

## Key points

1. Inflation is a general sustained rise in the price level.
2. Inflation is measured by calculating the change in a weighted price index over time. In the UK, the two main measures are the Consumer Prices Index and the Retail Prices Index.
3. A price index only measures inflation for average households. It also cannot take into account changes in the quality and distribution of goods over time.
4. Inflation may be demand-pull or cost-push depending on whether it is caused by excess demand or rising costs.
5. Inflation is generally considered to give rise to economic costs to society.
6. Deflation, falling prices, tends to lead to depressed demand in an economy.

SL/HL 2.3

OCR A2 and AS2  
InflationASA 4.2.1.2, 4.2.1.3,  
4.2.3.3, AS 3.2.1.2,  
3.2.1.3, 3.2.3.3WJEC/EDUBAS A  
Inflation and deflationCEA AS2 Measures  
of economic  
performance

## Starter activity

In 1923, Germany suffered a catastrophic bout of hyperinflation. Find out what caused it and what effect it had on German citizens and firms. Contrast this with Japan in the 1990s and 2000s. It suffered deflation. Find out what caused this and what effect it has had on the Japanese economy.

## Inflation, deflation and disinflation

**Inflation** is defined as a sustained general rise in prices across an economy. The opposite of inflation is **deflation**. This is defined as a sustained general fall in prices across an economy.

**Disinflation** is defined as a fall in the rate of inflation.

For example, if prices in general are rising by three per cent per annum, there is inflation. If prices in general are falling by one per cent per annum, there is deflation. If the rate of inflation

falls from four per cent to two per cent, there is disinflation. Note that if there is disinflation, it means there is inflation in the economy, but the rate of inflation is falling.

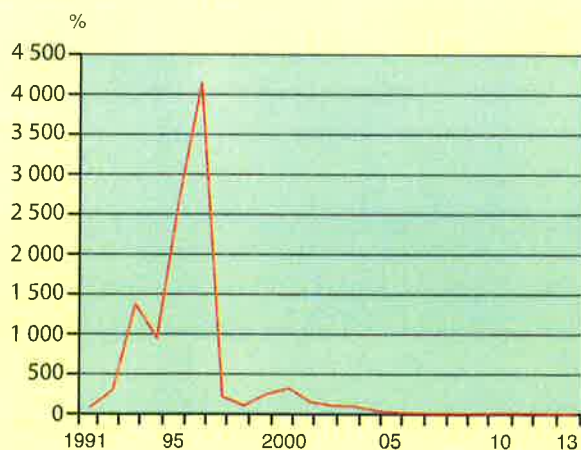
A general rise in prices may be quite moderate. Creeping inflation would describe a situation where prices rose a few per cent on average each year. **Hyperinflation**, on the other hand, describes a situation where inflation levels are very high. There is no exact figure at which inflation becomes hyperinflation. However, annual inflation rates of 50 per cent or more would be classified as hyperinflation by most economists.

The term **reflation** is used to describe the rise in GDP which occurs following a recession. **Stagflation** is the term used to describe a period when inflation is rising or is very high at a time when the economy is in recession. The economy is stagnating but there is also inflation. **Deflationary policies** are policies pursued by governments. They are designed to reduce the rate of economic growth. If successful, they will almost certainly also reduce the rate of growth of inflation. However, deflationary policies are almost never aimed at bringing about negative inflation. So deflationary policies, designed to reduce the rate of economic growth are not usually linked to deflation, a fall in the price level.

## Question 1

Figure 1

Angola: annual inflation, %



Source: adapted from <http://data.worldbank.org>.

- (a) Describe the changes in prices in the African country of Angola shown in the data.
- (b) To what extent could Angola be said to have experienced hyperinflation during the period shown?

## Measuring inflation

The inflation rate is the change in average prices in an economy over a given period of time. The price level is measured in the form of an index. So if the price index were 100 today and 110 in one year's time, then the rate of inflation would be 10 per cent. In the UK, there are two widely used measures of the price level: the **Consumer Prices Index (CPI)** and the **Retail Prices Index (RPI)**.

Calculating a price index is a complicated process. Prices of a representative range of goods and services (a **basket** of goods) need to be recorded on a regular basis. In the UK, the basket is calculated from the results of the Living Costs and Food Survey. Each year, a few thousand households are asked to record their expenditure for one month. From these figures, it is possible to calculate how the average household spends its money. (This average household, of course, does not exist except as a statistical entity).

**Table 1 Weights and inflation**

Commodity	Proportion of total spending	Weight	Increase in price	Contribution to increase in CPI
Food	75%	750	8%	6%
Cars	25%	250	4%	1%
Total	100	1 000		7%

For example, the Survey might find that the average household spends an average £2 a week on beef mince and £0.40 on men's trousers.

With this information, surveyors are sent out each month to record prices for the mix of goods and services that the Living Costs and Food Survey has shown is bought by UK households. Prices are recorded in different areas of the country as well as in different types of retail outlets, such as corner shops and supermarkets. These results are averaged out to find the average price of goods and this figure is converted into **index number** form.

Changes in the price of food are more important than changes in the price of, say, tobacco. This is because a larger proportion of total household income is spent on food than on tobacco. Therefore the figures have to be **weighted** before the final index can be calculated. For instance, assume that there are only two goods in the economy, food and cars, as shown in Table 1. Households spend 75 per cent of their income on food and 25 per cent on cars. There is an increase in the price of food of eight per cent and of cars of four per cent over one year. In a normal average calculation, the eight per cent and the four per cent would be added together and the total divided by two to arrive at an average price increase of six per cent. However, this provides an inaccurate figure because spending on food is

more important in the household budget than spending on cars. The figures have to be weighted. Food is given a weight of  $\frac{3}{4}$  (or 0.75 or 750 out of 1 000) and cars a weight of  $\frac{1}{4}$  (or 0.25 or 250 out of 1 000). The average increase in prices is eight per cent multiplied by  $\frac{3}{4}$  added to four per cent multiplied by  $\frac{1}{4}$  (i.e. six per cent + one per cent). The weighted average is therefore seven per cent. If the CPI were 100 at the start of the year, it would be 107 at the end of the year.

### The accuracy of price indices

It is important to realise that any price index is a weighted average. Different rates of inflation can be **calculated** by changing the weightings in the index. For instance, the Consumer Prices Index calculates the average price level for the average household in the UK. However, it is possible, again using data from the Living Costs and Food Survey, to calculate price indices for pensioner households or one-parent households. One major difference between these households and the average household is that they spend a larger proportion of their income on food. So a 10 per cent rise in the price of food compared to a five per cent rise in the price of all other items will result in a higher rate of inflation for pensioners and one-parent households than for the average household. In fact each individual household will have a different rate of inflation. The Consumer Prices Index only measures an average rate of inflation for all households across the UK.

The household spending patterns upon which the index is based also change over time. For instance, food was a far more

### Question 2

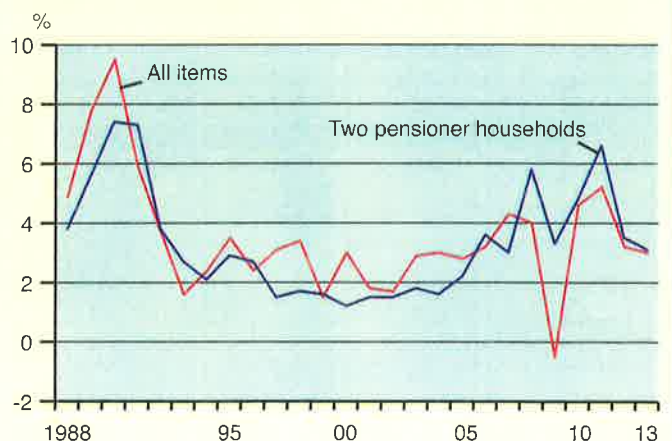
**Table 2 Price index weights**

Year	Weights			% annual increase in prices	
	Food	All other items	Total	Food	All other items
1	300	700	1 000	10	10
2	250	750	1 000	5	10
3	200	800	1 000	4	6
4	150	850	1 000	3	2
5	125	875	1 000	4	4
6	120	880	1 000	6	4
7	120	880	1 000	5	7
8	110	890	1 000	8	10

Table 2 shows the price index weights given to food and to all other items in each of eight years. It also shows the percentage annual increase in prices of those items.

- Calculate the rate of inflation (i.e. the percentage increase in prices) in each year 1 to 8.
- What would the price index in years 2-8 be if the price index were 100 in year 1?

### Question 3

**Figure 2****Inflation: RPI All items and Two pensioner household indices, annual % change**

Source: adapted from [www.ons.gov.uk](http://www.ons.gov.uk).

- Explain why the change in the All Items RPI may differ from the change in the Two-Pensioner Household RPI.
- A two-person pensioner household where the pensioners retired in 1988 receives pensions linked to the All Items Index of Retail Prices. In which years would it, on average, have seen (i) an increase and (ii) a decrease in its real purchasing power? Explain why this occurs.

important component of price indices 30 years ago than it is today because spending on food was then a higher proportion of total spending. The index cannot indicate changes in the quality of goods. Cars might increase in price because their specifications improve rather than because there has been an inflationary price rise. The weights for the Consumer Prices Index are changed annually to take account of changes in spending patterns. However, this does not get round the fact that the average 'basket' or 'bundle' of goods purchased in 1950 and upon which the prices index was calculated was very different from the average bundle of goods purchased today.

## The causes of inflation

Inflation can be caused by two main factors: too much demand in the economy or rising costs.

**Demand-pull inflation** In the market for oil, a significant rise in demand for oil with no increase in supply will lead to a rise in the price of oil. The same occurs at a macroeconomic level. If aggregate or total demand rises and there is no increase in aggregate supply, then **demand-pull inflation** is likely to occur. Demand-pull inflation is caused by excess demand in the economy. When there is too much demand, the **price level**, (or average level of prices in the economy) will rise. Excessive increases in aggregate demand in the UK can come about for a variety of reasons.

- Consumer spending may rise excessively. Interest rates could be low and consumers are spending large amounts on their credit cards, or consumer confidence could be rising because house prices are rising.
- Firms may substantially increase their spending on investment. Perhaps they are responding to large increases in demand from consumers and need extra capacity to satisfy that demand.

- The government might be increasing its spending substantially, or it could be cutting taxes.
- World demand for UK exports may be rising because of a boom in the world economy.

Demand-pull inflation may also be caused by growth of the money supply. Both central banks, like the Bank of England, and the banking system can influence the amount of borrowing and lending in the economy. If banks increase their lending to customers, the money supply will grow. Customers are likely to spend the money they have borrowed. The result will be increased aggregate demand. This can cause inflation. The most famous inflation caused by an increase in the money supply was Germany in 1923 when there was hyperinflation. Most examples of hyperinflation occur because the central bank lends money to the government which uses it to pay its bills rather than raise taxes.

Figure 3 shows how an increase in aggregate demand in the short run leads to inflation. Aggregate demand increases from  $AD_1$  to  $AD_2$ . The price level increases from  $P_1$  to  $P_2$ , showing the inflationary impact of this increase in aggregate demand.

**Cost-push inflation** Inflation may also occur because of changes in the supply side of the economy. **Cost-push inflation** occurs because of rising costs. There are four major sources of increased costs.

- Wages and salaries account for about 50 per cent of national income and hence increases in wages are normally the single most important cause of increases in costs of production.
- Imports can cause a rise in price. A boom in the world economy, for example, may push up commodity prices such as oil, copper and wheat. It will also push up the price of finished goods. This will lead to higher import prices for the UK.

Figure 3

### A rise in aggregate demand leads to demand-pull inflation

A rise in aggregate demand from  $AD_1$  to  $AD_2$  leads to an increase in prices of  $P_1P_2$ .

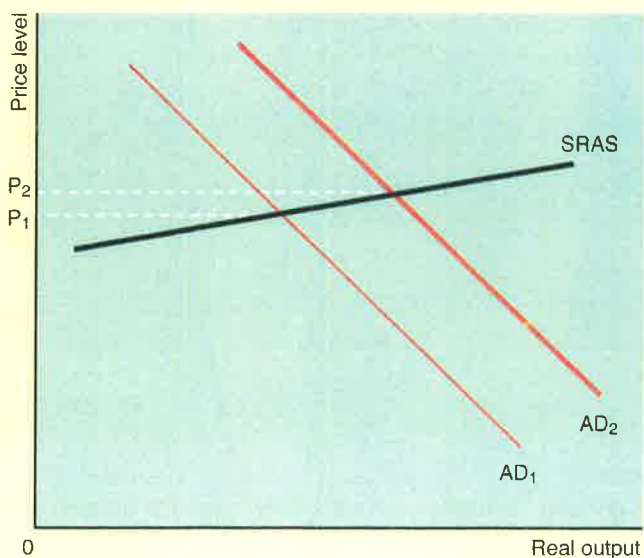
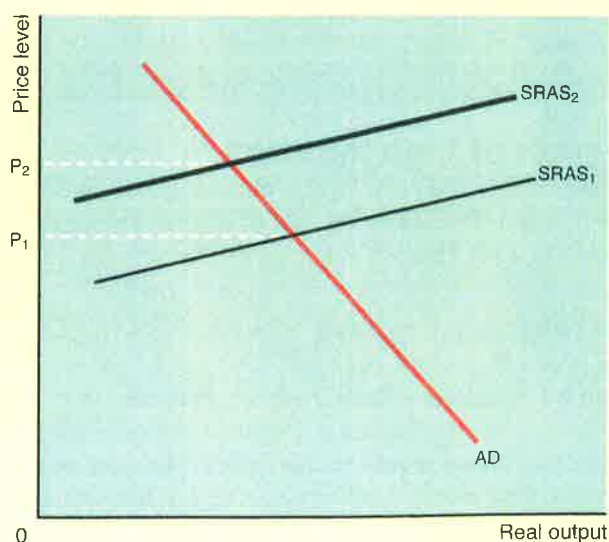


Figure 4

### A rise in short-run aggregate supply leads to cost-push inflation

A shift upwards in short-run aggregate supply curve from  $SRAS_1$  to  $SRAS_2$  leads to an increase in prices of  $P_1P_2$ .



- Profits can be increased by firms when they raise price to improve profit margins. The more price inelastic the demand for their goods, the less will such behaviour result in a fall in demand for their products.
- Government can raise indirect tax rates or reduce subsidies, thus increasing prices.

Firms will try to pass on increases in their costs to customers. For example, if a firm gives a five per cent pay rise to its workers, and wages account for 80 per cent of its costs, then it will need to increase prices by four per cent (80 per cent of five per cent) to maintain its profit margins. Competition in the market may mean that it finds it difficult to pass on these price rises and maintain sales. However, if costs are rising over time, firms will have to increase their prices and this leads to inflation.

Figure 4 shows how a rise in short-run aggregate supply will lead to inflation. The short-run aggregate supply curve is pushed up from  $SRAS_1$  to  $SRAS_2$ , for example, by a rise in wage rates or a rise in import prices. The price level increases from  $P_1$  to  $P_2$ , showing the inflation impact of this increase in SRAS.

Sometimes, inflation may be primarily demand-pull in nature. In other time periods, it may be mainly cost-push. In a stable but growing economy with no demand-side or supply-side shocks, inflation is likely to be caused by a mix of the two factors.

#### Question 4

In December 2014, the Office for Budget Responsibility forecast that inflation in 2015 would be below two per cent. Sharp falls in the price of oil in late 2014 would work their way through the economy as would the effects of a rise in the value of the pound against other currencies. Gas and electricity prices would be stable or even fall. At the same time, there was no evidence of any significant rise in wage inflation. The economy was predicted to grow by 2.4 per cent in 2015. However, inflationary pressures would be weak because both falling government spending and weak exports were forecast to exert downward pressure on aggregate demand. The economy was also operating below its long run potential.

Source: adapted from ONS, *Economic and fiscal outlook*, December 2014, Office for Budget Responsibility.

- Explain two factors mentioned in the data which might cause a fall in cost-push inflation.
- Explain one factor mentioned in the data which would suggest that demand-pull inflationary pressures are very weak.

## The costs of high inflation

A sustained rise in the price level is generally considered to be a problem. The higher the rate of inflation the greater the economic cost. There is a number of reasons why this is the case.

**Growth and unemployment** High inflation is typically unpredictable. Both consumers and firms find it hard to predict what will be the rate of inflation next month or next year. This **unanticipated inflation** makes it difficult, if not impossible, for consumers and firms to plan for the future. Firms, for example, may reduce their investment because they are less willing to take risks in an unstable macroeconomic climate. Consumers may bring forward or reduce their purchases depending on what

they think might be in their best interests. But this then disrupts patterns of spending in the whole economy, making it difficult for firms to supply goods. Economic disruption is likely to lead to lower levels of output and spending than would otherwise be the case. Lower economic growth or falling GDP then leads to higher unemployment.

**Competitiveness** High inflation can lead to a balance of payment effect. If inflation rises faster in the UK than in other countries, and the value of the pound does not change on foreign currency markets, then exports will become less competitive and imports more competitive. The result will be a loss of jobs in the domestic economy and lower growth.

**Redistributional costs** Inflation can redistribute income and wealth between households, firms and the state. This redistribution can occur in a variety of ways. For instance, anybody on a fixed income will suffer. In the UK, many pensioners have received fixed pensions from private company pension schemes which are not adjusted for inflation. If prices double over a five year period, their real income will halve. Any group of workers which fails to be able to negotiate pay increases at least in line with inflation will suffer falls in its real income too.

If real interest rates are negative as a result of inflation, there will be a transfer of resources from lenders to borrowers. With interest rates at 10 per cent and inflation rates at 20 per cent, a saver will lose 10 per cent of the real value of saving each year whilst a borrower will see a 10 per cent real reduction in the value of debt per annum.

Taxes and government spending may not change in line with inflation. For instance, if the Chancellor fails to increase excise duties on alcohol and tobacco each year in line with inflation, real government revenue will fall whilst drinkers and smokers will be better off in real terms assuming their incomes have risen at least by as much as inflation. Similarly, if the Chancellor fails to increase personal income tax allowances (the amount which a worker can earn 'tax free') in line with inflation, then the burden of tax will increase, transferring resources from the taxpayer to the government.

**Psychological and political costs** Price increases are deeply unpopular. People feel that they are worse off, even if their incomes rise by more than the rate of inflation. High rates of inflation, particularly if they are unexpected, disturb the distribution of income and wealth as we shall discuss below, and therefore profoundly affect the existing social order. Change and revolution in the past have often accompanied periods of high inflation.

**Shoe-leather costs** If prices are stable, consumers and firms come to have some knowledge of what is a fair price for a product and which suppliers are likely to charge less than others. At times of rising prices, consumers and firms will be less clear about what is a reasonable price. This will lead to more 'shopping around' (wearing out your shoes), which in itself is a cost.

High rates of inflation are also likely to lead to households and firms holding less cash and more interest-bearing deposits. Inflation erodes the value of cash, but since nominal interest

rates tend to be higher than with stable prices, the opportunity cost of holding cash tends to be larger, the higher the rate of inflation. Households and firms are then forced to spend more time transferring money from one type of account to another or putting cash into an account to maximise the interest paid. This time is a cost.

**Menu costs** If there is inflation, restaurants have to change their menus to show increased prices. Similarly, shops have to change their price labels and firms have to calculate and issue new price lists. Even more costly are changes to fixed capital, such as vending machines and parking meters, to take account of price increases.

Some of these costs can be reduced if inflation can be predicted. **Anticipated inflation** allows economic actors to plan for the future and adjust their decision to take inflation into account. One way of doing this is through **indexation**. This is where economic variables like wages or taxes are increased in line with inflation. For instance, a union might negotiate a wage agreement with an employer for staged increases over a year of two per cent plus the change in the Retail Prices Index. The annual changes in social security benefits in the UK are linked to the Retail Prices Index.

Economists are divided about whether indexation provides a solution to the problem of inflation. On the one hand, it reduces many of the costs of inflation although some costs such as shoe leather costs and menu costs remain. On the other hand, it reduces pressure on government to tackle the problem of inflation directly. Indexation eases the pain of inflation but is not a cure for it.

Moreover, indexation may hinder government attempts to reduce inflation because indexation builds in further cost increases, such as wage increases, which reflect past changes in prices. If a government wants to get inflation down to two per cent a year, and inflation has just been ten per cent, it will not be helped in achieving its target if workers are all awarded at least 10 per cent wage increases because of indexation agreements.

### Question 5

In 2012, the Consumer Prices Index rose by 2.8 per cent and in 2013 by 2.6 per cent. How might the following have been affected in real terms by the change?

- A pensioner on a fixed income.
- A bank deposit saver, given that the rate of interest on a bank deposit saving account was 0.5 per cent in both 2012 and 2013.
- A worker whose personal income tax allowance was £8 105 between April 2012 and March 2013 and £9 440 between April 2013 and April 2014.
- A parent with one child who received £20.30 per week in child benefit in both 2012 and 2013.

## The costs of deflation

Over the past 50 years, the main problem that countries have faced is high rates of inflation. However, there can also be problems associated with deflation, falling price levels. For example, between 1995 and 2014, Japan experienced nine years of falling prices. This might seem insignificant but it had a serious impact on the Japanese economy. Falling prices were caused mainly by a lack of demand in the economy. However, they also caused demand to be depressed.

With falling prices, consumer confidence tends to be low. Consumers are concerned about the future and know that if they don't buy today, they might be able to buy at a cheaper price tomorrow. A lack of consumer confidence then feeds into a lack of business confidence and lower investment. Although interest rates tend to be very low with deflation, the real cost of borrowing is higher. If prices fall by, say, one per cent, then the real cost of borrowing is the actual or nominal interest rate plus one per cent.

The other major problem with deflation is the effect on asset values. Savers can see the real value of their savings grow even if they only receive one or two per cent interest. If prices fall by two per cent and they receive one per cent interest, then the real rate of return on their savings is three per cent. Deflation encourages households to save rather than spend and this leads to low or negative rates of economic growth. For borrowers, deflation leads to the real value of their debt increasing. This will discourage households and firms from borrowing and spending and so reduce aggregate demand.

## The benefits of low inflation

Many central banks today set a target for inflation of around two per cent. This is a very low rate of inflation but it is still a positive increase in prices.

The reason why two per cent is considered desirable is because this isn't deflation but nor is it a significant rate of inflation. An inflation rate of two per cent avoids the problems associated with high inflation and deflation. It gives policy makers, such as central banks and governments, room to adjust the economy if inflation goes higher or lower. If annual inflation is 0.5 per cent, it is a signal that the rate of growth of aggregate demand needs to increase lest price growth become negative. If inflation is four per cent, it is a signal that growth in aggregate demand needs to decrease lest the inflation rate increase even further.

Another reason why two per cent is considered desirable is because of its effect on assets prices. At two per cent, the real value of borrowing falls gradually over time. This is seen as desirable because it makes it easier for those who borrow to finance consumption or investment to repay their borrowings. It also doesn't impact much on the incentive to save because it is argued that savers don't take the real erosion of their savings into account. They suffer from money illusion, thinking that inflation is zero.

## Key Terms

**Anticipated inflation** - increases in prices which economic actors are able to predict with accuracy.

**Consumer Prices Index (CPI)** - a measure of the price level used across the European Union and used by the Bank of England to measure inflation against its target.

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

**Deflation** - a fall in the price level.

**Demand-pull inflation** - inflation which is caused by excess demand in the economy.

**Disinflation** - a fall in the rate of inflation.

**Hyper-inflation** - large increases in the price level.

**Indexation** - adjusting the value of economic variables such as wages or the rate of interest in line with inflation.

**Inflation** - a general rise in prices.

**Price level** - the average price of goods and services in the economy.

**Retail Prices Index (RPI)** - a measure of the price level which has been calculated in the UK for over 60 years and is used in a variety of contexts such as by the government to index welfare benefits.

**Unanticipated inflation** - increases in prices which economic actors like consumers and firms fail to predict accurately and so their decisions are based on poor information.

# Thinking like an economist

## The Retail Prices Index and Consumer Prices Index

### The Retail Prices Index

In the UK, there is a wide variety of different measures of inflation. The two most commonly used are the Retail Prices Index (RPI) and the Consumer Prices Index (CPI).

The RPI is the traditional measure of the price level in the UK. Apart from informing economists and economic agents, such as government or firms, of the rate of inflation, it is also used for the indexation of state benefits and index-linked gilts (a form of long term government borrowing). Trade unions and firms may use the RPI in wage agreements and property companies may use it for calculating increases in leases (rents) on property. Utility regulators, which set prices for firms in industries such as telecommunications and water, may impose restrictions on price increases, or set price falls in terms of the RPI.

There are different measures of the RPI. The headline RPI measure is the All Items RPI. It measures the average price of the typical 'basket of goods' bought by the average household. It therefore measures average consumer prices. However, the RPI is also calculated for different types of goods and services such as food, motoring expenditure or leisure services. It is also calculated for one-pensioner households and two-pensioner households.

### The Consumer Prices Index (CPI)

The CPI is a more recent measure of the price level and inflation. It has been calculated in the UK since 1996 with estimates going back to 1988, and so this limits its use in making historical judgements about inflation in comparison with the RPI. However, it is the measure which is used in all EU countries to measure inflation. Since 2003, it has been used by the Bank of England to measure inflation against its target rate of inflation, currently two per cent. It is therefore now the key indicator for monetary policy. It is also increasingly being used to index pensions. For example, public sector pensions are now indexed with the CPI rather than the RPI. There is also discussion of using it to index welfare benefits.

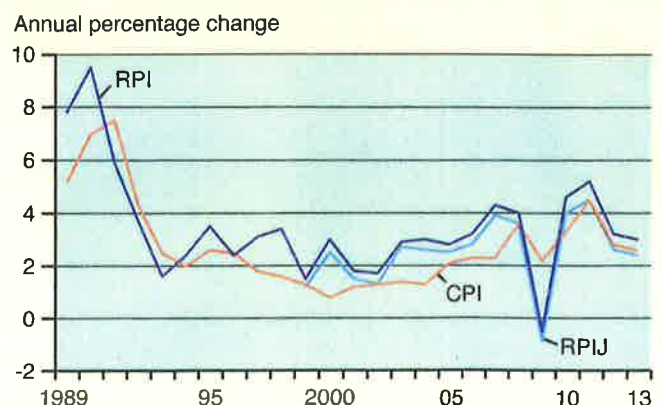


### Comparing the RPI and CPI

The RPI tends to be above the CPI, as shown in Figure 5. One reason is the method of calculating both indices. The RPI uses the Carli index, a type of arithmetic mean, to average out

Figure 5

### The RPI inflation rate compared to the CPI inflation rate



Source: adapted from [www.ons.gov.uk](http://www.ons.gov.uk).

different prices. The CPI uses a geometric mean. In 2013, a report by the Office for National Statistics (ONS) stated that the use of the Carli index meant that inflation was consistently overstated and the CPI represented a more accurate measure of actual inflation. In the same report, the ONS announced that it would be producing an additional RPI measure called the RPIJ which would use the same data and weights as the RPI but it would be calculated using the Jevons index, a type of geometric mean. RPIJ from 1999 can be seen in Figure 5. It follows the pattern of change of the CPI rather than the RPI because both it and the CPI are calculated using geometric means.

Another reason why the RPI and the CPI differ is that the CPI excludes a number of items relating to housing, including mortgage interest rate payments and Council Tax, whereas they are included in the RPI. Since the CPI was first calculated, housing costs in most years have risen faster than other items. Since the CPI excludes many housing costs, it has tended to show lower inflation than the RPI.

The RPI also covers a different sample of the population than the CPI. The RPI excludes the top 4 per cent of income earners and low income pensioners, on the basis that these are not typical households. The CPI covers all households and all incomes.

### Calculating the RPI and CPI

The RPI and the CPI are calculated from the same data which is collected through monthly surveys. Two types of survey are carried out.

Prices are recorded in 141 different areas of the UK. These locations are chosen through a random sampling method. 100 000 prices are collected per month of a typical 'basket of goods' bought by consumers. Around 650 items are included in the basket. Over time, what is included in the basket is changed to reflect changes in consumer spending. For example, rabbits were taken out of the index in 1955, whilst condoms were added in 1989. In 2014, DVD recorders and wallpaper paste were taken out while DVD rental/video-on-demand subscription services and fresh fruit snacking pots were put in.

In addition, a further 80 000 prices are collected centrally each month for items where local sampling would be inappropriate. Prices of goods in catalogues, utility (gas, electricity and telephone) prices, internet prices, road tolls, and mortgage interest payments are examples.

The typical basket of goods is constructed from another survey, the Living Costs and Food Survey. This survey asks around 11 500 households chosen randomly, of whom around 5 500 agree to participate, keeping diaries of what they spend over a fortnight. A spending pattern for the average family can

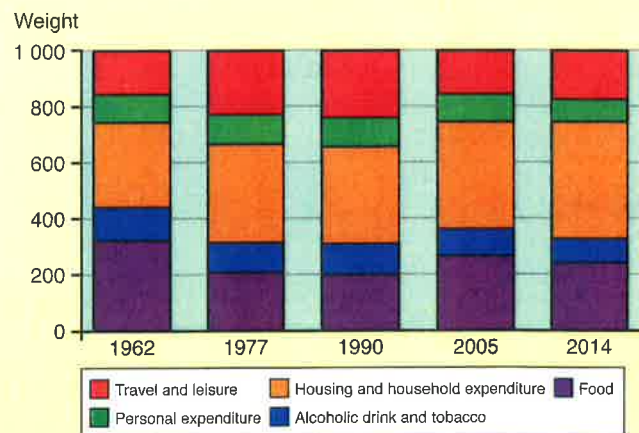
then be worked out. The RPI and CPI are weighted to reflect the importance of different expenditures within the total. So the price of gas carries more weight in the index than the price of processed fruit because households spend more on gas. Figure 6 shows how weights have changed between 1962 and 2014. The proportion spent on food in the average budget has been declining over time as incomes have risen (food has a very low positive income elasticity of demand). Travel and leisure and housing and household expenditure, on the other hand, have been rising. The impact of the 2008 financial crisis can clearly be seen from the basket. With average incomes no higher in 2014 than they were in 2007, spending patterns have remained broadly similar.

### The validity of inflation indices

All price indices suffer from a major flaw. The assumption is that from year to year, the prices of the same sort of goods and services are being compared. However, over time, the quality of goods and services tends to improve. A car from the 1950s, for example, was far less comfortable and reliable than a car made in the 2010s. Moreover, new products become available or are invented. In the 1950s, the UK population did not have access to fast-food takeaways or mobile phones. Critics argue that inflation indices overestimate inflation because they fail to take account of a falling cost of living to purchase today's improved goods and services.

Figure 6

#### Change in the basket of goods used to calculate the RPI 1962-2014



Source: adapted from [www.ons.gov.uk](http://www.ons.gov.uk).

## Data Response Question

### Inflation in Brazil

Before the conquest of hyper-inflation in Brazil in 1994, both Brazilian retailers and shoppers behaved in ways which seem strange today. Workers would be paid either at the end of the week or the end of the month. With prices going up every day, consumers would rush out with their pay packets and spend as much as they could afford. So retailers became used to sharp peaks in spending at the end of each week and a very large peak at the end of the month. There was little shopping around by consumers because they found it so difficult to keep up with changing prices. They

had little or no idea what was a good price and what was expensive on any single shopping expedition.

As for retailers, they often made their profit not from sales but from getting free credit. They would receive goods on credit, sell them immediately, but only have to pay in 30 or 60 days' time. In the meantime, they could put the money in the bank and earn interest linked to the rate of inflation. In a good month, with inflation of, say, 100 per cent, they could double their money.

Source: adapted from *Economics*, 5th edition, Alain Anderton, Pearson.

### Deflation in Spain

Spain is at risk of sliding into persistent deflation. Already, there have been months when prices have fallen. Spain could suffer badly if deflation becomes more permanent. When prices fall, it becomes harder to service debts, which are fixed in nominal terms. With public sector debt close to 100 per cent of national income, the Spanish government remains one of the most indebted

governments in Europe. Deflation could also threaten Spain's recovery from a deep recession. 'Once people start expecting deflation, they start postponing consumption because they think they will get more bang for their buck later on', said Professor Garicano from the London School of Economics.

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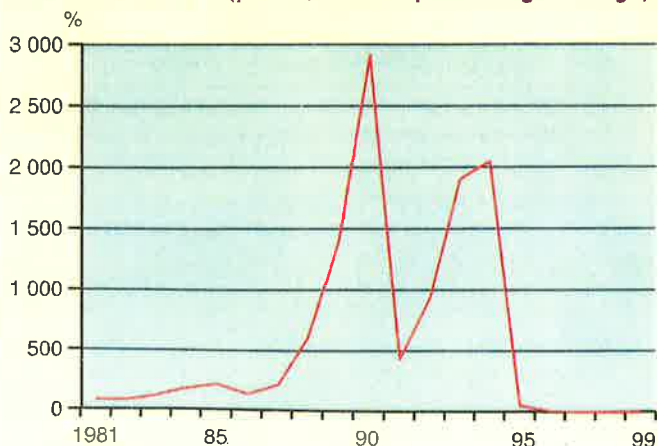
1. Using examples from the data, explain the difference between deflation and hyperinflation.
2. Analyse why consumers might bring forward or postpone spending and firms investment when there is hyperinflation and deflation.
3. Using examples from the data and your own knowledge, evaluate whether hyperinflation is more damaging to an economy than deflation.

#### Evaluation

Explain the different ways in which both hyperinflation and deflation can damage an economy, illustrating your answer with examples from the data and your own knowledge. As you do so, evaluate which is the more important. In your evaluation, remember that the percentage change in prices is likely to be far more with hyperinflation than deflation. In your conclusion, come to an overall judgement about the relative effects.

Figure 7

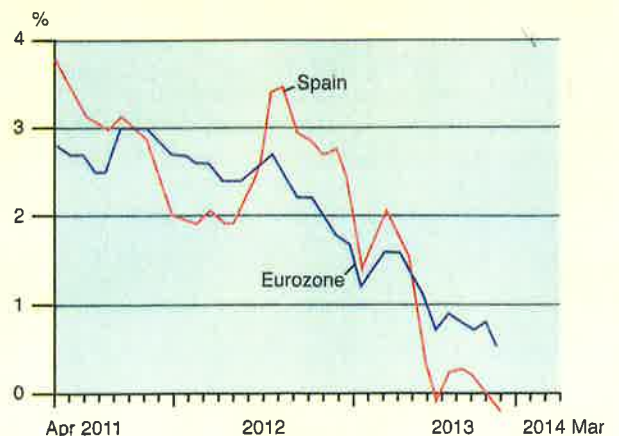
Inflation in Brazil (prices, annual percentage change)



Source: adapted from www.worldbank.org.

Figure 8

Inflation: Spain vs the eurozone (prices, annual percentage change)



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