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Complete Economics

for **Cambridge IGCSE[®]** & **0 Level**

Second Edition



Sir Dan Moynihan
Brian Titley

Oxford excellence for Cambridge IGCSE[®] & 0 Level

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6

Economic indicators

6.1	Price inflation
6.2	Employment and unemployment
6.3	Output and growth
Assessment	Multiple choice Structured questions

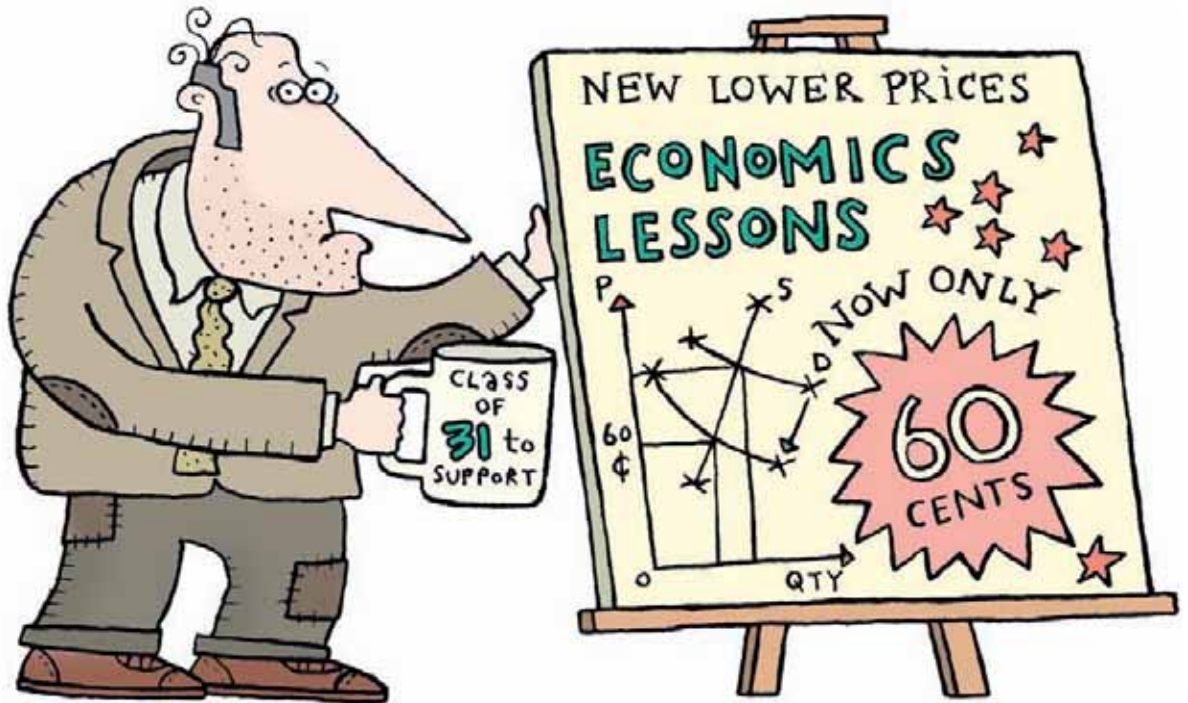
Government macroeconomic objectives seek to keep price inflation low and stable, a high and stable level of employment and maintain healthy economic growth in national output and income. To measure progress towards these objectives a government will collect and analyse data on them.

High and rising inflation, caused either by an excess demand for goods and services, rising production costs or rising import prices, is a concern because it erodes the value of money and can cause hardship for many people, particularly those on low and fixed incomes. It can also make export prices uncompetitive overseas and lead to a fall in business confidence. The rate of inflation is normally measured by changes in a consumer or retail price index (CPI or RPI) calculated from the average prices of a 'typical' basket of consumed goods and services in an economy.

High unemployment can also cause hardship for those without paid employment but, importantly, it is also a waste of resources that could otherwise be used to produce goods and services. Changes in the industrial structure of an economy can also result in high unemployment over long periods of time, as redundant workers need to re-train in new skills required by new and growing industries. Globally, participation in the labour force, particularly among females, and employment, especially in services, have been rising. In contrast, male participation rates have been falling as the share of employment accounted for by agriculture and industry has reduced over time.

Rates of inflation and unemployment also tend to vary with the economic cycle in activity in an economy. During an economic recession, falling demand and incomes can lead to cyclical unemployment and disinflation as the rate at which prices are rising slows down. If a recession is particularly deep and prolonged economic activity may continue to shrink and result in deflation. During an economic boom, rising demand for goods and services can boost output and employment, but may also increase price inflation and suck in more imports from overseas causing an unfavourable balance of trade with the rest of the world.

Government policies not only try to reduce cyclical variations in economic activity but also try to raise the overall rate of growth in national income and output in their economies. Growth, through technical progress, investments in new plant and machinery and increased levels of productivity, and as measured by an increase in the real gross domestic product (GDP) of an economy, can help improve living standards and economic welfare. However, faster economic growth may use up scarce resources more quickly and can result in higher levels of pollution and waste. This may not be sustainable in the long term. Other measures of changes in living standards and economic welfare are therefore often used in addition to real GDP, including people's general health and life expectancy, access to education and the quality of their environment.



AIMS

By the end of this unit you should be able to:

- ▶ describe how a **consumer price index/retail prices index** is calculated
 - calculate a simple **weighted price index** series and evaluate how changes in different economic factors can affect the series
 - describe how price indices are used to measure and monitor inflation
- ▶ discuss the causes and consequences of **inflation**
 - explain and distinguish between **demand-pull inflation, cost-push inflation** and **imported inflation**
 - analyse the personal and economic consequences of inflation
- ▶ discuss the causes and consequences of **deflation**.

What is inflation?

Many of the news headlines shown below express concern over how the prices of many goods and services are rising, or inflating, over time. However, not all prices rise at the same rate. The prices of some goods and services may even fall over time, perhaps because consumer demand has dropped or because there has been technical progress that has reduced unit costs. So what exactly is inflation, and why is it a cause for concern for consumers, workers, businesses and governments?

13% rise in house prices

ROW OVER FARES RISE

Cheap food era 'over' as prices rise 10pc in supermarkets

Finance Minister concerned about inflation

Industry demands inquiry into surging gas bills

Price of petrol soars

LCD prices fall; on weak PC sales

Inflation refers to a general and sustained rise in the level of prices of goods and services. That is, prices of the vast majority of goods and services on sale to consumers just keep on rising and rising. Prices change over time so inflation is always expressed as a rate of change per period of time – per month or per year. For example, in 2010 the inflation rate in the UK was 4.7%. This meant, on average, that the prices of all goods and services rose by 4.7% for every pound during that year. However, this general increase in prices was relatively low compared to the inflation rate in 1975. In 1975 the inflation rate in the UK was at 25%: on average, a product that cost £100 at the start of 1975 would have cost £125 by the start of 1976.

But even this inflation rate is low in comparison with the increase in prices some countries have faced at different times in history. In the mid-1990s Brazil experienced a rise in prices by an average of 2,300% in one year while Bolivia faced an annual inflation rate of 20,000% during the 1980s! This type of runaway inflation during which prices rise at phenomenal rates and money becomes almost worthless is called **hyperinflation**. ▶ 3.1



Living with 24,000% inflation

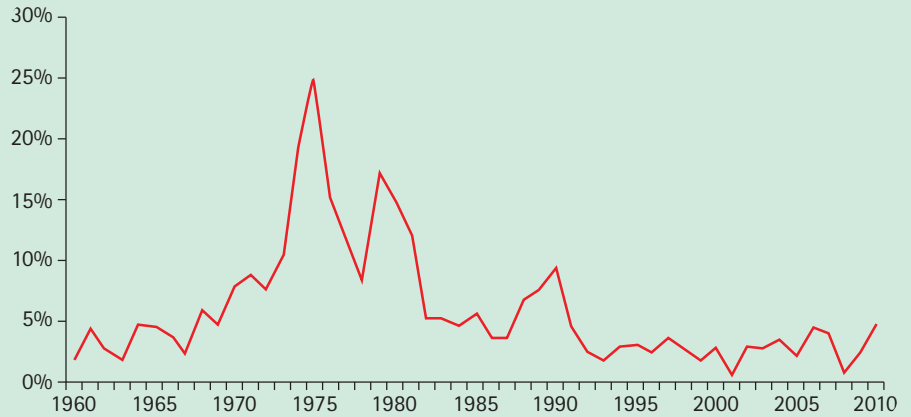
Germany in the 1920s is often cited as the best example of so-called 'hyperinflation'. The Berlin government printed huge quantities of worthless paper money to pay off its debts after World War I. People needed a wheelbarrow full of money to buy one loaf of bread; the joke was that thieves would steal the wheelbarrow – and leave the pile of worthless money behind.

ACTIVITY 6.1

Price inflation in the UK

The graph below shows how the rate of price inflation in UK varied between 1960 and 2011. A similar historical pattern has been experienced in many other developed countries.

▼ UK price inflation 1960–2011 (% annual change in the retail prices index: RPI)



Source: Office for National Statistics, www.statistics.gov.uk

The UK inflation experience can be divided into three broad phases. During the 1960s the rate of price inflation was relatively low and stable, averaging just under 3.7% each year. Over the next 15 years from 1970, annual recorded price inflation increased significantly and became much more volatile, averaging 11.2% per year and peaking at almost 25% in 1975 following a dramatic increase in world oil prices in 1974. This means that between 1970 and the start of 1985 the general level of prices increased almost fivefold, reducing the purchasing power of £1 in 1970 to the equivalent of just 20 pence by 1985. The rapid rise in inflation during the 1970s was accompanied by rising unemployment. The term **stagflation** is used to describe the economic situation when prices and unemployment rise together.

Despite rising back to almost 10% per year in 1990, UK price inflation since the early 1990s has been relatively low and stable. From 1991 to 2011 it has averaged just 2.9% per year, falling as low as just 0.7% in early 2001 and to 0.9% in 2008 during periods of economic recession. By 2010 price inflation began to climb once more as food and energy prices began to rise rapidly around the world. Some economists predict the era of low inflation may be over once more.

- 1 From the graph, in which year was UK price inflation at its **a** highest **b** lowest?
- 2 Over which ten-year period was UK price inflation at its **a** highest **b** lowest?
- 3 Explain the statement 'between 1970 and the start of 1985 the general level of prices increased almost fivefold, reducing the purchasing power of £1 in 1970 to the equivalent of just 20 pence by 1985'. By 2010 the average price level observed in 1970 had increased by a factor of 12. How much would that same £1 in 1970 be worth in real terms in 2010?

How to measure inflation

Consumer price indices

The rate of price inflation in an economy is measured by calculating the average percentage change in the prices of all goods and services, from one point in time to another, usually each month and year on year.

However, it is difficult to obtain up-to-date price information on all of the many millions of different goods and services exchanged in an economy, so most countries track the prices of a selection of goods and services. These goods and services will normally be those purchased by a 'typical' family or household. The prices of this typical 'basket' of goods and services will then be monitored at a small number of different retail outlets across the economy, including online retailers. This price information will then be used to compile a **consumer price index (CPI)** or a **retail prices index (RPI)**. Both a CPI and RPI provide a measure of price inflation in an economy. The way they are calculated is the same: they differ only in terms of what goods and services and households they include (see page 333 below).

Most countries use a CPI as their main measure of price inflation affecting consumers. This is often considered to provide a cost-of-living index, although cost of living will vary by household according to which products they buy and in what quantities. The index simply indicates what we would need to spend in order to purchase the same things we bought in an earlier period.

A CPI will usually include any sales taxes and excise taxes paid by consumers on their purchases of goods and services, but exclude changes in income taxes and the prices of assets such as stocks and shares, life insurance and housing.

The prices of oil, electricity, gas and food may also be excluded from the calculation of a 'core' CPI used by some governments to set their inflation targets and monetary policies. This is because the prices of these products can be highly volatile, both up and then down again, due to relatively short-lived shortages caused by the weather, such as droughts or severe winters or cutbacks in oil production. These products are therefore excluded from a core CPI on the grounds they can distort measures of more 'usual' or underlying price inflation targeted by government policies. ▶ 5.1

Calculating a price index

Index number series, or indices, are simply a way of expressing the change in the prices of a number of different products as a movement in just one single number. The average price of the 'basket' of products in the first year of calculation, or **base year**, is given the number 100. Then, if on average the prices of all the goods and services in the same 'basket' rise by 25% over the following year, the price index at the end of the second year will be 125. If in the next year prices rise on average by a further 10%, the price index will rise to 137.5 (that is, $125 \times 1.10 = 137.5$). This tells us consumer prices have risen on average by 37.5% over a two-year period.

Consider the following simple example to construct a CPI. Imagine there are just 100 households in our simple economy. In the table below, the weekly spending patterns of these households have been observed and recorded over a 12-month period: the base year. The average prices of the goods and services they buy have been calculated for each category of their spending from a sample of different shops.

▼ How to calculate a simple CPI: spending profile of households in base year

Types of goods and services	Proportion of weekly household expenditure spent on each category (%)	Average price (\$) of goods and services purchased in each category	Weighted average price (\$)
Clothing and footwear	25	\$40	$0.25 \times \$40 = \10
Household goods and services	15	\$60	$0.15 \times \$60 = \9
Food	40	\$5	$0.40 \times \$5 = \2
Travel	20	\$20	$0.20 \times \$20 = \4
	Total 100%		Price of basket \$25

The proportion of total household expenditure spent on each category is used to weight the average prices of each type of good and service to find their weighted average prices. These tell us how big an impact a change in the price of one particular type of good or service will have on the cost of living of our households. For example, from the table it should be clear that a 10% increase in the average price of clothing and footwear, from \$40 to \$44 per item, will matter more than a 10% increase in the prices of household goods and services, from \$60 to \$66, because our households spend proportionately more of their weekly expenditures on clothes and shoes. The weighted average price of clothing and footwear purchased is higher than the weighted average price of household products purchased.

Adding up the weighted average prices in the basket of goods and services in the table above sums to \$25. We set this overall weighted average price in our base year equal to 100 to begin our CPI.

We now observe how prices and the weekly spending patterns of the same households change over time over the following year in order to recalculate weighted average prices and the CPI.

Notice how both the prices and the proportion of household expenditure spent on each category of goods and services have changed in the table below. The biggest increases in prices have been for food products and household goods and services, up by a significant 60% (from £5 to £8) and 50% (from \$60 to \$90) respectively. As a result, households are now spending proportionately more on food, up from 40% of total weekly expenditure to 50%, and proportionally less on households products and travel.

▼ How to calculate a simple CPI: spending profile of households in year 1

Types of goods and services	Proportion of weekly household expenditure spent on each category (%)	Average price (\$) of goods and services purchased in each category	Weighted average price (\$)
Clothing and footwear	25	\$44	$0.25 \times \$44 = \11
Household goods and services	10	\$90	$0.10 \times \$90 = \9
Food	50	\$8	$0.50 \times \$8 = \4
Travel	15	\$20	$0.15 \times \$20 = \3
	Total 100%		Price of basket \$27

The overall weighted average price of the basket of goods and services at the end of year 1 is now \$27. This represents an 8% increase in the price of the basket since the base year. That is, consumer price inflation has been 8% over the year since the base year. The consumer price index at the end of year 1 is therefore 108 and it is calculated as follows:

$$\text{CPI in year 1} = \frac{\text{weighted average price year 1}}{\text{weighted average price base year}} = \frac{\$27}{\$25} \times 100 = 108$$

Now imagine we repeat the entire exercise for a further year and calculate a weighted average price for the basket of goods and services of \$30. The CPI at the end of year 2 will then be 120.

$$\text{CPI in year 2} = \frac{\text{weighted average price year 2}}{\text{weighted average price base year}} = \frac{\$30}{\$25} \times 100 = 120$$

This tells us that, on average, consumer prices have risen by 20% since the base year.

ACTIVITY 6.2

A calculated problem

- Continuing the same example above, use the information on average prices and household spending patterns in the table below to calculate the weighted price of the basket of goods and services at the end of years 3 and 4.

Types of goods and services	Proportion of weekly household expenditure spent on each category		Average price (\$) of goods and services purchased in each category	
	Year 3	Year 4	Year 3	Year 4
Clothing and footwear	25%	26%	50	55
Household goods and services	15%	14%	100	110
Food	45%	46%	9	10
Travel	15%	14%	22	25

- Use the weighted average price of the basket at the end of each year to calculate the CPI.
- Overall, by how much has the weighted average price of the basket of consumer goods and services risen by since the base year?
- In which year was price inflation at its **a** highest **b** lowest?
- Suggest why and how you might account for the following changes in the calculation of your consumer price index over time:
 - ▶ changes in the number, structure and composition of households, for example due to inward migration and an ageing population
 - ▶ changes in retailing, for example online retailing over the Internet
 - ▶ changes in the quality of goods and services, for example the increased performance and efficiency of cars and household goods such as microwaves and ovens
 - ▶ new goods and services not previously available, such as 3D flat-screen televisions and iPads.

Uses of price indices

There are three main uses of the CPI in most modern economies.

1 As an economic indicator

The CPI is widely used as a measure of price inflation and therefore as a measure of changes in the cost of living. Governments try to control price inflation using their macroeconomic policies. The CPI in an economy will be used by workers to seek increases in their wages that match or exceed the increase in their cost of living. The CPI will also be used by entrepreneurs in making many business decisions concerning their purchases and the setting of wages and prices.

2 As a price deflator

Rising prices reduce the purchasing power, or real value, of money. Rising prices will therefore reduce the purchasing power of wages, profits, pensions, savings, tax revenues and a host of other economic variables of importance to different groups of people and decision makers. A CPI is therefore used to deflate various economic series to calculate their real or inflation-free values. For example, if annual earnings have risen by 10%, but price inflation increased by 15% over the same period, then the real value of earnings will have fallen by 5% because the purchasing power of those payments will have been reduced by inflation.

3 Indexation

Indexation involves tying certain payments to the rate of increase in price inflation to keep their real value constant. For example, public pensions paid to retired people by a government may be indexed so that they increase by the rate of inflation each year. Similarly, some savings may be index-linked, meaning that the interest rate on those savings is set equal to the official price index, thereby protecting the real value of those savings. Many workers may also be covered by collective bargaining agreements that tie their wage increases to changes in the CPI. A government may also index-link the threshold at which people start to pay tax or higher rates of tax on their incomes, otherwise people would end up paying more income tax simply due to price inflation even if their real incomes were unchanged each year. ▶ 5.2

Some problems with price indices

Over time the 'typical' household and the basket of goods and services it buys will tend to change. A CPI will need to take account of these changes but deciding how and when to make them can be difficult. For example, household expenditure patterns will tend to change over time due to:

- changes in tastes and fashion
- the introduction of new goods and services, such as mobile phones, flat-screen televisions and iPods
- the changing composition of the population and households, due to migration, changes in birth and death rates, and later marriages ▶ 7.2

Similarly, a CPI will also need to take account of changes in the quality of goods and services over time, and how and where households buy goods and services, including the introduction of new shops, television shopping channels and the increasing use of online shopping using the Internet.

International comparisons of consumer price inflation are difficult to make because household composition and spending patterns can differ significantly by country.

Consumer prices index (CPI) or retail prices index (RPI)?

Some countries use an RPI to measure and monitor their price inflation, often in addition to a CPI.

The basic approach to the measurement of inflation adopted by both the CPI and RPI is the same. For example, in the UK both track the changing cost of a fixed basket of goods and services over time and both are produced by combining together around 180,000 individual prices of around 700 representative items.

The RPI and CPI differ only by what products they include and the types of consumer they cover. As a result they can provide different measures of inflation. For example, in the year to June 2011 the RPI recorded an increase in prices of 5% in the UK compared to 4.2% by the CPI. The measure of inflation by the RPI was higher mainly because of increases in mortgage charges, buildings insurance and local taxes not included in the CPI.

The UK introduced a CPI in 1996 because it provides a more internationally comparable measure of inflation.

	RPI	CPI
Products	<p>The RPI covers a range of costs excluded from the CPI, including:</p> <ul style="list-style-type: none"> ▶ mortgage interest payments ▶ buildings insurance ▶ house purchase costs ▶ television licence fees ▶ trade union subscriptions. <p>It also includes a price index for cars based on used car prices.</p>	<p>The CPI covers certain charges and fees excluded from the RPI, including:</p> <ul style="list-style-type: none"> ▶ stockbroker fees ▶ university accommodation ▶ foreign student tuition fees. <p>The index for the purchase of new cars in the CPI is based on actual published prices for new cars.</p>
Population base	<p>Representative of the majority of private households but excludes highest earners and pensioner households dependent mainly on welfare benefits. It includes expenditure both within the UK and abroad by UK households.</p>	<p>Representative of the majority of private households including institutional households (for example nursing homes) and foreign visitors to the UK. Only expenditure within the UK is covered.</p>

SECTION 3

What causes inflation?

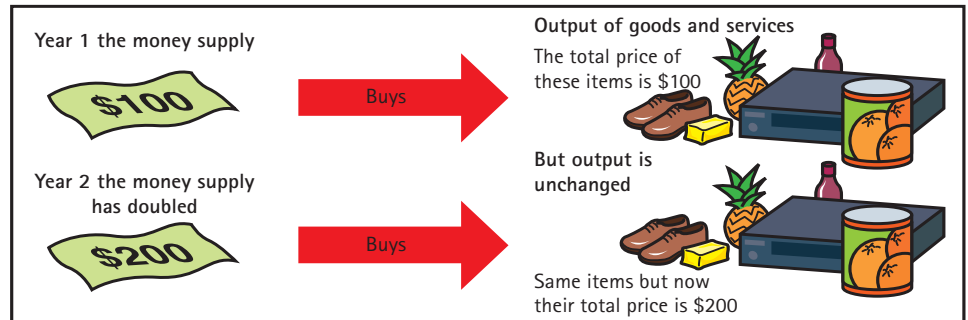
Economists today tend to agree that the main cause of inflation is ‘too much money chasing too few goods’. This means people are increasing their spending on goods and services at a faster rate than producers can expand the supply the goods and services, because the supply of money in the economy has increased. As a result, there is an excess of aggregate demand, or total demand, for goods and services and market prices are therefore forced to rise. ▶ **2.2**

A government can allow the supply of money to rise in an economy by issuing more notes and coins or by allowing the banking system to create more credit’ that is, by lending more to people and firms to spend. ▶ **3.1**

A government may allow the money supply to expand:

- to increase total demand in the economy during an economic recession in an attempt to reduce unemployment
- in response to an increase in demand for goods and services from consumers and firms
- in response to workers’ demands for higher wages, or a rise in the other costs of production.

If the money supply expands, people have more money to spend. As they spend this money the increase in demand drives up the prices of the goods and services they buy. To understand why increases in the rate of growth in the money supply cause inflation, let us consider a very simple example.



In year 1 the money supply stood at \$100 and bought six items with a total price of \$100. In the second year output has remained unchanged because there are no more resources available to make any more each year. Now imagine that the money supply doubles to \$200. As consumers try to spend this money they find there are no extra goods and services to buy. With a fixed supply prices must rise. Indeed, they double. Inflation is 100%! Clearly, if output could have risen prices need not have gone up by so much, if at all.

A monetary rule

Economists argue that what is true in the simple example above is true for a highly complex economy. Any increase in the supply of money will cause inflation to accelerate if there is no growth in real output. Only if the output of goods and services rises should the money supply rise, so that people have enough money to buy these extra products.

This means there is a monetary rule a government can follow if it wants to keep inflation low and stable in its economy: it should only allow the supply of money to expand at the same rate as the increase in real output or real GDP over time. Increases in the money supply over and above increases in output are likely to cause prices to rise. However, this may take time. It may take a year or more before inflation increases following an expansion in the money supply. It takes time for consumers' spending to rise, for firms to realize demand has increased and for firms to raise their prices.

Some economists argue that different governments over time only have themselves to blame for the high inflation rates many countries experienced during the 1970s and 1980s. It was because they did not follow the monetary rule. Instead they allowed their money supplies to expand faster than output was growing in their economies in an effort to boost demand and reduce unemployment. For a time the increase in demand would reduce unemployment as firms took on more resources to increase the production of goods and services. However, inflation soon began to rise as aggregate demand grew faster than output. Eventually, the high inflation would reduce the purchasing power of people's incomes and demand for goods and services would begin to fall again. Workers would demand higher wages to keep pace with the rising cost of living, but as wages increased, firms reduced their demand for labour, and unemployment increased once more. As a result, government policy was responsible for **stagflation** – a situation when inflation and unemployment were both high and/or rising together.

Demand-pull inflation

Inflation caused by an increase in total demand is called a **demand-pull inflation**. Aggregate demand in an economy will rise if spending by governments, households and/or firms increases.

An increase in aggregate demand will cause market prices to increase and inflation to rise if firms are unable to increase the supply of goods and services at the same rate as demand.

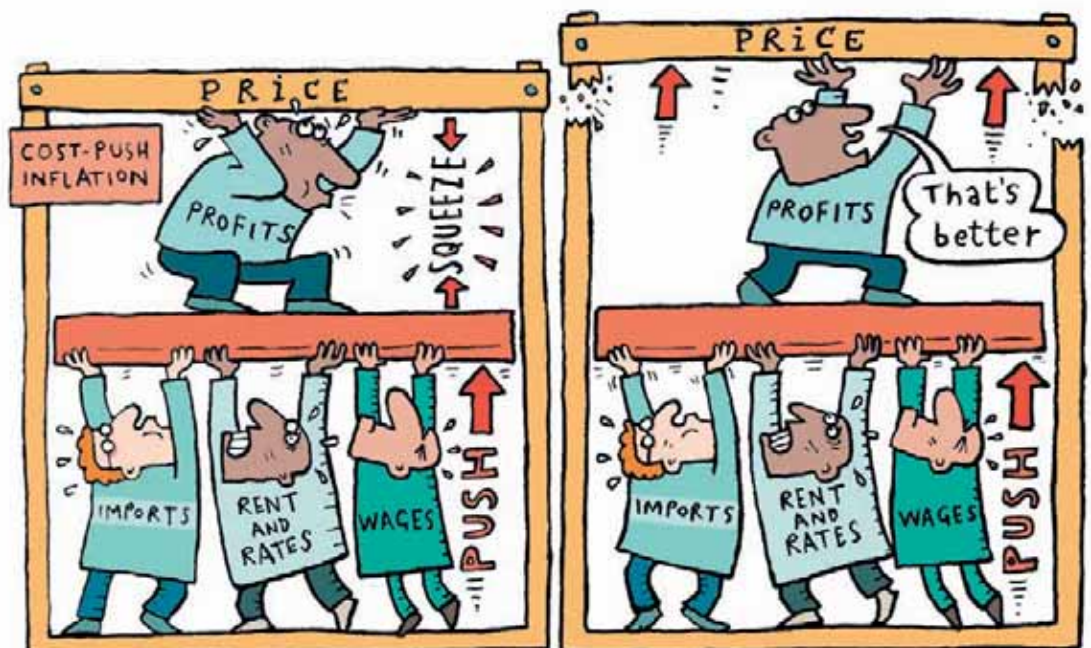
To finance an increase in aggregate demand consumers and firms may borrow more from the banking system and/or the government can issue more notes and coins. Both these ways of financing an increase in demand involve increasing the supply of money in an economy.

Cost-push inflation

Inflation caused by rising production costs passed on by firms to consumers is a **cost-push inflation**. The cost of producing goods and services can rise because workers demand increases in wages not matched by increased productivity. Firms may raise their prices to cover these higher costs so that their profit margins are unchanged. However, as wages rise the demand for labour will tend to fall and workers could be made unemployed. To prevent a rise in unemployment the government may expand the supply of money to boost aggregate demand.

Continual increases in prices may occur if workers demand further increases in wages to compensate them for rising prices. This will cause a **wage-price spiral**. As prices rise, workers will demand higher wages to keep pace with inflation. However, wage increases will simply add to production costs and so prices will tend to rise even further prompting even higher wage demands, and so on.

Increases in the cost of materials, transport, energy and other costs of production can also place upward pressure in prices. For example, inflation rose rapidly in many economies in 1974 and 1979 following significant increases in the world price of oil. Today, rising food, fuel and energy costs are contributing to rising inflation rates around the world.



Imported inflation

Rising prices in one country may be 'exported' to other countries through international trade. Rising import prices can cause **imported inflation**. Similarly, a fall in the value of the national currency against the currencies of other countries will mean imports become more expensive in that country. For example, if value of the euro against the Indian rupee falls from €1 = 60 rupees to €1 = 30 rupees, then a product imported to Europe from India priced at 600 rupees will rise from €10 to €20. ► **8.1**

It has been argued that one of the main reasons why many economies enjoyed relatively low and stable price inflation during the 1990s and in the first decade of this century was because of low wage costs in China and the growth of exports from the Chinese manufacturing industry. However, by 2010 many economists were suggesting that this period had come to an end as wages began to rise rapidly in China. ► **3.2**

ECONOMICS IN ACTION

What factors have caused, and continue to drive, inflationary pressures in China and why is this worrying other countries?

The 800-Pound Inflation Gorilla

In 2011 China was the 2nd largest economy in the world and gaining rapidly on the U.S. Among other statistics, it's the world's largest importer of copper, steel, cotton, and soybeans, and the world's largest exporter of goods – to say nothing of being the world's largest provider of debt finance to the U.S.

Global inflation fears started to rise as China launched a massive \$585 billion fiscal stimulus in the depths of the financial crisis in 2009. All that easy money chasing a limited supply of goods, properties, and investments caused China's economy and stock market to surge ahead.

But the problems began coming home to roost last year. Concern about its overheated economy and soaring real estate prices finally prompted the Chinese central bank to raise interest rates, but this did little to slow down demand.

The global spike-up in food and oil prices has not helped for sure. But China's inflation problems are not just confined to real estate and commodity prices.

China is in the stage of its economic development where it needs, and wants, to increase domestic demand for its products, and move away from a dependence on exports. To achieve that goal, wages and salaries must rise to move more of the

population into the middle class. Already the minimum wage in China's major cities and ports has been raised an average of 10%. Meanwhile, the Chinese government is meeting this weekend to establish China's next 'Five-Year Plan'. An important feature of the plan is reportedly endorsement of higher wages and salaries across the economy

Wage-price inflation is the worst kind of inflation because it feeds on itself. As wages rise, companies have to increase the prices of their products. As prices rise further, workers demand still higher wages, and a difficult to stop inflationary spiral can get underway, as took place globally in the 1970s.

With China being the world's largest exporter, a potential wage-price spiral has serious implications for the rest of the world.

For example, Li & Fung Ltd., headquartered in Hong Kong, the largest supplier of products to Wal-Mart, predicted that the price of Chinese exports will increase as much as 15% this year. The second-largest retailer in Britain, Next Plc, said it expects higher labor costs in China will result in an 8% increase in its prices in the first half of this year.

Source: www.thetradingreport.com,
7 March 2011

SECTION 4

The costs of inflation

The benefits of low and stable inflation

Governments often aim to keep inflation in their economies at around 2–3% per year. Low inflation can be beneficial for an economy. It encourages consumers to buy goods and services sooner rather than later as delaying will mean they will have to pay more for the same product.




Low inflation also makes it more appealing to borrow money, since interest rates are also usually low during periods of low inflation. For example, if inflation and interest rates are low and stable, firms will be more optimistic and more confident to borrow money to invest in new plant and machinery, and this will enable higher rates of economic growth in the future. A low and stable demand-pull inflation will also tend to boost profits.

Also, if the government is committed to keeping inflation within a certain target it may result in expectations that inflation will be low, and this will help reduce demands for higher wages by workers and their representatives. In fact, if money wages rise by less than the inflation rate each year, the real cost of employing workers will fall for firms and may encourage them to increase their demand for labour.

ACTIVITY 6.3

How inflation can affect different households

The tables below shows how different income groups in a developed economy might allocate their spending to different goods and services.

LOW INCOME	%age of spending	MIDDLE INCOME	%age of spending	HIGH INCOME	%age of spending
	Housing 15		Housing 16		Housing 13
	Leisure 13		Leisure 14		Leisure 13
	Fuel 7		Fuel 5		Fuel 3
	Food 24		Food 20		Food 15
	Drink & Tobacco 7		Drink & Tobacco 6		Drink & Tobacco 5
	Clothes 5		Clothes 6		Clothes 6
	Household Goods... 13		Household Goods... 13		Household Goods... 14
	Transport & Services.. 11		Transport & Services.. 15		Transport & Services.. 16
	Miscellaneous..... 5		Miscellaneous..... 5		Miscellaneous..... 5

- 1 How does inflation affect the amount of goods and services money can buy?
- 2 Which income group displayed above will be the most affected by a rise in the price of:
a food, heating fuel and housing costs? b household goods and transport?
- 3 Are people always worse off if prices rise? Explain your answer.
- 4 Which income groups above are probably the:
a most able to raise their incomes at the same rate as inflation or higher?
b least able to raise their incomes at the same rate as inflation?

Exports from a country that has lower price inflation than others will also become more competitive than rival products from overseas producers on international markets. This will help to boost demand for those exports, thereby creating additional incomes and employment opportunities in the low inflation country.

Maintaining low inflation is therefore an important goal for many governments and central banks because of the economic benefits. ▶ 5.1

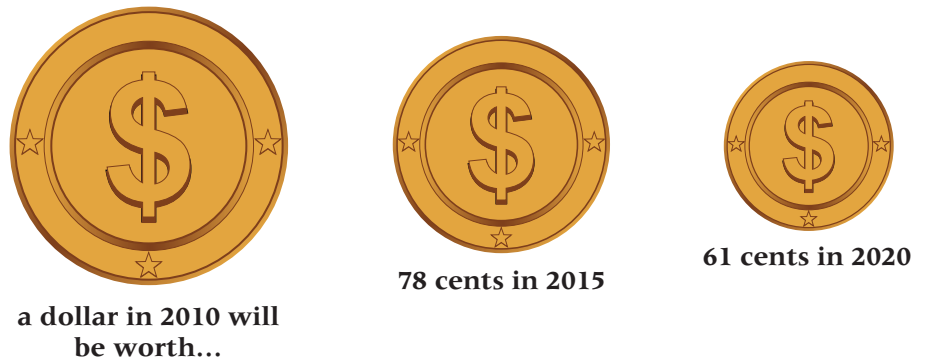
However, high and rising rates of inflation can cause significant problems for different groups of people and the economy they live in.

The personal costs of inflation

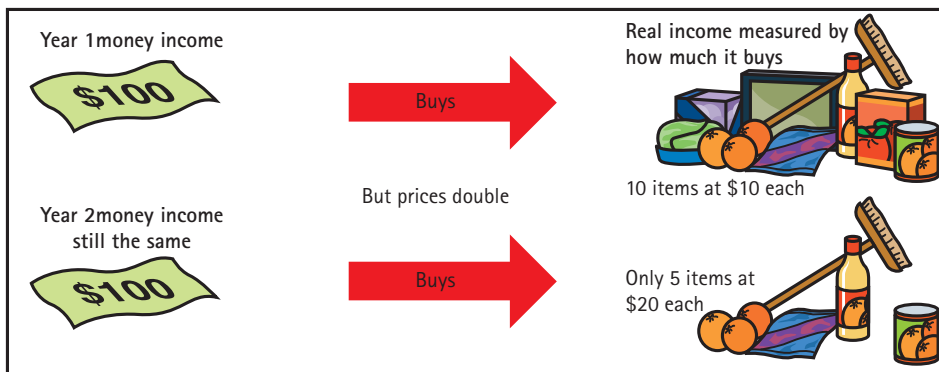
Inflation erodes the value or **purchasing power** of money. For example, if the price of a good in 2010 was \$1 but it increases at the rate of 5% each year, its price is \$1.05 in 2011, \$1.28 after 5 years and \$1.63 after 10 years. It follows that a dollar of currency exchanged for the good in 2010 will not be enough to purchase that same product in the future.

Looked at another way, \$1 of currency in 2010 only purchases the equivalent of 95 cents in 2011, or 78 cents 5 years later and 61 cents 10 years later.

If inflation was 5% per year...



If inflation was 10% each year, the purchasing power of the currency would be eroded much faster. After 5 years it would purchase the same as 62 cents in 2010 and just 38 cents after 10 years of annual inflation at 10%.



Inflation therefore reduces the **real income** of every person in terms of what their income can buy over time. For example, if a person's **money income** (or **nominal income**) was \$100 it could buy 10 products at \$10 each. If each one of those products increases in price to \$20 that person's money income of \$100 will now only buy five of those products. That is, his or her

real income has fallen. Clearly, if the person could increase his or her money income to \$200, that person will be no worse off. However, many people will face hardship if they are unable to increase their money incomes at the same rate as price inflation.

Old-age pensioners, the unemployed and other people who tend to be on fixed incomes and welfare payments are particularly vulnerable to high and rising inflation. If the prices of the goods and services they buy rise they will be unable to afford as much food, heating and other goods and services as they did before. Their real incomes and therefore their living standards will fall. For example, if the general level of prices rises by 10% in one year, real incomes will have fallen by 10%. Increasing pensions and other fixed incomes in line with inflation, known as indexation or index-linking, can help overcome this problem.

In contrast, skilled labour and workers with strong bargaining power will probably be able to secure wage or salary increases that protect their real wages and incomes. Indeed, they may be able to push for an increase in their money incomes that exceeds the rate of inflation. For example, if inflation is 10% in one year and their money incomes increase by 15%, then in real terms they will be 5% better off. However, many workers, especially the low paid and non-unionized workers, may have very little bargaining strength in wage negotiations. As prices rise their real incomes fall and they become worse off. Despite rising food and energy prices during the widespread recession in 2008 and 2009, many workers had their pay frozen or even cut as both governments and firms in many countries cut back their spending. ► 5.2

People who save or lend money may also be badly affected by inflation. If the interest rate received on the money they have saved or loaned is lower than the rate of price inflation the real value of their money will fall. They will be worse off. In contrast, people who have borrowed money will benefit by repaying less in real terms than the amount they were originally loaned.

The costs of inflation to an economy

High and rising inflation can cause many problems in an economy:

- **It imposes additional costs on firms**

In a demand-pull inflation increased consumer spending tends to boost company profits. In contrast, in a cost-push inflation their profits are squeezed. However, all types of inflation can involve 'menu costs'. This is a general term used to describe all types of inconvenience that firms and individuals can face as prices continue to rise. For example, as prices increase firms will have to retype and print new price lists, change price labels, reprint menus and so on. Individual consumers may also face surcharges on products they have already paid for, such as additional charges for holidays to cover higher fuel costs for flights or voyages on cruise ships. Consumers may also have to spend more time searching around for the best bargains as the prices of the products they want continue to rise.

- **It reduces the competitiveness of exports**

If prices in an exporting country are rising at a faster rate than prices in rival countries then exports from that country will become less competitive on international markets. Demand for those exports from overseas consumers may fall. This will have a negative effect on the balance of payments and employment in exporting industries. ► 8.2

- **It creates economic uncertainty**

If inflation is high or keeps rising, consumers, firms and governments may find it difficult to plan ahead. They may be uncertain about their costs in the future and the impact inflation may have on their incomes and revenues. Firms may become reluctant to invest in new plant and equipment and individual consumers may be reluctant to spend. Both of these factors could reduce employment and future economic growth.

If inflation is very volatile and becomes a **hyperinflation**, people may lose all confidence in their currency as a medium of exchange and store of value. ► 3.1

It is not surprising therefore that many economists and the governments they advise argue that high and uncontrolled inflation is a cause of unemployment and low or falling economic growth in an economy, because of its impact on production costs, competitiveness and uncertainty.

EXAM PREPARATION 6.1

In 2004, economists were concerned about the inflationary impact of unusually high oil prices, which were caused by political uncertainty in the Middle East.

- a Explain how inflation is measured. [6]
- b Low inflation is one of the aims of government policy. Choose two other macroeconomic aims of government and explain what they mean. [4]
- c Explain how high oil prices might cause inflation. [4]
- d Discuss the actions that a government might take to control inflation. [6]

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SECTION 5

What is deflation?

Imagine you had saved up to buy a new computer, a pair of trainers or bicycle. Imagine also that over time the prices of these products had been falling and economists were predicting their prices would continue to fall over time. Would you buy them now or wait to buy them later? Clearly it would be better to wait until their prices had fallen further unless you really wanted one or more of these products so much that you just had to get them now.

Product prices can fall for a number of reasons, including when:

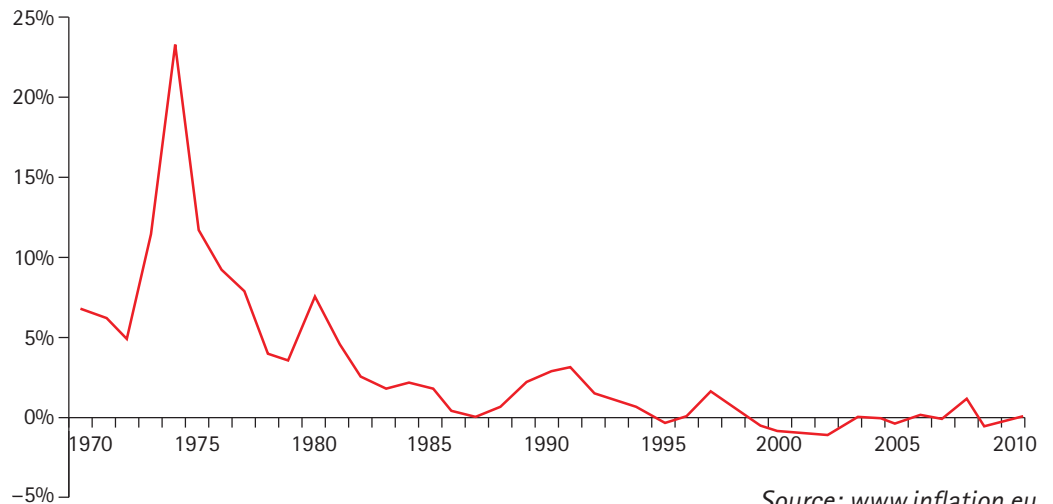
- their market supply has increased relative to demand
- competition between firms to supply them has increased
- labour productivity rises, increasing output and reducing average costs
- technological advance has reduced their costs of production
- market demand for them has fallen ► 2.2

Increasing supply, competition, productivity and technological advance are good things for an economy and consumers and have reduced the prices of many products over time, such as mobile phones, televisions, cars, holidays and clothing, in many countries. However, when falling product prices become widespread and prolonged due to a slump in demand, the result is **deflation**. It is therefore the opposite of inflation and should not be confused with **disinflation** during which there is simply a slowdown in the rate at which prices are rising in general.

Deflation involves a continuous decline in the general level of prices in an economy. Many economies have suffered relatively short-lived deflations from time to time during economic downturns when aggregate demand tends to fall, causing many firms to compete more vigorously for available consumer spending.

However, longer periods of deflation do occur and can have very serious consequences. For example, there have been two significant periods of deflation in the world, between 1873 and 1896 following the American Civil War when prices fell in the USA on average by 1.7% a year, and in Britain by 0.8% a year, and during the Great Depression in the early 1930s when the rate of deflation in the USA was around 10% per year and unemployment reached 25% of the workforce. More recently, the worst case of deflation in consumer prices (with the exception of food and energy prices) has been experienced by Japan, starting in the early- to mid-1990s.

▼ Japanese inflation, 1970–2010 (% annual change in CPI)



The consequences of deflation

The following changes will occur during a sustained or **malign deflation**:

- Consumers will delay many spending decisions as they wait for prices to fall further.
- Stocks of unsold goods accumulate so firms cut their prices and this reduces their profits and incentive to invest.
- Firms cut their production and reduce the size of their workforces.
- Household incomes fall as unemployment rises, further reducing demand for goods and services.
- The value of debts held by people and firms rise in real terms as prices fall and this increases the burden of making loan repayments.
- Firms stop investing in new plant and machinery as demand falls and the cost of borrowing rises. This will reduce future growth in the economy.
- The real cost of public spending rises but tax revenues fall as economic activity slumps. This means the government must borrow more money despite the rising real cost of doing so.
- Eventually the economy goes into a deep recession as demand, output, the demand for labour, and incomes continue to fall. Many firms may go out of business because they are unable to make any profit no matter how much they cut their prices by as consumers simply continue to delay their spending further.

Government policy and deflation

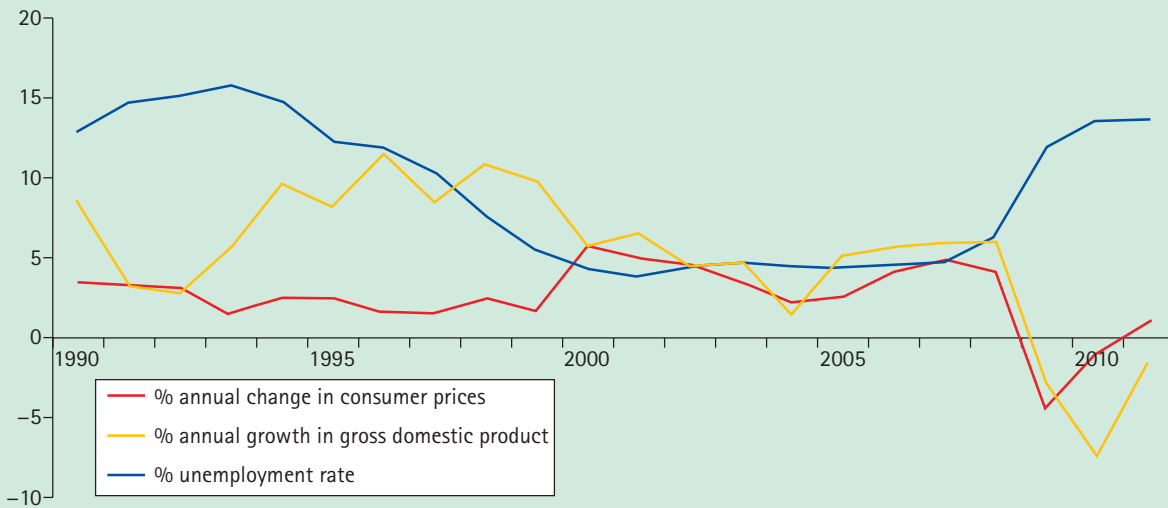
It is therefore hard to break out of the downward spiral that can occur in a malign deflation and it will require a major boost to consumer demand and confidence if it is to be achieved.

The first line of defence used by a government is usually to cut interest rates to a low level. However, if prices are falling this means real interest rates will be rising, even if the nominal interest rate is zero.

Imagine interest rates are zero but prices are falling by 5% each year. A woman borrows \$1,000 that must be repaid in full after 12 months without interest. However, because of falling prices the real value of her debt has actually increased from \$1,000 to \$1,050. The real interest rate is effectively 5% even if the actual interest rate charged by a bank is zero.

ACTIVITY 6.4

Deflating the Celtic Tiger



Source: Central Statistics Office, Ireland, www.cso.ie

The chart above displays economic indicators for Ireland between 1990 and 2011.

The Irish economy was one of fastest growing economies in Europe during the 1990s and became known as the Celtic Tiger. However, boom turned to bust following the global financial crash and recession in 2008. As a result, both private sector and public sector debt increased sharply and the government had to seek financial assistance worth \$113 billion from the European Union and International Monetary Fund (IMF) to help it reduce its debt and to support the fragile banking system in the country. The Irish banks had loaned heavily against land and property developments that had since fallen significantly in value due to the slump in demand. Many of their loans were in default as rising unemployment had meant many people could not continue their loan repayments.

- 1 Explain what each of the indicators in the chart measures
- 2 What trends can be identified in inflation, unemployment and output from the chart?
- 3 What evidence is there that there was deflation in the Irish economy towards the end of the period shown in the chart?
- 4 What evidence is there from the chart that deflation, unemployment and falling economic activity are closely related? Explain why.

A government may also print more currency to pump more money into the economy during a malign deflation but people and firms may not increase their own spending as a result if they expect most prices to continue falling. The additional money supply can however be used by the government to fund projects that will draw more people back into employment. Expansionary fiscal policy may also involve tax cuts on incomes and profits to boost demand.

However, all these policies have been tried in Japan yet the economy has continued to struggle with persistent deflation, slow growth and rising unemployment for many years. Japan's problems are being made more difficult by a shrinking and ageing population. This is also reducing demand for many goods and services in the Japanese economy. ➤ **7.2**

WEBSITES

The following websites can help you learn more about inflation, price indices and deflation:

- www.bized.co.uk/virtual/economy/policy/outcomes/inflation/inflth.htm
- www.wikipedia.org/wiki/Consumer_price_index
- <http://economics.about.com/cs/economicsglossary/g/inflation.htm>
- www.economicshelp.org/blog/inflation/difference-between-rpi-rpix-and-cpi/
- <http://economics.about.com/cs/inflation/a/deflation.htm>
- www.economywatch.com/inflation/deflation/effects.html