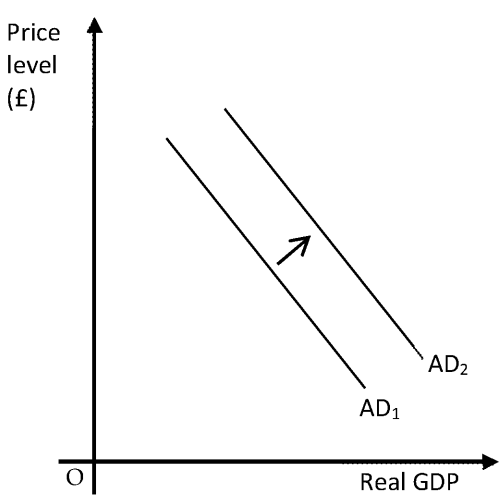
   c) **What factors could affect short-run aggregate supply?**
   The price of inputs (costs of production); for example, raw materials an
   tax rates.

4. **Fill in the blanks:**

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

   That is, aggregate demand = consumption + investment + government spen

5. **Complete this diagram showing aggregate demand by labelling the curves**



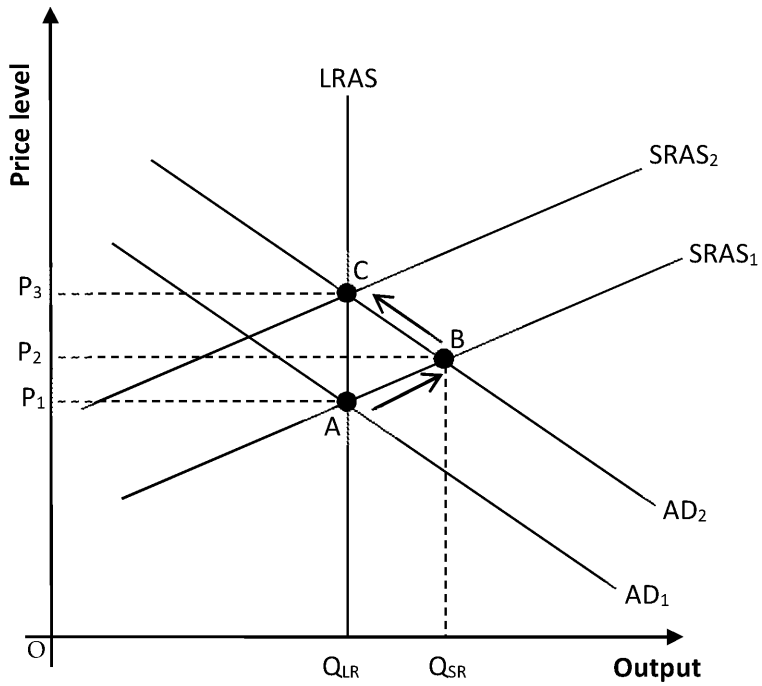
   a) **What has happened to this curve?**
   The curve has shifted to the right, indicating an increase in aggregate d
   every price level.

b) i) What four main factors can shift the AD curve?
Changes in consumption, investment, government spending, net e

ii) For each factor, give two reasons to explain the shift in the curve

- **Consumption**: (1) If disposable income has increased, people so will increase consumption. (2) The government might have turn lowers the cost of borrowing and reduces the opportunit will encourage people to spend their money rather than save consume large, expensive goods. (3) Another cause might res house price. If people's assets increase, people will feel weal increase their spending. (4) Lastly, if people have high levels they will feel happier about spending their money and won't Therefore, they are more likely to increase their consumption increase aggregate demand (AD) and push the AD curve outw
- **Investment**: (1) Increasing economic growth will increase pec consumption is likely to increase and there will be greater der response, firms will invest in expanding their business in orde increased demand. Hence, investment increases with econor increased, perhaps because the exchange rate has fallen, or b incomes have increased, exporting companies may invest in e to match their supply with the increased demand; investment government lowers interest rates, the cost of borrowing and (saving) have fallen. This will encourage firms to invest their (4) If there is greater access to credit, it will be easier for firms more likely to invest. (5) If the government chooses to create to invest, investment is likely to increase as a response, assun implemented correctly.
- **Government Expenditure**: (1) If the economy is in a recessior increase its spending in order to stimulate the economy. (2) changes to an expansionary fiscal policy approach, their spen changes in the budget.
- **Net Trade**: (1) If UK incomes fall, UK consumers are likely to d imports. This could lead to a positive net trade, which will inc the pound depreciates, UK goods will appear cheaper in relat fall as UK consumers switch to consuming domestically produ increase as foreign consumers buy UK goods. This will mean increased aggregate demand. (3) If there is a world economic rise. Exports will increase as foreign consumers can purchase UK consumers will also be more able to purchase imports and increase in exports. However, because the aggregate deman indicates that exports are greater than imports. (4) If the gov protectionist measures implemented on UK goods, foreign co consumption of UK goods. Increased exports will increase ag produces high-quality goods, the relative price will not matte consumers will increase their consumption of the UK export b will increase aggregate demand.

6. **Use a diagram to show how an outward shift in the AD curve will cause an this is only sustainable if the LRAS shifts too.**



This is the diagram we're after. It shows how in the short term an increase (to Q_{SR}). At this point two things can happen: either the SRAS or the AD w would return to Q_{LR} (but the price level is higher as the equilibrium point n Conversely, it may be that the AD curve shifts down, in which case equilibr (from point B).

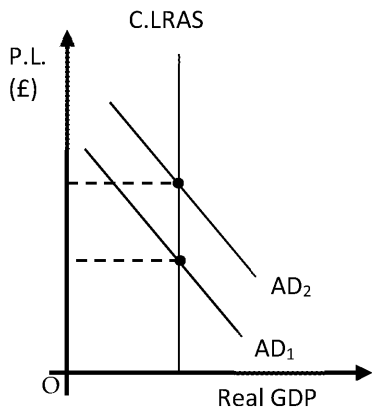
7. a) **How do Keynesian and classical assumptions in the labour market diff**
Keynesians believe in sticky wages – the idea that wages will not automa the same level because of people's wage expectations. Classical econom fall to the market equilibrium, even, as some classical economists believe

b) i) **Draw a classical aggregate supply diagram.**
See diagram below.

ii) **Explain what the curves show.**
An increase in aggregate demand will only increase the price level supply does not change.

c) i) **Draw a Keynesian aggregate supply diagram.**
See diagram below.

ii) **Explain what the curves show.**
The level of spare capacity in the economy determines whereabou
the flatter end of the AS curve, it is likely to be in a recession with
will be able to increase production with ease. Increasing aggregat
increase GDP with very little increase in price level. If the econom
curve supply is inelastic and it will be costly to increase production
capacity. Any increase in aggregate demand at this point will only
with little increase in GDP.



8. **What is meant by growth in money supply?**
The phrase 'too much money chasing too few goods' describes the inflation
money supply. If the amount of money exceeds the number of goods and s
prices will increase because people will have more money to buy goods.

Economic performance

1. **Provide four factors that cause economic growth.**
Technological advances, increasing human capital, government regulation,
migration, investment

2. **What is the difference between inflation, deflation and disinflation?**
Inflation is a rise in general price level, whereas deflation is a fall in general
inflation, meaning general price level has increased, but the increase is less

3. **What is the difference between employment, unemployment and underem**
Employment is when somebody has a job, whereas unemployment is when
work but doesn't have a job. Underemployment is when somebody is in em
working fewer hours than they would like, i.e. they are in part-time work ra

4. a) **What are the five main causes of unemployment?**
Structural, frictional, seasonal, demand-deficient and real-wage inflexib

   b) **Can you explain these causes?**
   - **Structural**: This occurs when demand and supply of labour do not
   worker do not match the requirements. This is known as geograp
   - **Frictional**: This occurs as people change jobs.
   - **Seasonal**: If people are employed in seasonal work, then when the
   without a job.
   - **Demand-deficient**: If the economy is in a recession, firms will cut b
   be little demand for labour.
   - **Real-wage inflexibility**: If the actual wage rate is below the marke
   excess supply of labour.

5. **These questions refer to the measures of unemployment.**
   a) **What are the two main measures of unemployment?**
   ILO Unemployment Rate and Claimant Count

   b) **How do these measures attempt to quantify unemployment?**
   - **ILO Unemployment Rate**: The ILO sends out the Labour Force Surv people who are in / out of work and who are seeking work. From estimated percentage.
   - **Claimant Count**: This counts the number of people who are claimi percentage of the working population.

   c) **How accurate are these measures?**
   Neither measure is completely accurate as the ILO only calculates the s whereas the claimant count only relies on people who try to claim Jobs count generally underestimates the number of people in unemployme wealthier people who lose their job often do not sign up to receive une

6. **What is meant when economists say there is a current account deficit?**
When imports are greater than exports because more money is leaving the

Macroeconomic policy

1. a) **What are the economic objectives of the government?**
   Sustainable, positive economic growth; low unemployment; law and st payments current account equilibrium; balanced government budget; e income inequality.

   b) **Why are these the objectives of the government?**
   Sustainable positive economic growth can bring about greater living stan well-being and help boost the economy through increased incomes, whe well-being and a drain on resources so the government aims to keep this is disconcerting for an economy and diminishes people's savings and inc costs; therefore, the government will aim to keep this low and stable so anticipate and plan for the price rise. A current account deficit is unsusta the economy than entering. The government cannot sustain spending m and so aims to have a balanced budget. It's a moral imperative for futur environment; equally, the UK can be fined by the EU if it doesn't. Incom living standards and some economists argue it can boost economic grow

2. a) **What are the three macroeconomic policies?**
   Fiscal, monetary and supply-side policies.

   b) **What are the demand-side policy tools and how can each of these be the economy?**
   Fiscal Policy
   - ***Tax***: Tax is a withdrawal from the circular flow of economy and rec affects aggregate demand, inflation and growth.
   - ***Government Spending***: The government can inject money into the growth levels and stimulate an economy out of recession.

   Monetary Policy
   - ***Interest Rates***: The Bank of England is able to set interest rates to consumption and investment.
   - ***Quantitative Easing***: Banks are unlikely to lend to people if they d lend. Quantitative easing helps liquidity traps and enables greater stimulate consumption and investment.

   Supply-side Policy: There is a variety of things a government can i aggregate supply such as deregulation, reducing income tax or low

c) **Who is in charge of the three policies?**
The government is in charge of fiscal policy and supply-side policy, whe
charge of monetary policy.

3. **What is meant by a fiscal deficit and why is this problematic?**
A fiscal deficit means that government debt is increasing. A larger debt mea
less money for the government to spend providing services and infrastructu

4. **What is the difference between direct and indirect taxes?**
Direct taxes are imposed 'directly' on an economic agent, such as a tax on th
tax is a tax that is paid implicitly and can be avoided, such as a tax on certain

5. **What is the role of the Bank of England?**
The role of the Bank of England is to maintain price stability.

6. **'Supply-side policies are better for the economy than demand-side policie
used is because the time lags mean politicians won't see results in time fo
you agree with this statement?**
Unlike demand-side policies, which typically cause inflation, shifting the agg
downward pressure on prices through competition and improvements to pr
economic growth that can be sustained as resources are generally improved
Equally, increasing production and economic growth will mean there is job c
the level of unemployment. By improving the productive capacity of an eco
production, an economy will become more competitive in the global marke
increase and this will improve any trade deficit.

However, supply-side policies have long time lags; improving the quality of t
education can take 13 years. Data collection is slow and long-winded. The i
governments may not only be inaccurate but also out of date, causing the g
possibly incorrectly. Further to this, although the government can manipula
market has some influences that the government has no control over. The g
external shocks. Supply-side policies can also be very costly, which would h
government budget.

7. **How does fiscal policy conflict with other policies and the government's ob**
Increased government spending may help to boost an economy out of a rec
spending will be likely to result in increased taxes in the future. This tax inc
future fiscal approach, but will reduce incentives to work and could worsen
on how the tax is implemented. Equally, reducing government spending ma
reducing investment in schools or hospitals. This can have a negative impac
an economy. After the 2008 recession, the government shifted focus to red
spending; however, this was met with outrage by the public who feared losi
effect on education quality. Cutting benefits also has the potential to worse
a disadvantage those who may need the benefits for survival. Another nega
government spending may be the rise in inflation, which reduces consumers

8. **How does monetary policy conflict with other policies and the governmen**
The Bank of England has independent control over the interest rates in orde
increasing interest rates can be damaging to some people; for example, new
to pay a mortgage. This could worsen wealth distribution. Monetary policy
competition policy. If interest rates are high, this will discog39urage new st
competition within the market. The monetary policy is also likely to have an
there will be differing flows of money moving in and out of the country – th
exports and, hence, the balance of payments.

9. **How do supply-side policies conflict with other policies and the governme**
Supply-side policies that improve infrastructure will improve the efficiency o
damage the environment. Areas of forests, for example, may be cut down i
Equally, supply-side investments will come out of the government's budget
deflationary fiscal policy.

Answers to exam-style q

Exam-style questions 1: The measurement of macroec

1. Which one of the following is not a main objective of the government?

B 0% interest rates

Interest rates are used to influence the overall level of economic activity in a

2. Which one of the following is not a key macroeconomic indicator?

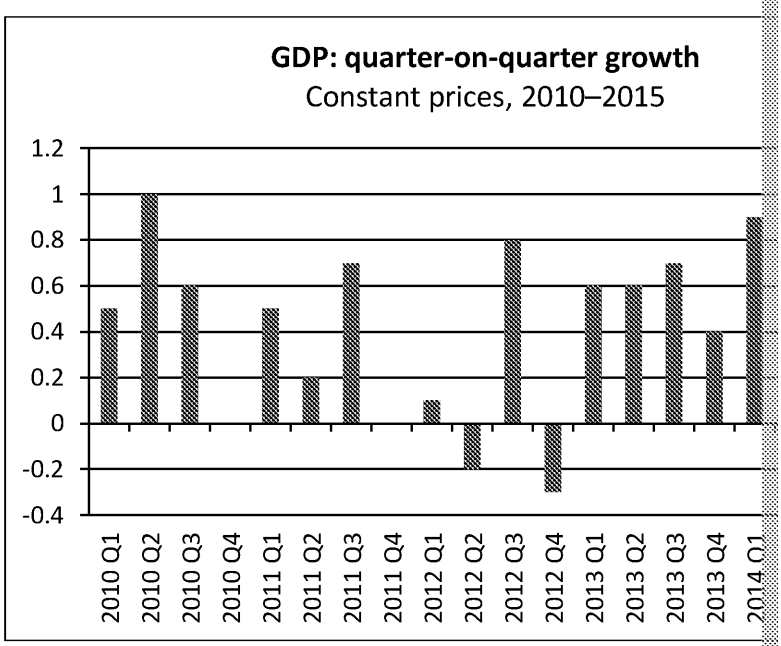
C ONS

ONS (the Office for National Statistics) records and publishes many of the ke

3. Which one of the following can be inferred from the chart below?

D The UK's economy grew overall in 2010.

The UK's economy grew overall in 2010 despite the fact that growth was 0%



4. Describe the difference between real GDP and nominal GDP.

The key point here is that real GDP adjusts for inflation so that values can be mark if this is correctly interpreted.

5. Describe the process of creating an index for inflation.

Award 1 mark for each correct point made:

- Selection of a basket of goods and services which represents the consu
- Each good is assigned a weighting based on its respective importance
- Price increases are multiplied by the weight for each good and summed
- Price changes are analysed respective to a base year

6. Which one of the following is correct?

C Some goods are given more importance than others when calculating C

This refers to the method of assigning goods different weights. Award 1 ma

Exam-style questions 2: How the macroeconomy works income, aggregate demand / aggregate supply analysis

1. **Define the term 'disposable income'.**
   Disposable income is the money available to people once taxes have been su added. They can choose to save or spend the income. Award 1 mark for a c least mentions taxes.

2. **An individual receives a windfall of £1,600. Their marginal propensity to c how much of the extra income the individual will use for consumption.**
   0.4 × 1600 = £640 will be used for consumption.
   Award 1 mark for the correct answer.

3. **Suppose that the individual chooses to save all of the extra income and nc MPC be?**
   In this case MPC would be 0. In the example above it would be £0 out of £1,
   Award 1 mark for the correct answer.

4. **Explain one factor that may influence the level of aggregate investment.**
   Factors mentioned in the text include: the rate of economic growth, busines exports, interest rates, access to credit, and government regulation. Award one of these factors and explaining it briefly.

5. **Define the term 'aggregate supply'.**
   The simplest definition is the total amount of output in an economy at every goods and services during a specified time period. Award 1 mark for a corre

Exam-style questions 3: Economic performance

1. **Which one of the following is correct?**
   A In the case of constant prices (0% inflation), real GDP will rise faster th
   B Real GDP is adjusted using the unemployment rate.
   C Nominal GDP adjusts all values relative to a base year.
   D If inflation is positive, nominal GDP will rise faster than real GDP.
   Answer D is correct: if inflation is positive then nominal GDP will rise faster t levels are rising as well as economic output. Award 1 mark for the correct a

2. **Define the term 'disinflation'.**
   *Disinflation is a slow-down in the rate of inflation. Prices are still rising (**not** rate. Award 1 mark for the correct interpretation.*

3. **Which of the following statements is not true?**
   A In a boom an economy produces above its long-term trend rate of g
   B An output gap is the difference between actual growth and the long
   C In the long term, the trend rate of growth is always 0%.
   D During a recession there is spare capacity in an economy that is not
   The answer is C. A recession signifies a negative output gap during which re their maximum capacity. Award 1 mark for the correct answer.

4. **Name and briefly explain three different effects of inflation.**
   The effects include diminished value of savings, shoe-leather costs, menu co and international competition. Award 1 mark for each that is mentioned an 3.2.3.3)

5. The table below shows the claimant count measure of unemployment for Northern Ireland, and the UK as a whole, in March 2015.

	Total level of workforce (thousands)	Claimant co	
		Total level (thousands)	
England	28,678	625.5	
Wales	1,432	44.8	
Scotland	2,704	78.1	
Northern Ireland	843	43.4	
United Kingdom	33,673	791.8	

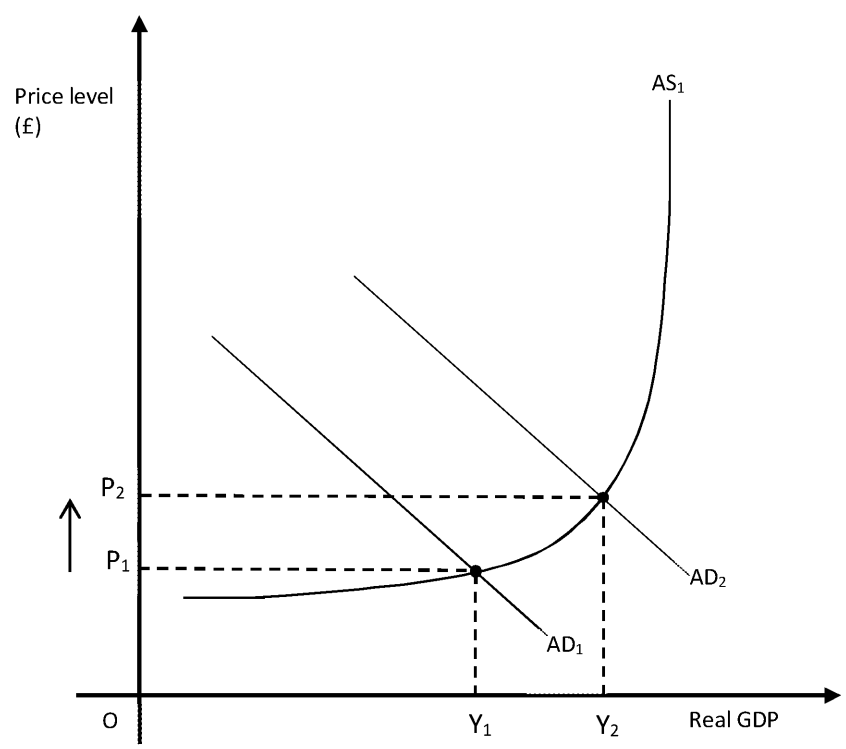
5a. Define the claimant count measure of unemployment.

The claimaint count measures the number of people claiming unemploymen Allowance). Award 1 mark for the correct definition.

5b. Which one of the following cannot be inferred from information in the tab

D: A higher proportion of Scottish people were unemployed than Welsh peo are 2.8% for Scotland and 3% for Wales. Award 1 mark for the correct answ

6. What type of inflation is shown by the diagram below?



Demand has shifted out and 'pulls' costs upwards. This is demand-pull infla correct answer.

Exam-style questions 4: Macroeconomic policy

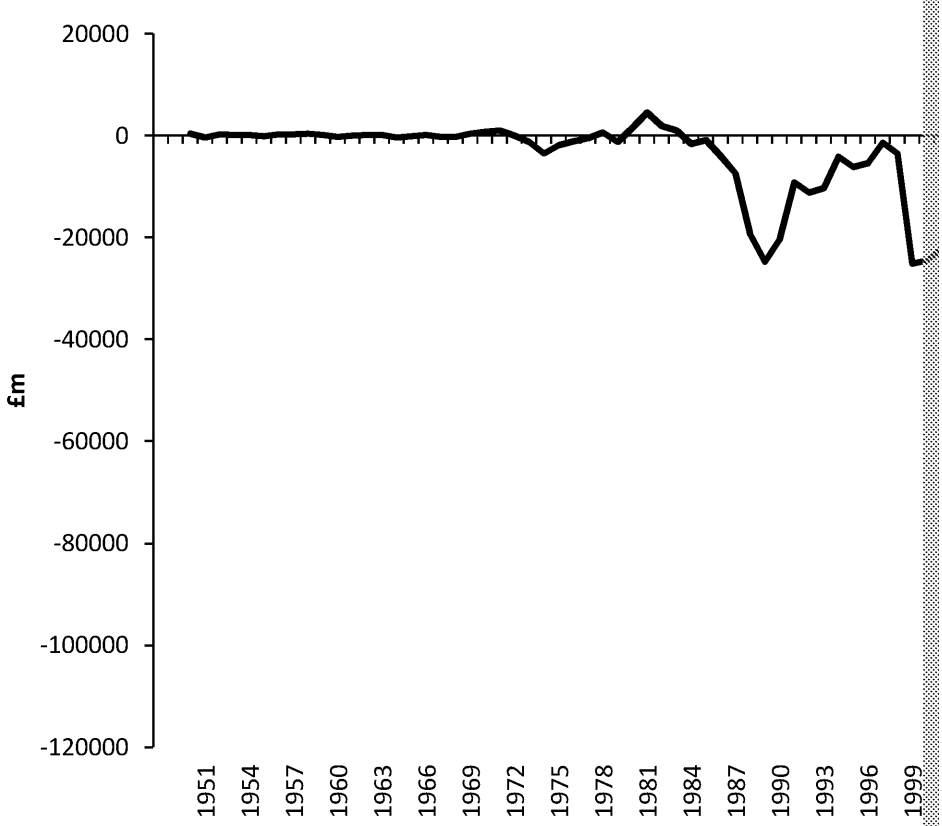
1. Describe the idea of loose monetary policy and how it can be used to stim

By decreasing interest rates the central bank hopes to cut borrowing costs. disposable incomes and promote spending, thus boosting the economy. It m rates are near zero (0.5%), it becomes impractical to lower them further and ineffective. Award 3 marks for 3 relevant points.

2. The chart below shows the UK balance of payments on the current accoun current prices.

UK Balance of Payments: 1946–2014

current account balance, current prices, seasonally adjust



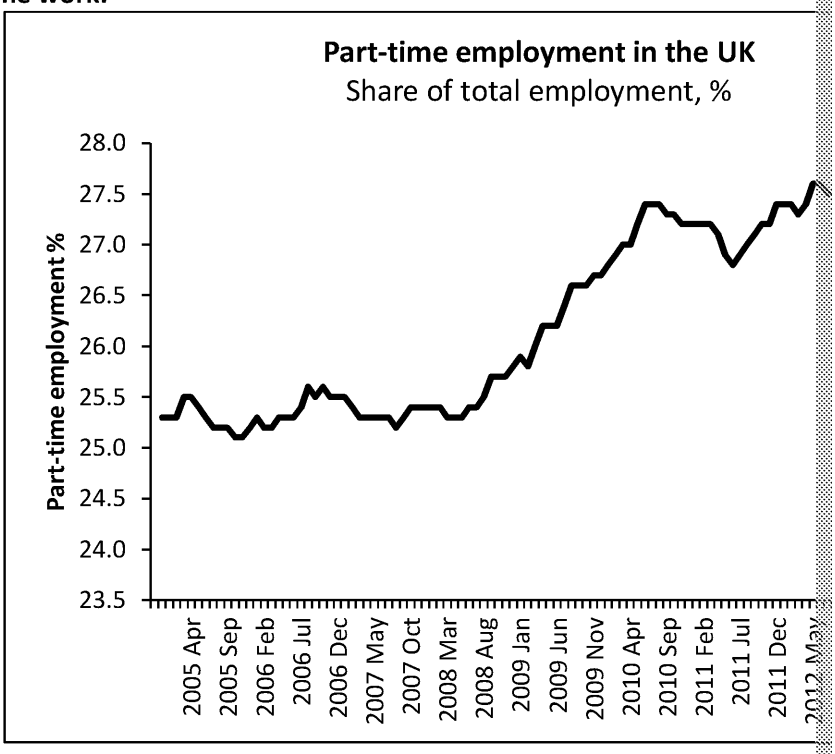
a) Describe what you can infer from the chart.

The main trend shown is a generally worsening balance of payments on the It was brought back to parity at the end of the 1990s but the deficit has sinc the 2008 financial crisis. Award 2 marks for correct interpretation and discu

b) The chart shows data in current prices. What effect might this have on its for price levels to rise over time?

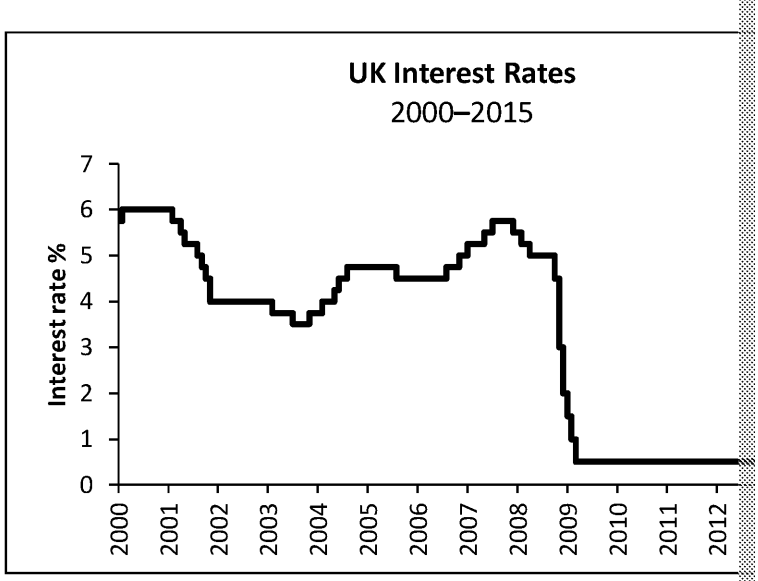
This means the prices shown are all *nominal*. Therefore, the effect of inflati account. The current account deficit shown in the past, therefore, has been Award 2 marks for a correct interpretation. Be aware of confusion between prices. Constant prices have been adjusted for inflation (they are 'real' mea

3. **The chart below shows the percentage of total people in employment tha part-time work.**



a) Which one of the following can be inferred from the chart?
The correct answer is C: part-time work as a share of unemployment re total employment during the period shown.

4. **Look at the chart below which shows the interest rates in the UK set by th (MPC) of the Bank of England between 2000 and 2015.**



Sourc

Describe the main trends shown in the graph.
The key point is the sharp decline in interest rates following the 2008 financi maintenance of near-zero rates (0.5%). Prior to the crisis rates were higher Award 2 marks for two correct observations.

5. **Explain the difference between direct and indirect taxes.**
Award 1 mark for a correct definition of each. In the case of a direct tax, the can't avoid it. An indirect tax is paid by a middleperson who does not bear t of a direct tax is income tax. An example of an indirect tax is VAT.

Glossary

Accelerator Process	The idea that a small rise in national income can provoke a *pr* investment levels.
Aggregate Demand	Total spending on all goods and services in an economy. AD
Aggregate Supply	Total output in an economy.
Balance of Payments on the Current Account	A measure of the inflows and outflows on the current accoun
Budget Balance	The difference between the government's revenue and its sp
Circular Flow Model	A basic model that describes how goods, services and money
Claimant Count	A measure of unemployment: the number of people claiming
CPI	The official measure of inflation used by the Office for Nation the cost of housing.
Cyclical Unemployment	Unemployment that is due to the economic cycle. Joblessne downturns or recessions.
Deflation	This occurs if the price level is falling.
Demand-side Shocks	Unexpected events that change the level of demand – a glob
Direct Taxation	A tax that is paid directly by the individual or organisation to avoided or shifted to another person or organisation.
Disinflation	This occurs if the rate of inflation is falling.
Economic Growth	This is represented by a rightward shift in the long-run AS cur
Exchange Rate	The price of one country's currency in terms of another.
Exports	Goods and services that are produced in a country and then s aggregate demand.
Factor Mobility	The ability to move **factors of production** (land, labour, capit productive process to another. A determinant of long-run ag
Fiscal Policy	The use of taxation and public spending by a government to i
Frictional Unemployment	Unemployment due to people being 'between jobs'.
Imports	Goods or services brought into an economy from other econ aggregate demand.
Index Numbers	A method used to compare economic figures with an initial b measure of inflation.
Indirect Taxation	Tax that is collected by an intermediary between the consum sorts of taxes can be avoided through consumption choice.
Inflation	An increase in the price level of goods and services over a pe
Injections	Sources of demand for firms' output that does not arise from expenditure in the circular flow model; for example, governm export expenditure.
Interest Rate	The amount paid by borrowers of money to the lenders. An amount that commercial banks pay the central bank to borro
Interventionist	A policy approach that favours governments stepping in to in resources by markets. In contrast to the **laissez-faire** approa
Investment	An injection into the circular flow of income model. It can inc also LRAS.

Labour Force Survey	A statistical survey used by the government to capture data a rates.
Laissez-faire	A French term used to describe an economic system without (such as tariffs or subsidies) in which the powers of the marke
Macroeconomics	The branch of economics that looks at economies *as a whole*. aggregate supply and demand, price levels, real growth, and u
Monetary Policy	Policy that is used by governments or central banks to influen cost or supply or money. Measures used include setting inter
Monetary Policy Committee (MPC)	A committee of the Bank of England that has responsibility fo
National Income	A measure of all the goods and services produced within a co
Nominal Income	A measure of income that is not adjusted for changing price le
Output Gap	The difference between the *actual* output of an economy and both positive and negative.
Price Stability	A possible objective of government macroeconomic policy: th periods of high inflation or deflation.
Productivity of Labour	A measure of output per worker: how much each worker pro
Progressive Taxation	Tax rates that increase as income increases. Those earning m of their income in taxes than lower earners.
Proportional Taxation	Taxes that are set at a constant rate regardless of total incom pay the same proportion of their salary in tax as a person ear
Real GDP	GDP that has been adjusted for inflation.
Real GDP per Capita	GDP that has been adjusted for inflation *and* population.
Real Income	Income that has been adjusted for inflation.
Regressive Taxation	Tax rates that decrease as income increases. Those earning m of their income in taxes than lower earners.
RPI	A measure of inflation that includes housing costs.
Saving	A withdrawal from the circular flow of income model. It can b minus consumption.
Seasonal Unemployment	Unemployment that is caused by variations in demand for lab
Structural Unemployment	Unemployment that is caused by a mismatch between the ski have and the skills demanded in the employment market.
Supply-side Policies	Policies that have the aim of shifting the LRAS to the right.
Supply-side Shocks	Something that brings about a sudden change in aggregate su positively or negatively.
Target Rate of Inflation	2.0%
The Current Account	An account that comprises trade in goods, trade in services, in
The Economic Cycle	A cycle of peaks and troughs in growth experienced by econo
The Multiplier	The extent by which a rise in national income exceeds an incr
Trade-off	The idea that something must be sacrificed in order to gain so
Unemployment	The percentage of people in an economy who are economica
Withdrawals	'Leakages' from the circular flow of income model: money tha households. For example, saving and import expenditure.